CYSE 608: Hands-On Lab Report 3

Name: Aaron Jones

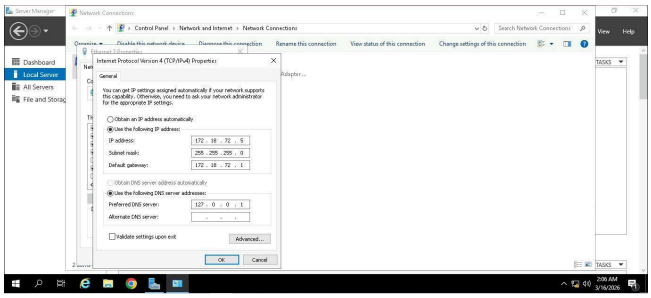
Directions: Review the tutorial video found in Module 4 and complete the following tasks. Submit your completed report in Canvas.

Install and Setup DNS service in Windows Server 2019

Total Points = 50 points

Task 1. [12.5 points]

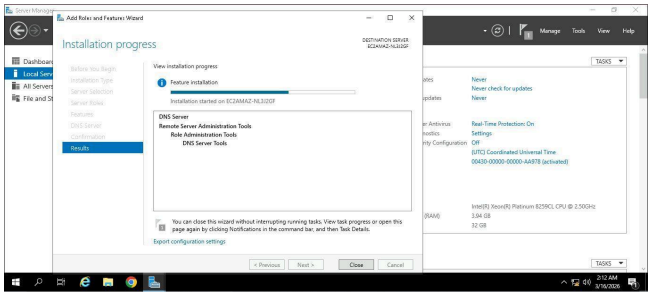
1. The most relevant task you can complete/perform.
2. Provide a screenshot of the completed task.



3. In this screenshot, I am manually configuring the IPv4 settings for a network adapter in Windows Server. Instead of obtaining an IP address automatically through DHCP, I selected the option to use a static IP address. The configuration assigns the device the IP address 172.18.72.5 with a subnet mask of 255.255.255.0 and a default gateway of 172.18.72.1. I also configured the preferred DNS server as 127.0.0.1, which refers to the local machine. This setup is commonly used for servers because it ensures the system always maintains the same network address, which is important for services such as DNS, Active Directory, or other network infrastructure components.

Task 2. [12.5 points]

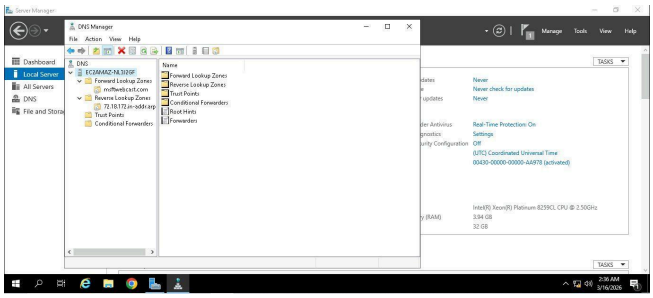
1. The most relevant task you can complete/perform.
2. Provide a screenshot of the completed task.



3. In this screenshot, I am installing the DNS Server role on a Windows Server using the Add Roles and Features Wizard in Server Manager. The installation process includes the DNS Server and the associated Remote Server Administration Tools, which allow administrators to manage DNS services on the system. DNS is an essential network service that translates human-readable domain names into IP addresses so computers can locate resources on a network. Installing the DNS role is an important step when configuring servers for services like Active Directory or managing internal networks. This setup allows the server to handle name resolution requests for devices and services within the network environment.

Task 3. [12.5 points]

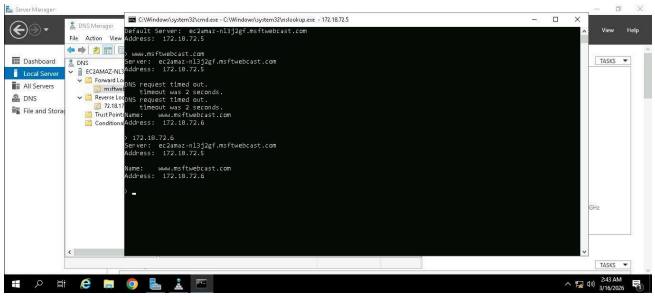
1. The most relevant task you can complete/perform.
2. Provide a screenshot of the completed task.



3. In this screenshot, I am configuring DNS zones using the DNS Manager in Windows Server. I created a forward lookup zone named msftwebcast.com and a reverse lookup zone for the 172.18.72.0 network. The forward lookup zone allows the DNS server to translate domain names into IP addresses so devices can locate resources on the network. The reverse lookup zone performs the opposite function by translating IP addresses back into domain names, which is helpful for troubleshooting and verification. Creating both types of zones ensures proper name resolution within the network. This configuration is an important step when setting up DNS services for internal networks or Active Directory environments.

