Programmable Reports

The **Programmable Reports** application enables the generation of reports using Python 2.7 scripts. Report jobs are run to generate reports. Each report job can generate multiple reports. You can schedule the report to run for a specific device or fabric. These reports are analyzed to obtain detailed information about the devices.

The **REPORT** template type is used to support the **Programmable Reports** feature. This template has two template subtypes, **UPGRADE** and **GENERIC**. For more information on the REPORT template, refer Report Template. A python SDK is provided to simplify report generation. This SDK is bundled with Nexus Dashboard Fabric Controller.

Note A Jython template supports a maximum file size of 100k bytes. In case any report template exceeds this size, Jython execution may fail.

Nexus Dashboard Fabric Controller UI Navigation

To launch programmable reports on the Cisco Nexus Dashboard Fabric Controller Web UI, choose **Operations** > **Programmable Reports**.

The **Reports** window is displayed. This window has **Report Definitions** and **Reports** tabs. You can create reports from both the tabs by clicking **Create Report**. For information on creating a report job, refer *Creating a Report Job*. Refresh the window by clicking the **Refresh** icon.

Note Report jobs and SAN user defined reports are not migrated when upgraded from Cisco DCNM 11.5(x) to Nexus Dashboard Fabric Controller Release 12.0.1a. You must create them again manually.

This chapter contains the following sections:

- Create Report, on page 2
- Report Definitions, on page 3
- Reports, on page 5

Create Report

Choose **Operations** > **Programmable Reports**. Click **Create Report**. The **Create Report** wizard appears.

To create a report job, perform the following steps:

Procedure

Step 1 Enter a name for the report job in the **Report Name** field.

Step 2 Click **Select a template**.

Step 3 Choose a report template from the drop-down list and click **Select**.

Based on the template you've chosen, provide required values to the fields that appear on the screen.

Step 4 Click **Next** to move to the **Source & Recurrence** step.

Step 5 Choose the frequency at which the report job should be run.

The following table shows the options available and their description.

Available Option	Description
Now	The report is generated now.
Daily	The report is generated daily at a specified time between the Start Date and End Date.
Weekly	The report is generated once a week at a specified time between the Start Date and End Date.
Monthly	The report is generated once a month at a specified time between the Start Date and End Date.
Periodic	The report is generated periodically in a time period between the specified Start Date and End Date. The interval of time between the reports can be specified in minutes or hours.

Note
When you are creating a Periodic NVE VNI Counters report, the report generation frequency has to be set to 60 minutes or more. If the frequency is less than 60 minutes, an error message is displayed.

Step 6 In the **Email Report To** field, enter an email ID or mailer ID if you want the report in an email.

You must configure SMTP settings in **Settings > Server Settings > SMTP** tab. If the Data service IP address is in private subnet, the static management route for SMTP server must be added in Cisco Nexus Dashboard cluster configuration.

Step 7 Choose the devices, fabrics, or VSANs in the **Select device(s)**, **Select fabric(s)**, or **Select VSAN(s)** area.

Note
Based on the template you choose, the devices, fabrics, or VSANs are populated.

Step 8 Click **Save**.

A new report and repot definitions are created and appears on the **Reports** and **Report Definitions** tab respectively.

Report Templates

Each report template has some data associated with it. Depending on the features you have enabled in Nexus Dashboard Fabric Controller, some of the report templates available are

- Inventory_Report
- Performance_Report
- Switch_Performance_Report
- fabric_cloudsec_oper_status
- fabric_macsec_oper_status
- fabric_nve_vni_counter
- fabric_resources
- sfp_report
- switch_inventory

In addition to the templates listed above, any other templates that have been created by you will also be listed here. For more information on default templates and creating customized templates, refer to Templates. Templates are listed based on the associated tags.

Performance_Report and **Switch_Performance_Report** are used for performance management reports.

Report Definitions

The **Report Definitions** tab displays the report jobs which are created by a user.

You can view the following information in this tab:

Field	Description
Title	Specifies the title of the report job.
Template	Specifies the name of the template.
Scope	Specifies the scope of the report.
Scope Type	Specifies if the report is generated for a device or a fabric.

Field	Description
Status	Specifies the status of the report. The status messages are as follows: • Success: Report is generated successfully. • Scheduled: A report generating schedule is set. • Running: A report job is running. • Failed: Report execution failed for one or more selected switches/fabrics or an issue occurred during running of the report job. • Unknown: Job state could not be identified.
Last Run Time	Specifies the time at which the report was last generated.
User	Specifies the user who has initiated the report generation.
Recurrence	Specifies the frequency at which the reports are generated.
Internal	Specifies if the report is run generated by a user or by Nexus Dashboard Fabric Controller. The value is **false** if the report is generated by a user.

You can perform the following actions in this tab:

Note You cannot perform these actions on internal report definitions.

Action	Description
Edit	Allows you to edit a report. **Note** You cannot change the report name and template.
Re-run Report	Allows you to rerun a report. You can use the re-run option to generate a report before the scheduled execution time.

Action	Description
History	Allows you to view report job history. The **Job History** window is displayed. You can view several entries per report job. **Note** The number of definitions displayed is defined by the following settings on **Settings > Server Settings > Reports** tab. Based on these values, the reports and history is purged. • Max number of history across report definition • Max number of reports per report definition
Delete	Allows you to delete a report job.

Reports

The **Reports** tab displays the reports which are run by a user.

You can view the following information in this tab:

Field	Description
Title	Specifies the title of the report. • Single click on the report title opens a slide in summary panel. • Double click on the report title opens the Details and Commands window.
Template	Specifies the name of the template.
Scope	Specifies the scope of the report.
Scope Type	Specifies if the report is generated for a device or a fabric.

Field	Description
Status	Specifies the status of the report. The status messages are as follows: • COMPLETED • SUCCESS • RUNNING • FAILED • WARNING • SCHEDULED • UNKNOWN
User	Specifies the user who has initiated the report generation.
Recurrence	Specifies the frequency at which the reports are generated.
Created At	Specifies when the report is created.
Internal	Specifies if the report was created by a user or Nexus Dashboard Fabric Controller. The value is false if the report is created by a user.

You can perform the following actions in this tab:

Action	Description
Delete	Allows you to delete a report. **Note** You cannot delete internal reports.
Compare (2 Reports)	Allows you to compare two reports side by side. The report detail is logically grouped into sections. The commands are displayed based on the templates and the API that is used to run the commands on the device. For example, in the switch_inventory template, the show version, show inventory and show license usage commands are run to retrieve information. Note that the commands are displayed only if the show_and_store API is used to run the commands on the device.
Download	Allows you to download a report. You cannot choose more than one report to download.