**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:** Windows Server 2016 (Desktop Experience) – Includes a full GUI and tools.

Windows Server 2016 (Server Core) – A minimal installation without a GUI, intended for remote management.

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

**ANS:**

* **Step 1:** Install Windows Server 2016.
* **Step 2:** Set a static IP address.
* **Step 3:** Change the computer name.
* **Step 4:** Configure Windows updates and security settings.
* **Step 5:** Install roles and features as required (e.g., Active Directory, DHCP, DNS).
* **Step 6:** Configure domain settings (if applicable).
* **Step 7:** Set up user accounts and permissions.
* **Step 8:** Test and validate the configuration.

3. What are the Pre installation tasks?

**ANS:**

* Check hardware and software requirements.
* Plan server roles and features.
* Verify network configurations (IP, DNS, domain).
* Back up important data.
* Create a bootable USB/DVD for installation.

4. What are the Post installation tasks?

**ANS:**

* Install Windows updates and drivers.
* Configure firewall and security settings.
* Assign static IP and rename the server.
* Install and configure server roles and features.
* Join the server to a domain (if required).
* Set up user accounts and permissions.

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

**ANS:**

* Windows Server 2012 → Windows Server 2016
* Windows Server 2012 R2 → Windows Server 2016
* Windows Server 2016 → Windows Server 2019
* Windows Server 2019 → Windows Server 2022

6. What is the Physical structure of AD?

**ANS:**

* **Domain Controllers (DCs)** – Store and manage AD data.
* **Sites** – Represent physical locations with fast network connectivity.
* **Subnets** – Define network segments within a site.

7. What is the Logical components of Active Directory?

**ANS:**

* **Forest** – The top-level container with one or more domains.
* **Domain** – A logical group of users, computers, and policies.
* **Organizational Units (OUs)** – Used to organize users and resources.
* **Schema** – Defines objects and attributes in AD.
* **Global Catalog (GC)** – Stores a searchable list of all objects in the forest.

8. What is the Full form Of LDAP?

**ANS:** Lightweight Directory Access Protocol

9. What is the location of the AD database?

**ANS:** The AD database is stored in the **NTDS.dit** file located at:  
 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 a subdomain of a parent domain in an AD forest.

11. Explain the term forest in AD.

**ANS:** A **Forest** is the highest level in an Active Directory hierarchy, consisting of multiple domains that share a common schema, configuration, and Global Catalog.

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

**ANS:**

✅ 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?

**ANS:** When we create an Active Directory domain, the name of the default user account is **Administrator**.

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

**ANS:**

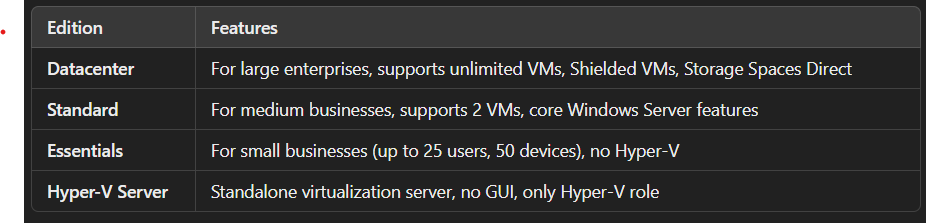
✅ Centralized authentication and authorization  
✅ Group Policy for managing users and devices  
✅ Single sign-on (SSO) for resources  
✅ Scalability for enterprise networks  
✅ Better security and access control

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

**ANS:**

* **Processor:** 1.4 GHz 64-bit processor
* **RAM:** 512 MB (Server Core), 2 GB (GUI version)
* **Storage:** 32 GB minimum
* **Network:** Ethernet adapter (1 Gbps recommended)
* **Other:** UEFI firmware with Secure Boot (for modern deployments)

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

**ANS: **

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

**ANS:**

1. Boot from installation media (USB/DVD).
2. Choose language, time, and keyboard settings, then click Next.
3. Click Install Now.
4. Choose Windows Server 2016 (Desktop Experience) and click Next.
5. Accept the license terms and click Next.
6. Choose Custom Installation (for a fresh install).
7. Select the disk/partition and click Next.
8. Wait for installation to complete and the system to reboot.
9. Set an Administrator password and log in.
10. Configure network settings and install updates.

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

**ANS:**

1. Boot from installation media (USB/DVD).
2. Choose **language, time, and keyboard settings**, then click **Next**.
3. Click **Install Now**.
4. Select **Windows Server 2016 (Server Core)** and click **Next**.
5. Accept the **license agreement**.
6. Choose **Custom installation** and select a disk.
7. Wait for the installation to complete.
8. After reboot, log in using the **Administrator** account.
9. Use **sconfig** to configure networking, domain, firewall, and Windows updates.

