

## ML Runtimes Pre-installed Packages

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## ML Runtimes Pre-installed Packages overview

Cloudera Machine Learning ships with several base engine images that include Python kernels, and frequently used libraries.



**Note:** New Machine Learning Runtime releases are automatically added to the deployment, if Internet connection is available.

As the software and versions listed in *ML Runtimes Pre-installed Packages* are installed in the images, you shall not upgrade these versions as this may lead to dependency conflicts. If any related software in this list needs to be at a higher version, you must use a more recent version of the legacy engine or ML Runtime.

## ML Runtimes 2024.10.1

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2024.10.1.



**Note:**

Nvidia GPU Editions with a Workbench Editor come with CUDA 11.4.1 and cuDNN 8.2 versions preinstalled.

Nvidia GPU Editions with JupyterLab or a PBJ Workbench Editor and with Python 3.7 come with CUDA 11.8.0 and cuDNN 8.7 versions preinstalled.

All the other Nvidia GPU Edition Runtimes come with CUDA 12.3 and cuDNN 9.0 versions preinstalled.

### Spark and Python Supportability

Specific Python versions are compatible with specific Spark versions. For detailed information about the compatibility levels for various Python versions across different Spark releases, see [Spark Python Supportability Matrix](#).

## Python 3.10 Libraries for Conda

This section lists the packages in Python 3.10 Conda Runtimes that ship with ML Runtimes 2024.10.1.

**Table 1: Packages in Python 3.10.13 Conda Runtimes - Standard**

Library	Version
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.19.0
annotated-types	0.7.0
anyio	4.4.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
async-lru	2.0.4



Library	Version
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
boto3	1.34.149
botocore	1.34.162
cattr	23.2.3
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	5.1.1
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.16.3
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41

Library	Version
greenlet	3.0.3
gssapi	1.8.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	3.7
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.4
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.11
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschema	4.21.1
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter_client	7.4.4
jupyter_core	5.3.0
jupyter_server	2.14.1
jupyter_server_terminals	0.5.3
jupyterlab	4.2.1
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.2.2
jupyterlab_git	0.50.0
jupyterlab_server	2.27.2
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
langchain	0.2.13
langchain-aws	0.1.16
langchain-community	0.2.12

Library	Version
langchain-core	0.2.34
langchain-text-splitters	0.2.2
langsmith	0.1.103
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.2
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.6.3
nbconvert	7.2.9
nbdime	4.0.1
nbformat	5.7.3
nest-asyncio	1.5.5
notebook_shim	0.2.2
numpy	1.26.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus-client	0.16.0
prompt-toolkit	3.0.38
protobuf	4.25.3
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2

Library	Version
py4j	0.10.9.5
pycparser	2.22
pydantic	2.4.0
pydantic_core	2.10.0
pygls	1.3.1
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.1.2
raz_client	1.1.0
referencing	0.34.0
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.2
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
sortedcontainers	2.4.0
soupsieve	2.4
SQLAlchemy	2.0.24
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0

Library	Version
trino	0.330.0
typeguard	2.13.3
typing-inspect	0.9.0
typing_extensions	4.12.2
tzdata	2023.3
tzlocal	5.2
uri-template	1.2.0
urllib3	2.2.2
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.8.0
yaml	1.9.4
zict	3.0.0
zipp	3.18.1

## Python 3.12 Libraries for Workbench

This section lists the packages in Python 3.12 Workbench Runtimes that ship with ML Runtimes 2024.10.1.

**Table 2: Packages in Python 3.12.4 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	4.4.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.2.0
beautifulsoup4	4.12.3
bitarray	2.9.2
bleach	6.1.0
boto3	1.34.146
botocore	1.34.146
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
comm	0.2.2
contourpy	1.2.1
cryptography	43.0.0

Library	Version
cycler	0.12.1
debugpy	1.8.2
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.20.0
fonttools	4.53.1
fqdn	1.5.1
gssapi	1.8.3
idna	3.7
impyla	0.18.0
ipykernel	6.29.5
ipython	8.26.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.4
jmespath	1.0.1
jsonpointer	3.0.0
jsonschema	4.23.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.7.2
jupyter_server	2.14.2
jupyter_server_terminals	0.5.3
jupyterlab_pygments	0.3.0
kerberos	1.3.1
kiwisolver	1.4.5
krb5	0.6.0
MarkupSafe	2.1.5
matplotlib	3.9.1
matplotlib-inline	0.1.7
mistune	3.0.2
nbclassic	1.1.0
nbclient	0.10.0
nbconvert	7.16.4

Library	Version
nbformat	5.10.4
nest-asyncio	1.6.0
notebook	6.5.7
notebook_shim	0.2.4
numpy	1.26.4
overrides	7.7.0
packaging	24.1
pandas	2.1.4
pandocfilters	1.5.1
parso	0.8.4
pexpect	4.9.0
pillow	10.4.0
platformdirs	4.2.2
prometheus_client	0.20.0
prompt_toolkit	3.0.47
protobuf	4.25.3
psutil	6.0.0
ptyprocess	0.7.0
pure-sasl	0.6.2
pure_eval	0.2.3
py4j	0.10.9.5
pycparser	2.22
Pygments	2.18.0
pyparsing	3.1.2
pypnogo	0.11.0
python-dateutil	2.9.0.post0
python-json-logger	2.0.7
pytz	2024.1
PyYAML	6.0.1
pyzmq	26.0.3
raz_client	1.1.0
referencing	0.35.1
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.19.0
s3transfer	0.10.2
Send2Trash	1.8.3

Library	Version
setuptools	71.1.0
six	1.16.0
sniffio	1.3.1
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.3.0
tornado	6.4.1
traitlets	5.14.3
trino	0.330.0
types-python-dateutil	2.9.0.20240316
tzdata	2024.1
tzlocal	5.2
uri-template	1.3.0
urllib3	2.2.2
wcwidth	0.2.13
webcolors	24.6.0
webencodings	0.5.1
websocket-client	1.8.0
wheel	0.44.0

**Table 3: Packages in Python 3.12.4 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
anyio	4.4.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.2.0
beautifulsoup4	4.12.3
bitarray	2.9.2
bleach	6.1.0
boto3	1.34.146



Library	Version
botocore	1.34.146
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
comm	0.2.2
contourpy	1.2.1
cryptography	43.0.0
cycler	0.12.1
debugpy	1.8.2
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.20.0
fonttools	4.53.1
fqdn	1.5.1
gssapi	1.8.3
idna	3.7
impyla	0.18.0
ipykernel	6.29.5
ipython	8.26.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.4
jmespath	1.0.1
jsonpointer	3.0.0
jsonschema	4.23.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.7.2
jupyter_server	2.14.2
jupyter_server_terminals	0.5.3
jupyterlab_pygments	0.3.0
kerberos	1.3.1
kiwisolver	1.4.5
krb5	0.6.0

Library	Version
MarkupSafe	2.1.5
matplotlib	3.9.1
matplotlib-inline	0.1.7
mistune	3.0.2
nbclassic	1.1.0
nbclient	0.10.0
nbconvert	7.16.4
nbformat	5.10.4
nest-asyncio	1.6.0
notebook	6.5.7
notebook_shim	0.2.4
numpy	1.26.4
overrides	7.7.0
packaging	24.1
pandas	2.1.4
pandocfilters	1.5.1
parso	0.8.4
pexpect	4.9.0
pillow	10.4.0
platformdirs	4.2.2
prometheus_client	0.20.0
prompt_toolkit	3.0.47
protobuf	4.25.3
psutil	6.0.0
ptyprocess	0.7.0
pure-sasl	0.6.2
pure_eval	0.2.3
py4j	0.10.9.5
pycparser	2.22
Pygments	2.18.0
pyparsing	3.1.2
pyspnego	0.11.0
python-dateutil	2.9.0.post0
python-json-logger	2.0.7
pytz	2024.1
PyYAML	6.0.1
pyzmq	26.0.3
raz_client	1.1.0
referencing	0.35.1

Library	Version
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.19.0
s3transfer	0.10.2
Send2Trash	1.8.3
setuptools	71.1.0
six	1.16.0
sniffio	1.3.1
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.1
thrift	0.16.0
thrift-sasl	0.4.3
tinyccs2	1.3.0
tornado	6.4.1
traitlets	5.14.3
trino	0.330.0
types-python-dateutil	2.9.0.20240316
tzdata	2024.1
tzlocal	5.2
uri-template	1.3.0
urllib3	2.2.2
wcwidth	0.2.13
webcolors	24.6.0
webencodings	0.5.1
websocket-client	1.8.0
wheel	0.44.0

## Python 3.11 Libraries for Workbench

This section lists the packages in Python 3.11 Workbench Runtimes that ship with ML Runtimes 2024.10.1.

**Table 4: Packages in Python 3.11.9 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	4.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0

Library	Version
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
boto3	1.34.149
botocore	1.34.162
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
comm	0.2.0
contourpy	1.2.0
cryptography	42.0.8
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
gssapi	1.8.3
idna	3.7
impyla	0.18.0
ipykernel	6.26.0
ipython	8.17.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.3
jmespath	1.0.1
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9

Library	Version
jupyter_core	5.5.0
jupyter_server	2.14.1
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.5
krb5	0.5.1
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.6
notebook_shim	0.2.3
numpy	1.26.4
overrides	7.4.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pillow	10.3.0
platformdirs	4.0.0
prometheus-client	0.18.0
prompt-toolkit	3.0.41
protobuf	4.25.3
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
Pygments	2.16.1
pyparsing	3.1.1
pyspnego	0.11.0

Library	Version
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	24.0.1
raz_client	1.1.0
referencing	0.31.0
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.0
s3transfer	0.10.2
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.13.0
trino	0.330.0
types-python-dateutil	2.8.19.14
tzdata	2023.3
tzlocal	5.2
uri-template	1.3.0
urllib3	2.2.2
wcwidth	0.2.10
webcolors	1.13
webencodings	0.5.1
websocket-client	1.8.0

**Table 5: Packages in Python 3.11.9 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1

Library	Version
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
anyio	4.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
boto3	1.34.149
botocore	1.34.162
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
comm	0.2.0
contourpy	1.2.0
cryptography	42.0.8
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
gssapi	1.8.3
idna	3.7
impyla	0.18.0
ipykernel	6.26.0
ipython	8.17.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.3
jmespath	1.0.1
jsonpointer	2.4

Library	Version
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.5.0
jupyter_server	2.14.1
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.5
krb5	0.5.1
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.6
notebook_shim	0.2.3
numpy	1.26.4
overrides	7.4.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pillow	10.3.0
platformdirs	4.0.0
prometheus-client	0.18.0
prompt-toolkit	3.0.41
protobuf	4.25.3
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2



Library	Version
py4j	0.10.9.5
pycparser	2.22
Pygments	2.16.1
pyparsing	3.1.1
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	24.0.1
raz_client	1.1.0
referencing	0.31.0
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.0
s3transfer	0.10.2
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.13.0
trino	0.330.0
types-python-dateutil	2.8.19.14
tzdata	2023.3
tzlocal	5.2
uri-template	1.3.0
urllib3	2.2.2
wcwidth	0.2.10
webcolors	1.13
webencodings	0.5.1
websocket-client	1.8.0

## Python 3.10 Libraries for Workbench

This section lists the packages in Python 3.10 Workbench Runtimes that ship with ML Runtimes 2024.10.1.

**Table 6: Packages in Python 3.10.14 Workbench Runtimes - Standard**

Library	Version
asttokens	2.2.1
backcall	0.2.0
bitarray	2.7.3
boto3	1.34.149
botocore	1.34.162
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
debugpy	1.6.7
decorator	5.1.1
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
gssapi	1.8.3
idna	3.7
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.19.1
jmespath	1.0.1
jupyter_client	7.4.4
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.26.4
packaging	23.2

Library	Version
pandas	2.1.4
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
protobuf	4.25.3
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	25.1.2
raz_client	1.1.0
requests	2.31.0
requests-kerberos	0.15.0
s3transfer	0.10.2
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
trino	0.330.0
tzdata	2023.3
tzlocal	5.2
urllib3	1.26.18
wcwidth	0.2.5

Table 7: Packages in Python 3.10.14 PBJ Workbench Runtimes - Standard

Library	Version
anyio	3.6.2

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
boto3	1.34.149
botocore	1.34.162
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.43.0
fqdn	1.5.1
gssapi	1.8.3
idna	3.7
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.3
jmespath	1.0.1
jsonpointer	2.3
jsonschema	4.18.0
jsonschema-specifications	2023.12.1
jupyter-events	0.9.0

Library	Version
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.14.1
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.26.4
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
protobuf	4.25.3
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pyparser	2.22
Pygments	2.15.1

Library	Version
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.0.2
raz_client	1.1.0
referencing	0.35.1
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.1
s3transfer	0.10.2
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.9.0
trino	0.330.0
tzdata	2023.3
tzlocal	5.2
uri-template	1.2.0
urllib3	2.2.2
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.8.0

**Table 8: Packages in Python 3.10.14 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1

Library	Version
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
boto3	1.34.149
botocore	1.34.162
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.43.0
fqdn	1.5.1
gssapi	1.8.3
idna	3.7
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.3
jmespath	1.0.1

Library	Version
jsonpointer	2.3
jsonschema	4.18.0
jsonschema-specifications	2023.12.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.14.1
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.26.4
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
protobuf	4.25.3
ptyprocess	0.7.0
pure-eval	0.2.2



Library	Version
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.0.2
raz_client	1.1.0
referencing	0.35.1
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.1
s3transfer	0.10.2
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.9.0
trino	0.330.0
tzdata	2023.3
tzlocal	5.2
uri-template	1.2.0
urllib3	2.2.2
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.8.0

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2024.10.1.

**Table 9: Packages in Python 3.9.19 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
boto3	1.34.149
botocore	1.34.162
certifi	2024.7.4
cff	1.16.0
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
debugpy	1.6.7
decorator	5.1.1
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
gssapi	1.8.3
idna	3.7
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.19.1
jmespath	1.0.1
jupyter_client	7.4.4
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
matplotlib	3.7.0
matplotlib-inline	0.1.3

Library	Version
nest-asyncio	1.5.5
numpy	1.26.4
packaging	23.2
pandas	2.1.4
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
protobuf	4.25.3
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	25.1.2
raz_client	1.1.0
requests	2.31.0
requests-kerberos	0.15.0
s3transfer	0.10.2
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
trino	0.330.0
typing_extensions	4.11.0
tzdata	2023.3
tzlocal	5.2
urllib3	1.26.18
wcwidth	0.2.5

Library	Version
zipp	3.15.0

**Table 10: Packages in Python 3.9.19 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
boto3	1.34.149
botocore	1.34.162
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
debugpy	1.6.7
decorator	5.1.1
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
gssapi	1.8.3
idna	3.7
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.19.1
jmespath	1.0.1
jupyter_client	7.4.4
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
matplotlib	3.7.0

Library	Version
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.26.4
packaging	23.2
pandas	2.1.4
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
protobuf	4.25.3
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	25.1.2
raz_client	1.1.0
requests	2.31.0
requests-kerberos	0.15.0
s3transfer	0.10.2
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
trino	0.330.0
typing_extensions	4.11.0
tzdata	2023.3
tzlocal	5.2
urllib3	1.26.18

Library	Version
wcwidth	0.2.5
zipp	3.15.0

**Table 11: Packages in Python 3.9.19 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.2.1
attrs	23.2.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
boto3	1.34.149
botocore	1.34.162
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.43.0
fqdn	1.5.1
gssapi	1.8.3
idna	3.7
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0

Library	Version
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.1
Jinja2	3.1.3
jmespath	1.0.1
jsonpointer	2.4
jsonschema	4.22.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.4
jupyter_core	4.12.0
jupyter_server	2.14.1
jupyter_server_terminals	0.5.3
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.26.4
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
prometheus-client	0.13.1

Library	Version
prompt-toolkit	3.0.38
protobuf	4.25.3
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	26.0.3
raz_client	1.1.0
referencing	0.35.1
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.1
s3transfer	0.10.2
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.3
trino	0.330.0
types-python-dateutil	2.9.0.20240316
typing_extensions	4.3.0
tzdata	2023.3
tzlocal	5.2



Library	Version
uri-template	1.3.0
urllib3	1.26.19
wcwidth	0.2.5
webcolors	24.6.0
webencodings	0.5.1
websocket-client	1.8.0
zipp	3.15.0

**Table 12: Packages in Python 3.9.19 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.2.1
attrs	23.2.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
boto3	1.34.149
botocore	1.34.162
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1

Library	Version
fonttools	4.43.0
fqdn	1.5.1
gssapi	1.8.3
idna	3.7
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.1
Jinja2	3.1.3
jmespath	1.0.1
jsonpointer	2.4
jsonschema	4.22.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.4
jupyter_core	4.12.0
jupyter_server	2.14.1
jupyter_server_terminals	0.5.3
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.26.4

Library	Version
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
protobuf	4.25.3
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	26.0.3
raz_client	1.1.0
referencing	0.35.1
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.1
s3transfer	0.10.2
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0

Library	Version
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.3
trino	0.330.0
types-python-dateutil	2.9.0.20240316
typing_extensions	4.3.0
tzdata	2023.3
tzlocal	5.2
uri-template	1.3.0
urllib3	1.26.19
wcwidth	0.2.5
webcolors	24.6.0
webencodings	0.5.1
websocket-client	1.8.0
zipp	3.15.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2024.10.1.

**Table 13: Packages in Python 3.8.19 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
backports.zoneinfo	0.2.1
bitarray	2.6.0
boto3	1.34.149
botocore	1.34.162
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
debugpy	1.6.7
decorator	5.1.1

Library	Version
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
gssapi	1.8.3
idna	3.7
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.23.0
ipython	8.10.0
jedi	0.19.1
jmespath	1.0.1
jupyter_client	7.4.4
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.4
packaging	23.2
pandas	2.0.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
protobuf	4.25.3
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pyparser	2.22
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0

Library	Version
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	25.1.2
raz_client	1.1.0
requests	2.31.0
requests-kerberos	0.15.0
s3transfer	0.10.2
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
trino	0.330.0
typing_extensions	4.11.0
tzdata	2023.3
tzlocal	5.2
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 14: Packages in Python 3.8.19 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
backports.zoneinfo	0.2.1
bitarray	2.6.0
boto3	1.34.149
botocore	1.34.162
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0

Library	Version
debugpy	1.6.7
decorator	5.1.1
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
gssapi	1.8.3
idna	3.7
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.23.0
ipython	8.10.0
jedi	0.19.1
jmespath	1.0.1
jupyter_client	7.4.4
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.4
packaging	23.2
pandas	2.0.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
protobuf	4.25.3
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
Pygments	2.15.1

Library	Version
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	25.1.2
raz_client	1.1.0
requests	2.31.0
requests-kerberos	0.15.0
s3transfer	0.10.2
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
trino	0.330.0
typing_extensions	4.11.0
tzdata	2023.3
tzlocal	5.2
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 15: Packages in Python 3.8.19 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.2.1
attrs	23.2.0
backcall	0.2.0
backports.zoneinfo	0.2.1
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
boto3	1.34.149
botocore	1.34.162
certifi	2024.7.4



Library	Version
cff	1.16.0
charset-normalizer	3.3.2
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.43.0
fqdn	1.5.1
gssapi	1.8.3
idna	3.7
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.1
Jinja2	3.1.3
jmespath	1.0.1
jsonpointer	2.4
jsonschema	4.22.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.4
jupyter_core	4.12.0
jupyter_server	2.14.1
jupyter_server_terminals	0.5.3
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1

Library	Version
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
overrides	7.7.0
packaging	23.2
pandas	2.0.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.13.1
prompt-toolkit	3.0.38
protobuf	4.25.3
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	26.0.3
raz_client	1.1.0
referencing	0.35.1

Library	Version
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.1
s3transfer	0.10.2
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.3
trino	0.330.0
types-python-dateutil	2.9.0.20240316
typing_extensions	4.3.0
tzdata	2023.3
tzlocal	5.2
uri-template	1.3.0
urllib3	1.26.19
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.8.0
zipp	3.15.0

**Table 16: Packages in Python 3.8.19 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0

Library	Version
arrow	1.3.0
asttokens	2.2.1
attrs	23.2.0
backcall	0.2.0
backports.zoneinfo	0.2.1
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
boto3	1.34.149
botocore	1.34.162
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.43.0
fqdn	1.5.1
gssapi	1.8.3
idna	3.7
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.1
Jinja2	3.1.3
jmespath	1.0.1
jsonpointer	2.4
jsonschema	4.22.0

Library	Version
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.4
jupyter_core	4.12.0
jupyter_server	2.14.1
jupyter_server_terminals	0.5.3
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
overrides	7.7.0
packaging	23.2
pandas	2.0.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.13.1
prompt-toolkit	3.0.38
protobuf	4.25.3
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5

Library	Version
pycparser	2.22
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	26.0.3
raz_client	1.1.0
referencing	0.35.1
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.1
s3transfer	0.10.2
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.3
trino	0.330.0
types-python-dateutil	2.9.0.20240316
typing_extensions	4.3.0
tzdata	2023.3
tzlocal	5.2
uri-template	1.3.0
urllib3	1.26.19
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.8.0

Library	Version
zipp	3.15.0

Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2024.10.1.

Table 17: Packages in Python 3.7.17 Workbench Runtimes - Standard

Library	Version
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2024.7.4
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.7
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1

Library	Version
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.8.0

**Table 18: Packages in Python 3.7.17 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2024.7.4
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.7
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4



Library	Version
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.8.0

**Table 19: Packages in Python 3.7.17 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11

Library	Version
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.7
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.1.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

**Table 20: Packages in Python 3.7.17 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.7
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.1.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0

Library	Version
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1

Library	Version
websocket-client	1.5.2
zipp	3.7.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2024.10.1.

### Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

## Python 3.12 Libraries for JupyterLab

This section lists the packages in Python 3.12 JupyterLab Runtimes that ship with ML Runtimes 2024.10.1.

**Table 21: Packages in Python 3.12.4 JupyterLab Runtimes - Standard**

Library	Version
aiohappyeyeballs	2.4.0
aiohttp	3.10.5
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.7.0
anyio	4.4.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
async-lru	2.0.4
attrs	24.2.0
babel	2.16.0
backcall	0.2.0
beautifulsoup4	4.12.3
bitarray	2.9.2
bleach	6.1.0

Library	Version
boto3	1.34.146
botocore	1.34.146
cattr	24.1.0
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.2.2
contourpy	1.2.1
cryptography	43.0.0
cycler	0.12.1
dask	2024.8.2
dataclasses-json	0.6.7
debugpy	1.8.2
decorator	5.1.1
deepmerge	2.0
defusedxml	0.7.1
distributed	2024.8.2
docstring-to-markdown	0.15
executing	2.0.1
faiss-cpu	1.8.0
fastjsonschema	2.20.0
fonttools	4.53.1
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.9.0
gitdb	4.0.11
GitPython	3.1.43
greenlet	3.0.3
gssapi	1.8.3
h11	0.14.0
httpcore	1.0.5
httpx	0.27.2
idna	3.7
importlib_metadata	8.4.0
impyla	0.18.0
ipykernel	6.22.0

Library	Version
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.4
jmespath	1.0.1
json5	0.9.25
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	3.0.0
jsonschema	4.23.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.5
jupyter-server-mathjax	0.2.6
jupyter_client	8.6.2
jupyter_core	5.7.2
jupyter_server	2.14.2
jupyter_server_terminals	0.5.3
jupyterlab	4.2.4
jupyterlab-lsp	5.1.0
jupyterlab_git	0.50.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.27.3
kerberos	1.3.1
kiwisolver	1.4.5
krb5	0.6.0
langchain	0.2.16
langchain-aws	0.1.16
langchain-community	0.2.16
langchain-core	0.2.38
langchain-text-splitters	0.2.4
langsmith	0.1.114
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.5
marshmallow	3.22.0
matplotlib	3.9.1
matplotlib-inline	0.1.7



Library	Version
mistune	3.0.2
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.10.0
nbconvert	7.16.4
nbdime	4.0.2
nbformat	5.10.4
nest-asyncio	1.6.0
notebook_shim	0.2.4
numpy	1.26.4
orjson	3.10.7
overrides	7.7.0
packaging	24.1
pandas	2.1.4
pandocfilters	1.5.1
parso	0.8.4
partd	1.4.2
pexpect	4.9.0
pickleshare	0.7.5
pillow	10.4.0
platformdirs	4.2.2
ply	3.11
prometheus_client	0.20.0
prompt_toolkit	3.0.47
protobuf	4.25.3
psutil	6.0.0
ptyprocess	0.7.0
pure-sasl	0.6.2
pure_eval	0.2.3
py4j	0.10.9.5
pycparser	2.22
pydantic	2.9.0
pydantic_core	2.23.2
pygls	1.3.1
Pygments	2.18.0
pyparsing	3.1.2
pyspnego	0.11.0
python-dateutil	2.9.0.post0

Library	Version
python-json-logger	2.0.7
pytz	2024.1
PyYAML	6.0.2
pyzmq	26.0.3
raz_client	1.1.0
referencing	0.35.1
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.20.0
s3transfer	0.10.2
Send2Trash	1.8.3
setuptools	71.1.0
six	1.16.0
smmap	5.0.1
sniffio	1.3.1
sortedcontainers	2.4.0
soupsieve	2.6
SQLAlchemy	2.0.34
stack-data	0.6.3
tblib	3.0.0
tenacity	8.5.0
terminado	0.18.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.3.0
toolz	0.12.1
tornado	6.4.1
traitlets	5.14.3
trino	0.330.0
types-python-dateutil	2.9.0.20240821
typing-inspect	0.9.0
typing_extensions	4.12.2
tzdata	2024.1
tzlocal	5.2
uri-template	1.3.0
urllib3	2.2.2
wcwidth	0.2.13

Library	Version
webcolors	24.8.0
webencodings	0.5.1
websocket-client	1.8.0
wheel	0.44.0
yarl	1.9.11
zict	3.0.0
zipp	3.20.1

**Table 22: Packages in Python 3.12.4 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
aiohappyeyeballs	2.4.0
aiohttp	3.10.5
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.7.0
anyio	4.4.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
async-lru	2.0.4
attrs	24.2.0
babel	2.16.0
backcall	0.2.0
beautifulsoup4	4.12.3
bitarray	2.9.2
bleach	6.1.0
boto3	1.34.146
botocore	1.34.146
cattr	24.1.0
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0

Library	Version
colorama	0.4.6
comm	0.2.2
contourpy	1.2.1
cryptography	43.0.0
cycler	0.12.1
dask	2024.8.2
dataclasses-json	0.6.7
debugpy	1.8.2
decorator	5.1.1
deepmerge	2.0
defusedxml	0.7.1
distributed	2024.8.2
docstring-to-markdown	0.15
executing	2.0.1
faiss-cpu	1.8.0
fastjsonschema	2.20.0
fonttools	4.53.1
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.9.0
gitdb	4.0.11
GitPython	3.1.43
greenlet	3.0.3
gssapi	1.8.3
h11	0.14.0
httpcore	1.0.5
httpx	0.27.2
idna	3.7
importlib_metadata	8.4.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.4
jmespath	1.0.1
json5	0.9.25
jsonpatch	1.33

Library	Version
jsonpath-ng	1.6.1
jsonpointer	3.0.0
jsonschema	4.23.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.5
jupyter-server-mathjax	0.2.6
jupyter_client	8.6.2
jupyter_core	5.7.2
jupyter_server	2.14.2
jupyter_server_terminals	0.5.3
jupyterlab	4.2.4
jupyterlab-lsp	5.1.0
jupyterlab_git	0.50.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.27.3
kerberos	1.3.1
kiwisolver	1.4.5
krb5	0.6.0
langchain	0.2.16
langchain-aws	0.1.16
langchain-community	0.2.16
langchain-core	0.2.38
langchain-text-splitters	0.2.4
langsmith	0.1.114
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.5
marshmallow	3.22.0
matplotlib	3.9.1
matplotlib-inline	0.1.7
mistune	3.0.2
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.10.0
nbconvert	7.16.4
nbdime	4.0.2
nbformat	5.10.4

Library	Version
nest-asyncio	1.6.0
notebook_shim	0.2.4
numpy	1.26.4
orjson	3.10.7
overrides	7.7.0
packaging	24.1
pandas	2.1.4
pandocfilters	1.5.1
parso	0.8.4
partd	1.4.2
pexpect	4.9.0
pickleshare	0.7.5
pillow	10.4.0
platformdirs	4.2.2
ply	3.11
prometheus_client	0.20.0
prompt_toolkit	3.0.47
protobuf	4.25.3
psutil	6.0.0
ptyprocess	0.7.0
pure-sasl	0.6.2
pure_eval	0.2.3
py4j	0.10.9.5
pycparser	2.22
pydantic	2.9.0
pydantic_core	2.23.2
pygls	1.3.1
Pygments	2.18.0
pyparsing	3.1.2
pyspnego	0.11.0
python-dateutil	2.9.0.post0
python-json-logger	2.0.7
pytz	2024.1
PyYAML	6.0.2
pyzmq	26.0.3
raz_client	1.1.0
referencing	0.35.1
requests	2.32.3
requests-kerberos	0.15.0

Library	Version
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.20.0
s3transfer	0.10.2
Send2Trash	1.8.3
setuptools	71.1.0
six	1.16.0
smmap	5.0.1
sniffio	1.3.1
sortedcontainers	2.4.0
soupsieve	2.6
SQLAlchemy	2.0.34
stack-data	0.6.3
tblib	3.0.0
tenacity	8.5.0
terminado	0.18.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.3.0
toolz	0.12.1
tornado	6.4.1
traitlets	5.14.3
trino	0.330.0
types-python-dateutil	2.9.0.20240821
typing-inspect	0.9.0
typing_extensions	4.12.2
tzdata	2024.1
tzlocal	5.2
uri-template	1.3.0
urllib3	2.2.2
wcwidth	0.2.13
webcolors	24.8.0
webencodings	0.5.1
websocket-client	1.8.0
wheel	0.44.0
yaml	1.9.11
zict	3.0.0
zipp	3.20.1

## Python 3.11 Libraries for JupyterLab

This section lists the packages in Python 3.11 JupyterLab Runtimes that ship with ML Runtimes 2024.10.1.

