NOT FOR SALE

Republic of the Philippines
Department of Education
National Capital Region
Division of Pasig City

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 10 :**

# Introduction to Active Directory Domain Services (AD DS)

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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 II Module on Set Up User Access: **Introduction to Active Directory Domain Services (AD DS).**

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: **Introduction to Active Directory Domain Services (AD DS).**

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.

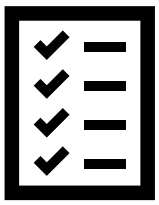
**Wrap Up**- This section summarizes the concepts and applications of the lessons.

**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:
A. understand Active Directory Domain Services
B. differentiate the components of Active Directory Domain Services (AD DS)
C. cite the significance of the components of Active Directory Domain Services in establishing the structures of the server.

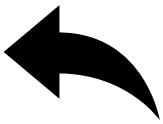


# PRE-TEST

**IDENTIFICATION:**

**Directions**: Identify the following that best describe the components of AD DS.

_____1. The core unit of logical structure in Active Directory
_____2. These are collections of root domains (they do not share a contiguous namespace).
_____3. These are often used in branch offices where security and IT support are often less advanced than in the main corporate centers.
_____4. These are containers in AD DS that provide a framework for delegating administrative rights and for linking Group Policy Objects (GPOs).
_____5. The file on each domain controller that stores the AD DS information.



# RECAP

**Multiple Choice**

Directions: Read each statement below carefully. Write only the letter that corresponds to your answer on the space provided before each number. Do this on your worksheet provided for this activity.

_____1. Stores information about the objects on the network and makes this information available to users and network administrators.

a. Print Server
b. DHCP
c. AD DS
d. AD CS

_____2. Provides technologies that help you manage storage, enable file replication and manage shared folders.

a. File Services
b. WSUS
c. Hyper-V
d. AD DS

_____3. It provides name resolution for TCP/IP networks

a. Web Server
b. AD RMS
c. DHCP
d. DNS

_____4. Enables you to centrally configure, manage and provide temporary IP addresses and related information for clien computers.

a. AD DS
b. DHCP
c. DNS
d. Print and Documents Services

_____5. Used to create certification authorities and related role services that allow you to issue and manage certificate used in the variety of applications.

a. AD CS
b. AD DS
c. DNS
d. DHCP

# L E S S O N

## Introduction to Active Directory Domain Services (AD DS)

### Introduction

Active Directory Domain Services (AD DS) in our previous lesson is the central store of all the domain objects such as user accounts, computer accounts and groups. AD DS provides a searchable hierarchical directory, and provides a method for applying configuration and security settings for objects in the enterprise.

AD DS domain controllers also host the service that authenticates user and computer accounts when they log on to the domain. Because AD DS stores information about all of the objects in the domain, and all users and computers must connect to AD DS domain controllers when signing into the network, AD DS is the primary means by which you can configure and manage user and computer accounts on your network.

### Components of Active Directory Domain Services (AD DS)

. You need to understand the way the components of AD DS work together so that AD DS is composed of both physical and logical components you can manage your network efficiently and control what resources your users can access. One of the AD DS features is Group Policy, which enables you to configure centralized policies that

you can use to manage most objects in AD DS. Understanding the various AD Ds components is important to successfully using Group Policy.

| PHYSICAL COMPONENTS | LOGICAL COMPONENTS |
|---|---|
| • Domain Controller (DC) | • Partitions |
| • Data store | • Schema |
| • Global catalog server | • Domains |
| • RODC | • Domain Trees |
| | • Forests |
| | • Sites |
| | • OUs |

**Fig. 1.** Physical and Logical components of AD DS

**Physical Components**

AD DS information is stored in a single file on each domain controller's hard disk. The following are some of the physical components and where they are stored:

Domain Controller (DC) – Contains copies of the AD DS database.
Data store – The file on each domain controller that stores the AD DS information.
Global catalogue servers - Host the global catalogue , which is partial, read-only copy of all the objects in the forest. It speeds up searches for objects that might be stored on domain controllers in a different domain in the forest.
Read-only domain controller (RODC) – A special install of AD DS in a read only form. These are often used in branch offices where security and IT support are often less advanced than in the main corporate centers.

**Logical Components**

AD DS logical components are structures that you use to implement an Active Directory design that is appropriate for an organization. The following are some of the types of logical structures that an Active Directory database might contain:

Partition – A section of the AD DS database.
Schema – Defines the list of object types and attributes that all objects in AD DS can have.
Domain – A logical , administrative boundry for users and computers.
Domain tree – A collection of domains that share a common root domain and a Domain Name Syatem (DNS) namespace.
Forest - A collection of domains that share a common AD DS.

Site – is a collection of users, groups, and computers as defined by their physical loca - tions. Sites are useful in planning administrative tasks such as replication of

changes to the AD DS database.

OUs – Organizational Units (OUs) are containers in AD DS that provide a framework for delegating administrative rights and for linking Group Policy Objects (GPOs).

