Cisco switches and routers course work

Law, Security

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CISCO SWITCHES AND ROUTERS

VLAN

Before beginning anything regarding switch installation and set up, there is need to read and understand the vendors' instructions concerning the same (Ouellet et al, 2002). Before attachment of the switch to the cluster VLAN, its IP address should be configured. Once this has been done, the switches firmware codes are then updated and the name and logging style set. The installation plan dictates the Chassis maximum transfer unit (Stallings, 2007). This should be set as well a plan that is developed to point to the network time protocol server is implemented. Once all the above procedures are done, the switch is ready for use. However, it is important to verify detection of the same by CSM/MS.

The switch user interface console offers an avenue through which commands can be set. Menu items are that allow different actions are available. Some of the general menus in the switch are:

- System information - this menu is used mainly to display and change system particulars

- SNMP configuration Menu and IP information menu - the menu displays IP addresses as well as the sub net mask. It allows for procedures to be done in order to change them.

- Password menu. A menu for changing or updating access codes

- Port configuration menu- allows selection and configuration of the available ports.

- Reset Menu- this is a menu that allows for switch or ports resetting

- Enable port configuration Menu- allows the enabling and disabling the configuration commands. (Ouellet et al, 2002).

The switch is also provided with a menu that is used to provide information. The menus are called switch information menu.

VLAN configuration can be done in separated ways. However, to enter configuration VLAN mode the VLAN-id global configuration command should be used. It is important to identify the software in which the switch runs on (Stallings, 2007). Do this by issuing the show version command. After that a command to set span tree root is done basically this is done by setting VLAN-id to 8192. Configuration of the ports is then done. This is done by issuing the span-tree port-fast command mod_num/port_num enable command. The ports that should be enabled should be those which connect only to other computers and not other switches. Finally verify that the span-tree id is well configured and the system is ready to be implemented (Gregory, & Bates, 2007).

Basics of installing and setting up a configuration server

While configuring a router the first step is to open the routers configuration tool. Determine routers address by use of its documentation. For the router to have an Internet connection, it is essential to enter information that pertains to the same. There might be need to update routes MAC address based on the type of computer you are using otherwise a wireless router would require changing of SSID. Lastly, verification is done in order to ascertain that the router is working well and that the computer is able to connect to. If additional computers are to be connected, there is need to ensure proper configuration (Stallings, 2007). For example, in the case of wireless router, SSID of each computer should match that of the router. Security is important. Configure security and access protocols to the system in order to guard it against attacks.

Command modes of a router

Router command modes serve to facilitate the process of network management at least on the router. User exec is a default mode that anyone using telnet connection is placed. Another common mode used is the privileged exec mode which gives the ability to see other commands. It is also referred to as enable mode (Regan, 2004). Since one cannot be able to change anything on the privileged mode another mode is used to change the settings. The configuration mode allows this task. Interface configuration mode is another mode that allows one the ability to issue many commands. IP addresses can be applied to an interface through this mode (Regan, 2004).

Routing protocols

How routers communicate to each other is determined by the routing protocols in place. One example of a routing protocol is the interior gateway routing protocol (IGRP), which is a protocol used by routers to exchange data with an autonomous system (Gregory, & Bates, 2007). Another type of protocol is the enhanced interior gateway protocol which allows automatic redistribution of information related to routing to IGRP protocol. The third protocol is the open shortest path first protocol (OSPF). OSPF is an IP routing protocol adaptive for networks. Lastly in our discussion is the Routing information protocol (RIP) (Regan, 2004). Its main purpose is to implement the split horizon; route poisoning as well as hold down tasks that are instrumental in ensuring that correct information is being propagated.

Reference

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