



# **Configure Brocade FC switches with RCF files**

## **ONTAP MetroCluster**

NetApp  
July 19, 2022

This PDF was generated from [https://docs.netapp.com/us-en/ontap-metrocluster/install-fc/task\\_reset\\_the\\_brocade\\_fc\\_switch\\_to\\_factory\\_defaults.html](https://docs.netapp.com/us-en/ontap-metrocluster/install-fc/task_reset_the_brocade_fc_switch_to_factory_defaults.html) on July 19, 2022. Always check docs.netapp.com for the latest.

# Table of Contents

- Configure Brocade FC switches with RCF files ..... 1
  - Resetting the Brocade FC switch to factory defaults ..... 1
  - Downloading the Brocade FC switch RCF file ..... 4
  - Installing the Brocade FC switch RCF file ..... 5

# Configure Brocade FC switches with RCF files

## Resetting the Brocade FC switch to factory defaults

Before installing a new software version and RCF files, you must erase the current 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.

### Steps

1. Log in to the switch as an administrator.
2. Disable the Brocade Virtual Fabrics (VF) feature:

```
fosconfig options
```

```
FC_switch_A_1:admin> fosconfig --disable vf
WARNING: This is a disruptive operation that requires a reboot to take
effect.
Would you like to continue [Y/N]: y
```

3. Disconnect the ISL cables from the ports on the switch.
4. Disable the switch:

```
switchcfgpersistentdisable
```

```
FC_switch_A_1:admin> switchcfgpersistentdisable
```

5. Disable the configuration:

```
cfgDisable
```

```
FC_switch_A_1:admin> cfgDisable
You are about to disable zoning configuration. This action will disable
any previous zoning configuration enabled.
Do you want to disable zoning configuration? (yes, y, no, n): [no] y
Updating flash ...
Effective configuration is empty. "No Access" default zone mode is ON.
```

6. Clear the configuration:

```
cfgClear
```

```
FC_switch_A_1:admin> cfgClear
The Clear All action will clear all Aliases, Zones, FA Zones
and configurations in the Defined configuration.
Run cfgSave to commit the transaction or cfgTransAbort to
cancel the transaction.
Do you really want to clear all configurations? (yes, y, no, n): [no] y
```

## 7. Save the configuration:

cfgSave

```
FC_switch_A_1:admin> cfgSave
You are about to save the Defined zoning configuration. This
action will only save the changes on Defined configuration.
Do you want to save the Defined zoning configuration only? (yes, y, no,
n): [no] y
Updating flash ...
```

## 8. Set the default configuration:

configDefault

```
FC_switch_A_1:admin> configDefault
WARNING: This is a disruptive operation that requires a switch reboot.
Would you like to continue [Y/N]: y
Executing configdefault...Please wait
2020/10/05-08:04:08, [FCR-1069], 1016, FID 128, INFO, FC_switch_A_1, The
FC Routing service is enabled.
2020/10/05-08:04:08, [FCR-1068], 1017, FID 128, INFO, FC_switch_A_1, The
FC Routing service is disabled.
2020/10/05-08:04:08, [FCR-1070], 1018, FID 128, INFO, FC_switch_A_1, The
FC Routing configuration is set to default.
Committing configuration ... done.
2020/10/05-08:04:12, [MAPS-1113], 1019, FID 128, INFO, FC_switch_A_1,
Policy dflt_conservative_policy activated.
2020/10/05-08:04:12, [MAPS-1145], 1020, FID 128, INFO, FC_switch_A_1,
FPI Profile dflt_fpi_profile is activated for E-Ports.
2020/10/05-08:04:12, [MAPS-1144], 1021, FID 128, INFO, FC_switch_A_1,
FPI Profile dflt_fpi_profile is activated for F-Ports.
The switch has to be rebooted to allow the changes to take effect.
2020/10/05-08:04:12, [CONF-1031], 1022, FID 128, INFO, FC_switch_A_1,
configDefault completed successfully for switch.
```

9. Set the port configuration to default for all ports:

```
portcfgdefault port-number
```

```
FC_switch_A_1:admin> portcfgdefault <port number>
```

You must complete this step for each port.

