



# Installing or Upgrading the Cisco Nexus Data Broker Software in Centralized Mode

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## Installing Cisco Nexus Data Broker in Centralized Mode

### Installing or Upgrading the Cisco Nexus Data Broker Software in Centralized Mode



#### Important

Direct upgrade path to Cisco Nexus Data Broker Release 3.6 (till Release 3.8) is available from Cisco Nexus Data Broker release 3.0 or above. If you are running a previous release, upgrade to Release 3.0 first before upgrading to Release 3.6 (and above, till Release 3.8).



#### Note

To add a device to NDB in centralized mode, use the device IP address or the device hostname.

- To complete a new installation of Cisco Nexus Data Broker, see the *Installing the Cisco Nexus Data Broker Software* section.

### Installing the Cisco Nexus Data Broker Software in Centralized Mode

Complete these steps to install Cisco Nexus Data Broker software in Centralized mode:

- Step 1** In a web browser, navigate to **www.cisco.com**.
- Step 2** Under **Support**, click **All Downloads**.
- Step 3** In the center pane, click **Cloud and Systems Management**.
- Step 4** If prompted, enter your Cisco.com **username** and **password** to log in.

**Step 5** In the right pane, click **Network Controllers and Applications**, and then click **Cisco Nexus Data Broker**.

The file information for Release 3.7 is displayed: Cisco Nexus Data Broker Software Application:  
ndb1000-sw-app-k9-3.7.0.zip

**Step 6** Download the Cisco Nexus Data Broker application bundle.

**Step 7** Create a directory in your Linux machine where you plan to install Cisco Nexus Data Broker.

For example, in your Home directory, create `CISCO_NDB`.

**Step 8** Copy the Cisco Nexus Data Broker zip file into the directory that you created.

**Step 9** Unzip the Cisco Nexus Data Broker zip file.

The Cisco Nexus Data Broker software is installed in a directory called `xnc`. The directory contains the following:

- `runxnc.sh` file—The file that you use to launch Cisco Nexus Data Broker.
- `version.properties` file—The Cisco Nexus Data Broker build version.
- `configuration` directory—The directory that contains the Cisco Nexus Data Broker initialization files.  
This directory also contains the `startup` subdirectory where configurations are saved.

- `bin` directory—The directory that contains the following script:

- `xnc` file—This script contains the Cisco Nexus Data Broker common CLI.

- `etc` directory—The directory that contains profile information.
- `lib` directory—The directory that contains the Cisco Nexus Data Broker Java libraries.
- `logs` directory—The directory that contains the Cisco Nexus Data Broker logs.

**Note** The `logs` directory is created after the Cisco Nexus Data Broker application is started.

- `plugins` directory—The directory that contains the OSGi plugins.
- `work` directory—The webserver working directory.

**Note** The `work` directory is created after the Cisco Nexus Data Broker application is started.

**Note** To migrate from OVA-based Openflow to Native Openflow, see the [Uninstalling Cisco Plug-in for OpenFlow](#) chapter.

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## Upgrading the Application Software in Centralized Mode Using CLI

Use the **upgrade** command to upgrade to Cisco Nexus Data Broker Release 3.7 or later release. When you are upgrading from Release 2.2.0 and/or Release 2.2.1, you first need to upgrade to Release 3.0.0 and only then you can upgrade to Cisco Nexus Data Broker Release 3.7 or later release. This upgrade is an in-place upgrade, which means that the product bits are replaced. A backup archive is created to restore your original installation, if necessary.



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**Note** Once you upgrade to Cisco Nexus Data Broker Release 3.7 or later release, you cannot use the downgrade option to rollback to a previous release. You have to use the configuration archive that is created during the upgrade process to rollback the software.

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**Note** When you upgrade the software to Cisco Nexus Data Broker Release 3.2 or later release, the hostname should not be changed during the upgrade process. If the hostname is changed during the upgrade process, the upgrade might fail. If you are upgrading from release 2.x, 3.0 and 3.1, the domain name configuration in the switch should be removed before upgrading the software.

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When you run the **upgrade** command, the installation and the configuration are upgraded. However, any changes you made to the shell scripts or configuration files, for example, `config.ini`, are overwritten. After you complete the upgrade process, you must manually reapply your changes to those files.

### Before you begin

- Stop all controller instances that use the Cisco Nexus Data Broker installation. This will avoid conflicts with the file system, which is updated during the upgrade.
- Backup up the NDB configuration. For more information, see *Backing Up or Restoring the Configuration Using NDB GUI* section.
- If you are using high availability clustering, stop all application instances in the cluster to ensure that there are no inconsistencies.
- Back up your `config.ini` file.
- All the HA cluster members send keepalive message every 3 seconds. If a peer does not respond to keepalive message, peers attempt three retries to determine whether the peer is alive or dead. If a peer does not respond even after three retries, split-brain situation occurs where multiple HA members act as coordinators.



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**Important** You should manually backup your `config.ini` file before upgrading, because the backup process does not back them up for you. If you do not backup your files before upgrading, any changes you made will be lost.

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**Note** When you run `runxnc.sh` script, there is a thread in the script that monitors the log and the Cisco Nexus Data Broker JAVA process to monitor the health of the Cisco Nexus Data Broker. The default value for this option is 30 Seconds.

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- Step 1** In a web browser, navigate to [Cisco.com](https://www.cisco.com).
- Step 2** Under **Support**, click **All Downloads**.
- Step 3** In the center pane, click **Cloud and Systems Management**.

