Lab 3B – Active Directory Domain Services (AS DS) Setup with VMware (with Evidence)

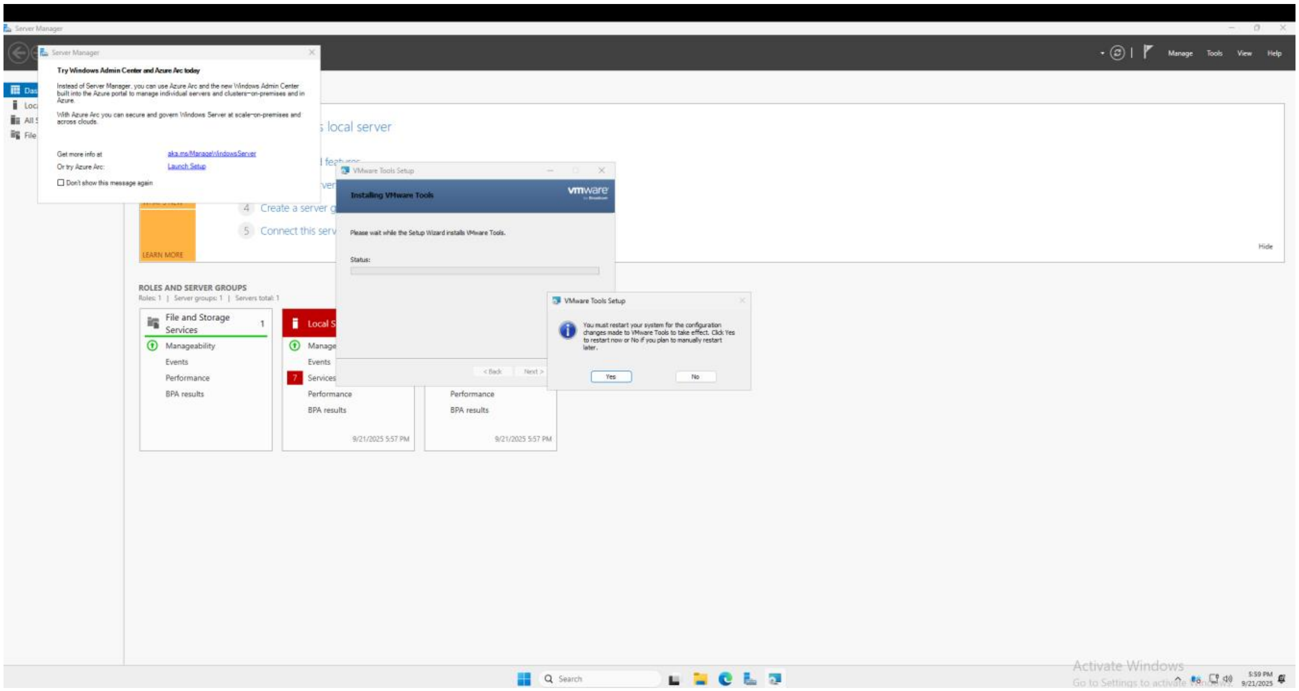
Lab3B – Active Directory Domain Services (AD DS) Setup with VMware

In this lab, I installed and configured **Active Directory Domain Services (AD DS)** on a Windows Server virtual machine hosted in VMware. The server was put to a Domain Controller and a new forest and domain called lab.local was created. This provided the foundation for centralized identity, access, and resource management in an on-premises environment.

- **Active Directory Domain Services (AD DS)** delivered centralized authentication and authorization, allowing users to log into any domain-joined device with a single set of credentials.

- **Domain Name System (DNS)** was automatically integrated, ensuring reliable name resolution for resources within the lab.local domain.

- **Administrative Tools** such as Active Directory Users and Computers, Group Policy Management, and DNS Manager were made available, enabling user lifecycle management, group-based access, and domain-wide policy enforcement.



Server Manager

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Instead of Server Manager, you can use Azure Arc and the new Windows Admin Center built into the Azure portal to manage individual servers and clusters—on-premises and in Azure.

With Azure Arc you can secure and govern Windows Server at scale—on-premises and across clouds.

Get more info at: aka.ms/ManageWindowsServer

Or try Azure Arc: Launch Setup

☐ Don't show this message again

VMware Tools Setup

Installing VMware Tools

Please wait while the Setup Wizard installs VMware Tools.

