NOT FOR SALE

Republic of the Philippines
Department of Education
National Capital Region
Division of Pasig City
STA LUCIA HIGH SCHOOL
City of Pasig

Technical-Vocational and Livelihood Track
Information and Communications Technology (ICT) Strand

Grade 12

# Computer Systems Servicing NC II

## QUARTER 1

## LO 1: SET UP USER ACCESS

### SELF- LEARNING MODULE 2 :

# Types and Functions of a Server

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## COC 3 : SET UP COMPUTER SERVERS

**Introductory Message**

For the facilitator:

Welcome to the Technical Vocational Livelihood Education ICT Grade 12 CSS NC I Module on Set Up User Access: **Types and Functions of a Server.**

This module was collaboratively designed, developed and reviewed by educators from Schools Division Office of Pasig City headed by its Officer-In-Charge Schools Division Superintendent, Ma. Evalou Concepcion A. Agustin in partnership with the Local 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) while overcoming their personal, social, and economic constraints in schooling.

This learning material hopes to engage the learners into 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 Technical Vocational Livelihood Education ICT Grade 12 CSS NC II Module on Set Up User Access: **Types and Functions of a Server.**

The hand is one of the most symbolized part of the human body. It is often used to depict skill, action and purpose. Through our hands we may learn, create and accomplish. Hence, the hand in this learning resource signifies that you as a learner is capable and empowered to successfully achieve the relevant competencies and skills at your own pace and time. Your academic success lies in your own hands!

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:

**Expectation** - These are what you will be able to know after completing the lessons in the module

**Pre-test -** This will measure your prior knowledge and the concepts to be mastered throughout the lesson.

**Recap** - This section will measure what learnings and skills that you understand from the previous lesson.

**Lesson-** This section will discuss the topic for this module.

**Activities** - This is a set of activities you will perform.

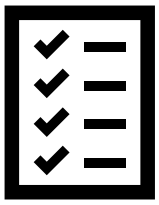
**Wrap Up**- This section summarizes the concepts and applications of the lessons.

**Valuing**-this part will check the integration of values in the learning competency.

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

# EXPECTATION

After completing the lesson the learners should be able to:
1. enumerate the types of servers
2. compare the functions of server and clients
3. appreciate the role of server in the world.



# PRE-TEST

**Directions**: Read each statement below carefully. Write **T** if the statement is correct and **F** if not in the space provided before each number.

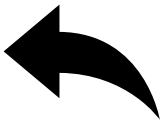
_____ 1. Server is a computer program that provides a service to another computer programs and their users.

_____ 2. There are mainly four types of Server Hardware

_____ 3. A mail server is a computer system that sends and receives email using standard email services.

_____ 4. Servers are named depending on what they serve.

_____ 5. Server checks authorization.



# RECAP

**Directions**: Read each statement below carefully. Identify if the following statement is **CLIENT** or **SERVER.** Write your answer in the space provided before each number.

_____ 1. Powerful expensive machine

_____ 2. Checks authorization.

_____ 3. Performs query/update processing and transmits responses to client.

_____ 4. Supports single-log in at a time.

_____ 5. Delivers high performance.

# L E S S O N

## Types and Functions of a Server

### Introduction

A physical computer which runs a server programme is frequently refer to as a **SERVER.** Servers perform various essential tasks and activities that is a very crucial thing of any organization's IT infrastructure. The many complex processes that take place during an activity, for example a security and authentication to billing and orders, the purchase could not take place without several powerful servers handling the load hence servers are very much important for any organization.

This lesson will broaden your understanding about the types and functions of a server.

