

**DAY 7**

**DATE:06/05/2025**

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**USER ID:27739**

## **TITLE: ACTIVE DIRECTORY AND REMOTE DESKTOP SYSTEM**

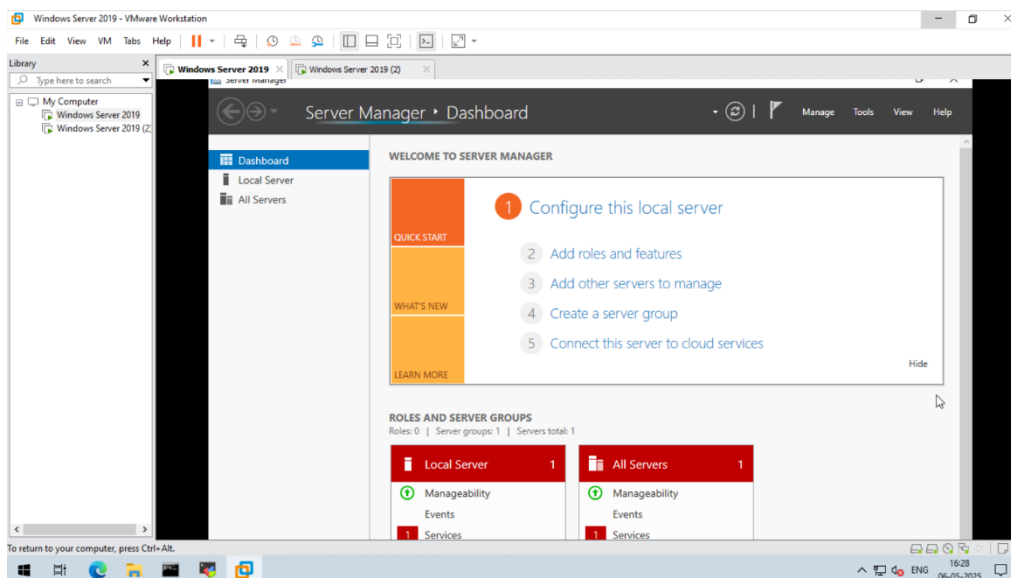
### ➤ **Description:**

The lab's goal is to set up a Windows Server 2019 environment with these key components:

- Active Directory: To manage users, computers, and resources.
- DHCP: To automatically assign IP addresses to devices on the network.
- DNS: To translate domain names (like "https://www.google.com/search?q=google.com") to IP addresses.
- Remote Desktop Services: To allow users to connect to the server remotely.

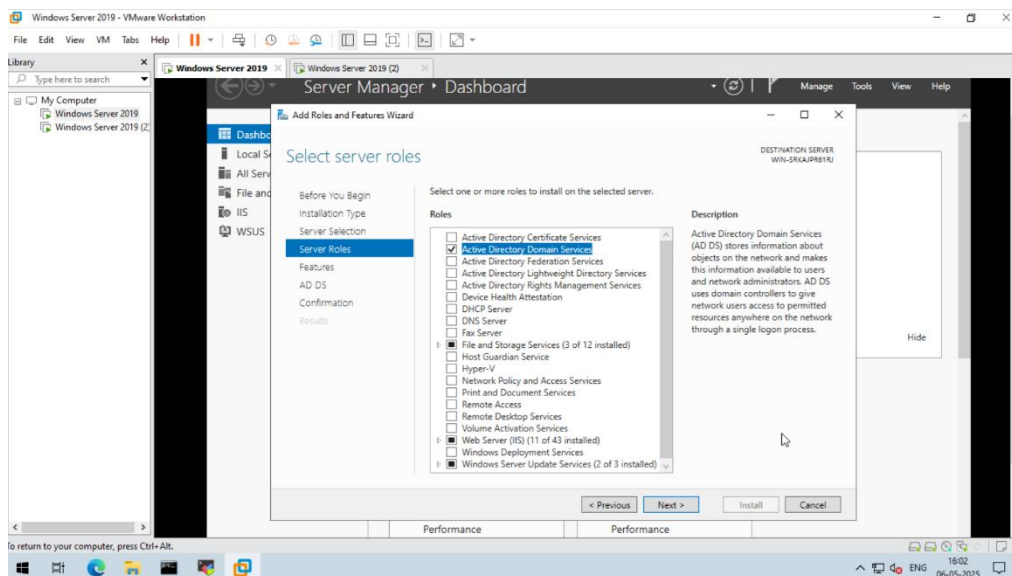
### ▪ **Part 1: Installing Active Directory Domain Services**

