



Configuring the Setup for a Use Case in the Centralized Mode

This chapter contains the following sections:

- [Configuring Cisco Nexus Data Broker For Centralized Mode Using The CLI, page 1](#)
- [Configuring Cisco Nexus Data Broker in Centralized Mode Using The GUI, page 4](#)

Configuring Cisco Nexus Data Broker For Centralized Mode Using The CLI

Complete the following steps to configure

SUMMARY STEPS

1. Create two connections.
2. Run Cisco Nexus Data Broker in Linux server.
3. Verify that the ofa package is there.
4. Install ofa.
5. Configure OpenFlow switch.

DETAILED STEPS

	Command or Action	Purpose
Step 1	Create two connections.	
Step 2	Run Cisco Nexus Data Broker in Linux server.	
Step 3	Verify that the ofa package is there.	
Step 4	Install ofa.	
Step 5	Configure OpenFlow switch.	

Run Cisco Nexus Data Broker in Linux server.

```
[root@rhel64-ndb-nxapi NDB3.0.0]#
[root@rhel64-ndb-nxapi NDB3.0.0]# ls
ndb1000-sw-app-k9-3.0.0.zip xnc
[root@rhel64-ndb-nxapi NDB3.0.0]#
[root@rhel64-ndb-nxapi NDB3.0.0]# cd xnc/
[root@rhel64-ndb-nxapi xnc]# ls
bin configuration etc lib logs plugins runxnc.cmd runxnc.sh version.properties
work
[root@rhel64-ndb-nxapi xnc]# ./runxnc.sh -start
Running controller in background with PID: 11987, to connect to it please SSH to this host
on port 2400
[root@rhel64-ndb-nxapi xnc]#
```

Verify that the ofa package is installed.

```
switch-1 - Switch
=====
```

```
switch-1#
switch-1# dir
4096 Jun 01 23:55:07 2016 .patch/
1044 Aug 13 00:15:17 2014 20140813_001215_poap_3799_init.log
16 Aug 13 00:30:15 2014 cert.err
9255 Jun 01 23:38:11 2016 clean_config
2885642 May 12 22:11:57 2014 lltormtc-dplug-mzg.6.0.2.A3.0.23.bin
4194304 Sep 08 19:24:42 2014 messages
3752 Mar 18 00:48:03 2014 mts.log
36825088 Apr 19 18:47:44 2016 n3500-uk9-kickstart.6.0.2.A6.5a.bin
37472256 Jun 01 23:43:34 2016 n3500-uk9-kickstart.6.0.2.A8.0.15.bin
180349300 Apr 19 18:49:37 2016 n3500-uk9.6.0.2.A6.5a.bin
190244286 Jun 01 23:42:07 2016 n3500-uk9.6.0.2.A8.0.15.bin
54343680 Apr 24 05:27:43 2016 ofa_mmemb-1.1.5-r3-n3000-SPA-k9.ova
4096 Mar 18 06:08:07 2014 onep/
3314 Apr 25 18:14:18 2014 sercert.p12
1024 Apr 19 18:58:37 2016 sprom_cstruct_2_0_0
1024 Apr 19 18:59:22 2016 sprom_cstruct_3_0_0
4096 Jan 01 03:25:17 2011 vdc_2/
4096 Jan 01 03:25:17 2011 vdc_3/
4096 Jan 01 03:25:17 2011 vdc_4/
4096 Jun 01 23:31:49 2016 virt_strg_pool_bf_vdc_1/
4096 Jun 01 23:31:49 2016 virtual-instance/
4096 Aug 09 02:20:14 2014 virtual-instance-stby-sync/
243671040 May 09 20:55:18 2016 xnclite_ofa_jdk1877.ova
243732480 May 10 21:51:52 2016 xnclite_ofa_jdk1892.ova
```

```
Usage for bootflash://
1124974592 bytes used
770195456 bytes free
1895170048 bytes total
switch-1#
```