**Table 23: Packages in Python 3.11.9 JupyterLab Runtimes - Standard**

Library	Version
aiohappyeyeballs	2.4.0
aiohttp	3.10.5
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.7.0
anyio	4.4.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
async-lru	2.0.4
attrs	24.2.0
babel	2.16.0
backcall	0.2.0
beautifulsoup4	4.12.3
bitarray	2.8.3
bleach	6.1.0
boto3	1.34.149
botocore	1.34.162
cattr	24.1.0
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.2.0
contourpy	1.2.0
cryptography	42.0.8
cycler	0.12.1
dask	2024.8.2
dataclasses-json	0.6.7
debugpy	1.8.0
decorator	5.1.1



Library	Version
deepmerge	2.0
defusedxml	0.7.1
distributed	2024.8.2
docstring-to-markdown	0.15
executing	2.0.1
faiss-cpu	1.8.0
fastjsonschema	2.20.0
fonttools	4.44.3
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.9.0
gitdb	4.0.11
GitPython	3.1.43
greenlet	3.0.3
gssapi	1.8.3
h11	0.14.0
httpcore	1.0.5
httpx	0.27.2
idna	3.7
importlib_metadata	8.4.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.4
jmespath	1.0.1
json5	0.9.25
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	3.0.0
jsonschema	4.23.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.5
jupyter-server-mathjax	0.2.6
jupyter_client	8.6.0
jupyter_core	5.5.0

Library	Version
jupyter_server	2.14.2
jupyter_server_terminals	0.5.3
jupyterlab	4.2.1
jupyterlab-lsp	5.1.0
jupyterlab_git	0.50.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.27.3
kerberos	1.3.1
kiwisolver	1.4.5
krb5	0.5.1
langchain	0.2.16
langchain-aws	0.1.17
langchain-community	0.2.16
langchain-core	0.2.38
langchain-text-splitters	0.2.4
langsmith	0.1.114
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.5
marshmallow	3.22.0
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.10.0
nbconvert	7.16.4
nbdime	4.0.2
nbformat	5.10.4
nest-asyncio	1.5.8
notebook_shim	0.2.4
numpy	1.26.4
orjson	3.10.7
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.1
parso	0.8.3

Library	Version
partd	1.4.2
pexpect	4.9.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	4.0.0
ply	3.11
prometheus_client	0.20.0
prompt-toolkit	3.0.41
protobuf	4.25.3
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
pydantic	2.9.0
pydantic_core	2.23.2
pygls	1.3.1
Pygments	2.17.2
pyparsing	3.1.1
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.2
pyzmq	25.1.1
raz_client	1.1.0
referencing	0.35.1
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.20.0
s3transfer	0.10.2
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.1
sniffio	1.3.1
sortedcontainers	2.4.0

Library	Version
soupsieve	2.6
SQLAlchemy	2.0.34
stack-data	0.6.3
tblib	3.0.0
tenacity	8.5.0
terminado	0.18.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.3.0
toolz	0.12.1
tornado	6.3.3
traitlets	5.14.0
trino	0.330.0
types-python-dateutil	2.9.0.20240821
typing-inspect	0.9.0
typing_extensions	4.12.2
tzdata	2023.3
tzlocal	5.2
uri-template	1.3.0
urllib3	2.2.2
wcwidth	0.2.12
webcolors	24.8.0
webencodings	0.5.1
websocket-client	1.8.0
yaml	1.9.11
zict	3.0.0
zipp	3.20.1

**Table 24: Packages in Python 3.11.9 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
aiohappyeyeballs	2.4.0
aiohttp	3.10.5
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.7.0

Library	Version
anyio	4.4.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
async-lru	2.0.4
attrs	24.2.0
babel	2.16.0
backcall	0.2.0
beautifulsoup4	4.12.3
bitarray	2.8.3
bleach	6.1.0
boto3	1.34.149
botocore	1.34.162
cattr	24.1.0
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.2.0
contourpy	1.2.0
cryptography	42.0.8
cycler	0.12.1
dask	2024.8.2
dataclasses-json	0.6.7
debugpy	1.8.0
decorator	5.1.1
deepmerge	2.0
defusedxml	0.7.1
distributed	2024.8.2
docstring-to-markdown	0.15
executing	2.0.1
faiss-cpu	1.8.0
fastjsonschema	2.20.0
fonttools	4.44.3
fqdn	1.5.1
frozenlist	1.4.1

Library	Version
fsspec	2024.9.0
gitdb	4.0.11
GitPython	3.1.43
greenlet	3.0.3
gssapi	1.8.3
h11	0.14.0
httpcore	1.0.5
httpx	0.27.2
idna	3.7
importlib_metadata	8.4.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.4
jmespath	1.0.1
json5	0.9.25
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	3.0.0
jsonschema	4.23.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.5
jupyter-server-mathjax	0.2.6
jupyter_client	8.6.0
jupyter_core	5.5.0
jupyter_server	2.14.2
jupyter_server_terminals	0.5.3
jupyterlab	4.2.1
jupyterlab-lsp	5.1.0
jupyterlab_git	0.50.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.27.3
kerberos	1.3.1
kiwisolver	1.4.5
krb5	0.5.1

Library	Version
langchain	0.2.16
langchain-aws	0.1.17
langchain-community	0.2.16
langchain-core	0.2.38
langchain-text-splitters	0.2.4
langsmith	0.1.114
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.5
marshmallow	3.22.0
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.10.0
nbconvert	7.16.4
nbdime	4.0.2
nbformat	5.10.4
nest-asyncio	1.5.8
notebook_shim	0.2.4
numpy	1.26.4
orjson	3.10.7
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.1
parso	0.8.3
partd	1.4.2
pexpect	4.9.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	4.0.0
ply	3.11
prometheus_client	0.20.0
prompt-toolkit	3.0.41
protobuf	4.25.3
psutil	5.9.6

Library	Version
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
pydantic	2.9.0
pydantic_core	2.23.2
pygls	1.3.1
Pygments	2.17.2
pyparsing	3.1.1
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.2
pyzmq	25.1.1
raz_client	1.1.0
referencing	0.35.1
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.20.0
s3transfer	0.10.2
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.1
sniffio	1.3.1
sortedcontainers	2.4.0
soupsieve	2.6
SQLAlchemy	2.0.34
stack-data	0.6.3
tblib	3.0.0
tenacity	8.5.0
terminado	0.18.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.3.0
toolz	0.12.1



Library	Version
tornado	6.3.3
traitlets	5.14.0
trino	0.330.0
types-python-dateutil	2.9.0.20240821
typing-inspect	0.9.0
typing_extensions	4.12.2
tzdata	2023.3
tzlocal	5.2
uri-template	1.3.0
urllib3	2.2.2
wcwidth	0.2.12
webcolors	24.8.0
webencodings	0.5.1
websocket-client	1.8.0
yaml	1.9.11
zict	3.0.0
zipp	3.20.1

## Python 3.10 Libraries for JupyterLab

This section lists the packages in Python 3.10 JupyterLab Runtimes that ship with ML Runtimes 2024.10.1.

**Table 25: Packages in Python 3.10.14 JupyterLab Runtimes - Standard**

Library	Version
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.19.0
annotated-types	0.7.0
anyio	4.4.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2

Library	Version
bitarray	2.7.3
bleach	6.0.0
boto3	1.34.149
botocore	1.34.162
cattr	23.2.3
certifi	2024.7.4
ffi	1.16.0
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	5.1.1
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.16.3
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
gssapi	1.8.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0

Library	Version
idna	3.7
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.4
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.11
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschema	4.21.1
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter_client	7.4.4
jupyter_core	5.3.0
jupyter_server	2.14.1
jupyter_server_terminals	0.5.3
jupyterlab	4.2.1
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.2.2
jupyterlab_git	0.50.0
jupyterlab_server	2.27.2
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
langchain	0.2.13
langchain-aws	0.1.16
langchain-community	0.2.12
langchain-core	0.2.34
langchain-text-splitters	0.2.2
langsmith	0.1.103
loket	1.0.0
lsprotocol	2023.0.1

Library	Version
MarkupSafe	2.1.2
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.6.3
nbconvert	7.2.9
nbdime	4.0.1
nbformat	5.7.3
nest-asyncio	1.5.5
notebook_shim	0.2.2
numpy	1.26.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus-client	0.16.0
prompt-toolkit	3.0.38
protobuf	4.25.3
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
pydantic	2.4.0
pydantic_core	2.10.0
pygls	1.3.1

Library	Version
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.1.2
raz_client	1.1.0
referencing	0.34.0
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.2
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
sortedcontainers	2.4.0
soupsieve	2.4
SQLAlchemy	2.0.24
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
trino	0.330.0
typeguard	2.13.3
typing-inspect	0.9.0
typing_extensions	4.12.2
tzdata	2023.3

Library	Version
tzlocal	5.2
uri-template	1.2.0
urllib3	2.2.2
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.8.0
yaml	1.9.4
zict	3.0.0
zipp	3.18.1

**Table 26: Packages in Python 3.10.14 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.19.0
annotated-types	0.7.0
anyio	4.4.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
boto3	1.34.149
botocore	1.34.162
cattrs	23.2.3
certifi	2024.7.4
cffi	1.16.0

Library	Version
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	5.1.1
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.16.3
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
gssapi	1.8.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	3.7
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1

Library	Version
jedi-language-server	0.41.4
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.11
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschemata	4.21.1
jsonschemata-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter_client	7.4.4
jupyter_core	5.3.0
jupyter_server	2.14.1
jupyter_server_terminals	0.5.3
jupyterlab	4.2.1
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.2.2
jupyterlab_git	0.50.0
jupyterlab_server	2.27.2
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
langchain	0.2.13
langchain-aws	0.1.16
langchain-community	0.2.12
langchain-core	0.2.34
langchain-text-splitters	0.2.2
langsmith	0.1.103
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.2
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5



Library	Version
mypy-extensions	1.0.0
nbclient	0.6.3
nbconvert	7.2.9
nbdime	4.0.1
nbformat	5.7.3
nest-asyncio	1.5.5
notebook_shim	0.2.2
numpy	1.26.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus-client	0.16.0
prompt-toolkit	3.0.38
protobuf	4.25.3
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
pydantic	2.4.0
pydantic_core	2.10.0
pygls	1.3.1
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0

Library	Version
pyzmq	25.1.2
raz_client	1.1.0
referencing	0.34.0
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.2
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
sortedcontainers	2.4.0
soupsieve	2.4
SQLAlchemy	2.0.24
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
trino	0.330.0
typeguard	2.13.3
typing-inspect	0.9.0
typing_extensions	4.12.2
tzdata	2023.3
tzlocal	5.2
uri-template	1.2.0
urllib3	2.2.2
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.8.0

Library	Version
yarl	1.9.4
zict	3.0.0
zipp	3.18.1

## Python 3.9 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2024.10.1.

**Table 27: Packages in Python 3.9.19 JupyterLab Runtimes - Standard**

Library	Version
aiohappyeyeballs	2.3.4
aiohttp	3.10.0
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.7.0
anyio	4.4.0
argcomplete	2.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.2.1
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.2.0
Babel	2.15.0
backcall	0.2.0
beautifulsoup4	4.12.3
bitarray	2.6.0
bleach	6.1.0
boto3	1.34.149
botocore	1.34.162
cattr	23.2.3
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3

Library	Version
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
dask	2024.7.1
dataclasses-json	0.6.7
debugpy	1.6.7
decorator	5.1.1
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.7.1
docstring-to-markdown	0.15
entrypoints	0.4
exceptiongroup	1.2.2
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.20.0
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.6.1
gitdb	4.0.11
GitPython	3.1.43
greenlet	3.0.3
gssapi	1.8.3
h11	0.14.0
httpcore	1.0.5
httpx	0.27.0
idna	3.7
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.4
Jinja2	3.1.4
jmespath	1.0.1
json5	0.9.25

Library	Version
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	3.0.0
jsonschema	4.23.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.5
jupyter-server-mathjax	0.2.6
jupyter_client	7.4.4
jupyter_core	5.3.0
jupyter_server	2.14.2
jupyter_server_terminals	0.5.3
jupyterlab	4.2.1
jupyterlab-lsp	5.1.0
jupyterlab_git	0.50.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.27.3
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
langchain	0.2.13
langchain-aws	0.1.16
langchain-community	0.2.12
langchain-core	0.2.34
langchain-text-splitters	0.2.2
langsmith	0.1.95
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.5
marshmallow	3.21.3
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	3.0.2
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.10.0
nbconvert	7.16.4
nbdime	4.0.1

Library	Version
nbformat	5.10.4
nest-asyncio	1.5.5
notebook_shim	0.2.4
numpy	1.26.4
orjson	3.10.6
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.1
parso	0.8.3
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus_client	0.20.0
prompt-toolkit	3.0.38
protobuf	4.25.3
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
pydantic	2.4.0
pydantic_core	2.10.0
pygls	1.3.1
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	25.1.2
raz_client	1.1.0
referencing	0.35.1
requests	2.32.3

Library	Version
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.19.1
s3transfer	0.10.2
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.1
sniffio	1.3.1
sortedcontainers	2.4.0
soupsieve	2.5
SQLAlchemy	2.0.31
stack-data	0.6.2
tblib	3.0.0
tenacity	8.5.0
terminado	0.18.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.3.0
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
trino	0.330.0
types-python-dateutil	2.9.0.20240316
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
tzlocal	5.2
uri-template	1.3.0
urllib3	1.26.19
wcwidth	0.2.5
webcolors	24.6.0
webencodings	0.5.1
websocket-client	1.8.0
yaml	1.9.4
zict	3.0.0
zipp	3.15.0

**Table 28: Packages in Python 3.9.19 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
aiohappyeyeballs	2.3.4
aiohttp	3.10.0
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.7.0
anyio	4.4.0
argcomplete	2.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.2.1
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.2.0
Babel	2.15.0
backcall	0.2.0
beautifulsoup4	4.12.3
bitarray	2.6.0
bleach	6.1.0
boto3	1.34.149
botocore	1.34.162
cattr	23.2.3
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
dask	2024.7.1
dataclasses-json	0.6.7



Library	Version
debugpy	1.6.7
decorator	5.1.1
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.7.1
docstring-to-markdown	0.15
entrypoints	0.4
exceptiongroup	1.2.2
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.20.0
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.6.1
gitdb	4.0.11
GitPython	3.1.43
greenlet	3.0.3
gssapi	1.8.3
h11	0.14.0
httpcore	1.0.5
httpx	0.27.0
idna	3.7
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.4
Jinja2	3.1.4
jmespath	1.0.1
json5	0.9.25
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	3.0.0
jsonschema	4.23.0
jsonschema-specifications	2023.12.1

Library	Version
jupyter-events	0.10.0
jupyter-lsp	2.2.5
jupyter-server-mathjax	0.2.6
jupyter_client	7.4.4
jupyter_core	5.3.0
jupyter_server	2.14.2
jupyter_server_terminals	0.5.3
jupyterlab	4.2.1
jupyterlab-lsp	5.1.0
jupyterlab_git	0.50.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.27.3
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
langchain	0.2.13
langchain-aws	0.1.16
langchain-community	0.2.12
langchain-core	0.2.34
langchain-text-splitters	0.2.2
langsmith	0.1.95
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.5
marshmallow	3.21.3
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	3.0.2
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.10.0
nbconvert	7.16.4
nbdime	4.0.1
nbformat	5.10.4
nest-asyncio	1.5.5
notebook_shim	0.2.4
numpy	1.26.4
orjson	3.10.6

Library	Version
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.1
parso	0.8.3
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus_client	0.20.0
prompt-toolkit	3.0.38
protobuf	4.25.3
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
pydantic	2.4.0
pydantic_core	2.10.0
pygls	1.3.1
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	25.1.2
raz_client	1.1.0
referencing	0.35.1
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.19.1
s3transfer	0.10.2

Library	Version
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.1
sniffio	1.3.1
sortedcontainers	2.4.0
soupsieve	2.5
SQLAlchemy	2.0.31
stack-data	0.6.2
tblib	3.0.0
tenacity	8.5.0
terminado	0.18.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.3.0
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
trino	0.330.0
types-python-dateutil	2.9.0.20240316
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
tzlocal	5.2
uri-template	1.3.0
urllib3	1.26.19
wcwidth	0.2.5
webcolors	24.6.0
webencodings	0.5.1
websocket-client	1.8.0
yaml	1.9.4
zict	3.0.0
zipp	3.15.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2024.10.1.

**Table 29: Packages in Python 3.8.19 JupyterLab Runtimes - Standard**

Library	Version
aiohappyeyeballs	2.3.4
aiohttp	3.10.0
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.7.0
anyio	4.4.0
argcomplete	2.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.2.1
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.2.0
Babel	2.15.0
backcall	0.2.0
backports.zoneinfo	0.2.1
beautifulsoup4	4.12.3
bitarray	2.6.0
bleach	6.1.0
boto3	1.34.149
botocore	1.34.162
cattr	23.2.3
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
dask	2023.5.0
dataclasses-json	0.6.7
debugpy	1.6.7
decorator	5.1.1

Library	Version
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2023.5.0
docstring-to-markdown	0.15
entrypoints	0.4
exceptiongroup	1.2.2
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.20.0
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.6.1
gitdb	4.0.11
GitPython	3.1.43
greenlet	3.0.3
gssapi	1.8.3
h11	0.14.0
httpcore	1.0.5
httpx	0.27.0
idna	3.7
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.23.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.4
Jinja2	3.1.4
jmespath	1.0.1
json5	0.9.25
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	3.0.0
jsonschema	4.23.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.5

Library	Version
jupyter-server-mathjax	0.2.6
jupyter_client	7.4.4
jupyter_core	5.3.0
jupyter_server	2.14.2
jupyter_server_terminals	0.5.3
jupyterlab	4.2.1
jupyterlab-lsp	5.1.0
jupyterlab_git	0.50.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.27.3
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
langchain	0.2.13
langchain-aws	0.1.16
langchain-community	0.2.12
langchain-core	0.2.34
langchain-text-splitters	0.2.2
langsmith	0.1.95
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.5
marshmallow	3.21.3
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	3.0.2
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.10.0
nbconvert	7.16.4
nbdime	4.0.1
nbformat	5.10.4
nest-asyncio	1.5.5
notebook_shim	0.2.4
numpy	1.24.4
orjson	3.10.6
overrides	7.7.0
packaging	23.2

Library	Version
pandas	2.0.3
pandocfilters	1.5.1
parso	0.8.3
partd	1.4.1
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
ply	3.11
prometheus_client	0.20.0
prompt-toolkit	3.0.38
protobuf	4.25.3
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
pydantic	2.4.0
pydantic_core	2.10.0
pygls	1.3.1
Pygments	2.15.1
pyparsing	3.0.9
pypnogo	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	25.1.2
raz_client	1.1.0
referencing	0.35.1
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.19.1
s3transfer	0.10.2
Send2Trash	1.8.3



Library	Version
six	1.16.0
smmap	5.0.1
sniffio	1.3.1
sortedcontainers	2.4.0
soupsieve	2.5
SQLAlchemy	2.0.31
stack-data	0.6.2
tblib	3.0.0
tenacity	8.5.0
terminado	0.18.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.3.0
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
trino	0.330.0
types-python-dateutil	2.9.0.20240316
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
tzlocal	5.2
uri-template	1.3.0
urllib3	1.26.19
wcwidth	0.2.5
webcolors	24.6.0
webencodings	0.5.1
websocket-client	1.8.0
yaml	1.9.4
zict	3.0.0
zipp	3.15.0

**Table 30: Packages in Python 3.8.19 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1

Library	Version
aiohappyeyeballs	2.3.4
aiohttp	3.10.0
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.7.0
anyio	4.4.0
argcomplete	2.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.2.1
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.2.0
Babel	2.15.0
backcall	0.2.0
backports.zoneinfo	0.2.1
beautifulsoup4	4.12.3
bitarray	2.6.0
bleach	6.1.0
boto3	1.34.149
botocore	1.34.162
cattr	23.2.3
certifi	2024.7.4
cffi	1.16.0
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cryptography	42.0.8
cycler	0.11.0
dask	2023.5.0
dataclasses-json	0.6.7
debugpy	1.6.7
decorator	5.1.1
deepmerge	1.1.1
defusedxml	0.7.1

Library	Version
distributed	2023.5.0
docstring-to-markdown	0.15
entrypoints	0.4
exceptiongroup	1.2.2
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.20.0
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.6.1
gitdb	4.0.11
GitPython	3.1.43
greenlet	3.0.3
gssapi	1.8.3
h11	0.14.0
httpcore	1.0.5
httpx	0.27.0
idna	3.7
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.23.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.4
Jinja2	3.1.4
jmespath	1.0.1
json5	0.9.25
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	3.0.0
jsonschema	4.23.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.5
jupyter-server-mathjax	0.2.6
jupyter_client	7.4.4

Library	Version
jupyter_core	5.3.0
jupyter_server	2.14.2
jupyter_server_terminals	0.5.3
jupyterlab	4.2.1
jupyterlab-lsp	5.1.0
jupyterlab_git	0.50.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.27.3
kerberos	1.3.1
kiwisolver	1.4.4
krb5	0.5.1
langchain	0.2.13
langchain-aws	0.1.16
langchain-community	0.2.12
langchain-core	0.2.34
langchain-text-splitters	0.2.2
langsmith	0.1.95
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.5
marshmallow	3.21.3
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	3.0.2
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.10.0
nbconvert	7.16.4
nbdime	4.0.1
nbformat	5.10.4
nest-asyncio	1.5.5
notebook_shim	0.2.4
numpy	1.24.4
orjson	3.10.6
overrides	7.7.0
packaging	23.2
pandas	2.0.3
pandocfilters	1.5.1

Library	Version
parso	0.8.3
partd	1.4.1
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
ply	3.11
prometheus_client	0.20.0
prompt-toolkit	3.0.38
protobuf	4.25.3
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.22
pydantic	2.4.0
pydantic_core	2.10.0
pygls	1.3.1
Pygments	2.15.1
pyparsing	3.0.9
pyspnego	0.11.0
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	25.1.2
raz_client	1.1.0
referencing	0.35.1
requests	2.32.3
requests-kerberos	0.15.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.19.1
s3transfer	0.10.2
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.1

Library	Version
sniffio	1.3.1
sortedcontainers	2.4.0
soupsieve	2.5
SQLAlchemy	2.0.31
stack-data	0.6.2
tblib	3.0.0
tenacity	8.5.0
terminado	0.18.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.3.0
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
trino	0.330.0
types-python-dateutil	2.9.0.20240316
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
tzlocal	5.2
uri-template	1.3.0
urllib3	1.26.19
wcwidth	0.2.5
webcolors	24.6.0
webencodings	0.5.1
websocket-client	1.8.0
yaml	1.9.4
zict	3.0.0
zipp	3.15.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2024.10.1.

**Table 31: Packages in Python 3.7.17 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0

Library	Version
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.41
idna	3.7
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.3
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2

Library	Version
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2



Library	Version
py4j	0.10.9.1
pycparser	2.20
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

**Table 32: Packages in Python 3.7.17 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1

Library	Version
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.41
idna	3.7
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2

Library	Version
Jinja2	3.1.3
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0

Library	Version
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2

Library	Version
zipp	3.8.0

## R 4.4 Libraries

This section lists the R 4.4 libraries that ship with ML Runtimes Runtimes 2024.10.1.

Table 33: R 4.4 Libraries for Workbench

Library	Version
askpass	1.2.0
bases	4.4.0
bitopss	1.0-7
boots	1.3-30
brews	1.0-10
Cairo	1.2-0
caToolss	1.18.2
cdsw	2.1
class	7.3-22
cli	3.6.2
cluster	2.1.6
codetools	0.2-20
colorspace	2.1-0
compiler	4.4.0
curl	5.2.1
datasets	4.4.0
fansi	1.0.6
farver	2.1.1
foreign	0.8-86
ggplot	23.5.1
glue	1.7.0
graphics	4.4.0
grDevices	4.4.0
grid	4.4.0
gtable	0.3.5
httr	1.4.7
isoband	0.2.7
jsonlite	1.8.8
KernSmooth	2.23-22
labeling	0.4.3
lattice	0.22-6

Library	Version
lifecycle	1.0.4
magrittr	2.0.3
MASS	7.3-60.2
Matrix	1.7-0
methods	4.4.0
mgcv	1.9-1
mime	0.12
munsel	10.5.1
nlme	3.1-164
nnet	7.3-19
openssl	2.1.2
parallel	4.4.0
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R	62.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.9
rlang	1.1.3
Rook	1.2
rpart	4.1.23
Rserve	1.7-0
scales	1.3.0
spatial	7.3-17
splines	4.4.0
stats	4.4.0

**Table 34: Packages in Python 3.8.10 PBJ R 4.4 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.2.1
attrs	23.2.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2024.7.4

Library	Version
cff	1.16.0
charset-normalizer	3.3.2
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fqdn	1.5.1
idna	3.7
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.1
Jinja2	3.1.3
jsonpointer	2.4
jsonschema	4.22.0
jsonschema-specifications	2023.12.1
jupyter-client	7.4.4
jupyter-core	4.12.0
jupyter-events	0.10.0
jupyter-kernel-gateway	2.5.2
jupyter-server	2.14.1
jupyter-server-terminals	0.5.3
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3

Library	Version
overrides	7.7.0
packaging	23.2
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pkgutil-resolve-name	1.3.10
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.22
Pygments	2.15.1
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0.1
pyzmq	26.0.3
referencing	0.35.1
requests	2.32.3
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.1
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.3
types-python-dateutil	2.9.0.20240316
typing-extensions	4.3.0
uri-template	1.3.0
urllib3	1.26.19
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.8.0



Library	Version
zipp	3.15.0

## ML Runtimes 2024.05.2

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2024.05.2



### Note:

Nvidia GPU Editions with a Workbench Editor come with CUDA 11.4.1 and cuDNN 8.2 versions preinstalled.

Nvidia GPU Editions with JupyterLab or a PBJ Workbench Editor and with Python 3.7 come with CUDA 11.8.0 and cuDNN 8.7 versions preinstalled.

All the other Nvidia GPU Edition Runtimes come with CUDA 12.3 and cuDNN 9.0 versions preinstalled.

### Spark and Python Supportability

Specific Python versions are compatible with specific Spark versions. For detailed information about the compatibility levels for various Python versions across different Spark releases, see [Spark Python Supportability Matrix](#).

## Python 3.10 Libraries for Conda

This section lists the packages in Python 3.10 Conda Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.2.

**Table 35: Packages in Python 3.10.13 Conda Runtimes - Standard**

Library	Version
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0

Library	Version
boto3	1.34.94
botocore	1.34.94
cattr	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	4.4.2
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.16.3
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	3.4
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0

Library	Version
ipython	8.10.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.11
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschema	4.21.1
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter_client	7.4.4
jupyter_core	5.3.0
jupyter_server	2.11.2
jupyter_server_terminals	0.5.3
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.2.2
jupyterlab_git	0.50.0
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
langchain	0.1.20
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
locket	1.0.0
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8

Library	Version
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.6.3
nbconvert	7.2.9
nbdime	4.0.1
nbformat	5.7.3
nest-asyncio	1.5.5
notebook_shim	0.2.2
numpy	1.26.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.1.2
referencing	0.34.0

Library	Version
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.1
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
sortedcontainers	2.4.0
soupsieve	2.4
SQLAlchemy	2.0.24
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.2.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
typeguard	2.13.3
typing-inspect	0.9.0
typing_extensions	4.5.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
yaml	1.9.4
zict	3.0.0
zipp	3.18.1

## Python 3.11 Libraries for Workbench

This section lists the packages in Python 3.11 Workbench Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.2.

**Table 36: Packages in Python 3.11.6 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	4.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
certifi	2023.7.22
cffi	1.16.0
charset-normalizer	3.3.2
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.26.0
ipython	8.17.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.3
jsonpointer	2.4
jsonschema	4.20.0

Library	Version
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.5.0
jupyter_server	2.11.2
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.5
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.6
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pillow	10.3.0
platformdirs	4.0.0
prometheus-client	0.18.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pyparser	2.21
Pygments	2.16.1

Library	Version
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	24.0.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.0
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.13.0
types-python-dateutil	2.8.19.14
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.10
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4

**Table 37: Packages in Python 3.11.6 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
anyio	4.0.0
argon2-cffi	23.1.0



Library	Version
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
certifi	2023.7.22
cffi	1.16.0
charset-normalizer	3.3.2
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.26.0
ipython	8.17.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.3
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.5.0
jupyter_server	2.11.2
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2

Library	Version
kerberos	1.3.1
kiwisolver	1.4.5
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.6
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pillow	10.3.0
platformdirs	4.0.0
prometheus-client	0.18.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
Pygments	2.16.1
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	24.0.1
referencing	0.31.0
requests	2.31.0

Library	Version
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.0
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.13.0
types-python-dateutil	2.8.19.14
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.10
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4

## Python 3.10 Libraries for Workbench

This section lists the packages in Python 3.10 Workbench Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.2.

**Table 38: Packages in Python 3.10.13 Workbench Runtimes - Standard**

Library	Version
asttokens	2.2.1
backcall	0.2.0
bitarray	2.7.3
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7

Library	Version
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
idna	3.2
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter_client	7.4.4
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.2
pandas	2.1.4
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	25.1.2
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0

Library	Version
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5

**Table 39: Packages in Python 3.10.13 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.43.0
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2

Library	Version
Jinja2	3.1.3
jsonpointer	2.3
jsonschema	4.18.0
jsonschema-specifications	2023.12.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.11.2
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.25.2
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2

Library	Version
py4j	0.10.9.5
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.0.2
referencing	0.35.1
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.1
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.9.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

**Table 40: Packages in Python 3.10.13 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1

Library	Version
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.43.0
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.3
jsonpointer	2.3
jsonschema	4.18.0
jsonschema-specifications	2023.12.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.11.2



Library	Version
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.25.2
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.0.2

Library	Version
referencing	0.35.1
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.1
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.9.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.2.

**Table 41: Packages in Python 3.9.18 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7

Library	Version
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
idna	3.2
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.19.1
jupyter_client	7.4.4
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.2
pandas	2.1.4
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	25.1.2

Library	Version
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
typing_extensions	4.11.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 42: Packages in Python 3.9.18 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
idna	3.2
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.19.1
jupyter_client	7.4.4

Library	Version
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.2
pandas	2.1.4
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	25.1.2
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
typing_extensions	4.11.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 43: Packages in Python 3.9.18 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.2.1
attrs	23.2.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.43.0
fqdn	1.5.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.1
Jinja2	3.1.3
jsonpointer	2.4
jsonschema	4.22.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0

Library	Version
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.4
jupyter_core	4.12.0
jupyter_server	2.11.2
jupyter_server_terminals	0.5.3
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7

Library	Version
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	26.0.3
referencing	0.35.1
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.1
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.3
types-python-dateutil	2.9.0.20240316
typing_extensions	4.3.0
tzdata	2023.3
uri-template	1.3.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	24.6.0
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 44: Packages in Python 3.9.18 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0



Library	Version
arrow	1.3.0
asttokens	2.2.1
attrs	23.2.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.43.0
fqdn	1.5.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.1
Jinja2	3.1.3
jsonpointer	2.4
jsonschema	4.22.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.4
jupyter_core	4.12.0
jupyter_server	2.11.2

Library	Version
jupyter_server_terminals	0.5.3
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	26.0.3
referencing	0.35.1

Library	Version
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.1
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.3
types-python-dateutil	2.9.0.20240316
typing_extensions	4.3.0
tzdata	2023.3
uri-template	1.3.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	24.6.0
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.2.

**Table 45: Packages in Python 3.8.18 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6

Library	Version
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
idna	3.2
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.23.0
ipython	8.10.0
jedi	0.19.1
jupyter_client	7.4.4
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.4
packaging	23.2
pandas	2.0.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2

Library	Version
pytz	2023.3.post1
pyzmq	25.1.2
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
typing_extensions	4.11.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 46: Packages in Python 3.8.18 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
idna	3.2
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.23.0
ipython	8.10.0

Library	Version
jedi	0.19.1
jupyter_client	7.4.4
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.4
packaging	23.2
pandas	2.0.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	25.1.2
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
typing_extensions	4.11.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 47: Packages in Python 3.8.18 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.2.1
attrs	23.2.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.43.0
fqdn	1.5.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.1
Jinja2	3.1.3
jsonpointer	2.4
jsonschema	4.22.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0

Library	Version
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.4
jupyter_core	4.12.0
jupyter_server	2.11.2
jupyter_server_terminals	0.5.3
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
overrides	7.7.0
packaging	23.2
pandas	2.0.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2



Library	Version
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	26.0.3
referencing	0.35.1
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.1
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.3
types-python-dateutil	2.9.0.20240316
typing_extensions	4.3.0
tzdata	2023.3
uri-template	1.3.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	24.6.0
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 48: Packages in Python 3.8.18 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
anyio	3.7.0
argon2-cffi	21.3.0

Library	Version
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.2.1
attrs	23.2.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.43.0
fqdn	1.5.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.1
Jinja2	3.1.3
jsonpointer	2.4
jsonschema	4.22.0
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.4
jupyter_core	4.12.0

Library	Version
jupyter_server	2.11.2
jupyter_server_terminals	0.5.3
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
overrides	7.7.0
packaging	23.2
pandas	2.0.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1

Library	Version
pyzmq	26.0.3
referencing	0.35.1
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.1
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.3
types-python-dateutil	2.9.0.20240316
typing_extensions	4.3.0
tzdata	2023.3
uri-template	1.3.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	24.6.0
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.2.

**Table 49: Packages in Python 3.7.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22

Library	Version
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18

Library	Version
wcwidth	0.2.5
zipp	3.8.0

**Table 50: Packages in Python 3.7.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1

Library	Version
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.8.0

**Table 51: Packages in Python 3.7.16 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0

Library	Version
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.1.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1



Library	Version
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

**Table 52: Packages in Python 3.7.16 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1

Library	Version
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.1.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5

Library	Version
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.2.

### Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12

Library	Version
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

## Python 3.11 Libraries for JupyterLab

This section lists the packages in Python 3.11 JupyterLab Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.2.

