Deploying Cisco Nexus Data Broker Embedded for NX-API

This chapter contains the following sections:

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

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 3.2.2** application bundle zip file. For more information regarding the NDB zip file name, see Cisco Nexus Data Broker Software Release Filename Matrix.
The application bundle zip file contains the following:

- The Cisco Nexus Data Broker Software Application package, for example, **ndb1000-sw-app-emb-k9-3.2.2.ova**

The activator script is different for the various Cisco NXOS versions:

- NDBActivator2.0_I3_I4.py: For Cisco NXOS versions I3 and I4.
- NDBActivator2.0_I5_Plus.py: For Cisco NXOS version I5.

What to Do Next

Install the software on a Cisco Nexus 3000, 3100, 3200, 3500, or 9000 Series switch.

Installing and Activating the Cisco Nexus Data Broker Embedded Software for NX-API Mode for NXOS Versions upto I4

Before You Begin

Note You cannot install a new version of the Cisco Nexus Data Broker Embedded if you already have an existing Cisco Monitor Manager Embedded application installed and active.

Before you begin installing a new version of the Cisco Nexus Data Broker Embedded, you must:

- Deactivate your current Cisco Monitor Manager Embedded OVA file.
- Uninstall the Cisco Monitor Manager Embedded OVA file.

Important Ensure that you have at least 1 GB of available space in the bootflash. The **ofa_mmemb-2.1.4-r2-nxos-SPA-k9.ova** and **ndb1000-sw-app-emb-k9-3.2.2.ova** file require a total of 850 MB of space in the bootflash for the decompression and installation processes. For more information regarding the NDB zip file name, see Cisco Nexus Data Broker Software Release Filename Matrix.

SUMMARY STEPS

1. switch# **copy** [*scp:* | *ftp:* | *http:*] //*download_dir* **ndb1000-sw-app-emb-k9-3.2.2.ova bootflash:vrf management**
2. switch# **show virtual-service list**
3. switch# **virtual-service install name ndb_emb package bootflash:ndb1000-sw-app-emb-k9-3.2.2.ova**
4. switch# **show virtual-service list**
5. switch# **configure terminal**
6. switch(config)# **virtual-service ndb_emb**
7. switch(config-virt-serv)# **activate**
8. switch(config-virt-serv)# **exit**
9. switch(config)# **show virtual-service list**
10. Run the **NDB python activator script** script from the **ndb** directory in the GitHub repository at https://github.com/datacenter/nexus9000/blob/master/nexusdatabroker/ using the **python bootflash:<python NDB activator script> -v ndb** command.
11. Deactivate the NDB virtual service and activate it.

DETAILED STEPS

	Command or Action	Purpose
Step 1	switch# **copy** [*scp:* | *ftp:* | *http:*] //*download_dir* **ndb1000-sw-app-emb-k9-3.2.2.ova bootflash:vrf management**	Copies the Cisco Nexus Data Broker Embedded package from the directory where you downloaded it to the switch.
Step 2	switch# **show virtual-service list**	Monitors the status of the copy processes.
Step 3	switch# **virtual-service install name ndb_emb package bootflash:ndb1000-sw-app-emb-k9-3.2.2.ova**	Installs the Cisco Nexus Data Broker Embedded package on the switch.
Step 4	switch# **show virtual-service list**	Monitors the status of the installations. **Note** Do not continue until both OVA files have been successfully installed.
Step 5	switch# **configure terminal**	Enters global configuration mode on the switch.
Step 6	switch(config)# **virtual-service ndb_emb**	Starts the virtual service for the Cisco Nexus Data Broker Embedded package and enters virtual service configuration mode on the switch.
Step 7	switch(config-virt-serv)# **activate**	Activates the Cisco Nexus Data Broker Embedded package.
Step 8	switch(config-virt-serv)# **exit**	Exits virtual service configuration mode on the switch.
Step 9	switch(config)# **show virtual-service list**	Monitors the status of the package activations.

	Command or Action	Purpose
Step 10	Run the **NDB python activator script** script from the **ndb** directory in the GitHub repository at https://github.com/datacenter/nexus9000/blob/master/nexusdatabroker/ using the **python bootflash:<python NDB activator script> -v ndb** command.	Will create `/embndb/interface` file with management interface details: • if version is 2.x.x, the following error message is displayed, "Not supported version, please upgrade to the newer version" • if version is 3.0.0 or 3.1.0, the */xnclite/launcher.sh* file is updated. • If version is 3.2.0, */xnclite/launcher.sh* is not updated. . **Note** The NDB activator script is different for the different Cisco NXOS versions: • NDBActivator2.0_I3_I4.py: For Cisco NXOS versions I3 and I4.

Step 11	Deactivate the NDB virtual service and activate it.
	Example:
	`device# configure terminal`
	`device(config)# virtual-service <virtual-services-name>`
	`device(config)# no activate`
	`device(config)# show virtual-service list (Wait until deactivated complete)`
	`device(config)# activate`
	`device(config)# show virtual-service list (Wait until activated complete)`
	`device(config)# end`
	`device(config)# copy running-config startup-config`
		Update the configuration changes.

