Dell PowerEdge VRTX Networking

A Dell deployment and configuration guide for using the Dell PowerEdge VRTX 1GbE switch.

Dell Engineering
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A Dell Deployment and Configuration Guide

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Revisions

Date	Description	Authors
October 2013	Version 1.0	Tracy Alonzo, Andy Berry

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1 Introduction

Dell PowerEdge VRTX is a converged infrastructure product focused on remote, branch, and small office requirements.

This document outlines the configuration of the Dell PowerEdge VRTX 1GbE switch I/O Module (IOM) to establish basic connection to the local network. Dell PowerEdge VRTX can be configured with an integrated 1GbE pass-through switch module or an integrated 1GbE switch module. The 1GbE switch module is recommended for most applications.

Dell PowerEdge VRTX Chassis Components illustrates the primary components of the Dell PowerEdge VRTX chassis.

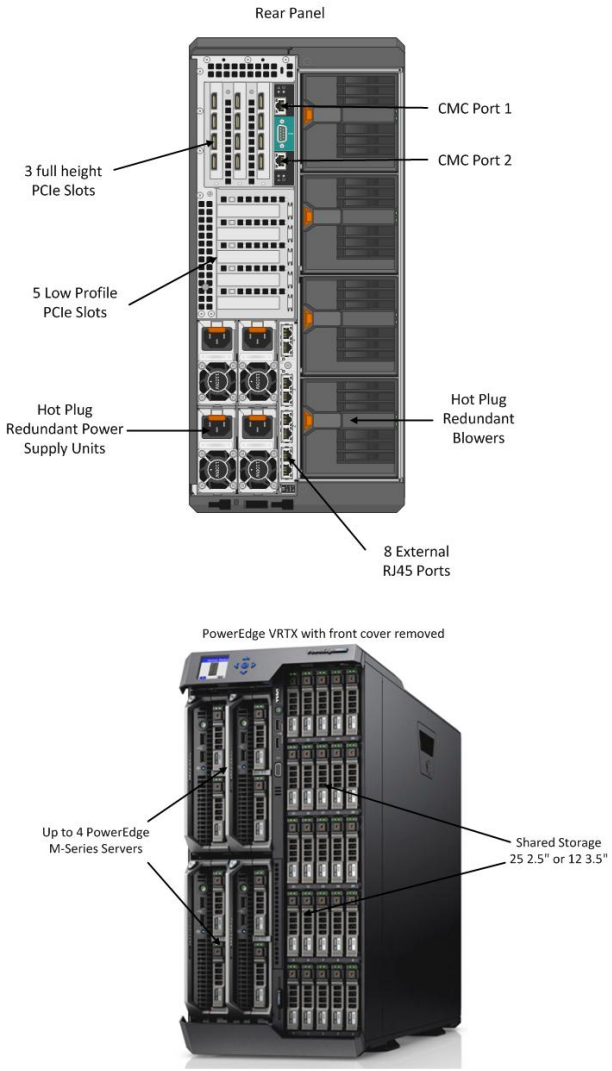

Figure 1 Dell PowerEdge VRTX Chassis Components

1.1 Acronyms Used in the Document

Acronym	Expanded Word
I/O Module	IOM
LAG	Link Aggregation
CMC	Chassis Management Controller

1.2 General Networking Guidelines

- If using MAC address filtering or port security on the uplink switch connected to the Dell PowerEdge VRTX, set it to a minimum of 6 MAC addresses.
- Ensure that the local network DHCP server IP address pool is sufficient to support multiple unique IP addresses. If assigning static IP addresses to the Dell PowerEdge VRTX 1GbE switch IOM, ensure that these IP addresses are unique from the local network DHCP server pool.
- When configuring IEEE 802.1Q trunks or Link Aggregation (LAGs) on the Dell PowerEdge VRTX 1GbE switch IOM as illustrated in Basic Network Topology, the uplink switch ports must have the same IEEE 802.1Q trunks or Link Aggregation (LAGs) configuration.
- When establishing a management link to the Dell PowerEdge VRTX Chassis Management Controller (CMC), it is recommended to create a separate VLAN. In Basic Network Topology, CMC port1 and the uplink switch port are designated as members of VLAN5.

NOTE: If either CMC port 1 or port 2 on the Dell PowerEdge VRTX are not physically connected to an uplink switch, do not designate a separate VLAN.