**Table 53: Packages in Python 3.11.6 JupyterLab Runtimes - Standard**

Library	Version
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.19.0
annotated-types	0.6.0
anyio	4.1.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
async-lru	2.0.4
attrs	23.1.0
Babel	2.13.1
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
boto3	1.34.94
botocore	1.34.94
cattrs	23.2.2
certifi	2023.11.17
cffi	1.16.0
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.2.0
contourpy	1.2.0

Library	Version
cycler	0.12.1
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.8.0
decorator	5.1.1
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.5.0
docstring-to-markdown	0.13
executing	2.0.1
faiss-cpu	1.8.0
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.11
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	3.6
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.14
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.10.0

Library	Version
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter_client	8.6.0
jupyter_core	5.5.0
jupyter_server	2.11.2
jupyter_server_terminals	0.4.4
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab_git	0.50.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.25.2
kerberos	1.3.1
kiwisolver	1.4.5
langchain	0.1.19
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
loket	1.0.0
lsprotocol	2023.0.0
MarkupSafe	2.1.3
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbdime	4.0.1
nbformat	5.9.2
nest-asyncio	1.5.8
notebook_shim	0.2.3
numpy	1.26.4
orjson	3.10.3
overrides	7.4.0
packaging	23.2
pandas	2.1.4

Library	Version
pandocfilters	1.5.0
parso	0.8.3
partd	1.4.2
pexpect	4.9.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	4.0.0
ply	3.11
prometheus-client	0.19.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
pydantic	2.7.1
pydantic_core	2.18.2
pygls	1.2.1
Pygments	2.17.2
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	25.1.1
referencing	0.31.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.1
s3transfer	0.10.1
Send2Trash	1.8.2
six	1.16.0
smmap	5.0.1
sniffio	1.3.0
sortedcontainers	2.4.0
soupsieve	2.5

Library	Version
SQLAlchemy	2.0.30
stack-data	0.6.3
tblib	3.0.0
tenacity	8.3.0
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.2.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.14.0
types-python-dateutil	2.8.19.14
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.12
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4
yaml	1.9.4
zict	3.0.0
zipp	3.18.1

**Table 54: Packages in Python 3.11.6 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.19.0
annotated-types	0.6.0
anyio	4.1.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0



Library	Version
arrow	1.3.0
asttokens	2.4.1
async-lru	2.0.4
attrs	23.1.0
Babel	2.13.1
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
boto3	1.34.94
botocore	1.34.94
cattr	23.2.2
certifi	2023.11.17
cff	1.16.0
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.8.0
decorator	5.1.1
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.5.0
docstring-to-markdown	0.13
executing	2.0.1
faiss-cpu	1.8.0
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.11
GitPython	3.1.41
greenlet	3.0.3

Library	Version
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	3.6
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.14
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.4
jsonschemata	4.20.0
jsonschemata-specifications	2023.11.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter_client	8.6.0
jupyter_core	5.5.0
jupyter_server	2.11.2
jupyter_server_terminals	0.4.4
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab_git	0.50.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.25.2
kerberos	1.3.1
kiwisolver	1.4.5
langchain	0.1.19
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
locket	1.0.0

Library	Version
lsprotocol	2023.0.0
MarkupSafe	2.1.3
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbdime	4.0.1
nbformat	5.9.2
nest-asyncio	1.5.8
notebook_shim	0.2.3
numpy	1.26.4
orjson	3.10.3
overrides	7.4.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
partd	1.4.2
pexpect	4.9.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	4.0.0
ply	3.11
prometheus-client	0.19.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
pydantic	2.7.1
pydantic_core	2.18.2
pygls	1.2.1

Library	Version
Pygments	2.17.2
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	25.1.1
referencing	0.31.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.1
s3transfer	0.10.1
Send2Trash	1.8.2
six	1.16.0
smmap	5.0.1
sniffio	1.3.0
sortedcontainers	2.4.0
soupsieve	2.5
SQLAlchemy	2.0.30
stack-data	0.6.3
tblib	3.0.0
tenacity	8.3.0
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.2.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.14.0
types-python-dateutil	2.8.19.14
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.12

Library	Version
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4
yaml	1.9.4
zict	3.0.0
zipp	3.18.1

## Python 3.10 Libraries for JupyterLab

This section lists the packages in Python 3.10 JupyterLab Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.2.

**Table 55: Packages in Python 3.10.13 JupyterLab Runtimes - Standard**

Library	Version
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
boto3	1.34.94
botocore	1.34.94
cattr	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6

Library	Version
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	4.4.2
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.16.3
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	3.4
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.11
jsonpatch	1.33
jsonpath-ng	1.6.1

Library	Version
jsonpointer	2.3
jsonschem	4.21.1
jsonschem-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter_client	7.4.4
jupyter_core	5.3.0
jupyter_server	2.11.2
jupyter_server_terminals	0.5.3
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.2.2
jupyterlab_git	0.50.0
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
langchain	0.1.20
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
loket	1.0.0
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.6.3
nbconvert	7.2.9
nbdime	4.0.1
nbformat	5.7.3
nest-asyncio	1.5.5
notebook_shim	0.2.2
numpy	1.26.4

Library	Version
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.1.2
referencing	0.34.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.1
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.0



Library	Version
sniffio	1.3.0
sortedcontainers	2.4.0
soupsieve	2.4
SQLAlchemy	2.0.24
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.2.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
typeguard	2.13.3
typing-inspect	0.9.0
typing_extensions	4.5.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
yaml	1.9.4
zict	3.0.0
zipp	3.18.1

**Table 56: Packages in Python 3.10.13 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.19.0

Library	Version
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
boto3	1.34.94
botocore	1.34.94
cattrs	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	4.4.2
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.16.3
fonttools	4.43.0

Library	Version
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	3.4
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.11
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschema	4.21.1
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter_client	7.4.4
jupyter_core	5.3.0
jupyter_server	2.11.2
jupyter_server_terminals	0.5.3
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.2.2
jupyterlab_git	0.50.0
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4

Library	Version
langchain	0.1.20
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
loket	1.0.0
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.6.3
nbconvert	7.2.9
nbdime	4.0.1
nbformat	5.7.3
nest-asyncio	1.5.5
notebook_shim	0.2.2
numpy	1.26.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2

Library	Version
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.1.2
referencing	0.34.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.1
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
sortedcontainers	2.4.0
soupsieve	2.4
SQLAlchemy	2.0.24
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.2.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
typeguard	2.13.3

Library	Version
typing-inspect	0.9.0
typing_extensions	4.5.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
yaml	1.9.4
zict	3.0.0
zipp	3.18.1

## Python 3.9 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.2.

**Table 57: Packages in Python 3.9.18 JupyterLab Runtimes - Standard**

Library	Version
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.6.0
anyio	4.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
boto3	1.34.94

Library	Version
botocore	1.34.94
cattr	23.2.3
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	4.4.2
deepmerge	1.1.1
defusedxml	0.6.0
distributed	2024.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.15.3
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	2.10
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0

Library	Version
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.4
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.5
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschema	4.21.1
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter_client	7.4.4
jupyter_core	5.3.0
jupyter_server	2.11.2
jupyter_server_terminals	0.5.3
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.1.2
jupyterlab_git	0.50.0
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
langchain	0.1.20
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
locket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.1
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8



Library	Version
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	4.0.1
nbformat	5.3.0
nest-asyncio	1.5.5
notebook_shim	0.2.3
numpy	1.26.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.4.3
parso	0.8.3
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.20
pydantic	2.0
pydantic_core	2.0.1
pygls	1.3.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.1.2

Library	Version
referencing	0.34.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.1
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
sortedcontainers	2.4.0
soupsieve	2.3.2
SQLAlchemy	2.0.30
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.1.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
yaml	1.9.4
zict	3.0.0
zipp	3.15.0

**Table 58: Packages in Python 3.9.18 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.6.0
anyio	4.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
boto3	1.34.94
botocore	1.34.94
cattr	23.2.3
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	4.4.2

Library	Version
deepmerge	1.1.1
defusedxml	0.6.0
distributed	2024.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.15.3
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	2.10
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.4
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.5
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschema	4.21.1
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6

Library	Version
jupyter_client	7.4.4
jupyter_core	5.3.0
jupyter_server	2.11.2
jupyter_server_terminals	0.5.3
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.1.2
jupyterlab_git	0.50.0
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
langchain	0.1.20
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.1
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	4.0.1
nbformat	5.3.0
nest-asyncio	1.5.5
notebook_shim	0.2.3
numpy	1.26.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.4.3
parso	0.8.3

Library	Version
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.20
pydantic	2.0
pydantic_core	2.0.1
pygls	1.3.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.1.2
referencing	0.34.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.1
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
sortedcontainers	2.4.0
soupsieve	2.3.2
SQLAlchemy	2.0.30
stack-data	0.6.2

Library	Version
tblib	3.0.0
tenacity	8.3.0
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.1.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
yaml	1.9.4
zict	3.0.0
zipp	3.15.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.2.

**Table 59: Packages in Python 3.8.18 JupyterLab Runtimes - Standard**

Library	Version
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.6.0
anyio	4.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3

Library	Version
asttokens	2.2.1
async-generator	1.10
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
boto3	1.34.94
botocore	1.34.94
cattr	23.2.3
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
dask	2023.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	4.4.2
deepmerge	1.1.1
defusedxml	0.6.0
distributed	2023.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.15.3
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1



Library	Version
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	2.10
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.23.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.4
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.5
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschemata	4.21.1
jsonschemata-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter_client	7.4.4
jupyter_core	5.3.0
jupyter_server	2.11.2
jupyter_server_terminals	0.5.3
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.1.2
jupyterlab_git	0.50.0
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
langchain	0.1.20
langchain-community	0.0.38

Library	Version
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.1
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	4.0.1
nbformat	5.3.0
nest-asyncio	1.5.5
notebook_shim	0.2.3
numpy	1.24.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.0.3
pandocfilters	1.4.3
parso	0.8.3
partd	1.4.1
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
ply	3.11
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2

Library	Version
py4j	0.10.9.5
pycparser	2.20
pydantic	2.0
pydantic_core	2.0.1
pygls	1.3.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	25.1.2
referencing	0.34.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.1
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
sortedcontainers	2.4.0
soupsieve	2.3.2
SQLAlchemy	2.0.30
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.1.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
typing-inspect	0.9.0

Library	Version
typing_extensions	4.11.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
yaml	1.9.4
zict	3.0.0
zipp	3.15.0

**Table 60: Packages in Python 3.8.18 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.6.0
anyio	4.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
boto3	1.34.94
botocore	1.34.94
cattrs	23.2.3

Library	Version
certifi	2023.7.22
cff	1.14.4
charset-normalizer	3.1.0
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
dask	2023.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	4.4.2
deepmerge	1.1.1
defusedxml	0.6.0
distributed	2023.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.15.3
fonttools	4.43.0
fqdn	1.5.1
frozenlist	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	2.10
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.23.0
ipython	8.10.0
isoduration	20.11.0

Library	Version
jedi	0.19.1
jedi-language-server	0.41.4
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.5
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschema	4.21.1
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter_client	7.4.4
jupyter_core	5.3.0
jupyter_server	2.11.2
jupyter_server_terminals	0.5.3
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.1.2
jupyterlab_git	0.50.0
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
langchain	0.1.20
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
locket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.1
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0

Library	Version
nbclient	0.5.1
nbconvert	7.4.0
nbdime	4.0.1
nbformat	5.3.0
nest-asyncio	1.5.5
notebook_shim	0.2.3
numpy	1.24.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.0.3
pandocfilters	1.4.3
parso	0.8.3
partd	1.4.1
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
ply	3.11
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.20
pydantic	2.0
pydantic_core	2.0.1
pygls	1.3.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	25.1.2
referencing	0.34.0

Library	Version
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.1
Send2Trash	1.8.3
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
sortedcontainers	2.4.0
soupsieve	2.3.2
SQLAlchemy	2.0.30
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.1.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
yaml	1.9.4
zict	3.0.0
zipp	3.15.0



## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.2.

**Table 61: Packages in Python 3.7.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.41
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1

Library	Version
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.3
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1

Library	Version
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

**Table 62: Packages in Python 3.7.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1 + cuda11.8
libcudnn8-dev	8.7.0.84-1 + cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.41
idna	2.10

Library	Version
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.3
json5	0.9.5
jsonpointer	2.3
jsonschemata	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4

Library	Version
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0

Library	Version
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

## R 4.4 Libraries

This section lists the R 4.4 libraries that ship with Cloudera Machine Learning Runtimes 2024.05.2.

**Table 63: R 4.4 Libraries for Workbench**

Library	Version
askpass	1.2.0
base	4.4.0
bitops	1.0-7
boot	1.3-30
brew	1.0-10
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-22
cli	3.6.2
cluster	2.1.6
codetools	0.2-20
colorspace	2.1-0
compiler	4.4.0
curl	5.2.1
datasets	4.4.0
fansi	1.0.6
farver	2.1.1
foreign	0.8-86
ggplot2	3.5.1
glue	1.7.0
graphics	4.4.0
grDevices	4.4.0

Library	Version
grid	4.4.0
gtable	0.3.5
httr	1.4.7
isoband	0.2.7
jsonlite	1.8.8
KernSmooth	2.23-22
labeling	0.4.3
lattice	0.22-6
lifecycle	1.0.4
magrittr	2.0.3
MASS	7.3-60.2
Matrix	1.7-0
methods	4.4.0
mgcv	1.9-1
mime	0.12
munsell	0.5.1
nlme	3.1-164
nnet	7.3-19
openssl	2.1.2
parallel	4.4.0
pillar	1.9.0
pkgconfig	2.0.30
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.9
rlang	1.1.3
Rook	1.2
rpart	4.1.23
Rserve	1.7-0
scales	1.3.0
spatial	7.3-17
splines	4.4.0
stats	4.4.0
stats4	4.4.0
survival	3.5-8
sys	3.4.2
testthat	4.4.0
tibble	3.2.1



Library	Version
tools	4.4.0
utf8	1.2.4
utils	4.4.0
vctrs	0.6.5
viridisLite	0.4.2
withr	3.0.0

**Table 64: Packages in Python 3.8.10 PBJ R 4.4 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.2.1
attrs	23.2.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fqdn	1.5.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.1
Jinja2	3.1.3
jsonpointer	2.4

Library	Version
jsonschema	4.22.0
jsonschema-specifications	2023.12.1
jupyter-client	7.4.4
jupyter-core	4.12.0
jupyter-events	0.10.0
jupyter-kernel-gateway	2.5.2
jupyter-server	2.11.2
jupyter-server-terminals	0.5.3
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3
overrides	7.7.0
packaging	23.2
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pkgutil-resolve-name	1.3.10
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.15.1
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0.1
pyzmq	26.0.3
referencing	0.35.1
requests	2.31.0
rfc3339-validator	0.1.4

Library	Version
rfc3986-validator	0.1.1
rpds-py	0.18.1
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.3
types-python-dateutil	2.9.0.20240316
typing-extensions	4.3.0
uri-template	1.3.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	24.6.0
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## ML Runtimes 2024.05.1

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2024.05.1



### Note:

Nvidia GPU Editions with a Workbench Editor come with CUDA 11.4.1 and cuDNN 8.2 versions preinstalled.

Nvidia GPU Editions with JupyterLab or a PBJ Workbench Editor and with Python 3.7 come with CUDA 11.8.0 and cuDNN 8.7 versions preinstalled.

All the other Nvidia GPU Edition Runtimes come with CUDA 12.3 and cuDNN 9.0 versions preinstalled.

### Spark and Python Supportability

Specific Python versions are compatible with specific Spark versions. For detailed information about the compatibility levels for various Python versions across different Spark releases, see [Spark Python Supportability Matrix](#).

## Python 3.10 Libraries for Conda

This section lists the packages in Python 3.10 Conda Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.1.

**Table 65: Packages in Python 3.10.13 Conda Runtimes - Standard**

Library	Version
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
boto3	1.34.94
botocore	1.34.94
cattr	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	4.4.2
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.5.0
docstring-to-markdown	0.12
entrypoints	0.4

Library	Version
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.16.3
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	3.4
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.11
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschema	4.21.1
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter-ydoc	2.0.1
jupyter_client	7.4.4
jupyter_collaboration	2.0.5
jupyter_core	5.3.0
jupyter_server	2.7.0
jupyter_server_fileid	0.9.0

Library	Version
jupyter_server_terminals	0.5.3
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.2.2
jupyterlab_git	0.50.0
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
langchain	0.1.20
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
loket	1.0.0
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.6.3
nbconvert	7.2.9
nbdime	4.0.1
nbformat	5.7.3
nest-asyncio	1.5.5
notebook_shim	0.2.2
numpy	1.26.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5

Library	Version
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
pycrdt	0.8.16
pycrdt-websocket	0.12.7
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6
pyzmq	25.1.2
referencing	0.34.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
sortedcontainers	2.4.0
soupsieve	2.4
SQLAlchemy	2.0.24
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0

Library	Version
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.2.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
typeguard	2.13.3
typing-inspect	0.9.0
typing_extensions	4.5.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
yaml	1.9.4
zict	3.0.0
zipp	3.18.1

## Python 3.11 Libraries for Workbench

This section lists the packages in Python 3.11 Workbench Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.1.

**Table 66: Packages in Python 3.11.6 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	4.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0



Library	Version
certifi	2023.7.22
cff	1.16.0
charset-normalizer	3.3.2
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.26.0
ipython	8.17.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.3
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.5.0
jupyter_server	2.10.1
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.5
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0

Library	Version
nbclient	0.9.0
nbconvert	7.11.0
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.6
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pillow	10.3.0
platformdirs	4.0.0
prometheus-client	0.18.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
Pygments	2.16.1
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	24.0.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.0
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.5

Library	Version
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.13.0
types-python-dateutil	2.8.19.14
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.10
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4

**Table 67: Packages in Python 3.11.6 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
anyio	4.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
certifi	2023.7.22
cffi	1.16.0
charset-normalizer	3.3.2
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1

Library	Version
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.26.0
ipython	8.17.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.3
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.5.0
jupyter_server	2.10.1
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.5
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.6
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0

Library	Version
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pillow	10.3.0
platformdirs	4.0.0
prometheus-client	0.18.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
Pygments	2.16.1
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	24.0.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.0
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.13.0
types-python-dateutil	2.8.19.14

Library	Version
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.10
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4

## Python 3.10 Libraries for Workbench

This section lists the packages in Python 3.10 Workbench Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.1.

**Table 68: Packages in Python 3.10.13 Workbench Runtimes - Standard**

Library	Version
asttokens	2.2.1
backcall	0.2.0
bitarray	2.7.3
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
idna	3.2
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter_client	7.4.4
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3

Library	Version
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.2
pandas	2.1.4
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	25.1.2
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5

**Table 69: Packages in Python 3.10.13 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0

Library	Version
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cff	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.43.0
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.3
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6



Library	Version
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4

Library	Version
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.9.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

**Table 70: Packages in Python 3.10.13 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1

Library	Version
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.43.0
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.3
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0

Library	Version
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.9.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.6
webcolors	1.13

Library	Version
webencodings	0.5.1
websocket-client	1.5.1

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.1.

**Table 71: Packages in Python 3.9.18 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
idna	3.2
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.19.1
jupyter_client	7.4.4
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.25.2

Library	Version
packaging	23.2
pandas	2.1.4
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	25.1.2
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
typing_extensions	4.11.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 72: Packages in Python 3.9.18 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1 + cuda11.4
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0

Library	Version
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
idna	3.2
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.19.1
jupyter_client	7.4.4
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.2
pandas	2.1.4
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
Pygments	2.15.1

Library	Version
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	25.1.2
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
typing_extensions	4.11.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 73: Packages in Python 3.9.18 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0



Library	Version
fastjsonschema	2.17.1
fonttools	4.43.0
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.1.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
prometheus-client	0.13.1

Library	Version
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.1.1
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 74: Packages in Python 3.9.18 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
anyio	3.7.0

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.43.0
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.1.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1

Library	Version
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0

Library	Version
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.1.1
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.1.

**Table 75: Packages in Python 3.8.18 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
idna	3.2
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.23.0
ipython	8.10.0

Library	Version
jedi	0.19.1
jupyter_client	7.4.4
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.4
packaging	23.2
pandas	2.0.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	25.1.2
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
typing_extensions	4.11.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 76: Packages in Python 3.8.18 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn	8 8.2.2.26-1 + cuda11.4
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.43.0
idna	3.2
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.23.0
ipython	8.10.0
jedi	0.19.1
jupyter_client	7.4.4
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.4
packaging	23.2
pandas	2.0.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0

Library	Version
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	25.1.2
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.3
traitlets	5.9.0
typing_extensions	4.11.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 77: Packages in Python 3.8.18 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7



Library	Version
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.43.0
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.1.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1

Library	Version
pandas	2.0.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.1.1
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 78: Packages in Python 3.8.18 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.43.0
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.1.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2

Library	Version
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandas	2.0.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0

Library	Version
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.1.1
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.1.

**Table 79: Packages in Python 3.7.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1

Library	Version
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.8.0

**Table 80: Packages in Python 3.7.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1 + cuda11.4
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0

Library	Version
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0

Library	Version
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.8.0

**Table 81: Packages in Python 3.7.16 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.1.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2



Library	Version
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3

Library	Version
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

**Table 82: Packages in Python 3.7.16 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0

Library	Version
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.1.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1

Library	Version
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.1.

### Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

## Python 3.11 Libraries for JupyterLab

This section lists the packages in Python 3.11 JupyterLab Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.1.

**Table 83: Packages in Python 3.11.6 JupyterLab Runtimes - Standard**

Library	Version
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.19.0
annotated-types	0.6.0
anyio	4.1.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
async-lru	2.0.4
attrs	23.1.0
Babel	2.13.1
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
boto3	1.34.94
botocore	1.34.94
cattr	23.2.2
certifi	2023.11.17
cffi	1.16.0
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.8.0
decorator	5.1.1
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.5.0
docstring-to-markdown	0.13
executing	2.0.1

Library	Version
faiss-cpu	1.8.0
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.11
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	3.6
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.14
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter-ydoc	2.0.1
jupyter_client	8.6.0
jupyter_collaboration	2.0.5
jupyter_core	5.5.0
jupyter_server	2.11.1
jupyter_server_fileid	0.9.0
jupyter_server_terminals	0.4.4
jupyterlab	4.1.5

Library	Version
jupyterlab-lsp	5.1.0
jupyterlab_git	0.50.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.25.2
kerberos	1.3.1
kiwisolver	1.4.5
langchain	0.1.19
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
loket	1.0.0
lsprotocol	2023.0.0
MarkupSafe	2.1.3
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbdime	4.0.1
nbformat	5.9.2
nest-asyncio	1.5.8
notebook_shim	0.2.3
numpy	1.26.4
orjson	3.10.3
overrides	7.4.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
partd	1.4.2
pexpect	4.9.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	4.0.0

Library	Version
ply	3.11
prometheus-client	0.19.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
pycrdt	0.8.16
pycrdt-websocket	0.12.7
pydantic	2.7.1
pydantic_core	2.18.2
pygls	1.2.1
Pygments	2.17.2
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	25.1.1
referencing	0.31.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.1
s3transfer	0.10.1
Send2Trash	1.8.2
six	1.16.0
smmap	5.0.1
sniffio	1.3.0
sortedcontainers	2.4.0
soupsieve	2.5
SQLAlchemy	2.0.30
stack-data	0.6.3
tblib	3.0.0
tenacity	8.3.0
terminado	0.18.0



Library	Version
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.2.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.14.0
types-python-dateutil	2.8.19.14
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.12
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4
yaml	1.9.4
zict	3.0.0
zipp	3.18.1

**Table 84: Packages in Python 3.11.6 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.19.0
annotated-types	0.6.0
anyio	4.1.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
async-lru	2.0.4
attrs	23.1.0
Babel	2.13.1

Library	Version
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
boto3	1.34.94
botocore	1.34.94
cattr	23.2.2
certifi	2023.11.17
cffi	1.16.0
charset-normalizer	3.3.2
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.8.0
decorator	5.1.1
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.5.0
docstring-to-markdown	0.13
executing	2.0.1
faiss-cpu	1.8.0
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.11
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	3.6
importlib_metadata	7.1.0

Library	Version
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.3
jmespath,	1.0.1
json5	0.9.14
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter-ydoc	2.0.1
jupyter_client	8.6.0
jupyter_collaboration	2.0.5
jupyter_core	5.5.0
jupyter_server	2.11.1
jupyter_server_fileid	0.9.0
jupyter_server_terminals	0.4.4
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab_git	0.50.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.25.2
kerberos	1.3.1
kiwisolver	1.4.5
langchain	0.1.19
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
loket	1.0.0
lsprotocol	2023.0.0
MarkupSafe	2.1.3

Library	Version
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbdime	4.0.1
nbformat	5.9.2
nest-asyncio	1.5.8
notebook_shim	0.2.3
numpy	1.26.4
orjson	3.10.3
overrides	7.4.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
partd	1.4.2
pexpect	4.9.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	4.0.0
ply	3.11
prometheus-client	0.19.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
pycrdt	0.8.16
pycrdt-websocket	0.12.7
pydantic	2.7.1
pydantic_core	2.18.2
pygls	1.2.1

Library	Version
Pygments	2.17.2
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	25.1.1
referencing	0.31.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.1
s3transfer	0.10.1
Send2Trash	1.8.2
six	1.16.0
smmap	5.0.1
sniffio	1.3.0
sortedcontainers	2.4.0
soupsieve	2.5
SQLAlchemy	2.0.30
stack-data	0.6.3
tblib	3.0.0
tenacity	8.3.0
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.2.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.14.0
types-python-dateutil	2.8.19.14
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.12

Library	Version
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4
yaml	1.9.4
zict	3.0.0
zipp	3.18.1

## Python 3.10 Libraries for JupyterLab

This section lists the packages in Python 3.10 JupyterLab Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.1.

**Table 85: Packages in Python 3.10.13 JupyterLab Runtimes - Standard**

Library	Version
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
boto3	1.34.94
botocore	1.34.94
cattr	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6

Library	Version
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	4.4.2
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.16.3
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	3.4
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.11
jsonpatch	1.33
jsonpath-ng	1.6.1

Library	Version
jsonpointer	2.3
jsonschemata	4.21.1
jsonschemata-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter-ydoc	2.0.1
jupyter_client	7.4.4
jupyter_collaboration	2.0.5
jupyter_core	5.3.0
jupyter_server	2.7.0
jupyter_server_fileid	0.9.0
jupyter_server_terminals	0.5.3
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.2.2
jupyterlab_git	0.50.0
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
langchain	0.1.20
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
loket	1.0.0
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.6.3
nbconvert	7.2.9
nbdime	4.0.1
nbformat	5.7.3



Library	Version
nest-asyncio	1.5.5
notebook_shim	0.2.2
numpy	1.26.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
pycrdt	0.8.16
pycrdt-websocket	0.12.7
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6
pyzmq	25.1.2
referencing	0.34.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1

Library	Version
rpds-py	0.18.0
s3transfer	0.10.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
sortedcontainers	2.4.0
soupsieve	2.4
SQLAlchemy	2.0.24
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.2.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
typeguard	2.13.3
typing-inspect	0.9.0
typing_extensions	4.5.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
yaml	1.9.4
zict	3.0.0
zipp	3.18.1

**Table 86: Packages in Python 3.10.13 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1

Library	Version
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
boto3	1.34.94
botocore	1.34.94
cattr	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	4.4.2
deepmerge	1.1.1
defusedxml	0.7.1
distributed	2024.5.0
docstring-to-markdown	0.12
entrypoints	0.4

Library	Version
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.16.3
fonttools	4.43.0
fqdn	1.5.1
frozenlist	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	3.4
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.11
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschema	4.21.1
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter-ydoc	2.0.1
jupyter_client	7.4.4
jupyter_collaboration	2.0.5
jupyter_core	5.3.0
jupyter_server	2.7.0
jupyter_server_field	0.9.0

Library	Version
jupyter_server_terminals	0.5.3
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.2.2
jupyterlab_git	0.50.0
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
langchain	0.1.20
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
loket	1.0.0
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.6.3
nbconvert	7.2.9
nbdime	4.0.1
nbformat	5.7.3
nest-asyncio	1.5.5
notebook_shim	0.2.2
numpy	1.26.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5

Library	Version
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.21
pycrdt	0.8.16
pycrdt-websocket	0.12.7
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.1.2
referencing	0.34.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
sortedcontainers	2.4.0
soupsieve	2.4
SQLAlchemy	2.0.24
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0

Library	Version
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.2.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
typeguard	2.13.3
typing-inspect	0.9.0
typing_extensions	4.5.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
yaml	1.9.4
zict	3.0.0
zipp	3.18.1

## Python 3.9 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.1.

**Table 87: Packages in Python 3.9.18 JupyterLab Runtimes - Standard**

Library	Version
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.6.0
anyio	4.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1

Library	Version
async-generator	1.10
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
boto3	1.34.94
botocore	1.34.94
cattr	23.2.3
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	4.4.2
deepmerge	1.1.1
defusedxml	0.6.0
distributed	2024.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.15.3
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.10



Library	Version
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	2.1
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.4
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.5
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschemata	4.21.1
jsonschemata-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter-ydoc	2.0.1
jupyter_client	7.4.4
jupyter_collaboration	2.0.5
jupyter_core	5.3.0
jupyter_server	2.7.0
jupyter_server_fileid	0.9.1
jupyter_server_terminals	0.5.3
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.1.2
jupyterlab_git	0.50.0
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4

Library	Version
langchain	0.1.20
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.1
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	4.0.1
nbformat	5.3.0
nest-asyncio	1.5.5
notebook_shim	0.2.3
numpy	1.26.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.4.3
parso	0.8.3
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2

Library	Version
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.2
pycrdt	0.8.16
pycrdt-websocket	0.12.7
pydantic	2
pydantic_core	2.0.1
pygls	1.3.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6
pyzmq	25.1.2
referencing	0.34.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
sortedcontainers	2.4.0
soupsieve	2.3.2
SQLAlchemy	2.0.30
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.1.1
tomli	2.0.1
toolz	0.12.1

Library	Version
tornado	6.3.3
traitlets	5.9.0
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
yaml	1.9.4
zict	3.0.0
zipp	3.15.0

**Table 88: Packages in Python 3.9.18 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.6.0
anyio	4.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1

Library	Version
boto3	1.34.94
botocore	1.34.94
cattr	23.2.3
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
dask	2024.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	4.4.2
deepmerge	1.1.1
defusedxml	0.6.0
distributed	2024.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.15.3
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	2.10
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0

Library	Version
ipykernel	6.22.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.4
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.5
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschemata	4.21.1
jsonschemata-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter-ydoc	2.0.1
jupyter_client	7.4.4
jupyter_collaboration	2.0.5
jupyter_core	5.3.0
jupyter_server	2.7.0
jupyter_server_field	0.9.1
jupyter_server_terminals	0.5.3
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.1.2
jupyterlab_git	0.50.0
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
langchain	0.1.20
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.1
marshmallow	3.21.2

Library	Version
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	4.0.1
nbformat	5.3.0
nest-asyncio	1.5.5
notebook_shim	0.2.3
numpy	1.26.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.4.3
parso	0.8.3
partd	1.4.2
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
platformdirs	3.5.0
ply	3.11
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.20
pycrdt	0.8.16
pycrdt-websocket	0.12.7
pydantic	2.0
pydantic_core	2.0.1
pygls	1.3.1
Pygments	2.15.1

Library	Version
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.1.2
referencing	0.34.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
sortedcontainers	2.4.0
soupsieve	2.3.2
SQLAlchemy	2.0.30
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.1.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13



Library	Version
webencodings	0.5.1
websocket-client	1.2.1
yaml	1.9.4
zict	3.0.0
zipp	3.15.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.1.

**Table 89: Packages in Python 3.8.18 JupyterLab Runtimes - Standard**

Library	Version
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.6.0
anyio	4.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.1
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
boto3	1.34.94
botocore	1.34.94
cattrs	23.2.3
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
click	8.1.7
cloudpickle	3.0.0

Library	Version
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
dask	2023.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	4.4.2
deepmerge	1.1.1
defusedxml	0.6.0
distributed	2023.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.15.3
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	2.1
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.23.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.4
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.5

Library	Version
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschema	4.21.1
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6
jupyter-ydoc	2.0.1
jupyter_client	7.4.4
jupyter_collaboration	2.0.5
jupyter_core	5.3.0
jupyter_server	2.7.0
jupyter_server_fileid	0.9.1
jupyter_server_terminals	0.5.3
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.1.2
jupyterlab_git	0.50.0
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
langchain	0.1.20
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.1
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.5.1
nbconvert	7.4.0

Library	Version
nbdime	4.0.1
nbformat	5.3.0
nest-asyncio	1.5.5
notebook_shim	0.2.3
numpy	1.24.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2
pandas	2.0.3
pandocfilters	1.4.3
parso	0.8.3
partd	1.4.1
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
ply	3.11
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.2
pycrdt	0.8.16
pycrdt-websocket	0.12.7
pydantic	2
pydantic_core	2.0.1
pygls	1.3.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6
pyzmq	25.1.2
referencing	0.34.0

Library	Version
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
sortedcontainers	2.4.0
soupsieve	2.3.2
SQLAlchemy	2.0.30
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.1.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
yaml	1.9.4
zict	3.0.0
zipp	3.15.0

**Table 90: Packages in Python 3.8.18 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-12-3	12.3.2-1
cuda-libraries-dev-12-3	12.3.2-1
libcudnn9-cuda-12	9.0.0.312-1
libcudnn9-dev-cuda-12	9.0.0.312-1
aiohttp	3.9.5
aiosignal	1.3.1
aiosqlite	0.20.0
annotated-types	0.6.0
anyio	4.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.1
async-lru	2.0.4
async-timeout	4.0.3
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
boto3	1.34.94
botocore	1.34.94
cattr	23.2.3
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
click	8.1.7
cloudpickle	3.0.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
dask	2023.5.0
dataclasses-json	0.6.6
debugpy	1.6.7
decorator	4.4.2

Library	Version
deepmerge	1.1.1
defusedxml	0.6.0
distributed	2023.5.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
faiss-cpu	1.8.0
fastjsonschema	2.15.3
fonttools	4.43.0
fqdn	1.5.1
frozenset	1.4.1
fsspec	2024.3.1
gitdb	4.0.10
GitPython	3.1.41
greenlet	3.0.3
h11	0.14.0
httpcore	1.0.4
httpx	0.27.0
idna	2.1
importlib-resources	5.12.0
importlib_metadata	7.1.0
impyla	0.18.0
ipykernel	6.23.0
ipython	8.10.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.4
Jinja2	3.1.3
jmespath	1.0.1
json5	0.9.5
jsonpatch	1.33
jsonpath-ng	1.6.1
jsonpointer	2.3
jsonschema	4.21.1
jsonschema-specifications	2023.12.1
jupyter-events	0.10.0
jupyter-lsp	2.2.2
jupyter-server-mathjax	0.2.6

Library	Version
jupyter-ydoc	2.0.1
jupyter_client	7.4.4
jupyter_collaboration	2.0.5
jupyter_core	5.3.0
jupyter_server	2.7.0
jupyter_server_fileid	0.9.1
jupyter_server_terminals	0.5.3
jupyterlab	4.1.5
jupyterlab-lsp	5.1.0
jupyterlab-pygments	0.1.2
jupyterlab_git	0.50.0
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
langchain	0.1.20
langchain-community	0.0.38
langchain-core	0.1.52
langchain-text-splitters	0.0.1
langsmith	0.1.56
loket	1.0.0
lsprotocol	2023.0.1
MarkupSafe	2.1.1
marshmallow	3.21.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
msgpack	1.0.8
multidict	6.0.5
mypy-extensions	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	4.0.1
nbformat	5.3.0
nest-asyncio	1.5.5
notebook_shim	0.2.3
numpy	1.24.4
orjson	3.10.3
overrides	7.7.0
packaging	23.2



Library	Version
pandas	2.0.3
pandocfilters	1.4.3
parso	0.8.3
partd	1.4.1
pexpect	4.8.0
pickleshare	0.7.5
pillow	10.3.0
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
ply	3.11
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.5
pycparser	2.2
pycrdt	0.8.16
pycrdt-websocket	0.12.7
pydantic	2
pydantic_core	2.0.1
pygls	1.3.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6
pyzmq	25.1.2
referencing	0.34.0
regex	2024.5.10
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.18.0
s3transfer	0.10.1
Send2Trash	1.8.0
six	1.16.0

Library	Version
smmap	5.0.0
sniffio	1.2.0
sortedcontainers	2.4.0
soupsieve	2.3.2
SQLAlchemy	2.0.30
stack-data	0.6.2
tblib	3.0.0
tenacity	8.3.0
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tiktoken	0.6.0
tinycss2	1.1.1
tomli	2.0.1
toolz	0.12.1
tornado	6.3.3
traitlets	5.9.0
typing-inspect	0.9.0
typing_extensions	4.11.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
yaml	1.9.4
zict	3.0.0
zipp	3.15.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with Cloudera Machine Learning Runtimes 2024.05.1.

