



Cisco Crosswork Workflow Manager 1.0 Operator Guide

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CHAPTER 1

UI overview

This section contains the following topics:

- [UI Overview, on page 1](#)
- [Workflows, on page 1](#)
- [Job Manager, on page 4](#)
- [Job details, on page 5](#)
- [Job Event Log, on page 6](#)
- [Admin, on page 7](#)
- [Workers, on page 7](#)

UI Overview

The Crosswork Workflow Manager 1.0 gives users access to the core functionalities of the CWM via a graphical interface.

The CWM UI dashboard contains three main functional areas which you can access from the navigation menu on the left:

- **Workflows:** where you can add, manage, and delete workflow definitions.
- **Job Manager:** where you can run added workflows and check the status of particular workflow execution (job).
- **Admin:** where you can manage workers.

Workflows

The main **Workflows** window consists of the **All Workflows** tab that lists workflows added to CWM with details and possible actions.

All Workflows

All Workflows table consists of the following columns:

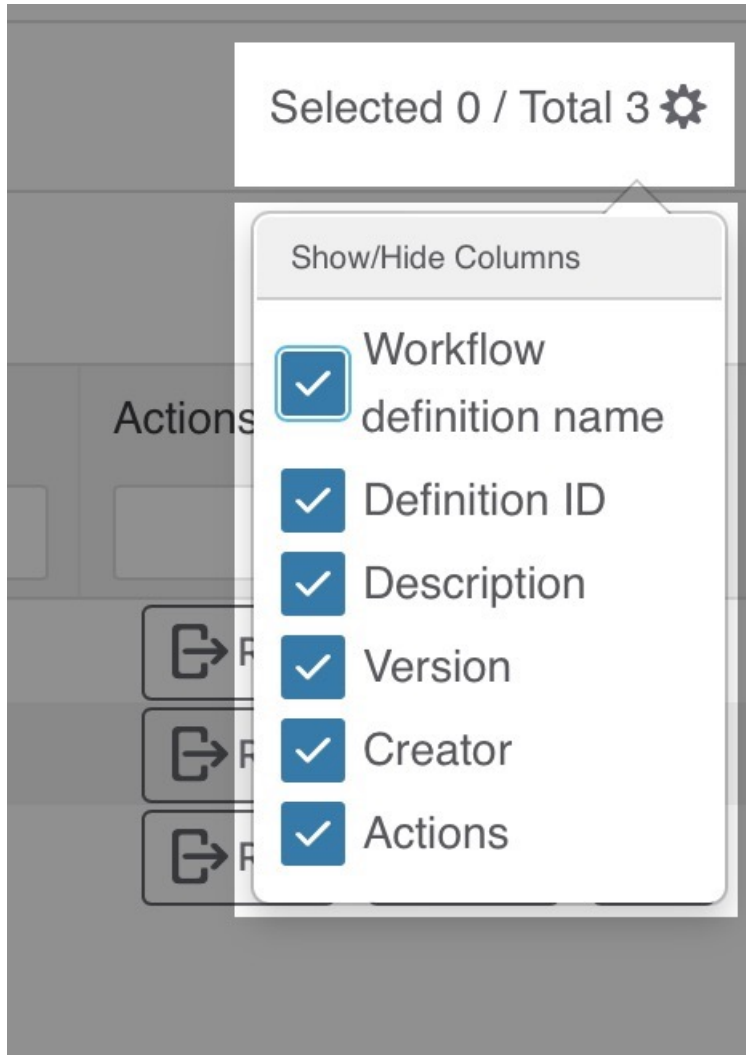
Figure 1: All Workflows table

<input type="checkbox"/>	Workflow definition name	Definition ID	Description
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	WorkflowVPN1	4d8616d4-23f7-4953-a514-dbac0936b331	
<input type="checkbox"/>	MyNewWorkflow	18453084-ec02-4180-9442-6e4ecacac134	This is another new workflow.
<input type="checkbox"/>	MyUltraWorkflow	093d1b1b-e020-42ed-a13d-d92679556601	This is my workflow.
<input type="checkbox"/>	Test workflow	45d4bd0e-b6d4-4740-9cf0-c96212578bd6	
<input type="checkbox"/>	new workflow	ea23ce48-2309-46e5-880a-111509e5952f	
<input type="checkbox"/>	MyFirstWorkflow	b3bff0a8-2ba9-4064-9c4b-65a6ce703f17	This is my first workflow.
<input type="checkbox"/>	CreateL3VPN	85e340a3-d55e-4dae-8e23-4eb48c900e9b	