1.3 Basic Network Topology

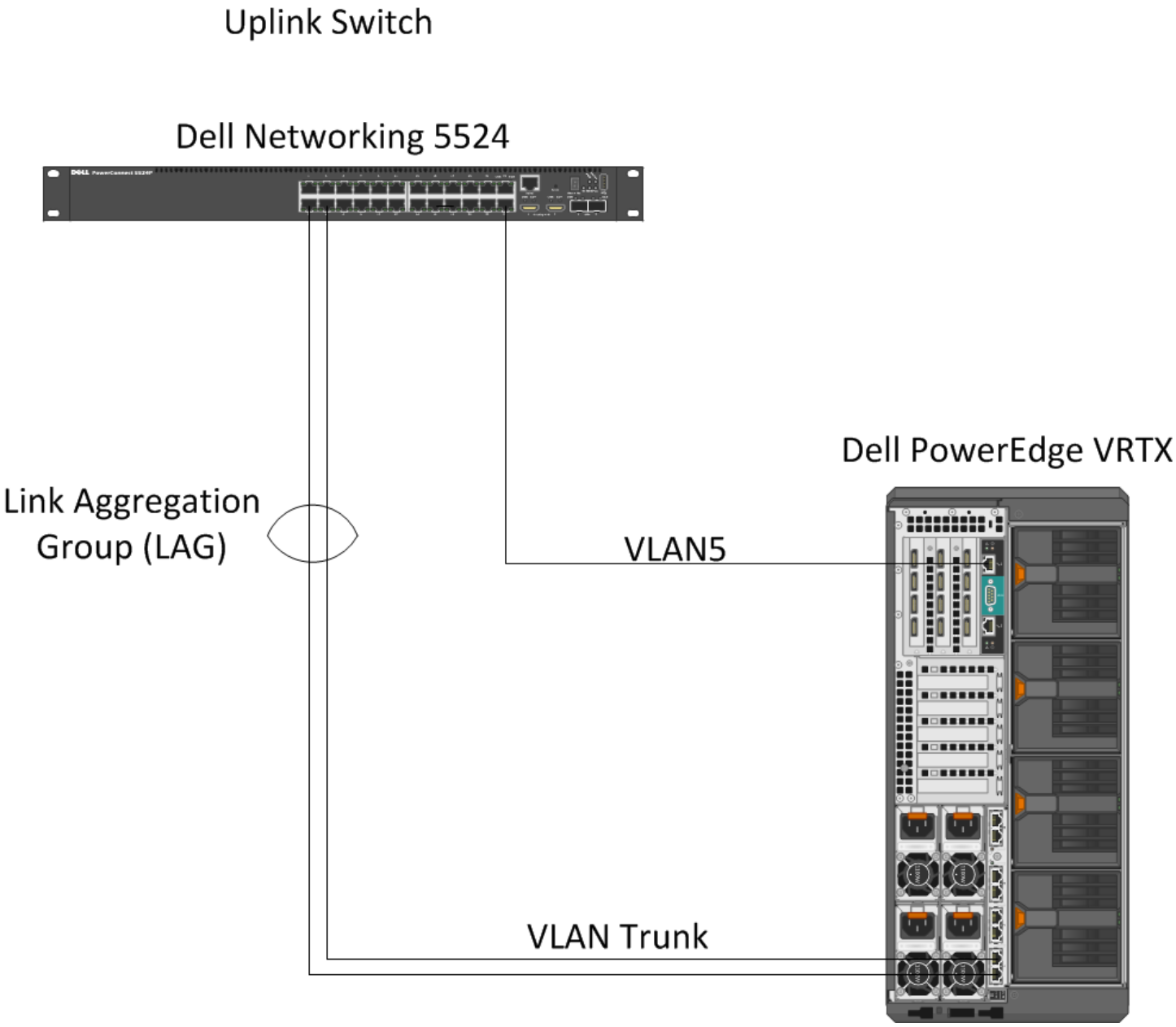

Figure 2 Basic Network Topology

2 Dell PowerEdge VRTX Configuration

To configure the PowerEdge VRTX 1GbE switch IOM, follow the steps below:

1. Log into the CMC.
2. Log into the VRTX 1GBE switch module.
3. Configure the VLANs.
4. Configure the trunk ports.
5. Configure the Link Aggregations Ports.

NOTE: For detailed instructions on each of the steps below, see the next few sections.

2.1 Logging into CMC

For instructions on configuring the CMC settings, see the *Chassis Management Controller Version 1.0 for Dell PowerEdge VRTX User's Guide* at **dell.com/support/manuals**.

