Module 12: Installation, Storage, and Compute with Windows Server

1. What two options are provided in the type of installation window during Windows Server 2016 installation?

ANS.

1. **Windows Server 2016 Standard**
2. **Windows Server 2016 Datacenter**

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

ANS.

**Log in** as Administrator.

**Set static IP** in *Network Settings*.

**Rename server** in *Server Manager* > *Local Server*.

**Enable Windows Update** in *Settings* > *Update & Security*.

**Configure Firewall** rules as needed.

**Install roles/features** via *Server Manager* > *Add Roles and Features*.

**Set time zone** in *Date and Time* settings.

**Create users/groups** in *Active Directory*.

**Enable Remote Desktop** in *Server Manager* > *Local Server*.

**Configure backups** using *Windows Server Backup*.

1. What are the Pre installation tasks?

ANS.

1. **Check hardware requirements**: Ensure the server meets the minimum system specifications (CPU, RAM, storage).
2. **Backup data**: Back up important data before installation.
3. **Select installation type**: Choose between Server Core or Desktop Experience.
4. **Prepare installation media**: Create a bootable USB/DVD or mount an ISO file.
5. **Set up network**: Plan IP addressing and ensure network connectivity.
6. **Choose server edition**: Decide on Standard or Datacenter edition based on needs.
7. **Ensure licensing**: Have product keys ready for activation.
8. **Plan roles and features**: Identify required roles like Active Directory, DNS, etc.
9. **Prepare for partitioning**: Plan disk partitions for OS and data storage.

4. What are the Post installation tasks?

ANS.

**Set a static IP address** for the server.

**Rename the server** to a meaningful name.

**Join the server to a domain** if applicable.

**Activate Windows Server** using the product key.

**Install Windows Updates** and security patches.

**Install roles and features** via *Server Manager* (e.g., DNS, Active Directory).

**Configure Windows Firewall** and open necessary ports.

**Set up Remote Desktop** for remote management.

**Create user accounts and groups** in Active Directory (if needed).

**Configure backups** and system recovery options.

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

ANS.

**Upgrade within the same edition** (e.g., 2012/2012 R2 → 2016, 2016 → 2019, 2019 → 2022).

**In-place upgrade** using installation media, preserving roles and settings.

**Ensure hardware compatibility** and back up data before upgrading.

6. What is the Physical structure of AD?

ANS.

1. **Domain Controllers (DCs)**: Servers that store the AD database and manage authentication and authorization.
2. **Sites**: Represent physical locations that control replication traffic and optimize network performance.
3. **Replicas**: Copies of the AD database stored on multiple domain controllers for fault tolerance.
4. **Global Catalog (GC)**: A distributed database that stores a partial replica of all objects in the forest for faster searching.

7. What is the Logical components of Active Directory?

ANS.

**Domains**: A logical grouping of objects (users, computers) that share a common directory database.

**Organizational Units (OUs)**: Containers within a domain used to organize objects for easier management and delegation.

**Trees**: A collection of one or more domains that share a contiguous namespace.

**Forests**: The highest-level container that holds one or more trees, with a shared schema and global catalog.

**Groups**: Collections of users or computers used for assigning permissions and access rights.

**Trusts**: Relationships between domains or forests that allow users to access resources across boundaries.

8. What is the Full form Of LDAP?

ANS. **Lightweight Directory Access Protocol**.

9. What is the location of the AD database?

ANS. **C:\Windows\NTDS\ntds.dit**.

10. What is child DC?

ANS. A **Child Domain Controller (Child DC)** is a domain controller in a child domain, which is part of a larger Active Directory forest. It replicates data from the parent domain controller and manages authentication and directory services for its own domain.

11. Explain the term forest in AD

ANS. In Active Directory, a **forest** is the top-level container that holds one or more domains. It shares a common schema, configuration, and global catalog, and is the security boundary for the directory. Domains within a forest can trust each other and share resources.Top of Form

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12. What is Active Directory? Check all that apply.

