Windows Server Basics & Amp; Installation

1. **What two options are provided in the type of installation window during Windows Server 2016 installation?**
   During the installation of Windows Server 2016, you are presented with two primary options:

- **Windows Server 2016 (Server Core):** This is the default and recommended option. It installs a minimal version of Windows Server without a graphical user interface (GUI). Management is performed via Windows PowerShell or other remote management tools.Microsoft Learn

- **Windows Server 2016 (Desktop Experience):** This option includes the full GUI, providing a familiar Windows desktop environment. It's useful when applications require a GUI or for administrators who prefer a traditional interface. Microsoft Learn

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2. Write the step How to configure server step by step?

Configuring a Windows Server 2016 involves several steps:

1. **Initial Setup:**

   o Set the server's hostname.

   o Assign a static IP address.

   o Configure DNS settings.

2. **Install Roles and Features:**

   o Use Server Manager to add roles such as Active Directory Domain Services (AD DS), DNS, DHCP, etc.

3. **Promote to Domain Controller (if applicable):**

   o Run the Active Directory Domain Services Configuration Wizard to promote the server to a domain controller.

4. **Configure Group Policy:**

   o Set up Group Policy Objects (GPOs) to manage user and computer settings.Varonis

5. **Create Organizational Units (OUs):**

   o Organize users, groups, and computers into OUs for better management and delegation.Varonis

6. **Delegate Administrative Control:**

   o Assign administrative permissions to specific users or groups within OUs.

7. **Set Up File and Print Services:**

   o Configure shared folders and printers as needed.

8. **Implement Security Measures:**

o   Apply security policies, configure firewalls, and ensure regular backups.

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3. What are the Pre installation tasks?

Before installing Windows Server 2016, consider the following:

- **Hardware Requirements:**

    o   Ensure the server meets the minimum hardware specifications.

- **Network Configuration:**

    o   Plan IP addressing, DNS, and DHCP settings.

- **Backup Existing Data:**

    o   If upgrading or replacing an existing server, back up all critical data.

- **Choose Installation Type:**

    o   Decide between Server Core and Desktop Experience based on your needs.Microsoft Learn

- **Prepare Installation Media:**

    o   Obtain the Windows Server 2016 installation media and ensure it's bootable.

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4. What are the Post installation tasks?

After installing Windows Server 2016:

- **Activate Windows:**

    o   Enter the product key and activate the operating system.

- **Install Updates:**

    o   Run Windows Update to apply the latest patches and security updates.

- **Configure Time Zone:**

    o   Set the correct time zone and synchronize with an NTP server.

- **Install Additional Roles and Features:**

    o   Add roles like DNS, DHCP, or File Services as required.

- **Configure Security Settings:**

    o   Set up Windows Firewall, configure antivirus, and apply security policies.

- **Create User Accounts:**

    o   Set up administrative and user accounts.

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5. What is the standard upgrade path for Windows Server?

The standard upgrade path for Windows Server involves:

- **In-Place Upgrade:**

  o Upgrade from one version of Windows Server to a newer version (e.g., from Windows Server 2012 R2 to 2016).

- **Migration:**

  o Move roles and services to a new server running the desired version.

- **Fresh Installation:**

  o Install the new version on a clean server and manually configure roles and services.

Always ensure to back up data before performing any upgrade or migration.

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6. What is the Physical structure of AD?

The physical structure of Active Directory includes:

- **Domain Controllers (DCs):**

  o Servers that hold a copy of the Active Directory database and handle authentication requests.en.wikipedia.org

- **Sites:**

  o Defined by IP subnets to represent physical locations, helping in replication and logon traffic management.en.wikipedia.org

- **Replications:**

  o DCs replicate data to ensure consistency across the network.

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7. What is the Logical components of Active Directory?

The logical structure of Active Directory includes:

- **Forest:**

  o The top-level container that holds one or more domains.

- **Domain:**

  o A logical grouping of objects sharing a common directory database.en.wikipedia.org

- **Organizational Units (OUs):**

  o Containers within a domain used to organize objects and delegate administrative control.

- **Objects:**

  o Entities like users, groups, and computers within the directory.

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8. What is the Full form Of LDAP?

LDAP stands for **Lightweight Directory Access Protocol**.

