

Deploying Cisco Nexus Data Broker in Embedded Mode

This chapter contains details of procedures for deploying Cisco Nexus Data Broker on Nexus series switches.

Before your proceed with the upgrade/ install procedures in this chapter, compare the **md5sum** between the NDB CCO image and image file copied to linux. Use the following command to check (linux):

```
cisco@NDB-virtual-machine:~/3.10.0/$ md5sum ndb1000-sw-app-emb-9.3-plus-k9-3.10.0.zip
Displayed output: 685a0fe58f3280590dd878b7835241aa  ndb1000-sw-app-emb-9.3-plus-k9-3.10.0.zip
```

Generating TLS certificate between NDB server and NDB switch for Embedded mode of deployment is not supported. For details about TLS, see the *Managing TLS Certificate, KeyStore and TrustStore Files* chapter in the *Cisco Nexus Data Broker Configuration Guide*.

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Obtaining the Cisco Nexus Data Broker Embedded Software for NX-API

Procedure

Step 1 In a web browser, navigate to Cisco.com.

Step 2 In the center pane, click **Cloud and Systems Management**.

Step 3 If prompted, enter your Cisco.com username and password to log in.

Step 4 In the right pane, click **Network Controllers and Applications**, and then click **Cisco Nexus Data Broker.**

Step 5 Download and unzip the **Cisco Nexus Data Broker Release 3.10** application bundle zip file.

Step 6 Download activator script. The Python activator script needed to activate the NDB is available at: https://github.com/datacenter/nexus-data-broker.

JRE is unbundled from NDB 3.10 release package. Activator script will take care of installing the packages if internet connectivity is available on the switch; else, JRE and unzip packages need to be downloaded from an authorized location and provided as an argument for the activator script.

What to do next

Install the software on supported Cisco Nexus series switches. See *Cisco Nexus Data Broker Release 3.10, Release Notes* for the list of supported platforms.

Installing and Activating the Cisco Nexus Data Broker Embedded Software for NX-API Mode for NX-OS 9.3(1) or Later

Cisco NDB is not installed as OVA, it is installed in the Guestshell. To install Cisco Nexus Data Broker Embedded software on NXOS 9.3(1) or later release, use the NDB activator script, NDBActivator4.0_9.3_plus.py.

The activator script performs the following functions:

- Resizes the Guestshell resources.
- Unzips and places the ndb folder into the `/usr/bin` directory.
- Configures the Guestshell to management VRF.



Note Cisco NDB Release 3.10 supports Oracle Java only.

Before you begin



Note By default, you cannot install a new version of the Cisco Nexus Data Broker Embedded if you already have an existing Cisco Nexus Data Broker Embedded application installed and active. You can forcefully run the activator script even if it is already activated using **python bootflash** command with **--force** attribute. For example:

```
Syntax: python <file path>NDBActivator4.0_9.3_plus.py -v guestshell+ <zip file path> --force

Example:  python bootflash:NDBActivator4.0_9.3_plus.py -v guestshell+
/bootflash/ndb1000-sw-app-emb-9.3-plus-k9-3.10.0.zip --force
```



Note To uninstall NDB application, destroy the Guestshell using the command, **guestshell destroy**. If an instance of NDB exists in the guestshell and you need to install a new NDB instance, you need to destroy the existing Guestshell and re-install the Guestshell and the NDB.

```
N9K-switch# guestshell destroy
```

Note After you disable and enable NXAPI mode, you should reconfigure **nxapi use-vrf management** command on the node.

Important Ensure that you have sufficient space available in the bootflash. The **ndb1000-sw-app-emb-9.3-plus-k9-3.10.0.zip** file require a total of ~600 MB of space in the bootflash (/volatile folder) for the decompression processes. The script runs only on NXOS platform, version 9.3(1), with memory greater than 8GB.

Procedure

Step 1 switch# **copy** ftp:/10.10.10.1 **NDBActivator4.0_9.3_plus.py bootflash:vrf management**

Copies the NDBActivator4.0_9.3_plus.py from the directory where you downloaded it to the switch. You can download the file from different sources such as HTTP, FTP, or SSH.

Step 2 switch# **copy** ftp://10.10.10.1 **ndb1000-sw-app-emb-9.3-plus-k9-3.10.0.zip bootflash:vrf management**

Copies the Cisco Nexus Data Broker Embedded package from the directory where you downloaded it to the switch. You can download the file from different sources such as HTTP, FTP, or SSH.

Step 3 switch# **show virtual-service list**

Monitors the status of the copy processes.

Step 4 switch# **guestshell enable**

Enables the guestshell.

Step 5 switch# **python bootflash:NDBActivator4.0_9.3_plus.py -v guestshell+ /bootflash/ndb1000-sw-app-emb-9.3-plus-k9-3.10.0.zip**

Installs the Cisco Nexus Data Broker Embedded package on the switch.

Note
Internet connectivity is needed for downloading the packages.

When internet connectivity is not available on the switch, follow these steps:

a) Download JRE tar.gz file.

Download Java from an authorized site. Click `Linux x64` to download JRE tar.gz.

b) Download (from an authorized site) and unzip RPM package.

c) Copy JRE tar.gz file from the directory, where you downloaded it to the switch, using **copy scp://10.10.10.1 jre-8u271-linux-x64.tar.gz bootflash: vrf management**.

