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**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?**

* **Server Core Installation:** A minimal installation without a GUI, primarily for advanced users to reduce resource consumption and enhance security.
* **Server with Desktop Experience:** A full installation with a graphical user interface (GUI) for ease of management.

**2. Write the step on how to configure a server step by step:**

1. **Install Windows Server 2016:**
   * Boot from installation media.
   * Choose the installation type (Server Core or Desktop Experience).
   * Follow the prompts to install.
2. **Set a Static IP Address:**
   * Go to the Network and Sharing Center.
   * Configure the IP manually under IPv4 properties.
3. **Rename the Server:**
   * Use System Properties or the PowerShell command **Rename-Computer -NewName "ServerName".**
4. **Join a Domain (Optional):**
   * Under System Properties, add the server to the Active Directory domain.
5. **Enable Remote Desktop:**
   * Navigate to System Settings and enable Remote Desktop.
6. **Install Required Roles and Features:**
   * Use Server Manager or PowerShell to install server roles like DNS, AD DS, or File Services.
7. **Configure Security Settings:**
   * Update firewall rules and configure user permissions.
8. **Apply Updates:**
   * Use Windows Update to install the latest patches and updates.

**3. What are the Pre-installation tasks?**

* **Verify** hardware compatibility with system requirements.
* **Perform** a full system backup of existing data.
* **Create** bootable installation media.
* **Plan** disk partitions and storage setup.
* **Check network** settings and IP addressing schema.
* **Define server roles** (e.g., AD DS, DNS, DHCP).
* **Prepare and validate** a software license.

**4. What are the Post-installation tasks?**

* **Install** the latest Windows updates.
* **Configure** server roles and features as per the planned requirements.
* **Set up** server security (firewall, antivirus, permissions).
* **Validate** network connectivity and join the domain (if applicable).
* **Enable** logging and monitoring tools.
* **Create** system restore points and configure backups.

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

* From Windows Server 2012 R2 or Windows Server 2016, you can directly upgrade to Windows Server 2019 or later versions.
* Perform a compatibility check and follow an in-place upgrade using the appropriate ISO or installation media.

**6. What is the Physical structure of AD?**

* **Domain Controllers (DC):** Servers hosting the Active Directory database.
* **Sites:** Group of IP subnets within an organization, defined for replication efficiency.
* **Global Catalog (GC):** A server that holds a partial, read-only replica of every object in the forest for search optimization.

**7. What are the Logical components of Active Directory?**

* **Domains:** Logical grouping of resources (users, computers, groups).
* **Organizational Units (OUs):** Containers used to organize and manage resources.
* **Forest:** The top-level logical grouping of domains sharing the same schema.
* **Tree:** A hierarchical arrangement of one or more domains.

**8. What is the Full form of LDAP?**

* Lightweight Directory Access Protocol: A protocol used to access and maintain directory information services over a network.

**9. What is the location of the AD database?**

* The Active Directory database is stored in the NTDS.dit file, located in the **C:\Windows\NTDS** directory by default.

**10. What is child DC?**

* A Child Domain Controller is a domain that is part of a parent domain in the same Active Directory forest. It has a separate namespace but shares the schema and global catalog with the parent domain.

**11. Explain the term forest in AD:**

* A Forest is the topmost logical container in Active Directory. It contains one or more domain trees that share a common schema, global catalog, and configuration, but have distinct namespaces.