Status:

VMware Tools Setup

You must restart your system for the configuration changes made to VMware Tools to take effect. Click Yes to restart now or No if you plan to manually restart later.

ROLES AND SERVER GROUPS

Roles: 1 | Server groups: 1 | Servers total: 1

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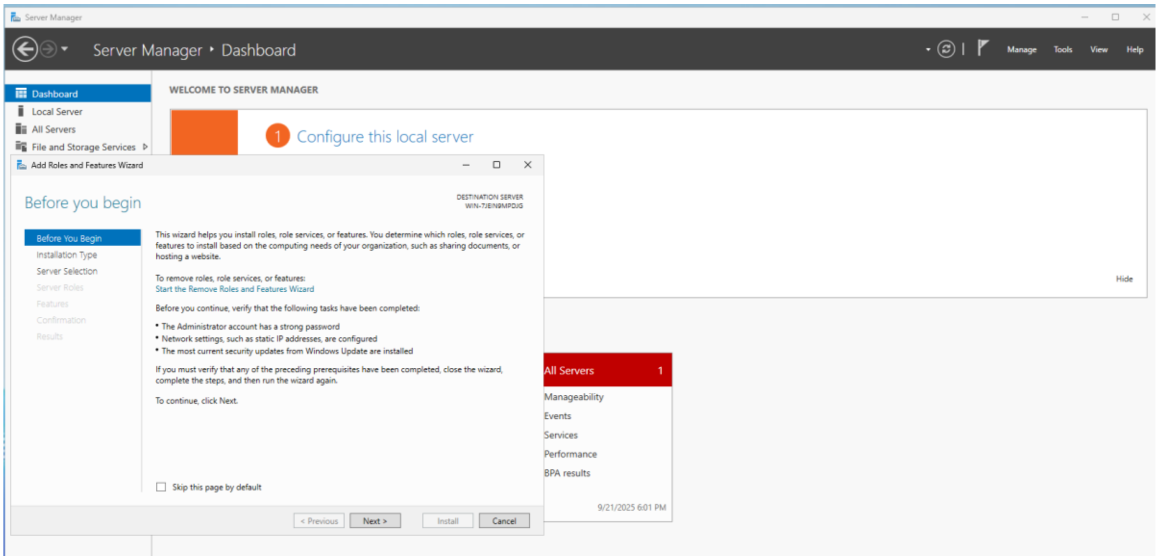
Notes: I downloaded a Microsoft Server ISO and created a new server in VMware. After selecting the ISO and booting up the virtual machine, I was prompted to install VMware Tools, which are required for the server to run inside VMware.



Server Manager

Server Manager ▸ Dashboard

WELCOME TO SERVER MANAGER

1 Configure this local server

Add Roles and Features Wizard

Before you begin

DESTINATION SERVER
WIN-7JEIN9MPDJG

This wizard helps you install roles, role services, or features. You determine which roles, role services, or features to install based on the computing needs of your organization, such as sharing documents, or hosting a website.

To remove roles, role services, or features:
Start the Remove Roles and Features Wizard

Before you continue, verify that the following tasks have been completed:

- The Administrator account has a strong password
- Network settings, such as static IP addresses, are configured
- The most current security updates from Windows Update are installed

If you must verify that any of the preceding prerequisites have been completed, close the wizard, complete the steps, and then run the wizard again.

To continue, click Next.