1. Go to the LCD display on the front of the PowerEdge VRTX system.
   To locate the LCD display, see Dell PowerEdge VRTX Chassis Components.
2. Select **IP Summary** from the main menu screen.
   The CMC IP address is displayed along with iDRAC IP address.

NOTE: Use the up and down arrow button to navigate and the center button to select.

3. Open a web browser.
4. In the address field, enter the CMC IP address you got in step 2.
5. In the **Login** screen to the Dell PowerEdge VRTX CMC, enter the default Username: **root** and Password: **calvin**, and click **Submit.**
   The Chassis Management Controller GUI is displayed.

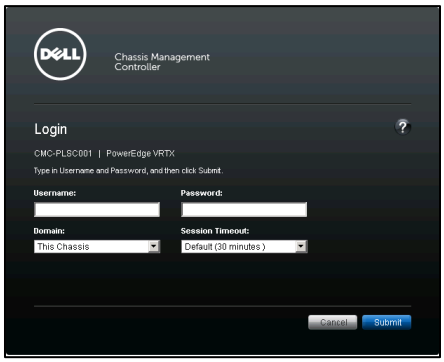

Figure 3 Chassis Management Controller GUI

NOTE: It is recommended to set a unique username and password.

2.2 Logging into the PowerEdge VRTX 1GbE Switch Module

1. In the Chassis Management Controller GUI, navigate to the **I/O Module Overview** object in the left pane.

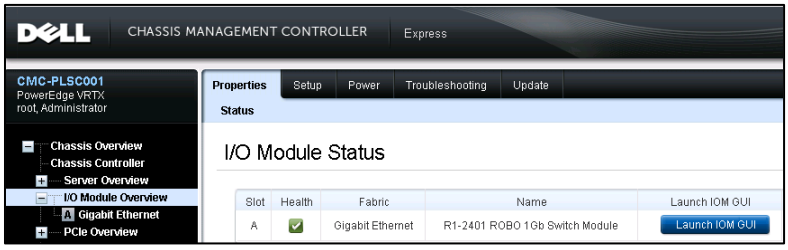

Figure 4 I/O Module Overview

2. Click on **Launch IOM GUI**.
   The Login screen to the VRTX 1GbE Switch Module is displayed.

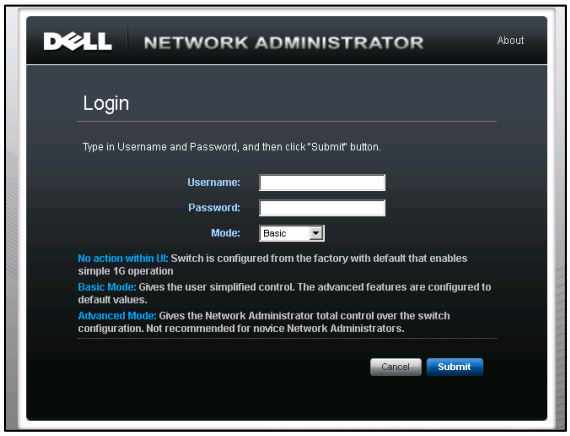

Figure 5 VRTX 1GbE Switch Module Login Screen

3. In the login screen, enter the default Username: **root** and Password: **calvin**, and click **Submit**.
   The VRTX 1GbE Switch Module **Home** page is displayed.

NOTE: It is recommended to set a unique username and password.

NOTE: By default, the 1GbE switch module obtains its IP address from the local DHCP server. However, you can assign a static IP address by selecting the **<Setup>** entry from the **I/O Module Overview** page.

2.3 Configuring VLANs

1. In the VRTX 1GbE Switch Module **Home** page, expand **Switching→VLAN** then click **VLAN Membership**.
2. In the VLAN membership page, click **Add**.
3. In the VLAN ID field, enter **10**.
4. For VLAN name, enter <*Server node 1*>.
5. Click **Apply**.
6. Add *VLAN 20* and *server node 2* and then click **Apply**.

