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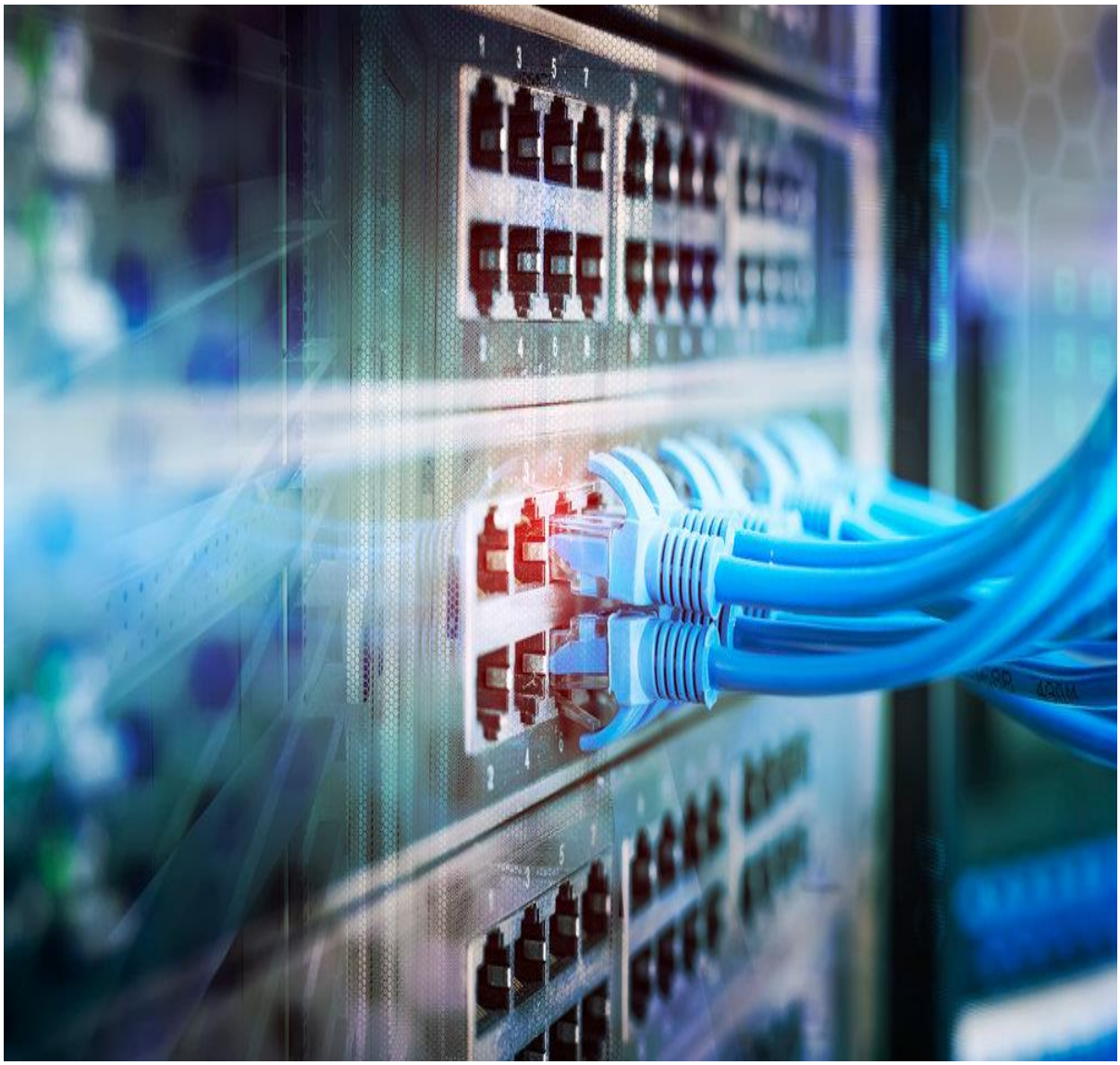
COMPUTER SYSTEMS SERVICING



Computer Systems Servicing
Quarter 3 – Module 4: Cable routes of client/server network design

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COMPUTER SYSTEMS SERVICING

11

Quarter 3

Self-Learning Module 4

Cable Routes of Client/Server Network Design

Introductory Message

For the Facilitator:

Welcome to the **Computer Systems Servicing** Self-Learning Module on **Cable routes of client/server network design**!