**Table 91: Packages in Python 3.7.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0

Library	Version
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.41
idna	2.1
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.3
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2

Library	Version
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2

Library	Version
py4j	0.10.9.1
pycparser	2.2
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

**Table 92: Packages in Python 3.7.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1

Library	Version
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1 + cuda11.8
libcudnn8-dev	8.7.0.84-1 + cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.41
idna	2.1
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2

Library	Version
Jinja2	3.1.3
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0

Library	Version
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.2
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2



Library	Version
zipp	3.8.0

R 4.4 Libraries

This section lists the R 4.4 libraries that ship with Cloudera Machine Learning Runtimes 2024.05.1.

Table 93: R 4.4 Libraries for Workbench

Library	Version
askpass	1.2.0
base	4.4.0
bitops	1.0-7
boot	1.3-30
brew	1.0-10
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-22
cli	3.6.2
cluster	2.1.6
codetools	0.2-20
colorspace	2.1-0
compiler	4.4.0
curl	5.2.1
datasets	4.4.0
fansi	1.0.6
farver	2.1.1
foreign	0.8-86
ggplot2	3.5.1
glue	1.7.0
graphics	4.4.0
grDevices	4.4.0
grid	4.4.0
gtable	0.3.5
httr	1.4.7
isoband	0.2.7
jsonlite	1.8.8
KernSmooth	2.23-22
labeling	0.4.3
lattice	0.22-6

Library	Version
lifecycle	1.0.4
magrittr	2.0.3
MASS	7.3-60.2
Matrix	1.7-0
methods	4.4.0
mgcv	1.9-1
mime	0.12
munsell	0.5.1
nlme	3.1-164
nnet	7.3-19
openssl	2.1.2
parallel	4.4.0
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.9
rlang	1.1.3
Rook	1.2
rpart	4.1.23
Rserve	1.7-0
scales	1.3.0
spatial	7.3-17
splines	4.4.0
stats	4.4.0
stats4	4.4.0
survival	3.5-8
sys	3.4.2
tccltk	4.4.0
tibble	3.2.1
tools	4.4.0
utf8	1.2.4
utils	4.4.0
vctrs	0.6.5
viridisLite	0.4.2
withr	3.0.0

## ML Runtimes 2024.02.1

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2024.02.1



**Note:** Nvidia GPU Editions with a Workbench Editor come with CUDA 11.4.1 preinstalled.

All other Nvidia GPU Edition Runtimes come with CUDA 11.8.0 preinstalled.

### Python 3.10 Libraries for Conda

This section lists the packages in Python 3.10 Conda Runtimes that ship with ML Runtimes 2024.02.1.

**Table 94: Packages in Python 3.10 Conda Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1

Library	Version
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5

Library	Version
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0

Library	Version
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.11 Libraries for Workbench

This section lists the packages in Python 3.11 Workbench Runtimes that ship with ML Runtimes 2024.02.1.

**Table 95: Packages in Python 3.11.6 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	4.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0

Library	Version
certifi	2023.7.22
cff	1.16.0
charset-normalizer	3.3.2
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.26.0
ipython	8.17.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.2
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.5.0
jupyter_server	2.10.1
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.5
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0

Library	Version
nbclient	0.9.0
nbconvert	7.11.0
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.6
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
Pillow	10.1.0
platformdirs	4.0.0
prometheus-client	0.18.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.16.1
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	24.0.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.0
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.5



Library	Version
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.13.0
types-python-dateutil	2.8.19.14
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.10
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4

**Table 96: Packages in Python 3.11.6 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	4.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
certifi	2023.7.22
cffi	1.16.0
charset-normalizer	3.3.2
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1

Library	Version
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.26.0
ipython	8.17.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.2
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.5.0
jupyter_server	2.10.1
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.5
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.6
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0

Library	Version
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
Pillow	10.1.0
platformdirs	4.0.0
prometheus-client	0.18.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.16.1
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	24.0.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.0
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.13.0
types-python-dateutil	2.8.19.14

Library	Version
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.10
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4

## Python 3.10 Libraries for Workbench

This section lists the packages in Python 3.10 Workbench Runtimes that ship with ML Runtimes 2024.02.1.

**Table 97: Packages in Python 3.10.9 Workbench Runtimes - Standard**

Library	Version
asttokens	2.2.1
backcall	0.2.0
bitarray	2.7.3
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5

Library	Version
numpy	1.25.2
packaging	23.1
pandas	2.1.4
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5

**Table 98: Packages in Python 3.10.9 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0

Library	Version
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5

Library	Version
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2

Library	Version
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.9.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

**Table 99: Packages in Python 3.10.9 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4



Library	Version
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.9.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1

Library	Version
websocket-client	1.5.1

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2024.02.1.

**Table 100: Packages in Python 3.9.11 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.1
pandas	2.1.4

Library	Version
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 101: Packages in Python 3.9.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6

Library	Version
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.1
pandas	2.1.4
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2

Library	Version
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 102: Packages in Python 3.9.11 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3

Library	Version
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0

Library	Version
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 103: Packages in Python 3.9.11 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0



Library	Version
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3

Library	Version
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1

Library	Version
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2024.02.1.

**Table 104: Packages in Python 3.8.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0

Library	Version
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.4
packaging	23.1
pandas	2.0.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 105: Packages in Python 3.8.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.4
packaging	23.1
pandas	2.0.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0

Library	Version
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 106: Packages in Python 3.8.16 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7

Library	Version
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1

Library	Version
pandas	2.0.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0



**Table 107: Packages in Python 3.8.16 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2

Library	Version
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandas	2.0.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0

Library	Version
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2024.02.1.

**Table 108: Packages in Python 3.7.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2

Library	Version
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.8.0

**Table 109: Packages in Python 3.7.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22

Library	Version
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18

Library	Version
wcwidth	0.2.5
zipp	3.8.0

**Table 110: Packages in Python 3.7.16 PBJ Workbench - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1

Library	Version
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1

Library	Version
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

**Table 111: Packages in Python 3.7.16 PBJ Workbench - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1



Library	Version
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2

Library	Version
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2024.02.1.

Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

Python 3.11 Libraries for JupyterLab

This section lists the packages in Python 3.11 JupyterLab Runtimes that ship with ML Runtimes 2024.02.1.

Table 112: Packages in Python 3.11.6 JupyterLab Runtimes - Standard

Library	Version
aiofiles	22.1.0

Library	Version
aiosqlite	0.19.0
anyio	4.1.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
Babel	2.13.1
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
cattrs	23.2.2
certifi	2023.11.17
cffi	1.16.0
charset-normalizer	3.3.2
colorama	0.4.6
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
docstring-to-markdown	0.13
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
gitdb	4.0.11
GitPython	3.1.40
idna	3.6
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.2

Library	Version
json5	0.9.14
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-lsp	2.2.1
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.5
jupyter_client	8.6.0
jupyter_core	5.5.0
jupyter_server	2.11.1
jupyter_server_fileid	0.9.0
jupyter_server_terminals	0.4.4
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.25.2
kerberos	1.3.1
kiwisolver	1.4.5
lsprotocol	2023.0.0
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbdime	3.2.1
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0

Library	Version
parso	0.8.3
pexpect	4.9.0
pickleshare	0.7.5
Pillow	10.1.0
platformdirs	4.0.0
prometheus-client	0.19.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pygls	1.2.0
Pygments	2.17.2
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	25.1.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.1
Send2Trash	1.8.2
six	1.16.0
smmap	5.0.1
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.0
types-python-dateutil	2.8.19.14

Library	Version
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.12
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4
y-py	0.6.2
ypy-websocket	0.8.4

**Table 113: Packages in Python 3.11.6 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	4.1.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
Babel	2.13.1
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
cattrs	23.2.2
certifi	2023.11.17
cffi	1.16.0
charset-normalizer	3.3.2
colorama	0.4.6
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1

Library	Version
defusedxml	0.7.1
docstring-to-markdown	0.13
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
gitdb	4.0.11
GitPython	3.1.40
idna	3.6
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.2
json5	0.9.14
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-lsp	2.2.1
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.5
jupyter_client	8.6.0
jupyter_core	5.5.0
jupyter_server	2.11.1
jupyter_server_fileid	0.9.0
jupyter_server_terminals	0.4.4
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.25.2
kerberos	1.3.1
kiwisolver	1.4.5
lsprotocol	2023.0.0

Library	Version
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbdime	3.2.1
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.9.0
pickleshare	0.7.5
Pillow	10.1.0
platformdirs	4.0.0
prometheus-client	0.19.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pygls	1.2.0
Pygments	2.17.2
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	25.1.1
referencing	0.31.0



Library	Version
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.1
Send2Trash	1.8.2
six	1.16.0
smmap	5.0.1
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.0
types-python-dateutil	2.8.19.14
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.12
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4
y-py	0.6.2
ypy-websocket	0.8.4

## Python 3.10 Libraries for JupyterLab

This section lists the packages in Python 3.10 JupyterLab Runtimes that ship with ML Runtimes 2024.02.1.

**Table 114: Packages in Python 3.10.9 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3

Library	Version
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3

Library	Version
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.16.0

Library	Version
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5

Library	Version
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

**Table 115: Packages in Python 3.10.9 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattr	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1

Library	Version
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5

Library	Version
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0

Library	Version
six	1.16.0
smap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

Python 3.9 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2024.02.1.

Table 116: Packages in Python 3.9.16 JupyterLab Runtimes - Standard

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0



Library	Version
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattr	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3

Library	Version
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.9.0

Library	Version
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5

Library	Version
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 117: Packages in Python 3.9.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattr	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12

Library	Version
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1

Library	Version
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	22.3.0

Library	Version
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2024.02.1.

**Table 118: Packages in Python 3.8.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0

Library	Version
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2



Library	Version
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandas	2.0.3
pandocfilters	1.4.3
parso	0.8.3

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0

Library	Version
typeguard	2.13.3
typing_extensions	4.3.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 119: Packages in Python 3.8.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattr	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3

Library	Version
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0

Library	Version
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandas	2.0.3
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1

Library	Version
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2024.02.1.

**Table 120: Packages in Python 3.7.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.1

Library	Version
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10



Library	Version
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

**Table 121: Packages in Python 3.7.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0

Library	Version
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0

Library	Version
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1

Library	Version
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

## R 4.3 Libraries

This section lists the R 4.3 libraries that ship with ML Runtimes 2024.02.1.

**Table 122: PBJ R 4.3.1 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0

Library	Version
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.15.1
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.18

Library	Version
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 123: R 4.3.1 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.3.1
bitops	1.0-7
boot	1.3-28.1
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-22
cli	3.6.1
cluster	2.1.4
codetools	0.2-19
colorspace	2.1-0
compiler	4.3.1
curl	5.0.1
datasets	4.3.1
fansi	1.0.4
farver	2.1.1
foreign	0.8-84
ggplot2	3.4.2
glue	1.6.2
graphics	4.3.1
grDevices	4.3.1
grid	4.3.1
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.7
KernSmooth	2.23-21
labeling	0.4.2
lattice	0.21-8
lifecycle	1.0.3

Library	Version
magrittr	2.0.3
MASS	7.3-60
Matrix	1.5-4.1
methods	4.3.1
mgcv	1.8-42
mime	0.12
munsell	0.5.0
nlme	3.1-162
nnet	7.3-19
openssl	2.0.6
parallel	4.3.1
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1
Rook	1.2
rpart	4.1.19
Rserve	1.7-0
scales	1.2.1
spatial	7.3-16
splines	4.3.1
stats	4.3.1
stats4	4.3.1
survival	3.5-5
sys	3.4.2
tcltk	4.3.1
tibble	3.2.1
tools	4.3.1
utf8	1.2.3
utils	4.3.1
vctrs	0.6.3
viridisLite	0.4.2
withr	2.5.0



## ML Runtimes 2023.12.1

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2023.12.1



**Note:** Nvidia GPU Editions with a Workbench Editor come with CUDA 11.4.1 preinstalled.

All other Nvidia GPU Edition Runtimes come with CUDA 11.8.0 preinstalled.

### Python 3.10 Libraries for Conda

This section lists the packages in Python 3.10 Conda Runtimes that ship with ML Runtimes 2023.12.1.

**Table 124: Packages in Python 3.10 Conda Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1

Library	Version
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5

Library	Version
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0

Library	Version
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.11 Libraries for Workbench

This section lists the packages in Python 3.11 Workbench Runtimes that ship with ML Runtimes 2023.12.1.

**Table 125: Packages in Python 3.11.6 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	4.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
certifi	2023.7.22
cffi	1.16.0
charset-normalizer	3.3.2

Library	Version
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.26.0
ipython	8.17.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.2
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.5.0
jupyter_server	2.10.1
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.5
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbformat	5.9.2

Library	Version
nest-asyncio	1.5.8
notebook	6.5.6
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
Pillow	10.1.0
platformdirs	4.0.0
prometheus-client	0.18.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.16.1
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0.1
pyzmq	24.0.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.0
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1

Library	Version
tornado	6.3.3
traitlets	5.13.0
types-python-dateutil	2.8.19.14
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.10
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4

**Table 126: Packages in Python 3.11.6 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	4.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
certifi	2023.7.22
cffi	1.16.0
charset-normalizer	3.3.2
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1

Library	Version
idna	3.4
impyla	0.18.0
ipykernel	6.26.0
ipython	8.17.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.2
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.5.0
jupyter_server	2.10.1
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.5
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.6
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
Pillow	10.1.0
platformdirs	4.0.0



Library	Version
prometheus-client	0.18.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.16.1
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0.1
pyzmq	24.0.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.0
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.13.0
types-python-dateutil	2.8.19.14
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.10
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4

## Python 3.10 Libraries for Workbench

This section lists the packages in Python 3.10 Workbench Runtimes that ship with ML Runtimes 2023.12.1.

**Table 127: Packages in Python 3.10.9 Workbench Runtimes - Standard**

Library	Version
asttokens	2.2.1
backcall	0.2.0
bitarray	2.7.3
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5

Library	Version
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
urllib3	1.26.18
wcwidth	0.2.5

**Table 128: Packages in Python 3.10.9 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4

Library	Version
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0

Library	Version
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.9.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

**Table 129: Packages in Python 3.10.9 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3

Library	Version
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7

Library	Version
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.9.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2023.12.1.

**Table 130: Packages in Python 3.9.11 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7



Library	Version
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0

Library	Version
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 131: Packages in Python 3.9.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3

Library	Version
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 132: Packages in Python 3.9.11 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2

Library	Version
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0

Library	Version
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1

Library	Version
websocket-client	1.5.2
zipp	3.15.0

**Table 133: Packages in Python 3.9.11 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1

Library	Version
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0

Library	Version
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2023.12.1.

**Table 134: Packages in Python 3.8.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3



Library	Version
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.4
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0

Library	Version
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 135: Packages in Python 3.8.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.4
packaging	23.1
parso	0.8.3

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 136: Packages in Python 3.8.16 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0

Library	Version
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3

Library	Version
numpy	1.24.4
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 137: Packages in Python 3.8.16 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2

Library	Version
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0

Library	Version
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2023.12.1.

**Table 138: Packages in Python 3.7.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1



Library	Version
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.8.0

**Table 139: Packages in Python 3.7.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0

Library	Version
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.8.0

**Table 140: Packages in Python 3.7.16 PBJ Workbench - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3

Library	Version
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18

Library	Version
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

**Table 141: Packages in Python 3.7.16 PBJ Workbench - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0

Library	Version
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0

Library	Version
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2023.12.1.

### Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

## Python 3.11 Libraries for JupyterLab

This section lists the packages in Python 3.11 JupyterLab Runtimes that ship with ML Runtimes 2023.12.1.

**Table 142: Packages in Python 3.11.6 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	4.1.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0

Library	Version
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
Babel	2.13.1
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
cattrs	23.2.2
certifi	2023.11.17
cffi	1.16.0
charset-normalizer	3.3.2
colorama	0.4.6
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
docstring-to-markdown	0.13
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
gitdb	4.0.11
GitPython	3.1.40
idna	3.6
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.2
json5	0.9.14
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1



Library	Version
jupyter-events	0.9.0
jupyter-lsp	2.2.1
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.5
jupyter_client	8.6.0
jupyter_core	5.5.0
jupyter_server	2.11.1
jupyter_server_fileid	0.9.0
jupyter_server_terminals	0.4.4
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.25.2
kerberos	1.3.1
kiwisolver	1.4.5
lsprotocol	2023.0.0
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbdime	3.2.1
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.9.0
pickleshare	0.7.5
Pillow	10.1.0
platformdirs	4.0.0

Library	Version
prometheus-client	0.19.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pygls	1.2.0
Pygments	2.17.2
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0.1
pyzmq	25.1.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.1
Send2Trash	1.8.2
six	1.16.0
smmap	5.0.1
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.0
types-python-dateutil	2.8.19.14
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.12
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4

Library	Version
y-py	0.6.2
ypy-websocket	0.8.4

**Table 143: Packages in Python 3.11.6 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	4.1.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
Babel	2.13.1
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
cattr	23.2.2
certifi	2023.11.17
cffi	1.16.0
charset-normalizer	3.3.2
colorama	0.4.6
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
docstring-to-markdown	0.13
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
gitdb	4.0.11

Library	Version
GitPython	3.1.40
idna	3.6
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.2
json5	0.9.14
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-lsp	2.2.1
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.5
jupyter_client	8.6.0
jupyter_core	5.5.0
jupyter_server	2.11.1
jupyter_server_fileid	0.9.0
jupyter_server_terminals	0.4.4
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.25.2
kerberos	1.3.1
kiwisolver	1.4.5
lsprotocol	2023.0.0
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0

Library	Version
nbdime	3.2.1
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.9.0
pickleshare	0.7.5
Pillow	10.1.0
platformdirs	4.0.0
prometheus-client	0.19.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pygls	1.2.0
Pygments	2.17.2
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0.1
pyzmq	25.1.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.1
Send2Trash	1.8.2
six	1.16.0
smmap	5.0.1
sniffio	1.3.0
soupsieve	2.5

Library	Version
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.0
types-python-dateutil	2.8.19.14
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.12
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4
y-py	0.6.2
ypy-websocket	0.8.4

## Python 3.10 Libraries for JupyterLab

This section lists the packages in Python 3.10 JupyterLab Runtimes that ship with ML Runtimes 2023.12.1.

**Table 144: Packages in Python 3.10.9 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2023.7.22
cffi	1.15.1

Library	Version
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0

Library	Version
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9



Library	Version
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

**Table 145: Packages in Python 3.10.9 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0

Library	Version
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattr	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2

Library	Version
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0

Library	Version
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0

Library	Version
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.9 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2023.12.1.

**Table 146: Packages in Python 3.9.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0

Library	Version
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4

Library	Version
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0

Library	Version
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 147: Packages in Python 3.9.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3



Library	Version
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1

Library	Version
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1

Library	Version
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5

Library	Version
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2023.12.1.

**Table 148: Packages in Python 3.8.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12

Library	Version
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1

Library	Version
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0

Library	Version
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 149: Packages in Python 3.8.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0

Library	Version
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cfffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0



Library	Version
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5

Library	Version
Pillow	10.0.1
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0

Library	Version
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2023.12.1.

**Table 150: Packages in Python 3.7.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4

Library	Version
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1

Library	Version
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3

Library	Version
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

**Table 151: Packages in Python 3.7.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattr	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0

Library	Version
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1

Library	Version
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1



Library	Version
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## R 4.3 Libraries

This section lists the R 4.3 libraries that ship with ML Runtimes 2023.12.1.

**Table 152: PBJ R 4.3.1 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10

Library	Version
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.15.1
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

Table 153: R 4.3.1 Libraries for Workbench

Library	Version
askpass	1.1

Library	Version
base	4.3.1
bitops	1.0-7
boot	1.3-28.1
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-22
cli	3.6.1
cluster	2.1.4
codetools	0.2-19
colorspace	2.1-0
compiler	4.3.1
curl	5.0.1
datasets	4.3.1
fansi	1.0.4
farver	2.1.1
foreign	0.8-84
ggplot2	3.4.2
glue	1.6.2
graphics	4.3.1
grDevices	4.3.1
grid	4.3.1
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.7
KernSmooth	2.23-21
labeling	0.4.2
lattice	0.21-8
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-60
Matrix	1.5-4.1
methods	4.3.1
mgcv	1.8-42
mime	0.12
munsell	0.5.0
nlme	3.1-162

Library	Version
nnet	7.3-19
openssl	2.0.6
parallel	4.3.1
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1
Rook	1.2
rpart	4.1.19
Rserve	1.7-0
scales	1.2.1
spatial	7.3-16
splines	4.3.1
stats	4.3.1
stats4	4.3.1
survival	3.5-5
sys	3.4.2
tcltk	4.3.1
tibble	3.2.1
tools	4.3.1
utf8	1.2.3
utils	4.3.1
vctrs	0.6.3
viridisLite	0.4.2
withr	2.5.0

## ML Runtimes 2023.08.2

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2023.08.2



**Note:** Nvidia GPU Editions with a Workbench Editor come with CUDA 11.4.1 preinstalled.

All other Nvidia GPU Edition Runtimes come with CUDA 11.8.0 preinstalled.

## Python 3.10 Libraries for Conda

This section lists the packages in Python 3.10 Conda Runtimes that ship with ML Runtimes 2023.08.2.

**Table 154: Packages in Python 3.10 Conda Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattr	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0

Library	Version
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1

Library	Version
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0



Library	Version
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.14
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.10 Libraries for Workbench

This section lists the packages in Python 3.10 Workbench Runtimes that ship with ML Runtimes 2023.08.2.

**Table 155: Packages in Python 3.10.9 Workbench Runtimes - Standard**

Library	Version
asttokens	2.2.1
backcall	0.2.0
bitarray	2.7.3
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4

Library	Version
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.2
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
urllib3	1.26.6
wcwidth	0.2.5

**Table 156: Packages in Python 3.10.9 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0

Library	Version
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5

Library	Version
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0

Library	Version
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.9.0
uri-template	1.2.0
urllib3	1.26.15
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

**Table 157: Packages in Python 3.10.9 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0

Library	Version
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2

Library	Version
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.9.0
uri-template	1.2.0
urllib3	1.26.15
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2023.08.2.

**Table 158: Packages in Python 3.9.11 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1

Library	Version
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.22.0
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1



Library	Version
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 159: Packages in Python 3.9.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2

Library	Version
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.22.0
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 160: Packages in Python 3.9.11 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1

Library	Version
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1

Library	Version
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 161: Packages in Python 3.9.11 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0

Library	Version
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1

Library	Version
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2023.08.2.

**Table 162: Packages in Python 3.8.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4

Library	Version
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.22.0
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2



Library	Version
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 163: Packages in Python 3.8.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.22.0
packaging	23.1
parso	0.8.3

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 164: Packages in Python 3.8.16 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0

Library	Version
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3

Library	Version
numpy	1.22.0
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 165: Packages in Python 3.8.16 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1

Library	Version
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0

Library	Version
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2023.08.2.

**Table 166: Packages in Python 3.7.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5

Library	Version
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 167: Packages in Python 3.7.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0



Library	Version
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 168: Packages in Python 3.7.16 PBJ Workbench - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0

Library	Version
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0

Library	Version
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

**Table 169: Packages in Python 3.7.16 PBJ Workbench - Nvidia GPU Edition**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3

Library	Version
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8

Library	Version
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2023.08.2.

### Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

## Python 3.10 Libraries for JupyterLab

This section lists the packages in Python 3.10 JupyterLab Runtimes that ship with ML Runtimes 2023.08.2.

**Table 170: Packages in Python 3.10.9 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2023.7.22

Library	Version
cff	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1

Library	Version
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1



Library	Version
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.14
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

**Table 171: Packages in Python 3.10.9 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0

Library	Version
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11

Library	Version
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0

Library	Version
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.14
wcwidth	0.2.5
webcolors	1.13

Library	Version
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.9 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2023.08.2.

**Table 172: Packages in Python 3.9.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1

Library	Version
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0

Library	Version
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0

Library	Version
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 173: Packages in Python 3.9.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0



Library	Version
bleach	3.3.1
cattr	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0

Library	Version
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2

Library	Version
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2023.08.2.

**Table 174: Packages in Python 3.8.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattr	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32

Library	Version
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschemata	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0

Library	Version
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2

Library	Version
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 175: Packages in Python 3.8.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4

Library	Version
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0



Library	Version
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
pydantic	1.10.7

Library	Version
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2023.08.2.

**Table 176: Packages in Python 3.7.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.1

Library	Version
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10

Library	Version
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

**Table 177: Packages in Python 3.7.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5

Library	Version
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0

Library	Version
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0



## R 4.3 Libraries

This section lists the R 4.3 libraries that ship with ML Runtimes 2023.08.2.

**Table 178: PBJ R 4.3.1 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3

Library	Version
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.15.1
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 179: R 4.1.3 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.3.1
bitops	1.0-7
boot	1.3-28.1
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-22
cli	3.6.1
cluster	2.1.4
codetools	0.2-19
colorspace	2.1-0
compiler	4.3.1
curl	5.0.0
datasets	4.3.1
fansi	1.0.4
farver	2.1.1
foreign	0.8-84
ggplot2	3.4.2
glue	1.6.2
graphics	4.3.1
grDevices	4.3.1
grid	4.3.1
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-21
labeling	0.4.2
lattice	0.21-8
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-60
Matrix	1.5-4.1
methods	4.3.1
mgcv	1.8-42
mime	0.12

Library	Version
munsell	0.5.0
nlme	3.1-162
nnet	7.3-19
openssl	2.0.6
parallel	4.3.1
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1
Rook	1.2
rpart	4.1.19
Rserve	1.7-0
scales	1.2.1
spatial	7.3-16
splines	4.3.1
stats	4.3.1
stats4	4.3.1
survival	3.5-5
sys	3.4.1
tcltk	4.3.1
tibble	3.2.1
tools	4.3.1
utf8	1.2.3
utils	4.3.1
vctrs	0.6.2
viridisLite	0.4.2
withr	2.5.0

## R 4.1 Libraries

This section lists the R 4.1 libraries that ship with ML Runtimes 2023.08.2.

**Table 180: PBJ R 4.1.1 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0

Library	Version
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4

Library	Version
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.15.1
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 181: R 4.1.1 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.1.1
bitops	1.0-7
boot	1.3-28
brew	1.0-8

Library	Version
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-19
cli	3.6.1
cluster	2.1.2
codetools	0.2-18
colorspace	2.1-0
compiler	4.1.1
curl	5.0.0
datasets	4.1.1
fansi	1.0.4
farver	2.1.1
foreign	0.8-81
ggplot2	3.4.2
glue	1.6.2
graphics	4.1.1
grDevices	4.1.1
grid	4.1.1
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-20
labeling	0.4.2
lattice	0.20-44
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-54
Matrix	1.3-4
methods	4.1.1
mgcv	1.8-36
mime	0.12
munsell	0.5.0
nlme	3.1-152
nnet	7.3-16
openssl	2.0.6
parallel	4.1.1
pillar	1.9.0

Library	Version
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1
Rook	1.2
rpart	4.1-15
Rserve	1.7-0
scales	1.2.1
spatial	7.3-14
splines	4.1.1
stats	4.1.1
stats4	4.1.1
survival	3.2-11
sys	3.4.1
tcltk	4.1.1
tibble	3.2.1
tools	4.1.1
utf8	1.2.3
utils	4.1.1
vctrs	0.6.2
viridisLite	0.4.2
withr	2.5.0

## R 4.0 Libraries

This section lists the R 4.0 libraries that ship with ML Runtimes 2023.08.2.

**Table 182: PBJ R 4.0.5 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0



Library	Version
certifi	2023.7.22
cff	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5

Library	Version
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.15.1
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 183: R 4.0.5 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.0.5
bitops	1.0-7
boot	1.3-27
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-18
cli	3.6.1
cluster	2.1.1

Library	Version
codetools	0.2-18
colorspace	2.1-0
compiler	4.0.5
curl	5.0.0
datasets	4.0.5
fansi	1.0.4
farver	2.1.1
foreign	0.8-81
ggplot2	3.4.2
glue	1.6.2
graphics	4.0.5
grDevices	4.0.5
grid	4.0.5
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-18
labeling	0.4.2
lattice	0.20-41
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-53.1
Matrix	1.3-2
methods	4.0.5
mgcv	1.8-34
mime	0.12
munsell	0.5.0
nlme	3.1-152
nnet	7.3-15
openssl	2.0.6
parallel	4.0.5
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1

Library	Version
Rook	1.2
rpart	4.1-15
Rserve	1.7-0
scales	1.2.1
spatial	7.3-13
splines	4.0.5
stats	4.0.5
stats4	4.0.5
survival	3.2-10
sys	3.4.1
tcltk	4.0.5
tibble	3.2.1
tools	4.0.5
utf8	1.2.3
utils	4.0.5
vctrs	0.6.2
viridisLite	0.4.2
withr	2.5.0

## R 3.6 Libraries

This section lists the R 3.6 libraries that ship with ML Runtimes 2023.08.2.

**Table 184: PBJ R 3.6.3 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1

Library	Version
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.15.1

Library	Version
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

Table 185: R 3.6.3 Libraries for Workbench

Library	Version
askpass	1.1
base	3.6.3
bitops	1.0-7
boot	1.3-24
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-15
cli	3.6.1
cluster	2.1.0
codetools	0.2-16
colorspace	2.1-0
compiler	3.6.3
curl	5.0.0
datasets	3.6.3
fansi	1.0.4

Library	Version
farver	2.1.1
foreign	0.8-75
ggplot2	3.4.2
glue	1.6.2
graphics	3.6.3
grDevices	3.6.3
grid	3.6.3
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-16
labeling	0.4.2
lattice	0.20-38
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-51.5
Matrix	1.2-18
methods	3.6.3
mgcv	1.8-31
mime	0.12
munsell	0.5.0
nlme	3.1-144
nnet	7.3-12
openssl	2.0.6
parallel	3.6.3
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1
Rook	1.2
rpart	4.1-15
Rserve	1.7-0
scales	1.2.1
spatial	7.3-11
splines	3.6.3

Library	Version
stats	3.6.3
stats4	3.6.3
survival	3.1-8
sys	3.4.1
tcltk	3.6.3
tibble	3.2.1
tools	3.6.3
utf8	1.2.3
utils	3.6.3
vctrs	0.6.2
viridisLite	0.4.2
withr	2.5.0

## ML Runtimes 2023.08

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2023.08.



**Note:** Nvidia GPU Editions with a Workbench Editor come with CUDA 11.4.1 preinstalled.

All other Nvidia GPU Edition Runtimes come with CUDA 11.8.0 preinstalled.

## Python 3.10 Libraries for Conda

This section lists the packages in Python 3.10 Conda Runtimes that ship with ML Runtimes 2023.08.

**Table 186: Packages in Python 3.10 Conda Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0



Library	Version
cattr	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0

Library	Version
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.21
pydantic	1.10.7

Library	Version
pygls	1.0.1
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.14
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.10 Libraries for Workbench

This section lists the packages in Python 3.10 Workbench Runtimes that ship with ML Runtimes 2023.08.

