

## Creating Drafts

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# CLOUDERA

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## Creating a new draft


Learn about creating a draft in Cloudera DataFlow Flow Designer.

### Before you begin

- Make sure that you have DFDeveloper permission to perform this task. For information on account and resource roles, see Cloudera DataFlow Authorization.

### Procedure

1. Open Cloudera DataFlow by selecting the DataFlow tile in the Cloudera sidebar.

2. Select  Flow Design in the left navigation pane.

You are redirected to the Flow Design page, where previously created drafts are displayed, one per row.

3. Select  Create Draft.

4. Select the Target Workspace where you want to create the draft.

5. Select the Target Project to which you want to assign the draft.

6. Provide a valid Draft Name.

Draft names must be unique within a workspace. If a draft with the provided name already exists, you need to provide a different name.

7. Select NiFi Major Version.

Depending on the NiFi version you select, the list of available processors will be different. Currently you cannot change the NiFi major version of an existing draft.



**Note:** NiFi 2.x is provided as a technical preview in this release of Cloudera DataFlow.

8. Click Create.



Flow Designer creates a draft and a default Process Group with the Draft Name you provided and you are redirected to the **Flow Design** canvas. The **Configuration** pane on the right displays configuration options for the default Process Group.

9. Start building your draft by dragging components to the canvas from the Components sidebar on the left.

The **Configuration** sidebar always displays configuration options for the highlighted component. To select a component for configuration, click on it.

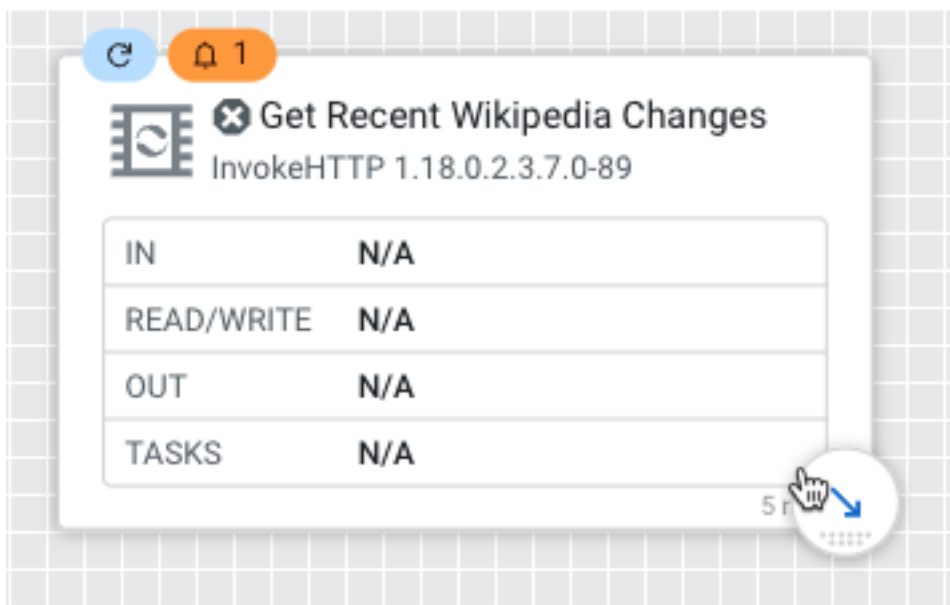


#### Tip:

- To create a Controller Service, click Flow Options  Services Add Service .
- To create a Parameter, click Flow Options  Parameters Add Parameter .

Unlike in NiFi, there is one default parameter group auto-created for each draft, where you can add parameters. This parameter group is then automatically bound to each Process Group you create within your draft.

10. You can connect two processors by hovering the cursor over the lower-right corner of the source processor, clicking the arrow that appears and dragging it to the target processor.



11. To test your draft, start a Test Session by clicking **Flow Options Test Session Start Start Test Session**.

This provisions a NiFi sandbox and allows you to validate your draft and work with live data by starting and stopping components.



**Tip:** You can check the status of your Test Session in the upper right corner of your workspace. That is where you can also deactivate the Test Session.

12. Once you are confident that your flow design is ready for production, click **Flow Options Publish To Catalog Publish**.

This step turns your draft to a flow definition and adds it to the Catalog. From there, you can deploy your flow to any environment where you have DFFlowAdmin authorization.

### Related Tasks

[Adding a parameter to your draft](#)

[Adding a service to your draft](#)

### Related Information

[Cloudera DataFlow authorization](#)

[Starting a test session](#)

[Publishing to the Catalog](#)

## Creating a draft from a flow definition in the Catalog

You can open flow definitions in the Catalog as drafts in Flow Designer. Depending on whether the flow definition has associated flow drafts or not, you may have more than one option.

### Before you begin

- You have an enabled and healthy Cloudera DataFlow environment.
- You have been assigned the DFDeveloper role granting you access to the Flow Designer.
- You have been assigned the DFCatalogAdmin or DFCatalogViewer role granting you access to the Catalog. You will need this authorization to view and open flow definitions, and to publish your draft as a flow definition to the Catalog.



- You have been assigned the DFFlowAdmin role for the environment to which you want to deploy the flow definition.

### About this task

If you have sufficient rights, you can create a new draft from existing flow definitions in the Catalog. This gives you two options:

- You can update the existing flow definition by creating a draft and then publishing your work as a new version of the source flow definition.
- You can create a draft using the source flow definition as a template and then publish your work as a new flow definition to the Catalog.