Install ofa.

```
switch-1#
switch-1# virtual-service install name ofa package ofa_mmemb-1.1.5-r3-n3000-SPA-k9.ova
Note: Installing package 'bootflash:/ofa_mmemb-1.1.5-r3-n3000-SPA-k9.ova' for virtual service
'ofa'. Once the install has finished, the VM may be activated. Use 'show virtual-service
list' for progress.
```

```
switch-1# sh virtual-service list
```

```
Virtual Service List:
```

Name	Status	Package Name
ofa	Installed	ofa_mmemb-1.1.5-r3-n3000-SPA-k9.ova

```
switch-1# configure
Enter configuration commands, one per line. End with CNTL/Z.
switch-1(config)# virtual-service ofa
switch-1(config-virt-serv)# activate
Note: Activating virtual-service 'ofa', this might take a few minutes. Use 'show
virtual-service list' for progress.
switch-1(config-virt-serv)# show virtual-service list
```

Virtual Service List:

Name	Status	Package Name
ofa	Activated	ofa_mmemb-1.1.5-r3-n3000-SPA-k9.ova

```
switch-1(config-virt-serv)#
```

Configure OpenFlow switch.

```
switch-1(config-virt-serv)# openflow
switch-1(config-ofa)# switch 1
switch-1(config-ofa-switch)# pipeline 203
switch-1(config-ofa-switch)# controller ipv4 10.16.206.161 port 6653 vrf management security
none
switch-1(config-ofa-switch)# sh int br
```

Ethernet Interface	VLAN	Type	Mode	Status	Reason	Speed	Port Ch #
Eth1/1	1	eth	access	up	none	10G (D)	--
Eth1/2	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/3	1	eth	access	up	none	10G (D)	--
Eth1/4	1	eth	access	up	none	10G (D)	--
Eth1/5	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/6	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/7	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/8	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/9	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/10	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/11	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/12	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/13	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/14	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/15	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/16	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/17	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/18	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/19	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/20	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/21	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/22	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/23	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/24	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/25	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/26	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/27	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/28	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/29	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/30	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/31	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/32	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/33	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/34	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/35	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/36	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/37	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/38	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/39	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/40	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/41	1	eth	access	down	SFP not inserted	10G (D)	--
Eth1/42	1	eth	access	down	SFP not inserted	10G (D)	--

```

Eth1/43      1      eth  access down  SFP not inserted      10G(D) --
Eth1/44      1      eth  access down  SFP not inserted      10G(D) --
Eth1/45      1      eth  access down  SFP not inserted      10G(D) --
Eth1/46      1      eth  access down  SFP not inserted      10G(D) --
Eth1/47      1      eth  access up    none                   10G(D) --
Eth1/48      1      eth  access down  SFP not inserted      10G(D) --
-----
Port  VRF      Status IP Address      Speed  MTU
-----
mgmt0  --      up    10.16.206.129    1000  1500
switch-1(config-ofa-switch)#
switch-1(config-ofa-switch)#
switch-1(config-ofa-switch)#
switch-1(config-ofa-switch)# of-port interface ethernet1/1-4
switch-1(config-ofa-switch)# of-port interface ethernet1/47
switch-1(config-ofa-switch)#

Switch-2
=====

switch-2(config-ofa-switch)# show virtual-service list

Virtual Service List:

Name              Status           Package Name
-----
ofa                Activated        ofa_mmemb-1.1.5-r3-n3000-SPA-k9.ova

switch-2(config-ofa-switch)#

```

What to Do Next

For centralized mode, complete the steps for configuring Cisco Nexus Data Broker using the GUI as outlined in the next section.

Configuring Cisco Nexus Data Broker in Centralized Mode Using The GUI

After configuring the Cisco Nexus Data Broker using the CLI, complete the following steps:

-
- Step 1** Open a new browser window and type *https://<NDB-IP>:8443*.
- a)
- Step 2** Configure the TAP and SPAN ports using the GUI.