- Step 4** In the right pane, click **Network Controllers and Applications**, and then click **Cisco Nexus Data Broker**.
- Step 5** Download the Cisco Nexus Data Broker Release 3.7 application bundle: Cisco Nexus Data Broker Software Application—ndb1000-sw-app-k9-3.7.zip
- Step 6** Create a temporary directory in your Linux machine where you plan to upgrade to Cisco Nexus Data Broker. For example, in your Home directory, create `CiscoNDB_Upgrade`.
- Step 7** Unzip the Cisco Nexus Data Broker Release 3.7 zip file into the temporary directory that you created.
- Step 8** Navigate to the `xnc` directory that was created when you installed the Cisco Nexus Data Broker release earlier.
- Step 9** Backup your Cisco Nexus Data Broker release installation using your standard backup procedures.
- Step 10** Stop running all Cisco Nexus Data Broker release processes.
- Step 11** Navigate to the `xnc/bin` directory in the temporary directory that you created for the Cisco Nexus Data Broker Release 3.7 upgrade software.
- Step 12** Upgrade the application by entering the `./xnc upgrade --perform --target-home {xnc_directory_to_be_upgraded} [--verbose] [--backupfile {xnc_backup_location_and_zip_filename}]` command.

You can use one of the following options:

Option	Description
<code>--perform --target-home {xnc_directory_to_be_upgraded}</code>	Upgrades the Cisco XNC Monitor Manager installation to Cisco Nexus Data Broker.
<code>--perform --target-home {xnc_directory_to_be_upgraded} --backupfile {xnc_backup_location_and_zip_filename}</code>	Upgrades the Cisco XNC Monitor Manager installation to Cisco Nexus Data Broker and creates a backup .zip file in the directory path that you set.  <b>Note</b> You must provide the name of the backup file and the .zip extension.  <b>Note</b> The backup file should not be saved in the <code>xnc</code> directory with current NDB installation or its subdirectory.
<code>--verbose</code>	Displays detailed information to the console. This option can be used with any other option and is disabled by default.
<code>--validate --target-home {xnc_directory_to_be_upgraded}</code>	Validates the installation.
<code>./xnc help upgrade</code>	Displays the options for the <b>upgrade</b> command.

- Step 13** Navigate to the `xnc` directory where you originally installed Cisco XNC Monitor Manager.
- Step 14** Start the application processes that you previously stopped.

**Note** Clear the browser cache. Use Shift+Ctrl+Delete keys to clear the cache.

**Note** Press Ctrl+F5, or press the Cmd, Shift, and R keys simultaneously when you access Cisco Nexus Data Broker through a web UI following an upgrade.

## Upgrading the Application Software in Centralized Mode Using GUI

Complete the following steps to upgrade the application software in the Centralized mode using GUI:

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- Step 1** Log into NDB.
- Step 2** Navigate to the **System** tab under **Administration**.  
The **System Administration** window is displayed.
- Step 3** Click **Download Configuration** to download the switch configuration file in a .zip file format.  
The default name of the zip file is **configuration\_startup.zip**.  
OR  
Navigate to the **System** tab under **Administration > Backup/Restore** tab. Click **Backup and Backup Locally** to download the configuration in zip file format.
- Step 4** Stop the current NDB instance using the **runxnc.sh -stop** command.  
**Example:**  

```
./runxnc.sh -stop
```
- Step 5** Start the new NDB installation using the **runxnc.sh -start** command.  
**Example:**  

```
./runxnc.sh -start
```
- Step 6** Navigate to the **System** tab under **Administration**.
- Step 7** Click **Restore Locally** and upload the configuration\_startup.zip
- Step 8** Restart the new NDB instance using the **runxnc.sh -restart** command.  
**Example:**  

```
./runxnc.sh -restart
```
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## Starting the Application

**Note** When you are running xnc for the first time, the URL that you need to connect to and the port that it is listening on are displayed on the screen. For example, when you run the `./runxnc.sh` script, the following message is displayed on the screen: Web GUI can be accessed using below URL: `[https://<IP_address>: 8443]`.

You can use one of the following options:

Option	Description
no option	
<code>-jmxport port_number</code>	Enables JMX remote access on the specified JVM port.
<code>-debugport port_number</code>	Enables debugging on the specified JVM port.

Option	Description
<b>-start</b>	
<b>-start</b> <i>port_number</i>	
<b>-stop</b>	
<b>-restart</b>	
<b>-status</b>	
<b>-console</b>	
<b>-help</b>	Displays the options for the <code>./runxnc.sh</code> command.
<b>-tls</b>	To enable TLS, start the controller by entering the <code>./runxnc.sh -tls -tlskeystore keystore_file_location -tlstruststore truststore_file_location</code> command.
<b>-osgiPasswordSync</b>	To set the OSGi web console password same as the XNC password if the XNC password is changed.  <b>Note</b> This step is optional. If the application is started without this option, the OSGi console can be accessed through the default credentials.

**Note** Use `runxnc.sh` script to start Cisco Nexus Data Broker. You have to set a path variable named `JAVA_HOME`. It sets the path variables that are used for startup and launches the OSGi framework with the specified options. If a user attempts to start the Cisco Nexus Data Broker application with Java version lower than 1.7, an error message is displayed and the application aborts. To resolve the issue, upgrade your current Java version and restart Cisco Nexus Data Broker. If the current Java Version used is lower than 1.8.0\_45, a warning message is issued before the start that Upgrade to 1.8.0\_45 or above is recommended.

## Verifying The Application Status

**Step 1** Navigate to the `xnc` directory that was created when you installed the software.

**Step 2** Verify that the application is running by entering the `./runxnc.sh -status` command.

The controller outputs the following, which indicates that the controller is running the Java process with PID 21680:

```
Controller with PID:21680 -- Running!
```

### What to do next

Connect the switches to the controller. For more information, see the configuration guide for your switches.