PowerConnect 6224 or 6248

Rapid EqualLogic Configuration Series
Implementation Guide

Dell Storage Engineering
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Revisions

Date	Description
April 2012	initial release
June 2012	Minor edits
Sept. 2012	Included 6224 switch
Feb. 2013	Minor edits
April 2013	Minor edits
Oct. 2013	Added LAG configuration section

1   Establish console access

To perform this configuration you will need the following:

- A serial null-modem cable (provided with the PowerConnect switch).
- A management station (server, desktop, or laptop) running Windows (XP, 7, 2003, 2008, 2012) in close proximity to the switch (i.e. the serial cable must connect from this system to the storage array). You may also use your Windows host server for this.
- A terminal emulator such as HyperTerminal, Putty, or TeraTerm. HyperTerminal is only available in Windows XP and 2003. Putty and TeraTerm can be found for download through a quick Google search.

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

2 Configuration with a Link Aggregation Group (LAG) using optional 10GbE SFP+ modules

Dell recommends using the 10 GE SFP+ uplink module ports to create a Link Aggregation Group (LAG) between switches. This option can provide the highest switch interconnect bandwidth as well as the best availability. Optional configurations for LAG configurations using 1 Gb Ethernet ports and stacking configurations can be found in subsequent sections.

Note: The optional 10 GbE SFP+ uplink module must be installed in each switch before proceeding.

1. Type the following commands to check the current firmware installed.
    ```
    console>enable
    console#show version
    ```

Note: If the version displayed here is not 3.3.7.3 or later, please visit support.dell.com and download the latest update for your switches.

2. To clear the current switch configuration:
    ```
    console>enable
    console#clear config
    console>enable
    console#copy running-config startup-config
    console#reload
    ```

3. HTTP and Telnet authentication
    ```
    console>enable
    console#config
    console(config)#flowcontrol
    console(config)#line telnet
    console(config-telnet)#login authentication default
    console(config-telnet)#exit
    console(config)#ip http authentication local
    console(config)#username admin password yourpassword level 15
    console(config)#enable password yourpassword
    ```

4. Configure switch ports
    ```
    console(config)#interface range ethernet all
    console(config-if)#mtu 9216
    console(config-if)#spanning-tree portfast
    ```

```
console(config-if)#exit
```

5. Configure LAG ports
```
console(config)#interface range ethernet 1/xg3,1/xg4

console(config-if)#no spanning-tree portfast

console(config-if)#channel-group 1 mode auto

console(config-if)#exit

console(config)#interface port-channel 1

console(config-if-ch1)#mtu 9216

console(config-if-ch1)#exit

console(config)#exit

console#
```

6. Then execute the following command to save the setup:

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

Repeat steps 1 through 6 for the second switch.

Note: The preceding procedure places all switch ports in the default VLAN. If you prefer to place ports in a non-default VLAN, refer to the documentation for your switch.

3 Optional LAG configuration using 1 Gb Ethernet ports

> **Note:** If you have completed Section 2, your LAG setup is completed. If you intend to build a LAG using the switch front 1Gb Ethernet ports, you must complete Section 3 instead of 2
>
> **Note**: The number of Ethernet ports required to setup the LAG depends on the number of array members connected to the switch. For one array, at least 4 Ethernet ports are required; for two arrays, a minimum of 8 ports are required. For three arrays or more, use the optional 10 GbE SFP+ Uplink modules as described in Section 2

1. Type the following commands to check the current firmware installed.
   ```
   console>enable
   console#show version
   ```

> **Note**: If the version displayed here is not 3.3.7.3 or later, please visit support.dell.com and download the latest update for your switches.

2. To clear the current switch configuration:
   ```
   console>enable
   console#clear config
   console>enable
   console#copy running-config startup-config
   console#reload
   ```

3. HTTP and Telnet authentication
   ```
   console>enable
   console#config
   console(config)#flowcontrol
   console(config)#line telnet
   console(config-telnet)#login authentication default
   console(config-telnet)#exit
   console(config)#ip http authentication local
   console(config)#username admin password yourpassword level 15
   console(config)#enable password yourpassword
   ```

4. Configure switch ports
   ```
   console(config)#interface range ethernet all
   console(config-if)#mtu 9216
   console(config-if)#spanning-tree portfast
   ```

```
console(config-if)#exit
```

5. Configure LAG ports

> **Note:** This example shows a LAG using Ethernet ports 45 – 48 on a PowerConnect 6248. This is sufficient for a single array. If you have two arrays, you should specify ports 1/g41-1/g48. If you have a PowerConnect 6224, then use ports 1/g21-1/g24 or 1/g17-1/g24.

```
console(config)#interface range ethernet 1/g45-1/g48
console(config-if)#no spanning-tree portfast
console(config-if)#channel-group 1 mode auto
console(config-if)#exit
console(config)#interface port-channel 1
console(config-if-ch1)#mtu 9216
console(config-if-ch1)#exit
console(config)#exit
console#
```

6. Then execute the following command to save the setup:

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

> Repeat steps 1 through 6 for the second switch.

> **Note**: The preceding procedure places all switch ports in the default VLAN. If you prefer to place ports in a non-default VLAN, refer to the documentation for your switch.

4 Optional stack configuration

> **Note**: If you already completed section 2 or 3 you are finished. If you wish to use a stack configuration instead of LAG, follow the instruction below instead of section 2 or 3.
>
> One advantage of stacked switches is that they can be managed as a single switch; however firmware updates will update all members of the stack simultaneously and therefore should only be done during planned downtime.

1. Connect the XG1 port on switch one to the XG2 port on switch two, and vice versa.

2. Type the following commands to check the current firmware installed.
   ```
   console>enable
   console#show version
   ```

> **Note**: If the version displayed here is not 3.3.7.3 or later, please visit support.dell.com and download the latest update for your switches.

3. To clear the current switch configuration:
   ```
   console>enable
   console#clear config
   console>enable
   console#copy running-config startup-config
   console#reload
   ```

4. For each switch run the following commands:
   ```
   console>en
   console#config
   console(config)#stack
   console(config-stack)#stack-port 1/xg1 stack
   console(config-stack)#stack-port 1/xg2 stack
   console(config-stack)#exit
   console(config)#exit
   console#copy running-config startup-config
   ```

5. Check the stacking link statuses.
   ```
   console>en
   console#show stack-port
   ```

Note: Switch LEDs indicate the stacking number of each unit and which one is the master.

Note: Complete the switch configuration using the master switch:

6. HTTP and Telnet authentication

```
console>enable
console#config
console(config)#flowcontrol
console(config)#line telnet
console(config-telnet)#login authentication default
console(config-telnet)#exit
console(config)#ip http authentication local
console(config)#username admin password yourpassword level 15
console(config)#enable password yourpassword
```

7. Configure switch ports and save running configuration

```
console(config)#interface range ethernet all
console(config-if)#mtu 9216
console(config-if)#spanning-tree portfast
console(config-if)#exit
console(config)#exit
console#copy running-config startup-config
```

Note: The preceding procedure places all switch ports in the default VLAN. If you prefer to place ports in a non-default VLAN, refer to the documentation for your switch.