☐ Skip this page by default

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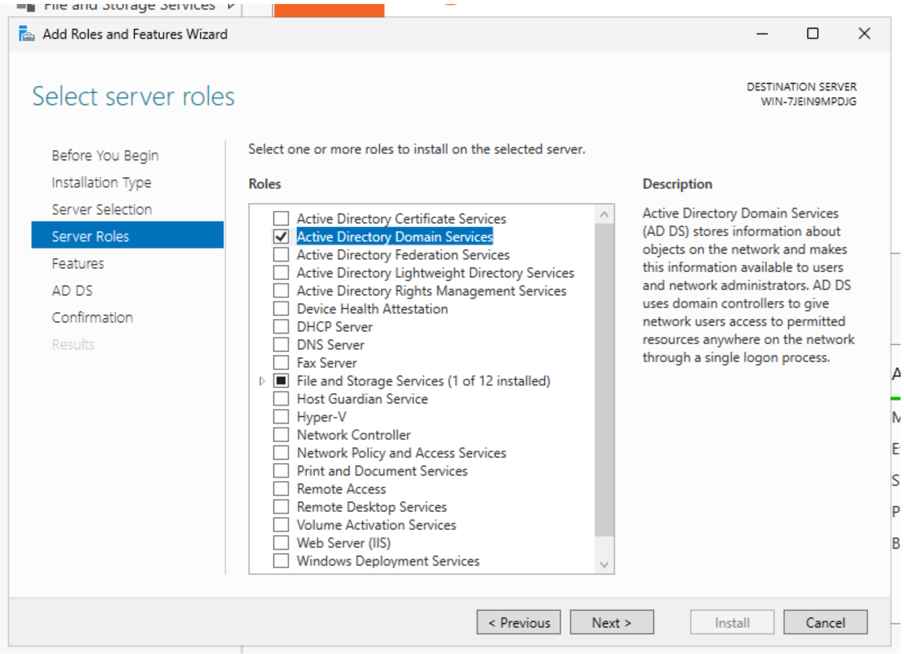
Notes: then I moved into the add roles and features wizard it reminded me to have strong passwords for my accounts full configured ip addresses and a up to date windows environment.



Select server roles

DESTINATION SERVER
WIN-7JEIN9MPDJG

Select one or more roles to install on the selected server.

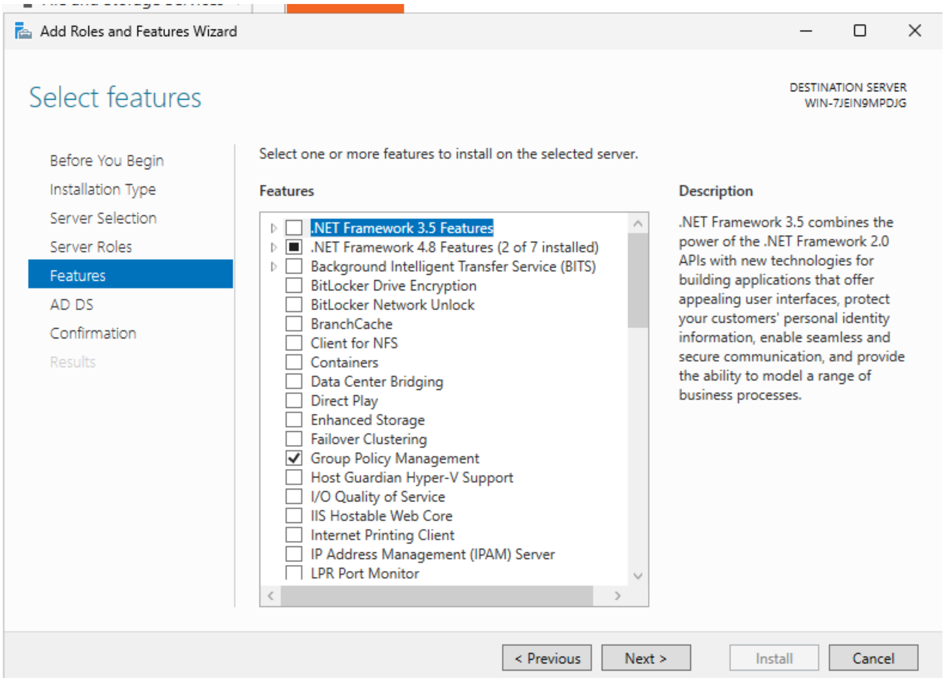
Roles

- □ Active Directory Certificate Services
- ☑ Active Directory Domain Services
- □ Active Directory Federation Services
- □ Active Directory Lightweight Directory Services
- □ Active Directory Rights Management Services
- □ Device Health Attestation
- □ DHCP Server
- □ DNS Server
- □ Fax Server
- ■ File and Storage Services (1 of 12 installed)
- □ Host Guardian Service
- □ Hyper-V
- □ Network Controller
- □ Network Policy and Access Services
- □ Print and Document Services
- □ Remote Access
- □ Remote Desktop Services
- □ Volume Activation Services
- □ Web Server (IIS)
- □ Windows Deployment Services

Description

Active Directory Domain Services (AD DS) stores information about objects on the network and makes this information available to users and network administrators. AD DS uses domain controllers to give network users access to permitted resources anywhere on the network through a single logon process.

Notes: I selected Active Directory Domain Services (AD DS) as the role to install.