#### **1. STEP 1: Open Server Manager**



#### **2. STEP 2: Click Add Roles and Features ->click Next**

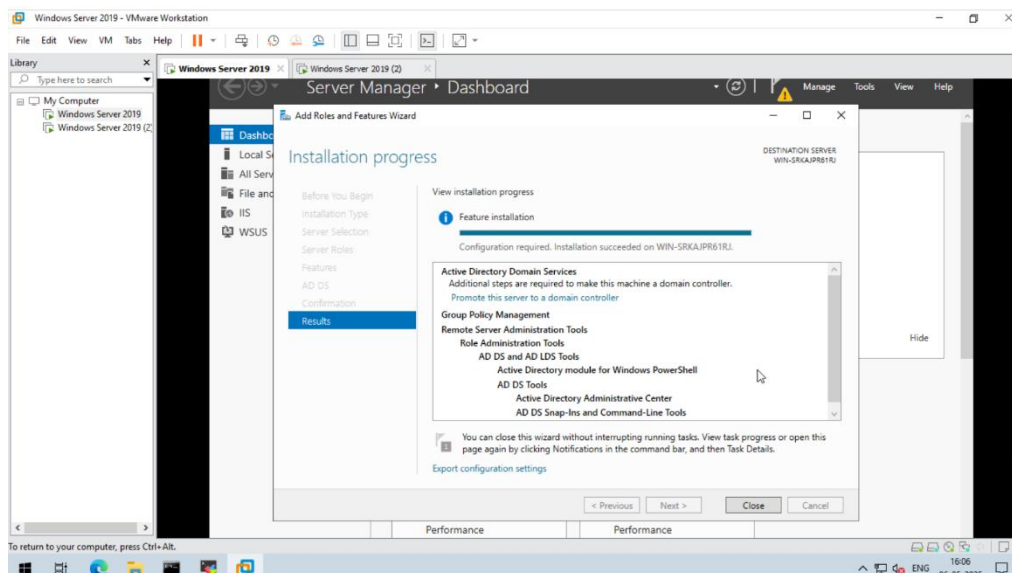
Until you see this tab. In Select Server Roles, Check the box next to "Active Directory Domain Services." When you do this, a pop-up window will appear asking if you want to add required features. Click "Add Features."



In this section, you can add additional features. The lab says to continue clicking "Next" without making any changes here.

3. STEP 3: Confirm Installation Selections - This is your last chance to review what you're about to install.

**Important:** Check the box that says "Restart the destination server automatically if required." This allows the server to restart itself if needed to complete the installation. Then, click "Install."