### Procedure

1. Open Cloudera DataFlow by clicking the DataFlow tile in the Cloudera sidebar.
  2. Select  Catalog in the left navigation pane.
  3. Select the flow that you want to open as a draft.
  4. Depending on whether there already is one or more associated draft for the selected flow, you may have two options to select from:
    - If there is one or more ASSOCIATED DRAFT, you can select that and the draft opens for editing in the Flow Design view.
    - If there are no associated drafts or you want to create a new flow based on the existing one, select Create New Draft.
-  **Note:** If there is more than one version available, select the version that you want to use as a template for your draft.
5. Click Create.

If the source flow definition contains more than one parameter context, the **Map Parameter Contexts** page opens. If parameter matching is not necessary, the draft opens in the Flow Designer.
  6. If the source flow definition contains more than one parameter context, the **Map Parameter Contexts** page opens. This is the step where you can review the suggested shared parameter groups to replace parameter contexts in your flow definitions.

For more information on parameter matching, see [Parameter matching](#).
  7. Click Create Flow Draft.

### What to do next

Proceed according to *Creating a draft*.

### Related Concepts

[Parameters](#)

### Related Tasks

[Exporting draft parameters to a parameter group](#)

## Matching parameter contexts to shared parameter groups during draft creation

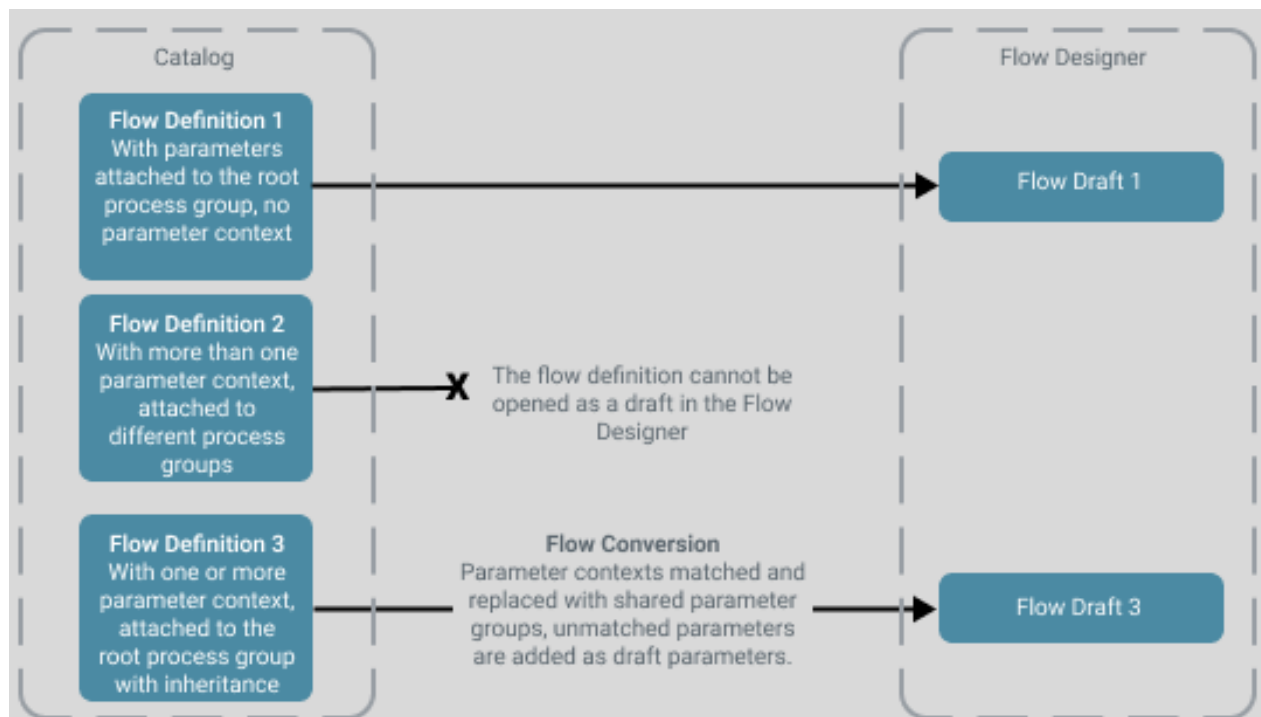
If the source flow definition contains more than one parameter context attached to the root process group, the Flow Designer tries to match those contexts to shared parameter groups that are assigned to the project where the draft is created.

Depending on the structure of the source flow definition, parameter matching may or may not be a separate step during draft creation:

- If the flow definition has a single parameter context attached to its root process group, the draft is created without the parameter matching step.
- If the source flow definition has parameter contexts attached to different process groups, the flow definition cannot be converted into a flow draft within Flow Designer, subsequently parameter matching does not happen.
- If the source flow definition has several parameter contexts attached to its root process group, parameter matching

The figure *Parameter matching scenarios* illustrates these cases.

**Figure 1: Parameter matching scenarios**



Parameter matching happens by matching parameter context names to shared parameter group names, and you are provided with a table of the results on the **Map Parameter Contexts** page.

## Create Flow Draft

### Map Parameter Contexts

The source flow definition has multiple parameter contexts which need to be mapped to shared parameter groups or converted to draft parameters.

SOURCE FLOW DEFINITION  
test33

VERSION  
1

→

FLOW DRAFT  
test44

PROJECT  
cdev

#### Root Parameter Context

The root process group of the source flow definition has a parameter context directly attached to it. Parameters in this parameter context will be added to draft parameters and remain editable in Flow Designer.

ROOT PARAMETER CONTEXT  
param context convert test

1 → Draft Parameters

1a >

#### Additional Parameter Contexts

Select shared parameter groups or create new ones to replace additional parameter contexts. Parameters not found in the selected shared parameter groups will be added to the draft parameters.