Select features

DESTINATION SERVER
WIN-7JEIN9MPDJG

Select one or more features to install on the selected server.

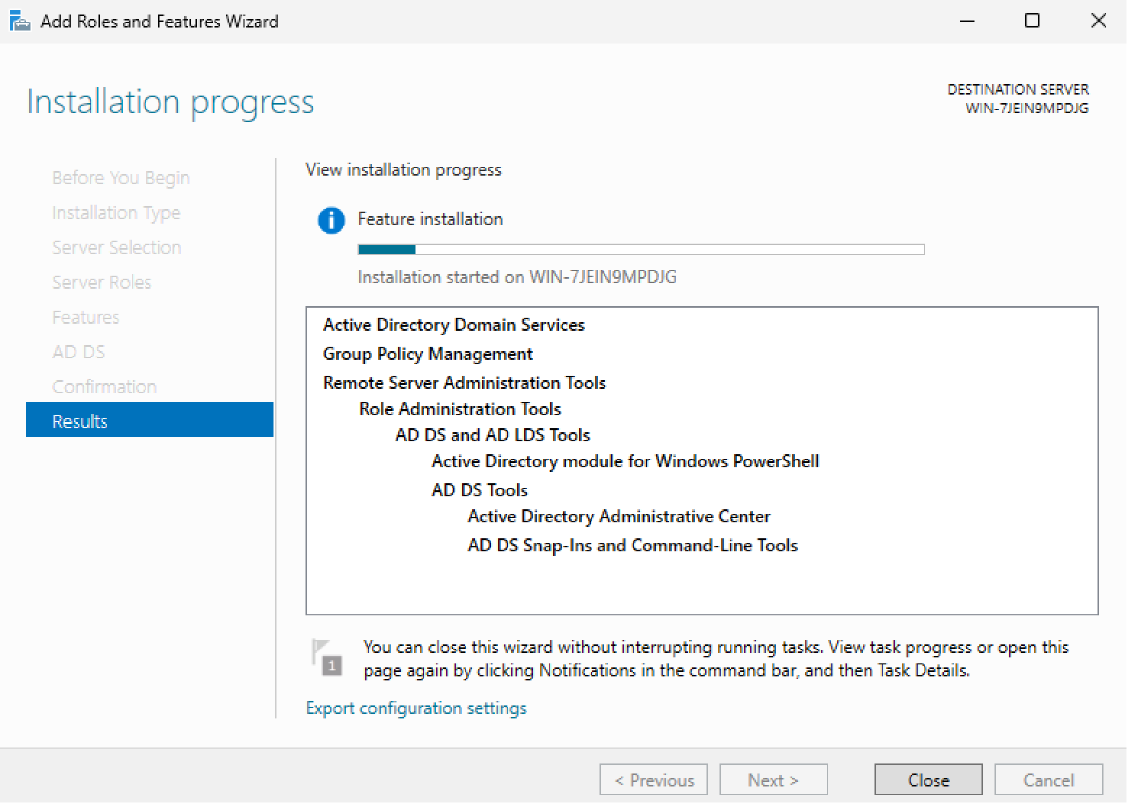
Features

- □ .NET Framework 3.5 Features
- ■ .NET Framework 4.8 Features (2 of 7 installed)
- □ Background Intelligent Transfer Service (BITS)
- □ BitLocker Drive Encryption
- □ BitLocker Network Unlock
- □ BranchCache
- □ Client for NFS
- □ Containers
- □ Data Center Bridging
- □ Direct Play
- □ Enhanced Storage
- □ Failover Clustering
- ☑ Group Policy Management
- □ Host Guardian Hyper-V Support
- □ I/O Quality of Service
- □ IIS Hostable Web Core
- □ Internet Printing Client
- □ IP Address Management (IPAM) Server
- □ LPR Port Monitor

Description

.NET Framework 3.5 combines the power of the .NET Framework 2.0 APIs with new technologies for building applications that offer appealing user interfaces, protect your customers' personal identity information, enable seamless and secure communication, and provide the ability to model a range of business processes.

Notes: On the features page, I confirmed that the required features, such as Group Policy Management, are ticked as this is what will allow me to manage settings for users and computers inside of the domain.



