Logging in and Managing Cisco Nexus Data Broker

This chapter contains the following sections:

Configuring Cisco Nexus Data Broker

Configuring High Availability Clusters

Cisco Nexus Data Broker supports high availability clustering in active/active mode with up to five controllers. To use high availability clustering with Cisco Nexus Data Broker, you must edit the `config.ini` file for each instance of Cisco Nexus Data Broker.

Before You Begin

- All IP addresses must be reachable and capable of communicating with each other.
- All switches in the cluster must connect to all of the controllers.
- All controllers must have the same HA clustering configuration information in the `config.ini` files.
- All controllers must have the same information in the `xnc/configuration/startup` directory.
- If using cluster passwords, all controllers must have the same password configured in the `xncjgroups.xml` file. See Password Protecting the High Availability Clusters, on page 2.

Procedure

Step 1 Ensure that Cisco Nexus Data Broker is not running on any of the instances in the cluster.

Step 2 Open a command window on one of the instances in the cluster.

Step 3 Navigate to the `xnc/configuration` directory that was created when you installed the software.

Step 4 Use any text editor to open the `config.ini` file.

Step 5 Locate the following text:

```
# HA Clustering configuration (colon-separated IP addresses of all controllers that are
part of the cluster.)
# supernodes=<ip1>:<ip2>:<ip3>:<ipn>
```

Step 6 Remove the comments on the # supernodes line, and replace <ip1>:<ip2><ip3>:<ipn> with the IP addresses for each instance of Cisco Nexus Data Broker in the cluster. You can enter from two to five IP addresses.

Example:

```
# HA Clustering configuration (colon-separated IP addresses of all controllers that are
part of the cluster.)
supernodes=10.1.1.1:10.2.1.1:10.3.1.1:10.4.1.1:10.5.1.1
```

Step 7 Save the file and exit the editor.

Step 8 Repeat Step 3 through Step 7 for each instance of Cisco Nexus Data Broker in the cluster.

Step 9 Restart Cisco Nexus Data Broker.

Password Protecting the High Availability Clusters

You can password protect your HA clusters with the `xncjgroups.xml` file. This file must be exactly the same for each instance of Cisco Nexus Data Broker.

Procedure

Step 1 Ensure that Cisco Nexus Data Broker is not running on any of the instances in the cluster.

Step 2 Open a command window on one of the instances in the cluster.

Step 3 Navigate to the `xnc/configuration` directory.

Step 4 Use any text editor to open the `xncjgroups.xml` file.

Step 5 Locate the following text:

```
<!-- <AUTH auth_class="org.jgroups.auth.MD5Token" auth_value="ciscoXNC"
token_hash="MD5"></AUTH> -->
```

Step 6 Remove the comments from the AUTH line.

Example:

```
<AUTH auth_class="org.jgroups.auth.MD5Token" auth_value="ciscoXNC" token_hash="MD5"></AUTH>
```

Step 7 (Optional) Change the password in the auth_value attribute.

By default, the cluster is protected with the password "ciscoXNC". You can change this password to whatever value you want, if you make the same change on all machines in the cluster.

Step 8 Save the file and exit the editor.

Step 9 Repeat Step 4 through Step 8 for each instance of Cisco Nexus Data Broker in the cluster.

Step 10 Restart Cisco Nexus Data Broker.

Editing the Configuration Files for Cisco Nexus Switches

Cisco Nexus Data Broker has the ability to periodically rediscover Cisco Nexus switch inventory and the topology so that the topology and inventory is in sync. Cisco Nexus data broker periodically rediscovers the switch inventory and the topology interconnection and status. This information is updated in the GUI depending on the status. You can configure the rediscovery interval and the default value is 60 seconds.

Procedure

	Command or Action	Purpose
Step 1	Navigate to the `xnc/configuration` directory that was created when you installed the software.	
Step 2	Use any text editor to open the `config.ini` file.	
Step 3	Update the following parameters:	

Name	Predefined Value in Seconds	Minimum Value in Seconds	Recommended Value in Seconds
of.messageResponseTimer	10	2	60
of.switchLivenessTimeout	—	60.5	120.5
of.flowStatsPollInterval	120	10	240
of.portStatsPollInterval	300	5	240
of.descStatsPollInterval	—	60	240
of.barrierMessagePriorCount	50	100	50
of.discoveryInterval	—	300	300
of.discoveryTimeoutMultiple	—	2	2

	Command or Action	Purpose
		<table><tr><th>Name</th><th>Predefined Value in Seconds</th><th>Minimum Value in Seconds</th><th>Recommended Value in Seconds</th></tr><tr><td>NX-API related system parameters</td><td colspan="3"></td></tr><tr><td>nx.connectionDelayTimer</td><td>300</td><td>—</td><td>300</td></tr><tr><td>nx.flowStatsPollInterval</td><td>120</td><td>—</td><td>120</td></tr><tr><td>nx.tableStatsPollInterval</td><td>120</td><td>—</td><td>120</td></tr><tr><td>nx.portStatsPollInterval</td><td>120</td><td>—</td><td>120</td></tr><tr><td>nx.descStatsPollInterval</td><td>120</td><td>—</td><td>120</td></tr><tr><td>nx.lldpPollingTimer</td><td>10</td><td>—</td><td>10</td></tr><tr><td>nx.portPollingTimer</td><td>20</td><td>—</td><td>20</td></tr></table> **Note** Predefined values are the values that Cisco includes in the `config.ini` file that is shipped with Cisco Nexus Data Broker. A em dash ("—") in this column of the table means that unless you explicitly update the value, the minimum value will be used.
Step 4	Save the file and exit the editor.	
Step 5	Restart Cisco Nexus Data Broker.	