Some parameters (3) from the parameter contexts below cannot be found in the selected shared parameter groups. You can try to select other shared parameter groups which contain these parameters or create new shared parameter groups. Otherwise these parameters will be added to draft parameters. [View List](#)

PARAMETER CONTEXT  
database-reader

2 → SHARED PARAMETER GROUP  
database-reader

2a >

PARAMETER CONTEXT  
data\_transform

3 → SHARED PARAMETER GROUP  
data\_transform

3a <sup>3b</sup> >

Create Flow Draft

Cancel

In this step, you can examine the mapping of parameter contexts to parameter groups and make modifications to this mapping as necessary.

- Parameters attached to the source flow definition's root process group are added to the root process group of the flow draft as draft parameters and remain editable within Flow Designer.
  - The green pill with a number, 3 in this example, displayed on the right shows the number of parameters attached to the root process group of the source flow definition added to the root process group of the flow draft as draft parameters.

You can click on the icon to view the draft parameters added to the flow draft. Draft parameters can be edited within the Flow Designer.

- There is a one-to-one match between the source parameter context and the suggested shared parameter group. This means that Flow Designer found a shared parameter group where both the name and the contents match with the given parameter context.
  - The green pill with a number, 3 in this example, displayed on the right shows the number of parameters in the parameter context replaced by parameters in the shared parameter group.



**Note:** Any parameters in the shared parameter group that have no matching pairs in the parameter context are still kept in the draft but, as there are no components referencing them, they will play no role whatsoever.


Click on the icon to view the parameters within the shared group. Parameters in a shared group cannot be modified in the Flow Designer, only through the **Workspace Resources** page.



3. There is a partial match. A partial match means that there is a shared parameter group with a name that matches the name of the given parameter context, but their contents are not identical.
  - a. The green pill marks the number of matching parameters. These parameters are part of the suggested shared parameter group and can only be modified through the **Workspace Resources** page.
  - b. The orange pill marks the number of parameters in the parameter context that were not matched in the shared parameter group. These parameters are added to the root process group of the flow draft as draft parameters.




**Note:** Any parameters in the shared parameter group that have no matching pairs in the parameter context are still kept in the draft but, as there are no components referencing them, they will play no role whatsoever.

Click on the  icon to view the parameter matching details. Parameters in a shared group cannot be modified in this view, only through the **Workspace Resources** page. You can select a different Shared parameter group from the drop-down, e.g.: if you know there is a shared group under a different name, with the required parameters.



**Note:** Any parameters in the shared parameter group that have no matching pairs in the parameter context are still kept in the draft but, as there are no components referencing them, they will play no role whatsoever.


### Modifying the results of parameter matching

Click on the  icon to view the parameter matching details.

»

data\_transform (2)

Select a shared parameter group to replace the parameter context. You can also add all parameters to the draft parameters.

 Some parameters (1) from the parameter context cannot be found in the selected shared parameter group. You can try to select other shared parameter group which contains these parameters or create a new shared parameter group from all the parameters listed below. Otherwise these parameters will be added to the draft parameters.

2 Select a Shared Parameter Group

data\_transform 🔍 1 🚩 1 ▾

datatransform 🔍 2

data\_transform 🔍 1 🚩 1

1 [Create New Shared Parameter Group](#)

3 Add all parameters to draft parameters 🚩 2

☒ Replaced (1)
☒ Adding to Draft (1)
☐ In Shared Group Only (0)

Parameter Name	Status	Parameter Value
replace with value	Adding to Draft	2
value to replace	Replaced	1

In this view you can:

1. You can Create New Shared Parameter Group that includes all the parameters in the parameter context of the source flow definition.

2. Select a Shared Parameter Group from the drop-down, for example, if you know there is a shared group under a different name, which actually matches the parameter context in the source flow definition better. In the example on the figure, the shared parameter group `data_transform` was selected by Flow Designer based on name matching however, `datatransform` is a better match, as it contains all two parameters present in the source parameter context.
3. Add all parameters to the root process group of the flow draft as draft parameters by selecting **Select a Shared Parameter Group** **Add all parameters to draft parameters**.

### Outcome of parameter matching

#### Precedence

- Draft parameters always take precedence over shared parameters.
- In case of shared parameter groups, their order defines precedence. By changing the order of parameter groups, you can redefine precedence. As a result of this, if a parameter is present in several shared parameter groups, the value of the one in the topmost group takes precedence.

#### Value retention

- Values of both non-sensitive and sensitive parameters that were matched with a shared parameter group take the values from the shared parameter group.
- Non-sensitive parameters that were added to draft parameters retain the values they had in the source flow definition.
- Sensitive parameters that were added to draft parameters lose their original values.

## Creating a draft from a ReadyFlow

You can use ReadyFlows as the starting point of your flow design. Select an available ReadyFlow from the ReadyFlow Gallery, open it for editing on the Canvas, and publish it to the Catalog as your own custom flow definition.


### Before you begin

- You have an enabled and healthy Cloudera DataFlow environment.
- You have been assigned the `DFDeveloper` role granting you access to the Flow Designer.
- You have been assigned the `DFCatalogAdmin` or `DFCatalogViewer` role granting you access to the Catalog. You will need this authorization to publish your draft as a flow definition to the Catalog.
- You have been assigned the `DFFlowAdmin` role for the environment to which you want to deploy the flow definition.

### About this task

ReadyFlows are read-only, therefore you cannot add a new version to them. When you are done with creating your customized version of the given ReadyFlow, you can only publish your work to the Catalog as a new flow definition.

### Procedure

1. Open Cloudera DataFlow by selecting the DataFlow tile in the Cloudera Public Cloud sidebar.
2. Select  ReadyFlow Gallery in the left navigation pane.
3. Select the ReadyFlow you want to use as a template for your flow design.
4. Click **Create New Draft**.
5. Select the **Target Workspace** where you want to create the draft.
6. Select the **Target Project** to which you want to assign the draft.