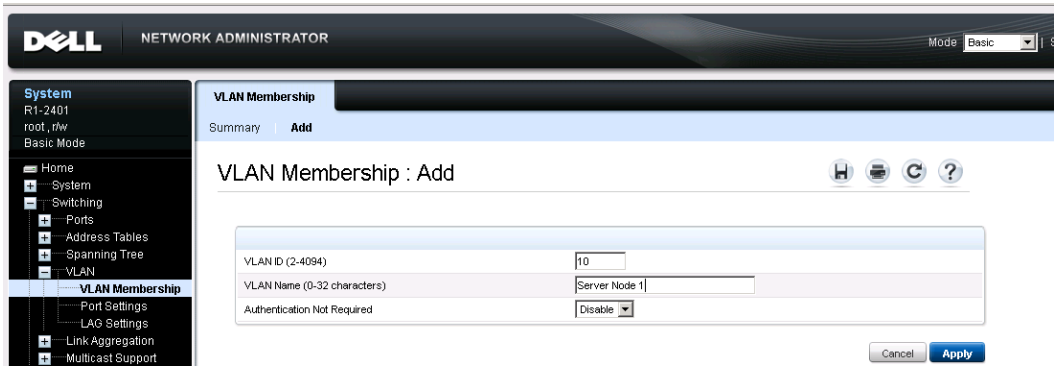

Figure 6 VLAN Membership

7. In the Port Settings page, click **Edit**.
8. Select the **Internal Port** radio button and use the drop-down menu to select gi1/1. This is the server port in this example.
9. Use the pull down menu in the **Port VLAN Mode** to select **Access**.
10. In the VLAN list, click **1**, and click **Remove**.
11. Enter **10** in the VLAN list box, and click **Add**.
12. Click **Apply**.

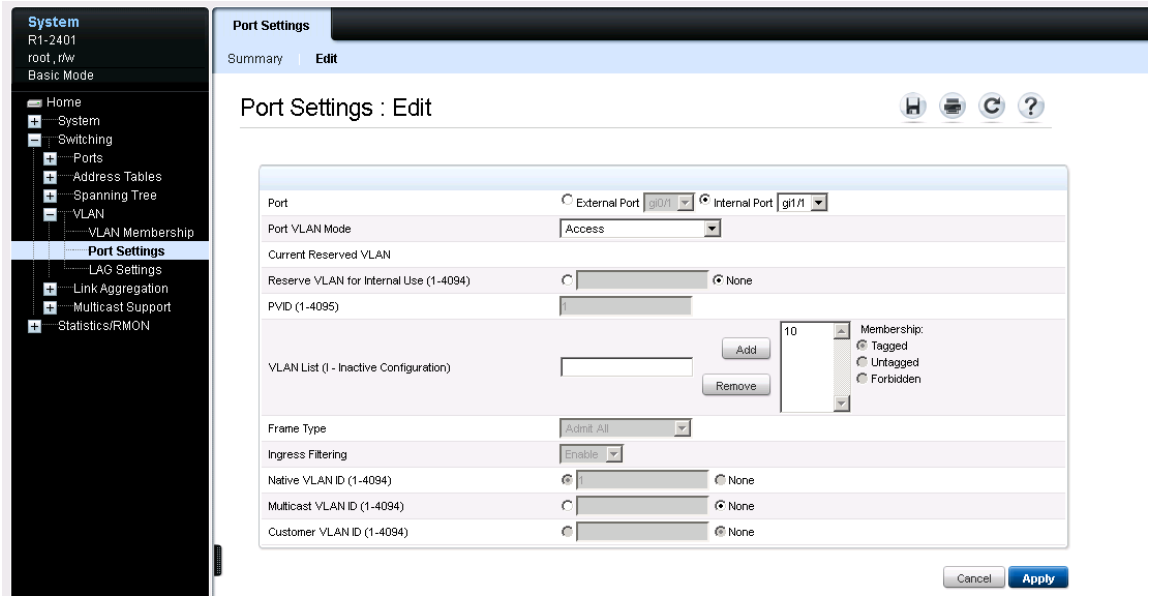

Figure 7 Assigning VLANs to Server Nodes

13. Use the drop-down menu to select **gi2/1**.
14. In the VLAN list, click **1**, and click **Remove**.
15. In the VLAN list, enter **20**, and click **Add**.
16. Click **Apply**.
17. In the upper-right corner of the page, click the floppy drive icon to save all new settings to start-up configuration.

2.4 Configuring Trunk Ports

1. Expand **Port Settings**.
2. Under the **Port Settings** tab, click **Edit**.
3. Select the **External Port** radio button.
4. Use the drop-down menu to select **gi0/1**.
   This is the external port connected to the uplink switch. All the VLANs must be in the VLAN list field.
5. Use the pull down menu in the **Port VLAN Mode** field to select **Trunk**.
6. In the VLAN list, enter **10** in the VLAN list box, and click **Add**.
7. Click **Apply**.
8. Enter **20** in the VLAN list box and click **Apply**.
9. In the upper-right of the configuration page, click the floppy drive icon to save all the new settings to start-up configuration.

