

National University of Computer and Emerging Sciences

Computer Networks Lab – Spring 2023

Assignment 2

Due Date: 6th April 2023

Note:

- **This is a group assignment, this assignment can be attempted as a group of two**

Servers are important part of Computer Networks and correctly configuring them is even more important. There are mainly two type of servers i.e. Linux Servers and Windows Servers. In this assignment you are required to use windows server and perform some tasks on it.

You can configure different services on windows server by activating and configuring server roles. Server roles. Server roles are related sets of software components that allow servers to perform a specific function for users and other computers on networks. A computer can be dedicated to a single role, such as Active Directory Domain Services, or a computer can provide multiple roles.

Active Directory Domain Services

A directory is a hierarchical structure that stores information about objects on the network. A directory service, such as Active Directory Domain Services (AD DS), provides the methods for storing directory data and making this data available to network users and administrators. For example, AD DS stores information about user accounts, such as names, passwords, phone numbers, and so on, and enables other authorized users on the same network to access this information.

Active Directory stores information about objects on the network and makes this information easy for administrators and users to find and use. Active Directory uses a structured data store as the basis for a logical, hierarchical organization of directory information.

This data store, also known as the directory, contains information about Active Directory objects. These objects typically include shared resources such as servers, volumes, printers, and the network user and computer accounts. For more information about the Active Directory data store Security is integrated with Active Directory through logon authentication and access control to objects in the directory. With a single network logon, administrators can manage directory data and organization throughout their network, and authorized network users can access resources anywhere on the network. Policy-based administration eases the management of even the most complex network.

Active Directory also includes:

- A set of rules, the schema, that defines the classes of objects and attributes contained in the directory, the constraints and limits on instances of these objects, and the format of their names.
- A global catalog that contains information about every object in the directory. This allows users and administrators to find directory information regardless of which domain in the directory actually contains the data.

- A query and index mechanism, so that objects and their properties can be published and found by network users or applications.
- A replication service that distributes directory data across a network. All domain controllers in a domain participate in replication and contain a complete copy of all directory information for their domain. Any change to directory data is replicated to all domain controllers in the domain.

Task

- a) Install Windows Server 2008/2012 in Virtual Box or VMWare
- b) Configure Active directory domain services on it. Use your first name as the domain name (Abdullah.com)
- c) Create a two users (first names of group members), Login on the server using the created user.
- d) Configure DHCP service on the installed server

Submission

A report explaining the complete processing you attempted to complete the above tasks. Do include screenshots and their description.