7. Provide a valid Draft Name for the draft.

Flow names must be unique within a workspace. If a draft with the provided name already exists, you need to provide a different name.

8. Click Create.

The selected ReadyFlow opens as a draft in the designated Flow Designer workspace with the Draft Name you provided, on the **Flow Design** canvas.

## Parameters

The values of properties in the flow, including sensitive properties, can be parameterized. You can either create new parameters for your draft or import existing ones as a parameter group.

The values of properties in the flow, including sensitive properties, can be parameterized using Parameters. Parameters are created and configured within the Flow Designer. Any property can be configured to reference a Parameter with the following conditions:

- A sensitive property can only reference a sensitive parameter
- A non-sensitive property can only reference a non-sensitive parameter
- Parameters cannot be referenced in reporting tasks or in management controller services

### Draft parameters

Any parameter defined in the root process group of the flow draft is a draft parameter. These parameters can be directly modified in the Flow Designer, their values always take precedence over any parameter in a shared parameter group.

### Parameter groups

You can create groups of parameters that can be shared within a project. This allows you to fill parameter values for several flow definitions, without having to copy and paste those values every time they change. Furthermore, changing the value of a parameter in a parameter group is instantly reflected in any running test session which has components referencing the changed parameter. For example, you create a group of sensitive parameters for credentials, and you change the password. This change is disseminated in real time, and instead of failing, all test sessions keep on running without manual intervention.

Assets (file type parameters) are also available in parameter groups, and they have a very important advantage: you do not need a running test session to upload the asset, which is a limitation of draft parameters.

To prevent crashes by accidental or malicious deletion,, users cannot delete parameters in a parameter group that has a running component referencing it.

When creating a flow draft in **Flow Designer**, you encounter parameter groups in the following contexts:

#### While opening a flow definition from the Catalog

Create Flow Draft

Map Parameter Contexts

The source flow definition has multiple parameter contexts which need to be mapped to shared parameter groups or converted to draft parameters.

SOURCE FLOW DEFINITION

test33

VERSION

1

→

FLOW DRAFT

test44

PROJECT

cdev

Root Parameter Context

The root process group of the source flow definition has a parameter context directly attached to it. Parameters in this parameter context will be added to draft parameters and remain editable in Flow Designer.

ROOT PARAMETER CONTEXT

param context convert test

1

→

Draft Parameters

1a

0 2

>

Additional Parameter Contexts

Select shared parameter groups or create new ones to replace additional parameter contexts. Parameters not found in the selected shared parameter groups will be added to the draft parameters.

⚠

Some parameters (3) from the parameter contexts below cannot be found in the selected shared parameter groups. You can try to select other shared parameter groups which contain these parameters or create new shared parameter groups. Otherwise these parameters will be added to draft parameters. [View List](#)

PARAMETER CONTEXT

database-reader

2

→

SHARED PARAMETER GROUP

database-reader

2a

0 3

>

PARAMETER CONTEXT

data\_transform

3

→

SHARED PARAMETER GROUP

data\_transform

3a

0 1

3b

1

>

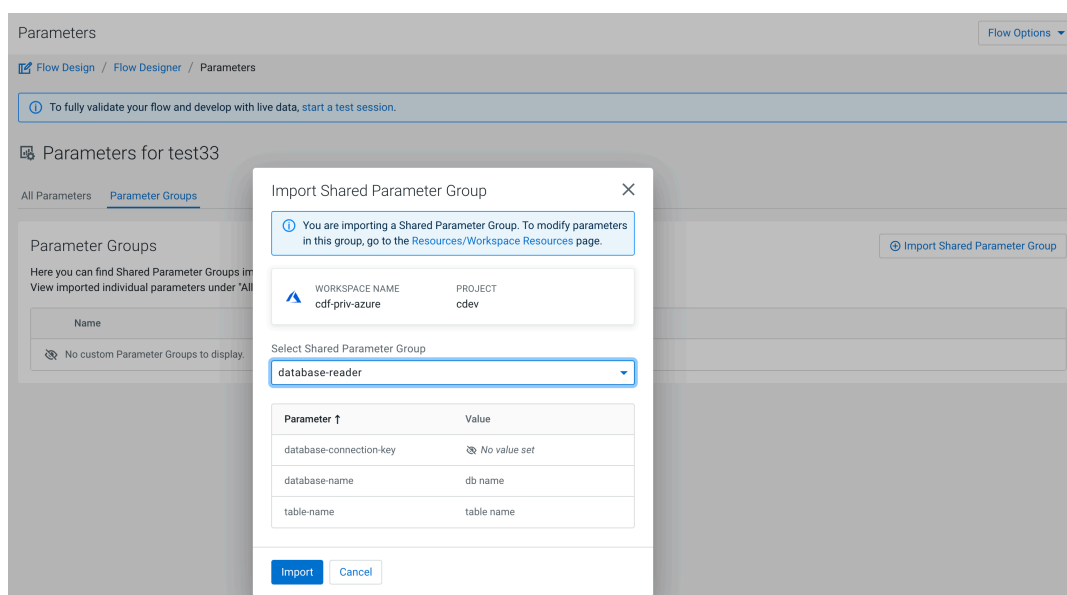
Create Flow Draft

Cancel

If the source flow definition contains more than one parameter context attached to the root process group, the Flow Designer matches those contexts to shared parameter groups that are assigned to the same project where the draft is created (In this respect ‘unassigned’ is treated as a project of its own: an unassigned draft is matched to unassigned parameter groups). Matching happens by name, and you are provided with a table of the results on the **Convert Parameters** page. In this view you can examine and modify the results of parameter matching. You can manually replace parameter contexts of the source flow definition with other shared parameter groups available in the project that you find more suitable to your needs. You can also create parameter groups from draft parameters.

