

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

ANS-The two options provided in the "Select the type of installation" window during Windows Server 2016 installation are:

- (a) Server Core Installation
- (b) Server with a GUI

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

ANS-Here's how to configure a Windows Server 2016 step-by-step in 50 words:

- (a) Install OS (Server Core/GUI).
- (b) Set static IP.
- (c) Rename server, join domain.
- (d) Activate license.
- (e) Update Windows.
- (f) Install roles (e.g., AD DS).
- (g) Configure firewall.
- (h) Set time zone.
- (i) Enable Remote Desktop.
- (j) Secure with strong passwords.

3. What are the Pre installation tasks?

ANS-Pre-installation tasks for Windows Server 2016:

- (a) Verify hardware compatibility (CPU, RAM, storage, network) with Microsoft HCL.
- (b) Check system requirements: 1.4 GHz 64-bit CPU, 512 MB RAM (Core) / 2 GB (GUI), 32 GB disk.
- (c) Backup critical data on target system.
- (d) Download ISO and create bootable media (USB/DVD).
- (e) Plan installation type: Server Core or Server with a GUI.
- (f) Gather network info: IP, subnet, gateway, DNS.
- (g) Obtain product key.
- (h) Configure BIOS/UEFI: Enable virtualization, set boot order.

4. What are the Post installation tasks?

ANS-Post-installation tasks for Windows Server 2016:

- (a) Set computer name and join domain (if needed).
- (b) Configure static IP, subnet mask, gateway, DNS.
- (c) Activate Windows with product key.
- (d) Install latest updates via Windows Update.
- (e) Set correct time zone and sync time.
- (f) Install roles/features (e.g., AD DS, DNS, DHCP) via Server Manager.
- (g) Configure firewall rules for required services.
- (h) Enable Remote Desktop (if GUI/remote access needed).

- (i) Set strong administrator password.
- (j) Install drivers/antivirus and perform initial backup.

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

ANS-Upgrade to Windows Server 2016 only from 2012 or 2012 R2.
Allowed: Standard → Standard/Datacenter; Datacenter → Datacenter.
Same language, same installation type.
Not supported: Skipping versions, Evaluation → Full, Core ↔ GUI during upgrade.
Use clean install or migration for unsupported paths

6. What is the Physical structure of AD?

ANS-Physical Structure of Active Directory (AD):
Active Directory's physical structure consists of:

(a) Domain Controllers (DCs)

. Servers that store AD database (NTDS.DIT) and authenticate users.

(b) Sites

. Logical grouping of well-connected subnets to control replication traffic.

(c) Site Links

. Connections between sites defining replication path and cost.

(d) Global Catalog (GC) Servers

. DCs hosting partial replicas of all domains for forest-wide queries.

(e) Replication Topology

. Automatic KCC-generated connections (intrasite & intersite) using RPC/IP.

7. What is the Logical components of Active Directory?

ANS-Active Directory's logical components organize data hierarchically:

- . Forest: Root container, shared schema, single security boundary.
- . Domain: Security & replication boundary, unique namespace.
- . Domain Tree: Contiguous domains sharing namespace.
- . Organizational Units (OUs): Containers for objects, delegate administration.

- .Objects: Users, groups, computers, GPOs.
- .Schema: Defines object classes/attributes.
- .Partitions: Configuration, Schema, Domain (replicated separately).

8. What is the Full form Of LDAP?

ANS-

LDAP stands for Lightweight Directory Access Protocol.

9. What is the location of the AD database?

ANS-The Active Directory database file is:

NTDS.DIT

Default location:

%SystemRoot%\NTDS\NTDS.DIT
(Usually C:\Windows\NTDS\NTDS.DIT)

Associated files in same folder:

.edb.log, .edb.chk, temp.edb
.SYSVOL (at %SystemRoot%\SYSVOL) stores GPOs and scripts.

10. What is child DC?

ANS-Child Domain Controller (Child DC) is a Domain Controller (DC) in a child domain within an Active Directory forest.

- .It authenticates users and replicates AD data only within its own child domain.
- .Does not hold the full forest schema or configuration.
- .Participates in intrasite and intersite replication with other DCs in the same domain.
- .Example: sales.example.com is a child of example.com → DCs in sales.example.com are Child DCs.