Installing and Activating the Cisco Nexus Data Broker Embedded Software for NX-API Mode for NXOS I5

You can now install NDB directly on a device in embedded mode on NXOS I5 release. To install Cisco Nexus Data Broker Embedded software on NXOS I5 release, use the NDB activator script, NDBActivator2.0_I5_Plus.py. The activator script performs the following functions:

- Resizes the Guestshell resources.
- Unzips and places the XNC folder into the Guestshell home directory.
- Configures the NXAPI to listen to network management namespace.
- Configures the Guestshell to management VRF.
- Configures the system unit file.

- Starts the NXAPI application.

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 use force attribute to forcefully run the activator script even if it is already activated. For example:

```
Syntax: python <file path>NDBActivator2.0_I5_Plus.py –v guestshell+ <zip file path>
--force

Example:  python bootflash:NDBActivator2.0_I5_Plus.py –v guestshell+
/bootflash/ndb1000-sw-app-emb-i5-nxapi-k9-3.2.2.zip --force
```

Before you begin installing a new version of the Cisco Nexus Data Broker Embedded, you must:

- To uninstall NDB application, destroy the guestshell using the command, guestshell destroy.
- Download ndb1000-sw-app-emb-i5-k9-3.2.2.zip and extract.
- Copy NDBActivator2.0_I5_Plus.py and ndb1000-sw-app-emb-i5-nxapi-k9-3.2.2.zip to device.

Important Ensure that you have sufficient space available in the bootflash. The **ndb1000-sw-app-emb-i5-nxapi-k9-3.2.2.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 I5, with memory greater than 8GB.

DETAILED STEPS

	Command or Action	Purpose
Step 1	switch# **copy** [*scp:* | *ftp:* | *http:*] *//download_dir* **NDBActivator2.0_I5_Plus.py bootflash:vrf management**	Copies the NDBActivator2.0_I5_Plus.py from the directory where you downloaded it to the switch.
Step 2	switch# **copy** [*scp:* | *ftp:* | *http:*] *//download_dir* **ndb1000-sw-app-emb-i5-nxapi-k9-3.2.2.zip bootflash:vrf management**	Copies the Cisco Nexus Data Broker Embedded package from the directory where you downloaded it to the switch.
Step 3	switch# **show virtual-service list**	Monitors the status of the copy processes.
Step 4	switch# **python bootflash:NDBActivator2.0_I5_Plus.py -v guestshell+ /bootflash/ndb1000-sw-app-emb-i5-nxapi-k9-3.2.2.zip**	Installs the Cisco Nexus Data Broker Embedded package on the switch.
Step 5	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.

	Command or Action	Purpose
		Note To stop the NDB application, use the **guestshell disable** command. If you have used the **guestshell disable** command to stop NDB application, then to enable it again, you need to use **guestshell enable** command. **Note** Do not continue until installation completes successfully. NDB application starts after it is installed successfully.

Adding a Device

You need to manually add a device to the NDB application to monitor it.

SUMMARY STEPS

1. Log in to NDB user interface.
2. Click **Administration** Tab and then click **DEVICE CONNECTIONS** Tab.
3. To add a new device, click **Add Devices**, **Add Device** dialog box appears.
4. In the **Add Device Dialog** box, enter the following details:
5. Click **Add Device** in the **Add Device** dialog box to add the device with the provided credentials.

DETAILED STEPS

Step 1 Log in to NDB user interface.

Step 2 Click **Administration** Tab and then click **DEVICE CONNECTIONS** Tab.

Step 3 To add a new device, click **Add Devices**, **Add Device** dialog box appears.

Step 4 In the **Add Device Dialog** box, enter the following details:

- **Address**: IP address of the new device.
- **User Name**: User name for accessing the device.
- **Password**: Password to validate the user.
- **Connection Type**: Type of connection the new device will use, select *NXAPI*.
- **Port Number**: Port number through which the device will communicate.

Step 5 Click **Add Device** in the **Add Device** dialog box to add the device with the provided credentials.

Upgrading to Release 3.2.2 for Cisco NXOS Releases Upto I4

This process involves using the GUI to download the configuration, perform the upgrade, and then upload the configuration.

Step 1 Navigate to the **System** tab under **Administration**.
The **System Administration** window is displayed.

Step 2 Click **Download Configuration**.
It downloads the configuration in a zip file format. The name of the zip file is **configuration_startup.zip**.

Step 3 Download the configuration in Cisco NDB 3.1 or Cisco NDB 3.2.