- A) **Workflow definition name**: unique name of the workflow.
- B) **Definition ID**: unique identifier assigned automatically after workflow creation.
- C) **Description**: optional field used for describing your workflow functionality.
- D) **Version**: indicates the current workflow version number, allows keeping track of the workflow versioning.
- E) **Actions**: shows possible actions for a given workflow:
 - **Run**: starts a single execution of a given workflow (job).
 - **Edit**: allows edition of stored workflows, including Details tab and Code tab with workflow definition.
 - **Delete (bin icon)**: removes an added workflow from CWM (this action is irreversible).

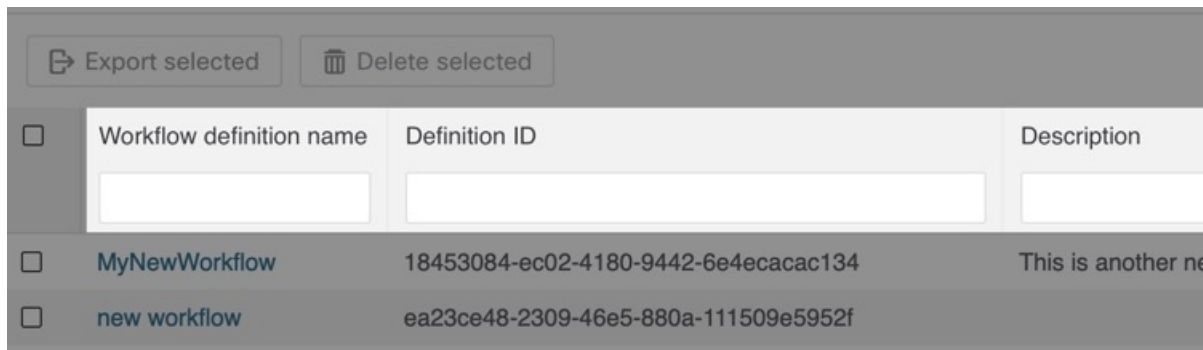
To adjust the columns displayed in the table, use the **gear icon** on the right side above the table.

Figure 2: Gear icon



You can use the filter table option to search the table for the specified value(s). By default, the filter fields are displayed; click the **funnel icon** on the right to hide/unhide them.

Figure 3: Filter option



Bulk actions

You can perform bulk actions on many workflows at once. To select a workflow, check the checkbox on the right side of the **All Workflows** table. You have two possible bulk actions:

- **Export Selected:** exports selected workflow entries to a CSV file.
- **Delete Selected:** removes selected workflows from the list and CWM (this action is irreversible).