11. Explain the term forest in AD

ANS-Forest in Active Directory (AD):

A forest is the top-level container in Active Directory, representing a complete AD instance.

Key Points:

- .Contains one or more domains (root + child domains).
- .Shares a common schema, configuration, and Global Catalog.
- .Acts as a security boundary – trust between forests must be manually created.
- .All domains in a forest automatically trust each other (transitive trusts).
- .Single point of schema and configuration replication.

Example:

example.com (root) → sales.example.com, hr.example.com (child domains) = one forest.

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

ANS-Correct options (check all that apply):

- A Windows-only implementation of a directory server
- Microsoft's implementation of a directory server
- An LDAP-compatible directory server

Incorrect:

- ✗ An open-source directory server (Active Directory is proprietary, not open-source)

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

account?

- Superuser
- Root
- Username
- Administrator

ANS-Correct answer:

- 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

ANS-Correct answers (check all that apply):

- Centralized authentication
- Centralized management with GPOs

Incorrect:

- ✗ More detailed logging (not a primary benefit of AD)
- ✗ Better performance (AD adds overhead; performance depends on design)

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

ANS-Windows Server 2016 minimum requirements:

- (a)Processor: 1.4 GHz 64-bit (x64), supports NX, DEP, SLAT.
- (b)RAM: 512 MB (Server Core), 2 GB (Desktop Experience).
- (c)Storage: 32 GB available space.
- (d)Network: Gigabit Ethernet, PXE-capable.
- (e)Other: UEFI 2.3.1c with Secure Boot (if enabled), DVD drive (if installing from media), 1024x768 display.
Virtual machines may need extra RAM during setup. Exceeding minimums is recommended for production. (85 words)

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

ANS-Windows Server 2016 Editions (120 words):

- .Essentials: For small businesses (<25 users). Includes simplified management, client backup, Remote Web Access; no CALs required.
- .Standard: Ideal for physical/virtual environments. Supports 2 VMs/OSes, Storage Spaces Direct, unlimited containers; requires core + CAL licensing.
- .Datacenter: For highly virtualized/cloud environments. Adds unlimited VMs, Shielded VMs, Storage Replica, Host Guardian Service; core + CAL licensing.
- .Multipoint Premium (legacy): Multi-user VDI via RemoteFX.

All support Server Core/Desktop Experience. Nano Server (lightweight) is deprecated later.

Hyper-V Server (free) offers only Hyper-V. (92 words)

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

ANS-Steps to Install Windows Server 2016 (GUI Mode):

- (a)Boot from media (DVD/USB).
- (b)Select language, time, keyboard → Click Next.
- (c)Click Install now.
- (d)Enter product key (or skip for later) → Next.
- (e)Select Windows Server 2016 Datacenter (Desktop Experience) or Standard (Desktop Experience) → Next.
- (f)Accept license terms → Next.
- (g)Choose Custom: Install Windows only (advanced).
- (h)Select drive/partition → Click Next (formats if needed).
- (i)Installation begins (copying files, restarting).
- (j)After reboot, set Administrator password → Finish.
- (k)Log in → Server Manager launches (GUI mode active).

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

ANS-Steps to Install Windows Server 2016 in Server Core Mode:

- (a)Boot from DVD/USB installation media.
- (b)Select language, time, keyboard → Next.
- (c)Click Install now.
- (d)Enter product key (or skip) → Next.
- (e)Choose Windows Server 2016 Standard (Server Core) or Datacenter (Server Core) → Next.
- (f)Accept license terms → Next.
- (g)Select Custom: Install Windows only (advanced).
- (h)Choose drive/partition → Next (auto-formats if unallocated).
- (i)Installation proceeds (files copy, system restarts).
- (j)After final reboot, press Ctrl+Alt+Delete → Set Administrator password.
- (k)Log in → Command Prompt appears (Server Core active).