Replace **jre-8u271-linux-x64.tar.gz** with the downloaded file name.

d) Copy `unzip rpm` package from the directory where you downloaded it, to the switch, using **copy scp://10.10.10.1 unzip-6.0-21.el7.x86_64.rpm bootflash:vrf management**.

Replace `unzip-6.0-21.el7.x86_64.rpm` with the downloaded file name.

e) switch# **python bootflash:NDBActivator4.0_9.3_plus.py -v guestshell+ /bootflash/ndb1000-sw-app-emb-9.3-plus-k9-3.10.0.zip /bootflash/jre-8u271-linux-x64.tar.gz /bootflash/unzip-6.0-21.el7.x86_64.rpm**

Step 6 switch# **show virtual-service list**

Monitors the status of the installations.

Note
To start the NDB application, use the **guestshell enable** command. If the NDB application is initiated through the Python script, guestshell is enabled automatically.

Note
To stop the NDB application, use the **guestshell disable** command. Use **guestshell enable** command to enable NDB.

Note
Do not continue until installation completes successfully. NDB application starts after it is installed successfully.

Step 7 switch# **show processes cpu sort | grep java**

Example:

switch# show processes cpu sort | grep java

19587 3 6 551 0.00% java

switch#

Verify whether NDB installed and initiated successfully.

What to do next

Log in to the Cisco Nexus Dashboard Data Broker GUI using HTTPS. The default HTTPS web link for the Cisco Nexus Dashboard Data Broker GUI is `https://IP_address:8443/monitor`. Enter the username and password (default values are admin/admin).

Upgrading to Release 3.10 for Cisco NXOS Release 9.3(1) or Later

This process involves using the GUI to download the configuration, perform the upgrade, and then upload the configuration. The process is applicable for Release 3.10 and later.

Note Cisco NDB Release 3.10 supports Oracle Java only.

For detailed information about upgrading Cisco Nexus OS from I4(6) to I6(1) and I7(1), see *Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.3(x)*.

Procedure

Step 1 Navigate to **Administration** > **Backup/Restore** in the running embedded NDB 3.6 or later version. Click **Backup and Backup Locally** to download the configuration in a zip file format.

Step 2 Copy the NDBActivator4.0_9.3_plus.py from the directory where you downloaded it to the switch. You can download the file from different sources such as HTTP, FTP, or SSH.

Example:

```
switch# copy scp://10.10.10.1 NDBActivator4.0_9.3_plus.py bootflash:vrf management
```

Step 3 Copy the Cisco Nexus Data Broker Embedded package from the directory where you downloaded it to the switch. You can download the file from different sources such as HTTP, FTP, or SSH.

Example:

```
switch# copy scp://10.10.10.1 ndb1000-sw-app-emb-9.3-plus-k9-3.10.0.zip bootflash:vrf management
```

Step 4 Monitor the status of the copy processes.

Example:

```
switch# show virtual-service list
```

Step 5 Enable the guestshell.

Example:

```
switch# guestshell enable
```

Step 6 Install the Cisco Nexus Data Broker Embedded package on the switch.

Example:

```
switch# python bootflash:NDBActivator4.0_9.3_plus.py -v guestshell+
/bootflash/ndb1000-sw-app-emb-9.3-plus-k9-3.10.0.zip
```

When internet connectivity is not available on the switch, follow these steps:

a) Download JRE tar.gz file.

Download Java from an authorized site. Click `Linux x64` to download JRE tar.gz.

b) Download (from an authorized site) and unzip RPM package.

c) Copy JRE tar.gz file from the directory, where you downloaded it to the switch, using **copy scp://10.10.10.1 jre-8u271-linux-x64.tar.gz bootflash: vrf management**.

Replace **jre-8u271-linux-x64.tar.gz** with the downloaded file name.

d) Copy `unzip rpm` package from the directory where you downloaded it, to the switch, using **copy scp://10.10.10.1 unzip-6.0-21.el7.x86_64.rpm bootflash:vrf management**.

Replace `unzip-6.0-21.el7.x86_64.rpm` with the downloaded file name.

e) switch# **python bootflash:NDBActivator4.0_9.3_plus.py -v guestshell+ /bootflash/ndb1000-sw-app-emb-9.3-plus-k9-3.10.0.zip /bootflash/jre-8u271-linux-x64.tar.gz /bootflash/unzip-6.0-21.el7.x86_64.rpm**

Step 7 Monitor the status of installation process.

Example:

```
switch# show virtual-service list
```

To stop the NDB application, use the guestshell disable command.

Note
Do not continue until installation completes successfully. NDB application starts after it is installed successfully.

Step 8 Verify whether NDB installed and initiated successfully.

Example:

```
switch# show processes cpu sort | grep java
Example:
switch# show processes cpu sort | grep java
19587 3 6 551 0.00% java
```

Step 9 Copy the running configuration to the startup configuration.

Example:

```
switch(config)# copy running-config startup-config
```

Step 10 Upload Cisco NDB 3.10 configuration that you downloaded in Step 1 in the Cisco NDB user interface (UI). Navigate to **Administration** > **Backup Restore** > **Restore Locally**.