

Troubleshooting

This chapter has troubleshooting details of the Cisco Nexus Dashboard Data Broker.

Beginning with Release 3.10.1, Cisco Nexus Data Broker (NDB) has been renamed to Cisco Nexus Dashboard Data Broker. However, some instances of NDB are present in this document, to correspond with the GUI, and installation folder structure. References of NDB/ Nexus Data Broker/ Nexus Dashboard Data Broker can be used interchangeably.

- Audit Log, on page 1
- Flow Management, on page 2
- JSON Export/ Import , on page 6
- Purge Device, on page 8
- RMA, on page 8
- Tech Support, on page 9
- Collecting Logs from Cisco Nexus Dashboard and Cisco APIC , on page 12

Audit Log

The **Audit Log** tab displays a record of activities or actions performed on the Nexus Dashboard Data Broker controller.

Note Read-only actions are not recorded.

A table is displayed with the following details:

Table 1: Audit Log

Column Name	Description
Date & Time	The date and time of activity.
Module Name	Module on which the event occurred. This is based on an internal mapping of modules, for example- logging in and logging out is part of the Security Module.

Column Name	Description
Slice	Slice pertaining to an action/ event. Some actions are not slice-relevant and they are left blank. Examples for slice-dependent actions- components, connections , sessions, statistics.
User	User responsible for the action/ event.
Action	Description of the action performed by the user.
Resource	Object on which the action was performed.
Description	The result of the performed action. The available options are: • Failure (with description) • Success
Origin	Nexus Dashboard Data Broker controller on which the action was performed. **Note** For Standalone Nexus Dashboard Data Broker controller, 127.0.0.1 is displayed.
Mode	Mode in which the action was performed. **Note** For Release 3.10, only Centralized mode is supported.

The following actions can be performed from the **Audit Log** tab:

- **Fetch Records**—Use this to set the number of audit logs that will be displayed.

  Click **Actions** > **Fetch Records** and enter a value for the **Record Count** field. Click **Fetch**. The **Audit Log** table is loaded accordingly.

Flow Management

The **Flow Management** tab enables you to view inconsistent connections and device flows and manage the inconsistent flows. You can view and download the details, which can be used for degugging.

The **Flow Management** tabs contains the following subtabs:

- **Consistency Check**—displays inconsistencies for NX-API based devices. The inconsistencies are automatically trigerred if there is an ACL/ ACE mismatch with the NDB database. See Consistency Check for more details.

- **Connection Flows**—displays details of the ACLs and ACEs generated for a connection. See Connection Flows for more details.
- **Device Flows**—displays details of the ACLs and ACEs generated for a device. See Devices Flows for more details.

Consistency Check

The **Consistency Check** tab displays inconsistencies for NX-API based devices. The inconsistencies are automatically triggered if there is an ACL/ ACE mismatch with the Nexus Dashboard Data Broker database.

The *Alarm* icon () in the header displays the number of devices that have inconsistencies.

A table is displayed with the following details:

Table 2: Consistency Check

Column Name	Description
Device	Device name. This field is an hyperlink. Click the **Device** name and a new pane is displayed on the right. For details about devices, see Devices.
Inconsistent Controller Flows	The inconsistent controller flows. This field is an hyperlink. Click the number indicated and a new pane is displayed on the right with a list of ACLs and their ACEs. The following actions can be performed from here: • **Fix Flows**—Select the required check-boxes and click **Fix Flows**. The selected flows (ACEs) are fixed and the number displayed in the **Inconsistent Controller Flows** column is updated accordingly. • **Export All**—Select this option to get a copy of the flows listed as ACLs and ACEs. A `.csv` file is downloaded to your local machine. This is useful for debugging.

Column Name	Description
Inconsistent Device Flows	The inconsistent or stale flows for a device; indicates the missing ACLs and ACEs in the device when compared to the controller flows. This field is an hyperlink. Click the number indicated and a new pane is displayed on the right with a list of ACLs and their ACEs. The following actions can be performed from here: • **Fix Flows**—Select the required check-boxes and click **Fix Flows**. The selected flows (ACEs) are fixed and the number displayed in the **Inconsistent Controller Flows** column is updated accordingly. • **Export All**—Select this option to get a copy of the flows listed as ACLs with their ACEs. A `.csv` file is downloaded to your local machine. This is useful for debugging.
Non NDB Flows	The number of ACLs present in the device. ACLs can be the default device ACLs or can be added manually. This field is an hyperlink. Click the number indicated and a new pane is displayed on the right with a list of ACLs and their ACEs. The following actions can be performed from here: • **Fix Flows**—Select the required check-boxes and click **Fix Flows**. The selected flows (ACEs) are fixed and the number displayed in the **Inconsistent Controller Flows** column is updated accordingly. • **Export All**—Select this option to get a copy of the flows listed as ACLs with their ACEs. A `.csv` file is downloaded to your local machine. This is useful for debugging.



