

Assignment No.04
Data Communication and Computer Networks
Assignment Date: Monday, 29,2023

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Section: C

Introduction to LAN

Task 1

Introducing LAN Topologies

Answer the questions below

- i. What does LAN stand for?

Answer:
local area network

- ii. What is the verb given to the job that Routers perform?

Answer
routing

- iii. What device is used to centrally connect multiple devices on the local network and transmit data to the correct location?

Answer
Switch

- iv. What topology is cost-efficient to set up?

Answer
Bus topology

- v. What topology is expensive to set up and maintain?

Answer
star topology

- vi. Complete the interactive lab attached to this task. What is the flag given at the end?

Answer
THM{TOPOLOGY FLAWS}

Screen shot:

Answer the questions below

What does LAN stand for?

Local Area Network Correct Answer

What is the verb given to the job that Routers perform?

Routing Correct Answer Hint

What device is used to centrally connect multiple devices on the local network and transmit data to the correct location?

Switch Correct Answer Hint

What topology is cost-efficient to set up?

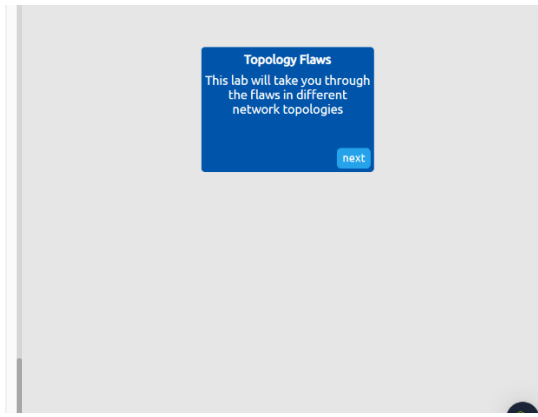
Bus Topology Correct Answer Hint

What topology is expensive to set up and maintain?

Star Topology Correct Answer Hint

Complete the interactive lab attached to this task. What is the flag given at the end?

THM(TOPOLOGY_FLAWS) Correct Answer



Task 2

A Primer on Subnetting

Answer the questions below

- i. What is the technical term for dividing a network up into smaller pieces?

Answer
Subnetting

- ii. How many bits are in a subnet mask?

Answer
32

- iii. What is the range of a section (octet) of a subnet mask?

Answer
0-255

- iv. What address is used to identify the start of a network?

Answer
network address

- v. What address is used to identify devices within a network?

Answer
Host address

- vi. What is the name used to identify the device responsible for sending data to another network?

Answer
Default Gateway

Screen shot:

Answer the questions below

What is the technical term for dividing a network up into smaller pieces?

subnetting

Correct Answer

How many bits are in a subnet mask?

32

Correct Answer

Hint

What is the range of a section (octet) of a subnet mask?

0-255

Correct Answer

Hint

What address is used to identify the start of a network?

network address

Correct Answer

Hint

What address is used to identify devices within a network?

host address

Correct Answer

Hint

What is the name used to identify the device responsible for sending data to another network?

Default Gateway

Correct Answer

Task 3

The ARP Protocol

Answer the questions below

vii. What does ARP stand for?

Answer

Address Resolution Protocol

viii. What category of ARP Packet asks a device whether or not it has a specific IP address?

Answer

Request

ix. What address is used as a physical identifier for a device on a network?

Answer

Mac address

x. What address is used as a logical identifier for a device on a network?

Answer

Ip address

Screen shot:

Answer the questions below

What does ARP stand for?

Address Resolution Protocol

Correct Answer

What category of ARP Packet asks a device whether or not it has a specific IP address?

request

Correct Answer

What address is used as a physical identifier for a device on a network?

mac address

Correct Answer

Hint

What address is used as a logical identifier for a device on a network?

ip address

Correct Answer

Hint

Task 4

The DHCP Protocol

Answer the questions below

xi. What type of DHCP packet is used by a device to retrieve an IP address?

Answer

DHCP Discover

xi. What type of DHCP packet does a device send once it has been offered an IP address by the DHCP server?

Answer

DHCP Request

xii. Finally, what is the last DHCP packet that is sent to a device from a DHCP server?

Answer

DHCP ACK

Screen shot:

Answer the questions below

What type of DHCP packet is used by a device to retrieve an IP address?

DHCP Discover

Correct Answer

Hint

What type of DHCP packet does a device send once it has been offered an IP address by the DHCP server?

DHCP Request

Correct Answer

Hint

Finally, what is the last DHCP packet that is sent to a device from a DHCP server?




DHCP ACK



Correct Answer



Hint



Complete:


100%

Task 1  Introducing LAN Topologies  

Task 2  A Primer on Subnetting 

Task 3  The ARP Protocol 

Task 4  The DHCP Protocol 

Task 5  Continue Your Learning: OSI Model 