**Module 14-W) Windows Server - Identity With Windows Server**

1. Explain the process of installing and configuring Hyper-V virtualization in Windows Server 2016.

ANS. To install and configure Hyper-V virtualization in **Windows Server 2016**, follow these steps:

**1. Verify System Requirements**

Before installing Hyper-V, ensure that your system meets the following requirements:

* **64-bit processor** with hardware virtualization support (Intel VT or AMD-V).
* **Second Level Address Translation (SLAT)** support (required for Hyper-V).
* **At least 4 GB of RAM**.
* A system that supports **Windows Server 2016**.

**2. Install the Hyper-V Role**

To install the Hyper-V role, use **Server Manager** or PowerShell.

**Option 1: Using Server Manager**

1. **Open Server Manager**: Click on the **Start** menu and open **Server Manager**.
2. **Add Roles and Features**:
   * In Server Manager, click **Manage** > **Add Roles and Features**.
   * The **Add Roles and Features Wizard** will open.
3. **Select Role-based or Feature-based Installation**:
   * Choose **Role-based or feature-based installation** and click **Next**.
4. **Select the Server**:
   * Choose the server from the server pool or select the local server (by default).
   * Click **Next**.
5. **Select the Hyper-V Role**:
   * Scroll down and select **Hyper-V** from the list of roles.
   * A prompt will appear asking to install additional features required by Hyper-V, click **Add Features**.
6. **Select Hyper-V Features**:
   * The wizard will show options for **Hyper-V Management Tools** and **Hyper-V Platform**. Leave them selected.
   * Click **Next**.
7. **Configure Network**:
   * Select the network adapter(s) that will be used for virtual machines. Choose the appropriate adapter for management.
   * Click **Next**.
8. **Confirm Installation**:
   * Review the installation selections and click **Install**.
   * Wait for the installation to complete. The server may require a restart during the installation.

32. How do you monitor server performance and manage event logs in Windows Server?

Ans. Monitoring server performance and managing event logs in **Windows Server** are crucial tasks for maintaining the health, security, and efficiency of the system. Windows Server provides various built-in tools to help with performance monitoring and event log management.

33. Describe the different types of storage options available in Windows Server.

Ans. Windows Server provides a variety of storage options to meet different performance, redundancy, and capacity needs. The different types of storage available in Windows Server allow administrators to choose solutions based on their specific use case, whether for file sharing, database hosting, virtual machine storage, or high availability.

34. What is the role of File Server in Windows Server, and how do you configure it?

Ans. A **File Server** in Windows Server is a server that provides centralized storage for files, allowing users and applications on a network to store, retrieve, and share files over a network.

* **Store and Share Files**: Users can share files across the network, allowing multiple users to access and collaborate on shared data.
* **Manage Data Security and Access Control**: With the file server role, administrators can enforce security policies, such as file permissions and access restrictions.
* **Enable Centralized File Management**: Centralized storage makes it easier to back up, restore, and maintain files across multiple systems.
* **Support Network File Sharing**: Through the server, multiple users and devices can access shared files simultaneously, improving collaboration and data access.

**Key Features of a File Server in Windows Server**

1. **File Sharing**: You can share files across a network, allowing users to access data stored on the server.
2. **Access Control**: Administrators can set permissions (read, write, modify) for users or groups, controlling who can access or modify the shared files.
3. **Distributed File System (DFS)**: DFS allows the creation of a unified namespace for shared files, even across multiple servers. It also supports file replication across different locations.
4. **File Storage Management**: The file server allows you to manage and store data efficiently using tools like **Storage Spaces** and **Quota Management**.
5. **File Replication and Backup**: Supports file replication for redundancy and backup for disaster recovery.

35. Explain the process of implementing and managing Distributed File System (DFS) in Windows Server 2016.

Ans. The **Distributed File System (DFS)** in Windows Server is a set of technologies that allow administrators to organize and manage file shares across multiple servers into a unified namespace and provide replication for redundancy and high availability.

DFS in Windows Server 2016 provides a powerful solution for file sharing, management, and replication, ensuring high availability and fault tolerance for your data. By implementing DFS Namespaces and DFS Replication, administrators can simplify file access, improve network efficiency, and protect data through redundancy.

