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**Module: 14- Identity with Windows Server**

**31.** 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:  Open Server Manager and select Manage > Add Roles and Features.  Choose Role-based or feature-based installation and select your server.

 On the Select server roles page, check Hyper-V and click Add Features when prompted.

 Proceed through the wizard, selecting Next and configure network adapters for virtual machines.

 Complete the installation and restart the server if required.

 Open Hyper-V Manager from the Start menu.

 In Hyper-V Manager, configure virtual switches via Virtual Switch Manager.

 Click New > Virtual Machine to start the New Virtual Machine Wizard.

 Follow the wizard to set VM name, allocate memory, and configure networking and storage.

 Finish the setup, start the VM, and manage it using Hyper-V Manager.

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

1. Monitor Performance:  Open Task Manager (Ctrl+Shift+Esc) or Performance Monitor (Run perfmon).  Use Resource Monitor (in Task Manager > Performance tab) for detailed metrics.
2. Manage Event Logs:  Open Event Viewer (Run eventvwr).  Navigate through Windows Logs (Application, Security, System) to view and analyze logs.  Use Custom Views to create and manage specific log filters.

**33.** Describe the different types of storage options available in Windows Server. **Ans.** In Windows Server, the main storage options are:

1. Local Storage: Directly attached physical disks for simple and direct data storage.
2. Network Attached Storage (NAS): Shared storage accessed over a network, often via file-sharing protocols.
3. Storage Area Network (SAN): High-performance, block-level storage accessed over a dedicated network.
4. Virtual Hard Disks (VHD/VHDX): Files representing physical hard drives, used for virtual machines.
5. Storage Spaces: Pooling of physical disks into virtualized storage, allowing flexible management and redundancy.

**34.** What is the role of File Server in Windows Server, and how do you configure it? **Ans.** The File Server role in Windows Server manages and shares files centrally, allowing users and applications to access and store data.

Configuration Steps:

1. Open Server Manager and select Add Roles and Features.
2. Choose Role-based or feature-based installation and click Next.
3. Select the server and click Next.
4. Check File and Storage Services and then File Server. Click Next and Install.
5. Create Shared Folders in File and Storage Services > Shares.
6. Set Permissions for shared folders.
7. Optionally, configure Quotas and DFS for advanced file management.
8. Review and manage files using File Explorer or other tools.

**35.**  Explain the process of implementing and managing Distributed File System (DFS) in Windows Server 2016. **Ans.** Install DFS Role: Open Server Manager > Manage > Add Roles and Features.

Select File and Storage Services, then DFS Namespaces and DFS Replication. Click Install. 1.Configure DFS Namespaces: Open DFS Management from Server Manager > Tools. Right-click Namespaces > New Namespace. Follow the wizard to set up a namespace, specify the namespace server, and configure namespace settings.

2.Create DFS Folder Targets: In DFS Management, right-click your namespace > New Folder. Add folder targets that point to shared folders on different servers:

3.Set Up DFS Replication: Go to Replication in DFS Management and create a New Replication GrAdd replicated folders and configure replication settings, such as schedules and bandwidth limits.

**Managing DFS in Windows Server 2016**

1.Monitor DFS Health: Use the DFS Management console to check replication status and namespace health. Review the Replication and Namespace tabs.

2.Manage Replication: Modify replication settings (e.g., schedule, bandwidth) from the DFS Management console by selecting a replication group and adjusting its properties.

3.Update Namespace: Add or remove folder targets as needed. Right-click the namespace or folder in DFS Management and select Add Folder Target or Remove Folder Target.

4.Troubleshoot Issues: Check event logs and use the DFS Diagnostic Report from DFS

**36.** Discuss the built-in backup and recovery options available in Windows Server 2016 or 2019. **Ans.** In Windows Server 2016 and 2019, the built-in backup and recovery options include:

1. **Windows Server Backup:** Provides full, custom, and system state backups, with options for scheduled backups and recovery of files, folders, or the entire system.
2. **System Restore:** Allows recovery of the system to a previous state using restore points, accessible through **System Properties** or **Advanced Startup**.
3. **Windows Server Essentials Backup:** Available in Essentials editions, offers automatic daily backups of server data and system state.
4. **Hyper-V Backup:** Supports full and application-aware backups of virtual machines, integrated with Windows Server Backup or third-party tools.
5. **File History:**  Manages file versioning and restores previous versions of files (primarily for client editions but available in servers).
6. **ReFS:** Provides data integrity and repair features for volumes formatted with ReFS.

**37.** How do you configure Windows Server Backup to back up critical data? **Ans.** To configure Windows Server Backup for backing up critical data:

1. Install Windows Server Backup:
   * Open Server Manager > Manage > Add Roles and Features, then select Windows Server Backup and install it.
2. Open Windows Server Backup:
   * Launch Windows Server Backup from Server Manager > Tools > Windows Server Backup.
3. Create a Backup Schedule:
   * Click Backup Schedule and follow the wizard to choose Full Server or Custom backup.
   * Select critical data or volumes to include in the backup.
4. Set Backup Schedule and Destination:
   * Specify backup frequency, time, and destination (local disk, network share).
   * Review and confirm the settings to complete the configuration.