10. Verify that the switch is using the dynamic Port on Demand (POD) method.



For Brocade Fabric OS versions before 8.0, you run the following commands as admin, and for versions 8.0 and later, you run them as root.

a. Run the license command:

```
licenseport --show
```

```
FC_switch_A_1:admin> licenseport -show
24 ports are available in this switch
Full POD license is installed
Dynamic POD method is in use
```

b. Enable the root user if it is disabled by Brocade.

```
FC_switch_A_1:admin> userconfig --change root -e yes
FC_switch_A_1:admin> rootaccess --set consoleonly
```

c. Run the license command:

```
licenseport --show
```

```
FC_switch_A_1:root> licenseport -show
24 ports are available in this switch
Full POD license is installed
Dynamic POD method is in use
```

d. Change the license method to dynamic:

```
licenseport --method dynamic
```



If the dynamic POD method is not in use (if POD method is in static) you must change the license assignment method to dynamic. Skip this step if the dynamic POD method is in use.

```
FC_switch_A_1:admin> licenseport --method dynamic
The POD method has been changed to dynamic.
Please reboot the switch now for this change to take effect
```

#### 11. Reboot the switch:

```
fastBoot
```

```
FC_switch_A_1:admin> fastboot
Warning: This command would cause the switch to reboot
and result in traffic disruption.
Are you sure you want to reboot the switch [y/n]?y
```

#### 12. Confirm that the default settings have been implemented:

```
switchShow
```

#### 13. Verify that the IP address is set correctly:

```
ipAddrShow
```

You can set the IP address with the following command, if required:

```
ipAddrSet
```

## Downloading the Brocade FC switch RCF file

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

### About this task

To use these RCF files, the system must be running ONTAP 9.1 or later and you must use the port layout for ONTAP 9.1 or later.

If you are planning to use only one of the FC ports on the FibreBridge bridges, configure the back-end fibre channel switches manually using the instructions found in the section, [Port assignments for FC switches when using ONTAP 9.1 and later](#).

### Steps

1. Refer to the RCF file table on the Brocade RCF download page and identify the correct RCF file for each switch in your configuration.

The RCF files must be applied to the correct switches.

2. Download the RCF files for the switches from the [MetroCluster RCF download](#) page.

The files must be placed in a location where they can be transferred to the switch. There is a separate file for each of the four switches that make up the two-switch fabric.

3. Repeat these steps on each switch in the configuration.

## Installing the Brocade FC switch RCF file

When you configure a Brocade FC switch, you can install the switch configuration files that provide the complete switch settings for certain configurations.

### About this task

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

### Steps

1. Initiate the download and configuration process:

```
configDownload
```

Respond to the prompts as shown in the following example.

```
FC_switch_A_1:admin> configDownload
Protocol (scp, ftp, sftp, local) [ftp]:
Server Name or IP Address [host]: <user input>
User Name [user]:<user input>
Path/Filename [<home dir>/config.txt]:path to configuration file
Section (all|chassis|switch [all]): all
.
.
.
Do you want to continue [y/n]: y
Password: <user input>
```

After entering your password, the switch downloads and executes the configuration file.

2. Persistently enable the switch:

```
switchcfgpersistenable
```

The example shows how to persistently enable FC switch\_A\_1.

```
FC_switch_A_1:admin> switchcfgpersistenable
```

3. Confirm that the configuration file has set the switch domain:

```
switchShow
```

Each switch is assigned a different domain number depending on which configuration file the switch used.

```

FC_switch_A_1:admin> switchShow
switchName: FC_switch_A_1
switchType: 109.1
switchState: Online
switchMode: Native
switchRole: Subordinate
switchDomain: 5

```

4. Verify that your switch is assigned the correct domain value as indicated in the following table.

Fabric	Switch	Switch domain
1	A_1	5
	B_1	7
2	A_2	6
	B_2	8

5. Change the port speed:

portcfgspeed

```

FC_switch_A_1:admin> portcfgspeed port number port speed

```

By default, all the ports are configured to operate at 16 Gbps. You might change the port speed for the following reasons:

- The interconnect switch ports speed should be changed when an 8-Gbps FC-VI adapter is used and the switch port speed should set to 8 Gbps.
- The switch ports speed should be changed when an 8-Gbps HBA adapter is used for ATTO FibreBridge 6500N.
- The ISL ports' speed must be changed when the ISL is not capable of running at 16 Gbps.