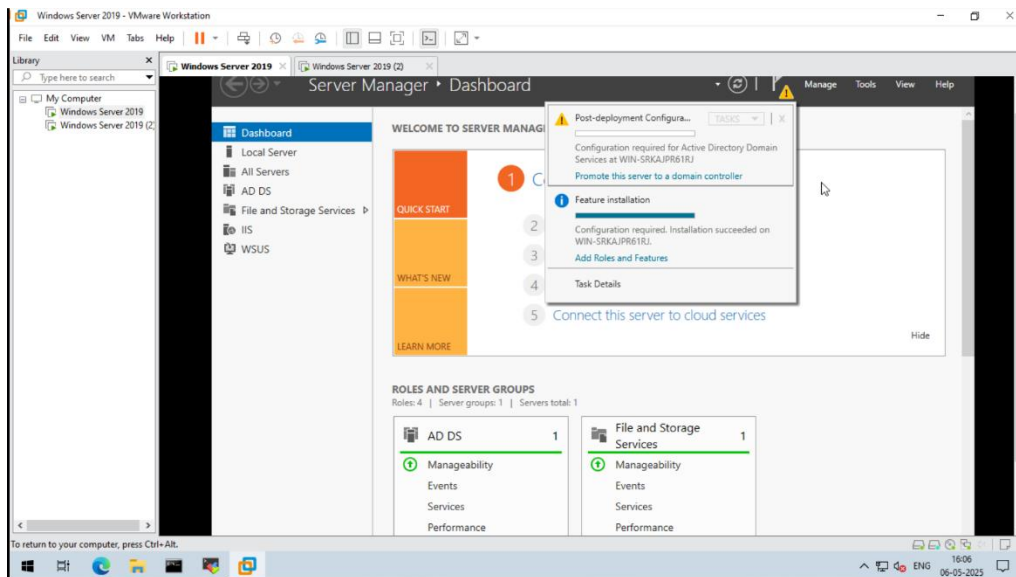


4. STEP 4: Configure Active Directory (Promote to Domain Controller)

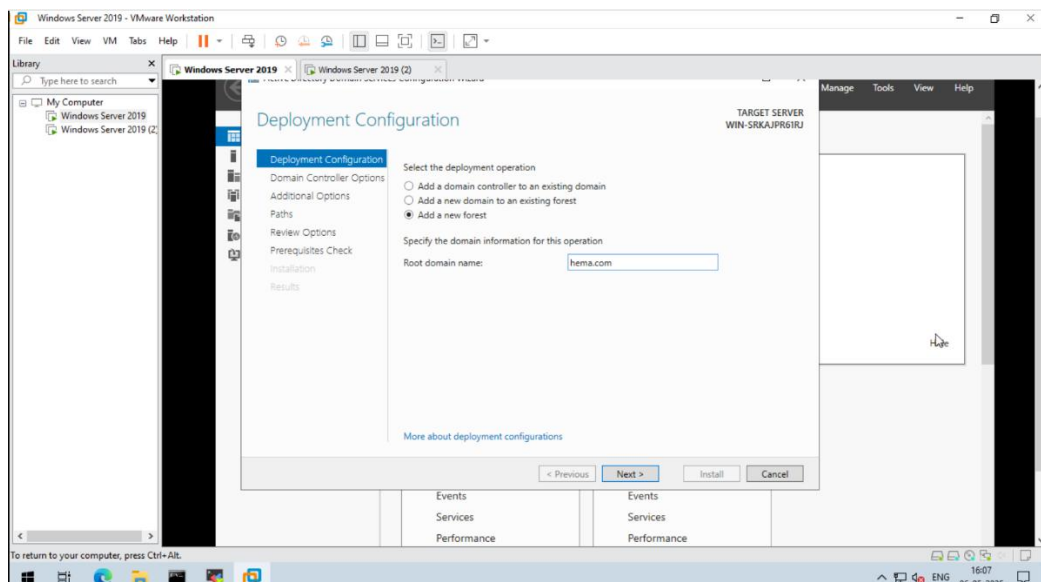
After the installation finishes, you'll see a notification in Server Manager that says, "Promote this server to a domain

controller." Click on this. This is a crucial step that turns your server into the central authority for your network.

## 5. STEP 5: Deployment Configuration

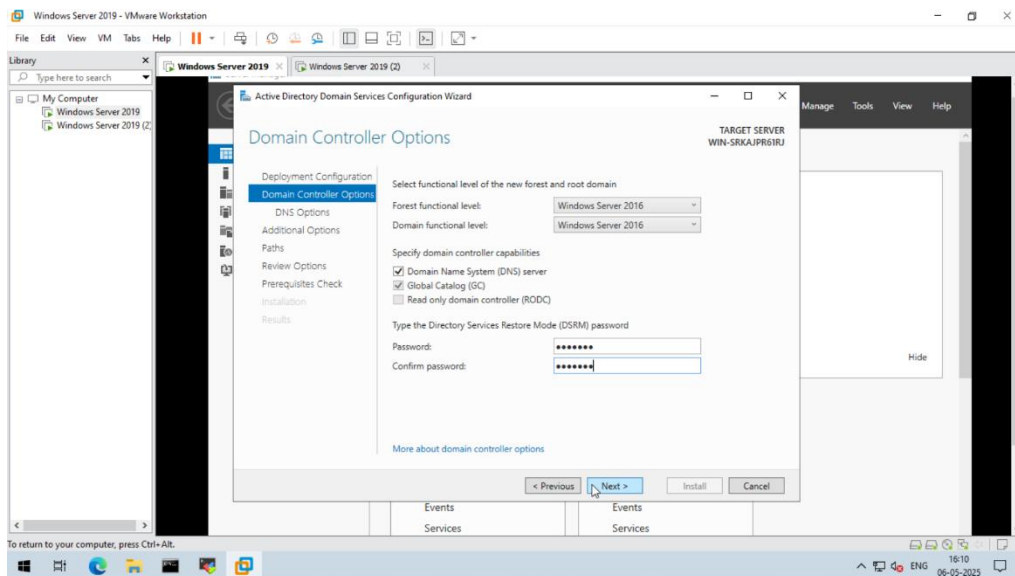


- Select "Add a new forest." A "forest" is a collection of domains. In most cases, you'll create a new forest for your network.
- Enter a "Root domain name." This will be the name of your Active Directory domain (e.g., "hema.com").