**Table 187: Packages in Python 3.10.9 Workbench Runtimes - Standard**

Library	Version
asttokens	2.2.1
backcall	0.2.0
bitarray	2.7.3
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.2
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2

Library	Version
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
urllib3	1.26.6
wcwidth	0.2.5

**Table 188: Packages in Python 3.10.9 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3

Library	Version
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.2.0

Library	Version
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.14.0
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.9.0
uri-template	1.2.0
urllib3	1.26.15
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

**Table 189: Packages in Python 3.10.9 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
anyio	3.6.2
argon2-cffi	21.3.0

Library	Version
argon2-ffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffib	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1



Library	Version
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.14.0
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0

Library	Version
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.9.0
uri-template	1.2.0
urllib3	1.26.15
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2023.08.

**Table 190: Packages in Python 3.9.11 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0

Library	Version
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.22.0
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 191: Packages in Python 3.9.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.22.0
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0

Library	Version
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 192: Packages in Python 3.9.11 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4

Library	Version
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0

Library	Version
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 193: Packages in Python 3.9.11 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0

Library	Version
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10



Library	Version
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5

Library	Version
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2023.08.

**Table 194: Packages in Python 3.8.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.22.0

Library	Version
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 195: Packages in Python 3.8.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0

Library	Version
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.22.0
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2

Library	Version
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 196: Packages in Python 3.8.16 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0

Library	Version
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1

Library	Version
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 197: Packages in Python 3.8.16 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1

Library	Version
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0



Library	Version
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2023.08.

**Table 198: Packages in Python 3.7.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0

Library	Version
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 199: Packages in Python 3.7.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8

Library	Version
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 200: Packages in Python 3.7.16 PBJ Workbench - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3

Library	Version
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1

Library	Version
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

**Table 201: Packages in Python 3.7.16 PBJ Workbench - Nvidia GPU Edition**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1

Library	Version
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5

Library	Version
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2023.08.

### Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12
org.scala-lang:scala-compiler	2.11.12



Library	Version
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

## Python 3.10 Libraries for JupyterLab

This section lists the packages in Python 3.10 JupyterLab Runtimes that ship with ML Runtimes 2023.08.

**Table 202: Packages in Python 3.10.9 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattr	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3

Library	Version
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3

Library	Version
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4

Library	Version
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.14
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

**Table 203: Packages in Python 3.10.9 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6

Library	Version
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0

Library	Version
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2

Library	Version
python-json-logger	2.0.7
PyYAML	6.0
pymzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinytss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.14
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.9 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2023.08.

**Table 204: Packages in Python 3.9.16 JupyterLab Runtimes - Standard**

Library	Version
aiosqlite	22.1.0
aiosqlite	0.19.0
anyio	3.3.0

Library	Version
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattr	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0



Library	Version
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0

Library	Version
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 205: Packages in Python 3.9.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4

Library	Version
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1

Library	Version
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1

Library	Version
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2023.08.

**Table 206: Packages in Python 3.8.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10

Library	Version
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattr	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3

Library	Version
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0



Library	Version
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5

Library	Version
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 207: Packages in Python 3.8.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3

Library	Version
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5

Library	Version
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0

Library	Version
six	1.16.0
smap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2023.08.

**Table 208: Packages in Python 3.7.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1

Library	Version
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cfffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0

Library	Version
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7

Library	Version
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

**Table 209: Packages in Python 3.7.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0



Library	Version
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0

Library	Version
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2

Library	Version
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

## R 4.3 Libraries

This section lists the R 4.3 libraries that ship with ML Runtimes 2023.08.

**Table 210: PBJ R 4.3.1 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0

Library	Version
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22
cff	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3

Library	Version
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.11.2
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

Table 211: R 4.1.3 Libraries for Workbench

Library	Version
askpass	1.1
base	4.3.1
bitops	1.0-7
boot	1.3-28.1
brew	1.0-8
Cairo	1.2-0

Library	Version
caTools	1.18.2
cdsw	2.1
class	7.3-22
cli	3.6.1
cluster	2.1.4
codetools	0.2-19
colorspace	2.1-0
compiler	4.3.1
curl	5.0.0
datasets	4.3.1
fansi	1.0.4
farver	2.1.1
foreign	0.8-84
ggplot2	3.4.2
glue	1.6.2
graphics	4.3.1
grDevices	4.3.1
grid	4.3.1
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-21
labeling	0.4.2
lattice	0.21-8
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-60
Matrix	1.5-4.1
methods	4.3.1
mgcv	1.8-42
mime	0.12
munsell	0.5.0
nlme	3.1-162
nnet	7.3-19
openssl	2.0.6
parallel	4.3.1
pillar	1.9.0
pkgconfig	2.0.3

Library	Version
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1
Rook	1.2
rpart	4.1.19
Rserve	1.7-0
scales	1.2.1
spatial	7.3-16
splines	4.3.1
stats	4.3.1
stats4	4.3.1
survival	3.5-5
sys	3.4.1
tcltk	4.3.1
tibble	3.2.1
tools	4.3.1
utf8	1.2.3
utils	4.3.1
vctrs	0.6.2
viridisLite	0.4.2
withr	2.5.0

## R 4.1 Libraries

This section lists the R 4.1 libraries that ship with ML Runtimes 2023.08.

**Table 212: PBJ R 4.1.1 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22

Library	Version
cff	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1



Library	Version
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.11.2
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycc2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 213: R 4.1.1 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.1.1
bitops	1.0-7
boot	1.3-28
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-19
cli	3.6.1
cluster	2.1.2
codetools	0.2-18

Library	Version
colorspace	2.1-0
compiler	4.1.1
curl	5.0.0
datasets	4.1.1
fansi	1.0.4
farver	2.1.1
foreign	0.8-81
ggplot2	3.4.2
glue	1.6.2
graphics	4.1.1
grDevices	4.1.1
grid	4.1.1
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-20
labeling	0.4.2
lattice	0.20-44
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-54
Matrix	1.3-4
methods	4.1.1
mgcv	1.8-36
mime	0.12
munsell	0.5.0
nlme	3.1-152
nnet	7.3-16
openssl	2.0.6
parallel	4.1.1
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1
Rook	1.2

Library	Version
rpart	4.1-15
Rserve	1.7-0
scales	1.2.1
spatial	7.3-14
splines	4.1.1
stats	4.1.1
stats4	4.1.1
survival	3.2-11
sys	3.4.1
tcltk	4.1.1
tibble	3.2.1
tools	4.1.1
utf8	1.2.3
utils	4.1.1
vctrs	0.6.2
viridisLite	0.4.2
withr	2.5.0

## R 4.0 Libraries

This section lists the R 4.0 libraries that ship with ML Runtimes 2023.08.

**Table 214: PBJ R 4.0.5 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4

Library	Version
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.11.2
pyrsistent	0.18.1

Library	Version
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 215: R 4.0.5 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.0.5
bitops	1.0-7
boot	1.3-27
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-18
cli	3.6.1
cluster	2.1.1
codetools	0.2-18
colorspace	2.1-0
compiler	4.0.5
curl	5.0.0
datasets	4.0.5
fansi	1.0.4
farver	2.1.1

Library	Version
foreign	0.8-81
ggplot2	3.4.2
glue	1.6.2
graphics	4.0.5
grDevices	4.0.5
grid	4.0.5
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-18
labeling	0.4.2
lattice	0.20-41
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-53.1
Matrix	1.3-2
methods	4.0.5
mgcv	1.8-34
mime	0.12
munsell	0.5.0
nlme	3.1-152
nnet	7.3-15
openssl	2.0.6
parallel	4.0.5
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1
Rook	1.2
rpart	4.1-15
Rserve	1.7-0
scales	1.2.1
spatial	7.3-13
splines	4.0.5
stats	4.0.5

Library	Version
stats4	4.0.5
survival	3.2-10
sys	3.4.1
tcltk	4.0.5
tibble	3.2.1
tools	4.0.5
utf8	1.2.3
utils	4.0.5
vctrs	0.6.2
viridisLite	0.4.2
withr	2.5.0

## R 3.6 Libraries

This section lists the R 3.6 libraries that ship with ML Runtimes 2023.08.

**Table 216: PBJ R 3.6.3 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0

Library	Version
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.11.2
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0



Library	Version
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 217: R 3.6.3 Libraries for Workbench**

Library	Version
askpass	1.1
base	3.6.3
bitops	1.0-7
boot	1.3-24
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-15
cli	3.6.1
cluster	2.1.0
codetools	0.2-16
colorspace	2.1-0
compiler	3.6.3
curl	5.0.0
datasets	3.6.3
fansi	1.0.4
farver	2.1.1
foreign	0.8-75
ggplot2	3.4.2
glue	1.6.2
graphics	3.6.3
grDevices	3.6.3
grid	3.6.3

Library	Version
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-16
labeling	0.4.2
lattice	0.20-38
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-51.5
Matrix	1.2-18
methods	3.6.3
mgcv	1.8-31
mime	0.12
munsell	0.5.0
nlme	3.1-144
nnet	7.3-12
openssl	2.0.6
parallel	3.6.3
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1
Rook	1.2
rpart	4.1-15
Rserve	1.7-0
scales	1.2.1
spatial	7.3-11
splines	3.6.3
stats	3.6.3
stats4	3.6.3
survival	3.1-8
sys	3.4.1
tcltk	3.6.3
tibble	3.2.1
tools	3.6.3

Library	Version
utf8	1.2.3
utils	3.6.3
vctr	0.6.2
viridisLite	0.4.2
withr	2.5.0

## ML Runtimes 2023.05

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2023.05.



**Note:** Nvidia GPU Editions with a Workbench Editor come with CUDA 11.4.1 preinstalled.

All other Nvidia GPU Edition Runtimes come with CUDA 11.8.0 preinstalled.

## Python 3.10 Libraries for Conda

This section lists the packages in Python 3.10 Conda Runtimes that ship with ML Runtimes 2023.05.

**Table 218: Packages in Python 3.10 Conda Runtimes - Standard**

Library	Version
python	3.10.9
pip	23.1.2
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2022.12.7
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6

Library	Version
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.1.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0

Library	Version
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.8
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2

Library	Version
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.28.2
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinytss2	1.2.1
tomli	2.0.1
tornado	6.1
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.14
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.10 Libraries for Workbench

This section lists the packages in Python 3.10 Workbench Runtimes that ship with ML Runtimes 2023.05.

**Table 219: Packages in Python 3.10.9 PBJ Workbench Runtimes - Standard**

Library	Version
python	3.10.9
pip	23.1.2
anyio	3.6.2

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2022.12.7
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.1.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.1
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2

Library	Version
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.14.0
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	25.0.2
requests	2.28.2
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0



Library	Version
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.2
traitlets	5.9.0
uri-template	1.2.0
urllib3	1.26.15
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

**Table 220: Packages in Python 3.10.9 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.10.9
pip	23.1.2
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2022.12.7
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1

Library	Version
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.1.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.1
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.14.0
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	25.0.2
requests	2.28.2
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.2
traitlets	5.9.0
uri-template	1.2.0
urllib3	1.26.15
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2023.05.

**Table 221: Packages in Python 3.9.11 Workbench Runtimes - Standard**

Library	Version
python	3.9.11
pip	21.1.3
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.1.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
packaging	23.1
parso	0.8.3
pexpect	4.8.0

Library	Version
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.8
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 222: Packages in Python 3.9.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.11
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7

Library	Version
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.1.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.8
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0

Library	Version
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 223: Packages in Python 3.9.11 PBJ Workbench Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
bitarray	2.6.0
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	0.4
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.1.0
ipython-genutils	0.2.0

Library	Version
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.11.2
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.12
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0



Library	Version
six	1.16.0
stack-data	0.6.2
terminado	0.13.1
testpath	0.5.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

**Table 224: Packages in Python 3.9.11 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
bitarray	2.6.0
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0

Library	Version
impyla	0.18.0
ipykernel	6.9.0
ipython	8.1.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.1
jupyter_core	4.11.2
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.12
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1

Library	Version
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
stack-data	0.6.2
terminado	0.13.1
testpath	0.5.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2023.05.

**Table 225: Packages in Python 3.8.16 Workbench Runtimes - Standard**

Library	Version
python	3.8.16
pip	23.1.2
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0

Library	Version
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.1.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.8
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.9.0

Library	Version
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 226: Packages in Python 3.8.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.16
pip	23.1.2
cuda-libraries	11.4.1-1
libcudnn8	8.2.2.26-1
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.1.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5

Library	Version
numpy	1.21.6
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.8
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 227: Packages in Python 3.8.16 PBJ Workbench Runtimes - Standard**

Library	Version
python	3.8.16
pip	23.1.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
bitarray	2.6.0

Library	Version
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.1.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.1
jupyter_core	4.11.2
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.12
numpy	1.21.6
packaging	21.3

Library	Version
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
stack-data	0.6.2
terminado	0.13.1
testpath	0.5.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

**Table 228: Packages in Python 3.8.16 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.16
pip	23.1.2
cuda	11.8.0-1
libcudnn8	8.7.0.84-1



Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
bitarray	2.6.0
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.1.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.1
jupyter_core	4.11.2
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10

Library	Version
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.12
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
stack-data	0.6.2
terminado	0.13.1
testpath	0.5.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2023.05.

**Table 229: Packages in Python 3.7.16 Workbench Runtimes - Standard**

Library	Version
python	3.7.16
pip	23.1.2
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1

Library	Version
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 230: Packages in Python 3.7.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.16
pip	23.1.2
cuda	11.4.1-1
libcudnn8	8.2.2.26
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4

Library	Version
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 231: Packages in Python 3.7.16 PBJ Workbench - Standard**

Library	Version
python	3.7.16
pip	23.1.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.6.0
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0

Library	Version
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.1
jupyter_core	4.11.2
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.12
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1

Library	Version
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

**Table 232: Packages in Python 3.7.16 PBJ Workbench - Nvidia GPU Edition**

Library	Version
python	3.7.16
pip	23.1.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.6.0
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0

Library	Version
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.1
jupyter_core	4.11.2
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.12
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0



Library	Version
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2023.05.

### Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

## Python 3.10 Libraries for JupyterLab

This section lists the packages in Python 3.10 JupyterLab Runtimes that ship with ML Runtimes 2023.05.

**Table 233: Packages in Python 3.10.9 JupyterLab Runtimes - Standard**

Library	Version
python	3.10.9
pip	23.1.2
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattr	22.2.0
certifi	2022.12.7
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	3.4
impyla	0.18.0

Library	Version
ipykernel	6.22.0
ipython	8.1.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2

Library	Version
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.8
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.28.2
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1

Library	Version
tornado	6.1
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.14
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

**Table 234: Packages in Python 3.10.9 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.10.9
pip	23.1.2
cuda	11.8.0-1
libcudnn8	8.7.0.84
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2022.12.7
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7

Library	Version
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.1.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0

Library	Version
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.8
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0

Library	Version
pyzmq	22.3.0
requests	2.28.2
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.1
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.14
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.9 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2023.05.

**Table 235: Packages in Python 3.9.16 JupyterLab Runtimes - Standard**

Library	Version
python	3.9.16
pip	23.1.2
aiosfiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0



Library	Version
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2020.11.8
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.1.0
ipython-genutils	0.2.0
isoduration	20.11.0

Library	Version
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.12
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0

Library	Version
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.29.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0

Library	Version
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 236: Packages in Python 3.9.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.16
pip	23.1.2
cuda	11.8.0-1
libcudnn8	8.7.0.84
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattr	22.2.0
certifi	2020.11.8
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2

Library	Version
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.1.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1

Library	Version
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.12
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.29.0

Library	Version
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2023.05.

**Table 237: Packages in Python 3.8.16 JupyterLab Runtimes - Standard**

Library	Version
python	3.8.16
pip	23.1.2
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0

Library	Version
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2020.11.8
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.1.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2



Library	Version
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.12
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5

Library	Version
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.29.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0

Library	Version
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 238: Packages in Python 3.8.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.16
pip	23.1.2
cuda	11.4.1-1
libcudnn8	8.7.0.84
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattr	22.2.0
certifi	2020.11.8
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7

Library	Version
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.1.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1

Library	Version
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.12
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1

Library	Version
PyYAML	6.0
pymq	22.3.0
requests	2.29.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2023.05.

**Table 239: Packages in Python 3.7.16 JupyterLab Runtimes - Standard**

Library	Version
python	3.7.16
pip	23.1.2
aiofiles	22.1.0

Library	Version
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2020.11.8
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3

Library	Version
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.12
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2



Library	Version
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.29.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

**Table 240: Packages in Python 3.7.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.16

Library	Version
pip	22.1.2
cuda	11.4.1-1
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2020.11.8
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.31
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.1

Library	Version
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.12
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0

Library	Version
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.29.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

## R 4.0 Libraries

This section lists the R 4.0 libraries that ship with ML Runtimes 2023.05.

**Table 241: PBJ R 4.0.5 Libraries for Workbench**

Library	Version
argon2-ffi	21.3.0
argon2-ffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
bleach	4.1.0
certifi	2021.10.8
ffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
ipykernel	6.9.0
ipython	8.1.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.11.2
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4

Library	Version
notebook	6.4.12
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
stack-data	0.6.2
terminado	0.13.1
testpath	0.5.0
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

**Table 242: R 4.0.5 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.0.5
bitops	1.0-7
boot	1.3-27
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2

Library	Version
cdsw	2.1
class	7.3-18
cli	3.6.0
cluster	2.1.1
codetools	0.2-18
colorspace	2.1-0
compiler	4.0.5
curl	5.0.0
datasets	4.0.5
fansi	1.0.4
farver	2.1.1
foreign	0.8-81
ggplot2	3.4.0
glue	1.6.2
graphics	4.0.5
grDevices	4.0.5
grid	4.0.5
gtable	0.3.1
httr	1.4.4
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-18
labeling	0.4.2
lattice	0.20-41
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-53.1
Matrix	1.3-2
methods	4.0.5
mgcv	1.8-34
mime	0.12
munsell	0.5.0
nlme	3.1-152
nnet	7.3-15
openssl	2.0.5
parallel	4.0.5
pillar	1.8.1
pkgconfig	2.0.3
png	0.1-8

Library	Version
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.7
rlang	1.0.6
Rook	1.2
rpart	4.1-15
Rserve	1.7-0
scales	1.2.1
spatial	7.3-13
splines	4.0.5
stats	4.0.5
stats4	4.0.5
survival	3.2-10
sys	3.4.1
tcltk	4.0.5
tibble	3.1.8
tools	4.0.5
utf8	1.2.2
utils	4.0.5
vctrs	0.5.2
viridisLite	0.4.1
withr	2.5.0

## R 4.1 Libraries

This section lists the R 4.1 libraries that ship with ML Runtimes 2023.05.

**Table 243: PBJ R 4.1.1 Libraries for Workbench**

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1



Library	Version
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
ipykernel	6.9.0
ipython	8.1.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.11.2
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.12
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2

Library	Version
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
stack-data	0.6.2
terminado	0.13.1
testpath	0.5.0
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

Table 244: R 4.1.1 Libraries for Workbench

Library	Version
askpass	1.1
base	4.1.1
bitops	1.0-7
boot	1.3-28
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-19
cli	3.6.0
cluster	2.1.2
codetools	0.2-18
colorspace	2.1-0
compiler	4.1.1
curl	5.0.0
datasets	4.1.1
fansi	1.0.4
farver	2.1.1
foreign	0.8-81
ggplot2	3.4.0
glue	1.6.2
graphics	4.1.1

Library	Version
grDevices	4.1.1
grid	4.1.1
gtable	0.3.1
httr	1.4.4
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-20
labeling	0.4.2
lattice	0.20-44
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-54
Matrix	1.3-4
methods	4.1.1
mgcv	1.8-36
mime	0.12
munsell	0.5.0
nlme	3.1-152
nnet	7.3-16
openssl	2.0.5
parallel	4.1.1
pillar	1.8.1
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.7
rlang	1.0.6
Rook	1.2
rpart	4.1-15
Rserve	1.7-0
scales	1.2.1
spatial	7.3-14
splines	4.1.1
stats	4.1.1
stats4	4.1.1
survival	3.2-11
sys	3.4.1
tcltk	4.1.1

Library	Version
tibble	3.1.8
tools	4.1.1
utf8	1.2.2
utils	4.1.1
vctrs	0.5.2
viridisLite	0.4.0
withr	2.5.0

## R 3.6 Libraries

This section lists the R 3.6 libraries that ship with ML Runtimes 2023.05.

**Table 245: PBJ R 3.6.3 Libraries for Workbench**

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
ipykernel	6.9.0
ipython	8.1.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.11.2

Library	Version
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.12
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
stack-data	0.6.2
terminado	0.13.1
testpath	0.5.0
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

**Table 246: R 3.6.3 Libraries for Workbench**

Library	Version
askpass	1.1
base	3.6.3
bitops	1.0-7
boot	1.3-24
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-15
cli	3.6.0
cluster	2.1.0
codetools	0.2-16
colorspace	2.1-0
compiler	3.6.3
curl	5.0.0
datasets	3.6.3
fansi	1.0.4
farver	2.1.1
foreign	0.8-75
ggplot2	3.4.0
glue	1.6.2
graphics	3.6.3
grDevices	3.6.3
grid	3.6.3
gtable	0.3.1
httr	1.4.4
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-16
labeling	0.4.2
lattice	0.20-38
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-51.5
Matrix	1.2-18
methods	3.6.3
mgcv	1.8-31
mime	0.12

Library	Version
munsell	0.5.0
nlme	3.1-144
nnet	7.3-12
openssl	2.0.5
parallel	3.6.3
pillar	1.8.2
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.7
rlang	1.0.6
Rook	1.2
rpart	4.1-15
Rserve	1.7-0
scales	1.2.1
spatial	7.3-11
splines	3.6.3
stats	3.6.3
stats4	3.6.3
survival	3.1-8
sys	3.4.1
tcltk	3.6.3
tibble	3.1.8
tools	3.6.3
utf8	1.2.2
utils	3.6.3
vctrs	0.5.2
viridisLite	0.4.1
withr	2.5.0

## ML Runtimes 2022.11

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2022.11.



**Note:** Nvidia GPU Edition comes with CUDA 11.4.1 preinstalled.

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2022.11.

**Table 247: Packages in Python 3.9.11 Workbench Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1



Library	Version
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 248: Packages in Python 3.9.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.4.4

Library	Version
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 249: Packages in Python 3.9.11 PBJ Workbench Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0

Library	Version
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1

Library	Version
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2022.11.

**Table 250: Packages in Python 3.8.13 Workbench Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.11.0

Library	Version
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 251: Packages in Python 3.8.13 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2

Library	Version
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 252: Packages in Python 3.8.13 PBJ Workbench Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3

Library	Version
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0



Library	Version
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2022.11.

**Table 253: Packages in Python 3.7.13 Workbench Runtimes - Standard**

Library	Version
python	3.7.13
pip	21.1.3
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3

Library	Version
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 254: Packages in Python 3.7.13 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.13
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2

Library	Version
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 255: Packages in Python 3.7.13 PBJ Workbench - Standard**

Library	Version
python	3.7.13
pip	21.1.3
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2

Library	Version
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2022.11.

**Scala 2.11.12 Libraries for Workbench - Standard**

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

**Python 3.9.6 Libraries for JupyterLab**

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2022.11.

**Table 256: Packages in Python 3.9.11 JupyterLab Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3

Library	Version
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.21.6
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20

Library	Version
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

**Table 257: Packages in Python 3.9.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0



Library	Version
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3

Library	Version
numpy	1.21.6
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2022.11.

**Table 258: Packages in Python 3.8.13 JupyterLab Runtimes - Standard**

Library	Version
python	3.8.13
pip	21.1.3
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2

Library	Version
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.21.6
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0

Library	Version
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

**Table 259: Packages in Python 3.8.13 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.13
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3

Library	Version
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.21.6
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20

Library	Version
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2022.11.

**Table 260: Packages in Python 3.7.13 JupyterLab Runtimes - Standard**

Library	Version
python	3.7.13
pip	21.1.3
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0

Library	Version
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0



Library	Version
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.21.6
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

**Table 261: Packages in Python 3.7.13 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.13
pip	21.1.3
cuda	11.4.1-1
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2

Library	Version
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.21.6
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0

Library	Version
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

## R 4.1 Libraries

This section lists the R 4.1 libraries that ship with ML Runtimes 2022.11.

**Table 262: PBJ R 4.1.1 Libraries for Workbench**

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1

Library	Version
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1

Library	Version
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

**Table 263: R 4.1.1 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.1.1
bitops	1.0-7
boot	1.3-28
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-19
cli	3.0.1
cluster	2.1.2
codetools	0.2-18
colorspace	2.0-2
compiler	4.1.1
crayon	1.4.1
curl	4.3.2
datasets	4.1.1
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-81
ggplot2	3.3.5
glue	1.4.2
graphics	4.1.1
grDevices	4.1.1

Library	Version
grid	4.1.1
gtable	0.3.0
httr	1.4.2
isoband	0.2.5
jsonlite	1.7.2
KernSmooth	2.23-20
labeling	0.4.2
lattice	0.20-44
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-54
Matrix	1.3-4
methods	4.1.1
mgcv	1.8-36
mime	0.11
munsell	0.5.0
nlme	3.1-152
nnet	7.3-16
openssl	1.4.4
parallel	4.1.1
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-14
splines	4.1.1
stats	4.1.1
stats4	4.1.1
survival	3.2-11
sys	3.4
tktk	4.1.1
tibble	3.1.4

Library	Version
tools	4.1.1
utf8	1.2.2
utils	4.1.1
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## R 4.0 Libraries

This section lists the R 4.0 libraries that ship with ML Runtimes 2022.11.

**Table 264: PBJ R 4.0.5 Libraries for Workbench**

Library	Version
argon2-ffi	21.3.0
argon2-ffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
ffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1



Library	Version
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1

Library	Version
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

**Table 265: R 4.0.5 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.0.5
bitops	1.0-7
boot	1.3-27
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-18
cli	3.0.1
cluster	2.1.1
codetools	0.2-18
colorspace	2.0-2
compiler	4.0.5
crayon	1.4.1
curl	4.3.2
datasets	4.0.5
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-81
ggplot2	3.3.5
glue	1.4.2
graphics	4.0.5
grDevices	4.0.5
grid	4.0.5
gtable	0.3.0
httr	1.4.2
isoband	0.2.5

Library	Version
jsonlite	1.7.2
KernSmooth	2.23-18
labeling	0.4.2
lattice	0.20-41
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-53.1
Matrix	1.3-2
methods	4.0.5
mgcv	1.8-34
mime	0.11
munsell	0.5.0
nlme	3.1-152
nnet	7.3-15
openssl	1.4.4
parallel	4.0.5
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-13
splines	4.0.5
stats	4.0.5
stats4	4.0.5
survival	3.2-10
sys	3.4
tcltk	4.0.5
tibble	3.1.4
tools	4.0.5
utf8	1.2.2
utils	4.0.5
vctrs	0.3.8

Library	Version
viridisLite	0.4.0
withr	2.4.2

## R 3.6 Libraries

This section lists the R 3.6 libraries that ship with ML Runtimes 2022.11.

**Table 266: PBJ R 3.6.3 Libraries for Workbench**

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2

Library	Version
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5

Library	Version
webencodings	0.5.1
zipp	3.7.0

**Table 267: R 3.6.3 Libraries for Workbench**

Library	Version
askpass	1.1
base	3.6.3
bitops	1.0-7
boot	1.3-24
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-15
cli	3.0.1
cluster	2.1.0
codetools	0.2-16
colorspace	2.0-2
compiler	3.6.3
crayon	1.4.1
curl	4.3.2
datasets	3.6.3
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-75
ggplot2	3.3.5
glue	1.4.2
graphics	3.6.3
grDevices	3.6.3
grid	3.6.3
gtable	0.3.0
httr	1.4.2
isoband	0.2.5
jsonlite	1.7.2
KernSmooth	2.23-16
labeling	0.4.2
lattice	0.20-38

Library	Version
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-51.5
Matrix	1.2-18
methods	3.6.3
mgcv	1.8-31
mime	0.11
munsell	0.5.0
nlme	3.1-144
nnet	7.3-12
openssl	1.4.4
parallel	3.6.3
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-11
splines	3.6.3
stats	3.6.3
stats4	3.6.3
survival	3.1-8
sys	3.4
testthat	3.6.3
tibble	3.1.4
tools	3.6.3
utf8	1.2.2
utils	3.6.3
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## Python 3.9 Libraries for PBJ Workbench

This section lists the packages in Python 3.9 PBJ Workbench Runtimes that ship with ML Runtimes 2022.11.

**Table 268: Packages in Python 3.9.11 PBJ Workbench Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4



Library	Version
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## Python 3.8 Libraries for PBJ Workbench

This section lists the packages in Python 3.8 PBJ Workbench Runtimes that ship with ML Runtimes 2022.11.

**Table 269: Packages in Python 3.8.13 PBJ Workbench Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4

Library	Version
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## Python 3.7 Libraries for PBJ Workbench

This section lists the packages in Python 3.7 PBJ Workbench Runtimes that ship with ML Runtimes 2022.11.

**Table 270: Packages in Python 3.7.13 PBJ Workbench Runtimes - Standard**

Library	Version
python	3.7.13
pip	21.1.3
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4

Library	Version
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## PBJ R 4.1 Libraries

This section lists the PBJ R 4.1 libraries that ship with ML Runtimes 2022.11.

**Table 271: PBJ R 4.1.1 Libraries for Workbench**

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4

Library	Version
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## PBJ R 4.0 Libraries

This section lists the PBJ R 4.0 libraries that ship with ML Runtimes 2022.11.

**Table 272: PBJ R 4.0.5 Libraries for Workbench**

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4



Library	Version
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## PBJ R 3.6 Libraries

This section lists the PBJ R 3.6 libraries that ship with ML Runtimes 2022.11.

**Table 273: PBJ R 3.6.3 Libraries for Workbench**

Library	Version
argon2-ffi	21.3.0
argon2-ffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
ffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4

Library	Version
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## ML Runtimes 2022.04

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2022.04.



**Note:** Nvidia GPU Edition comes with CUDA 11.4.1 preinstalled.

### Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2022.04.

**Table 274: Packages in Python 3.9.11 Workbench Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0

Library	Version
pickleshare	0.7.5
Pillow	9.0.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 275: Packages in Python 3.9.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0

Library	Version
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2022.04.

**Table 276: Packages in Python 3.8.13 Workbench Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.2
pymz	22.3.0

Library	Version
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 277: Packages in Python 3.8.13 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5



Library	Version
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2022.04.

**Table 278: Packages in Python 3.7.13 Workbench Runtimes - Standard**

Library	Version
python	3.7.11
pip	21.1.3
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0

Library	Version
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 279: Packages in Python 3.7.13 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.11
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.2

Library	Version
pyzmq	22.3.0
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 280: Packages in Python 3.7.13 PBJ Workbench - Standard**

Library	Version
python	3.7.11
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10

Library	Version
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1

Library	Version
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2022.04.

### Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

## Python 3.9.6 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2022.04.

**Table 281: Packages in Python 3.9.11 JupyterLab Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2

Library	Version
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0



Library	Version
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

**Table 282: Packages in Python 3.9.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4

Library	Version
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0

Library	Version
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2022.04.

**Table 283: Packages in Python 3.8.13 JupyterLab Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10

Library	Version
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1

Library	Version
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1

Library	Version
websocket-client	1.2.1
zipp	3.8.0

**Table 284: Packages in Python 3.8.13 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0

Library	Version
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0

Library	Version
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2022.04.

**Table 285: Packages in Python 3.7.13 JupyterLab Runtimes - Standard**

Library	Version
python	3.7.11
pip	21.1.3
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0



Library	Version
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5

Library	Version
Pillow	9.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

**Table 286: Packages in Python 3.7.13 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.11
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argcomplete	2.0.0

Library	Version
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3

Library	Version
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6

Library	Version
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

## R 4.0 Libraries

This section lists the R 4.0 libraries that ship with ML Runtimes 2022.04.

**Table 287: R 4.0.5 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.0.5
bitops	1.0-7
boot	1.3-27
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-18
cli	3.0.1
cluster	2.1.1
codetools	0.2-18
colorspace	2.0-2
compiler	4.0.5
crayon	1.4.1
curl	4.3.2
datasets	4.0.5
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-81
ggplot2	3.3.5
glue	1.4.2
graphics	4.0.5
grDevices	4.0.5
grid	4.0.5
gtable	0.3.0

Library	Version
httr	1.4.2
isoband	0.2.5
jsonlite	1.7.2
KernSmooth	2.23-18
labeling	0.4.2
lattice	0.20-41
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-53.1
Matrix	1.3-2
methods	4.0.5
mgcv	1.8-34
mime	0.11
munsell	0.5.0
nlme	3.1-152
nnet	7.3-15
openssl	1.4.4
parallel	4.0.5
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-13
splines	4.0.5
stats	4.0.5
stats4	4.0.5
survival	3.2-10
sys	3.4
tcltk	4.0.5
tibble	3.1.4
tools	4.0.5
utf8	1.2.2

Library	Version
utils	4.0.5
vctr	0.3.8
viridisLite	0.4.0
withr	2.4.2

## R 4.1 Libraries

This section lists the R 4.1 libraries that ship with ML Runtimes 2022.04.