Task 4. [12.5 points]

1. The most relevant task you can complete/perform.
2. Provide a screenshot of the completed task.



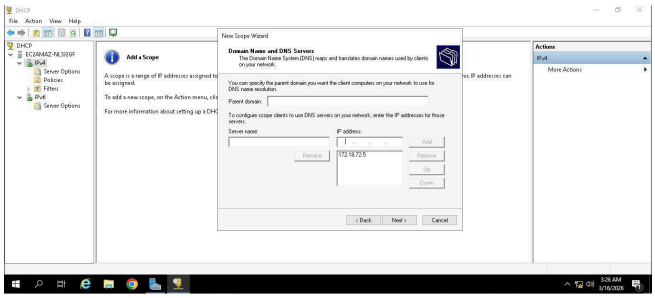
3. I am using the nslookup command to test DNS resolution. The DNS server 172.18.72.5 successfully resolves the hostname www.msftwebcast.com to the IP address 172.18.72.6. This confirms that the DNS zones and records I created are working correctly and the server can translate domain names into IP addresses.

How to Join Windows Server 2019 to an Existing Active Directory Domain

Total Point = 50 points

Task 5. [12.5 points]

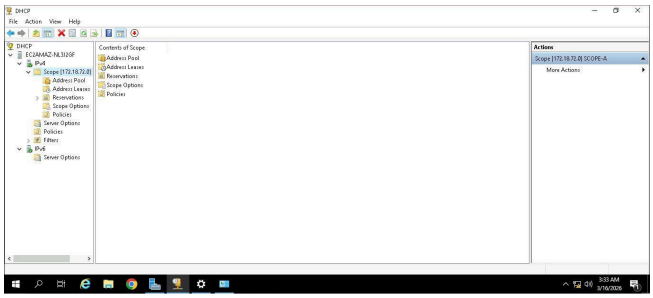
1. The most relevant task you can complete/perform.
2. Provide a screenshot of the completed task.



3. In this screenshot, I am configuring DNS settings while creating a DHCP scope. I entered the DNS server address 172.18.72.5, which allows DHCP clients to automatically receive the correct DNS server when they obtain an IP address. This ensures devices on the network can properly resolve domain names to IP addresses.

Task 6.

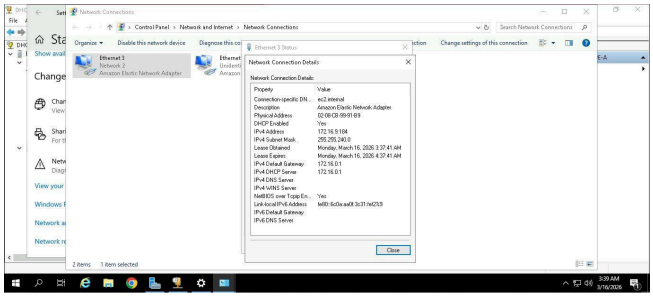
1. The most relevant task you can complete/perform.
2. Provide a screenshot of the completed task.



3. I activated a DHCP scope for the 172.18.72.0 network. Activating the scope allows the DHCP server to begin assigning IP addresses to client devices automatically. The scope includes an address pool, address leases, reservations, and scope options, which control how devices receive network configuration settings on the network.

Task 7. [12.5 points]

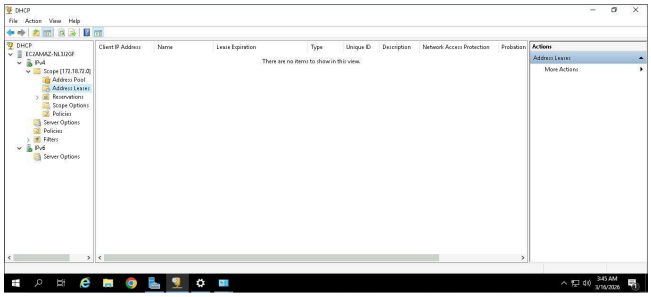
1. The most relevant task you can complete/perform.
2. Provide a screenshot of the completed task.



3. DHCP is enabled on the network adapter. The computer automatically received an IP address 172.16.9.184, subnet mask, default gateway, and DNS information from the DHCP server. This confirms the DHCP scope is working correctly, and the device successfully obtained its network configuration dynamically from the server.

Task 8. [12.5 points]

1. The most relevant task you can complete/perform.
2. Provide a screenshot of the completed task.



3. I am viewing the **Address Leases section** of the DHCP scope, but no devices have requested an IP address yet. This means the DHCP server is active, but no clients have connected to receive a lease.