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

**ANS**:

* During installation, the network settings are set to DHCP by default.
* After installation, configure network settings via Control Panel (GUI Mode) or sconfig (Server Core)
* Open Network and Sharing Center → Change adapter settings → Right-click adapter → Properties
* Select IPv4 → Click Properties → Assign Static IP, Subnet Mask, Gateway, and DNS
* Apply and save changes

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

**ANS:**

* Open Server Manager → Click Add roles and features.
* Choose Active Directory Domain Services (AD DS) and install it.
* After installation, click Promote this server to a domain controller.
* Select Add a new forest (if creating a new domain) or Add a domain controller to an existing domain.
* Set domain name (e.g., example.com) and configure DSRM password.
* Configure DNS, NetBIOS, and replication settings.
* Click Install and wait for the process to complete.
* The server will reboot and function as a Domain Controller (DC).

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

**ANS:**

* **Check compatibility:** Ensure hardware and software support Windows Server 2016.
* **Backup data:** Create a full backup of the existing system.
* **Insert installation media** (USB/DVD) and run **setup.exe**.
* Choose **Upgrade** (instead of a clean install).
* Follow the wizard, select **Keep files and applications**.
* Wait for the upgrade process to complete.
* Configure post-installation tasks (drivers, updates, network settings).
* Verify functionality and Active Directory replication (if applicable).

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

**ANS:** Active Directory Domain Services (AD DS) is a directory service from Microsoft that stores, organizes, and manages information about network resources (users, computers, groups, policies, etc.). It is a core component of Windows Server Active Directory and enables centralized management, authentication, and authorization in a Windows-based network.

Key Components of AD DS:

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

**ANS:** You can create a new Active Directory (AD) user account using Active Directory Users and Computers (ADUC).

Using ADUC (GUI)

1. Open Server Manager → Click Tools → Select Active Directory Users and Computers (ADUC).
2. Expand your domain and navigate to the Organizational Unit (OU) where you want to create the user.
3. Right-click the OU → Select New → Click User.
4. Enter the user’s First Name, Last Name, and User Logon Name → Click Next.
5. Set a password and configure options like "User must change password at next logon".
6. Click Next → Review details → Click Finish.

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

**ANS:** A GPO is a set of policies that control security settings, user preferences, and system configurations across multiple computers in an Active Directory domain.

**Steps to Create a GPO:**

1. Open Group Policy Management Console (GPMC):
   * In Server Manager, click Tools → Group Policy Management.
2. Expand Forest → Domains → Your domain name.
3. Right-click the Group Policy Objects container → Select New.
4. Enter a name for the GPO (e.g., "Password Policy") → Click OK.
5. Right-click the newly created GPO → Click Edit to open the Group Policy Management Editor.
6. Navigate to Computer Configuration or User Configuration → Configure necessary settings.
7. Click File → Save, then close the editor.

Applying a GPO to an OU or Domain:

1. In Group Policy Management, right-click an OU or Domain → Select Link an Existing GPO.
2. Select the GPO you created and click OK.

Managing GPOs:

* Use gpupdate /force to apply policies immediately.
* Use gpresult /r to check applied policies on a system.

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

**ANS:** What is an Organizational Unit (OU)?

An OU is a container used in Active Directory to organize users, groups, and computers within a domain. It helps in applying Group Policies and delegating administrative control.

How to Create an OU:

1. Open Active Directory Users and Computers (ADUC).
2. Right-click the domain name → Select New → Click Organizational Unit.
3. Enter an OU Name (e.g., "IT Department") → Click OK.
4. Drag and drop users, computers, or groups into the OU.

Uses of OUs:

* Grouping objects for better management.
* Applying GPOs at the OU level.
* Delegating administrative privileges to specific teams

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

**ANS:** Delegation allows assigning limited administrative permissions to specific users or groups in an AD domain.

Steps to Delegate Administrative Control:

1. Open Active Directory Users and Computers (ADUC).
2. Right-click an OU where you want to delegate control → Click Delegate Control.
3. Click Next, then click Add to select the user/group to whom you want to delegate permissions.
4. Click Next and choose the specific tasks to delegate, such as:
   * Reset passwords
   * Manage user accounts
   * Join computers to the domain
   * Modify group memberships
5. Click Next → Review the settings → Click Finish.