Note ACLs which are Nexus Dashboard Data Broker-generated are indicated with a *ndb_* prefix. Non-NDB flows are indicated by the respective component.

The following actions can be performed from the **Consistency Check** tab:

- **Check Controller Flows**—Select a device and click **Check Controller Flows**. A new pane is displayed on the right with the ACLs and ACEs.
- **Check Device Flows**—Select a device and click **Check Device Flows**. A new pane is displayed on the right with the ACLs and ACEs.

- **View non-NDB Flows**—Select a device and click **View non-NDB Flows**. A new pane is displayed on the right with the ACLs and ACEs.

Connections Flows

The **Connections Flows** tab provides details of the ACLs and ACEs generated for a connection.

A table is displayed with the following details:

Table 3: Connections Flows

Column Name	Description
Connection	Connection name. This field is a hyperlink. Click the **Connection** name and a new pane is displayed on the right with details of the connection. For information about the actions that can be performed here, see Connections chapter.
Flows	Number of flows (ACEs) for the connection (can be across devices). This field is hyperlink. Click the displayed number and a new pane is displayed on the right. The connection name is displayed, followed by the ACL and the ACEs that it contains. Actions that can be performed from here are: • **Export All**—Select this option to get a copy of the flows listed as ACLs with their ACEs. A `.csv` file is downloaded to your local machine.

The following actions can be performed from the **Connection Flows** tab:

- **Check Connection Flows**—Select a connection and click **Check Connection Flows**. A new pane is displayed on the right. The connection name is displayed, followed by the ACL and the ACEs that it contains. Actions that can be performed from here are:
  - **Export All**—Select this option to get a copy of the flows listed as ACLs with their ACEs. A `.csv` file is downloaded to your local machine.

Device Flows

The **Device Flows** tab provides details of the ACLs and ACEs generated for a device.

A table is displayed with the following details:

Table 4: Device Flows

Column Name	Description
Device	Device name. This field is a hyperlink. Click the **Device** name and a new pane is displayed on the right with details of the device. For information about the actions that can be performed here, see Devices chapter.
Flows	Number of flows (ACEs) for the device (can be across connections and all ports of the device). This field is a hyperlink. Click the displayed number and a new pane is displayed on the right. The connection name is displayed, followed by the ACL and the ACEs that it contains. Actions that can be performed from here are: • **Export All**—Select this option to get a copy of the flows listed as ACLs with their ACEs. A `.csv` file is downloaded to your local machine.

The following actions can be performed from the **Device Flows** tab:

- **Check Device Flows**—Select a device and click **Check Device Flows**. A new pane is displayed on the right. The device name is displayed, followed by the ACL and the ACEs that it contains. Actions that can be performed from here are:
  - **Export All**—Select this option to get a copy of the flows listed as ACLs with their ACEs. A `.csv` file is downloaded to your local machine.

JSON Export/ Import

The **JSON Export/ Import** tab enables you to export and import the device configuration in JSON file format. The configuration file includes information about the connected as well as disconnected devices with all the configuration information (except for port-channel).

The **JSON Export/ Import** tab contains the following subtabs:

- **Export**—enables you to export configurations from Nexus Dashboard Data Broker controller (to your local machine). See Export for more details.
- **Import**—enables you to import configurations into the Nexus Dashboard Data Broker controller. See Import for more details.

Export

The **Export** tab enables you export configurations from the Nexus Dashboard Data Broker controller.

A table with the following details is displayed:

Table 5: Export

Column Name	Description
ID	Serial number of the device.
Name	Name of the device.
IP Address	IP address of the device.
Type	Type of the device. The options are: • NX—NDB device connected to NX-API device. • PS—NDB device connected to production switch (NX-OS). • AC—NDB device connected to ACI device.
Status	The status of the device.

The following actions can be performed from the **JSON Export/ Import** > **Export**tab:

- **Export Configuration**—Click **Actions** > **Export Configuration** to export a JSON configuration to your local machine. Select the **Connections** check-box to include the connections of a device while exporting. Click **Export**.

Import

The **Import** tab enables you to import configurations in to the Nexus Dashboard Data Broker controller.

A table with the following details is displayed:

Table 6: Import

Column Name	Description
ID	Serial number of the device.
Exported Device Name	Name of the device from which the configuration was exported.
IP Address	IP address of the device.
Type	Type of the device. The options are: • NX—NDB device connected to NX-API device. • PS—NDB device connected to production switch (NX-OS). • AC—NDB device connected to ACI device.
Status	Status of the import action. The options are- success, failure, partial, in progress, abort.