In Active Directory, you organize resources in a logical structure. This enables you to find a resource by its name rather than its physical location. Because you group resources logically, Active Directory makes the network's physical structure transparent to users

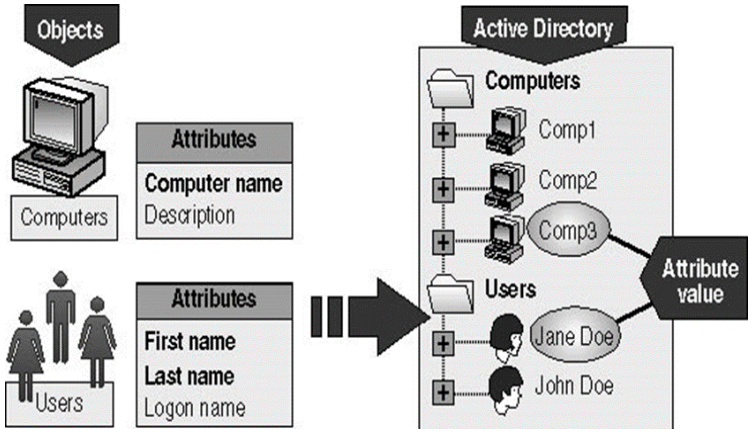
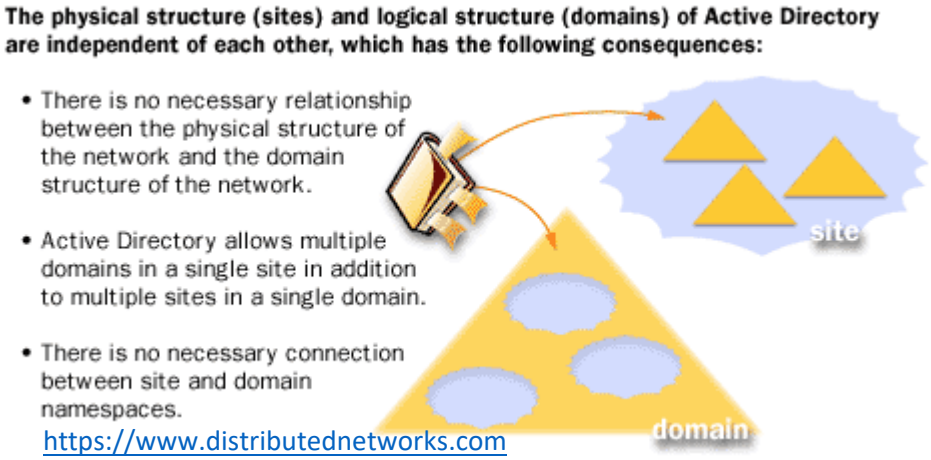



**Fig. 2.** Example of logical components.The attributes of a user account might include the user's first and last names, department, and e-mail address
https://www.distributednetworks.com

In Active Directory, the logical structure is separate from the physical structure. You use the logical structure to organize your network resources, and you use the physical structure to configure and manage your network traffic. The physical structure of Active Directory is composed of sites and domain controllers. We will learn more about these later on. The image on the right shows sites as part of the physical structure of the network, and domains as part of the logical structure. It is important to note that there is no relationship between sites and domains.



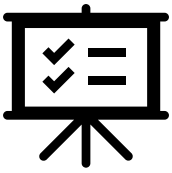

https://www.distributednetworks.com
**Fig.3.** Physical vs logical structure

# A C T I V I T I E S

**Activity 1.**

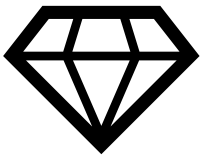
**Direction :** Analyze each statement. Identify if the following statement refers to LOGICAL or PHYSICAL component and then write also the component by typing dash(-) then the component being describe. Do this on your worksheet provided for this activity. Write your answer on the space before each number.
(Ex. LOGICAL – Schema)

_____1. Contains copies of the AD DS database.
_____2. Speeds up searches for objects that might be stored on domain controllers in a different domain in the forest.
_____3. A logical , administrative boundry for users and computers.
_____4. A collection of domains that share a common root domain and a Domain Name Syatem (DNS) namespace.
_____5. A collection of domains that share a common AD DS.



# W RA P – U P

Active Directory Domain Services (AD DS) in our previous lesson is the central store of all the domain objects such as user accounts, computer accounts and groups. Because AD DS stores information about all of the objects in the domain, and all users and computers must connect to AD DS domain controllers when signing into the network. AD DS has two components: the logical and physical components which are independent to each other.



# V A L U I N G

What is the significant role of both physical and logical structure in Active Directory Domain Services (AD DS ) ? _____
_____
_____

# POST TEST

**Matching Type**

**Direction** : Match the following statements in COLUMN A to the words on COLUMN B. Write only the letter of the correct answer on the space provided before each number in column A.

| COLUMN A | COLUMN B |
|---|---|
| _____1. These are containers in AD DS that provide a framework for delegating administrative rights and for linking Group Policy Objects (GPOs). | a. Domain Controller (DC) |
| _____2. A collection of users, groups, and computers as defined by their physical locations. | b. Domain |
| _____3. An administrative boundry for users and computers. | c. Partition |
| _____4. Contains copies of the AD DS database. | d. Organizational Units (OUs) |
| _____5. The file on each domain controller that stores the AD DS information. | e. Data store |
| | f. Site |

## KEY TO CORRECTION

**ACTIVITY**

10 items.

1. PHYSICAL – Domain Controller
2. PHYSICAL – Global catalogue servers
3. LOGICAL - Domain
4. LOGICAL – Domain tree
5. LOGICAL - Forest

**POST TEST**

1. D
2. F
3. B
4. A
5. E

**RECAP**

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

**PRETEST**:

1. Domain
2. Forest
3. Read-Only Domain Controller (RODC)
4. Organizational Units (OUs)
5. Data store

## REFERENCES


**Online Sites:**

https://www.serveracademy.com/ (access July 24, 2020)
http://etutorials.org/ (accessed July 24, 2020)
https://www.distributednetworks.com/ (accessed July 25, 2020)

**Images:**

Set Up Computer Servers
Cover Page was designed using Adobe Photoshop 2018 photo manipulation.
https://www.computerhope.com/jargon/s/server.htm(accessed June 20, 2020)

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