- Step 3** Select switch 2 and configure the delivery ports.
- Step 4** Add switch 1 and switch 2 in NX-API as in auxiliary mode by enabling the **Set Auxiliary Node** option in the **Add Device** window.
- Step 5** Click **Nodes Learned** to configure the mode.
- Step 6** For switch 1, click on the OpenFlow device ID and change the **Operation Mode** in the **Update Node Information** window to **Proactive forwarding only** option.
- Step 7** For switch 2, click on the OpenFlow device ID and change the **Operation Mode** in the **Update Node Information** window to **Proactive forwarding only** option.
- Step 8** In the **Port Definition** window, click **Edit** for delivery port 1/1.
- Step 9** Check the **Enable Timestamp Tagging** option in the **Configure Ports** window and click **Submit**.
- Step 10** In the **Port Definition** window, click **Edit** for delivery port 1/2.
- Step 11** Check the **Enable Timestamp Tagging** option in the **Configure Ports** window and click **Submit**. After you configure the timestamp, the **TS-Tag** field is displayed next to the port under the **Port Configuration** tab. You can view the monitoring devices in the **Monitoring Devices** tab.
- Step 12** Add different traffic filters under the **Filters** tab.
- Step 13** Click **Topology** to understand how the devices are learned.
- Step 14** Click **Connections** to create a connection.
- Step 15** Click **Add Connection** and add filters and the monitoring devices for connection 1.
- Step 16** Add connection 2 in a similar way. After the connections are created, view the connections in the **Connections** tab.
- Step 17** View the final topology.

Example of the configuration on switch 1 and switch 2:

```
Switch 1 Configuration: switch-1

hardware profile tcam region racl 512
hardware profile tcam region ifacl 1024 double-wide
hardware profile forwarding-mode openflow-only
hardware internal mtc-usd ttag-eth-type 0x88b5
snmp-server user admin network-admin auth md5 0x188749ba5e1c6af881227235b1b14d04 priv
0x188749ba5e1c6af881227235b1b14d04 localizedkey

vlan 1
vrf context management
 ip route 0.0.0.0/0 10.16.206.1

interface Ethernet1/1
 no lldp transmit
 spanning-tree bpdufilter enable
 mode openflow
 no shutdown

interface Ethernet1/2
 no lldp transmit
 spanning-tree bpdufilter enable
 mode openflow
 no shutdown

interface Ethernet1/3
 no lldp transmit
 switchport mode trunk
 spanning-tree bpdufilter enable
```

```
mode openflow
no shutdown

interface Ethernet1/4
no lldp transmit
switchport mode trunk
spanning-tree bpdufilter enable
mode openflow
no shutdown

interface Ethernet1/5
no shutdown

interface Ethernet1/6
no shutdown

interface Ethernet1/7
no shutdown

interface Ethernet1/8
no shutdown

interface Ethernet1/9
no shutdown

interface Ethernet1/10
no shutdown

interface Ethernet1/11
no shutdown

interface Ethernet1/12
no shutdown

interface Ethernet1/13
no shutdown

interface Ethernet1/14
no shutdown

interface Ethernet1/15
no shutdown

interface Ethernet1/16
no shutdown

interface Ethernet1/17
no shutdown

interface Ethernet1/18
no shutdown

interface Ethernet1/19
no shutdown

interface Ethernet1/20
no shutdown

interface Ethernet1/21
no shutdown

interface Ethernet1/22
no shutdown

interface Ethernet1/23
no shutdown

interface Ethernet1/24
no shutdown

interface Ethernet1/25
no shutdown
```

```
interface Ethernet1/26
  no shutdown

interface Ethernet1/27
  no shutdown

interface Ethernet1/28
  no shutdown

interface Ethernet1/29
  no shutdown

interface Ethernet1/30
  no shutdown

interface Ethernet1/31
  no shutdown

interface Ethernet1/32
  no shutdown

interface Ethernet1/33
  no shutdown

interface Ethernet1/34
  no shutdown

interface Ethernet1/35
  no shutdown

interface Ethernet1/36
  no shutdown

interface Ethernet1/37
  no shutdown

interface Ethernet1/38
  no shutdown

interface Ethernet1/39
  no shutdown

interface Ethernet1/40
  no shutdown

interface Ethernet1/41
  no shutdown

interface Ethernet1/42
  no shutdown

interface Ethernet1/43
  no shutdown

interface Ethernet1/44
  no shutdown

interface Ethernet1/45
  no shutdown

interface Ethernet1/46
  no shutdown

interface Ethernet1/47
  no lldp transmit
  spanning-tree bpdufilter enable
  mode openflow
  no shutdown

interface Ethernet1/48
  no shutdown

interface mgmt0
```

```

vrf member management
ip address 10.16.206.129/24
line console
line vty
boot kickstart bootflash:/n3500-uk9-kickstart.6.0.2.A8.0.15.bin
boot system bootflash:/n3500-uk9.6.0.2.A8.0.15.bin
openflow
  switch 1
    pipeline 203
    controller ipv4 10.16.206.161 port 6653 vrf management security none
    of-port interface ethernet1/1-4
    of-port interface ethernet1/47
virtual-service ofa
  activate
=====

Switch 2 Configuration : switch-2

hardware profile tcam region racl 512
hardware profile tcam region ifacl 1024 double-wide
hardware profile forwarding-mode openflow-only
hardware internal mtc-usd ttag-eth-type 0x88b5
snmp-server user admin network-admin auth md5 0xb7289bc7f348c5044b495f93bac10137 priv
0xb7289bc7f348c5044b495f93bac10137 localizedkey

vlan 1
vrf context management
  ip route 0.0.0.0/0 10.16.206.1

interface Ethernet1/1
  no lldp transmit
  ttag
  switchport mode trunk
  spanning-tree bpdufilter enable
  mode openflow
  no shutdown

interface Ethernet1/2
  no lldp transmit
  ttag
  switchport mode trunk
  spanning-tree bpdufilter enable
  mode openflow
  no shutdown

interface Ethernet1/3
  no shutdown

interface Ethernet1/4
  no shutdown

interface Ethernet1/5
  no shutdown

interface Ethernet1/6
  no shutdown

interface Ethernet1/7
  no shutdown

interface Ethernet1/8
  no shutdown

interface Ethernet1/9
  no shutdown

interface Ethernet1/10
  no shutdown

interface Ethernet1/11
  no shutdown