## 6. STEP 6: Domain Controller Options

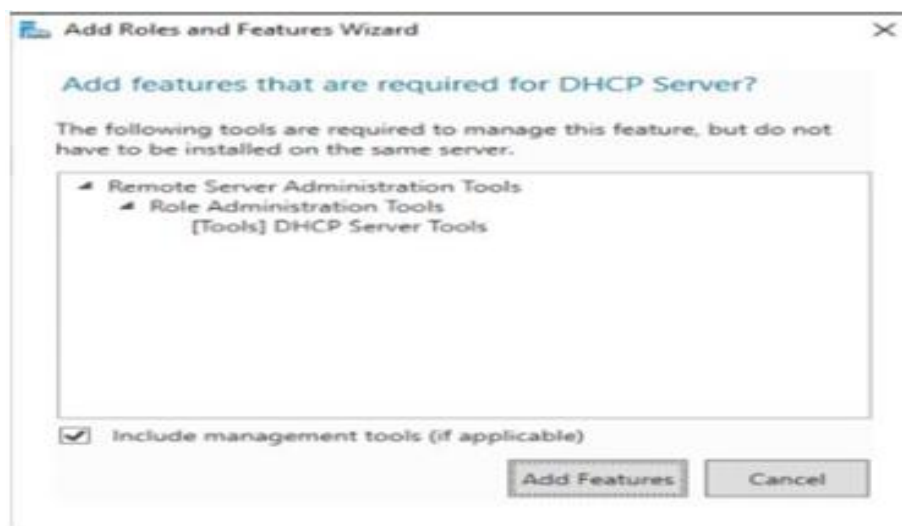
Set a strong password for the "Directory Services Restore Mode (DSRM)." This password is used for recovering Active Directory in case of a problem, so it's very important to remember it.



## 7. STEP 7: Install and config DHCP server

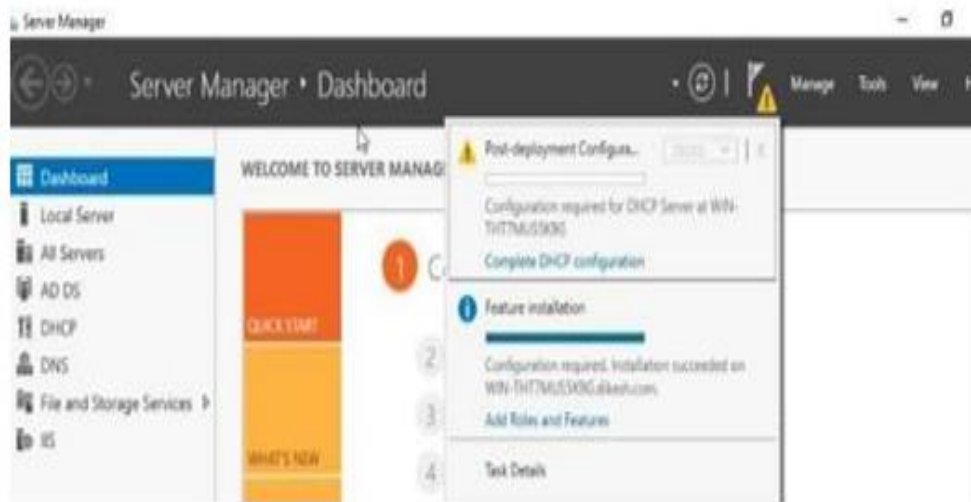
- Open server manager
- Click on Roles and Features
- Click next to begin the setup

