# Configure the Cisco FC switches with RCF files

ONTAP MetroCluster

NetApp
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## Resetting the Cisco FC switch to factory defaults

Before installing a new software version and RCFs, you must erase the Cisco switch configuration and perform basic configuration.

**About this task**

You must repeat these steps on each of the FC switches in the MetroCluster fabric configuration.

> (i) The outputs shown are for Cisco IP switches; however, these steps are also applicable for Cisco FC switches.

**Steps**

1. Reset the switch to factory defaults:

   a. Erase the existing configuration:
      **write erase**

   b. Reload the switch software:
      **reload**

      The system reboots and enters the configuration wizard. During the boot, if you receive the prompt Abort Auto Provisioning and continue with normal setup?(yes/no)[n], you should respond **yes** to proceed.

   c. In the configuration wizard, enter the basic switch settings:

      - Admin password
      - Switch name
      - Out-of-band management configuration
      - Default gateway
      - SSH service (Remote Support Agent).

      After completing the configuration wizard, the switch reboots.

   d. When prompted, enter the user name and password to log in to the switch.

      The following example shows the prompts and system responses when logging in to the switch. The angle brackets (**<<<**) show where you enter the information.

```
---- System Admin Account Setup ----
Do you want to enforce secure password standard (yes/no) [y]:y
**<<<**


    Enter the password for "admin": password   **<<<**
  Confirm the password for "admin": password   **<<<**
          ---- Basic System Configuration Dialog VDC: 1 ----

This setup utility will guide you through the basic configuration of
the system. Setup configures only enough connectivity for management
of the system.

Please register Cisco Nexus3000 Family devices promptly with your
supplier. Failure to register may affect response times for initial
service calls. Nexus3000 devices must be registered to receive
entitled support services.

Press Enter at anytime to skip a dialog. Use ctrl-c at anytime
to skip the remaining dialogs.
```

e.  Enter basic information in the next set of prompts, including the switch name, management address, and gateway, and enter **rsa** for the SSH key as shown in the example:

```
Would you like to enter the basic configuration dialog (yes/no): yes
  Create another login account (yes/no) [n]:
  Configure read-only SNMP community string (yes/no) [n]:
  Configure read-write SNMP community string (yes/no) [n]:
  Enter the switch name : switch-name **<<<**
  Continue with Out-of-band (mgmt0) management configuration?
(yes/no) [y]:
    Mgmt0 IPv4 address : management-IP-address  **<<<**
    Mgmt0 IPv4 netmask : management-IP-netmask  **<<<**
  Configure the default gateway? (yes/no) [y]: y **<<<**
    IPv4 address of the default gateway : gateway-IP-address  **<<<**
  Configure advanced IP options? (yes/no) [n]:
  Enable the telnet service? (yes/no) [n]:
  Enable the ssh service? (yes/no) [y]: y  **<<<**
    Type of ssh key you would like to generate (dsa/rsa) [rsa]: rsa
**<<<**
    Number of rsa key bits <1024-2048> [1024]:
  Configure the ntp server? (yes/no) [n]:
  Configure default interface layer (L3/L2) [L2]:
  Configure default switchport interface state (shut/noshut)
[noshut]: shut **<<<**
  Configure CoPP system profile (strict/moderate/lenient/dense)
[strict]:
```

The final set of prompt completes the configuration:

```
The following configuration will be applied:
  password strength-check
  switchname IP_switch_A_1
vrf context management
ip route 0.0.0.0/0 10.10.99.1
exit
  no feature telnet
  ssh key rsa 1024 force
  feature ssh
  system default switchport
  system default switchport shutdown
  copp profile strict
interface mgmt0
ip address 10.10.99.10 255.255.255.0
no shutdown

Would you like to edit the configuration? (yes/no) [n]:

Use this configuration and save it? (yes/no) [y]:
2017 Jun 13 21:24:43 A1 %$ VDC-1 %$ %COPP-2-COPP_POLICY: Control-
Plane is protected with policy copp-system-p-policy-strict.

[#####################################] 100%
Copy complete.

User Access Verification
IP_switch_A_1 login: admin
Password:
Cisco Nexus Operating System (NX-OS) Software
.
.
.
IP_switch_A_1#
```

2. Save the configuration:

```
IP_switch_A_1# copy running-config startup-config
```

3. Reboot the switch and wait for the switch to reload:

```
IP_switch_A_1# reload
```

4. Repeat the previous steps on the other three switches in the MetroCluster fabric configuration.

# Downloading and installing the Cisco FC switch NX-OS software

You must download the switch operating system file and RCF file to each switch in the MetroCluster fabric configuration.