**Table 288: R 4.1.1 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.1.1
bitops	1.0-7
boot	1.3-28
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-19
cli	3.0.1
cluster	2.1.2
codetools	0.2-18
colorspace	2.0-2
compiler	4.1.1
crayon	1.4.1
curl	4.3.2
datasets	4.1.1
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-81
ggplot2	3.3.5
glue	1.4.2
graphics	4.1.1
grDevices	4.1.1
grid	4.1.1
gtable	0.3.0

Library	Version
httr	1.4.2
isoband	0.2.5
jsonlite	1.7.2
KernSmooth	2.23-20
labeling	0.4.2
lattice	0.20-44
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-54
Matrix	1.3-4
methods	4.1.1
mgcv	1.8-36
mime	0.11
munsell	0.5.0
nlme	3.1-152
nnet	7.3-16
openssl	1.4.4
parallel	4.1.1
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-14
splines	4.1.1
stats	4.1.1
stats4	4.1.1
survival	3.2-11
sys	3.4
tcltk	4.1.1
tibble	3.1.4
tools	4.1.1
utf8	1.2.2



Library	Version
utils	4.1.1
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## R 3.6 Libraries

This section lists the R 3.6 libraries that ship with ML Runtimes 2022.04.

**Table 289: R 3.6.3 Libraries for Workbench**

Library	Version
askpass	1.1
base	3.6.3
bitops	1.0-7
boot	1.3-24
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-15
cli	3.0.1
cluster	2.1.0
codetools	0.2-16
colorspace	2.0-2
compiler	3.6.3
crayon	1.4.1
curl	4.3.2
datasets	3.6.3
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-75
ggplot2	3.3.5
glue	1.4.2
graphics	3.6.3
grDevices	3.6.3
grid	3.6.3
gtable	0.3.0

Library	Version
httr	1.4.2
isoband	0.2.5
jsonlite	1.7.2
KernSmooth	2.23-16
labeling	0.4.2
lattice	0.20-38
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-51.5
Matrix	1.2-18
methods	3.6.3
mgcv	1.8-31
mime	0.11
munsell	0.5.0
nlme	3.1-144
nnet	7.3-12
openssl	1.4.4
parallel	3.6.3
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-11
splines	3.6.3
stats	3.6.3
stats4	3.6.3
survival	3.1-8
sys	3.4
tcltk	3.6.3
tibble	3.1.4
tools	3.6.3
utf8	1.2.2

Library	Version
utils	3.6.3
vctr	0.3.8
viridisLite	0.4.0
withr	2.4.2

## ML Runtimes 2021.12

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2021.12.



**Note:** Nvidia GPU Edition comes with CUDA 11.4.1 preinstalled.

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2021.12.

**Table 290: Packages in Python 3.9.7 Workbench Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
idna	3.2
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

**Table 291: Packages in Python 3.9.7 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
idna	3.2
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7

Library	Version
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2021.12.

**Table 292: Packages in Python 3.8.6 Workbench Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0

Library	Version
decorator	4.4.2
idna	3.2
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

**Table 293: Packages in Python 3.8.6 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.6
pip	21.1.3
cuda	11.4.1-1

Library	Version
libcudnn8	8.2.2.26-1
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
idna	3.2
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

**Table 294: Packages in Python 3.8.6 Workbench Runtimes - RAPIDS**

Library	Version
python	3.8.6
pip	21.1.3
_libgcc_mutex	0.1
_openmp_mutex	4.5
abseil-cpp	20210324.2
aiohttp	3.8.1
aiosignal	1.2.0
anyio	3.4.0
appdirs	1.4.4
argon2-cffi	21.1.0
arrow-cpp	5.0.0
arrow-cpp-proc	3.0.0
async-timeout	4.0.1
async_generator	1.10
attrs	21.2.0
aws-c-auth	0.6.7
aws-c-cal	0.5.12
aws-c-common	0.6.17
aws-c-compression	0.2.14
aws-c-event-stream	0.2.7
aws-c-http	0.6.10
aws-c-io	0.10.13
aws-c-mqtt	0.7.9
aws-c-s3	0.1.27
aws-c-sdkutils	0.1.1
aws-checksums	0.1.12
aws-crt-cpp	0.17.8
aws-sdk-cpp	1.9.145
backcall	0.2.0
backports	1.0
backports.functools_lru_cache	1.6.4
bleach	4.1.0
blosc	1.21.0
bokeh	2.4.0
boost	1.74.0
boost-cpp	1.74.0
brtoli	1.0.9
brtoli-bin	1.0.9



Library	Version
brotlipy	0.7.0
brunsl	0.1
bzip2	1.0.8
c-ares	1.18.1
c-blosc2	2.0.4
ca-certificates	2021.10.8
cachetools	4.2.4
cairo	1.16.0
cdsw	1.1.0
certifi	2021.5.30
effi	1.15.0
cfitsio	3.470
charls	2.2.0
charset-normalizer	2.0.6
click	8.0.3
click-plugins	1.1.1
cligj	0.7.2
cloudpickle	2.0.0
colorama	0.4.4
colorcet	3.0.0
cryptography	36.0.1
cucim	21.12.00
cuda-toolkit	11.0.221
cudf	21.12.02
cudf_kafka	21.12.02
cudnn	8.2.1.32
cugraph	21.12.00
cuml	21.12.00
cupy	9.6.0
curl	7.80.0
cusignal	21.12.00
cuspatial	21.12.00
custreamz	21.12.02
cuxfilter	21.12.00
cycler	0.11.0
cyrus-sasl	2.1.27
cytoolz	0.11.2
dask	2021.11.2
dask-core	2021.11.2

Library	Version
dask-cuda	21.12.00
dask-cudf	21.12.02
datashader	0.11.1
datashape	0.5.4
debugpy	1.5.1
decorator	5.1.0
defusedxml	0.7.1
distributed	2021.11.2
dlpack	0.5
entrypoints	0.3
expat	2.4.1
faiss-proc	1.0.0
fastavro	1.4.7
fastrlock	0.8
fiona	1.8.20
font-ttf-dejavu-sans-mono	2.37
font-ttf-inconsolata	3.000
font-ttf-source-code-pro	2.038
font-ttf-ubuntu	0.83
fontconfig	2.13.1
fonts-conda-ecosystem	1
fonts-conda-forge	1
fonttools	4.28.4
freetype	2.10.4
freexl	1.0.6
frozenset	1.2.0
fsspec	2021.11.1
gdal	3.3.2
geopandas	0.9.0
geopandas-base	0.9.0
geos	3.9.1
geotiff	1.7.0
gettext	0.19.8.1
gflags	2.2.2
giflib	5.2.1
git	2.34.1
glog	0.5.0
gpuci-tools	0.3.1
grpc-cpp	1.41.1

Library	Version
hdf4	4.2.15
hdf5	1.12.1
heapdict	1.0.1
icu	68.2
idna	3.2
imagecodecs	2021.8.26
imageio	2.13.3
importlib-metadata	4.8.3
importlib_metadata	4.8.3
importlib_resources	5.4.0
ipykernel	6.6.0
ipython	7.30.1
ipython_genutils	0.2.0
ipywidgets	7.6.5
jbig	2.1
jedi	0.18.1
jinja2	3.0.3
joblib	1.1.0
jpeg	9d
json-c	0.15
jsonschema	4.3.1
jupyter-server-proxy	3.2.0
jupyter_client	7.1.0
jupyter_core	4.9.1
jupyter_server	1.13.1
jupyterlab_pygments	0.1.2
jupyterlab_widgets	1.0.2
jxrlib	1.1
kealib	1.4.14
kiwisolver	1.3.2
krb5	1.19.2
lcms2	2.12
ld_impl_linux-64	2.36.1
lerc	3.0
libaec	1.0.6
libblas	3.9.0
libbrotlicommon	1.0.9
libbrotlidec	1.0.9
libbrotlienc	1.0.9

Library	Version
libblas	3.9.0
libcucim	21.12.00
libcudf	21.12.02
libcudf_kafka	21.12.02
libcugraph	21.12.00
libcuml	21.12.00
libcumlprims	21.12.00
libcurl	7.80.0
libcusolver	11.3.2.107
libcuspatial	21.12.00
libdap4	3.20.6
libdeflate	1.8
libedit	3.1.20191231
libev	4.33
libevent	2.1.10
libfaiss	1.7.0
libffi	3.4.2
libgcc-ng	9.4.0
libgcrypt	1.9.4
libgdal	3.3.2
libgfortran-ng	11.2.0
libgfortran5	11.2.0
libglib	2.70.2
libgpg-error	1.42
libgsasl	1.10.0
libhwloc	2.3.0
libiconv	1.16
libkml	1.3.0
liblapack	3.9.0
libllvm11	11.1.0
libnetcdf	4.8.1
libnghttp2	1.43.0
libnsl	2.0.0
libntlm	1.4
libopenblas	0.3.18
libpng	1.6.37
libpq	13.5
libprotobuf	3.18.1
librdkafka	1.6.1

Library	Version
libmm	21.12.00
librttopo	1.1.0
libsodium	1.0.18
libspatialindex	1.9.3
libspatialite	5.0.1
libssh2	1.10.0
libstdc++-ng	9.4.0
libthrift	0.15.0
libtiff	4.3.0
libutf8proc	2.7.0
libuuid	2.32.1
libuv	1.42.0
libwebp	1.2.1
libwebp-base	1.2.1
libxcb	1.13
libxgboost	1.5.0dev.rapidsai21.12
libxml2	2.9.12
libzip	1.8.0
libzlib	1.2.11
libzopfli	1.0.3
llvm-openmp	12.0.1
llvmlite	0.37.0
loket	0.2.0
lz4-c	1.9.3
mapclassify	2.4.3
markdown	3.3.6
markupsafe	2.0.1
matplotlib-base	3.5.1
matplotlib-inline	0.1.3
mistune	0.8.4
msgpack-python	1.0.3
multidict	5.2.0
multipledispatch	0.6.0
munch	2.5.0
munkres	1.1.4
nbclient	0.5.9
nbconvert	6.3.0
nbformat	5.1.3
nccl	2.11.4.1

Library	Version
ncurses	6.2
nest-asyncio	1.5.4
networkx	2.6.3
nodejs	14.17.4
notebook	6.4.6
nspr	4.32
nss	3.73
numba	0.54.1
numpy	1.20.3
nvtx	0.2.3
olefile	0.46
openjpeg	2.4.0
openssl	1.1.1l
orc	1.7.1
packaging	21.3
pandas	1.3.5
pandoc	2.16.2
pandocfilters	1.5.0
panel	0.12.4
param	1.12.0
parquet-cpp	1.5.1
parso	0.8.3
partd	1.2.0
pcre	8.45
pcre2	10.37
perl	5.32.1
pexpect	4.8.0
pickleshare	0.7.5
pillow	8.4.0
pip	21.3.1
pixman	0.40.0
pooch	1.5.2
poppler	21.09.0
poppler-data	0.4.11
postgresql	13.5
proj	8.1.0
prometheus_client	0.12.0
prompt-toolkit	3.0.24
protobuf	3.18.1

Library	Version
psutil	5.8.0
pthread-stubs	0.4
ptxcompiler	0.2.0
ptyprocess	0.7.0
py-xgboost	1.5.0dev.rapidsai21.12
py4j	0.10.9
pyarrow	5.0.0
pycparser	2.21
pyct	0.4.6
pyct-core	0.4.6
pydeck	0.5.0
pyee	8.1.0
pygments	2.10.0
pynvml	11.4.1
pyopenssl	21.0.0
pyparsing	3.0.6
pypeteer	0.2.6
pyproj	3.1.0
pyrsistent	0.18.0
pysocks	1.7.1
python	3.8.12
python-confluent-kafka	1.6.0
python-dateutil	2.8.2
python_abi	3.8
pytz	2021.3
pyviz_comms	2.1.0
pywavelets	1.2.0
pyyaml	6.0
pyzmq	22.3.0
rapids	21.12.00
rapids-xgboost	21.12.00
re2	2021.11.01
readline	8.1
requests	2.26.0
rmm	21.12.00
rtree	0.9.7
s2n	1.3.0
scikit-image	0.18.1
scikit-learn	1.0.1

Library	Version
scipy	1.7.3
send2trash	1.8.0
setuptools	59.6.0
shapely	1.8.0
simpervisor	0.4
six	1.16.0
snappy	1.1.8
sniffio	1.2.0
sortedcontainers	2.4.0
spdlog	1.8.5
sqlite	3.37.0
streamz	0.6.3
tblib	1.7.0
terminado	0.12.1
testpath	0.5.0
threadpoolctl	3.0.0
tifffile	2021.11.2
tiledb	2.3.4
tk	8.6.11
toolz	0.11.2
tornado	6.1
tqdm	4.62.3
traitlets	5.1.1
treelite	2.1.0
treelite-runtime	2.1.0
typing-extensions	4.0.1
typing_extensions	4.0.1
tzcode	2021e
tzdata	2021e
ucx	1.11.2+gef2bbcf
ucx-proc	1.0.0
ucx-py	0.23.0
unicodedata2	13.0.0.post2
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.3
websockets	9.1
wheel	0.37.0



Library	Version
widetsnbextension	3.5.2
xarray	0.20.2
xerces-c	3.2.3
xgboost	1.5.0dev.rapidsai21.12
xorg-kbproto	1.0.7
xorg-libice	1.0.10
xorg-libsm	1.2.3
xorg-libx11	1.7.2
xorg-libxau	1.0.9
xorg-libxdmcp	1.1.3
xorg-libxext	1.3.4
xorg-libxrender	0.9.10
xorg-renderproto	0.11.1
xorg-xextproto	7.3.0
xorg-xproto	7.0.31
xz	5.2.5
yaml	0.2.5
yaml	1.7.2
zeromq	4.3.4
zfp	0.5.5
zict	2.0.0
zipp	3.6.0
zlib	1.2.11
zstd	1.5.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2021.12.

**Table 295: Packages in Python 3.7.11 Workbench Runtimes - Standard**

Library	Version
python	3.7.11
pip	21.1.3
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2

Library	Version
idna	3.2
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

**Table 296: Packages in Python 3.7.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.11
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1

Library	Version
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
idna	3.2
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

**Table 297: Packages in Python 3.7.11 Workbench Runtimes - RAPIDS**

Library	Version
python	3.7.11
pip	21.1.3
cuda	11.4.1-1
_libgcc_mutex	0.1
_openmp_mutex	4.5
abseil-cpp	20210324.2
aiohttp	3.8.1
aiosignal	1.2.0
anyio	3.4.0
appdirs	1.4.4
argcomplete	1.12.3
argon2-cffi	21.1.0
arrow-cpp	5.0.0
arrow-cpp-proc	3.0.0
async-timeout	4.0.1
async_generator	1.10
asynctest	0.13.0
attrs	21.2.0
aws-c-auth	0.6.7
aws-c-cal	0.5.12
aws-c-common	0.6.17
aws-c-compression	0.2.14
aws-c-event-stream	0.2.7
aws-c-http	0.6.10
aws-c-io	0.10.13
aws-c-mqtt	0.7.9
aws-c-s3	0.1.27
aws-c-sdkutils	0.1.1
aws-checksums	0.1.12
aws-crt-cpp	0.17.8
aws-sdk-cpp	1.9.145
backcall	0.2.0
backports	1.0
backports.functools_lru_cache	1.6.4
bleach	4.1.0
blosc	1.21.0
bokeh	2.4.0
boost	1.74.0

Library	Version
boost-cpp	1.74.0
brotli	1.0.9
brotli-bin	1.0.9
brotlipy	0.7.0
brunsli	0.1
bzip2	1.0.8
c-ares	1.18.1
c-blosc2	2.0.4
ca-certificates	2021.10.8
cachetools	4.2.4
cairo	1.16.0
cdsw	1.1.0
certifi	2021.5.30
cffi	1.15.0
cfitsio	3.470
charls	2.2.0
charset-normalizer	2.0.6
click	8.0.3
click-plugins	1.1.1
cligj	0.7.2
cloudpickle	2.0.0
colorama	0.4.4
colorcet	3.0.0
cryptography	36.0.1
cucim	21.12.00
cuda-toolkit	11.0.221
cudf	21.12.02
cudf_kafka	21.12.02
cudnn	8.2.1.32
cugraph	21.12.00
cuml	21.12.00
cupy	9.6.0
curl	7.80.0
cusignal	21.12.00
cuspatial	21.12.00
custreamz	21.12.02
cuxfilter	21.12.00
cycler	0.11.0
cyrus-sasl	2.1.27

Library	Version
cytoolz	0.11.2
dask	2021.11.2
dask-core	2021.11.2
dask-cuda	21.12.00
dask-cudf	21.12.02
datashader	0.11.1
datashape	0.5.4
debugpy	1.5.1
decorator	5.1.0
defusedxml	0.7.1
distributed	2021.11.2
dlpack	0.5
entrypoints	0.3
expat	2.4.1
faiss-proc	1.0.0
fastavro	1.4.7
fastrlock	0.8
fiona	1.8.20
font-ttf-dejavu-sans-mono	2.37
font-ttf-inconsolata	3.000
font-ttf-source-code-pro	2.038
font-ttf-ubuntu	0.83
fontconfig	2.13.1
fonts-conda-ecosystem	1
fonts-conda-forge	1
fonttools	4.28.4
freetype	2.10.4
freexl	1.0.6
frozenlist	1.2.0
fsspec	2021.11.1
gdal	3.3.2
geopandas	0.9.0
geopandas-base	0.9.0
geos	3.9.1
geotiff	1.7.0
gettext	0.19.8.1
gflags	2.2.2
giflib	5.2.1
git	2.34.1

Library	Version
glog	0.5.0
gpuci-tools	0.3.1
grpc-cpp	1.41.1
hdf4	4.2.15
hdf5	1.12.1
heapdict	1.0.1
icu	68.2
idna	3.2
imagecodecs	2021.8.26
imageio	2.13.3
importlib-metadata	4.8.3
importlib_metadata	4.8.3
importlib_resources	5.4.0
ipykernel	6.6.0
ipython	7.30.1
ipython_genutils	0.2.0
ipywidgets	7.6.5
jbig	2.1
jedi	0.18.1
jinja2	3.0.3
joblib	1.1.0
jpeg	9d
json-c	0.15
jsonschema	4.3.1
jupyter-server-proxy	3.2.0
jupyter_client	7.1.0
jupyter_core	4.9.1
jupyter_server	1.13.1
jupyterlab_pygments	0.1.2
jupyterlab_widgets	1.0.2
jxrlib	1.1
kealib	1.4.14
kiwisolver	1.3.2
krb5	1.19.2
lcms2	2.12
ld_impl_linux-64	2.36.1
lerc	3.0
libaec	1.0.6
libblas	3.9.0

Library	Version
libbrotlicommon	1.0.9
libbrotlidec	1.0.9
libbrotlienc	1.0.9
libcblas	3.9.0
libcucim	21.12.00
libcudf	21.12.02
libcudf_kafka	21.12.02
libcugraph	21.12.00
libcuml	21.12.00
libcumlprims	21.12.00
libcurl	7.80.0
libcusolver	11.3.2.107
libcuspatial	21.12.00
libdap4	3.20.6
libdeflate	1.8
libedit	3.1.20191231
libev	4.33
libevent	2.1.10
libfaiss	1.7.0
libffi	3.4.2
libgcc-ng	9.4.0
libgcrypt	1.9.4
libgdal	3.3.2
libgfortran-ng	11.2.0
libgfortran5	11.2.0
libglib	2.70.2
libgpg-error	1.42
libgsasl	1.10.0
libhwloc	2.3.0
libiconv	1.16
libkml	1.3.0
liblapack	3.9.0
libllvm11	11.1.0
libnetcdf	4.8.1
libnghttp2	1.43.0
libnsl	2.0.0
libntlm	1.4
libopenblas	0.3.18
libpng	1.6.37



Library	Version
libpq	13.5
libprotobuf	3.18.1
librdkafka	1.6.1
librmm	21.12.00
librttopo	1.1.0
libsodium	1.0.18
libspatialindex	1.9.3
libspatialite	5.0.1
libssh2	1.10.0
libstdcxx-ng	9.4.0
libthrift	0.15.0
libtiff	4.3.0
libutf8proc	2.7.0
libuuid	2.32.1
libuv	1.42.0
libwebp	1.2.1
libwebp-base	1.2.1
libxcb	1.13
libxgboost	1.5.0dev.rapidsai21.12
libxml2	2.9.12
libzip	1.8.0
libzlib	1.2.11
libzopfli	1.0.3
llvm-openmp	12.0.1
llvmlite	0.37.0
loket	0.2.0
lz4-c	1.9.3
mapclassify	2.4.3
markdown	3.3.6
markupsafe	2.0.1
matplotlib-base	3.5.1
matplotlib-inline	0.1.3
mistune	0.8.4
msgpack-python	1.0.3
multidict	5.2.0
multipledispatch	0.6.0
munch	2.5.0
munkres	1.1.4
nbclient	0.5.9

Library	Version
nbconvert	6.3.0
nbformat	5.1.3
nccl	2.11.4.1
ncurses	6.2
nest-asyncio	1.5.4
networkx	2.6.3
nodejs	14.17.4
notebook	6.4.6
nspr	4.32
nss	3.73
numba	0.54.1
numpy	1.20.3
nvtx	0.2.3
olefile	0.46
openjpeg	2.4.0
openssl	1.1.11
orc	1.7.1
packaging	21.3
pandas	1.3.5
pandoc	2.16.2
pandocfilters	1.5.0
panel	0.12.4
param	1.12.0
parquet-cpp	1.5.1
parso	0.8.3
partd	1.2.0
pcre	8.45
pcre2	10.37
perl	5.32.1
pexpect	4.8.0
pickle5	0.0.12
pickleshare	0.7.5
pillow	8.4.0
pip	21.3.1
pixman	0.40.0
pooch	1.5.2
poppler	21.09.0
poppler-data	0.4.11
postgresql	13.5

Library	Version
proj	8.1.0
prometheus_client	0.12.0
prompt-toolkit	3.0.24
protobuf	3.18.1
psutil	5.8.0
pthread-stubs	0.4
ptxcompiler	0.2.0
ptyprocess	0.7.0
py-xgboost	1.5.0dev.rapidsai21.12
py4j	0.10.9
pyarrow	5.0.0
pycparser	2.21
pyct	0.4.6
pyct-core	0.4.6
pydeck	0.5.0
pyee	8.1.0
pygments	2.10.0
pynvml	11.4.1
pyopenssl	21.0.0
pyparsing	3.0.6
pyppeteer	0.2.6
pyproj	3.1.0
pyrsistent	0.18.0
pysocks	1.7.1
python	3.7.12
python-confluent-kafka	1.6.0
python-dateutil	2.8.2
python_abi	3.7
pytz	2021.3
pyviz_comms	2.1.0
pywavelets	1.2.0
pyyaml	6.0
pyzmq	22.3.0
rapids	21.12.00
rapids-xgboost	21.12.00
re2	2021.11.01
readline	8.1
requests	2.26.0
rmm	21.12.00

Library	Version
rtree	0.9.7
s2n	1.3.0
scikit-image	0.18.1
scikit-learn	1.0.1
scipy	1.7.3
send2trash	1.8.0
setuptools	59.6.0
shapely	1.8.0
simpervisor	0.4
six	1.16.0
snappy	1.1.8
sniffio	1.2.0
sortedcontainers	2.4.0
spdlog	1.8.5
sqlite	3.37.0
streamz	0.6.3
tblib	1.7.0
terminado	0.12.1
testpath	0.5.0
threadpoolctl	3.0.0
tiffio	2021.11.2
tiledb	2.3.4
tk	8.6.11
toolz	0.11.2
tornado	6.1
tqdm	4.62.3
traitlets	5.1.1
treelite	2.1.0
treelite-runtime	2.1.0
typing-extensions	4.0.1
typing_extensions	4.0.1
tzcode	2021e
tzdata	2021e
ucx	1.11.2+gef2bbcf
ucx-proc	1.0.0
ucx-py	0.23.0
unicodedata2	13.0.0.post2
urllib3	1.26.6
wcwidth	0.2.5

Library	Version
webencodings	0.5.1
websocket-client	1.2.3
websockets	9.1
wheel	0.37.0
widetsnbextension	3.5.2
xarray	0.20.2
xerces-c	3.2.3
xgboost	1.5.0dev.rapidsai21.12
xorg-kbproto	1.0.7
xorg-libice	1.0.10
xorg-libsm	1.2.3
xorg-libx11	1.7.2
xorg-libxau	1.0.9
xorg-libxdmcp	1.1.3
xorg-libxext	1.3.4
xorg-libxrender	0.9.10
xorg-renderproto	0.11.1
xorg-xextproto	7.3.0
xorg-xproto	7.0.31
xz	5.2.5
yaml	0.2.5
yaml	1.7.2
zeromq	4.3.4
zfp	0.5.5
zict	2.0.0
zipp	3.6.0
zlib	1.2.11
zstd	1.5.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2021.12.

## Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2

Library	Version
org.scalameta:scalameta	1.0.0

## Python 3.9.6 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2021.12.

**Table 298: Packages in Python 3.9.6 JupyterLab Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.2.8

Library	Version
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4

Library	Version
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1

**Table 299: Packages in Python 3.9.6 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5



Library	Version
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0

Library	Version
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2021.012.

**Table 300: Packages in Python 3.8.6 JupyterLab Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10

Library	Version
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
Pygments	2.8.1

Library	Version
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1

**Table 301: Packages in Python 3.8.6 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6

Library	Version
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8

Library	Version
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1

**Table 302: Packages in Python 3.8.6 JupyterLab Runtimes - RAPIDS**

Library	Version
python	3.8.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
_libgcc_mutex	0.1
_openmp_mutex	4.5
abseil-cpp	20210324.2
aiohttp	3.8.1
aiosignal	1.2.0
anyio	3.3.0
appdirs	1.4.4

Library	Version
argon2-cffi	20.1.0
arrow-cpp	5.0.0
arrow-cpp-proc	3.0.0
async-timeout	4.0.1
async_generator	1.10
attrs	20.3.0
aws-c-auth	0.6.7
aws-c-cal	0.5.12
aws-c-common	0.6.17
aws-c-compression	0.2.14
aws-c-event-stream	0.2.7
aws-c-http	0.6.10
aws-c-io	0.10.13
aws-c-mqtt	0.7.9
aws-c-s3	0.1.27
aws-c-sdkutils	0.1.1
aws-checksums	0.1.12
aws-crt-cpp	0.17.8
aws-sdk-cpp	1.9.145
babel	2.9.1
backcall	0.2.0
backports	1.0
backports.functools_lru_cache	1.6.4
bleach	3.3.1
blosc	1.21.0
bokeh	2.4.0
boost	1.74.0
boost-cpp	1.74.0
brotli	1.0.9
brotli-bin	1.0.9
brotlipy	0.7.0
brunli	0.1
bzip2	1.0.8
c-ares	1.18.1
c-blosc2	2.0.4
ca-certificates	2021.10.8
cachetools	4.2.4
cairo	1.16.0
cdsw	1.1.0

Library	Version
certifi	2020.11.8
cfi	1.14.4
cfitsio	3.470
chardet	4.0.0
charls	2.2.0
charset-normalizer	2.0.6
click	8.0.3
click-plugins	1.1.1
cligj	0.7.2
cloudpickle	2.0.0
colorama	0.4.4
colorcet	3.0.0
cryptography	36.0.1
cucim	21.12.00
cuda-toolkit	11.0.221
cudf	21.12.02
cudf_kafka	21.12.02
cudnn	8.2.1.32
cugraph	21.12.00
cuml	21.12.00
cupy	9.6.0
curl	7.80.0
cusignal	21.12.00
cuspatial	21.12.00
custreamz	21.12.02
cuxfilter	21.12.00
cycler	0.11.0
cyrus-sasl	2.1.27
cytoolz	0.11.2
dask	2021.11.2
dask-core	2021.11.2
dask-cuda	21.12.00
dask-cudf	21.12.02
datashader	0.11.1
datashape	0.5.4
debugpy	1.5.1
decorator	4.4.2
defusedxml	0.6.0
distributed	2021.11.2



Library	Version
dlpack	0.5
entrypoints	0.3
expat	2.4.1
faiss-proc	1.0.0
fastavro	1.4.7
fastrlock	0.8
fiona	1.8.20
font-ttf-dejavu-sans-mono	2.37
font-ttf-inconsolata	3.000
font-ttf-source-code-pro	2.038
font-ttf-ubuntu	0.83
fontconfig	2.13.1
fonts-conda-ecosystem	1
fonts-conda-forge	1
fonttools	4.28.4
freetype	2.10.4
freexl	1.0.6
frozenlist	1.2.0
fsspec	2021.11.1
gdal	3.3.2
geopandas	0.9.0
geopandas-base	0.9.0
geos	3.9.1
geotiff	1.7.0
gettext	0.19.8.1
gflags	2.2.2
giflib	5.2.1
git	2.34.1
glog	0.5.0
gpuci-tools	0.3.1
grpc-cpp	1.41.1
hdf4	4.2.15
hdf5	1.12.1
heapdict	1.0.1
icu	68.2
idna	2.10
imagecodecs	2021.8.26
imageio	2.13.3
importlib-metadata	4.8.3

Library	Version
importlib_metadata	4.8.3
importlib_resources	5.4.0
ipykernel	5.3.4
ipython	7.16.1
ipython_genutils	0.2.0
ipywidgets	7.6.5
jbig	2.1
jedi	0.17.2
jinja2	2.11.3
joblib	1.1.0
jpeg	9d
json-c	0.15
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyter-server-proxy	3.2.0
jupyterlab	3.2.8
jupyterlab-server	2.7.2
jupyterlab_pygments	0.1.2
jupyterlab_widgets	1.0.2
jxrlib	1.1
kealib	1.4.14
kiwisolver	1.3.2
krb5	1.19.2
lcms2	2.12
ld_impl_linux-64	2.36.1
lerc	3.0
libaec	1.0.6
libblas	3.9.0
libbrotlicommon	1.0.9
libbrotlidec	1.0.9
libbrotlienc	1.0.9
libcblas	3.9.0
libcucim	21.12.00
libcudf	21.12.02
libcudf_kafka	21.12.02
libcugraph	21.12.00

Library	Version
libcuml	21.12.00
libcumlprims	21.12.00
libcurl	7.80.0
libcusolver	11.3.2.107
libcuspatial	21.12.00
libdap4	3.20.6
libdeflate	1.8
libedit	3.1.20191231
libev	4.33
libevent	2.1.10
libfaiss	1.7.0
libffi	3.4.2
libgcc-ng	9.4.0
libgcrypt	1.9.4
libgdal	3.3.2
libgfortran-ng	11.2.0
libgfortran5	11.2.0
libglib	2.70.2
libgpg-error	1.42
libgsasl	1.10.0
libhwloc	2.3.0
libiconv	1.16
libkml	1.3.0
liblapack	3.9.0
libllvm11	11.1.0
libnetcdf	4.8.1
libnghttp2	1.43.0
libnsl	2.0.0
libntlm	1.4
libopenblas	0.3.18
libpng	1.6.37
libpq	13.5
libprotobuf	3.18.1
librdkafka	1.6.1
librmm	21.12.00
librttopo	1.1.0
libsodium	1.0.18
libspatialindex	1.9.3
libspatialite	5.0.1

Library	Version
libssh2	1.10.0
libstdcxx-ng	9.4.0
libthrift	0.15.0
libtiff	4.3.0
libutf8proc	2.7.0
libuuid	2.32.1
libuv	1.42.0
libwebp	1.2.1
libwebp-base	1.2.1
libxcb	1.13
libxgboost	1.5.0dev.rapidsai21.12
libxml2	2.9.12
libzip	1.8.0
libzlib	1.2.11
libzopfli	1.0.3
llvm-openmp	12.0.1
llvmlite	0.37.0
loket	0.2.0
lz4-c	1.9.3
mapclassify	2.4.3
markdown	3.3.6
markupsafe	1.1.1
matplotlib-base	3.5.1
matplotlib-inline	0.1.3
mistune	0.8.4
msgpack-python	1.0.3
multidict	5.2.0
multipledispatch	0.6.0
munch	2.5.0
munkres	1.1.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nccl	2.11.4.1
ncurses	6.2
nest-asyncio	1.5.1
networkx	2.6.3
nodejs	14.17.4

Library	Version
notebook	6.4.3
nspr	4.32
nss	3.73
numba	0.54.1
numpy	1.20.3
nvtx	0.2.3
olefile	0.46
openjpeg	2.4.0
openssl	1.1.11
orc	1.7.1
packaging	20.9
pandas	1.3.5
pandoc	2.16.2
pandocfilters	1.4.3
panel	0.12.4
param	1.12.0
parquet-cpp	1.5.1
parso	0.7.1
partd	1.2.0
pcre	8.45
pcre2	10.37
perl	5.32.1
pexpect	4.8.0
pickleshare	0.7.5
pillow	8.4.0
pip	21.3.1
pixman	0.40.0
pooch	1.5.2
poppler	21.09.0
poppler-data	0.4.11
postgresql	13.5
proj	8.1.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
protobuf	3.18.1
psutil	5.8.0
pthread-stubs	0.4
ptxcompiler	0.2.0
ptyprocess	0.6.0

Library	Version
py-xgboost	1.5.0dev.rapidsai21.12
py4j	0.10.9
pyarrow	5.0.0
pycparser	2.20
pyct	0.4.6
pyct-core	0.4.6
pydeck	0.5.0
pyee	8.1.0
pygments	2.8.1
pynvml	11.4.1
pyopenssl	21.0.0
pyparsing	2.4.7
pyppeteer	0.2.6
pyproj	3.1.0
pyrsistent	0.17.3
pysocks	1.7.1
python	3.8.12
python-confluent-kafka	1.6.0
python-dateutil	2.8.1
python_abi	3.8
pytz	2021.1
pyviz_comms	2.1.0
pywavelets	1.2.0
pyyaml	6.0
pyzmq	19.0.2
rapids	21.12.00
rapids-xgboost	21.12.00
re2	2021.11.01
readline	8.1
requests	2.25.1
requests-unixsocket	0.2.0
rmm	21.12.00
rtree	0.9.7
s2n	1.3.0
scikit-image	0.18.1
scikit-learn	1.0.1
scipy	1.7.3
send2trash	1.5.0
setuptools	59.6.0

Library	Version
shapely	1.8.0
simpervisor	0.4
six	1.15.0
snappy	1.1.8
sniffio	1.2.0
sortedcontainers	2.4.0
spdlog	1.8.5
sqlite	3.37.0
streamz	0.6.3
tblib	1.7.0
terminado	0.9.2
testpath	0.4.4
threadpoolctl	3.0.0
tifffile	2021.11.2
tiledb	2.3.4
tk	8.6.11
toolz	0.11.2
tornado	6.1
tqdm	4.62.3
traitlets	4.3.3
treelite	2.1.0
treelite-runtime	2.1.0
typing-extensions	4.0.1
typing_extensions	4.0.1
tzcode	2021e
tzdata	2021e
ucx	1.11.2+gef2bbcf
ucx-proc	1.0.0
ucx-py	0.23.0
unicodedata2	13.0.0.post2
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
websockets	9.1
wheel	0.37.0
widgetsnextension	3.5.2
xarray	0.20.2
xerces-c	3.2.3

Library	Version
xgboost	1.5.0dev.rapidsai21.12
xorg-kbproto	1.0.7
xorg-libice	1.0.10
xorg-libsm	1.2.3
xorg-libx11	1.7.2
xorg-libxau	1.0.9
xorg-libxdmcp	1.1.3
xorg-libxext	1.3.4
xorg-libxrender	0.9.10
xorg-renderproto	0.11.1
xorg-xextproto	7.3.0
xorg-xproto	7.0.31
xz	5.2.5
yaml	0.2.5
yaml	1.7.2
zeromq	4.3.4
zfp	0.5.5
zict	2.0.0
zipp	3.6.0
zlib	1.2.11
zstd	1.5.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2021.12.