Step 4 Deactivate Cisco NDB and uninstall Cisco NDB using the following steps:

Step 5 **configure terminal**

Example:
```
device# configure terminal
```

Step 6 **virtual-service virtual-services-name**

Example:

```
device(config)# virtual-service <virtual-services-name>
```

Step 7 **no activate**

Example:
```
device(config-virt-serv)# no activate
```

Step 8 **no virtual-service <virtual-services-name>**

Example:
```
device(config)# no virtual-service <virtual-services-name>
```

Step 9 **end**

Example:
```
device(config-virt-serv)# end
```

Step 10 **virtual-service uninstall name virtual-services-name**

Example:
```
# virtual-service uninstall name <virtual-services-name>
```

Step 11 **copy running-config startup-config**

Example:
```
# copy running-config startup-config
```

Step 12 Install and activate Cisco NDB 3.2.2 using the following steps:

Step 13 **virtual-service install name <virtual-services-name> package bootflash: ndb1000-sw-app-emb-k9-3.2.2.ova**

Step 14 **show virtual-service list**
Use the show command to check the status of the virtual service installation. After the status of the virtual service becomes listed as **Installed**, run the following commands to activate the service.

Step 15 **configure terminal**

Step 16 device(config)# **virtual-service <virtual-services-name>**

Step 17 device(config)# **activate**

Step 18 device(config)# **end**

Step 19 device(config)# **copy running-config startup-config**

Step 20 Run the **<python NDB activator script>** script using the **python bootflash:<python activator script> -v <ndb virtual service name>** command.

Note The NDB activator script is different for the different Cisco NXOS versions:

- NDBActivator2.0_A6_A8.py: For Cisco NXOS versions A6 and A8.
- NDBActivator2.0_I3_I4.py: For Cisco NXOS versions I3 and I4.
- NDBActivator2.0_I5.py: For Cisco NXOS version I5.

Example:

```
device#  configure terminal
device(config)#  virtual-service <virtual-services-name>
device(config)#  no activate
device(config)#  show virtual-service list  (Wait until deactivated complete)
device(config)#  activate
device(config)#  show virtual-service list (Wait until activated complete)
device(config)#  end
device(config)#  copy running-config startup-config
```

Step 21 Upload Cisco NDB 3.2 configuration that you downloaded in step 1 in the Cisco NDB user interface (UI).

Upgrading to Release 3.2.2 for Cisco NXOS Release I5

This process involves using the GUI to download the configuration, perform the upgrade, and then upload the configuration.

Step 1 Navigate to the **System** tab under **Administration**.
The **System Administration** window is displayed.

Step 2 Download the ndb1000-sw-app-emb-i5-nxapi-k9-3.2.2.zip file into the device.

Step 3 Click **Download Configuration**.
It downloads the configuration in a zip file format. The name of the zip file is **configuration_startup.zip**.

Step 4 Download the configuration in Cisco NDB 3.1 or Cisco NDB 3.2.

Step 5 Deactivate Cisco NDB and upgrade Cisco NDB using the following steps:

Step 6 **configure terminal**

Example:

```
device# configure terminal
```

Step 7 **virtual-service virtual-services-name**

Example:

```
device(config)# virtual-service <virtual-services-name>
```

Step 8 **no activate**

Example:

```
device(config-virt-serv)# no activate
```

Step 9 **no virtual-service <virtual-services-name>**

Example:

```
device(config)# no virtual-service <virtual-services-name>
```

Step 10 **end**

Example:

```
device(config-virt-serv)# end
```

Step 11 **virtual-service uninstall name virtual-services-name**

Example:

```
# virtual-service uninstall name <virtual-services-name>
```

Step 12 **copy running-config startup-config**

Example:

```
# copy running-config startup-config
```

Step 13 Upgrade the NXOS version to release I5.1.

Step 14 Download the *ndb1000-sw-app-emb-i5-k9-3.2.2.zip* file into the standalone device.

Step 15 Run the NDBActivator2.0_I5_Plus.py script in the device console.

Example:

```
python bootflash:NDBActivator2.0_I5_Plus.py -v guestshell+
/bootflash/ndb1000-sw-app-emb-i5-k9-3.2.2.zip
```

NDB application starts after the installation completes successfully.

Step 16 Log in to the NDB application using the credentials.
You need to manually add a device in NDB.

Step 17 To add a new device, click **Administration** Tab and then click **DEVICE CONNECTIONS** Tab.

Step 18 To add a new device, click **Add Devices**, **Add Device** dialog box appears.

Step 19 In the **Add Device Dialog** box, enter the following details:

- **Address**: IP address of the new device.
- **User Name**: User name for accessing the device.
- **Password**: Password to validate the user.
- **Connection Type**: Type of connection the new device will use, select *NXAPI*.
- **Port Number**: Port number through which the device will communicate.

Step 20 Click **Add Device** in the **Add Device** dialog box to add the device with the provided credentials.

Step 21 device(config)# **copy running-config startup-config**

Step 22 Upload Cisco NDB 3.2 configuration that you downloaded in step 1 in the Cisco NDB user interface (UI).

Logging in to the Cisco Nexus Data Broker GUI

The default HTTPS web link for the Cisco Nexus Data Broker GUI is `https://Nexus_Switch_Management_IP:8443/monitor`

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

Step 1 In your web browser, enter the Cisco Nexus Data Broker web link, for example, *https://Nexus_Switch_Management_IP:8443/monitor*.

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**.

What to Do Next

See the *Cisco Nexus Data Broker Configuration Guide* for the procedures that you need to configure Cisco Nexus Data Broker.