9. What is the location of the AD database?

The Active Directory database is located at:en.wikipedia.org

- **Path:** %SystemRoot%\NTDS\ntds.dit

This file contains all the directory data and is stored on domain controllers.

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10. What is a Child Domain Controller (DC)?

A **Child Domain Controller** is a domain controller that exists within a child domain, which is part of a larger Active Directory forest. Child domains are typically used to represent different geographical locations, departments, or organizational units within a company. They inherit the schema and configuration of the parent domain but maintain their own domain-specific data and policies.

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11. Explain the Term 'Forest' in Active Directory

In Active Directory, a **forest** is the top-level container that holds one or more domains. It provides a security boundary and defines the scope for replication, schema, and configuration. All domains within a forest share a common schema and global catalog, and trust relationships are automatically established between them. A forest can contain multiple trees, each representing a contiguous namespace. Wikipedia

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12. What is Active Directory? Check All That Apply

- **An open-source directory server:** ❌ No

- **A Windows-only implementation of a directory server:** ❌ No

- **Microsoft's implementation of a directory server:** ✅ Yes

- **An LDAP-compatible directory server:** ✅ Yes

Active Directory is Microsoft's proprietary directory service implemented in Windows Server. It is compatible with the Lightweight Directory Access Protocol (LDAP) and is not open-source.

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13. When You Create an Active Directory Domain, What's the Name of the Default User Account?

- **Superuser:** ❌ No

- **Root:** ❌ No

- **Username:** ❌ No

- **Administrator:** ✅ Yes

The default user account created in a new Active Directory domain is named **Administrator**.

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14. Active Directory Domain Provides Which of the Following Advantages? Check All That Apply

- **Centralized authentication:** ✅ Yes

- **More detailed logging:** ✅ Yes

- **Centralized management with GPOs:** ✅ Yes

- **Better performance:** ❌ No

Active Directory offers centralized authentication, detailed logging, and centralized management through Group Policy Objects (GPOs). However, performance improvements are not inherently provided by AD; performance depends on various factors such as hardware and network infrastructure.

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15. What Are the Minimum Hardware Requirements for Installing Windows Server 2016?

The minimum hardware requirements for Windows Server 2016 are:

- **Processor:** 1.4 GHz 64-bit processor

- **RAM:** 512 MB (2 GB for Server with Desktop Experience)

- **Disk Space:** 32 GB

- **Network Adapter:** Ethernet adapter capable of at least gigabit throughput

- **Graphics:** Super VGA (1024 x 768) or higher-resolution monitor

These are the minimum requirements; actual performance may require higher specifications.

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16. Explain the Different Editions of Windows Server 2016 and Their Features

Windows Server 2016 is available in several editions, each tailored for different use cases:

- **Datacenter Edition:** Designed for highly virtualized data centers and cloud environments. It includes all features and supports unlimited virtual instances.

- **Standard Edition:** Suitable for physical or minimally virtualized environments. It includes most features but supports up to two virtual instances.

- **Essentials Edition:** Targeted at small businesses with up to 25 users and 50 devices. It has a simplified interface and limited features.

- **Multipoint Premium Server:** Designed for classroom or training environments, allowing multiple users to connect to a single server.

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17. Walk Through the Steps of Installing Windows Server 2016 Using GUI Mode

1. **Boot from Installation Media:** Insert the installation DVD or USB drive and boot the server.

2. **Select Language and Preferences:** Choose the language, time, and keyboard preferences.

3. **Install Now:** Click "Install now" to begin the installation process.

4. **Enter Product Key:** Provide the product key when prompted.

5. **Select Edition:** Choose the desired edition (e.g., Standard or Datacenter).

6. **Accept License Terms:** Read and accept the license terms.

7. **Choose Installation Type:** Select "Custom: Install Windows only (advanced)".

8. **Select Partition:** Choose the partition where Windows will be installed.

9. **Begin Installation:** The installation process will begin, and the server will restart several times.

10. **Configure Initial Settings:** Set the administrator password and configure other initial settings.

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18. Describe the Steps for Installing Windows Server 2016 in Server Core Mode

1. **Boot from Installation Media:** Insert the installation DVD or USB drive and boot the server.

2. **Select Language and Preferences:** Choose the language, time, and keyboard preferences.