## 8. Step 8: Select DHCP server and click Add features when prompted.



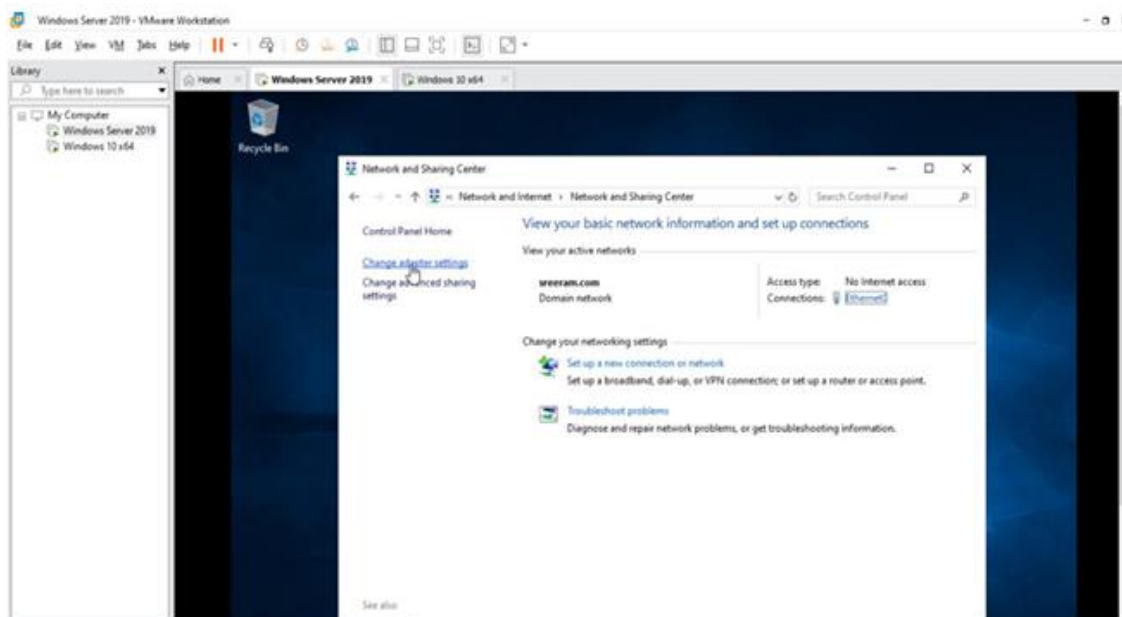
## 9. Step 9: Click Next->Install.

Click next in the DHCP post install configuration wizard. • No changes are required, simply click commit to finalize the setup.

