



Dell Networking S3148p/S3124

Switch Configuration Guide for Dell SC Series iSCSI SANs

Dell Storage Engineering
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Revisions

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1 Introduction

This document illustrates how to configure Dell Networking S3148p or S3124 switches for use as a dedicated iSCSI SAN with Dell™ SC Series arrays using Dell best practices.

1.1 Document conventions

Table 1 lists the formatting conventions used in this document.

Table 1 Document conventions

Format	Description	Example
Bold	User input	Dell> enable
<i>Italic</i>	Placeholder or variable	<i>your password</i>
< <i>Italic</i> > <brackets>	Separate variables	<ip address> <mask>

1.2 Audience

This switch configuration guide describes an optimal configuration following Dell best practices for an SC Series iSCSI SAN and is intended for storage or network administrators and deployment personnel.

1.3 Switch details

Table 2 provides an overview of the switch configuration.

Table 2 Switch specifications

Dell Networking S3148p / S3124	
Switch vendor	Dell
Switch model	S3148p or S3124
Switch firmware	9.8.2.0 or later

Note: For proper functionality, the switch must be at the firmware version shown in Table 2 before proceeding with this configuration. Using previous firmware versions may have unpredictable results.

Find the latest firmware updates and documentation at: www.force10networks.com (login required).



1.4 Cabling diagram

The cabling diagram shown in Figure 1 represents the Dell recommend method for deploying servers with Dell SC Series arrays.

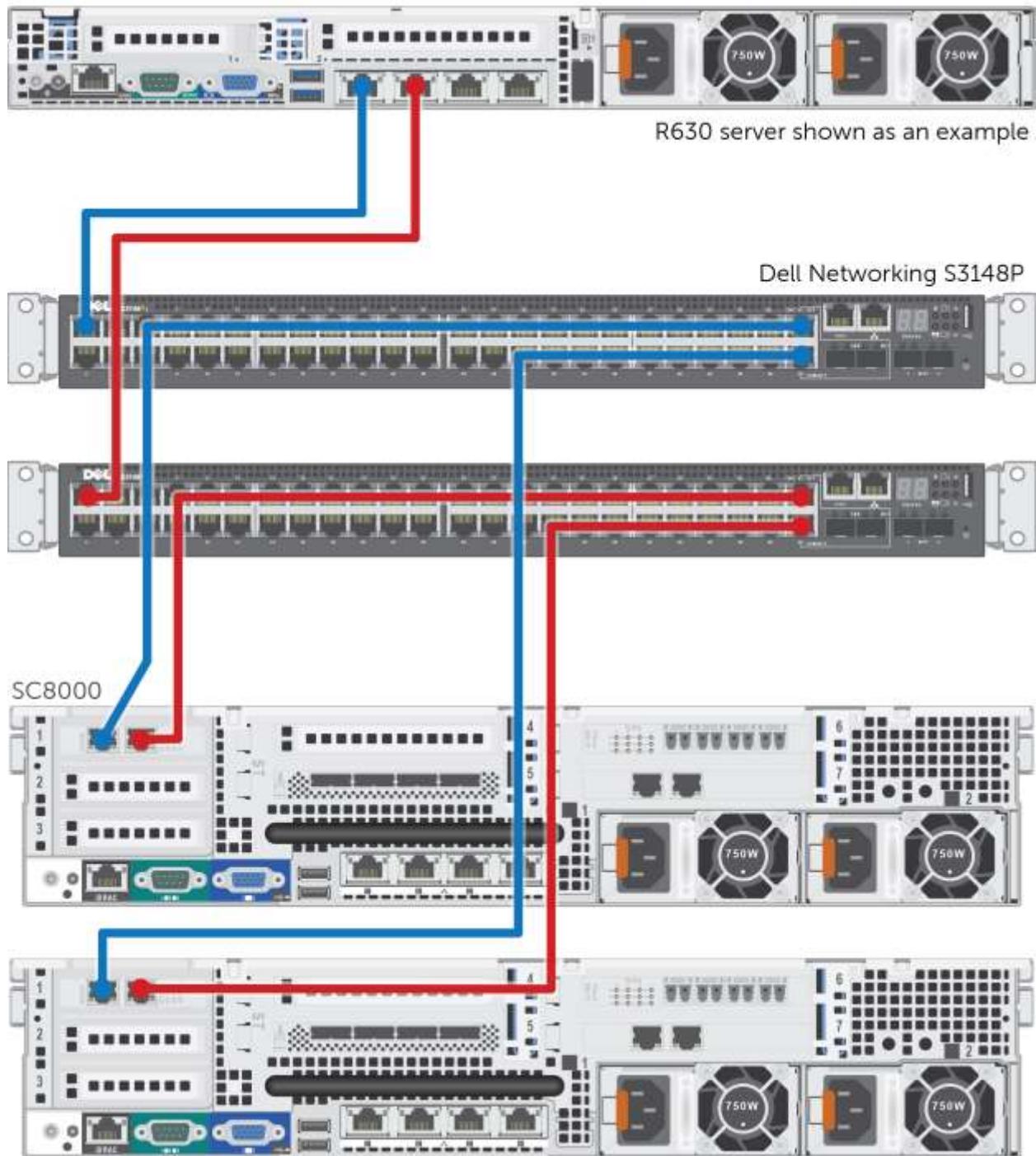


Figure 1 Cabling diagram



2 Dell recommended switch configuration

Follow these steps to configure two S3148P or S3124 switches in an iSCSI SAN with SC Series arrays.