```



```
interface Ethernet1/12
  no shutdown

interface Ethernet1/13
  no shutdown

interface Ethernet1/14
  no shutdown

interface Ethernet1/15
  no shutdown

interface Ethernet1/16
  no shutdown

interface Ethernet1/17
  no shutdown

interface Ethernet1/18
  no shutdown

interface Ethernet1/19
  no shutdown

interface Ethernet1/20
  no shutdown

interface Ethernet1/21
  no shutdown

interface Ethernet1/22
  no shutdown

interface Ethernet1/23
  no shutdown

interface Ethernet1/24
  no shutdown

interface Ethernet1/25
  no shutdown

interface Ethernet1/26
  no shutdown

interface Ethernet1/27
  no shutdown

interface Ethernet1/28
  no shutdown

interface Ethernet1/29
  no shutdown

interface Ethernet1/30
  no shutdown

interface Ethernet1/31
  no shutdown

interface Ethernet1/32
  no shutdown

interface Ethernet1/33
  no shutdown

interface Ethernet1/34
  no shutdown

interface Ethernet1/35
  no shutdown

interface Ethernet1/36
```

```
no shutdown

interface Ethernet1/37
no shutdown

interface Ethernet1/38
no shutdown

interface Ethernet1/39
no shutdown

interface Ethernet1/40
no shutdown

interface Ethernet1/41
no shutdown

interface Ethernet1/42
no shutdown

interface Ethernet1/43
no shutdown

interface Ethernet1/44
no shutdown

interface Ethernet1/45
no shutdown

interface Ethernet1/46
no shutdown

interface Ethernet1/47
no lldp transmit
spanning-tree bpdufilter enable
mode openflow
no shutdown

interface Ethernet1/48
no shutdown

interface mgmt0
vrf member management
ip address 10.16.206.130/24
line console
line vty
boot kickstart bootflash:/n3500-uk9-kickstart.6.0.2.A8.0.15.bin
boot system bootflash:/n3500-uk9.6.0.2.A8.0.15.bin
openflow
switch 1
pipeline 203
controller ipv4 10.16.206.154 port 6653 vrf management security none
controller ipv4 10.16.206.161 port 6653 vrf management security none
of-port interface ethernet1/1-2
of-port interface ethernet1/47
virtual-service ofa
activate
```