While building a flow draft

12



In the Parameters view of the Flow Designer you can import existing shared parameter groups and you can also export a number of draft parameters to a parameter group which can then be reused in multiple flows.



#### Note:

Draft parameters always take precedence over parameters in imported parameter groups. The precedence of parameters with overlapping values in imported parameter groups is defined by their order in the Flow Design Flow Designer Parameters Parameter Groups view. To change the order of precedence, simply reorder the imported parameter groups.

### Relationship between shared parameters and draft parameters

#### Precedence

- The values of draft parameters always take precedence over imported parameters.
- In case of imported parameter groups, their order defines precedence. By changing the order of parameter groups, you can redefine precedence. As a result of this, if a parameter is present in several shared parameter groups, the value of the one in the topmost group takes precedence.

#### Value retention

- Both non-sensitive and sensitive parameters that are part of an imported parameter group keep the values they have in the shared parameter group. These values cannot be changed within the Flow Designer, only in the **Resources** view.
- Non-sensitive parameters that are added as draft parameters to the root parameter context during draft creation retain the default values they had in the source flow definition.
- Sensitive parameters that are added as draft parameters to the root parameter context during draft creation are added without values.

### Adding a parameter to your draft

The values of properties in the flow, including sensitive properties, can be parameterized. Learn how to add a parameter to your draft.

## About this task



### Note:

Parameters are created within Parameter Contexts. In Flow Designer, one default Parameter Context is auto-created when you create a new draft. You can then add parameters to this one context, you cannot create additional ones. This default context is automatically bound to each Process Group you create within your draft, making all parameters available to be used in any process group.

## Before you begin

- Make sure that you have DFDeveloper permission to perform this task. For information on account and resource roles, see [Cloudera DataFlow authorization](#).
- You have created a draft in Cloudera DataFlow Flow Designer.

## Related Information

[Cloudera DataFlow authorization](#)

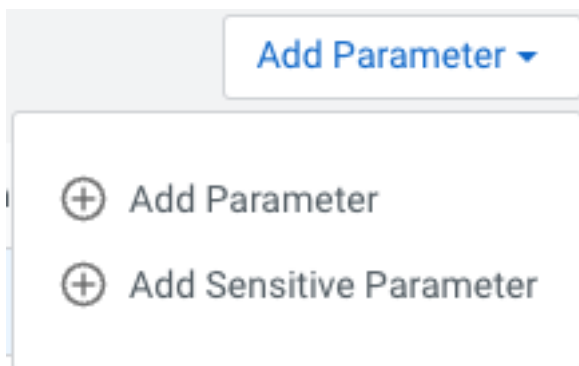
[For more information on Parameters, see the NiFi User Guide.](#)

## Adding a parameter from Flow Options

Learn about creating parameters from the Flow Options menu.

## Procedure

1. Click Flow Options Parameters Add Parameter Add Parameter or Add Sensitive Parameter.



**Note:** A sensitive parameter cannot be later changed to non-sensitive and this is also true the other way around. Keep this in mind when creating parameters.

2. Provide the parameter Name, define a Value (or select Set empty string) and optionally provide a parameter Description.

## Add Parameter



Name

Create a unique name

Value

Enter parameter value

☐ Set empty string

Description

Add description

Cancel

Apply

3. When you are done, click Apply.

4. For your parameter changes to take effect, click **Apply Changes**.

Flow Design / cdf-priv / cdev-test / Parameters

To fully validate your flow and develop with live data, start a test session.

You must first apply or discard the changes that have been made.

← Back To Flow Designer

Add Parameter ▾

Name ↑	Value	Changed
another_para	Empty string set	<div><div></div>New</div>
generic_para	42	
sensitive_para	<div><div></div>Sensitive value set</div>	

Apply Changes

Discard Changes

Flow Options ▾

»

another\_para

Not Sensitive

A test session must be running in order to add files.

Value

Set empty string

Description

Description

Referencing Components

No referencing Processors to display.

No referencing Services to display.

## What to do next

Click  Back to Flow Designer to return to the canvas when you are done adding parameters.



## Creating a parameter from the Configuration pane

Learn about converting a property of a component into a parameter from the Configuration pane.

## Procedure

1. Select the component with the Property that you want to convert to a parameter.  
Click the component on the Canvas to access its properties in the Configuration pane.



2. Locate the property that you want to turn into a parameter and click  Options  More Convert To Parameter .

### Properties


Property	Value
Record Reader 	 JSON_Reader_Recent_Changes 
Record Writer 	 AvroWriter_Recent_Changes 
Include Zero Record FlowFiles 	true 

 Convert To Parameter




### Relationships

3. Edit the parameter Name, Value, and optionally add a description.
4. Click Add.  
The Value of the Property is automatically updated to a reference to the newly created parameter.
5. Click Apply to save the change you made to your component.



**Note:** Even if you click  Discard Changes at this stage, the parameter is created, but the Property is reset to its previous Value.

To delete an unwanted parameter:

- a. Go to Flow Options  Parameters .
- b. Click  in the row of the parameter to be deleted.
- c. Click  Delete.

## Importing a parameter group


You can import existing parameter groups into your flow draft so you do not have to individually copy and paste values that are common in an environment, such as credentials or access paths.