2.1 Hardware configuration

1. Power on the two switches.
2. Connect a serial cable to the serial port of the first switch.
3. Using PuTTY or another terminal utility, open a serial connection session to the switch.
4. Open your terminal emulator and configure it to use the serial port (usually COM1 but this may vary depending on the system). Configure serial communications for 9600,N,8,1 and no flow control.

2.2 Delete startup configuration

Note: This example assumes a switch at its default configuration settings. Using the **delete startup-config** command will set the startup configuration file to its default settings. Always back up configuration settings prior to performing any configuration changes.

```
Dell>enable
Dell#delete startup-config
Proceed to delete startup-config [confirm yes/no]yes
Dell#reload
System configuration has been modified. Save? [yes/no]no
Proceed with reload [confirm yes/no]yes
```

Note: The switch will reboot.

2.3 Disable iSCSI optimization

```
Dell>enable
Dell>configure
Dell(conf)#no iscsi enable
```

2.4 Configure out of band (OOB) management port

```
Dell(conf)#interface ManagementEthernet 1/1
Dell(conf-if-ma-1/1)#no shutdown
Dell(conf-if-ma-1/1)#ip address <ipaddress> <mask>
Dell(conf-if-ma-1/1)#exit
```



2.5 Configure route for OOB management port (optional)

```
Dell(conf) #management route <X.Y.Z.0> /<24> <A.B.C.1>
```

Note: X.Y.Z.0 is the network the management system is connecting from and A.B.C.1 is the gateway for the switch. If the management system is on the same subnet as the switch, the previous step may be omitted. The example above assumes a class C subnet mask.

2.6 Configure login credentials

```
Dell(conf) #username admin privilege 15 password 0 yourpassword  
Dell(conf) #enable password level 15 0 yourpassword
```

2.7 Enable switch ports

Option 1: Enable ports individually by entering the port number.

```
Dell(conf) #interface gigabitethernet 1/1  
Dell(conf-if-gi-1/1) #switchport  
Dell(conf-if-gi-1/1) #no shutdown  
Dell(conf-if-gi-1/1) #no ip address  
Dell(conf-if-gi-1/1) #exit  
Dell(conf) #exit
```

Option 2: Enable multiple ports at once using the 'range' parameter.

```
Dell#configure  
Dell(conf) #interface range gigabitethernet 1/1-1/48
```

Note: For the S3124 switch, use:

```
Dell(conf) #interface range gigabitethernet 1/1-1/24
```

```
Dell(conf-if-range-gi-1/1-1/48) #switchport  
Dell(conf-if-range-gi-1/1-1/48) #no shutdown  
Dell(conf-if-range-gi-1/1-1/48) #no ip address
```

2.8 Enable Jumbo Frames

```
Dell(conf-if-range-gi-1/1-1/48) #mtu 12000
```

2.9 Configure flow control

```
Dell(conf-if-range-gi-1/1-1/48) #flowcontrol rx on tx off
```



2.10 Configure spanning tree on edge ports

Note: Make sure that the following command is used only on server- and storage-connected edge ports.

```
Dell (conf-if-range-gi-1/1-1/48) #spanning-tree rstp edge-port  
Dell (conf-if-range-gi-1/1-1/48) #exit  
Dell (conf) # protocol spanning-tree rstp  
Dell (conf-rstp) #no disable  
Dell (conf-rstp) #exit
```

2.11 Configure LLDP

```
Dell (conf) #protocol lldp  
Dell (conf-lldp) #no disable  
Dell (conf-lldp) #exit
```

2.12 Configure VLAN

Dell recommends assigning a unique *vlan_id* (between 2-4094) for each switch fabric. For example, assign VLAN 100 on the first switch and VLAN 200 on the second switch. The following example assigns all the ports to the VLAN, however, you may also assign individual ports to the VLAN after they are enabled (section 2.7).

In addition, edge devices (server NIC ports and the storage NIC ports) need to be configured with the corresponding VLAN tag. If you prefer to use the default VLAN, then skip this section.

```
Dell(config)#interface vlan vlan_id  
Dell#(config-if-vl-###) #no shutdown  
Dell#(config-if-vl-###) #tagged gigabitethernet 1/1-1/48
```

Note: For the S3124 switch, use:

```
Dell#(config-if-vl-###) #tagged gigabitethernet 1/1-1/24
```

```
Dell#(config-if-vl-###) #exit  
Dell#(config) #exit
```

2.13 Save configuration

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

2.14 Configure additional switch

Repeat the commands from section 2 to configure the second switch. Be sure to use a different VLAN number for the second switch.



A Additional resources

[Dell.com/support](#) is focused on meeting your needs with proven services and support.

[DellTechCenter.com](#) is an IT Community where you can connect with Dell customers and Dell employees for the purpose of sharing knowledge, best practices, and information about Dell products and your installations.

Referenced or recommended Dell publications:

- [*Dell Storage Compatibility Matrix*](#)
- For Dell SC Series best practices white papers, reference architectures, and sizing guidelines for enterprise applications and SANs, refer to the [SC Series Technical Content page](#).