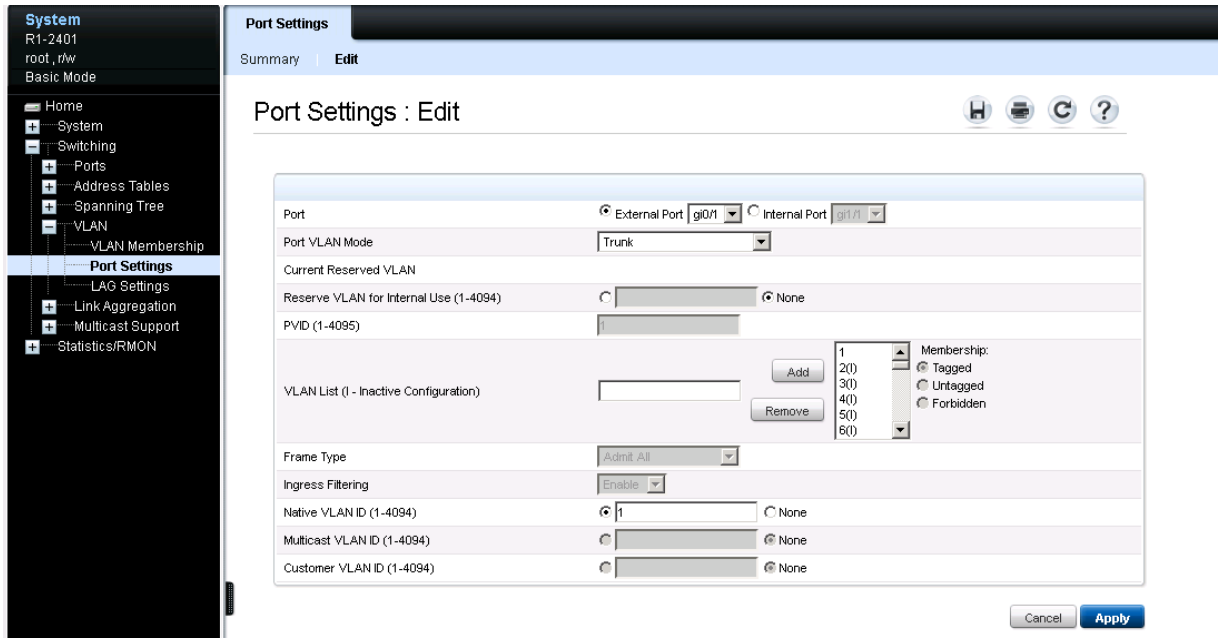

Figure 8 Assign Trunk Ports

2.5 Configuring Link Aggregation Ports

Sometimes it is desirable to "aggregate" multiple ports together to obtain more bandwidth to support multiple downstream devices. Follow the steps below to configure LAG ports.

1. Expand **Link Aggregation** → **LAG Membership**.
2. Under the LAG Membership tab, click **Edit**.
   The default LAG Group is **1**.
   Add ports as members to this LAG group.
3. Under external ports, click first on the LAG button for **Gi0/1**.
   This adds a check mark.
4. Click on the **LACP button** for the port
   This adds an **L**.
5. Do the same for **Gi0/2** adding **LAG** then **LACP**.
6. If needed, continue adding ports that forms the LAG to the uplink switch.
7. Click **Apply**.