This Self-Learning Module was collaboratively designed, developed and reviewed by educators from the Schools Division Office of Pasig City headed by its Officer-in-Charge Schools Division Superintendent, Ma. Evalou Concepcion A. Agustin, in partnership with the City Government of Pasig through its mayor, Honorable Victor Ma. Regis N. Sotto. The writers utilized the standards set by the K to 12 Curriculum using the Most Essential Learning Competencies (MELC) in developing this instructional resource.

This learning material hopes to engage the learners in guided and independent learning activities at their own pace and time. Further, this also aims to help learners acquire the needed 21st century skills especially the 5 Cs, namely: Communication, Collaboration, Creativity, Critical Thinking, and Character while taking into consideration their needs and circumstances.

In addition to the material in the main text, you will also see this box in the body of the module:

Notes to the Teacher

This contains helpful tips or strategies that will help you in guiding the learners.

As a facilitator you are expected to orient the learners on how to use this module. You also need to keep track of the learners' progress while allowing them to manage their own learning. Moreover, you are expected to encourage and assist the learners as they do the tasks included in the module.

For the Learner:

Welcome to the **Computer Systems Servicing** Self-Learning Module on **Cable routes of client/server network design**!

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. You will be enabled to process the contents of the learning material while being an active learner.

This module has the following parts and corresponding icons:

Expectations - This points to the set of knowledge and skills that you will learn after completing the module.

Pre-test - This measures your prior knowledge about the lesson at hand.

Recap - This part of the module provides a review of concepts and skills that you already know about a previous lesson.

Lesson - This section discusses the topic in the module.

Activities - This is a set of activities that you need to perform.

Wrap-Up - This section summarizes the concepts and application of the lesson.

Valuing - This part integrates a desirable moral value in the lesson.

Post-test - This measure how much you have learned from the entire module.

EXPECTATIONS

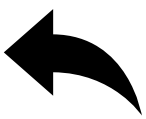
After completing this lesson, you should be able to:

1. Identify the components of client/server network design.
2. Create the cable routes of client/server network design.
3. Appreciate the importance of client/server network design.

PRE-TEST

Direction: Match the definition of column A to the term of column B.

A	B
____1. Use for telephone systems, data networks, and low-speed serial connections.	a. Patch panel
____2. Device that filters and forwards packets between LAN segments.	b. WAP
____3. Bundle of multiple network ports together to connect incoming and outgoing lines.	c. Switch
____4. Device that allows other Wi-Fi devices to connect a wired network.	d. Modem
____5. Device that converts data into a format suitable for a transmission medium.	e. Modular box
	f. Router



RECAP

Direction: Read each statement carefully. Write the letter of the correct answer.

____1. A multi-purpose computer whose size, capabilities, and price make it feasible for individual use.

a. Network cable b. ISP c. Printer d. PC

____2. Use to connect one network device to other network devices or to connect two or more computers to share files and printer.

a. PC b. Printer c. ISP d. Network cable

____3. An organization that provides services for accessing, using, or participating in the internet.

a. ISP b. Router c. PC d. Printer

____4. A device that forwards data packets between computer networks.

a. Printer b. PC c. Router d. ISP

____5. A peripheral device which makes a persistent representation of graphics or text, usually on paper.

a. PC b. Printer c. ISP d. Router

LESSON

Components of client/server network design

1. Modem

a device that converts data into a format suitable for a transmission medium so that it can be transmitted from one computer to another. A modem modulates one or more carrier wave signals to encode digital information for transmission and demodulates signals to decode the transmitted information.

https://linustechtips.com/main/topic/797069-modem-router-fiber-slow-wifi-connectivity/

2. Router

a device that forwards data packets between computer networks. It performs the traffic directing functions on the internet. Data sent through the internet, such as a web page or email, is in the form of data packets.

