**Module: 13- Networking with Windows Server**

**25. Discuss the role of Windows Firewall in Windows Server and how to configure it**.

**Ans.** The Windows Firewall is a built-in security feature in Windows Server that helps protect the server from unauthorized access attempts and malicious attacks. It acts as a barrier between the server and the external network, allowing only authorized traffic to pass through.

Open the Windows Firewall with Advanced Security by clicking on the Start menu,

In the Windows Defender Firewall with Advanced Security window, select "Inbound Rules" from the left-hand menu.

To create a new inbound rule, right-click on "Inbound Rules" and select "New Rule..." from the context menu.

in the New Inbound Rule Wizard, select "Program" from the list of rule types and click "Next".

In the Name page, enter a descriptive name for the rule (e.g., "Allow Program X") and click "Finish".

**26. What is Network Address Translation (NAT) in Windows Server, and how do you configure it?**

Network Address Translation (NAT) is a technique used to map multiple private IP addresses to a single public IP address within a network. In Windows Server, NAT can be configured to enable the server to access the internet or other external resources while remaining hidden behind a single IP address. Here's how to configure NAT in Windows Server:

Open the Windows Firewall with Advanced Security by clicking on the Start menu, typing "Windows Firewall" in the search box, and selecting "Windows Defender Firewall with Advanced Security" from the search results.

In the Windows Defender Firewall with Advanced Security window, select "NAT Rules" from the left-hand menu.

To create a new NAT rule, right-click on "NAT Rules" and select "New Rule..." from the context menu.

In the New NAT Rule Wizard, select "Port Forwarding" from the list of rule types and click "Next".

In the Protocol and Ports page, select the protocol (e.g., TCP or UDP) and the port numbers to forward. Click "Next".

In the Translated Address and Port page, enter the public IP address and the port number to which the traffic should be forwarded. Click "Next".

In the Name page, enter a descriptive name for the rule (e.g., "Forward Port X") and click "Finish".

**27. Explain the concept of Dynamic Host Configuration Protocol (DHCP) and how to configure it in Windows Server 2016.**

Open the Server Manager by clicking on the Start menu and selecting "Server Manager".

In the Server Manager window, expand the "Roles" section and click on "Add Roles".

In the Add Roles Wizard, select "DHCP Server" from the list of roles and click "Next".

On the Select Server page, select the server where you want to install the DHCP Server role and click "Next".

On the DHCP Server Type page, select "DHCP Server" and click "Next".

On the Scope Name page, enter a name for the DHCP scope and click "Next".

On the IP Address Range page, specify the IP address range for the DHCP scope and click "Next".

On the Add Exclusions and Delay page, add any IP address exclusions (if applicable) and configure the lease duration. Click "Next".

On the Router page, enter the IP address of the default gateway and click "Next".

On the DNS Server page, enter the IP addresses of the DNS servers and click "Next".

On the Confirmation page, review the settings and click "Install".

After the installation is complete, the DHCP Server role will be configured on the selected server.

**28. Describe the process of configuring DNS (Domain Name System) in Windows Server.**

Configuring DNS (Domain Name System) in Windows Server involves creating and managing DNS zones, creating DNS records, and configuring DNS forwarders. Here's the process:

Open the DNS Manager by clicking on the Start menu and selecting "DNS" from the Windows Administrative Tools.

In the DNS Manager window, right-click on "DNS" and select "New Zone" from the context menu.

In the New Zone Wizard, select "Primary Zone" and click "Next".

On the Zone Type page, select the type of zone you want to create (e.g., Internet, Intranet, Custom) and click "Next".

On the Zone Name page, enter the name of the zone (e.g., "example.com") and click "Next".

On the Zone File page, specify the zone file name and location or accept the default and click "Next".

On the Dynamic Update page, select the desired update behavior for the zone and click "Next".

On the Completing the New Zone Wizard page, review the settings and click "Finish".

In the DNS Manager, expand the "Forward Lookup Zones" folder and right-click on the newly created zone and select "New Host (A or AAAA)" from the context menu

In the New Host window, enter the host name (e.g., "server1") nd the corresponding IP address and click "OK".

Repeat steps 9 and 10 to create additional DNS records (e.g., MX, CNAME) as needed.

To configure DNS forwarders, right-click on the server name and select "Properties". In the Properties window, go to the "Forwarders" tab and add the IP addresses of the desired forwarders.

**29. What is Server Manager, and how do you use it to manage servers in Windows Server?**

Server Manager is a built-in management tool in Windows Server that provides a graphical interface for managing and configuring servers. It allows you to perform various tasks, such as adding and removing roles, managing services, configuring network settings, and monitoring server performance. Here's how to use Server Manager:

Open Server Manager by clicking on the Start menu and selecting "Server Manager".

In the Server Manager window, you will see the "Dashboard" tab, which provides anoverview of the server's health and status.

To manage roles and features, click on the "Manage" menu and select "Add Roles and Features". This will open the Add Roles and Features Wizard, where you can add or remove server roles and features.

To manage services, click n the "Services" menu and select the service you want to manage (e.g., Internet Information Services, Remote Desktop Services).

To monitor server performance, click on the "Performance" menu and select "Resource Monitor" to view real-time performance metrics.

To manage server backups, click on the "Backup" menu and select "Backup and Restore" to create and manage server backups.

**30. Discuss the role of Remote Desktop Services (RDS) in Windows Server 2016 or 2019 and how to configure it.**

Remote Desktop Services (RDS) in Windows Server allows users to remotely access and use resources on a server, such as applications, files, and desktops. RDS in Windows Server 2016 or 2019 can be configured using the Remote Desktop Services role.

Open Server Manager by clicking on the Start menu and selecting "Server Manager".

In the Server Manager window, expand the "Roles" section and click on "Add Roles".

In the Add Roles Wizard, select "Remote Desktop Services" from the list of roles and click "Next".

On the Select Server page, select the server where you want to install the Remote Desktop Services role and click "Next".

On the Remote Desktop Services Type page, select "Remote Desktop Session Host" and click "Next".

On the Confirmation page, review the settings and click "Install".

After the installation is complete, the Remote Desktop Services role will be configured on the selected server.