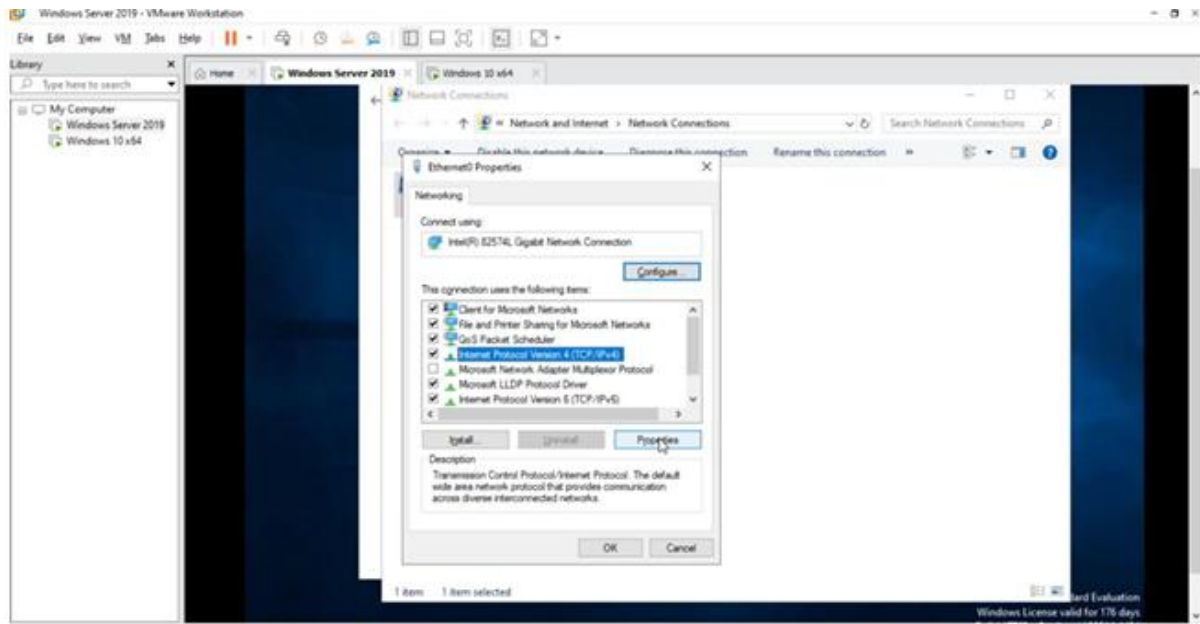


## 10. Step 10: Set a Static IP Address

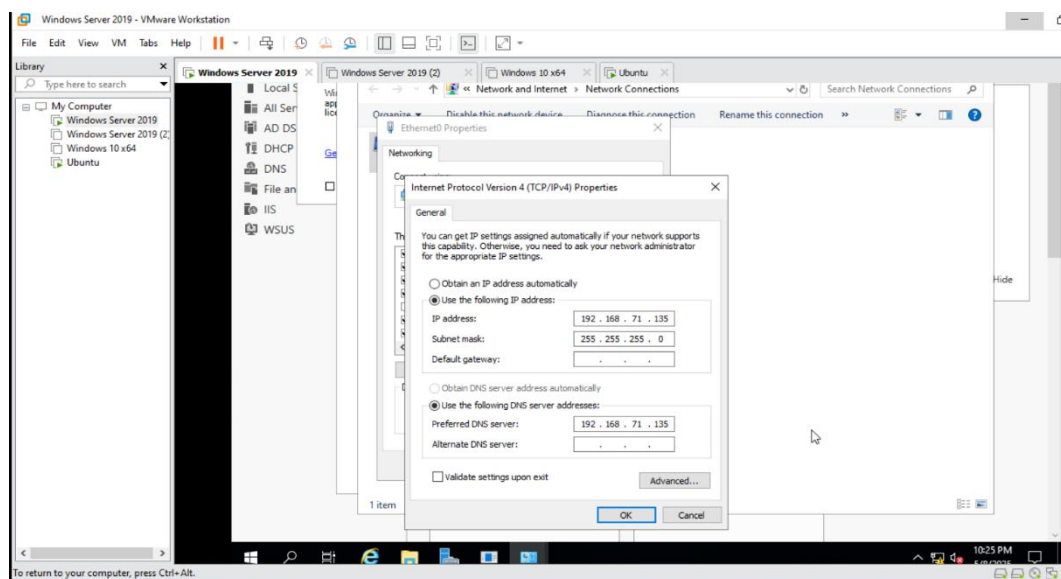
1. Go to Control Panel → Network and Sharing Center → Change adapter settings
2. Right-click your active network adapter (e.g., Ethernet1) → Properties.



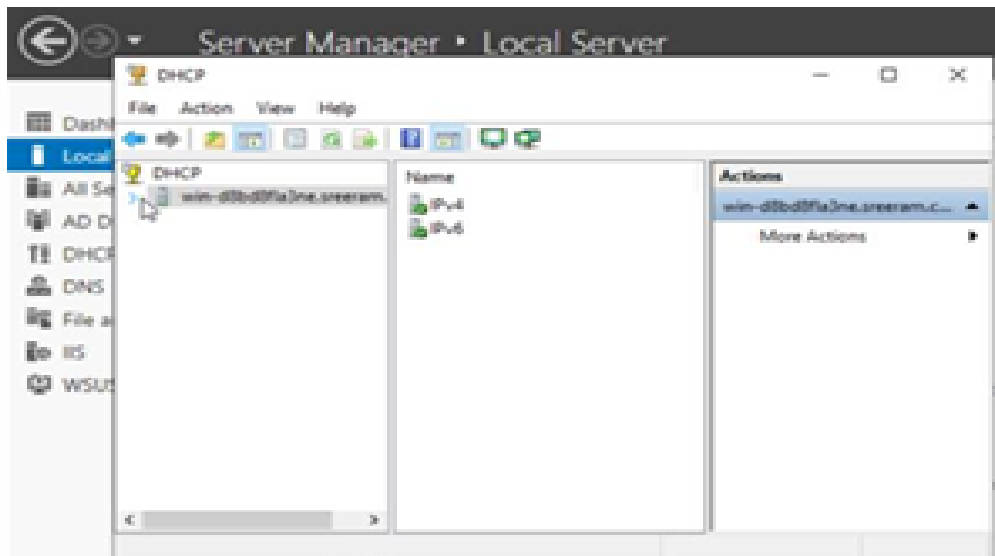
## 11. Step 11: Select Internet Protocol Version 4 (TCP/IPv4) → Click Properties