Configuring User Roles for Edge Ports

To manage which edge ports a Cisco Nexus Data Broker application user can use for creating rules for edge ports, you must modify the App-User role settings in the `config.ini` file to enable role-based access control (RBAC) for application users. After you make your changes and restart Cisco Nexus Data Broker, note these restrictions:

- Cisco Nexus Data Broker App-User role users will be able to create rules only for source ports which are part of the resource group or groups assigned to that role .
- Only Cisco Nexus Data Broker App-Admin role users will be able create rules with no source.

To enable RBAC for the App-User role, follow these steps:

Procedure

Step 1 Open the `config.ini` file for editing.

Step 2 Locate the line `# Enforce restriction on edge/tap ports user can capture (default false).`

Step 3 Remove the comment character from the following line:
`monitor.strictAuthorization=true`

Step 4 Save your work and close the file.

Step 5 If Cisco Nexus Data Broker is running, restart the application to enable the change.

Logging in to the Cisco Nexus Data Broker GUI

You can log into the Cisco Nexus Data Broker using HTTPS. The default HTTPS web link for the Cisco Nexus Data Broker GUI is `https://Nexus_Data_Broker_IP:8443/monitor`.

Note You must manually specify the https:// protocol in your web browser. The controller must also be configured for HTTPS.

Procedure

Step 1 In your web browser, enter the Cisco Nexus Data Broker web link.

Step 2 On the launch page, do the following:

a) Enter your username and password.
The default username and password is admin/admin.

b) Click **Log In**.

Changing the Controller Access to HTTP

With Cisco Nexus Data Broker Release 2.1, an unencrypted (HTTP) access to the GUI and the API to the controller access is disabled by default. You cannot access the controller with the URL http://<host>:8080.

To change the controller access to HTTP, complete the following steps:

Procedure

	Command or Action	Purpose

Step 1	Remove the comment character from the connector for port 8080 in the tomcat-server.xml file in the configuration directory as displayed in the following example:
	
	Example:
	`<Service name="Catalina">`
	`<!--`
	`<Connector port="8080" protocol="HTTP/1.1"`
	`connectionTimeout="20000"`
	`redirectPort="8443" server="Cisco XNC" enableLookups="false" />`
	`-->`
	`<Connector port="8443" protocol="HTTP/1.1" SSLEnabled="true"`
	`scheme="https" secure="true"`
	`clientAuth="false" sslProtocol="TLS"`
	`keystoreFile="configuration/keystore"`
	`keystorePass="ciscoxnc" server="Cisco XNC"`
	`connectionTimeout="60000" enableLookups="false" />`
	
	Example:
	Remove the comment character as displayed in the following example:
	`<Service name="Catalina">`
	`<Connector port="8080" protocol="HTTP/1.1"`
	`connectionTimeout="20000"`
	`redirectPort="8443" server="Cisco XNC" enableLookups="false" />`
	
	`<Connector port="8443" protocol="HTTP/1.1" SSLEnabled="true"`
	`scheme="https" secure="true"`
	`clientAuth="false" sslProtocol="TLS"`
	`keystoreFile="configuration/keystore"`
	`keystorePass="ciscoxnc" server="Cisco XNC"`
	`connectionTimeout="60000" enableLookups="false" />`	

Step 2	Restart the controller.	

Cisco Nexus Data Broker GUI Overview

The Cisco Nexus Data Broker GUI contains the following areas and panes:

- A menu bar across the top of the window that provides access to the main categories of information in Cisco Nexus Data Broker.
- A topology map on the right that displays a visual representation of your network.
- Several panes with additional views and information about the selected category.

The menu bar contains the following items:

- The **Online help** button—Provides access to the online help for the current page.
- A **Save** button—Enables you to save any additions or changes you make in Cisco Nexus Data Broker.

Note You should always click **Save** after making any configuration changes.

- A **Northbound API** button—Enables you to view northbound API content in a new browser tab, and displays the content and calls.
- The administrative management (**Admin**) drop-down list—Provides access to different tasks, as follows:
  - **Management**—Provides access to manage devices, flows, users, slices, Administration, Authorization, and Authentication (AAA) configuration, view the OSGi console, view cluster information, and to troubleshoot your network.
  - **Settings**—Provides access to create user roles and resource groups, and to assign devices to resource groups.
  - **Logout**—Logs you out of Cisco Nexus Data Broker.

Topology Tools

The left side of the topology pane contains a zoom slider that allows you increase or decrease the size of the topology diagram. You can also increase or decrease the size of the topology diagram by scrolling up or down, respectively, with your mouse wheel.

You can move the entire topology diagram, a single topology element, or a node group. To move the diagram, an element, or a node group, click it and drag it.

To view information about a node or an edge port, hover over the node or edge port icon with your mouse. The information displayed depends on the device you choose.

To view information about a path, hover over the path in the topology diagram.

To view information about a filter, hover over the **Name** of the filter in the **Configure Filters** tab.

Pane Resizing

You can resize the panes in the GUI display by clicking the pane resize grippers as follows:

- To increase or decrease the height of either of the left or right bottom pane, click the pane resize grippers at the top of the pane, and then drag up or down with your mouse.
- To collapse either the lower right or lower left pane, hover over the pane resize grippers at the top of the pane until a double-ended arrow is displayed, and then click your mouse once.
- To restore a collapsed pane, hover over the pane resize grippers at the bottom of the pane until a double-ended arrow is displayed, and then click your mouse once.
- To increase or decrease the width of the two left panes at the same time, click the pane resize grippers at the top of the pane, and then drag left or right with your mouse.

Saving Configuration Changes

You should periodically save the configuration changes that you make in Cisco Nexus Data Broker. Any unsaved configuration changes in Cisco Nexus Data Broker will be lost if you stop the application.

Procedure

On the menu bar, click **Save**.