3. **Install Now:** Click "Install now" to begin the installation process.

4. **Enter Product Key:** Provide the product key when prompted.

5. **Select Edition:** Choose the desired edition (e.g., Standard or Datacenter).

6. **Select Installation Type:** Choose "Windows Server 2016 Server Core".

7. **Accept License Terms:** Read and accept the license terms.

8. **Choose Installation Location:** Select the partition where Windows will be installed.

9. **Begin Installation:** The installation process will begin, and the server will restart.

10. **Configure Initial Settings:** After installation, use PowerShell or command-line tools to configure the server.

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19. Discuss the steps involved in upgrading from a previous version of Windows Server to Windows Server 2016.

Upgrading from a previous version (e.g., 2012 R2):

1. **Check Compatibility:**

   o Verify that your current server version supports an in-place upgrade.

   o Supported direct upgrades: Windows Server 2012 and 2012 R2 → Windows Server 2016.

2. **Backup Your Server:**

   o Back up system state, applications, and data before starting.

3. **Check Hardware Requirements:**

o   Ensure the server meets the minimum hardware requirements for Windows Server 2016.

4. **Update Drivers and Firmware:**

    o   Install the latest updates and drivers for your server hardware.

5. **Run the Windows Server 2016 Setup:**

    o   Boot into the OS, insert the Server 2016 installation media, and launch setup.exe.

6. **Choose "Upgrade":**

    o   Select the option to upgrade while keeping files, settings, and apps.

7. **Follow the Wizard:**

    o   Complete installation through the GUI wizard.

8. **Post-Upgrade Tasks:**

    o   Reactivate Windows, update drivers if needed, and check for system updates.

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20. What is Active Directory Domain Services (AD DS), and what are its key components?

AD DS is the core service of Active Directory that enables centralized domain management.

Key components include:

- **Domain Controllers (DCs):** Servers that store a copy of the Active Directory database.

- **Forest:** The top-level container that contains domains.

- **Domain:** A logical grouping of network objects (users, computers, etc.).

- **Organizational Units (OUs):** Sub-divisions of domains for grouping objects.

- **Global Catalog:** Stores searchable, partial data from all objects in the forest.

- **Replication:** Keeps directory data synchronized across DCs.

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21. How do you create a new Active Directory user account in Windows Server ?

1. **Open Server Manager → Tools → Active Directory Users and Computers.**

2. **Navigate to your domain → right-click on the desired OU → New → User.**

3. **Enter User Information:** First name, last name, user logon name.

4. **Set Password:** Assign a password and configure password options (e.g., must change on next logon).

5. **Finish:** Click *Next* and then *Finish* to create the user.

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22. Explain the process of creating and managing Group Policy Objects (GPOs) in Windows Server 2016 or 2019.

To create a GPO:

1. **Open Group Policy Management (GPMC):**

   o Found under *Server Manager → Tools*.

2. **Create a GPO:**

   o Right-click the domain or OU → *Create a GPO in this domain* → Name it.

3. **Edit GPO:**

   o Right-click the new GPO → *Edit* → This opens the Group Policy Management Editor.

   o Configure settings under *User Configuration* or *Computer Configuration*.

4. **Link the GPO:**

   o Link it to a domain or OU where you want it applied.

5. **Force Update (Optional):**

   o Run gpupdate /force on client machines or wait for automatic refresh.

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23. What are Organizational Units (OUs) in Active Directory, and how do you use them?

- **OUs** are containers within a domain used to group objects like users, computers, and groups.

- They provide:

   o **Delegation of control**: Assign admin rights to manage just that OU.

   o **Group Policy application**: Apply specific GPOs to specific users/computers.

   o **Better organization**: Structure directory based on department, location, etc.

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24. Describe the process of delegating administrative privileges in Active Directory.

To delegate control:

1. **Open Active Directory Users and Computers.**

2. **Right-click the OU where you want to delegate control → Select *Delegate Control…***

3. **Delegation of Control Wizard opens:**

   o Click *Next*, then *Add* the user or group you want to delegate rights to.

4. **Choose Tasks to Delegate:**

   o Examples: Reset passwords, create/delete user accounts, manage group memberships.

5. **Finish the Wizard:**

   o The selected user or group now has the delegated permissions for that OU.