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CLASS: B. TECH COMPUTER TECHNOLOGY

UNIT: IBL2 3303 NETWORK DESIGN AND IMPLEMENTATION

Class work

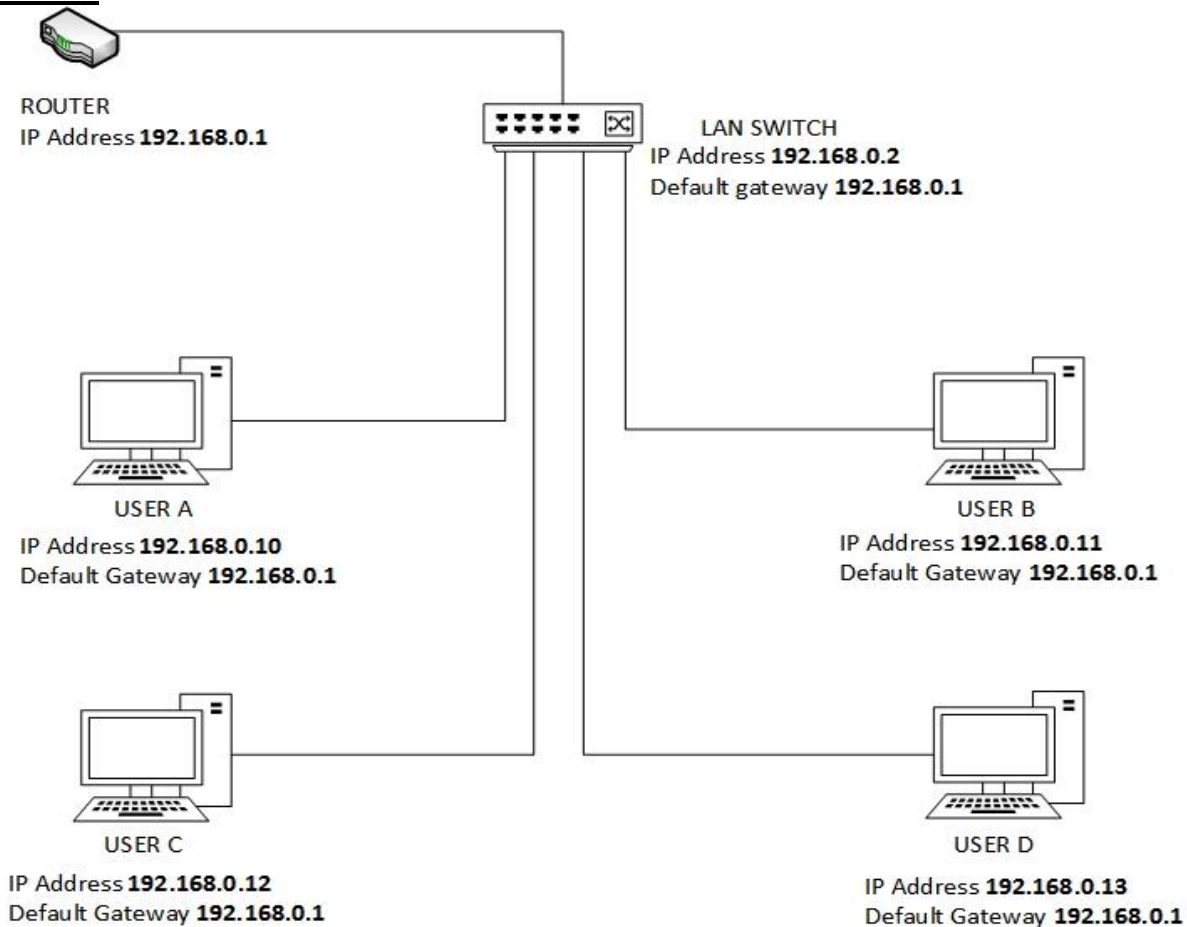
1. Using diagrams, describe how a LAN Switch can be used to connect four (4) 40 Marks

Computers, enabling them to send messages amongst themselves.