● An open-source directory server

**● A Windows-only implementation of a directory server**

**● Microsoft's implementation of a directory server**

**● An LDAP-compatible directory server**

13. When you create an Active Directory domain, what's the name of the default user account?

● Superuser

● Root

● Username

● **Administrator**

14. AD domain provides which of the following advantages? Check all that apply.

**● Centralized authentication**

**● More detailed logging**

**● Centralized management with GPOs**

● Better performance

15. What are the minimum hardware requirements for installing Windows Server 2016?

ANS.

1. **Processor**: 1.4 GHz 64-bit processor.
2. **RAM**: 512 MB (2 GB for the Server with Desktop Experience installation).
3. **Hard Disk Space**: 32 GB or more.
4. **Network Adapter**: Gigabit (10/100/1000base-T) Ethernet adapter.
5. **DVD Drive**: Required if installing from DVD media.
6. **Display**: Super VGA (1024 x 768) or higher resolution monitor.

16. Explain the different editions of Windows Server 2016 and their features.

ANS.

**Datacenter**: Full feature set, ideal for highly virtualized environments, unlimited VMs.

**Standard**: Core features, limited to 2 VMs, suitable for smaller environments.

**Essentials**: For small businesses (up to 25 users), simplified management, no virtualization.

**Web**: Lightweight, for web hosting with basic features.

**Nano Server**: Minimal, headless version for cloud and container use.

17. Walk through the steps of installing Windows Server 2016 using GUI mode.

ANS.

**Insert Installation Media**: Boot the server from a USB/DVD containing Windows Server 2016 installation media.

**Select Language and Region**: Choose language, time, and keyboard preferences, then click *Next*.

**Start Installation**: Click *Install Now* to begin the installation process.

**Enter Product Key**: Provide the Windows Server 2016 product key (or choose *Skip* if you're evaluating).

**Select Edition**: Choose the desired edition (Standard, Datacenter, etc.) and click *Next*.

**Accept License Terms**: Read and accept the license agreement, then click *Next*.

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

**Select Partition**: Choose a partition or create a new one, then click *Next*.

**Wait for Installation**: The system will copy files, expand them, and install features. The server will reboot during this process.

16. Describe the steps for installing Windows Server 2016 in Server Core mode.

ANS.

**Insert Installation Media**: Boot from a USB/DVD with Windows Server 2016 installation media.

**Select Language and Region**: Choose language, time, and keyboard settings, then click *Next*.

**Start Installation**: Click *Install Now*.

**Enter Product Key**: Enter the product key or click *Skip* for evaluation.

**Select Edition**: Choose the desired edition (Standard or Datacenter), and ensure you select the "Server Core" version (no GUI), then click *Next*.

**Accept License Terms**: Read and accept the license agreement, then click *Next*.

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

**Select Partition**: Choose or create a partition, then click *Next*.

**Wait for Installation**: The server will copy files and install, rebooting during the process.

**Set Administrator Password**: Once installed, set the Administrator password.

**Complete Setup**: After reboot, log in with the Administrator account.

17. How do you configure network settings during Windows Server 2016 installation?

ANS.

1. **Start the Installation**: Boot from installation media.
2. **Access Command Prompt**: Press **Shift + F10** to open a command prompt.
3. **Run sconfig**: Type sconfig and press Enter.
4. **Configure Network**:
   * Select **8** for *Network Settings*.
   * Choose the network adapter.
   * Set IP configuration (Static or DHCP).
5. **Exit**: After configuring, exit and continue the installation process.

18. Explain the process of promoting a Windows Server to a domain controller.

ANS.

**Install Active Directory Domain Services (AD DS)**:

* Open *Server Manager*, click *Manage*, then *Add Roles and Features*.
* Select **Active Directory Domain Services** and complete the installation.

**Promote Server to Domain Controller**:

* After installation, click the **notification flag** in *Server Manager* and select *Promote this server to a domain controller*.

**Choose Deployment Configuration**:

* Select either *Add a domain controller to an existing domain* or *Create a new domain* (if setting up a new forest).