Column Name	Description
Description	Description of the success/ failure status.

The following actions can be performed from the **JSON Export/ Import** > **Import**tab:

- **Import Configuration** —Click **Actions** > **Import Configuration** and select a JSON file from your local machine and click **Upload**. You can also *drag and drop* to upload a JSON file.
- **Apply Configuration**—Click **Actions** > **Apply Configuration**. The **Edit Device** screen is displayed. Enter the details of the device on which you intend to apply the configuration. Click **Apply and Check Compatibility**. The **Compatibility Matrix** screen is displayed. If both the devices are compatible, the status is indicated in green. Click **Apply**.

  The status of this action is indicated in the **Import** table.
- **Delete Import**—Click **Actions** > **Delete Import** to delete an imported configuration.

Purge Device

The **Purge Device** tab displays details of deleted NDB devices. Deleting a device only removes it from the Nexus Dashboard Data Broker controller but the device configuration is retained, while purging a device deletes a device and also removes the device configuration from the Nexus Dashboard Data Broker controller.

A table is displayed with the following details:

Table 7: Purge Device

Column Name	Description
Node ID	Node ID of the device connected to Nexus Dashboard Data Broker controller.
Device	Device name.
IP Address	IP address of the device.

Use the *Filter by attributes* bar to filter the table based on displayed device group details. Choose the attribute, operator and filter-value.

The following actions can be performed from the **Purge Device** tab:

- **Purge Device(s)**—Select the required devices by checking the check box which is available at the beginning of the row; click **Purge Device(s)**.

  This is useful for removing the stale device configurations from the database.

RMA

The Return Material Authorization (**RMA**) tab displays a list of devices that have been deleted and awaiting replacement. This feature maps the configuration from the RMA device to the new device.

A table is displayed with the following details:

Table 8: RMA

Column Name	Description
Existing Node ID	The node ID of the (deleted) NDB device.
Node Name	Device name.
Serial Number	Serial number of the device.
IP Address	IP address of the device.

The following actions can be performed from the **RMA** tab:

- **Replace Node ID**— Select a Node ID by checking the check box. Click **Actions** > **Replace Node ID**. In the pop-up window that appears, enter the **Serial Number** and click **Replace** . The selected device is replaced with the device with the new serial number. The configuration which was available on the *old* device is programmed on the new device. Add the new device with the Device Prerequisites. The *new* device that is added to NDB, must have **feature nxapi** and **nxapi** HTTP/HTTPS port enabled. Physical port allocations must remain the same as it was with the *old* device in the network.

Note Ensure to delete (not *purge and delete)* the device before replacing it. Go to the **Devices** tab to delete the device. After the device is deleted, it appears under the **RMA** and **Purge Devices** tab.

To get the serial number for a NX-API device, use **show module** command for non-modular chassis (look for Serial-Num in the output) or use **show hardware** command for modular chassis switches (look for serial number under Switch hardware ID information in the output.

Tech Support

The **Tech Support** tab displays details of the tech support jobs created on the Nexus Dashboard Data Broker controller.

For more details about Tech Support About Tech Support, on page 11.

A table is displayed with the following details:

Table 9: Tech Support

Column Name	Description
Job ID	Job id created for a Tech Support job. This field is a hyperlink. Click the **Job ID** to view more details of the job. Click **Actions** > **Download** to download the details of the job to your local machine. The **Download and Delete** option downloads the details of the job to your local machine and then deletes it from the Nexus Dashboard Data Broker controller.
Job Type	The Operation Type of the job. The options are: • Basic • Advanced
Status	Status of the tech support job. The available statuses are: • Success— job is successfully completed. • Partial— job is partially successful. For eg, if multiple devices were selected, then, may be the failure has occurred on one of the selected devices. • Failure— job is not successful. • In progress— job is currently in progress. • Created— job is ready for execution, but is in a queue. • Stop— job was created but was not allowed to complete.

The following actions can be performed from the **Tech Support** tab:

- **Trigger Job** — Use this to trigger a tech support job. See Trigger Tech Support, on page 11 for more details.
- **Re-trigger Job** —Select a check box next and click **Actions** > **Re-trigger Job** to re-trigger a job. *In Progress* and *Created* jobs cannot be re-triggered. The Tech Support log files are replaced with the latest set of files, after a retriggered job is successful.
- **Stop Job**—Select a check box and click **Actions** > **Stop Job** to stop an onging job. Only *In Progress* and *Created* jobs can be stopped.
- **Delete Job**—Select a check box and click **Actions** > **Delete Job** to delete a job. An *In Progress* job cannot be deleted.

Note Multiple eligible jobs can be removed/stopped/re-triggered at a time.

Trigger Tech Support

Use this procedure to trigger a tech support job.

