

Machine Learning 1.5.0

ML Runtimes Pre-installed Packages

Date published: 2020-07-16

Date modified: 2023-01-31

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Pre-Installed Packages in ML Runtimes

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



Note: New ML Runtime releases are automatically added to the deployment, if internet connection is available.

Because the software and versions in these lists is installed in the images, you should not upgrade these versions because this will cause dependency conflicts. If any software in this list needs to be at a higher version, you should use a more recent version of the legacy engine or ML Runtime.

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 1: 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

Library	Version
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 2: 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

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	0.17.0
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

Library	Version
wcwidth	0.2.5
zipp	3.8.0

Table 3: 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 Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2022.11.

Table 4: 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
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

Library	Version
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 5: 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

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	9.2.0
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 6: 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

Library	Version
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
prompt-toolkit	3.0.27

Library	Version
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 Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2022.11.

Table 7: 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

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 8: 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
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 9: 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

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

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 10: 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

Library	Version
certifi	2020.11.8
cfffi	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
numpy	1.21.6

Library	Version
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

Table 11: Packages in Python 3.9.11 JupyterLab Runtimes - Nvidia GPU Edition

Library	Version
python	3.9.6

Library	Version
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
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

Library	Version
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
thrift-sasl	0.4.3

Library	Version
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 12: 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

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 13: 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

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 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2022.11.

Table 14: 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
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

Table 15: 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

Library	Version
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
Pygments	2.8.1

Library	Version
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

R 4.1 Libraries

This section lists the R 4.1 libraries that ship with ML Runtimes 2022.11.

Table 16: 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

Library	Version
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
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2

Library	Version
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

Table 17: 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

Library	Version
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
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

Library	Version
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
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 18: 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

Library	Version
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
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

Library	Version
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

Table 19: 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

Library	Version
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
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

Library	Version
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
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 20: 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

Library	Version
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
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

Library	Version
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

Table 21: 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

Library	Version
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
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

Library	Version
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 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 22: 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

Library	Version
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 23: 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

Library	Version
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
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

Library	Version
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 24: 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

Library	Version
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 25: 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

Library	Version
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 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2022.04.

Table 26: 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

Library	Version
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
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

Library	Version
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

Table 27: 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

Library	Version
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 28: 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

Library	Version
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
Pillow	9.0.1

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	2.8.1
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

Library	Version
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 29: 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

Library	Version
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
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

Library	Version
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 30: 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

Library	Version
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
Pillow	9.0.1

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	2.8.1
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 31: 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

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

Table 32: 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

Library	Version
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
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

Library	Version
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 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2022.04.

Table 33: 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

Library	Version
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
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

Library	Version
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
websocket-client	1.2.1
zipp	3.8.0

Table 34: 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

Library	Version
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
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

Library	Version
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
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

Library	Version
urllib3	1.26.6
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 35: 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
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 2022.04.

Table 36: 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
httr	1.4.2

Library	Version
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
utils	4.1.1

Library	Version
vctr	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 37: 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

Library	Version
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
utils	3.6.3
vctrs	0.3.8

Library	Version
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 38: 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
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
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	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 39: 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
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4

Library	Version
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 40: 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
decorator	4.4.2
idna	3.2
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1

Library	Version
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 41: 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	2021.5.30
charset-normalizer	2.0.6

Library	Version
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 42: Packages in Python 3.8.6 Workbench Runtimes - RAPIDS

Library	Version
python	3.8.6
pip	21.1.3

Library	Version
_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
brotli	1.0.9
brotli-bin	1.0.9
brotlipy	0.7.0
brunsli	0.1
bzip2	1.0.8

Library	Version
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
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

Library	Version
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
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

Library	Version
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
libblas	3.9.0
libcucim	21.12.00
libcudf	21.12.02

Library	Version
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
libns1	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

Library	Version
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
multiplatformdispatch	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
ncurses	6.2
nest-asyncio	1.5.4
networkx	2.6.3

Library	Version
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
psutil	5.8.0
pthread-stubs	0.4
ptxcompiler	0.2.0

Library	Version
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	3.8.12
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
scipy	1.7.3
send2trash	1.8.0
setuptools	59.6.0

Library	Version
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
widetsnbextension	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 Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2021.12.

Table 43: 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
idna	3.2
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1

Library	Version
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 44: 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
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6

Library	Version
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 45: Packages in Python 3.7.11 Workbench Runtimes - RAPIDS

Library	Version
python	3.7.11
pip	21.1.3

Library	Version
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
boost-cpp	1.74.0
brotli	1.0.9
brotli-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
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
cuda-nn	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
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
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
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
proj	8.1.0
prometheus_client	0.12.0
prompt-toolkit	3.0.24

Library	Version
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
pypeteer	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
rtree	0.9.7
s2n	1.3.0
scikit-image	0.18.1

Library	Version
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
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

Library	Version
wheel	0.37.0
widgetsnbextension	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	0.2.5
yaml	0.2.5
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
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 46: 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
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	8.4.0
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
urllib3	1.26.6
wcwidth	0.2.5

Library	Version
webencodings	0.5.1
websocket-client	1.2.1

Table 47: 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
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

Library	Version
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
thrift	0.11.0

Library	Version
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 48: 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
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

Table 49: 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
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

Library	Version
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
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3

Library	Version
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 50: 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
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

Library	Version
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
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

Library	Version
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
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

Library	Version
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
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

Library	Version
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
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

Library	Version
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
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

Library	Version
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
lvm-lite	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
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

Library	Version
openjpeg	2.4.0
openssl	1.1.1l
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
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

Library	Version
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
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

Library	Version
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
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

Library	Version
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 51: 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
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
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
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

Library	Version
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 52: 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	2.9.1
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8

Library	Version
cfffi	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 53: 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

Library	Version
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
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

Library	Version
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
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

Library	Version
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
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
hdf4	4.2.15
hdf5	1.12.1

Library	Version
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
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

Library	Version
libbrotlienc	1.0.9
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
libns1	2.0.0
libntlm	1.4
libopenblas	0.3.18
libpng	1.6.37
libpq	13.5
libprotobuf	3.18.1

Library	Version
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	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
multiplatform	0.6.0
munch	2.5.0
munkres	1.1.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7

Library	Version
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	1.1.1l
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
pixman	0.40.0
pooch	1.5.2
poppler	21.09.0
poppler-data	0.4.11
postgresql	13.5
proj	8.1.0

Library	Version
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
yparsing	2.4.7
pypeteer	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
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

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	1.5.0
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
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

Library	Version
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 54: 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

Library	Version
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
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

Library	Version
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
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 55: 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

Library	Version
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
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

Library	Version
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
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 56: 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

Library	Version
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
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

Library	Version
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
utils	3.6.3
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

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