**Configure Domain Controller Options**:

* Set the Domain name, forest functional level, and DNS options.
* Set the Directory Services Restore Mode (DSRM) password.

**Install and Reboot**:

* Review the settings and click *Next* to install. The server will automatically reboot to complete the promotion process.

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

ANS.

**Check Compatibility**: Verify hardware and application compatibility with Windows Server 2016.

**Backup Data**: Perform a full backup of the system and important data.

**Prepare for Upgrade**: Ensure the server is running the latest updates for the current version of Windows Server.

**Insert Installation Media**: Insert the Windows Server 2016 installation media (USB/DVD).

**Run Setup**: Launch the setup from the media and select *Upgrade* when prompted.

**Choose Upgrade Options**: Select the edition and confirm the upgrade path.

**Accept License Terms**: Agree to the license terms.

**Follow the Wizard**: Complete the installation steps, and the server will upgrade automatically.

**Reboot and Finalize**: After the upgrade, the server will reboot, and Windows Server 2016 will be installed.

**Verify and Configure**: Check settings, drivers, and applications after the upgrade.

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

ANS.

**Active Directory Domain Services (AD DS)** is a core service in Windows Server that provides centralized management of users, computers, and other resources in a network. It authenticates and authorizes users, stores directory data, and ensures network security.

**Key components of AD DS**:

1. **Domain Controllers (DCs)**: Servers that store the AD database and handle authentication and authorization.
2. **Domains**: Logical groupings of objects (users, computers) sharing a common directory database.
3. **Organizational Units (OUs)**: Containers within a domain for organizing objects.
4. **Global Catalog (GC)**: A distributed database that stores a partial replica of all objects for faster searching.
5. **Sites**: Define physical locations for optimizing replication and network traffic.
6. **Trusts**: Relationships that enable resource sharing across domains and forests.

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

ANS.

**Open Active Directory Users and Computers**: In *Server Manager*, go to *Tools* > *Active Directory Users and Computers*.

**Select OU**: In the left pane, navigate to the Organizational Unit (OU) where you want to create the user.

**Create User**: Right-click the OU, select *New* > *User*.

**Enter User Information**: Fill in the user’s first name, last name, username, and click *Next*.

**Set Password**: Enter a password for the user, and choose password options (e.g., *User must change password at next logon*).

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

ANS.

To create and manage GPOs in Windows Server 2016/2019:

1. **Open GPMC**: Go to *Server Manager* > *Group Policy Management*.
2. **Create GPO**: Right-click *Group Policy Objects*, select *New*, name the GPO.
3. **Edit GPO**: Right-click the GPO, select *Edit*, configure settings.
4. **Link GPO**: Right-click domain/OU, select *Link an Existing GPO*, and apply.
5. **Manage**: Modify settings in *GPMC* and use gpupdate /force to apply changes.

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

ANS.

**Organizational Units (OUs)** in Active Directory are containers within a domain used to organize and manage objects (users, groups, computers, etc.) for easier administration.

**Usage**:

1. **Organize Resources**: Group objects logically by department, location, or function.
2. **Delegate Control**: Assign specific administrative tasks to users or groups for an OU without giving full domain permissions.
3. **Apply Group Policies**: Link Group Policy Objects (GPOs) to OUs to enforce policies on specific objects within them.
4. **Simplify Management**: Streamline management and delegation by segmenting the AD structure into smaller, manageable units.

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

ANS.

1. **Open Active Directory Users and Computers**: In *Server Manager*, go to *Tools* > *Active Directory Users and Computers*.
2. **Select OU**: Right-click the Organizational Unit (OU) where you want to delegate permissions.
3. **Delegate Control**: Choose *Delegate Control* from the context menu.
4. **Use the Delegation Wizard**:
   * Click *Next*, then add the user or group you want to delegate control to.
   * Select specific tasks or permissions (e.g., create/manage users, reset passwords).
5. **Finish**: Review the settings and click *Finish* to apply the delegation.

The selected user or group now has the delegated administrative privileges for the chosen OU.