Module: 14-Identity with Windows Server

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

- Installation Process:

1. Open Server Manager: Launch Server Manager from the Start menu.
2. Add Roles and Features:
    - Click on "Add Roles and Features".
    - Proceed through the wizard until you reach the "Server Roles" section
    - Check the box next to Hyper-V.
    - A prompt may appear to install required features; click “Add Features”.
3. Configure Networking
4. Virtual Machine Migration
5. Confirmation and Installation:.

    Configuration Process:

    Open Hyper-V Manager

    Create Virtual Switch:

- In the Hyper-V Manager, click on "Virtual Switch Manager".
- Create a new virtual switch to connect your VMs to the network.

    Create a Virtual Machine:

- Right-click on your host in Hyper-V Manager, then select "New" > "Virtual Machine".
- Follow the wizard to configure VM settings (name, memory, CPU, network, etc.).

    Install Operating System:

- Connect an ISO file or physical disk to the VM and start it to begin the OS installation.

    Configure VM Settings: Adjust settings such as snapshots, resource allocation, and integration services based on your requirements.

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

Monitoring Server Performance:

1. Performance Monitor:
    - Open Performance Monitor (perfmon) from the Start menu.
    - Use built-in counters to monitor CPU, memory, disk, and network performance.
    - Create custom data collector sets for specific metrics.
2. Resource Monitor:

    - Access Resource Monitor through Task Manager or by typing `resmon` in the Run dialog.
    - Monitor CPU, memory, disk, and network usage in real-time.
3. Task Manager:
    - Open Task Manager (Ctrl + Shift + Esc) for an overview of processes, performance, and resource usage.

Managing Event Logs:

1. Event Viewer:
    - Open Event Viewer from the Start menu.
    - Use it to review system, application, and security logs.
2. Filtering and Custom Views:
    - Create custom views to filter logs based on criteria (e.g., specific event IDs or sources).
3. Exporting Logs:
    - Right-click on logs to export them for analysis or backup.
4. Configuring Log Settings:
    - Set retention policies and maximum log sizes by right-clicking on the log and selecting "Properties".
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33. Describe the different types of storage options available in Windows Server.
    - Direct- attached storage (DAS)
    - Network- attached storage (NAS)
    - Storage area network (SAN)
    - Hybrid storage

34. What is the role of File Server in Windows Server, and how do you configure it?
    - Role of file server
      File sharing
      Access control
      Data management

Configuration Steps:

1. Install the File Server Role:
    - Open Server Manager, click on "Add Roles and Features".
    - In the wizard, select "File and Storage Services" and then "File Server".
2. Create Shared Folders:
    - In Server Manager, go to "File and Storage Services" > "Shares".
    - Click "Tasks" > "New Share" and follow the wizard to create a shared folder.
3. Set Permissions:
    - Right-click the shared folder and select "Properties".
    - Go to the "Sharing" tab, click on "Advanced Sharing", and set permissions.
4. Configure Access Control:
    - Use NTFS permissions on the folder to further control access.
5. Enable Offline Files (if needed):

    - Right-click on the share in the File Explorer, select "Always available offline" for users to access files when disconnected.

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

Implementation Steps:

1. Install DFS Role:
    - In Server Manager, go to "Add Roles and Features".
    - Select "File and Storage Services" > "DFS Namespaces" and "DFS Replication".
2. Create DFS Namespace:
    - Open the DFS Management console.
    - Right-click on "Namespaces" and choose "New Namespace".
    - Specify the server and configure the namespace settings (e.g., domain-based or standalone).
3. Add Folders to Namespace:
    - After creating the namespace, right-click on it and choose "New Folder".
    - Specify the target folder paths for replication or linking.
4. Configure DFS Replication (if required):
    - In DFS Management, right-click on "Replication" and select "New Replication Group".
    - Follow the wizard to add folders and configure replication settings.

Management:

- Monitor DFS health using DFS Management and Event Viewer.
- Use PowerShell for bulk operations and reporting.