**Before you begin**

This task requires file transfer software, such as FTP, TFTP, SFTP, or SCP, to copy the files to the switches.

**About this task**

These steps must be repeated on each of the FC switches in the MetroCluster fabric configuration.

You must use the supported switch software version.

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> ⓘ The outputs shown are for Cisco IP switches; however, these steps are also applicable for Cisco FC switches.

**Steps**

1. Download the supported NX-OS software file.

   Cisco download page

2. Copy the switch software to the switch:

   ```
   copy sftp://root@server-ip-address/tftpboot/NX-OS-file-name bootflash: vrf
   management
   ```

   In this example, the `nxos.7.0.3.I4.6.bin` file is copied from SFTP server 10.10.99.99 to the local bootflash:

   ```
   IP_switch_A_1# copy sftp://root@10.10.99.99/tftpboot/nxos.7.0.3.I4.6.bin
   bootflash: vrf management
   root@10.10.99.99's password: password
   sftp> progress
   Progress meter enabled
   sftp> get    /tftpboot/nxos.7.0.3.I4.6.bin
   /bootflash/nxos.7.0.3.I4.6.bin
   Fetching /tftpboot/nxos.7.0.3.I4.6.bin to /bootflash/nxos.7.0.3.I4.6.bin
   /tftpboot/nxos.7.0.3.I4.6.bin                  100%  666MB   7.2MB/s
   01:32
   sftp> exit
   Copy complete, now saving to disk (please wait)...
   ```

3. Verify on each switch that the switch NX-OS files are present in each switch's bootflash directory:

   ```
   dir bootflash
   ```

The following example shows that the files are present on `IP_switch_A_1`:

```
IP_switch_A_1# dir bootflash:
                    .
                    .
                    .
   698629632    Jun 13 21:37:44 2017  nxos.7.0.3.I4.6.bin
                    .
                    .
                    .

Usage for bootflash://sup-local
 1779363840 bytes used
13238841344 bytes free
15018205184 bytes total
IP_switch_A_1#
```

4. Install the switch software:

```
install all system bootflash:nxos.version-number.bin kickstart
bootflash:nxos.version-kickstart-number.bin
```

```
IP_switch_A_1#  install all system bootflash:nxos.7.0.3.I4.6.bin
kickstart bootflash:nxos.7.0.3.I4.6.bin
Installer will perform compatibility check first. Please wait.

Verifying image bootflash:/nxos.7.0.3.I4.6.bin for boot variable
"kickstart".
[####################] 100% -- SUCCESS

Verifying image bootflash:/nxos.7.0.3.I4.6.bin for boot variable
"system".
[####################] 100% -- SUCCESS

Performing module support checks.
[####################] 100% -- SUCCESS

Verifying image type.
[####################] 100% -- SUCCESS

Extracting "system" version from image bootflash:/nxos.7.0.3.I4.6.bin.
[####################] 100% -- SUCCESS

Extracting "kickstart" version from image
bootflash:/nxos.7.0.3.I4.6.bin.
[####################] 100% -- SUCCESS
...
```

The switch reboot automatically after the switch software has installed.

5. Wait for the switch to reload and then log in to the switch.

   After the switch has rebooted the login prompt is displayed:

```
User Access Verification
IP_switch_A_1 login: admin
Password:
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (C) 2002-2017, Cisco and/or its affiliates.
All rights reserved.
.
.
.
MDP database restore in progress.
IP_switch_A_1#

The switch software is now installed.
```