https://www.cellsii.com/tp-link-archer-c20-ac750-dual-band-router-buy-in-bd

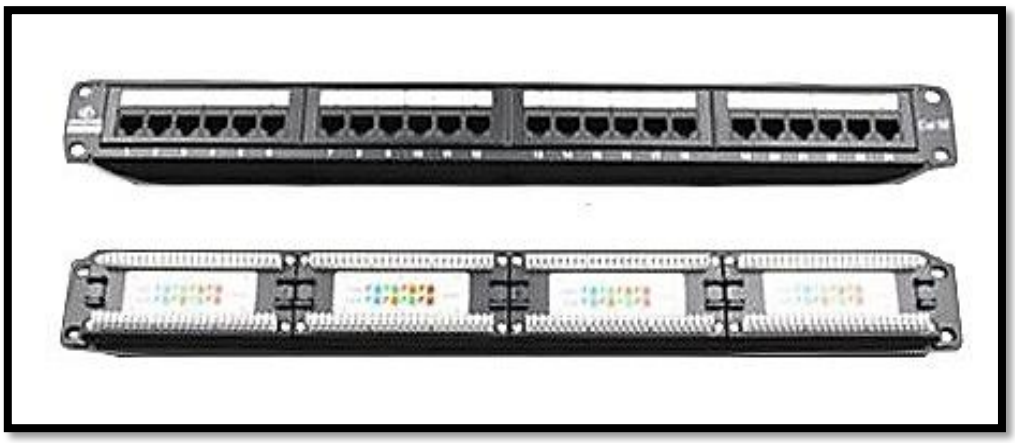
3. Wireless access point (WAP)

A device that allows other Wi-Fi devices to connect to a wired network.

https://www.tp-link.com/ph/home-networking/access-point/tl-wa901nd/

4. Patch panel

A bundle multiple network ports together to connect incoming and outgoing lines including those for local area networks, electronics, electrical systems and communications.



https://www.amtelectronics.net.au/product/linkbasic-24-port-cat6-patch-panel-rack-mount/

5. Switch

A device that filters and forwards packets between LAN segments.

https://www.e-tesda.gov.ph/pluginfile.php/115714/mod_book/chapter/1844/switch.png

6. Modular box

Use for telephone systems, data networks, and low-speed serial connections. A modular connector typically has a clear, plastic body, with a tab that locks the plug and jack into place when connected.

https://www.cdwg.com/product/black-box-blue-cat6-110-punch-down-keystone-rj45-modular-jack-10-pack/2138474

7. Network cable

use to connect one network device to other network devices or to connect two or more computers to share files and printer.

https://attn.ph/network/network-ethernet-cable-cat6-3m/

8. Personal computer (PC)

a multi-purpose computer whose size, capabilities, and price make it feasible for individual use. Personal computers are intended to be operated directly by an end user.

https://ariewibisono.wordpress.com/2014/04/10/computer-types/

9. Printer

a peripheral device which makes a persistent representation of graphics or text, usually on paper.