6. Calculate the ISL distance.

Due to the behavior of the FC-VI, you must set the distance to 1.5 times the real distance with a minimum of 10 (LE). The distance for the ISL is calculated as follows, rounded up to the next full kilometer:  $1.5 \times \text{real distance} = \text{distance}$ .

If the distance is 3 km, then  $1.5 \times 3 \text{ km} = 4.5$ . This is lower than 10; therefore, you must set the ISL to the LE distance level.

The distance is 20 km, then  $1.5 \times 20 \text{ km} = 30$ . You must set the ISL to the LS distance level.

7. Set the distance for each ISL port:



```
portcfglongdistance port level vc_link_init -distance distance_value
```

A `vc_link_init` value of 1 uses the fillword "ARB" by default. A value of 0 uses the fillword "IDLE". The required value might vary depending on the link you use. In this example, the default is set and the distance is assumed to be 20 km. Hence, the setting is "30" with a `vc_link_init` value of "1", and the ISL port is "21".

Example: LS

```
FC_switch_A_1:admin> portcfglongdistance 21 LS 1 -distance 30
```

Example: LE

```
FC_switch_A_1:admin> portcfglongdistance 21 LE 1
```

8. Verify if the IP address is set correctly:

```
ipAddrshow
```

```
FC_switch_A_1:admin> ipAddrshow
```

You can set the IP address, if required:

```
ipAddrSet
```

9. Set the timezone from the switch prompt:

```
tstimezone --interactive
```

You should respond to the prompts as required.

```
FC_switch_A_1:admin> tstimezone --interactive
```

10. Reboot the switch:

```
reboot
```

The example shows how to reboot FC switch `_A_1`.

```
FC_switch_A_1:admin> reboot
```

11. Verify the distance setting:

```
portbuffershow
```

A distance setting of LE appears as 10 km.

```

FC_Switch_A_1:admin> portbuffershow
User Port Lx    Max/Resv Buffer Needed  Link      Remaining
Port Type Mode Buffers  Usage  Buffers Distance Buffers
-----
...
21    E    -      8      67      67      30 km
22    E    -      8      67      67      30 km
...
23    -    8      0      -      -      466

```

12. Reconnect the ISL cables to the ports on the switches where they were removed.

The ISL cables were disconnected when the factory settings were reset to the default settings.

#### Resetting the Brocade FC switch to factory defaults

13. Validate the configuration.

- a. Verify that the switches form one fabric:

```
switchshow
```

The following example shows the output for a configuration that uses ISLs on ports 20 and 21.

```

FC_switch_A_1:admin> switchshow
switchName: FC_switch_A_1
switchType: 109.1
switchState:Online
switchMode: Native
switchRole: Subordinate
switchDomain:      5
switchId:   fffc01
switchWwn:  10:00:00:05:33:86:89:cb
zoning:      OFF
switchBeacon: OFF

Index Port Address Media Speed State  Proto
=====
...
20    20  010C00   id    16G  Online FC   LE E-Port
10:00:00:05:33:8c:2e:9a "FC_switch_B_1" (downstream) (trunk master)
21    21  010D00   id    16G  Online FC   LE E-Port  (Trunk port,
master is Port 20)
...

```

- b. Confirm the configuration of the fabrics:

fabricshow

```
FC_switch_A_1:admin> fabricshow
  Switch ID    Worldwide Name          Enet IP Addr FC IP Addr Name
-----
1: fffc01 10:00:00:05:33:86:89:cb 10.10.10.55  0.0.0.0
"FC_switch_A_1"
3: fffc03 10:00:00:05:33:8c:2e:9a 10.10.10.65  0.0.0.0
>"FC_switch_B_1"
```

c. Verify that the ISLs are working:

islshow

```
FC_switch_A_1:admin> islshow
```

d. Confirm that zoning is properly replicated:

cfgshow  
zoneshow

Both outputs should show the same configuration information and zoning information for both switches.

e. If trunking is used, confirm the trunking:

trunkshow

```
FC_switch_A_1:admin> trunkshow
```

## Copyright Information

Copyright © 2022 NetApp, Inc. All rights reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means-graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system- without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

## Trademark Information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.