38. Explain the steps for restoring files and folders using Windows Server Backup. Ans. To restore files and folders using Windows Server Backup, follow these steps: 1.Open Windows Server Backup:  Launch Windows Server Backup from Server Manager > Tools > Windows Server Backup.

2.Select Recover Option:  In Windows Server Backup, click Recover in the right pane.

3.Choose Recovery Point:  Select the location where the backup is stored (e.g., local disk or network location).  Choose the backup date and time that contains the files or folders you want to restore.

4.Select Recovery Type:  Choose Files and Folders to restore specific items.  Click Next and then browse or search for the files or folders you want to recover.

5.Specify Restore Location:  Select whether to restore to the original location or a different location.  Click Next to proceed.

6.Review and Start Recovery:  Review the recovery settings and click Recover to start the process.  Once the restoration is complete, check the specified location to verify that the files or folders have been restored.

**39.** What are some common troubleshooting techniques for Windows Server startup issues? **Ans.** For troubleshooting Windows Server startup issues, consider these common techniques: 1.Check Boot Configuration:  Use Startup Repair from Advanced Startup Options or boot from installation media to fix boot configuration problems.

2.Review Event Logs:  Access the Event Viewer to check for error messages related to startup issues.

3.Use Safe Mode:  Boot into Safe Mode to diagnose and resolve issues caused by drivers or software.

4.Perform System Restore:  Use System Restore from Advanced Startup Options to revert to a previous stable state.

5Run Hardware Diagnostics:  Test hardware components (e.g., RAM, hard drives) to identify any physical issues.

6.Check Disk Integrity:  Use CHKDSK to scan and repair disk errors. Run chkdsk /f /r from Command Prompt in recovery mode.

7.Examine Boot Logs:  Review boot logs (bootlog.txt) for detailed information about startup processes and failures.

8.Update Drivers and Firmware:  Ensure all drivers and firmware are up-to-date to avoid compatibility issues.

9.Rebuild BCD:  Use Bootrec.exe to rebuild the Boot Configuration Data (BCD) by running bootrec /rebuildbcd from Command Prompt in recovery mode.

10.Check for Recent Changes:  Undo recent changes such as software installations or updates that might have caused the issue.

**40.** How do you troubleshoot network connectivity problems in Windows Server? **Ans.** To troubleshoot network connectivity problems in Windows Server, follow these steps:

1.Check Physical Connections:  Ensure all network cables are securely connected and verify the status of network hardware (switches, routers).

2.Verify IP Configuration:  Use ipconfig to check the server’s IP address, subnet mask, and default gateway. Ensure they are correctly configured.

3.Ping Test:  Use ping to test connectivity to other devices on the network. For example, ping 8.8.8.8 to check internet connectivity or ping [server name] to check local network connectivity.

4.Check DNS Resolution:  Use nslookup to verify DNS resolution. Ensure that DNS servers are reachable and correctly configured.

5.Test Network Ports:  Use telnet [hostname] [port] or Test-NetConnection to test connectivity to specific network ports.

6.Review Network Adapter Settings:  Check Network and Sharing Center for correct network adapter settings and ensure the network adapter is enabled.

7.Check Firewall Settings:  Verify that Windows Firewall or any other security software is not blocking network traffic. Check inbound and outbound rules.

8.Review Event Logs:  Check Event Viewer for any network-related error messages or warnings.

9.Reset TCP/IP Stack:  Use netsh int ip reset to reset the TCP/IP stack and fix potential stack corruption issues.

10.Update Network Drivers:  Ensure that network adapter drivers are up-to-date. Update or reinstall drivers if necessary.

**41.** Discuss common Active Directory-related issues and their troubleshooting steps. **Ans.** Common Active Directory issues and their troubleshooting steps:

1.Replication Failures: Use repadmin /replsummary to check replication health and dcdiag /v for diagnostics.

2.Authentication Issues: Verify time synchronization and Kerberos service status. Use kerbtray for ticket issues.

3.DNS Issues: Check DNS settings and zones with nslookup and review related Event Viewer logs.

4.Group Policy Problems: Run gpresult /r and gpupdate /force to check and force policy updates.

5.User Account Issues: Verify account status and permissions in Active Directory Users and Computers and reset passwords if needed.

42. Explain how to troubleshoot performance problems on Windows Server 2016 or 2019. Ans. To troubleshoot performance problems on Windows Server 2016 or 2019:

1. Monitor Resource Usage: Use Task Manager or Performance Monitor to check CPU, memory, and disk usage.
2. Review Event Logs: Check Event Viewer for warnings or errors that might indicate performance issues.
3. Run Performance Diagnostics: Use Performance Monitor to identify bottlenecks and resource-intensive processes.
4. Check Disk Health: Use chkdsk to scan for disk errors and ensure proper disk performance.
5. Update Drivers: Ensure all hardware drivers are up-to-date for optimal performance.
6. Review and Optimize Services: Check for unnecessary services or processes and disable or optimize them as needed.