6. Verify that the switch software has been installed:

   ```
   show version
   ```

   The following example shows the output:

```
IP_switch_A_1# show version
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (C) 2002-2017, Cisco and/or its affiliates.
All rights reserved.
.
.
.

Software
  BIOS: version 04.24
  NXOS: version 7.0(3)I4(6)    **<<< switch software version**
  BIOS compile time:  04/21/2016
  NXOS image file is: bootflash:///nxos.7.0.3.I4.6.bin
  NXOS compile time:  3/9/2017 22:00:00 [03/10/2017 07:05:18]


Hardware
  cisco Nexus 3132QV Chassis
  Intel(R) Core(TM) i3- CPU @ 2.50GHz with 16401416 kB of memory.
  Processor Board ID FOC20123GPS

  Device name: A1
  bootflash:    14900224 kB
  usb1:               0 kB (expansion flash)

Kernel uptime is 0 day(s), 0 hour(s), 1 minute(s), 49 second(s)

Last reset at 403451 usecs after  Mon Jun 10 21:43:52 2017

  Reason: Reset due to upgrade
  System version: 7.0(3)I4(1)
  Service:

plugin
  Core Plugin, Ethernet Plugin
IP_switch_A_1#
```

7. Repeat these steps on the remaining three FC switches in the MetroCluster fabric configuration.

# Downloading and installing the Cisco FC RCF files

You must download the RCF file to each switch in the MetroCluster fabric configuration.

**Before you begin**

This task requires file transfer software, such as FTP, Trivial File Transfer Protocol (TFTP), SFTP, or Secure Copy Protocol (SCP), to copy the files to the switches.

**About this task**

These steps must be repeated on each of the Cisco FC switches in the MetroCluster fabric configuration.

You must use the supported switch software version.

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There are four RCF files, one for each of the four switches in the MetroCluster fabric configuration. You must use the correct RCF files for the switch model you are using.

| Switch | RCF file |
|---|---|
| FC_switch_A_1 | NX3232_v1.80_Switch-A1.txt |
| FC_switch_A_2 | NX3232_v1.80_Switch-A2.txt |
| FC_switch_B_1 | NX3232_v1.80_Switch-B1.txt |
| FC_switch_B_2 | NX3232_v1.80_Switch-B2.txt |

ⓘ The outputs shown are for Cisco IP switches; however, these steps are also applicable for Cisco FC switches.

**Steps**

1. Download the Cisco FC RCF files from the MetroCluster RCF download page.

2. Copy the RCF files to the switches.

   a. Copy the RCF files to the first switch:

      ```
      copy sftp://root@FTP-server-IP-address/tftpboot/switch-specific-RCF
      bootflash: vrf management
      ```

      In this example, the `NX3232_v1.80_Switch-A1.txt` RCF file is copied from the SFTP server at `10.10.99.99` to the local bootflash. You must use the IP address of your TFTP/SFTP server and the file name of the RCF file that you need to install.

```
IP_switch_A_1# copy sftp://root@10.10.99.99/tftpboot/NX3232_v1.8T-
X1_Switch-A1.txt bootflash: vrf management
root@10.10.99.99's password: password
sftp> progress
Progress meter enabled
sftp> get    /tftpboot/NX3232_v1.80_Switch-A1.txt
/bootflash/NX3232_v1.80_Switch-A1.txt
Fetching /tftpboot/NX3232_v1.80_Switch-A1.txt to
/bootflash/NX3232_v1.80_Switch-A1.txt
/tftpboot/NX3232_v1.80_Switch-A1.txt          100% 5141      5.0KB/s
00:00
sftp> exit
Copy complete, now saving to disk (please wait)...
IP_switch_A_1#
```

b. Repeat the previous substep for each of the other three switches, being sure to copy the matching RCF file to the corresponding switch.

3. Verify on each switch that the RCF file is present in each switch's `bootflash` directory:

`dir bootflash:`

The following example shows that the files are present on IP_switch_A_1:

```
IP_switch_A_1# dir bootflash:

                   .

                   .

                   .

     5514    Jun 13 22:09:05 2017  NX3232_v1.80_Switch-A1.txt

                   .

                   .

                   .

Usage for bootflash://sup-local
 1779363840 bytes used
13238841344 bytes free
15018205184 bytes total
IP_switch_A_1#
```

4. Copy the matching RCF file from the local bootflash to the running configuration on each switch:

`copy bootflash:switch-specific-RCF.txt running-config`

5. Copy the RCF files from the running configuration to the startup configuration on each switch:

`copy running-config startup-config`

You should see output similar to the following:

```
IP_switch_A_1# copy bootflash:NX3232_v1.80_Switch-A1.txt running-config
IP_switch_A_1# copy running-config startup-config
```

6. Reload the switch:

```
reload
```

```
IP_switch_A_1# reload
```

7. Repeat the previous steps on the other three switches in the MetroCluster IP configuration.