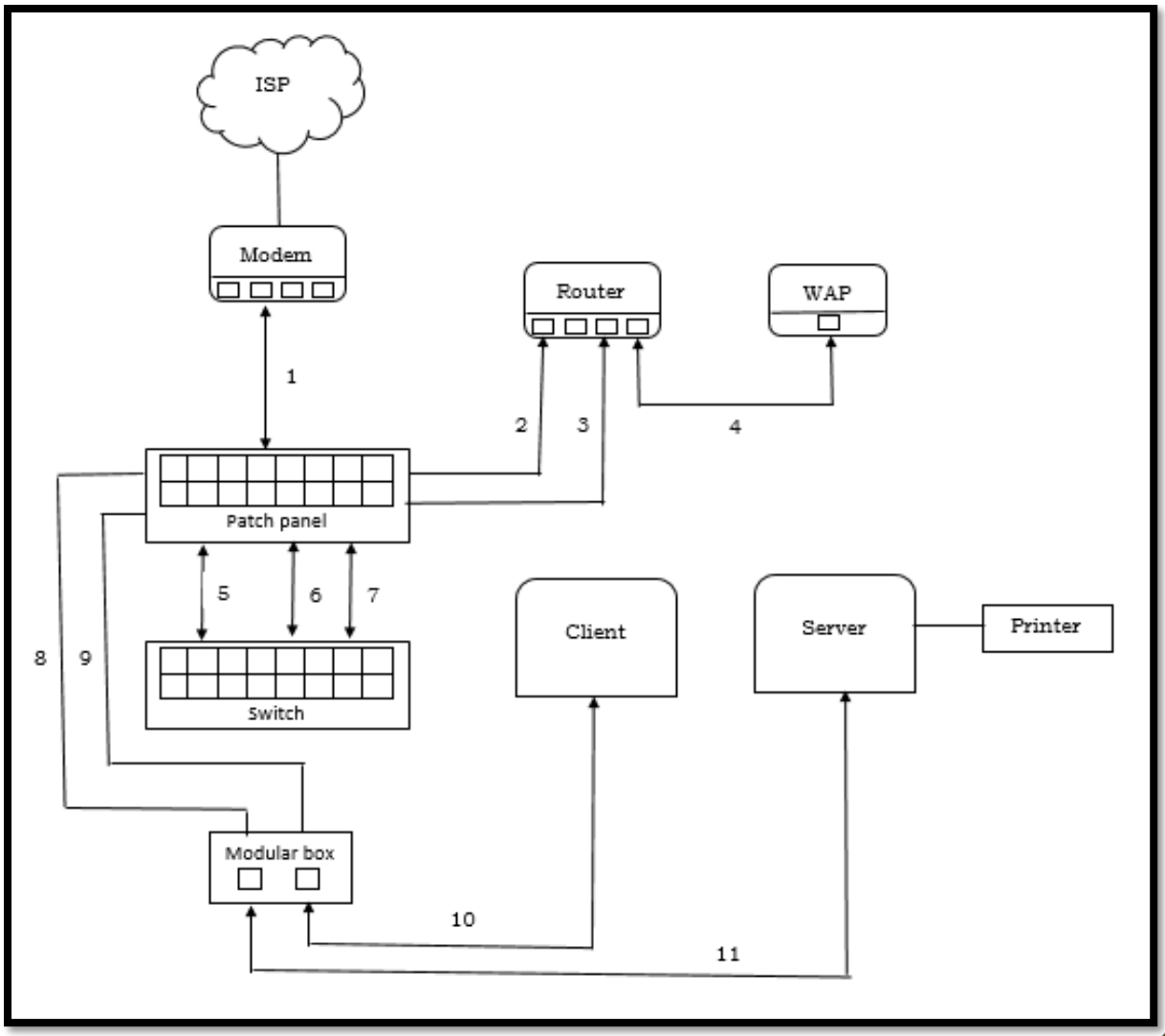
https://allithypermarket.com.my/products/canon-e3370-pixma-wireless-all-in-one-printer/

Cable routes of client/server network design:

Procedures:

1. The source of the internet is from the Internet Service Provider (ISP) then a network cable connects to the modem network port.

2. Next from modem LAN network port attach a network cables to the patch panel front network port.
3. Then from the back part of the patch panel connect a network cable to the router WAN network port.
4. Next from router LAN network port attach a network cables to the back part of the patch panel.
5. Then from router LAN network port connect a network cable to the WAP network port.
6. Next from patch panel front network port attach a network cables to the switch network port.
7. Then from patch panel front network port connect two network cables to the switch network port.
8. Next from the back part of the patch panel attach a two network cables to the modular box back part.
9. Then from the front part of modular box network port connect two network cables to the client and server computer network port.
10. Lastly, the server computer shares the printer to the network.



ACTIVITY

Direction: Draw a cable routes of peer to peer network design, using the following procedures:

1. The source of the internet is from the Internet Service Provider (ISP) then connect a network cable to modem network port.
2. Next from modem LAN network port attach a network cable to the router WAN network port.
3. Then from the router LAN network port connect a network cable to the switch network port.
4. Next from router LAN network port attach a network cable to the WAP network port.
5. Then from the switch network port connect network cables to the patch panel front network port.
6. Next from the switch network port attach two more network cables to the patch panel front network port.
7. Then from the back of patch panel connect two network cables to the modular box back part.
8. Next from the front part of modular box network port connect two network cables to the client and server computer network port.
9. Lastly, the client computer shares the printer to the network.

WRAP-UP

Client/server network a computer network in which one centralized, powerful computer (called the server) is a hub to which many less powerful personal computers or workstations (called clients) are connected. The clients run programs and access data that are stored on the server.

The main advantage of the client-server network is supporting a shared database or site to be obtained or updated by many computers while keeping only one control center for the operation.

VALUING

Direction**:** Read and answer the following questions carefully in two to three sentences each number.