Installation progress

DESTINATION SERVER
WIN-7JEIN9MPDJG

View installation progress

Feature installation

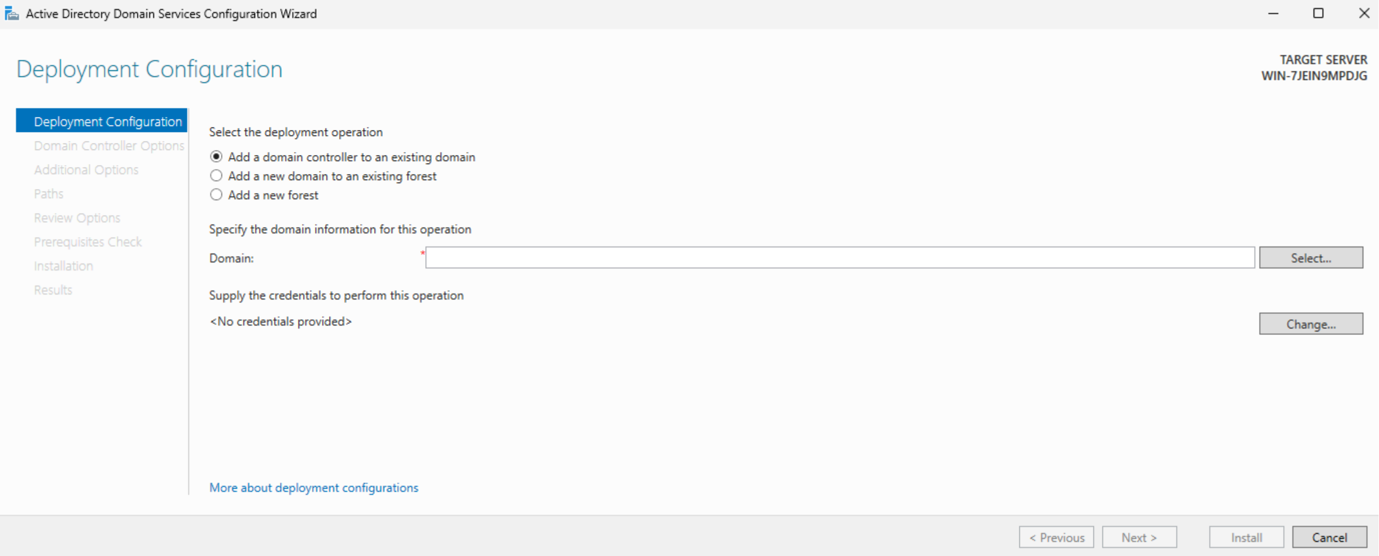
Installation started on WIN-7JEIN9MPDJG

Active Directory Domain Services
Group Policy Management
Remote Server Administration Tools
    Role Administration Tools
        AD DS and AD LDS Tools
            Active Directory module for Windows PowerShell
            AD DS Tools
                Active Directory Administrative Center
                AD DS Snap-Ins and Command-Line Tools

You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.

Export configuration settings

Notes: After configuring the server, its now installing.



Deployment Configuration

TARGET SERVER
WIN-7JEIN9MPDJG

Select the deployment operation

● Add a domain controller to an existing domain
○ Add a new domain to an existing forest
○ Add a new forest

Specify the domain information for this operation

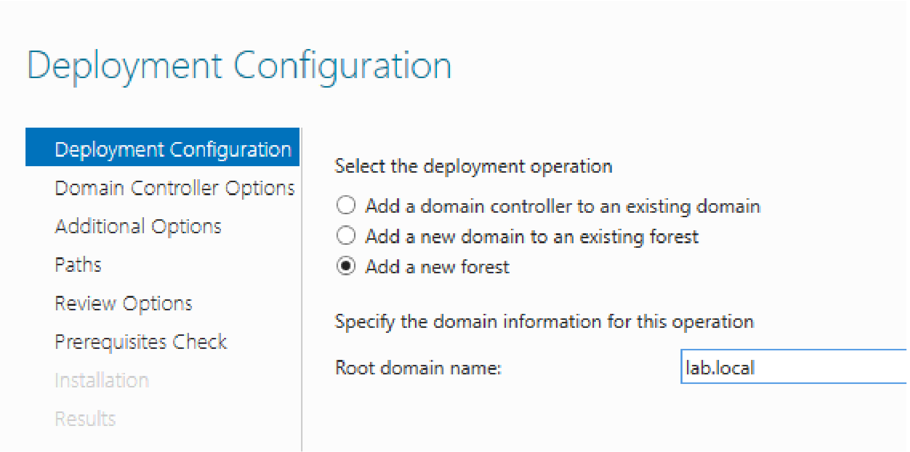
Domain: *

Supply the credentials to perform this operation

<No credentials provided>

More about deployment configurations

Notes: After the AD DS installation completed, Server Manager displayed a yellow warning notification. I clicked on the option Promote this server to a domain controller, which launched the Active Directory Domain Services Configuration Wizard.



