

Pushkaraj Chavan TCC 58

Assignment No.A1

Title: Lab Assignment on Unit I: (Mandatory Assignment)

Part A: Setup a wired LAN using Layer 2 Switch and then IP switch of minimum four computers. It includes preparation of cable, testing of cable using line tester, configuration machine using IP addresses, testing using PING utility and demonstrate the PING packets captured traces using Wireshark Packet Analyzer Tool.

Part B: Extend the same Assignment for Wireless using Access Point

Date:-

Marks:-

Signature:-

Commands to install Wireshark

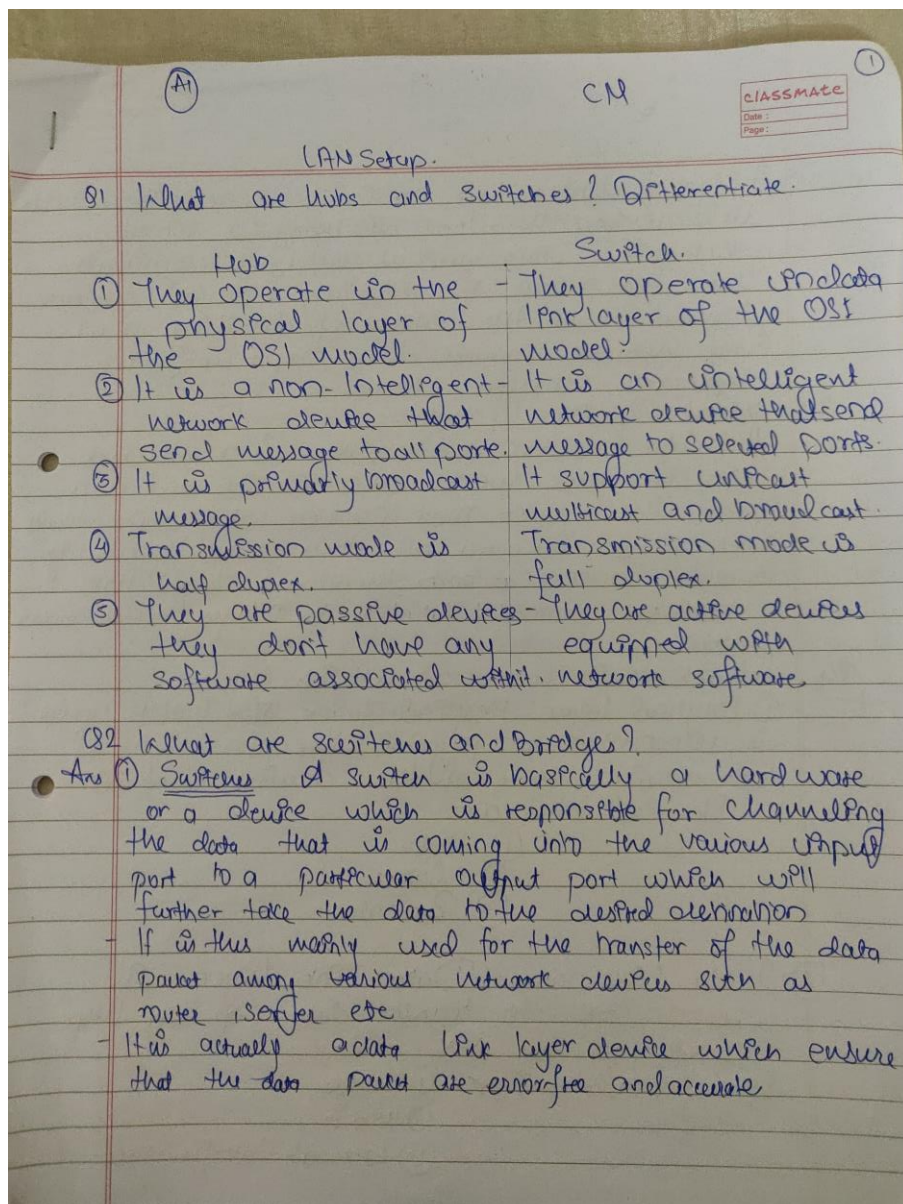
```
[root@localhost ~]# yum install wireshark
```

```
[root@localhost ~]# yum install wireshark-gnome
```

```
[root@localhost ~]# setcap 'CAP_NET_RAW+eip CAP_NET_ADMIN+eip' /usr/sbin/dumpcap
```

```
[root@localhost ~]# chmod 755 /usr/sbin/dumpcap
```

```
[root@localhost ~]# wireshark
```



Bridge. A bridge is basically a device which is responsible for dividing a single network into various network segments.

This is the process of dividing a single network segment thus the process of dividing a network segment thus represents a

- Every network segment thus represents a separate collision domain.

Q3 ~~What~~ Explain B-router.

A bridge router or b-router is a network device that works as a bridge and as a router. The b-router route packets for known protocols and simply forwards all other packets as a bridge. B-router operates at both the network layer for routable protocol & data link layer for non-routable protocol.

Q4 Which device work at which layers.

① Physical layer: Physical layer of TCP/IP model is responsible for physical layer connectivity of two devices some of the devices used in Physical layer are:

- ① Hubs
- ② Cables
- ③ Repeaters:

② Data Link layer - Data Link layer is responsible for transfer data hop by hop based on the MAC address

Some of Device used are ① Bridges

② Modem

③ Network Interface card

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③ Network layer:- The network layer is responsible for creating routing table and based on routing table forwarding of the packet request.

① Router

② B-Router

④ Transport layer:-

Transport layer is responsible for end to end communication devices used are

① Gateways.

② firewalls.

⑤ Application layer:- It is top most layer of TCP/IP model that provides the interface between application and network.

① PCs, phones, servers

② Gateway of firewalls.

③ Significance of Wireshark

- Wireshark is a free and open source packet analyzer. It is used for network troubleshooting, analysis and communication protocols development and education. Originally named Ethereal the project was renamed Wireshark in May 2006.
- It is a multiplatform software.
- It is a standard 3platform browser.
- It is also useful in VoIP analysis.
- It can also capture USB raw traffic.