Figure 4: Bulk actions

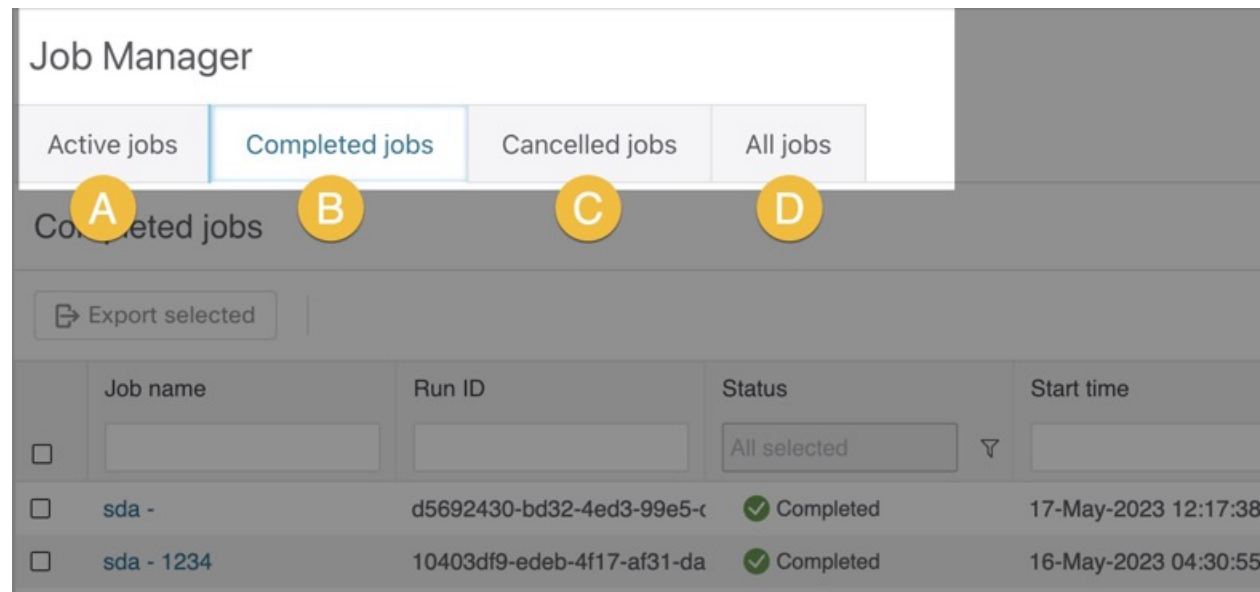
The screenshot shows the 'All Workflows' interface. At the top, there are two buttons: 'Export selected' (with a download icon) and 'Delete selected' (with a trash icon). Below these buttons is a table with the following columns: 'Workflow definition ...' and 'Definition ID'. The table contains five rows of workflow entries, with the first two rows selected (checkboxes checked).

	Workflow definition ...	Definition ID
<input type="checkbox"/>	MyFirstWorkflow	be6b0d19-5caf-4546-81d6-1cfa05
<input checked="" type="checkbox"/>	MyFirstWorkflow	b3bff0a8-2ba9-4064-9c4b-65a6ce
<input checked="" type="checkbox"/>	MyNewWorkflow	18453084-ec02-4180-9442-6e4ec
<input type="checkbox"/>	MyUltraWorkflow	093d1b1b-e020-42ed-a13d-d9267
<input type="checkbox"/>	ShortWorkflow	ef71a9f8-43cb-4239-ad50-d56bb7

Job Manager

Job Manager allows you to check the status of your jobs and start their execution. The main Job Manager window consists of four tabs:

Figure 5: Job Manager tabs



- A) **Active jobs**: currently running jobs.
- B) **Completed jobs**: successfully completed jobs.
- C) **Canceled jobs**: manually terminated jobs by the user and automatically failed jobs.
- D) **All jobs**: all active, completed and canceled jobs.



Note **Job Manager** view lists all workflow executions run in the last 24 hours.

Job details

- Step 1** To check the details of a job, in the **Job Manager** choose the appropriate tab (Active, Completed, Cancelled or All).
- Step 2** In the table, click on the name of the job entry you want to check.
- Step 3** In the **Details** tab, you can check the following data for the given job:

Figure 6: Job details

Figure 6 shows a screenshot of the 'CreateL3VPN - 05/05' job details page. The page is titled 'CreateL3VPN - 05/05' and has a 'Details' section. The details are as follows:

Field	Value
Job name (A)	CreateL3VPN - 05/05
Run ID (D)	7cef54e1-bce1-4a99-890d-da16z
Workflow definition name (B)	CreateL3VPN
Workflow definition ID (E)	17c909be-0544-4e0a-9e70-0beb
Version (F)	1.0
Worker (C)	default

- a. A) **Job name**: name of the particular workflow execution; by default, it is the workflow definition name.
- b. B) **Workflow definition name**: name of the workflow definition used to run a particular job.
- c. C) **Worker**: worker assigned to the workflow definition.
- d. D) **Run ID**: unique identifier for workflow execution.
- e. E) **Workflow definition ID**: unique identifier for workflow definition; it is identical for every execution of the same workflow.
- f. F) **Version**: version of the executed workflow definition.
- g. G) **Attempts**: indicates the number of tries needed to execute the workflow successfully; the maximum number of attempts can be limited by the workflow definition.
- h. H) **Close time**: date and time when workflow execution ended, for example 05-May-2023 03:59:25 PM CEST. If the execution is still running or it was failed/canceled, the appropriate status is displayed instead.
- i. I) **Start time**: date and time when workflow execution started, for example 05-May-2023 02:59:25 PM CEST.