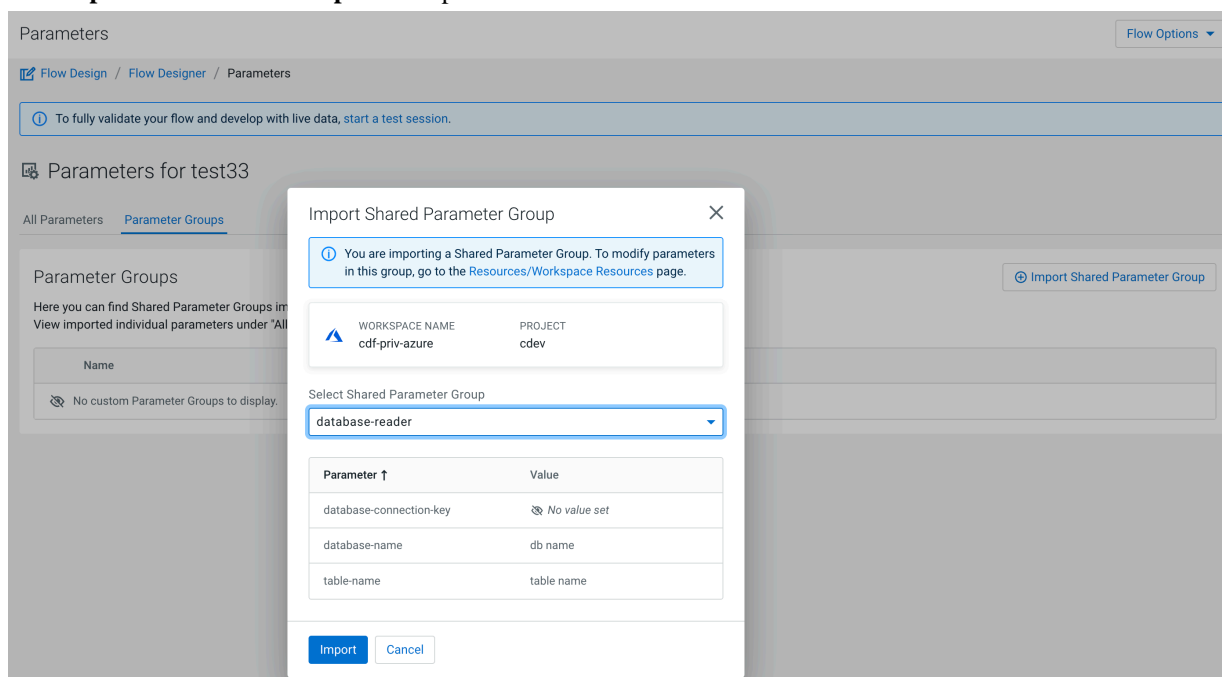
### About this task


One use case is to import a parameter group that was created earlier to reuse it in your draft. This is useful, for example, to share credentials, access paths, and so on between several flows within a project. Another use case is exporting draft parameters as a parameter group from the flow draft you are working on, then immediately importing the same group back to your draft to replace flow-specific draft parameters with ones that can be shared and reused.

### Procedure

1. On the **Flow Design** canvas, select Flow Options Parameters .

2. Select the Parameter Groups tab and click  Import Parameter Group. The **Import Parameter Group** modal opens.



3. From the Select Parameter Group drop-down select the group you want to import. The list displays only the parameter groups available to you, that is, parameter groups that are either in a project where you have at least the DFProjectMember permission or parameters in the same workspace that are not assigned to any project.
4. Click Import.
5. To finalize the changes you made, click  Apply Changes.

### What to do next

After importing the parameter group, go to the **All Parameters** tab. There you can remove unnecessary draft parameters that have overlapping values with shared parameters. This is useful, because draft parameters always have precedence over parameters in an imported parameter group.

## Exporting draft parameters to a parameter group

You can select a group of parameters and make them available for reuse in a workspace by exporting them as a parameter group.

### About this task


When you want to share a group of parameters for reuse, use the Export Parameter Group option. This allows for the reuse of those parameters within the same project, without the need for copying and pasting them individually.

### Before you begin


You need the DFFlowDeveloper role to manage flow drafts in the workload environment.

### Procedure


1. On the **Flow Design** canvas, select Flow Options Parameters .


2. Select the All Parameters tab and click  Export Parameter Group. The **Export to a Shared Parameter Group** modal opens.

Export to a Shared Parameter Group


 WORKSPACE  
cdf-priv-azure

Project

 Unassigned


 **Warning**  
 Selecting 'Unassigned' will make this Parameter Group available to all *DFFlowDeveloper* users in cdf-priv-azure.

Parameter Group Name

 Parameter Group name is valid


Description

Select Parameters to export

<input type="checkbox"/>	Parameter ↑	Shared Group	Value
<input checked="" type="checkbox"/>	database-connection-key	database-reader	 No value set
<input checked="" type="checkbox"/>	database-name	database-reader	db name
<input type="checkbox"/>	http return code		200
<input type="checkbox"/>	http-listen-port		2222

Export

Cancel

☐ Import this Shared Group 

3. From the Project drop-down select an available project where you want to assign the new group, or leave it unassigned.



**Note:** Leaving the parameter group unassigned will make it available to anyone with DFFlowDeveloper role in the workspace.

4. Provide a Parameter Group Name. The name must be unique within a workspace, Cloudera DataFlow automatically validates the name.
5. You can optionally provide a Description of the parameter group.
6. Select Parameters to export by checking the boxes next to them. Select the checkbox on top to select all parameters.
7. If you select the Import this Shared Group option the newly created shared parameter group will be automatically imported to the draft from which the parameters were originally exported, as the parameter group with the highest priority. Draft parameters with matching names will be replaced with parameters in the shared parameter group.
8. Click Export.

## Configuring advanced usage of the UpdateAttribute processor

The UpdateAttribute processor may be used to make conditional changes, based on user defined rules.

### About this task

Rules are a set of Conditions and associated Actions. Each rule basically says, "If these conditions are met, then do this action." One or more conditions may be used in a given rule, and they all must be met in order for the designated action(s) to be taken.

In this topic we use two rules as an example to demonstrate how adding rules work: CheckForLargeFiles and CheckForGiantFiles.