In your description indicate

- What should be enabled/disabled in the computers
- The Addresses to use in the individual computers
- Suggest possible messaging software to use

Answer



LAN SETUP DESCRIPTION

The following is the steps to be followed up in setting up the above network;

SWITCH CONFIGURATION

- Using a console cable, connect pc to the switch in order to access its terminal for configuration.

Step 1:

Disable DHCP on the switch, this will prevent any remote login to the network. This is accomplished through the following terminal on the switch;

Management > Access > DHCP/Boot config.

Under DHCP/Boot Config, disable the DHCP.

Step 2:

Set Ip address and Subnet mask for the switch. The ip address should be static. This is achieved as follows; Management > Access > IP Config

IP Address:192.168.0.2

Default Gateway:192.168.0.1
Subnet mask: 255.255.255.0

Step 3:

Disable SNTP, Spanning Tree and Flow Control

This is to be achieved as follows;

- SNTP: Management > SNTP > Global Configuration
- Spanning Tree: Switch > Spanning Tree > Switch Config/Status
- Flow Control: Traffic Management > Traffic Control > Broadcast Storm/Flow Control.

Step 4:

Configure Ports

Here every switch port is configured with a given ip address for its host.This is achieved as follows

Switch > Port >Config

The following will be the specific ip for its 4 hosts

<u>Port 10(User A)</u> IP Address :192.168.0.10 Default Gateway:192.168.0.1 Subnet mask:255:255:255:0	<u>Port 10(User B)</u> IP Address :192.168.0.11 Default Gateway:192.168.0.1 Subnet mask:255:255:255:0
<u>Port 10(User C)</u> IP Address :192.168.0.12 Default Gateway:192.168.0.1 Subnet mask:255:255:255:0	<u>Port 10(User D)</u> IP Address :192.168.0.13 Default Gateway:192.168.0.1 Subnet mask:255:255:255:0

Step 5:

Save the configuration and Restart the system

This is achieved as follows

- Saving Config: Management > Utilities > Save Config
- Restart the system: Management > Utility > System Restart

PC CONFIGURATION

On the hosts Pcs, that is, User A, B, C & D, connect them to the switch using an internet cable then perform the following configuration on each of the four hosts

- Log on to the client computer as Administrator or as Owner.
- Click **Start**, and then click **Control Panel**.
- Click **Network and Sharing Center**
- Click **Change Adaptor Settings**
- Double click on the current connection to the pc.
- On the list shown on popup dialog box (Ethernet properties), double click on **Internet Protocol Version 4(TCP/IP v4)**
- On the popup **Internet Protocol Version 4(TCP/IP v4) properties**, select **General** tab, Click **Use the following IP address**. Here assign various host their respective IPs as follows

<u>Port 10(User A)</u> IP Address :192.168.0.10 Subnet mask: 255:255:255:0 Default Gateway:192.168.0.1	<u>Port 10(User B)</u> IP Address :192.168.0.11 Subnet mask: 255:255:255:0 Default Gateway:192.168.0.1
<u>Port 10(User C)</u> IP Address :192.168.0.12 Subnet mask: 255:255:255:0 Default Gateway:192.168.0.1	<u>Port 10(User D)</u> IP Address :192.168.0.13 Subnet mask: 255:255:255:0 Default Gateway:192.168.0.1

- Once done, click on **Validate setting upon exit** and then click **OK**
- Quit Control Panel.

MESSAGING SOFTWARE TO BE USED

The four host can use **Tonic software** for messaging over the network.

Tonic helps one carry out simple chats via LAN network. It is very useful program with a user-friendly interface that is easy to understood by all.

The program operates in peer-to-peer mode, and hence does not need any server. That's why also it is very easy to operate. It has the following features;

- Easy to use – no server.
- Tonic automatically finds other Tonic users inside your network.
- Different user availability status.
- Image avatars
- File transfer support
- Chat history
- Announcement mode
- Quick poll + poll results.