Illustration below shows an example of how server serves across the network:

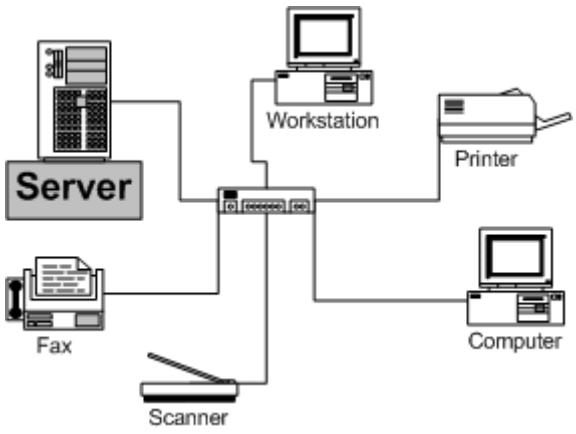
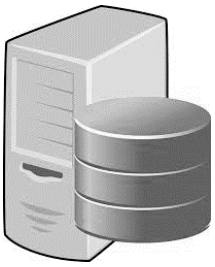



Fig 1. http://www.functionx.com/networking/Lesson06.htm

### Functions of Server vs Client

The main and important function of a server is to listen in on a port for incoming network requests, and a good demonstration of this is the interaction between a Web server and browser. For a user the process is instantaneous, but when he clicks a link while surfing on the Web, several things are taking place behind the scenes like the request for the Web page is transmitted to the corresponding web server, and the server fetches and assembles the Web page and retransmits it using a protocol like HTTP, and, the user's browser receives the data, converts it, and displays the page.

## FUNCTIONS OF A SERVER AND ITS CLIENTS

| **SERVER**  Fig 2. www.freeiconspng.com | **CLIENTS**  Fig 3 https://www.parallels.com |
|---|---|
| Checks authorization | Managing the user interface |
| Ensures that integrity constraints are not violated | Accepts and checks the syntax of user inputs |
| Performs query / update processing and transmit processing to client | Processes application logic |
| Accepts and processes database requests from client | Generates database request and transmits to server |
| Maintains systems catalog | Passes response back to server |
| Provide concurrent database access and recovery control. | |

Source: e-tesda.gov.ph

## TYPES OF SERVERS

There are mainly three (3) types of Server Hardware:

**1. Tower Server** - It is a computer intended for use as a server that built in an upright cabinet that stands alone. The cabinet is called a tower which is similar in size and shape to the cabinet for a tower-style personal computer.

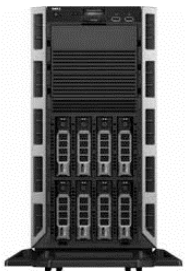
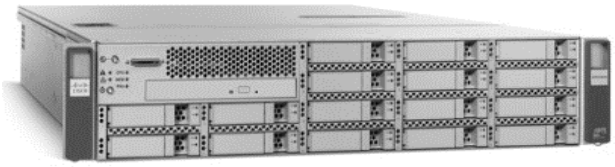


Fig 4. Dell.com

**2. Rack Server -** A rack server, is a rack-mounted server and a computer dedicated server to use as a server and designed to be installed in a framework called a rack. The rack contains multiple mounting slots, each designed to hold a hardware unit secured in place with screws.

Fig 5. https://www.cisco.com



**3. Blade Server -** Blade server is a server architecture that houses multiple server modules in a single chassis. It is widely used to improve system management and either self-standing or rack mounted, the chassis provides the power supply, and each blade has its own CPU, RAM and storage.

Fig.6. https://www.openpr.com

**Software Server includes:**

1. Proxy server- It is a server that is called a computer, acts as an intermediary between the user's computer and the Internet and allows client computers to make indirect network connections to other network services.

2. Mail server - A mail server is a computer system that sends and receives email using standard email services protocols like the SMTP protocol that sends messages and handles outgoing mail requests.

3. DNS name -It is a program that uses HTTP to serve the files that form Web pages to users, in response to their requests. Dedicated computers and appliances are may be called as Web servers.

4. Application server -This type of server is acts as a set of components accessible to the software developer through a standard API defined for the platform itself. These are usually performed in the same running environment as their web server(s), and their main work is to support the construction of dynamic pages.

5. Active Directory Server -Active Directory (AD) is consists of several services that run on Windows Server to manage permissions and access to networked resources. AD stores data as objects and it is a single element, such as a user, group, application or device, such as a printer. These objects are normally defined as either resources like printers or computers or security principals such as users or groups.

6. DHCP SERVER - Here DHCP stands for a dynamic host configuration protocol. Which is a network protocol used on IP networks where it is automatically assigns an IP address and other information to each host on the network hence it can communicate efficiently with other endpoints.