36. Discuss the built-in backup and recovery options available in Windows Server 2016 or 2019.

Ans. Windows Server 2016 and 2019 offer several built-in backup and recovery options to protect your data and ensure business continuity in the event of hardware failure, data corruption, or other disasters. These tools range from simple file backups to more comprehensive system image backups. Below is an overview of the key backup and recovery options available in both versions.

37. How do you configure Windows Server Backup to back up critical data?

Ans. Windows Server Backup (WSB) is a built-in tool in Windows Server that allows you to perform backups of critical data, including system state, files, folders, and entire volumes. To back up critical data such as application data, user files, or system settings, you can configure a backup strategy using WSB.

1. Open Server Manager.
2. Click Manage > Add Roles and Features.
3. In the Add Roles and Features Wizard, proceed to the Features section.
4. Under Features, check Windows Server Backup.
5. Click Next, then Install.
6. Once installation is complete, you can access Windows Server Backup from the Tools menu in Server Manager.

38. Explain the steps for restoring files and folders using Windows Server Backup.

Ans. Restoring files and folders from a backup using **Windows Server Backup** is a straightforward process. This procedure allows you to recover individual files and folders from a previous backup without needing to restore the entire server.

* **From Server Manager**:
  + Open **Server Manager**.
  + Navigate to **Tools** > **Windows Server Backup**.
* **From Control Panel**:
  + Open **Control Panel** > **System and Security** > **Windows Server Backup**.
* **From the Start Menu**:
  + Type **Windows Server Backup** in the search box and open the application.
  + 2. Begin the Recovery Process
  + Once you're in the Windows Server Backup console, follow these steps:
  + Click on "Recover":
  + In the Windows Server Backup window, on the right-hand side, click on Recover to begin the restore process.
  + Select the Recovery Mode:
  + This Server: Choose this option if you're recovering data on the same server.
  + Another Server: Choose this option if you're recovering data to a different server (you’ll need to specify the location of the backup).
  + Click "Next" to proceed.

39. What are some common troubleshooting techniques for Windows Server startup issues?

Ans. When a Windows Server fails to start, it can be caused by a variety of factors, such as hardware failures, software conflicts, corruption in system files, or misconfigurations. Troubleshooting Windows Server startup issues involves a systematic approach to identify the root cause and resolve the issue.

**Common Troubleshooting Techniques for Windows Server Startup Issues**

When a Windows Server fails to start, it can be caused by a variety of factors, such as hardware failures, software conflicts, corruption in system files, or misconfigurations. Troubleshooting Windows Server startup issues involves a systematic approach to identify the root cause and resolve the issue. Below are some common troubleshooting techniques for resolving startup problems:

**1. Boot into Safe Mode**

**Safe Mode** starts Windows with a minimal set of drivers and services, which can help diagnose startup problems.

* **Steps**:
  1. **Restart the server**.
  2. While the system is booting, press **F8** (for older systems) or select **Advanced Boot Options** (for Windows Server 2016/2019) and choose **Safe Mode** from the boot options menu.
  3. If the system boots into Safe Mode, it indicates that a recent change (such as a driver or service) might be causing the issue.
* **Useful for**:
  1. Identifying driver or software conflicts.
  2. Disabling problematic startup programs or services.

40. How do you troubleshoot network connectivity problems in Windows Server?

Ans. Network connectivity issues in Windows Server can be caused by various factors such as incorrect configurations, hardware problems, software conflicts, or firewall rules. The process of troubleshooting network connectivity problems involves isolating the cause and using various diagnostic tools and methods. Below are steps and techniques to troubleshoot network issues effectively on a Windows Server.

1. Check Physical Network Connections
2. 2. Verify the Network Interface Card (NIC) Status
3. 3. Check IP Configuration
4. Ping Tests
5. Check for DNS Issues
6. Check the Firewall and Security Setting
7. Verify Routing and Network Configuration
8. Check Network Services (DHCP, WINS)

41. Discuss common Active Directory-related issues and their troubleshooting steps.

Ans. Active Directory (AD) is a critical component of many Windows Server environments, managing authentication, authorization, and various directory services. Problems with Active Directory can impact users' ability to log in, access resources, or even cause replication failures between domain controllers. Troubleshooting Active Directory issues requires a methodical approach to identify and resolve the underlying causes.