Job Event Log

The Job Event Log lists the series of events that the workflow engine performs while executing the workflow definition.

The **Job Event Log** table consists of the following columns:

Figure 7: Job Event Log

Job Event Name A	Job Event Type B	Status C	Attempts D
<input type="text"/>	<input type="text"/>	All select <input type="text"/>	<input type="text"/>
+ WorkflowExecution	WorkflowExecutionStarted	✓ Started	1
+ WorkflowTask	WorkflowTaskCompleted	✓ Completed	1
+ MarkerRecorded	MarkerRecorded	✓ Completed	
+ MarkerRecorded	MarkerRecorded	✓ Completed	
+ cisco.nso.v1.0.0.restconf.P	ActivityTaskScheduled	🕒 Scheduled	

- A) **Job Event Name**: name of an event specific to CWM, for example `WorkflowExecution`.
- B) **Job Event Type**: type of the event used by the workflow engine, for example `WorkflowExecutionStarted`.
- C) **Status**: event execution status.
- D) **Attempts**: number of attempts performed for completion of the task.
- E) **Worker**: name of the worker performing the task.
- F) **Start Time**: date and time when event execution started, for example `05-May-2023 03:59:25 PM CEST`.
- G) **Close Time**: date and time when event execution ended.

Admin

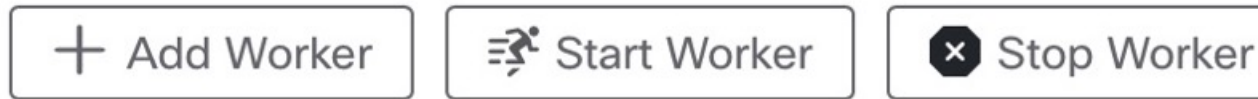
The **Admin** tab allows you to add and manage workers and assign activities to them.

Workers

The main **Workers** window list all of the existing workers withing a table with action buttons above.

Figure 8: Workers action buttons

Workers



- **Add Worker:** allows you to create a new worker and assign activities from already installed adapters to it.
- **Start Worker:** starting the worker allows it to execute assigned tasks and changes the worker's status to running.
- **Stop Worker:** stopping the worker allows it to execute pending actions but blocks its ability to accept new tasks. After clicking on the Stop Worker button, the confirmation modal Stop worker(s) appears. If the worker actively executes an ongoing task, you won't be able to stop it, unless you tick the checkbox Force stop. This action stops the worker regarding whether it performs any task and might cause the failure of ongoing jobs.
- **Delete:** removes the worker permanently (this action is irreversible). If the worker is running, it's force stopped before deleting.
- **Export selected:** downloads the CSV file with the details of the selected workers, including worker name, status and nr of activities.

Workers table has the following columns:

Figure 9: Workers table

<input type="checkbox"/>	Worker Name A	Status B
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	generic.rest.v1.0.0	... Running
<input type="checkbox"/>	netbox.rest.v1.0.0	... Running
<input type="checkbox"/>	cisco.nso.v1.0.0	... Running
<input type="checkbox"/>	NSOWorker	... Running

- **Worker Name:** unique worker's name. Once created, it cannot be modified.
- **Status:** worker has three possible statuses visible in the CWM UI:
 - **Initialized:** worker status after creation, if you do not choose to start it immediately.
 - **Running:** indicates started worker available to execute tasks.
 - **Stopped:** indicates stopped worker unavailable for task execution.

- **Nr of activities:** shows how many adapters' activities are assigned to the worker.