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

Windows Server Backup:

- A feature that allows scheduling and management of backups of the entire server or specific files and folders.
- Supports full, incremental, and differential backups.

System State Backup:

- Backs up critical system components such as Active Directory, registry, and system files.

Bare Metal Recovery:

- Allows you to recover a server to a previous state or different hardware.

Volume Shadow Copy Service (VSS):

- Enables backup of files even when they are in use.

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

    - Open Server Manager, go to "Add Roles and Features".
    - Select "Features" and check "Windows Server Backup".

    Open Windows Server Backup:

    - Launch it from the Tools menu in Server Manager.

    Create a Backup Schedule:

    - In Windows Server Backup, select "Backup Schedule".
    - Choose "Custom" or "Full Server" and configure the schedule, backup destination (local or remote), and type of backup.

    Select Items to Back Up:

    - Specify critical data, such as files, folders, or system state.

    Finish the Wizard and confirm the schedule.
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38. Explain the steps for restoring files and folders using Windows Server Backup.

Restore Steps:

1. Open Windows Server Backup:
    - Launch from the Server Manager Tools menu.
2. Select Recovery:
    - Click on "Recover" from the right-hand actions pane.
3. Choose Backup Location:
    - Select the location of the backup (local disk or remote share).
4. Select Backup Date:
    - Choose the date of the backup containing the files you want to restore.
5. Select Items to Restore:
    - Browse through the backup to locate and select specific files or folders.
6. Specify Restore Options:
    - Choose to restore to the original location or an alternate location.
7. Complete the Recovery Wizard

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

- Check Event Viewer:
    - Look for errors in the System and Application logs.
- Boot in Safe Mode:
    - Use Safe Mode to isolate the issue. This loads minimal drivers.
- Use Last Known Good Configuration:
    - Restart and select this option from the boot menu to restore previous settings.

- Run Startup Repair:
    - Use Windows installation media to access repair options and run Startup Repair.
- Check Hardware Connections:
    - Ensure all physical connections are secure.
- Review BIOS Settings:
    - Check for misconfigured settings, especially boot order.

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

    - Use the `ping` command to check connectivity to other devices.

    Check IP Configuration:

    - Use `ipconfig` to ensure the server has the correct IP address and subnet mask.

    Network Adapter Status:

    - Check the status of the network adapter in Device Manager.

    Firewall Settings:

    - Ensure Windows Firewall or other firewalls are not blocking traffic.

    DNS Configuration:

    - Use `nslookup` to verify DNS resolution. Check DNS server settings if issues arise.

    Review Network Logs:

    - Check Event Viewer for any network-related errors.
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41. Discuss common Active Directory-related issues and their troubleshooting steps.
    Replication Issues:

    - Use `repadmin /replsummary` to check the status of replication.
    - Ensure that DNS is functioning correctly as it's critical for AD replication.

    Account Lockouts:

    - Use the Event Viewer to trace lockout events. Identify the source of the lockout.

    Group Policy Issues:

    - Use `gpresult /h` to generate a report and check applied GPOs.
    - Review GPO links and permissions.

    User Logon Problems:

- Verify user credentials, account status, and group memberships.
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42. Explain how to troubleshoot performance problems on Windows Server 2016 or 2019.
    Resource Monitor:

    - Open Resource Monitor to analyze CPU, memory, disk, and network usage.

    Performance Monitor:

    - Set up counters to identify performance bottlenecks over time.

    Task Manager:

    - Use Task Manager to identify any resource-heavy processes.

    Event Viewer:

    - Look for warnings or errors that could indicate performance issues.

    Check Disk Health:

    - Use `chkdsk` to identify and fix disk-related issues.

    Review Running Services:

    - Disable unnecessary services that might be consuming resources.

    Update Drivers:

    - Ensure all hardware drivers, especially for network and disk, are updated.

    Review Scheduled Tasks:

    - Identify any tasks that may be consuming excessive resources during peak hours.
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