31201

BRUNO | Page No.
Date / /

Assignment - 1

Title

LAN Setup using Layer 2 switch & IP switch.

Problem Statement

Setup a wired LAN using layer 2 statement, with switch and then IP switch of minimum four computers. It includes preparation of cable, testing of cable using line tester, configuration machine using IP address, testing using PING utility and demonstrate the PING packets captured traces. using wireshark packet analyzer tool.

Software / Hardware requirements :

LAN Cable, crimping tools, switch, line tester computer

Theory

- **Local Area Network (LAN)**

A local area Network is a group of computer & peripheral devices which are connected in a limited area such as school, laboratory, home & office building. It is a widely defined usefull network for sharing resources like files, printers games etc.

3/201

BRUNO | Page No.
Date / /

By contrast a wide area network (WAN) not only covers a large geographic distance, but also generally involves forwarded Communication.

→ Few types of LAN are:
- Ethernet LAN
- Fast Ethernet etc.

✱ Switch

A switch is a data link layer device. A switch is multiport bridge with a buffer and design that can boost its efficiency and performance.

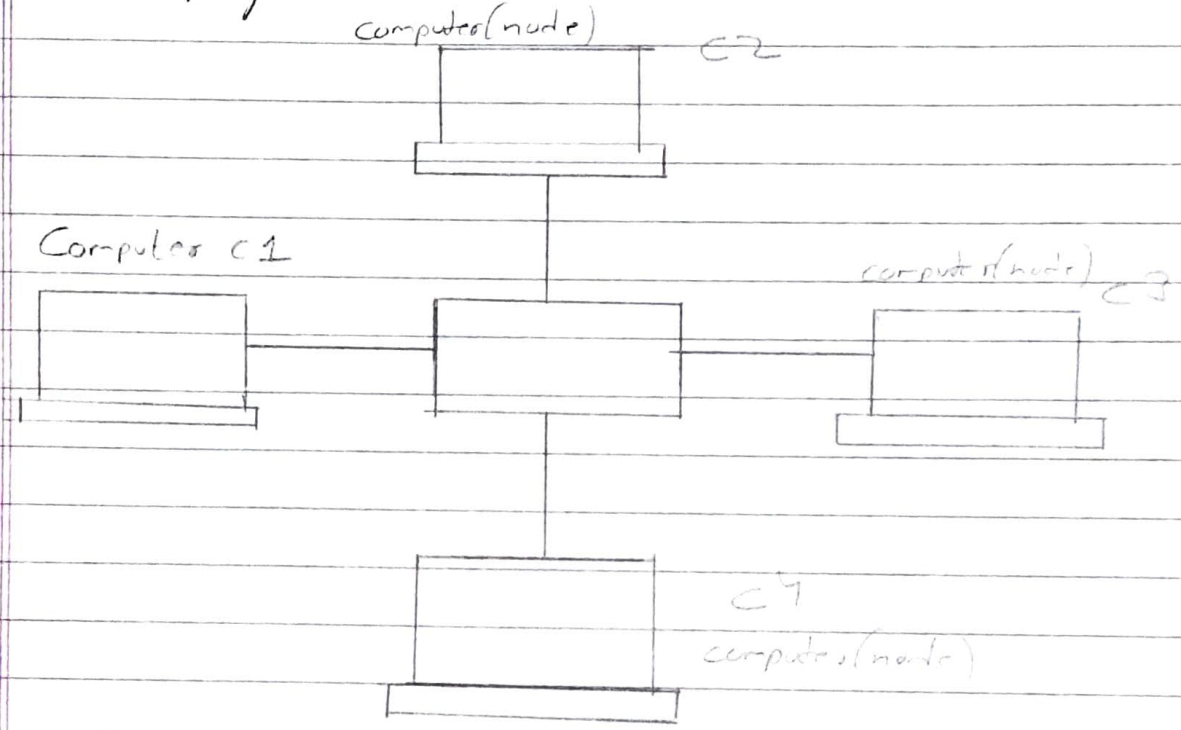
The switch can perform error checking before forwarding data that makes it very efficient as it does not forward packets that have errors. In other words, switch divides collision domain of hosts but broadcast domain remains same.

✱ Steps for setting up LAN

→ Install ethernet card in Machine.
→ Crimp the ethernet cable.
→ Make straight cable in order to form star topology network to connect 2 different types of components.
→ Topology network to connect 2 different types of component.
→ Make cross cable in order to form star

topology network to connect 2 similar types of components.

→ Assign IP address to machine 1, 2, 3, & 4 & ping from one machine to another



STAR TOPOLOGY

★ Conclusion

In this assignment, we have learned about various topologies & how to implement them we have learnt about several testing tools & wireshark packet analyzer. We have created a wired LAN using Layer 2 switch with IP switching.