CHAPTER 2

Add workflow

This section contains the following topics:

- [Add Workflow, on page 11](#)
- [Workflow editing, on page 12](#)

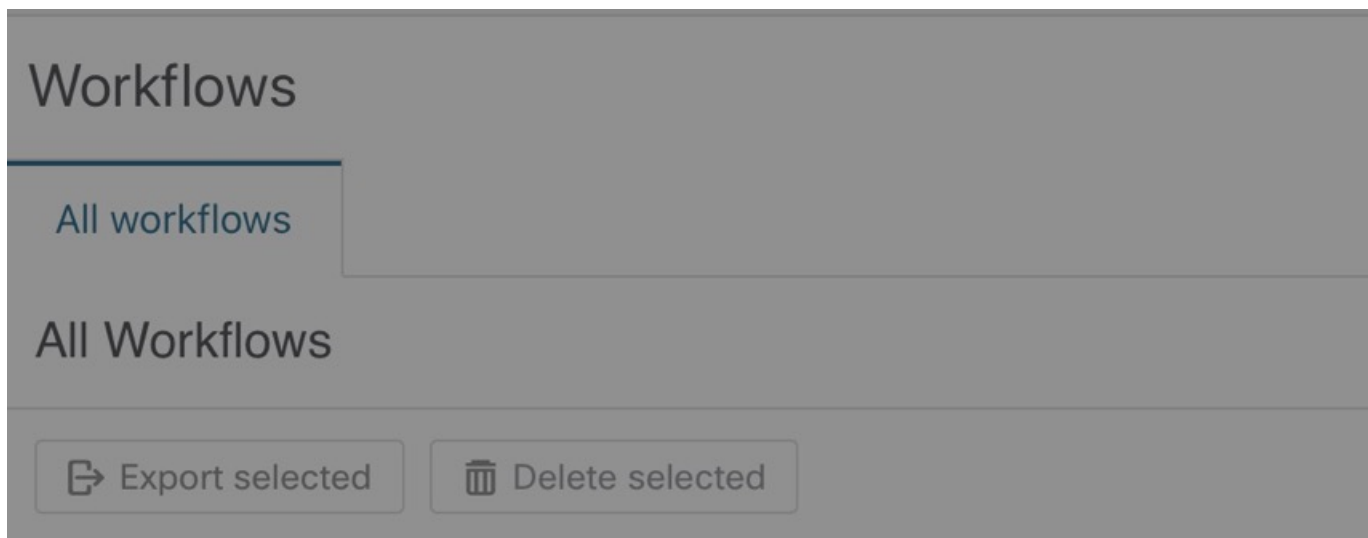
Add Workflow

This section explains how to add a workflow definition to the CWM.

Step 1 In the CWM, go to **Workflows** -> **All Workflows** tab

Step 2 Click the **Create new workflow** button.

Figure 10: Create new workflow button



Step 3 In the **Create new workflow** modal, provide the required input:

- a) **Workflow definition name** - type the name for your workflow definition, for example, `MyFirstWorkflow`.
- b) **Version** - type your workflow definition version, for example, `1.0`.

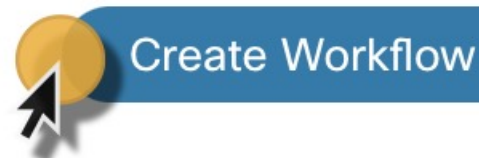
Step 4 Click **Create Workflow**.

Figure 11: Create new workflow modal

Create new workflow

Workflow definition name*

Version*



What to do next

The steps above create a workflow entry in the CWM with dummy code that needs further editing. In the next section, you can check how to insert your workflow definition and replace the pre-defined code.

Workflow editing

Step 1 To edit existing workflow, from the **All Workflows** tab, click on the chosen workflow definition name to open the **Detail** tab. You can add a description or edit a version or workflow definition name there.

Figure 12: Workflow details

Step 2 Go to the **Code** tab to edit a workflow definition. By default, after creating a new workflow in CWM, the **Code** tab contains a dummy piece of code that you need to replace with the actual developed workflow definition in JSON or YAML, based on Serverless Workflow Specification.

Note CWM 1.0 has no code editor functionality and validation for the workflow definition inserted in the code field. It is recommended to use the external code editor for authoring the workflow definition.

Step 3 After inserting desired changes, there are several actions you can take by using the buttons on the right:

- a) **Done**: rejects any changes and takes you to the previous page.
- b) **Save as new workflow**: creates a new workflow definition with inserted changes and keeps the previously saved version of the workflow definition (do not overwrite the changes on the same workflow definition, but create a separate, new workflow definition).
- c) **Save Changes**: saves the inserted changes for the current workflow definition.
- d) **Run**: executes the workflow definition as a single job.