Before you begin

Ensure that one or more devices are connected to Nexus Dashboard Data Broker and the AUX mode is disabled.

Ensure to have a minimum available space of 64 MB in the device; else, the operation fails and a *No Enough Space* error is displayed.

Procedure

Step 1 Navigate to **Troubleshooting** > **Tech Support**.

Step 2 Click **Actions** > **Trigger Job**.

Step 3 In the **Trigger Tech Support** dialog box, enter the following details:

Table 10: Trigger Tech Support

Field	Description
Trigger Settings	
Device	The device for which you need to collect data. Click **Select Device** to select a device.
Operation Type	Select **Basic** or **Advanced**. The `show commands` for each of these options is listed.

Step 4 Click **Add** to collect the outputs of the `show commands`.

Note
The following folders are by default downloaded besides the Tech Support folder – configuration folder, configuration start up folder and general logs. This enables the tech support team to get all the information together and results in faster analysis.

About Tech Support

The tech support for NX-API devices feature enables you to collect information from one or more switches in one attempt, instead of collecting data separately from each switch. This is useful during debugging as all the relevant logs are readily available and can be downloaded.

Tech support data collection from switches can be performed in two modes:

- Basic mode– contains a limited set of show commands.
- Advanced mode–contains a wider set of show commands:

Collecting Logs from Cisco Nexus Dashboard and Cisco APIC

When Cisco Nexus Dashboard Data Broker is used as a service on Cisco ND and Cisco APIC, for troubleshooting, you may need to download logs from all the containers. The following procedures have the details for downloading logs from ND and APIC.

Collecting Nexus Dashboard Data Broker Logs from Cisco Nexus Dashboard

Downloading Cisco Nexus Dashboard Data Broker logs from the Cisco Nexus Dashboard Data Broker GUI, will download logs only from the current Nexus Dashboard Data Broker container.

Use this procedure to download Nexus Dashboard Data Broker logs from all the containers.

For more details about the Collect Tech Support procedure on Cisco Nexus Dashboard, see Cisco Nexus Dashboard User Guide.

Before you begin

Log in to Cisco Nexus Dashboard.

Procedure

Step 1 On the Nexus Dashboard GUI, navigate to **Operations** > **Tech Support** > **Actions** > **Collect Tech Support**.

Step 2 In the **Collect Tech Support** window, that is displayed, enter a description.

Step 3 From the **Namespace** drop down list, select Nexus Dashboard Data Broker.

Step 4 Click **Collect**.

Step 5 On the Tech Support screen, wait for the **Status** bar to turn green, indicating *100% Success*.

Step 6 Click **Download** to download the Cisco Nexus Dashboard Data Broker logs from all the Nexus Dashboard clusters.

Consolidated logs are downloaded to the local machine with timestamp. Extract and navigate to the respective folders.

Note
The downloaded logs contain Nexus Dashboard Data Broker and Nexus Dashboard container logs.

Collecting Nexus Dashboard Data Broker Logs from Cisco APIC

Downloading Cisco Nexus Dashboard Data Broker logs from the Cisco Nexus Dashboard Data Broker GUI, will download logs only from the current Nexus Dashboard Data Broker container.

Use this procedure to download Nexus Dashboard Data Broker logs from all the containers.

For more details about Import/ Export in Cisco APIC, see Cisco APIC Configuration Guide.

Before you begin

Log in to Cisco APIC.

Procedure

Step 1 On the APIC GUI, navigate to **Admin** > **Import/ Export** > **Remote Locations** .

Step 2 Right-click **Remote Locations** and select **Create Remote Location** or, click **Actions** and select **Create Remote Location**.

Step 3 In the **Create Remote Location** window that is displayed, enter the required details.

Enter the **Name**, **Host**, **Protocol**, **Remote Path**, **Username** for the host, and **Password** (including Confirm Password) for the host.

Note
The **Remote Path**, **Username**, **Password** fields are displayed only when the selected Protocol is **scp**, and the Authentication Type is **Use Password**.

Step 4 Click **Submit**.

Step 5 Navigate to **Export Policies** > **On-demand Tech Support**.

Step 6 Right-click and select **Create On-demand Tech Support**.

a) Enter a Name.
b) Select the E**xport to Controller** check box.
c) Select the **Export Destination** from the drop down list. This is the remote location that you set earlier (Step 3).
d) Select the **For App** check box.
e) Select the **App** from the drop down list. In this case, it is Nexus Data Broker.

Step 7 Click **Submit** to download the NDB logs from all APIC clusters/containers to the remote location.

Check the `.tgz` file on the specified remote server location, and extract the `.tgz` file and navigate to */data2/logs/CISCO_NDB/logs* to see the NDB logs.

Note
On-demand Tech Support option downloads NDB logs along with the APIC container logs.