The CheckForLargeFiles rule has the following conditions:


- `${filename>equals('fileOfInterest')}`
- `${fileSize:number():ge(1048576)}`
- `${fileSize:number():lt(1073741824)}`

The associated action for the filename attribute:

- `${filename}.meg`

Taken together, this rule says:

- If the value of the filename attribute is fileOfInterest, and
- If the fileSize is greater than or equal to (ge) one megabyte (1,048,576 bytes), and
- If the fileSize is less than (lt) one gigabyte (1,073,741,824 bytes)
- Then change the value of the filename attribute by appending ".meg" to the filename.

Continuing with this example, we can add another rule to check for files that are larger than one gigabyte. When we add this second rule, we can use the previous rule as a template, so to speak, by selecting the  Expand



Duplicate option for the CheckForLargeFiles rule.

In this example, the CheckForGiantFiles rule has these conditions:

- `${filename>equals('fileOfInterest')}`
- `${fileSize:number():gt(1073741824)}`

Then it has this action for the filename attribute:

- `${filename}.gig`

Taken together, this rule says:


- If the value of the filename attribute is fileOfInterest, and


- If the fileSize is greater than (gt) one gigabyte (1,073,741,824 bytes)
- Then change the value of the filename attribute by appending ".gig" to the filename.

### Procedure

1. To add rules to the UpdateAttribute processor and to define behavior when multiple rules match, go to










« Configuration Pane  Define Rules .



» 



**UpdateAttribute**  
 UpdateAttribute 1.21.0.2.3.9.0-24

[More Details](#) ▾

 Configuration
 Define Rules

### Rules

Define the behavior when multiple rules match. [Learn more](#) 


\*FlowFile Policy

Use Clone ▾

 Search by name, expression, attribute or value

 Add Rule

\*Rule Order List

 No rules to display.

2. Select a Flow File Policy:

#### Use Clone


Matching rules are executed with a copy of the original flow file. This is the default behavior.

#### Use Original

Matching rules are executed with the original flow file, in the order that you specify under Rule Order List.

## Add a Rule

### Procedure

1. You can add rules by clicking Add Rule.
2. Specify a Rule Name.  
Specify CheckForLargeFiles
3. Add Conditions by clicking  Add Condition.




**Note:** All conditions you add here must be met for the rule to match.

In the **Add Condition** modal window you can specify a condition using regular expressions.

Add the `${filename>equals('fileOfInterest')}`

Click Add Condition in the modal window to save your changes.

4. To add Actions, click  Add Action.  
In the **Add Action** modal window specify an Attribute name and a Value.  
For example, specify filename as Attribute and `${filename}.meg` as Value.  
Click Add Action to save your changes.
5. Once you are done with creating or updating a Rule, click Apply to save your changes.



**Tip:** As long as your rule configuration is invalid, the Apply button is inactive and you can only



Discard Changes.

## Reorder Rules

### Procedure

1. To reorder Rules, grab one by the  Drag Handle and drag it to the required position.
2. Click Apply.

## Testing JoltTransformJSON processor configuration

You can test the transformations a given Jolt Specification effects on a sample JSON file without starting a test session.

### Procedure

1. To test Jolt Transform when using the JoltTransformJSON processor, go to  Configure  Test Jolt Transform .

- You may modify the Jolt Transformation DSL and Jolt Spec fields. If you modify them here, click Apply to confirm the changes.

The values for fields Jolt Transformation DSL and Jolt Spec are automatically retrieved from the processor



Configuration if already set.



**Important:** Any configuration changes you apply here overwrite the processor configuration.

Configuration

[Test Jolt Transform](#)

Jolt Transformation DSL

Chain

Attributes (0)

Jolt Spec



```
1 [
2   {
3     "operation": "shift",
4     "spec": {
5       "breadbox": "counterTop"
6     }
7   }
8 ]
```

Json Input



1

Output

Test Transform



1

Apply

Discard Changes

3. You may add attributes and values to reference within your specification for testing input. To do so, click

^ Attributes.



**Important:** Attribute values entered here are only available during testing, but not when executing the actual flow.

4. Paste the input file contents into the Json Input box.
5. Click Test Transform.  
The result of the transformation is printed to the Output box.

## Adding a service to your draft

Learn how you can add a service in Cloudera DataFlow Flow Designer.

### Before you begin

- Make sure that you have DFDeveloper permission to perform this task. For information on account and resource roles, see [Cloudera DataFlow authorization](#).
- You have created a draft flow in Cloudera DataFlow Flow Designer.

### Related Information

[Cloudera DataFlow authorization](#)

## Adding a service from Flow Options

Learn about creating services from the Flow Options menu.

### Procedure

1. To create a service for your flow, click **Flow Options Services Add Service**.
2. In the Add Service box you can select from the available services by scrolling down the list on the left or by starting to type the name of the service you are looking for.  
You can optionally change the name of the service.
3. Click Add.  
The Configuration pane opens.
4. Make the required settings to your service, then click Apply.

### What to do next

Click Back to Flow Designer to return to the canvas when you are done adding services.


## Creating a service from Configuration

Learn how you can create services directly from the Configuration pane for a property that expects a controller service as a value.





### Procedure


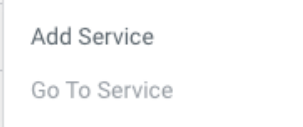
1. Select the component with the Property for which you want to create the controller service.  
Click the component on the Canvas to access its properties on the Configuration pane.



2. Locate the property for which you want to create the service and click  More Add Service .

#### Properties

Property	Value
Record Reader 	No value set 
Record Writer 	No value set
Include Zero Record FlowFiles 	true



3. In the Add Service box you can select from the available services by scrolling down the list on the left or by starting to type the name of the service you are looking for.

You can optionally change the name of the service.