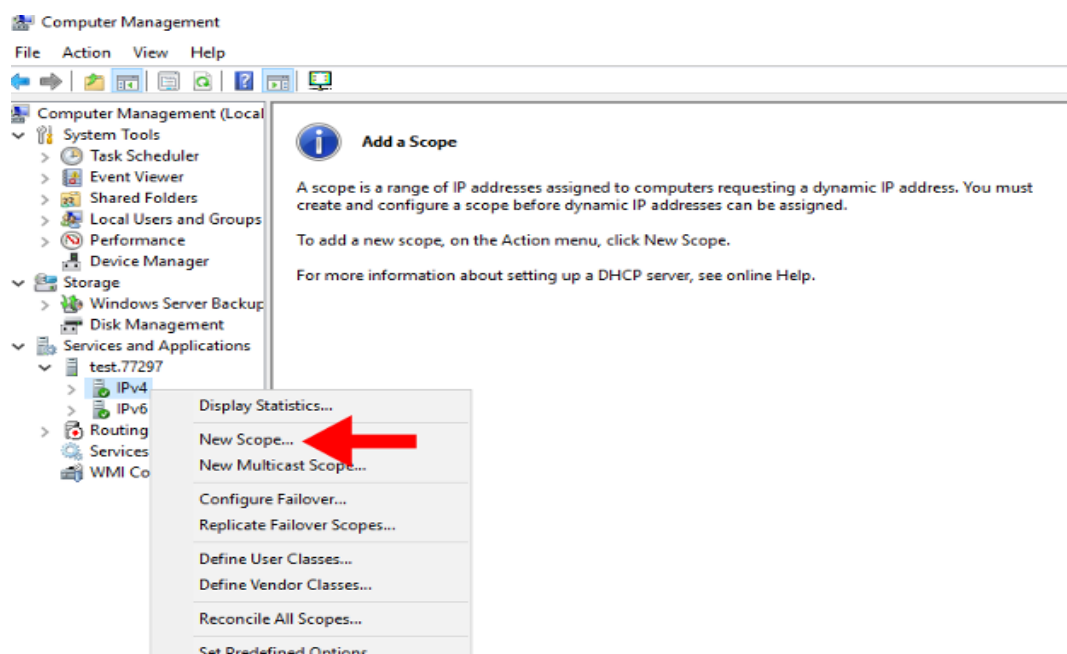
12. Step 12: Set: - IP address: 192.168.71.135 (example)
- Subnet mask: 255.255.255.0
  - Default gateway: 192.168.71.1 (your router IP)
  - Preferred DNS server: 192.168.71.135 (same as the server IP) → Click OK and close all dialogs



13. Step 13: Configure DHCP Server
1. Open Server Manager → Add Roles and Features → Install DHCP Server
  2. After installation, open DHCP console from Tools