Figure 13: Workflow details buttons



Note You can update the workflow definition and up-version it without affecting the currently running job.



CHAPTER 3

Add worker

This section contains the following topics:

- [Add Worker, on page 15](#)

Add Worker

This section explains how to create a worker in CWM.

Before you begin

- You should have added and deployed adapter(s).

Step 1

In the CWM, click the **Admin** tile from the navigation menu on the left. In the **Workers** view, click **Add Worker**.

Step 2

In the **Create new worker** panel, provide the required input:

- Worker name:** type a name for your worker, for example, `MyNewWorker`. Once created, it cannot be modified.
- Start worker after creation:** tick the checkbox to automatically start the worker.
- Activities:** tick the checkboxes for selected adapters' activities you want to assign to your worker. In our example, a worker for the Generic Rest adapter's activities is created.

Figure 14: Create Worker

Step 3 Click **Create worker**.



CHAPTER 4

Run job

This section contains the following topics:

- [Run Job, on page 19](#)
- [Check job status, on page 22](#)
- [Check job result, on page 22](#)
- [Rerun job, on page 22](#)
- [Cancel job, on page 24](#)

Run Job

This section explains how to run a job (workflow execution) via CWM.

Before you begin

You should have:

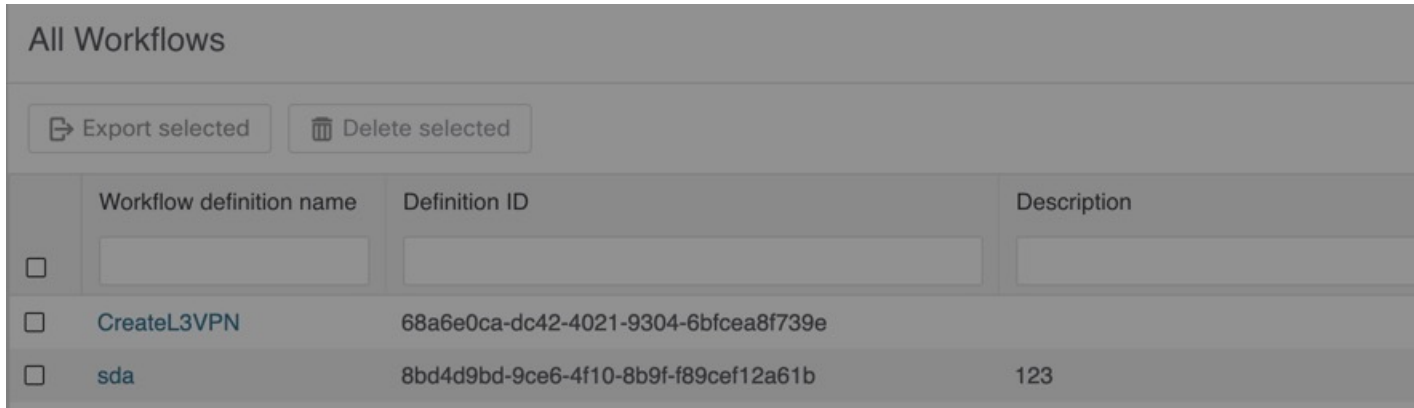
- a workflow definition stored in CWM and listed in the **All Workflows** tab;
- uploaded adapter(s) with workers.

Step 1

In the CWM, go to **Workflows** -> **All Workflows** tab.

- a) Select the workflow you want to execute and click **Run** under the Actions column.

Figure 15: Run Job button



	Workflow definition name	Definition ID	Description
<input type="checkbox"/>			
<input type="checkbox"/>	CreateL3VPN	68a6e0ca-dc42-4021-9304-6bfcea8f739e	
<input type="checkbox"/>	sda	8bd4d9bd-9ce6-4f10-8b9f-f89cef12a61b	123

Step 2 In the **Run job** modal, insert the initial workflow data input in the Job variables field.

Step 3 By default, your job's name is the same as your workflow definition, but you can change it in the Job name field.

Step 4 Click **Run Job** to start the workflow execution.