**Table 303: Packages in Python 3.7.11 JupyterLab Runtimes - Standard**

Library	Version
python	3.7.11
pip	21.1.3
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8



Library	Version
cff	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
importlib-metadata	3.4.0
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0

Library	Version
pickleshare	0.7.5
Pillow	8.4.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.4.0

**Table 304: Packages in Python 3.7.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.11
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0

Library	Version
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
importlib-metadata	3.4.0
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7

Library	Version
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.4.0

**Table 305: Packages in Python 3.7.11 JupyterLab Runtimes - RAPIDS**

Library	Version
python	3.7.11
pip	21.1.3
_libgcc_mutex	0.1
_openmp_mutex	4.5
abseil-cpp	20210324.2
aiohttp	3.8.1
aiosignal	1.2.0
anyio	3.3.0
appdirs	1.4.4
argcomplete	1.12.3
argon2-cffi	20.1.0
arrow-cpp	5.0.0
arrow-cpp-proc	3.0.0
async-timeout	4.0.1
async_generator	1.10
asynctest	0.13.0
attrs	20.3.0
aws-c-auth	0.6.7
aws-c-cal	0.5.12
aws-c-common	0.6.17
aws-c-compression	0.2.14
aws-c-event-stream	0.2.7
aws-c-http	0.6.10
aws-c-io	0.10.13
aws-c-mqtt	0.7.9
aws-c-s3	0.1.27
aws-c-sdkutils	0.1.1
aws-checksums	0.1.12
aws-crt-cpp	0.17.8
aws-sdk-cpp	1.9.145
babel	2.9.1
backcall	0.2.0
backports	1.0
backports.functools_lru_cache	1.6.4
bleach	3.3.1
blosc	1.21.0
bokeh	2.4.0
boost	1.74.0

Library	Version
boost-cpp	1.74.0
brotli	1.0.9
brotli-bin	1.0.9
brotlipy	0.7.0
brunsli	0.1
bzip2	1.0.8
c-ares	1.18.1
c-blosc2	2.0.4
ca-certificates	2021.10.8
cachetools	4.2.4
cairo	1.16.0
cdsw	1.1.0
certifi	2020.11.8
cffi	1.14.4
cfitsio	3.470
chardet	4.0.0
charls	2.2.0
charset-normalizer	2.0.6
click	8.0.3
click-plugins	1.1.1
cligj	0.7.2
cloudpickle	2.0.0
colorama	0.4.4
colorcet	3.0.0
cryptography	36.0.1
cucim	21.12.00
cuda-toolkit	11.0.221
cudf	21.12.02
cudf_kafka	21.12.02
cudnn	8.2.1.32
cugraph	21.12.00
cuml	21.12.00
cupy	9.6.0
curl	7.80.0
cusignal	21.12.00
cuspatial	21.12.00
custreamz	21.12.02
cuxfilter	21.12.00
cycler	0.11.0

Library	Version
cyrus-sasl	2.1.27
cytoolz	0.11.2
dask	2021.11.2
dask-core	2021.11.2
dask-cuda	21.12.00
dask-cudf	21.12.02
datashader	0.11.1
datashape	0.5.4
debugpy	1.5.1
decorator	4.4.2
defusedxml	0.6.0
distributed	2021.11.2
dlpack	0.5
entrypoints	0.3
expat	2.4.1
faiss-proc	1.0.0
fastavro	1.4.7
fastrlock	0.8
fiona	1.8.20
font-ttf-dejavu-sans-mono	2.37
font-ttf-inconsolata	3.000
font-ttf-source-code-pro	2.038
font-ttf-ubuntu	0.83
fontconfig	2.13.1
fonts-conda-ecosystem	1
fonts-conda-forge	1
fonttools	4.28.4
freetype	2.10.4
freexl	1.0.6
frozenlist	1.2.0
fsspec	2021.11.1
gdal	3.3.2
geopandas	0.9.0
geopandas-base	0.9.0
geos	3.9.1
geotiff	1.7.0
gettext	0.19.8.1
gflags	2.2.2
giflib	5.2.1

Library	Version
git	2.34.1
glog	0.5.0
gpuci-tools	0.3.1
grpc-cpp	1.41.1
hdf4	4.2.15
hdf5	1.12.1
heapdict	1.0.1
icu	68.2
idna	2.10
imagecodecs	2021.8.26
imageio	2.13.3
importlib-metadata	3.4.0
importlib_metadata	4.8.3
importlib_resources	5.4.0
ipykernel	5.3.4
ipython	7.16.1
ipython_genutils	0.2.0
ipywidgets	7.6.5
jbig	2.1
jedi	0.17.2
jinja2	2.11.3
joblib	1.1.0
jpeg	9d
json-c	0.15
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyter-server-proxy	3.2.0
jupyterlab	3.2.8
jupyterlab-server	2.7.2
jupyterlab_pygments	0.1.2
jupyterlab_widgets	1.0.2
jxrllib	1.1
kealib	1.4.14
kiwisolver	1.3.2
krb5	1.19.2
lcms2	2.12



Library	Version
ld_impl_linux-64	2.36.1
lerc	3.0
libaec	1.0.6
libblas	3.9.0
libbrotlicommon	1.0.9
libbrotlidec	1.0.9
libbrotlienc	1.0.9
libcblas	3.9.0
libcucim	21.12.00
libcudf	21.12.02
libcudf_kafka	21.12.02
libcugraph	21.12.00
libcuml	21.12.00
libcumlprims	21.12.00
libcurl	7.80.0
libcusolver	11.3.2.107
libcuspatial	21.12.00
libdap4	3.20.6
libdeflate	1.8
libedit	3.1.20191231
libev	4.33
libevent	2.1.10
libfaiss	1.7.0
libffi	3.4.2
libgcc-ng	9.4.0
libgcrypt	1.9.4
libgdal	3.3.2
libgfortran-ng	11.2.0
libgfortran5	11.2.0
libglib	2.70.2
libgpg-error	1.42
libgsasl	1.10.0
libhwloc	2.3.0
libiconv	1.16
libkml	1.3.0
liblapack	3.9.0
libllvm11	11.1.0
libnetcdf	4.8.1
libnghttp2	1.43.0

Library	Version
libnsl	2.0.0
libntlm	1.4
libopenblas	0.3.18
libpng	1.6.37
libpq	13.5
libprotobuf	3.18.1
librdkafka	1.6.1
librmm	21.12.00
librttopo	1.1.0
libsodium	1.0.18
libspatialindex	1.9.3
libspatialite	5.0.1
libssh2	1.10.0
libstdcxx-ng	9.4.0
libthrift	0.15.0
libtiff	4.3.0
libutf8proc	2.7.0
libuuid	2.32.1
libuv	1.42.0
libwebp	1.2.1
libwebp-base	1.2.1
libxcb	1.13
libxgboost	1.5.0dev.rapidsai21.12
libxml2	2.9.12
libzip	1.8.0
libzlib	1.2.11
libzopfli	1.0.3
llvm-openmp	12.0.1
llvmlite	0.37.0
locket	0.2.0
lz4-c	1.9.3
mapclassify	2.4.3
markdown	3.3.6
markupsafe	1.1.1
matplotlib-base	3.5.1
matplotlib-inline	0.1.3
mistune	0.8.4
msgpack-python	1.0.3
multidict	5.2.0

Library	Version
multipledispatch	0.6.0
munch	2.5.0
munkres	1.1.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nccl	2.11.4.1
ncurses	6.2
nest-asyncio	1.5.1
networkx	2.6.3
nodejs	14.17.4
notebook	6.4.3
nspr	4.32
nss	3.73
numba	0.54.1
numpy	1.20.3
nvtx	0.2.3
olefile	0.46
openjpeg	2.4.0
openssl	1.1.11
orc	1.7.1
packaging	20.9
pandas	1.3.5
pandoc	2.16.2
pandocfilters	1.4.3
panel	0.12.4
param	1.12.0
parquet-cpp	1.5.1
parso	0.7.1
partd	1.2.0
pcre	8.45
pcre2	10.37
perl	5.32.1
pexpect	4.8.0
pickle5	0.0.12
pickleshare	0.7.5
pillow	8.4.0
pip	21.3.1

Library	Version
pixman	0.40.0
pooch	1.5.2
poppler	21.09.0
poppler-data	0.4.11
postgresql	13.5
proj	8.1.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
protobuf	3.18.1
psutil	5.8.0
pthread-stubs	0.4
ptxcompiler	0.2.0
ptyprocess	0.6.0
py-xgboost	1.5.0dev.rapidsai21.12
py4j	0.10.9
pyarrow	5.0.0
pycparser	2.20
pyct	0.4.6
pyct-core	0.4.6
pydeck	0.5.0
pyee	8.1.0
pygments	2.8.1
pynvml	11.4.1
pyopenssl	21.0.0
pyparsing	2.4.7
pyppeteer	0.2.6
pyproj	3.1.0
pyrsistent	0.17.3
pysocks	1.7.1
python	3.7.12
python-confluent-kafka	1.6.0
python-dateutil	2.8.1
python_abi	3.7
pytz	2021.1
pyviz_comms	2.1.0
pywavelets	1.2.0
pyyaml	6.0
pyzmq	19.0.2
rapids	21.12.00

Library	Version
rapids-xgboost	21.12.00
re2	2021.11.01
readline	8.1
requests	2.25.1
requests-unixsocket	0.2.0
rmm	21.12.00
rtree	0.9.7
s2n	1.3.0
scikit-image	0.18.1
scikit-learn	1.0.1
scipy	1.7.3
send2trash	1.5.0
setuptools	59.6.0
shapely	1.8.0
simpervisor	0.4
six	1.15.0
snappy	1.1.8
sniffio	1.2.0
sortedcontainers	2.4.0
spdlog	1.8.5
sqlite	3.37.0
streamz	0.6.3
tblib	1.7.0
terminado	0.9.2
testpath	0.4.4
threadpoolctl	3.0.0
tifffile	2021.11.2
tiledb	2.3.4
tk	8.6.11
toolz	0.11.2
tornado	6.1
tqdm	4.62.3
traitlets	4.3.3
treelite	2.1.0
treelite-runtime	2.1.0
typing-extensions	3.7.4.3
tzcode	2021e
tzdata	2021e
ucx	1.11.2+gef2bbcf

Library	Version
ucx-proc	1.0.0
ucx-py	0.23.0
unicodedata2	13.0.0.post2
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
websockets	9.1
wheel	0.37.0
widetsnbextension	3.5.2
xarray	0.20.2
xerces-c	3.2.3
xgboost	1.5.0dev.rapidsai21.12
xorg-kbproto	1.0.7
xorg-libice	1.0.10
xorg-libsm	1.2.3
xorg-libx11	1.7.2
xorg-libxau	1.0.9
xorg-libxdmcp	1.1.3
xorg-libxext	1.3.4
xorg-libxrender	0.9.10
xorg-renderproto	0.11.1
xorg-xextproto	7.3.0
xorg-xproto	7.0.31
xz	5.2.5
yaml	0.2.5
yaml	1.7.2
zeromq	4.3.4
zfp	0.5.5
zict	2.0.0
zipp	3.4.0
zlib	1.2.11
zstd	1.5.0

## R 4.0 Libraries

This section lists the R 4.0 libraries that ship with ML Runtimes 2021.12.

**Table 306: R 4.0.5 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.0.5
bitops	1.0-7
boot	1.3-27
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-18
cli	3.0.1
cluster	2.1.1
codetools	0.2-18
colorspace	2.0-2
compiler	4.0.5
crayon	1.4.1
curl	4.3.2
datasets	4.0.5
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-81
ggplot2	3.3.5
glue	1.4.2
graphics	4.0.5
grDevices	4.0.5
grid	4.0.5
gtable	0.3.0
httr	1.4.2
jsonlite	1.7.2
KernSmooth	2.23-18
labeling	0.4.2
lattice	0.20-41
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-53.1
Matrix	1.3-2

Library	Version
methods	4.0.5
mgcv	1.8-34
mime	0.11
munsell	0.5.0
nlme	3.1-152
nnet	7.3-15
openssl	1.4.4
parallel	4.0.5
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-13
splines	4.0.5
stats	4.0.5
stats4	4.0.5
survival	3.2-10
sys	3.4
tktk	4.0.5
tibble	3.1.4
tools	4.0.5
utf8	1.2.2
utils	4.0.5
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## R 4.1 Libraries

This section lists the R 4.1 libraries that ship with ML Runtimes 2021.12.



**Table 307: R 4.0.5 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.1.1
bitops	1.0-7
boot	1.3-28
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-19
cli	3.0.1
cluster	2.1.2
codetools	0.2-18
colorspace	2.0-2
compiler	4.1.1
crayon	1.3.4
curl	4.3.2
datasets	4.1.1
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-81
ggplot2	3.3.5
glue	1.4.2
graphics	4.1.1
grDevices	4.1.1
grid	4.1.1
gtable	0.3.0
httr	1.4.2
jsonlite	1.7.2
KernSmooth	2.23-20
labeling	0.4.2
lattice	0.20-44
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-54
Matrix	1.3-4

Library	Version
methods	4.1.1
mgcv	1.8-36
mime	0.11
munsell	0.5.0
nlme	3.1-152
nnet	7.3-16
openssl	1.4.4
parallel	4.1.1
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-14
splines	4.1.1
stats	4.1.1
stats4	4.1.1
survival	3.2-11
sys	3.4
tktk	4.1.1
tibble	3.1.4
tools	4.1.1
utf8	1.2.2
utils	4.1.1
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## R 3.6 Libraries

This section lists the R 3.6 libraries that ship with ML Runtimes 2021.12.

**Table 308: R 3.6.3 Libraries for Workbench**

Library	Version
askpass	1.1
base	3.6.3
bitops	1.0-7
boot	1.3-24
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-15
cli	3.0.1
cluster	2.1.0
codetools	0.2-16
colorspace	2.0-2
compiler	3.6.3
crayon	1.4.4
curl	4.3.2
datasets	3.6.3
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-75
ggplot2	3.3.5
glue	1.4.2
graphics	3.6.3
grDevices	3.6.3
grid	3.6.3
gtable	0.3.0
httr	1.4.2
jsonlite	1.7.2
KernSmooth	2.23-16
labeling	0.4.2
lattice	0.20-38
lifecycle	0.1.0
magrittr	2.0.1
MASS	7.3-51.5
Matrix	1.2-18

Library	Version
methods	3.6.3
mgcv	1.8-31
mime	0.11
munsell	0.5.0
nlme	3.4-144
nnet	7.3-12
openssl	1.4.4
parallel	3.6.3
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-11
splines	3.6.3
stats	3.6.3
stats4	3.6.3
survival	3.1-8
sys	3.4
tktk	3.6.3
tibble	3.1.4
tools	3.6.3
utf8	1.2.2
utils	3.6.3
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## ML Runtimes 2021.09

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2021.09.



**Note:** Nvidia GPU Edition comes with CUDA 11.4.1 preinstalled.

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2021.09.

**Table 309: Packages in Python 3.9.6 Workbench Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
backcall	0.2.0
bitarray	2.1.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0

Library	Version
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

**Table 310: Packages in Python 3.9.6 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
backcall	0.2.0
bitarray	2.1.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1

Library	Version
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2021.09.

**Table 311: Packages in Python 3.8.6 Workbench Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
backcall	0.2.0
bitarray	2.1.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4

Library	Version
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

**Table 312: Packages in Python 3.8.6 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
backcall	0.2.0
bitarray	2.1.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2



Library	Version
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2021.09.

**Table 313: Packages in Python 3.7.11 Workbench Runtimes - Standard**

Library	Version
python	3.7.11
pip	21.1.3
backcall	0.2.0
bitarray	2.1.0
certifi	2020.12.5
chardet	4.0.0

Library	Version
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

**Table 314: Packages in Python 3.7.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.11
pip	21.1.3

Library	Version
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
backcall	0.2.0
bitarray	2.1.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6

Library	Version
wcwidth	0.2.5

## Python 3.6 Libraries for Workbench

This section lists the packages in Python 3.6 Workbench Runtimes that ship with ML Runtimes 2021.09.

**Table 315: Packages in Python 3.6.14 Workbench Runtimes - Standard**

Library	Version
python	3.6.14
pip	21.1.3
backcall	0.2.0
bitarray	2.1.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1

Library	Version
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

**Table 316: Packages in Python 3.6.14 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.6.14
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
backcall	0.2.0
bitarray	2.1.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prompt-toolkit	3.0.8

Library	Version
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2021.09.

### Scala 2.11.12 Libraries for Workbench - Standard

- org.scala-lang:scala-library:2.11.12
- org.scalatest:scalatest:2.2.4:test
- org.scala-lang:scala-reflect:2.11.12
- org.scala-lang:scala-compiler:2.11.12
- io.circe:circe-generic:0.11.2
- io.circe:circe-parser:0.11.2
- org.scalameta:scalameta:1.0.0

## Python 3.9.6 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2021.09.

**Table 317: Packages in Python 3.9.6 JupyterLab Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0

Library	Version
Babel	2.9.0
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.0.17
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9

Library	Version
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1

**Table 318: Packages in Python 3.9.6 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1



Library	Version
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.0.17
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3

Library	Version
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2021.09.

**Table 319: Packages in Python 3.8.6 JupyterLab Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.0.17
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4

Library	Version
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1

Library	Version
websocket-client	1.2.1

**Table 320: Packages in Python 3.8.6 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.0.17
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1

Library	Version
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1

Library	Version
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2021.09.

**Table 321: Packages in Python 3.7.11 JupyterLab Runtimes - Standard**

Library	Version
python	3.7.11
pip	21.1.3
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
importlib-metadata	3.4.0
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0

Library	Version
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.0.17
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0



Library	Version
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.4.0

**Table 322: Packages in Python 3.7.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.11
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
importlib-metadata	3.4.0
impyla	0.17.0

Library	Version
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.0.17
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
Pygments	2.8.1
pyparsing	2.4.7

Library	Version
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.4.0

## Python 3.6 Libraries for JupyterLab

This section lists the packages in Python 3.6 JupyterLab Runtimes that ship with ML Runtimes 2021.09.

**Table 323: Packages in Python 3.6.14 JupyterLab Runtimes - Standard**

Library	Version
python	3.6.14
pip	21.1.3
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8

Library	Version
cff	1.14.4
chardet	4.0.0
contextvars	2.4
cycler	0.10.0
dataclasses	0.8
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
immutable	0.14
importlib-metadata	3.4.0
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.0.17
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3

Library	Version
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.4.0

**Table 324: Packages in Python 3.6.14 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.6.14
pip	21.1.3
cuda	11.4.1-1

Library	Version
libcudnn8	8.2.2.26-1
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
contextvars	2.4
cycler	0.10.0
dataclasses	0.8
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
immutables	0.14
importlib-metadata	3.4.0
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.0.17
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4

Library	Version
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.3.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.6

Library	Version
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.4.0

## R 4.0 Libraries

This section lists the R 4.0 libraries that ship with ML Runtimes 2021.09.

**Table 325: R 4.0.5 Libraries for Workbench**

Library	Version
askpass	1.1
assertthat	0.2.1
base	4.0.5
bitops	1.0-6
boot	1.3-27
brew	1.0-6
Cairo	1.2-0
caTools	1.18.0
cdsw	2.1
class	7.3-18
cli	2.0.1
cluster	2.1.1
codetools	0.2-18
colorspace	1.4-1
compiler	4.0.5
crayon	1.3.4
curl	4.3
datasets	4.0.5
digest	0.6.23
ellipsis	0.3.0
fansi	0.4.1
farver	2.0.3
foreigns	0.8-81
ggplot2	3.2.1
glue	1.3.1
graphics	4.0.5
grDevices	4.0.5
grid	4.0.5



Library	Version
gtable	0.3.0
httr	1.4.1
jsonlite	1.6
KernSmooth	2.23-18
labeling	0.3
lattice	0.20-41
lazyeval	0.2.2
lifecycle	0.1.0
magrittr	1.5
MASS	7.3-53.1
Matrix	1.3-2
methods	4.0.5
mgcv	1.8-34
mime	0.8
munsell	0.5.0
nlme	3.1-152
nnet	7.3-15
openssl	1.4.1
parallel	4.0.5
pillar	1.4.3
pkgconfig	2.0.3
plyr	1.8.5
png	0.1-7
R6	2.4.1
RColorBrewer	1.1-2
Rcpp	1.0.3
reshape2	1.4.3
RJSONIO	1.3-1.4
rlang	0.4.4
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.0
spatial	7.3-13
splines	4.0.5
stats	4.0.5
stats4	4.0.5
stringi	1.4.5
stringr	1.4.0

Library	Version
survival	3.2-10
sys	3.3
tcltk	4.0.5
tibble	2.1.3
tools	4.0.5
utf8	1.1.4
utils	4.0.5
vctrs	0.2.2
viridisLite	0.3.0
withr	2.1.2

## R 3.6 Libraries

This section lists the R 3.6 libraries that ship with ML Runtimes 2021.09.

**Table 326: R 3.6.3 Libraries for Workbench**

Library	Version
askpass	1.1
assertthat	0.2.1
base	3.6.3
bitops	1.0-6
boot	1.3-24
brew	1.0-6
Cairo	1.2-0
caTools	1.18.0
cdsw	2.1
class	7.3-15
cli	2.0.1
cluster	2.1.0
codetools	0.2-16
colorspace	1.4-1
compiler	3.6.3
crayon	1.3.4
curl	4.3
datasets	3.6.3
digest	0.6.23
ellipsis	0.3.0
fansi	0.4.1
farver	2.0.3

Library	Version
foreigns	0.8-75
ggplot2	3.2.1
glue	1.3.1
graphics	3.6.3
grDevices	3.6.3
grid	3.6.3
gtable	0.3.0
httr	1.4.1
jsonlite	1.6
KernSmooth	2.23-16
labeling	0.3
lattice	0.20-38
lazyeval	0.2.2
lifecycle	0.1.0
magrittr	1.5
MASS	7.3-51.5
Matrix	1.2-18
methods	3.6.3
mgcv	1.8-31
mime	0.8
munsell	0.5.0
nlme	3.4-144
nnet	7.3-12
openssl	1.4.1
parallel	3.6.3
pillar	1.4.3
pkgconfig	2.0.3
plyr	1.8.5
png	0.1-7
R6	2.4.1
RColorBrewer	1.1-2
Rcpp	1.0.3
reshape2	1.4.3
RJSONIO	1.3-1.4
rlang	0.4.4
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.0

Library	Version
spatial	7.3-11
splines	3.6.3
stats	3.6.3
stats4	3.6.3
stringi	1.4.5
stringr	1.4.0
survival	3.1-8
sys	3.3
tktk	3.6.3
tibble	2.1.3
tools	3.6.3
utf8	1.1.4
utils	3.6.3
vctrs	0.2.2
viridisLite	0.3.0
withr	2.1.2

## ML Runtimes 2021.06

This section lists the Python and R libraries that ship with ML Runtimes 2021.06.



**Note:** Nvidia GPU Edition comes with CUDA 11.1 preinstalled.

## Python 3.8.6 Libraries for Workbench

This section lists the Python 3.8.6 libraries for Workbench that ship with ML Runtimes 2021.06.

**Table 327: Python 3.8.6 Libraries for Workbench - Standard**

Library	Version
backcall	0.2.0
bitarray	2.10.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0
ipykernel	5.3.4

Library	Version
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kiwisolver	1.3.1
matplotlib	3.3.2
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5

**Table 328: Python 3.8.6 Libraries for Workbench - Nvidia GPU Edition**

Library	Version
backcall	0.2.0
bitarray	2.1.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0

Library	Version
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kiwisolver	1.3.1
matplotlib	3.3.2
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5

## Python 3.7.9 Libraries for Workbench

This section lists the Python 3.7.9 libraries for Workbench that ship with ML Runtimes 2021.06.

**Table 329: Python 3.7.9 Libraries for Workbench - Standard**

Library	Version
backcall	0.2.0
bitarray	2.10.0
certifi	2020.12.5

Library	Version
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kiwisolver	1.3.1
matplotlib	3.3.2
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5

**Table 330: Python 3.7.9 Libraries for Workbench - Nvidia GPU Edition**

Library	Version
backcall	0.2.0
bitarray	2.1.0

Library	Version
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kiwisolver	1.3.1
matplotlib	3.3.2
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5

## Python 3.6.12 Libraries for Workbench

This section lists the Python 3.6.12 Scala libraries for Workbench that ship with ML Runtimes 2021.06.



**Table 331: Python 3.6.12 Libraries for Workbench - Standard**

Library	Version
backcall	0.2.0
bitarray	2.10.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kiwisolver	1.3.1
matplotlib	3.3.2
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5

**Table 332: Python 3.6.12 Libraries for Workbench - Nvidia GPU Edition**

Library	Version
backcall	0.2.0
bitarray	2.1.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kiwisolver	1.3.1
matplotlib	3.3.2
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5

## Python 3.8.6 Libraries for JupyterLab

This section lists the Python 3.8.6 libraries for JupyterLab that ship with ML Runtimes 2021.06.

**Table 333: Python 3.8.6 Libraries for JupyterLab - Standard**

Library	Version
anyio	2.0.2
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bleach	3.3.0
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.2.2
jupyterlab	3.0.6
jupyterlab-pygments	0.1.2
jupyterlab-server	2.1.3
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4
nbclassic	0.2.6

Library	Version
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.2
nest-asyncio	1.5.1
notebook	6.2.0
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5
webencodings	0.5.1

**Table 334: Python 3.8.6 Libraries for JupyterLab - Nvidia GPU Edition**

Library	Version
anyio	2.0.2
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.0
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.2.2
jupyterlab	3.0.6
jupyterlab-pygments	0.1.2
jupyterlab-server	2.1.3
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4
nbclassic	0.2.6
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.2

Library	Version
nest-asyncio	1.5.1
notebook	6.2.0
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5
webencodings	0.5.1

## Python 3.7.9 Libraries for JupyterLab

This section lists the Python 3.7.9 libraries for JupyterLab that ship with ML Runtimes 2021.06.

**Table 335: Python 3.7.9 Libraries for JupyterLab - Standard**

Library	Version
anyio	2.0.2
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.0
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
importlib-metadata	3.4.0
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.2.2
jupyterlab	3.0.6
jupyterlab-pygments	0.1.2
jupyterlab-server	2.1.3
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4
nbclassic	0.2.6
nbclient	0.5.1

Library	Version
nbconvert	6.0.7
nbformat	5.1.2
nest-asyncio	1.5.1
notebook	6.2.0
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.3
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.4.0



**Table 336: Python 3.7.9 Libraries for JupyterLab - Nvidia GPU Edition**

Library	Version
anyio	2.0.2
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.0
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
importlib-metadata	3.4.0
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.2.2
jupyterlab	3.0.6
jupyterlab-pygments	0.1.2
jupyterlab-server	2.1.3
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4
nbclassic	0.2.6
nbclient	0.5.1
nbconvert	6.0.7

Library	Version
nbformat	5.1.2
nest-asyncio	1.5.1
notebook	6.2.0
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.3
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.4.0

## Python 3.6.12 Libraries for JupyterLab

This section lists the Python 3.6.12 libraries for JupyterLab that ship with ML Runtimes 2021.06.

**Table 337: Python 3.6.12 Libraries for JupyterLab - Standard**

Library	Version
anyio	2.0.2
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bleach	3.3.0
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
contextvars	2.4
cycler	0.10.0
dataclasses	0.8
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
immutables	0.14
importlib-metadata	3.4.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.2.2
jupyterlab	3.0.6
jupyterlab-pygments	0.1.2
jupyterlab-server	2.1.3
kiwisolver	1.3.1
MarkupSafe	1.1.1

Library	Version
matplotlib	3.3.2
mistune	0.8.4
nbclassic	0.2.6
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.2
nest-asyncio	1.5.1
notebook	6.2.0
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.1.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
py4j	0.10.9.1
pycparser	2.20
Pygments	2.7.2
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
tornado	6.1
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.3
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.4.0

**Table 338: Python 3.6.12 Libraries for JupyterLab - Nvidia GPU Edition**

Library	Version
anyio	2.0.2
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bleach	3.3.0
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
contextvars	2.4
cycler	0.10.0
dataclasses	0.8
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
immutables	0.14
importlib-metadata	3.4.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.2.2
jupyterlab	3.0.6
jupyterlab-pygments	0.1.2
jupyterlab-server	2.1.3
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4
nbclassic	0.2.6
nbclient	0.5.1

Library	Version
nbconvert	6.0.7
nbformat	5.1.2
nest-asyncio	1.5.1
notebook	6.2.0
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.1.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
py4j	0.10.9.1
pycparser	2.20
Pygments	2.7.2
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
tornado	6.1
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.3
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.4.0

## R 4.0 Libraries

This section lists the R 4.0 libraries that ship with ML Runtimes 2021.06.

**Table 339: R 4.0 Libraries for Workbench**

Library	Version
askpass	1.1
assertthat	0.2.1
base	4.0.4
bitops	1.0-6
boot	1.3-26
brew	1.0-6
Cairo	1.2-0
caTools	1.18.0
cdsw	2.1
class	7.3-18
cli	2.0.1
cluster	2.1.0
codetools	0.2-18
colorspace	1.4-1
compiler	4.0.4
crayon	1.3.4
curl	4.3
datasets	4.0.4
digest	0.6.23
ellipsis	0.3.0
fansi	0.4.1
farver	2.0.3
foreigns	0.8-81
ggplot2	3.2.1
glue	1.3.1
graphics	4.0.4
grDevices	4.0.4
grid	4.0.4
gtable	0.3.0
httr	1.4.1
jsonlite	1.6
KernSmooth	2.23-18
labeling	0.3
lattice	0.20-41
lazyeval	0.2.2
lifecycle	0.1.0
magrittr	1.5

Library	Version
MASS	7.3-53
Matrix	1.3-2
methods	4.0.4
mgcv	1.8-33
mime	0.8
munsell	0.5.0
nlme	3.1-152
nnet	7.3-15
openssl	1.4.1
parallel	4.0.4
pillar	1.4.3
pkgconfig	2.0.3
plyr	1.8.5
png	0.1-7
R6	2.4.1
RColorBrewer	1.1-2
Rcpp	1.0.3
reshape2	1.4.3
RJSONIO	1.3-1.4
rlang	0.4.4
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.0
spatial	7.3-13
splines	4.0.4
stats	4.0.4
stats4	4.0.4
stringi	1.4.5
stringr	1.4.0
survival	3.2-7
sys	3.3
tcltk	4.0.4
tibble	2.1.3
tools	4.0.4
utf8	1.1.4
utils	4.0.4
vctrs	0.2.2
viridisLite	0.3.0



Library	Version
withr	2.1.2

## R 3.6 Libraries

This section lists the R 3.6 libraries that ship with ML Runtimes 2021.06.