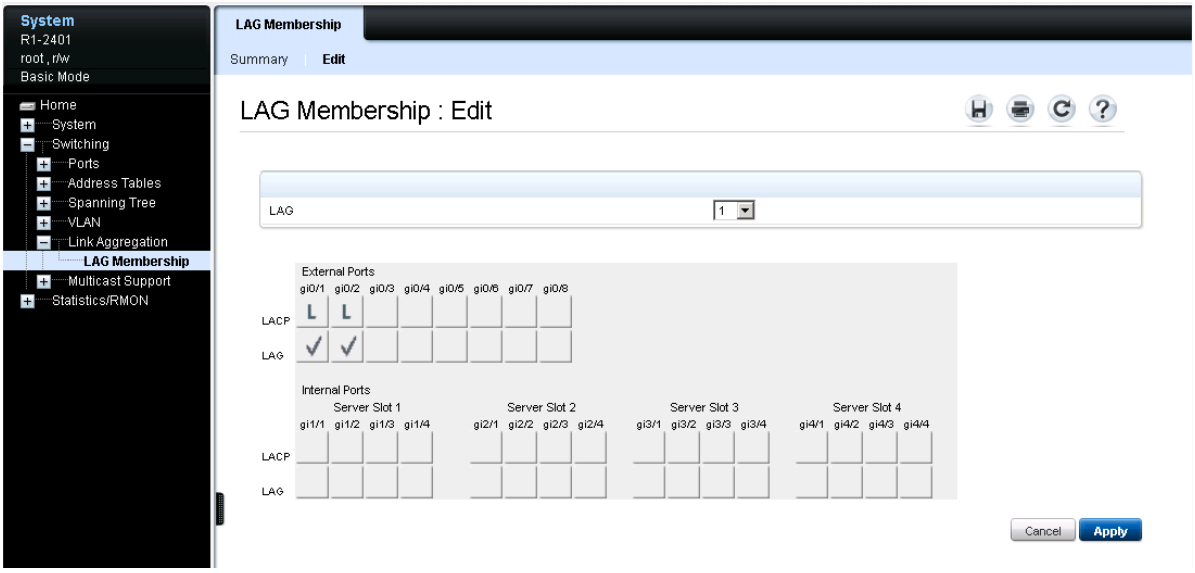

Figure 9 Assigning Ports to LAG Membership

8. Click **VLAN→LAG Settings**.

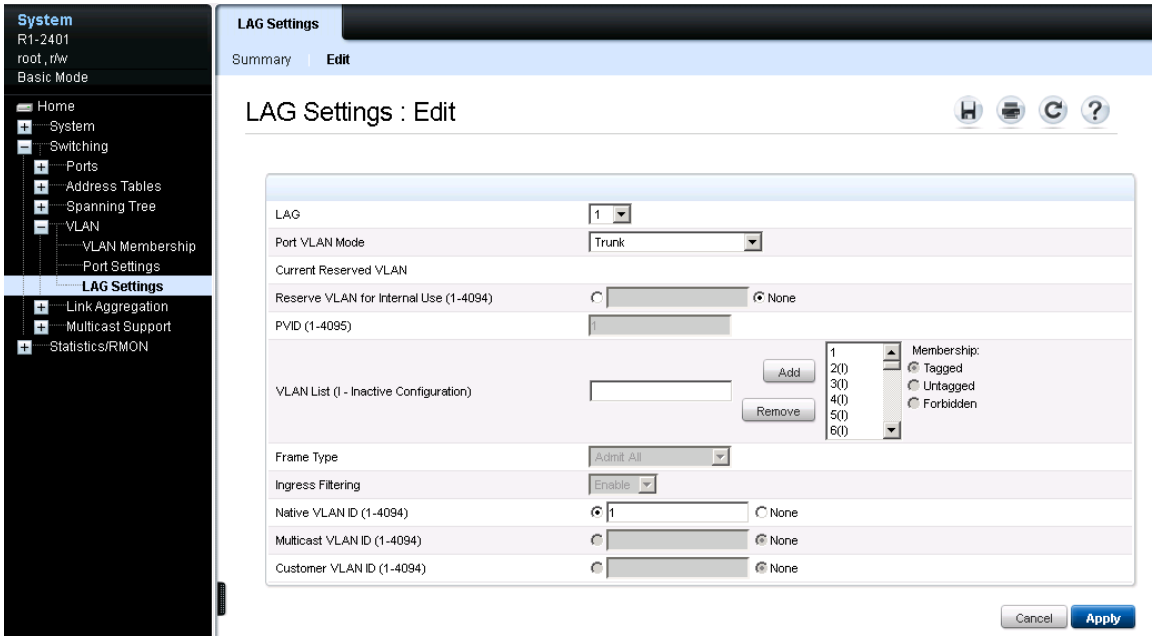

Figure 10 Setting LAG as Trunk

9. Click **Edit**.
10. Change the Port VLAN Mode for **LAG 1** to **Trunk**.
11. Click **Apply**.
12. In the upper-right of the configuration page, click the floppy drive icon to save all new settings to start-up configuration.
13. In the upper right corner, click **logout**. .

3 Additional Resources

- Additional information for the Dell PowerEdge VRTX can be found at Dell PowerEdge VRTX Product Page.
- The User Guide for the Dell PowerEdge VRTX contains additional configuration details. Download the latest User Guide at http://www.dell.com/support. This site is focused on meeting your needs with proven services and support.
- http://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 installations.
- For information on VRTX training, please visit learndell.com/server or email Dell Education Services at US_Training@Dell.com.