Figure 16: Run Job

Run job

Job name*


Workflow definition name

Definition ID

Start user

Job variables*

```
{
  "device0Name": "ce0",
  "device1Name": "ce1",
  "nsoResource": "NSOLocal"
}
```



Check job status

- Step 1** Go to **Job Manager** -> **All Jobs** tab.
- Step 2** In the **All jobs** table, find your job and check the status of the workflow execution in the Status column.
- If the workflow was executed correctly, a green round icon with the tick and the status *Completed* is displayed.
 - If the workflow execution is still in progress or the workflow engine is retrying an action, a blue round icon with three dots and the status *Running* is displayed.
 - If the workflow execution failed, a red round icon with the exclamation mark and the status *Failed* is displayed.
-

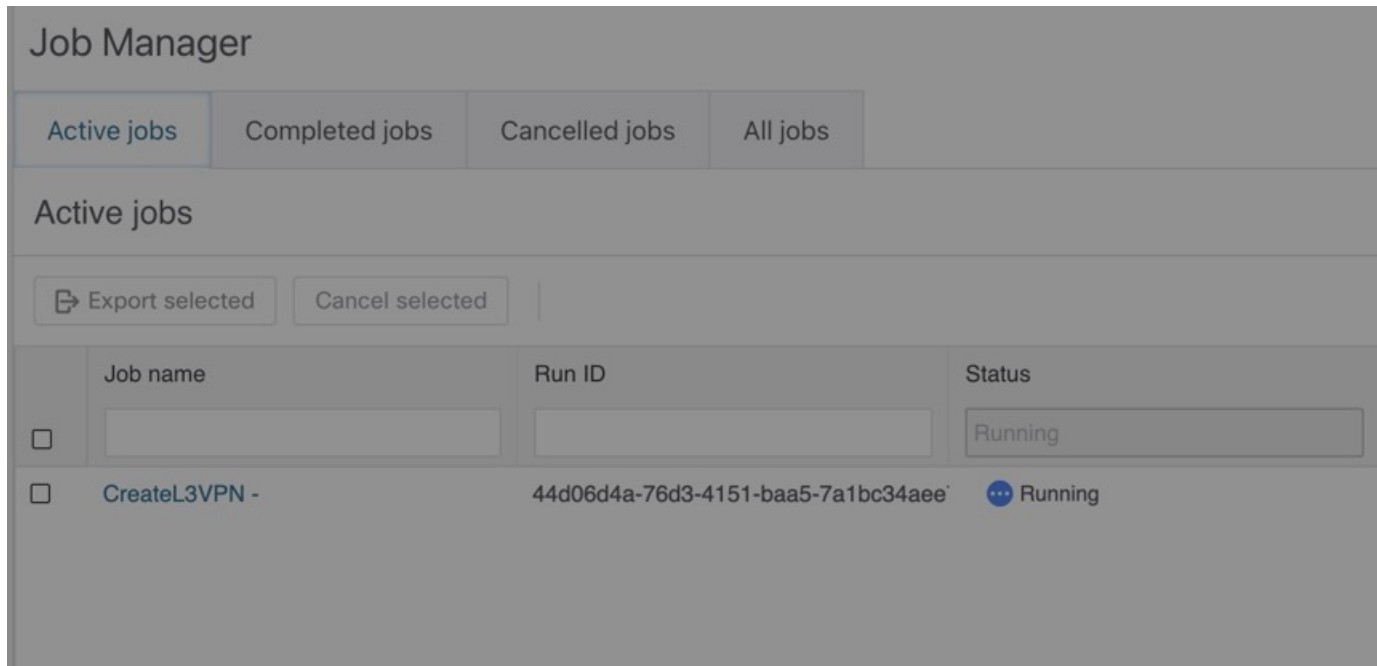
Check job result

- Step 1** Click the job name to enter its details.
- Step 2** In the **Job Event Log** table, you can expand every event entry by clicking on the **plus** icon.
- Step 3** To check the result of the execution, expand the **WorkflowExecution** entry at the bottom of the table. Depending on the result, the Job Event Type may differ, for example: `WorkflowExecutionCompleted` or `WorkflowExecutionFailed`.
-

Rerun job

- Step 1** Go to **Job Manager** -> **All jobs** tab.
- Step 2** In the **All jobs** table, find a job that you want to rerun and click the **Rerun** button in the same row under the Actions column.