Select the deployment operation

○ Add a domain controller to an existing domain

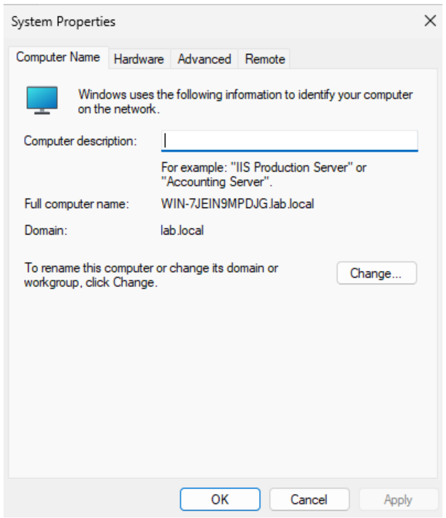
○ Add a new domain to an existing forest

● Add a new forest

Specify the domain information for this operation

Root domain name: lab.local

Notes: I chose to create a new forest since this was the first domain in my lab. I named the root domain lab.local, which will serve as the foundation for my Active Directory environment.



Windows uses the following information to identify your computer on the network.

Computer description:

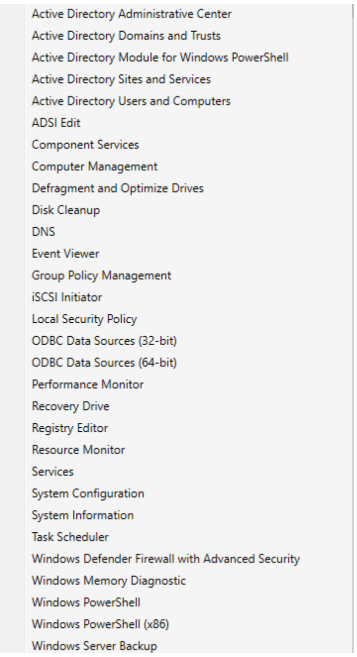
For example: "IIS Production Server" or "Accounting Server".

Full computer name: WIN-7JEIN9MPDJG.lab.local

Domain: lab.local

To rename this computer or change its domain or workgroup, click Change.

Notes: After the server rebooted, I checked the full computer name showed ServerName.lab.local, and the domain field displayed lab.local. This confirms that the Domain Controller was successfully created and that the new Active Directory forest is operational.


Active Directory Administrative Center
Active Directory Domains and Trusts
Active Directory Module for Windows PowerShell
Active Directory Sites and Services
Active Directory Users and Computers
ADSI Edit
Component Services
Computer Management
Defragment and Optimize Drives
Disk Cleanup
DNS
Event Viewer
Group Policy Management
iSCSI Initiator
Local Security Policy
ODBC Data Sources (32-bit)
ODBC Data Sources (64-bit)
Performance Monitor
Recovery Drive
Registry Editor
Resource Monitor
Services
System Configuration
System Information
Task Scheduler
Windows Defender Firewall with Advanced Security
Windows Memory Diagnostic
Windows PowerShell
Windows PowerShell (x86)
Windows Server Backup

Notes: After promoting the server to a Domain Controller, I verified that new administrative consoles appeared under Server Manager → Tools. These tools are used by administrators to manage the domain on a daily basis. The Active Directory Users and Computers console allows me to create and manage users, groups, and organizational units. The Group Policy Management console is used to apply policies across the domain, such as enforcing password complexity rules or restricting what the Help Desk group can access, the File and Storage Services tools make it possible to configure shared folders and resources.

Lab 3B – Summary

Summary in this lab showed how to build a working Active Directory environment from the ground up. By installing and configuring AD DS, promoting the server to a Domain Controller, and creating the lab.local domain, I set up the foundation for centralized user, group, and policy management. This proved how AD DS can control access, enforce security settings, and make administration easier across an organization.