7. DNS SERVER - DNS stands for Domain Name System. It is the Internet's system for converting alphabetic names into numeric IP addresses for example, when a URL is typed into a browser, DNS servers return the IP address of the Web server associated with that name.

8. Terminal Server - A terminal server is a network device that enables connections to multiple client server network systems and connect to a LAN network. Microsoft introduced this concept by releasing terminal services as a part of the Windows Server OS.

9. Print Server - It is also called as printer server, which is a device that connects printers to client computers over a network. Print server accepts print jobs from the computers and sends the jobs to the appropriate printers.

# ACTIVITIES

**Activity 1. SERVES ME RIGHT!**

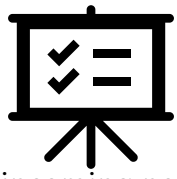
Direction: Read each statement on the right. Name the appropriate server for each statement. Write your answer in the activity sheet.

1. I need a metal framework with multiple mounting slots to hold my hardwares.
   Answer: _____

2. I need to house my multiple server modules into one single chasis.
   Answer: _____

3. I need a server that built in an upright cabinet that stands alone.
   Answer: _____

4. I need a server where it automatically assigns an IP address and other information to each host on my network.
   Answer: _____
5. I need a server that can accept print jobs from the computers and send the jobs to the appropriate printers.
   Answer: _____



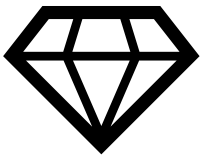
# WRAP–UP

The main and important function of a server is to listen in on a port for incoming network requests, and a good demonstration of this is the interaction between a Web server and browser.

There are three (3) types of Server Hardwares depending on their uses: Tower, Rack and Blade Servers. Hardware Servers cannot be completed without Software Servers that serve as communicators.

Technically, server do not include software. But without software server is a dead piece. What is the use of server (Just a hardware alone), there is no use. We need to have software also to use it. To put it in another word, Think of your laptop, if there is no software, how will you use your laptop ? Similar way, without software, We can not use servers.

Servers offer high reliability and dependability features that are just not available on desktop PCs. It has proven performance advantages than PCs. And ultimately, it help improve productivity and reduce operating expenses.



# V A L U I N G

**Direction :** Listdown at least 5 important roles of a server in business, education, governance and communications.

1
2.
3.
4.
5.

# P O S T  T E S T

**Multiple choice**

**Directions**: Encircle the letter of the correct answer.

1. It is a computer intended for use as a server that built in an upright cabinet that stands alone.
   A. Blade Server
   B. Tower Server
   C. DNS
   D. Rack Server

2. Any process where it is automatically assigns an IP address and other information to each host on the network hence it can communicate efficiently with other endpoints.
   A. Active Directory
   B. Terminal Server
   C. Mail Server
   D. DHCP Server

3. It is the Internet's system for converting alphabetic names into numeric IP addresses.
   A. DNS Server
   B. Blade Server
   C. Open-Source Server
   D. Telnet Server

4. Acts as an intermediary between the user's computer and the Internet.
   A. Print server
   B. Terminal Server
   C. Proxy Server
   D. FTP server

5. The following are SERVER HARDWARES, EXCEPT
   A. Tower Server
   B. Print Server
   C. Blade Server
   D. Rack Server

## KEY TO CORRECTION

**POST TEST**

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

**ACTIVITY**

1. Rack Server
2. Blade Server
3. Tower Server
4. DHCP Server
5. Print Server

**RECAP**

1. SERVER
2. SERVER
3. SERVER
4. CLIENT
5. SERVER

**PRETEST** :

1. T
2. F
3. T
4. T
5. T

## REFERENCES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**Images:**

Understanding Client/server
Cover Page :
https://www.computerhope.com/jargon/s/server.htm
(accessed June 20, 2020)

Fig 1 http://www.functionx.com/networking/Lesson06.htm
Fig 2 https://www.freeiconspng.com/img/3707
Fig 3 https://www.parallels.com/blogs/ras/virtual-desktop-software
Fig 4 https://www.dell.com/ph/business/p/poweredge-t630/pd