Figure 17: Rerun job button

**Step 3**

In the *Rerun job* modal, you can edit the Job name and Job variables (data input) or use the same values from the previous run.

Figure 18: Rerun job

Rerun job

Job name*


Workflow definition name

Definition ID

Start user

Job variables*

```
{
  "device0Name": "ce0",
  "device1Name": "ce2",
  "nsoResource": "NSOLocal"
}
```



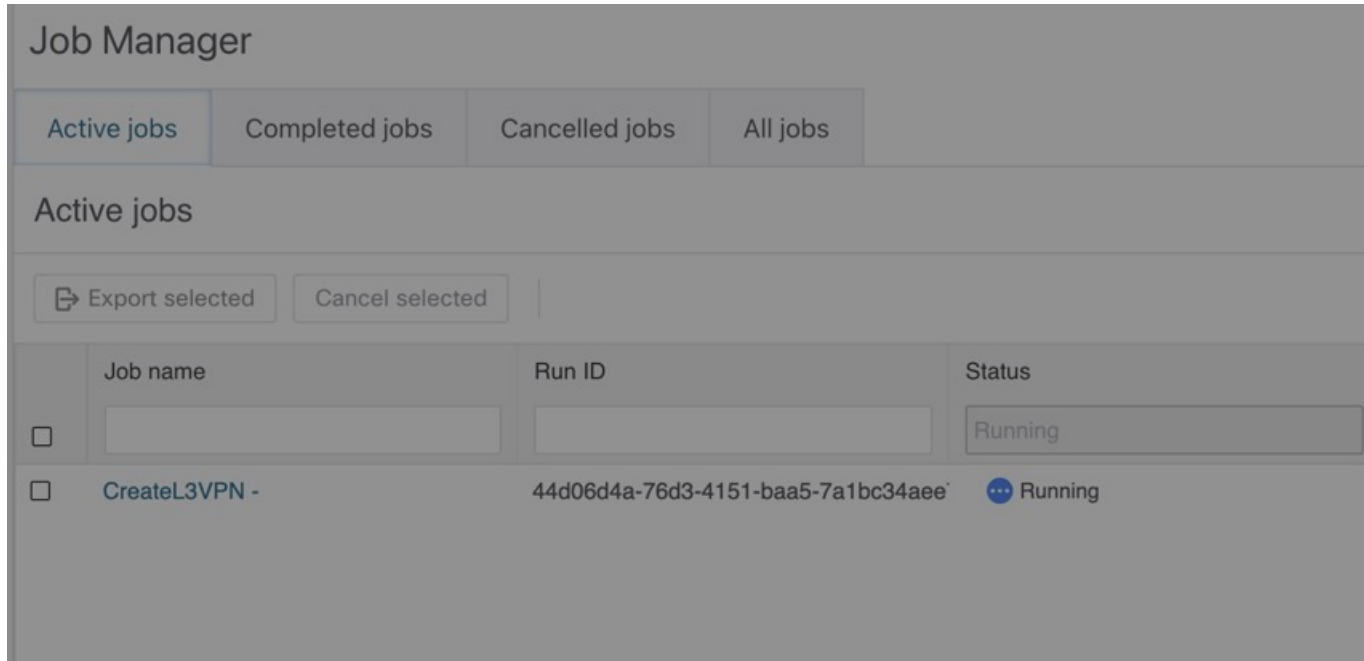
Step 4 Click **Run Job**.

Cancel job

Step 1 Go to **Job Manager** -> **Active jobs** tab.

Step 2 In the **Active jobs** table, find a job that you want to cancel and click the **Cancel** button in the same row under the Actions column.

Figure 19: Cancel job button



Step 3 In the *Cancel job* modal, you can enter an optional Reason for cancelling.

Step 4 Tick **Force terminate** checkbox if you want to cancel the running job immediately. If you leave this checkbox unticked, the workflow worker will complete the ongoing task execution from the workflow definition and then cancel the job.

Figure 20: Cancel job

Cancel job

Are you sure you want to cancel the selected job?

Job name / Run ID

CreateL3VPN - / 90e49deb-df15-4a14-9c9d-dde88ed6e683

Reason

Force terminate



Step 5 Click **Cancel Job**.

You can cancel the job also from the job's **Details** tab.