**Table 340: R 3.6 Libraries for Workbench**

Library	Version
askpass	1.1
assertthat	0.2.1
base	3.6.3
bitops	1.0-6
boot	1.3-24
brew	1.0-6
Cairo	1.2-0
caTools	1.18.0
cdsw	2.1
class	7.3-15
cli	2.0.1
cluster	2.1.0
codetools	0.2-16
colorspace	1.4-1
compiler	3.6.3
crayon	1.3.4
curl	4.3
datasets	3.6.3
digest	0.6.23
ellipsis	0.3.0
fansi	0.4.1
farver	2.0.3
foreigns	0.8-75
ggplot2	3.2.1
glue	1.3.1
graphics	3.6.3
grDevices	3.6.3
grid	3.6.3
gtable	0.3.0
httr	1.4.1
jsonlite	1.6

Library	Version
KernSmooth	2.23-16
labeling	0.3
lattice	0.20-38
lazyeval	0.2.2
lifecycle	0.1.0
magrittr	1.5
MASS	7.3-51.5
Matrix	1.2-18
methods	3.6.3
mgcv	1.8-31
mime	0.8
munsell	0.5.0
nlme	3.4-144
nnet	7.3-12
openssl	1.4.1
parallel	3.6.3
pillar	1.4.3
pkgconfig	2.0.3
plyr	1.8.5
png	0.1-7
R6	2.4.1
RColorBrewer	1.1-2
Rcpp	1.0.3
reshape2	1.4.3
RJSONIO	1.3-1.4
rlang	0.4.4
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.0
spatial	7.3-11
splines	3.6.3
stats	3.6.3
stats4	3.6.3
stringi	1.4.5
stringr	1.4.0
survival	3.1-8
sys	3.3
tktk	3.6.3

Library	Version
tibble	2.1.3
tools	3.6.3
utf8	1.1.4
utils	3.6.3
vctrs	0.2.2
viridisLite	0.3.0
withr	2.1.2

## ML Runtimes 2021.04

This section lists the Python and R libraries that ship with ML Runtimes 2021.04.



**Note:** Nvidia GPU Edition comes with CUDA 11.1 preinstalled.

## RAPIDS Runtime PIP Python 3.7.8 Libraries for Workbench

This section lists the RAPIDS Runtime Python 3.8 libraries for Workbench that ship with ML Runtimes 2021.04.

**Table 341: RAPIDS Runtime Python 3.7.8 Libraries for Workbench - Standard**

Package	Version
aiohttp	3.7.3
appdirs	1.4.4
argon2-cffi	20.1.0
async-generator	1.10
async-timeout	3.0.1
attrs	20.3.0
bleach	3.3.0
bokeh	2.2.3
brotlipy	0.7.0
cdsw	1.0.0
certifi	2020.12.5
cffi	1.14.5
chardet	4.0.0
click	7.1.2
click-plugins	1.1.1
cligj	0.7.1
cloudpickle	1.6.0
colorcet	2.0.6

Package	Version
confluent-kafka	1.5.0
cryptography	3.4.4
cudf	0.18.0a0+254.g1544474166
cudf-kafka	0.18.0a0+254.g1544474166
cugraph	0.18.0a0+301.g0cc951f7.dirty
cuml	0.18.0a0+134.g7ca2db287
cupy	8.0.0
cusignal	0.18.0a0+33.gbc8598c
cuspatial	0.18.0a0+24.g1a2fc18
custreamz	0.18.0a0+254.g1544474166
cuxfilter	0.18.0a0+68.g236aa39
cycler	0.10.0
cytoolz	0.11.0
dask	2021.2.0
dask-cuda	0.18.0a210225
dask-cudf	0.18.0a0+254.g1544474166
datashader	0.11.1
datashape	0.5.4
decorator	4.4.2
defusedxml	0.6.0
distributed	2021.2.0
entrypoints	0.3
fastavro	1.3.2
fastrlock	0.5
Fiona	1.8.18
fsspec	0.8.7
GDAL	3.1.4
geopandas	0.8.1
HeapDict	1.0.1
idna	2.10
importlib-metadata	3.7.0
ipykernel	5.5.0
ipython	7.20.0
ipython-genutils	0.2.0
ipywidgets	7.6.3
jedi	0.18.0
Jinja2	2.11.3
joblib	1.0.1
jsonschema	3.2.0

Package	Version
jupyter-client	6.1.11
jupyter-core	4.7.1
jupyter-server-proxy	1.6.0
jupyterlab-pygments	0.1.2
jupyterlab-widgets	1.0.0
kiwisolver	1.3.1
llvmlite	0.35.0
loket	0.2.0
Markdown	3.3.3
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4
msgpack	1.0.2
multidict	5.1.0
multipledispatch	0.6.0
munch	2.5.0
nbclient	0.5.2
nbconvert	6.0.7
nbformat	5.1.2
nest-asyncio	1.4.3
networkx	2.5
notebook	6.2.0
numba	0.52.0
numpy	1.19.5
nvtx	0.2.3
olefile	0.46
packaging	20.9
pandas	1.1.5
pandocfilters	1.4.2
panel	0.10.3
param	1.10.1
parso	0.8.1
partd	1.1.0
pexpect	4.8.0
pickle5	0.0.11
pickleshare	0.7.5
Pillow	8.1.0
pip	21.0.1
prometheus-client	0.9.0

Package	Version
prompt-toolkit	3.0.16
protobuf	3.15.2
psutil	5.8.0
ptyprocess	0.7.0
py4j	0.10.9.1
pyarrow	1.0.1
pycparser	2.20
pyct	0.4.6
pydeck	0.5.0
pyee	7.0.4
Pygments	2.8.0
pynvml	8.0.4
pyOpenSSL	20.0.1
pyparsing	2.4.7
pypeteer	0.2.2
pyproj	2.6.1.post1
PyQt5	5.12.3
PyQt5-sip	4.19.18
PyQtChart	5.12
PyQtWebEngine	5.12.1
pyrsistent	0.17.3
PySocks	1.7.1
python-dateutil	2.8.1
pytz	2021.1
pyviz-comms	2.0.1
PyYAML	5.4.1
pyzmq	22.0.3
requests	2.25.1
rmm	0.18.0
Rtree	0.9.7
scikit-learn	0.24.1
scipy	1.6.0
Send2Trash	1.5.0
setuptools	49.6.0.post20210108
Shapely	1.7.1
simpervisor	0.4
six	1.15.0
sortedcontainers	2.3.0
streamz	0.6.2

Package	Version
tblib	1.6.0
terminado	0.9.2
testpath	0.4.4
threadpoolctl	2.1.0
toolz	0.11.1
tornado	6.1
tqdm	4.57.0
traitlets	5.0.5
treelite	1.0.0
treelite-runtime	1.0.0
typing-extensions	3.7.4.3
ucx-py	0.18.0a0+19.ge17a4dc
urllib3	1.26.3
wcwidth	0.2.5
webencodings	0.5.1
websockets	8.1
wheel	0.36.2
widetsnbextension	3.5.1
xarray	0.16.2
xgboost	1.3.3
yaml	1.6.3
zict	2.0.0
zipp	3.4.0

## RAPIDS Runtime PIP Python 3.8.6 Libraries for Workbench

This section lists the RAPIDS Runtime Python 3.8 libraries for Workbench that ship with ML Runtimes 2021.04.

**Table 342: RAPIDS Runtime Python 3.7.8 Libraries for Workbench - Standard**

Package	Version
aiohttp	3.7.3
appdirs	1.4.4
argon2-cffi	20.1.0
async-generator	1.10
async-timeout	3.0.1
attrs	20.3.0
backcall	0.2.0
backports.functools-lru-cache	1.6.1
bleach	3.3.0

Package	Version
bokeh	2.2.3
brotlipy	0.7.0
cdsw	1.0.0
certifi	2020.12.5
cffi	1.14.5
chardet	4.0.0
click	7.1.2
click-plugins	1.1.1
cligj	0.7.1
cloudpickle	1.6.0
colorcet	2.0.6
confluent-kafka	1.5.0
cryptography	3.4.4
cudf	0.18.0a0+254.g1544474166
cudf-kafka	0.18.0a0+254.g1544474166
cugraph	0.18.0a0+301.g0cc951f7.dirty
cuml	0.18.0a0+134.g7ca2db287
cupy	8.0.0
cusignal	0.18.0a0+33.gbc8598c
cuspatial	0.18.0a0+24.g1a2fc18
custreamz	0.18.0a0+254.g1544474166
cycler	0.10.0
cytoolz	0.11.0
dask	2021.2.0
dask-cuda	0.18.0a210225
dask-cudf	0.18.0a0+254.g1544474166
datashader	0.11.1
datashape	0.5.4
decorator	4.4.2
defusedxml	0.6.0
distributed	2021.2.0
entrypoints	0.3
fastavro	1.3.2
fastrlock	0.5
Fiona	1.8.18
fsspec	0.8.7
GDAL	3.1.4
geopandas	0.8.1
HeapDict	1.0.1



Package	Version
hupper	1.10.2
idna	2.10
importlib-metadata	3.7.0
ipykernel	5.5.0
ipython	7.20.0
ipython-genutils	0.2.0
ipywidgets	7.6.3
jedi	0.18.0
Jinja2	2.11.3
joblib	1.0.1
jsonschema	3.2.0
jupyter-client	6.1.11
jupyter-core	4.7.1
jupyter-server-proxy	1.6.0
jupyterlab-pygments	0.1.2
jupyterlab-widgets	1.0.0
kiwisolver	1.3.1
llvmlite	0.35.0
loket	0.2.0
Markdown	3.3.3
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4
msgpack	1.0.2
multidict	5.1.0
multipledispatch	0.6.0
munch	2.5.0
nbclient	0.5.2
nbconvert	6.0.7
nbformat	5.1.2
nest-asyncio	1.4.3
networkx	2.5
notebook	6.2.0
numba	0.52.0
numpy	1.19.5
nvtx	0.2.3
olefile	0.46
packaging	20.9
pandas	1.1.5

Package	Version
pandocfilters	1.4.2
panel	0.10.3
param	1.10.1
parso	0.8.1
partd	1.1.0
PasteDeploy	2.1.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.1.0
pip	21.0.1
plaster	1.0
plaster-pastedeploy	0.7
prometheus-client	0.9.0
prompt-toolkit	3.0.16
protobuf	3.15.2
psutil	5.8.0
ptyprocess	0.7.0
py4j	0.10.9.1
pyarrow	1.0.1
pycparser	2.20
pyct	0.4.6
pydeck	0.5.0
pyee	7.0.4
Pygments	2.8.0
pynvml	8.0.4
pyOpenSSL	20.0.1
pyparsing	2.4.7
pypeteer	0.2.2
pyproj	2.6.1.post1
PyQt5	5.12.3
PyQt5-sip	4.19.18
PyQtChart	5.12
PyQtWebEngine	5.12.1
pyramid	2.0
pyrsistent	0.17.3
PySocks	1.7.1
python-dateutil	2.8.1
pytz	2021.1
pyviz-comms	2.0.1

Package	Version
PyYAML	5.4.1
pymq	22.0.3
rapids	0.0.1
requests	2.25.1
rmm	0.18.0
Rtree	0.9.7
scikit-learn	0.24.1
scipy	1.6.0
Send2Trash	1.5.0
setuptools	49.6.0.post20210108
Shapely	1.7.1
simpervisor	0.4
six	1.15.0
sortedcontainers	2.3.0
streamz	0.6.2
tblib	1.6.0
terminado	0.9.2
testpath	0.4.4
threadpoolctl	2.1.0
toolz	0.11.1
tornado	6.1
tqdm	4.57.0
traitlets	5.0.5
translationstring	1.4
treelite	1.0.0
treelite-runtime	1.0.0
typing-extensions	3.7.4.3
ucx-py	0.18.0a0+19.ge17a4dc
urllib3	1.26.3
venusian	3.0.0
wcwidth	0.2.5
webencodings	0.5.1
WebOb	1.8.7
websockets	8.1
wheel	0.36.2
widetsnbextension	3.5.1
xarray	0.16.2
xgboost	1.3.3
yaml	1.6.3

Package	Version
zict	2.0.0
zipp	3.4.0
zope.deprecation	4.4.0
zope.interface	5.4.0

## RAPIDS Runtime PIP Python 3.7.8 Libraries for JupyterLab

This section lists the RAPIDS Runtime Python 3.7.8 libraries for JupyterLab that ship with ML Runtimes 2021.04.

**Table 343: RAPIDS Runtime Python 3.7.8 Libraries for JupyterLab - Standard**

Package	Version
aiohttp	3.7.3
anyio	2.0.2
appdirs	1.4.4
argon2-cffi	20.1.0
async-generator	1.10
async-timeout	3.0.1
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
backports.functools-lru-cache	1.6.1
bleach	3.3.0
bokeh	2.2.3
brotlipy	0.7.0
cdsw	1.0.0
certifi	2020.12.5
cffi	1.14.5
chardet	4.0.0
click	7.1.2
click-plugins	1.1.1
cligj	0.7.1
cloudpickle	1.6.0
colorcet	2.0.6
confluent-kafka	1.5.0
cryptography	3.4.4
cudf	0.18.0a0+254.g1544474166
cudf-kafka	0.18.0a0+254.g1544474166
cugraph	0.18.0a0+301.g0cc951f7.dirty
cuml	0.18.0a0+134.g7ca2db287

Package	Version
cupy	8.0.0
cusignal	0.18.0a0+33.gbc8598c
cuspatial	0.18.0a0+24.g1a2fc18
custreamz	0.18.0a0+254.g1544474166
cuxfilter	0.18.0a0+68.g236aa39
cycler	0.10.0
cytoolz	0.11.0
dask	2021.2.0
dask-cuda	0.18.0a210225
dask-cudf	0.18.0a0+254.g1544474166
datashader	0.11.1
datashape	0.5.4
decorator	4.4.2
defusedxml	0.6.0
distributed	2021.2.0
entrypoints	0.3
fastavro	1.3.2
fastrlock	0.5
Fiona	1.8.18
fsspec	0.8.7
GDAL	3.1.4
geopandas	0.8.1
HeapDict	1.0.1
idna	2.10
importlib-metadata	3.7.0
ipykernel	5.5.0
ipython	7.20.0
ipython-genutils	0.2.0
ipywidgets	7.6.3
jedi	0.18.0
Jinja2	2.11.3
joblib	1.0.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.11
jupyter-core	4.7.1
jupyter-server	1.2.2
jupyter-server-proxy	1.6.0
jupyterlab	3.0.6

Package	Version
jupyterlab-pygments	0.1.2
jupyterlab-server	2.1.3
jupyterlab-widgets	1.0.0
kiwisolver	1.3.1
llvmlite	0.35.0
loket	0.2.0
Markdown	3.3.3
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4
msgpack	1.0.2
multidict	5.1.0
multipledispatch	0.6.0
munch	2.5.0
nbclassic	0.2.6
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.2
nest-asyncio	1.4.3
networkx	2.5
notebook	6.2.0
numba	0.52.0
numpy	1.19.5
nvtx	0.2.3
olefile	0.46
packaging	20.9
pandas	1.1.5
pandocfilters	1.4.2
panel	0.10.3
param	1.10.1
parso	0.8.1
partd	1.1.0
pexpect	4.8.0
pickle5	0.0.11
pickleshare	0.7.5
Pillow	8.1.0
pip	21.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.16

Package	Version
protobuf	3.15.2
psutil	5.8.0
ptyprocess	0.7.0
py4j	0.10.9.1
pyarrow	1.0.1
pycparser	2.20
pyct	0.4.6
pydeck	0.5.0
pyee	7.0.4
Pygments	2.8.0
pynvml	8.0.4
pyOpenSSL	20.0.1
pyparsing	2.4.7
pyppeteer	0.2.2
pyproj	2.6.1.post1
PyQt5	5.12.3
PyQt5-sip	4.19.18
PyQtChart	5.12
PyQtWebEngine	5.12.1
pyrsistent	0.17.3
PySocks	1.7.1
python-dateutil	2.8.1
pytz	2021.1
pyviz-comms	2.0.1
PyYAML	5.4.1
pyzmq	22.0.3
requests	2.25.1
rmm	0.18.0
Rtree	0.9.7
scikit-learn	0.24.1
scipy	1.6.0
Send2Trash	1.5.0
setuptools	49.6.0.post20210108
Shapely	1.7.1
simpervisor	0.4
six	1.15.0
sniffio	1.2.0
sortedcontainers	2.3.0
streamz	0.6.2

Package	Version
tblib	1.6.0
terminado	0.9.2
testpath	0.4.4
threadpoolctl	2.1.0
toolz	0.11.1
tornado	6.1
tqdm	4.57.0
traitlets	5.0.5
treelite	1.0.0
treelite-runtime	1.0.0
typing-extensions	3.7.4.3
ucx-py	0.18.0a0+19.ge17a4dc
urllib3	1.26.3
wcwidth	0.2.5
webencodings	0.5.1
websockets	8.1
wheel	0.36.2
widetsnbextension	3.5.1
xarray	0.16.2
xgboost	1.3.3
yarl	1.6.3
zict	2.0.0
zipp	3.4.0

## RAPIDS Runtime PIP Python 3.8.6 Libraries for JupyterLab

This section lists the RAPIDS Runtime Python 3.8.6 libraries for JupyterLab that ship with ML Runtimes 2021.04.

**Table 344: RAPIDS Runtime Python 3.86 Libraries for JupyterLab - Standard**

Package	Version
aiohttp	3.7.3
anyio	2.0.2
appdirs	1.4.4
argon2-cffi	20.1.0
async-generator	1.10
async-timeout	3.0.1
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0



Package	Version
backports.functools-lru-cache	1.6.1
bleach	3.3.0
bokeh	2.2.3
brotlipy	0.7.0
cdsw	1.0.0
certifi	2020.12.5
cff	1.14.5
chardet	4.0.0
click	7.1.2
click-plugins	1.1.1
cligj	0.7.1
cloudpickle	1.6.0
colorcet	2.0.6
confluent-kafka	1.5.0
cryptography	3.4.4
cudf	0.18.0a0+254.g1544474166
cudf-kafka	0.18.0a0+254.g1544474166
cugraph	0.18.0a0+301.g0cc951f7.dirty
cuml	0.18.0a0+134.g7ca2db287
cupy	8.0.0
cusignal	0.18.0a0+33.gbc8598c
cuspatial	0.18.0a0+24.g1a2fc18
custreamz	0.18.0a0+254.g1544474166
cycler	0.10.0
cytoolz	0.11.0
dask	2021.2.0
dask-cuda	0.18.0a210225
dask-cudf	0.18.0a0+254.g1544474166
datashader	0.11.1
datashape	0.5.4
decorator	4.4.2
defusedxml	0.6.0
distributed	2021.2.0
entrypoints	0.3
fastavro	1.3.2
fastrlock	0.5
Fiona	1.8.18
fsspec	0.8.7
GDAL	3.1.4

Package	Version
geopandas	0.8.1
HeapDict	1.0.1
hupper	1.10.2
idna	2.10
importlib-metadata	3.7.0
ipykernel	5.5.0
ipython	7.20.0
ipython-genutils	0.2.0
ipywidgets	7.6.3
jedi	0.18.0
Jinja2	2.11.3
joblib	1.0.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.11
jupyter-core	4.7.1
jupyter-server	1.2.2
jupyter-server-proxy	1.6.0
jupyterlab	3.0.6
jupyterlab-pygments	0.1.2
jupyterlab-server	2.1.3
jupyterlab-widgets	1.0.0
kiwisolver	1.3.1
llvmlite	0.35.0
locket	0.2.0
Markdown	3.3.3
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4
msgpack	1.0.2
multidict	5.1.0
multipledispatch	0.6.0
munch	2.5.0
nbclassic	0.2.6
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.2
nest-asyncio	1.4.3
networkx	2.5

Package	Version
notebook	6.2.0
numba	0.52.0
numpy	1.19.5
nvtx	0.2.3
olefile	0.46
packaging	20.9
pandas	1.1.5
pandocfilters	1.4.2
panel	0.10.3
param	1.10.1
parso	0.8.1
partd	1.1.0
PasteDeploy	2.1.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.1.0
pip	21.0.1
plaster	1.0
plaster-pastedeploy	0.7
prometheus-client	0.9.0
prompt-toolkit	3.0.16
protobuf	3.15.2
psutil	5.8.0
ptyprocess	0.7.0
py4j	0.10.9.1
pyarrow	1.0.1
pyparser	2.20
pyct	0.4.6
pydeck	0.5.0
pyee	7.0.4
Pygments	2.8.0
pynvml	8.0.4
pyOpenSSL	20.0.1
pyparsing	2.4.7
pypeteer	0.2.2
pyproj	2.6.1.post1
PyQt5	5.12.3
PyQt5-sip	4.19.18
PyQtChart	5.12

Package	Version
PyQtWebEngine	5.12.1
pyramid	2.0
pyrsistent	0.17.3
PySocks	1.7.1
python-dateutil	2.8.1
pytz	2021.1
pyviz-comms	2.0.1
PyYAML	5.4.1
pyzmq	22.0.3
rapids	0.0.1
requests	2.25.1
rmm	0.18.0
Rtree	0.9.7
scikit-learn	0.24.1
scipy	1.6.0
Send2Trash	1.5.0
setuptools	49.6.0.post20210108
Shapely	1.7.1
simpervisor	0.4
six	1.15.0
sniffio	1.2.0
sortedcontainers	2.3.0
streamz	0.6.2
tblib	1.6.0
terminado	0.9.2
testpath	0.4.4
threadpoolctl	2.1.0
toolz	0.11.1
tornado	6.1
tqdm	4.57.0
traitlets	5.0.5
translationstring	1.4
treelite	1.0.0
treelite-runtime	1.0.0
typing-extensions	3.7.4.3
ucx-py	0.18.0a0+19.ge17a4dc
urllib3	1.26.3
venusian	3.0.0
wcwidth	0.2.5

Package	Version
webencodings	0.5.1
WebOb	1.8.7
websockets	8.1
wheel	0.36.2
widetsnbextension	3.5.1
xarray	0.16.2
xgboost	1.3.3
yaml	1.6.3
zict	2.0.0
zipp	3.4.0
zope.deprecation	4.4.0
zope.interface	5.4.0

## ML Runtimes 2021.02

This section lists the Python and R libraries that ship with ML Runtimes 2021.02.



**Note:** Nvidia GPU Edition comes with CUDA 11.1 preinstalled.

## Python 3.8 Libraries for Workbench

This section lists the Python 3.8 libraries for Workbench that ship with ML Runtimes 2021.02.

**Table 345: Python 3.8.6 Libraries for Workbench - Standard**

Library	Version
backcall	0.2.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kiwisolver	1.3.1

Library	Version
matplotlib	3.3.2
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.1.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
py4j	0.10.9.1
Pygments	2.7.2
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5

**Table 346: Python 3.8.6 Libraries for Workbench - Nvidia GPU Edition**

Library	Version
backcall	0.2.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kiwisolver	1.3.1
matplotlib	3.3.2
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0

Library	Version
pickleshare	0.7.5
Pillow	8.1.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
py4j	0.10.9.1
Pygments	2.7.2
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5

## Python 3.7 Libraries for Workbench

This section lists the Python 3.7 libraries for Workbench that ship with ML Runtimes 2021.02.

**Table 347: Python 3.7.9 Libraries for Workbench - Standard**

Library	Version
backcall	0.2.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kiwisolver	1.3.1
matplotlib	3.3.2
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0

Library	Version
pickleshare	0.7.5
Pillow	8.1.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
py4j	0.10.9.1
Pygments	2.7.2
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5

**Table 348: Python 3.7.9 Libraries for Workbench - Nvidia GPU Edition**

Library	Version
backcall	0.2.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kiwisolver	1.3.1
matplotlib	3.3.2
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.1.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0



Library	Version
py4j	0.10.9.1
Pygments	2.7.2
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5

## Python 3.6 Libraries for Workbench

This section lists the Python 3.6 Scala libraries for Workbench that ship with ML Runtimes 2021.02.

**Table 349: Python 3.6.12 Libraries for Workbench - Standard**

Library	Version
backcall	0.2.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kiwisolver	1.3.1
matplotlib	3.3.2
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.1.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0

Library	Version
py4j	0.10.9.1
Pygments	2.7.2
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5

**Table 350: Python 3.6.12 Libraries for Workbench - Nvidia GPU Edition**

Library	Version
backcall	0.2.0
bitarray	2.1.0
certifi	2020.12.5
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kiwisolver	1.3.1
matplotlib	3.3.2
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1

Library	Version
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.25.1
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5

## Python 3.8 Libraries for JupyterLab

This section lists the Python 3.8 libraries for JupyterLab that ship with ML Runtimes 2021.02.

**Table 351: Python 3.8.6 Libraries for JupyterLab - Standard**

Library	Version
anyio	2.0.2
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bleach	3.3.0
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2

Library	Version
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.2.2
jupyterlab	3.0.6
jupyterlab-pygments	0.1.2
jupyterlab-server	2.1.3
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4
nbclassic	0.2.6
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.2
nest-asyncio	1.5.1
notebook	6.2.0
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1

Library	Version
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5
webencodings	0.5.1

**Table 352: Python 3.8.6 Libraries for JupyterLab - Nvidia GPU Edition**

Library	Version
anyio	2.0.2
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bleach	3.3.0
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3

Library	Version
jupyter-server	1.2.2
jupyterlab	3.0.6
jupyterlab-pygments	0.1.2
jupyterlab-server	2.1.3
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4
nbclassic	0.2.6
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.2
nest-asyncio	1.5.1
notebook	6.2.0
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.1.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
py4j	0.10.9.1
pycparser	2.20
Pygments	2.7.2
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
tornado	6.1

Library	Version
traitlets	4.3.3
urllib3	1.26.3
wcwidth	0.2.5
webencodings	0.5.1

## Python 3.7 Libraries for JupyterLab

This section lists the Python 3.7 libraries for JupyterLab that ship with ML Runtimes 2021.02.

**Table 353: Python 3.7.9 Libraries for JupyterLab - Standard**

Library	Version
anyio	2.0.2
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bleach	3.3.0
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
importlib-metadata	3.4.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.2.2
jupyterlab	3.0.6
jupyterlab-pygments	0.1.2

Library	Version
jupyterlab-server	2.1.3
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4
nbclassic	0.2.6
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.2
nest-asyncio	1.5.1
notebook	6.2.0
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.1.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
py4j	0.10.9.1
pycparser	2.20
Pygments	2.7.2
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
tornado	6.1
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.3



Library	Version
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.4.0

**Table 354: Python 3.7.9 Libraries for JupyterLab - Nvidia GPU Edition**

Library	Version
anyio	2.0.2
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bleach	3.3.0
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
importlib-metadata	3.4.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.2.2
jupyterlab	3.0.6
jupyterlab-pygments	0.1.2
jupyterlab-server	2.1.3
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4

Library	Version
nbclassic	0.2.6
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.2
nest-asyncio	1.5.1
notebook	6.2.0
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.1.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
py4j	0.10.9.1
pycparser	2.20
Pygments	2.7.2
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
tornado	6.1
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.3
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.4.0

## Python 3.6 Libraries for JupyterLab

This section lists the Python 3.6 libraries for JupyterLab that ship with ML Runtimes 2021.02.

**Table 355: Python 3.6.12 Libraries for JupyterLab - Standard**

Library	Version
anyio	2.0.2
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.0
certifi	2020.12.8
cffi	1.14.4
chardet	4.0.0
contextvars	2.4
cycler	0.10.0
dataclasses	0.8
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
immutables	0.14
importlib-metadata	3.4.0
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.2.2
jupyterlab	3.0.6
jupyterlab-pygments	0.1.2
jupyterlab-server	2.1.3

Library	Version
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4
nbclassic	0.2.6
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.2
nest-asyncio	1.5.1
notebook	6.2.0
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3

Library	Version
typing-extensions	3.7.4.3
urllib3	1.26.3
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.4.0

**Table 356: Python 3.6.12 Libraries for JupyterLab - Nvidia GPU Edition**

Library	Version
anyio	2.0.2
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.0
backcall	0.2.0
bleach	3.3.0
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
contextvars	2.4
cycler	0.10.0
dataclasses	0.8
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
immutables	0.14
importlib-metadata	3.4.0
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.2.2
jupyterlab	3.0.6

Library	Version
jupyterlab-pygments	0.1.2
jupyterlab-server	2.1.3
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.2
mistune	0.8.4
nbclassic	0.2.6
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.2
nest-asyncio	1.5.1
notebook	6.2.0
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.1.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1

Library	Version
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.3
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.4.0

## R 4.0 Libraries

This section lists the R 4.0 libraries that ship with ML Runtimes 2021.02.

**Table 357: R 4.0 Libraries for Workbench**

Library	Version
askpass	1.1
assertthat	0.2.1
base	4.0.3
bitops	1.0-6
boot	1.3-25
brew	1.0-6
Cairo	1.2-0
caTools	1.18.0
cdsw	2.1
class	7.3-17
cli	2.0.1
cluster	2.1.0
codetools	0.2-16
colorspace	1.4-1
compiler	4.0.3
crayon	1.3.4
curl	4.3
datasets	4.0.3
digest	0.6.23
ellipsis	0.3.0
fansi	0.4.1
farver	2.0.3
foreigns	0.8-80
ggplot2	3.2.1
glue	1.3.1
graphics	4.0.3

Library	Version
grDevices	4.0.3
grid	4.0.3
gtable	0.3.0
httr	1.4.1
jsonlite	1.6
KernSmooth	2.23-17
labeling	0.3
lattice	0.20-41
lazyeval	0.2.2
lifecycle	0.1.0
magrittr	1.5
MASS	7.3-53
Matrix	1.2-18
methods	4.0.3
mgcv	1.8-33
mime	0.8
munsell	0.5.0
nlme	3.1-149
nnet	7.3-14
openssl	1.4.1
parallel	4.0.3
pillar	1.4.3
pkgconfig	2.0.3
plyr	1.8.5
png	0.1-7
R6	2.4.1
RColorBrewer	1.1-2
Rcpp	1.0.3
reshape2	1.4.3
RJSONIO	1.3-1.4
rlang	0.4.4
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.0
spatial	7.3-12
splines	4.0.3
stats	4.0.3
stats4	4.0.3



Library	Version
stringi	1.4.5
stringr	1.4.0
survival	3.2-7
sys	3.3
tcltk	4.0.3
tibble	2.1.3
tools	4.0.3
utf8	1.1.4
utils	4.0.3
vctrs	0.2.2
viridisLite	0.3.0
withr	2.1.2

## R 3.6 Libraries

This section lists the R 3.6 libraries that ship with ML Runtimes 2021.02.

**Table 358: R 3.6 Libraries for Workbench**

Library	Version
askpass	1.1
assertthat	0.2.1
base	3.6.3
bitops	1.0-6
boot	1.3-24
brew	1.0-6
Cairo	1.2-0
caTools	1.18.0
cdsw	2.1
class	7.3-15
cli	2.0.1
cluster	2.1.0
codetools	0.2-16
colorspace	1.4-1
compiler	3.6.3
crayon	1.3.4
curl	4.3
datasets	3.6.3
digest	0.6.23
ellipsis	0.3.0

Library	Version
fansi	0.4.1
farver	2.0.3
foreigns	0.8-75
ggplot2	3.2.1
glue	1.3.1
graphics	3.6.3
grDevices	3.6.3
grid	3.6.3
gtable	0.3.0
httr	1.4.1
jsonlite	1.6
KernSmooth	2.23-16
labeling	0.3
lattice	0.20-38
lazyeval	0.2.2
lifecycle	0.1.0
magrittr	1.5
MASS	7.3-51.5
Matrix	1.2-18
methods	3.6.3
mgcv	1.8-31
mime	0.8
munsell	0.5.0
nlme	3.4-144
nnet	7.3-12
openssl	1.4.1
parallel	3.6.3
pillar	1.4.3
pkgconfig	2.0.3
plyr	1.8.5
png	0.1-7
R6	2.4.1
RColorBrewer	1.1-2
Rcpp	1.0.3
reshape2	1.4.3
RJSONIO	1.3-1.4
rlang	0.4.4
Rook	1.1-1
rpart	4.1-15

Library	Version
Rserve	1.7-0
scales	1.1.0
spatial	7.3-11
splines	3.6.3
stats	3.6.3
stats4	3.6.3
stringi	1.4.5
stringr	1.4.0
survival	3.1-8
sys	3.3
tcltk	3.6.3
tibble	2.1.3
tools	3.6.3
utf8	1.1.4
utils	3.6.3
vctrs	0.2.2
viridisLite	0.3.0
withr	2.1.2

## ML Runtimes 2020.11

This section lists the Python and R libraries that ship with ML Runtimes 2020.11.

All ML Runtimes 2020.11 contain NumPy 1.19.2 and Matplotlib 3.1.2.

- Matplotlib - 3.1.2
- NumPy - 1.19.2 and the Python versions, which are 3.6.10, 3.7.9, and 3.8.3