World University of Bangladesh

Course Title : Computer Networks Lab
Code : CSE 1006

Case study

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Task 1: How to configure a network switch in a small networks ?

Answer.

Intruduction:

In the world of internet a network switch is a very important component for maintaining the internet
connection. It makes the communication mechanism easier because the network switch was inventd to reduce the
complexity of networking device connections.

Methodology and Limitation:

The related devices like this switch is router and hub. The router can be used in the LAN and WAN. In the switch the computers can communicate with each other but in the hub the host can only interact with the computers.

Discussion and results : The discussion and results in the form of steps of the switch configuration are given
below:

There are several tasks and each task has many steps.

Task 1:

Step 1: Have to connect the networks with cable.
Step 2: Have to clear the current configuration of the switch.
Step 3: Reload the switch.

Task 2:

Step 1: Enter the previleged mode.
Example: command [Swith > enable -> switch#]
Step 2: Have to check the current switch configuration.
Step 3: Check the current cisco IOS information.
Step 4: Check the ethernet interfaces.
Step 5: Check the VLAN.
Step 6: Check flash memory.
Step 7: Check the startup configuration file.

Task 3:

Step 1: Input name.
Step 2: Set password.
Step 3: Set command mode password.
Step 4: Enable layer 3 address.
Step 5: Set default gateway.
Step 6: Varify management LAN settings.
Step 7: Configure the IP address and default gateway for first computer.
Step 8: Check if the connection is alright.
Step 9: Save configuration.
Step 10: Manage the MAC address table.
Step 11: Configure port security.

Conclusion: If we configure a router according to these steps then we would sucessfully configure a network switch.

Task 2: How to download Cisco Packet Tracer & Write down the Installation steps on Cisco Packet Tracer. (Windows based) ?

Answer.

Introduction:

The cisco packet tracer is the one of the most popular software in the age of networking. It's usage in the field of networking a lot. We can use it for the components of routers, switches, computers and so on. This software is very useful in networking.

Methodology and limitation:

This software is mostly used in the windows operating systems. The main goal of this software is to simulating the real life networking devices virtually. There are also some limitation here for this software. We may not find sometimes the devices in the program. Some options can be missing.

Discussion and results: The installation process of the cisco packet tacer are given below:

Step 1: Search the software or go to the cisco packet tracer website.
Step 2: Sign up with email and password.
Step 3: Download the software.
Step 4: Have to go to the software and right click. Then click run as administrator.
Step 5: In the opperand window click next.
Step 6: Click "I accept the agreement". Then next.
Step 7: Choose the installation path then click next.
Step 8: Click "Create a desktop icon". Then click next.
Step 9: Click install.
Step 10: Click finish.

Conclusion:

This is how we can install the cisco packet tracer software for the networking device simulation virtually.

Task 3: How to troubleshoot common switches Issues (Troubleshooting LAN Switching Environments - Cisco) and explain why you choose to Cisco Switching in your network.

Answer.

Introduction:

We use switches in our networks for many reasons. There are many kinds of switches and many qualities
of switches. But there are many negative issues we face when we configure of use the switch in our networks.

Methodology / Implementation:

If we have a LAN switching enviroment and we have some nagative issues that we are facing. We can get help from many sources like from some technician, manual book, searching on google and so on.

Discussion and result:

Some common switch issues are given below with the solution :-

LAN means the local area network. The local area network is a computer network that connects network devices in limited area like school, college, office building and so on. The ways that i can resolve my LAN network is given below:

Bad wire problem:

We have to check the wires. Because connection depends on sometimes on the network cables. When the fiber optic cable folds approximately below 90 degree there might happen connection issues.

Duplicate IP problem:

In a LAN network we connect our devices with a router. The router automatically assigns the devices IP addresses. But sometimes the router may face duplicate IP address. That time we have to change the configuration to assigning DHCP IP address at the beginning.

Conclusion: There can happen a lot of issues in the switch network. In the above there described a few problems with the solutions. Except these we can face also some other issues. But the common issues can be solved by these solutions.