4. Click Add.

The Configuration pane opens.

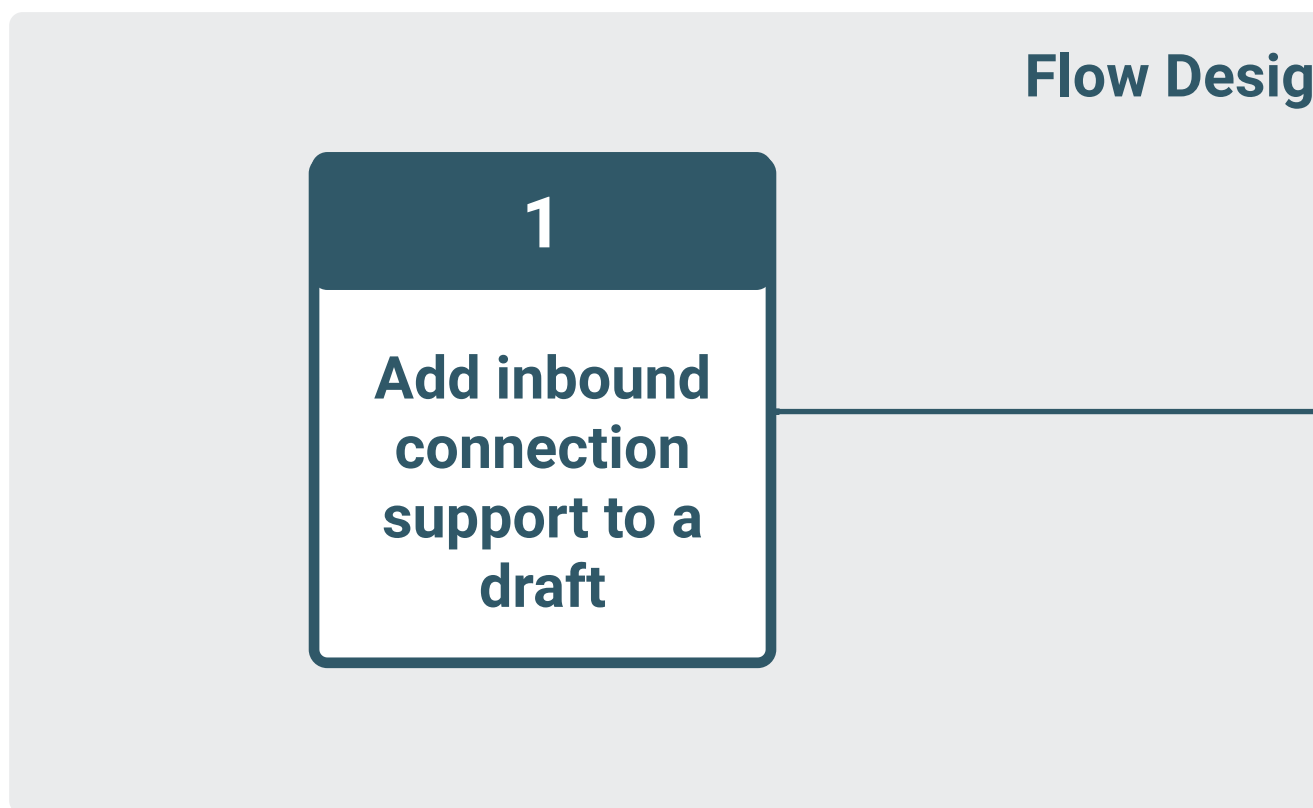
5. Make the required settings to your service, then click Apply.

#### What to do next

Click Back to Flow Designer to return to the canvas when you are done adding services.

## Adding inbound connection support to a draft

You can enable a dataflow to listen on a public endpoint to data sources that are outside your Cloudera Public Cloud environment by adding inbound connection support to your



draft.

To enable your dataflow to use listen processors with inbound connection endpoint support, make the following addition to your draft:


1. Open the draft where you want to enable inbound connection support.
2. Add the required listen processor to your draft.

Cloudera DataFlow supports all listen processors, including custom processors.


3. Configure the processor to enable inbound connections.

### Port

Provide a port number where the flow deployment listens for incoming data. You can either add it

as a parameter by clicking  **Convert To Parameter** to make the actual port number configurable during flow deployment, or you can set an explicit port number when creating the draft.

### SSL Context Service

Create an external `StandardRestrictedSSLContextService` for your processor, by clicking  **Add Service** and filtering for `StandardRestrictedSSLContextService`. You must name this context service `Inbound SSL Context Service`. No other configuration is required. The SSL context service

will be created during cluster deployment and all other properties will be populated with values generated for that NiFi cluster.

#### Client Auth

Set to “REQUIRED” to use mTLS.



**Note:** Most listen processors only support TCP. ListenSyslog supports both TCP and UDP. As dataflow deployments do not support mixed protocols for listening ports, and UDP does not support SSL Context Service and Client authentication, Cloudera advises to configure your ListenSyslog processor to use TCP protocol. This allows your data flow to use SSL Context Service for authentication and to listen to different data sources on different ports.

If this is not possible, create separate flows that listen on UDP and TCP respectively.

## Copying and pasting processors

In Flow Designer you can copy processors together with their configuration and then paste them to the same or another draft, or to an external application.

#### About this task

Copying a processor copies the entire processor configuration to the clipboard, even sensitive properties are kept. If you paste the processor to a different draft, you may still get an error as, for example, services are not copied together with your processor and you will have to recreate those in the new draft.

#### Procedure

1. Select the processor you want to copy then either right-click on it and select Copy to clipboard or press **#+C**.
2. To paste the processor, press **#+V**.



**Tip:** You can also paste processor configurations in JSON format to external applications, such as text editors and easily share them for troubleshooting purposes.