1. What are the importance of cable routes in client/server network design?

_____
_____
_____

2. Cite a situation in which you can apply the knowledge of cable routes in client/server network design.

_____
_____
_____

POST-TEST

Direction: Identify and choose the answer on the box. Write the answer on the blank space.

Router	Modular box	Modem	Switch	WAP	Patch panel

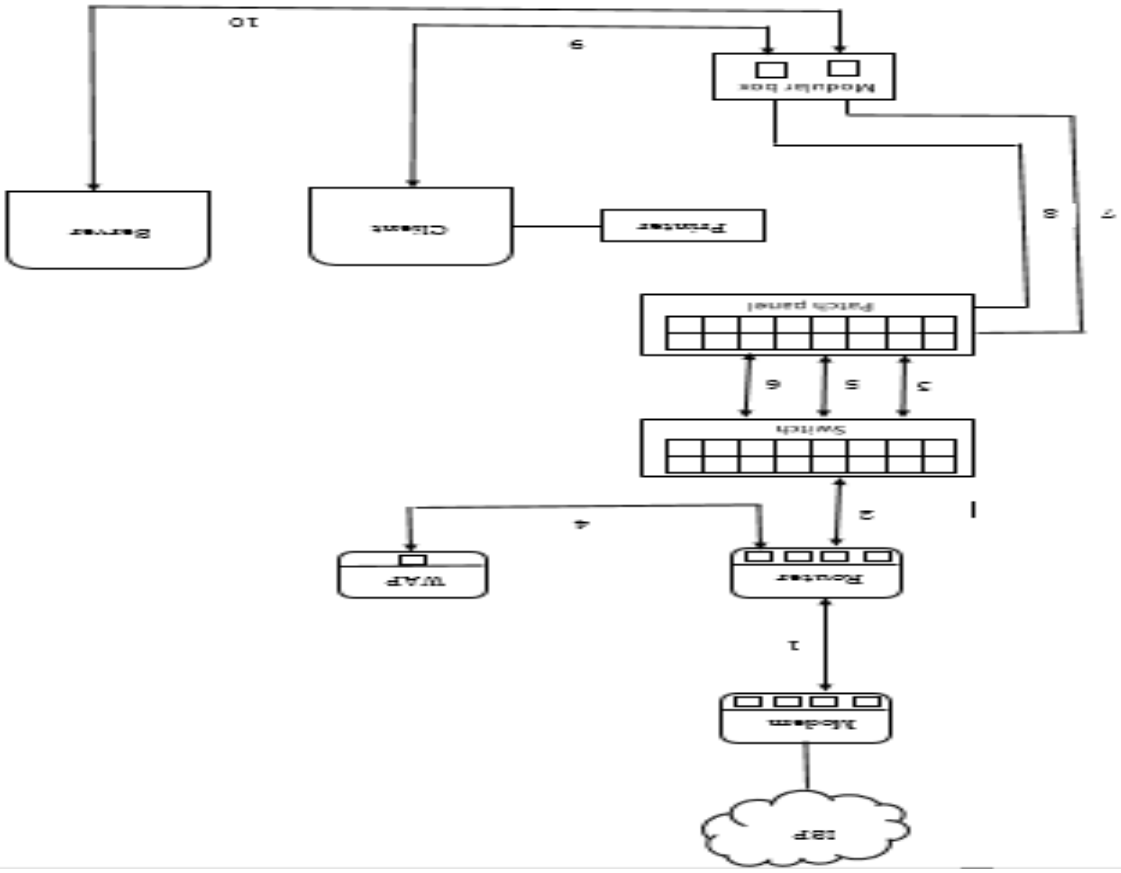
_____1. This device that allows other Wi-Fi devices to connect a wired network.
_____2. A device that filters and forwards packets between LAN segments.
_____3. This device that converts data into a format suitable for a transmission medium.
_____4. A bundle multiple network ports together to connect incoming and outgoing lines.
_____5. Use for telephone systems, data networks and low-speed serial connections.

KEY TO CORRECTION

Post-Test:
1. WAP
2. Switch
3. Modem
4. Patch panel
5. Modular box

Pre-test:
1. E
2. C
3. A
4. B
5. D

Recap:
1. D
2. D
3. A
4. C
5. B



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https://en.wikipedia.org/wiki/Client%E2%80%93server_model