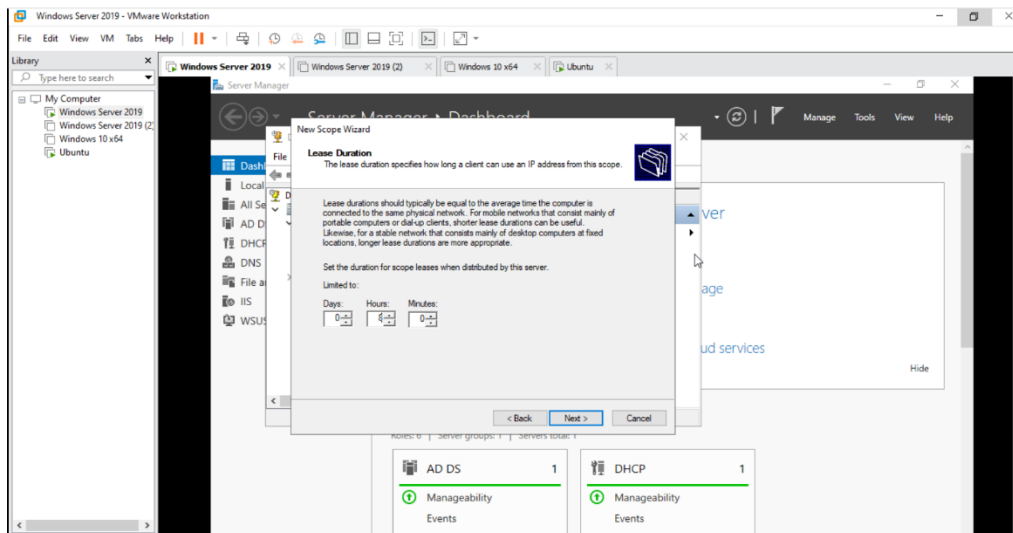


#### 14.Step 14: Create a new scope



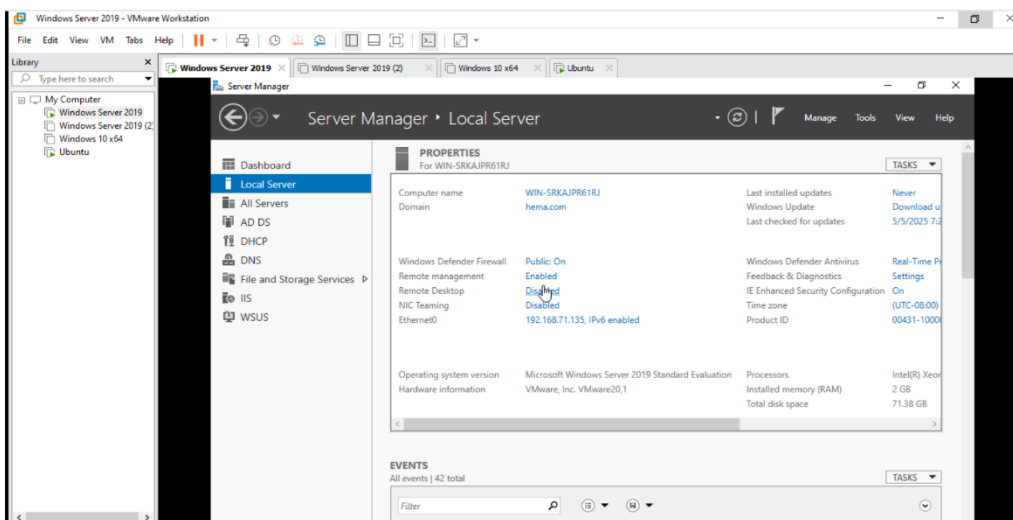
- IP range: 192.168.71.100 to 192.168.71.150
- Subnet mask: 255.255.255.0
- Default gateway: 192.168.71.1
- DNS Server: 192.168.71.135

#### 15.Step 15: Set lease duration to 8 hours->Activate the scope.



## 16. Step 16: Enable Remote Desktop

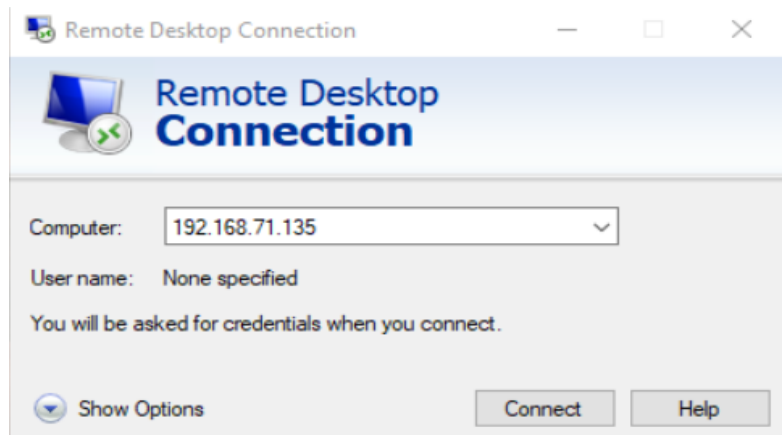
1. Go to Server Manager → Local Server → Remote Desktop
2. Check “Allow remote connections to this computer”
3. Add users to the “Remote Desktop Users” group if needed



## 17. Step 17: Test Remote Desktop

1. From another client computer, open Remote Desktop Connection (mstsc.exe)
2. Enter your server IP





3. Enter your user credentials and password
4. Use a domain account like testuser@hema.com to log in.

### ➤ Conclusion

This project involved setting up a basic Windows Server 2019 infrastructure using key services such as **Active Directory Domain Services (AD DS)**, **DNS**, **DHCP**, and **Remote Desktop**. Each component played a crucial role in building a centralized and efficient network environment.

By configuring **AD DS**, we established a domain controller that enables centralized authentication, user, and device management. The **DNS server** ensured accurate and efficient name resolution across the network, which is essential for both internal communication and domain joining. The **DHCP server** simplified IP address management by dynamically allocating IPs to client devices, reducing manual configuration and errors. **Remote Desktop** allowed secure and remote access to the server, providing flexibility in managing the infrastructure.

Together, these services form the backbone of a scalable, secure, and professional-grade IT infrastructure. This project not only demonstrated the technical setup of each service but also highlighted how they work in coordination to support a modern enterprise network. With this foundation, further enhancements such as Group Policy Objects (GPOs), security policies, and role-based access control can be implemented to meet more complex organizational needs.