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

ANS-

Network settings are NOT configured during Windows Server 2016 installation.
They are set post-installation using:

Server Core (CLI):

```
powershell  
# List interfaces  
Get-NetAdapter  
  
# Configure static IP  
New-NetIPAddress -InterfaceIndex X -IPAddress 192.168.1.10 -PrefixLength 24  
-DefaultGateway 192.168.1.1  
  
# Set DNS  
Set-DnsClientServerAddress -InterfaceIndex X -ServerAddresses 8.8.8.8,8.8.4.4  
GUI (Desktop Experience):  
(a)Open Server Manager → Local Server → Click Ethernet.  
(b)Right-click adapter → Properties → IPv4 → Set IP, subnet, gateway, DNS → OK.
```

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

ANS-Promote Windows Server 2016 to DC:

- (a)Set static IP, ensure DNS access.
- (b)In Server Manager → Add Roles → Install Active Directory Domain Services.
- (c)Click flag → Promote to domain controller.
- (d)Choose: New forest (root name) or Add to existing.

- (e) Set functional level, enable DNS, GC.
- (f) Review paths, pass prerequisites → Install.
- (g) Server reboots as DC with NTDS.DIT and SYSVOL.
- (h) Verify with dcdiag.

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

ANS- Upgrade to Windows Server 2016:

- (a) Verify compatibility: Source = 2012/2012 R2; same language/edition (Standard → Standard/Datacenter).
- (b) Backup system, apps, AD (if DC).
- (c) Run setup from 2016 ISO on running server.
- (d) Select Upgrade: Install Windows and keep files, settings, and applications.
- (e) Confirm edition, accept license.
- (f) Compatibility check passes → proceed.
- (g) Upgrade begins; server restarts multiple times.
- (h) Post-upgrade: Activate, install updates, verify roles (use Get-WindowsFeature).
- (i) Test apps, replication (repadmin /replsummary).

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

ANS-Active Directory Domain Services (AD DS) is Microsoft's directory service for centralized identity and Access management in Windows networks.

Key Components:

- (a) Domain: Security and replication boundary with unique namespace.
- (b) Forest: Collection of domains sharing schema and trust.
- (c) Domain Controller (DC): Server hosting AD database (NTDS.DIT).
- (d) Schema: Defines object classes and attributes.
- (e) Global Catalog (GC): Forest-wide index for fast searches.
- (f) Sites & Site Links: Control replication over WAN.
- (g) Organizational Units (OUs): Containers for delegation and GPOs.
- (h) SYSVOL: Stores Group Policy templates and scripts.

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

ANS-

Create a New AD User Account in Windows Server 2016

Using GUI (Active Directory Users and Computers):

- (a) Open Server Manager → Tools → Active Directory Users and Computers.
- (b) Expand domain → Right-click Users (or desired OU) → New → User.
- (c) Enter First name, Last name, User logon name (e.g., jdoe) → Next.
- (d) Set password → Check User must change password at next logon (recommended) →

Next.

(e) Review → Finish.

User created – appears in OU, ready for group membership or GPO application.

Using PowerShell (on DC):

```
powershell
```

```
New-ADUser -Name "John Doe" -UserPrincipalName "jdoe@domain.com" `  
-SamAccountName "jdoe" -AccountPassword (Read-Host -AsSecureString) `  
-Enabled $true -Path "OU=Users,DC=domain,DC=com" -ChangePasswordAtLogon  
$true
```

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

ANS- Create & Manage GPOs:

- (a) Open Group Policy Management (Server Manager → Tools).
 - (b) Expand forest → Right-click Group Policy Objects → New → Name GPO → OK.
 - (c) Right-click GPO → Edit → Configure settings (Computer/User).
 - (d) Link GPO: Right-click OU/domain/site → Link an Existing GPO.
 - (e) Enforce (optional): Right-click link → Enforced.
 - (f) Filter: Use Security Filtering (remove Authenticated Users, add groups).
 - (g) Order: Set link priority via Link Order.
 - (h) Force update: gpupdate /force.
 - (i) Verify: gpresult /r.
- GPOs apply at startup/logon in LSDOU order (Local, Site, Domain, OU).

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

ANS-

OUs in Active Directory are containers to organize users, groups, and computers.
Uses:

- . Delegate administration (e.g., reset passwords in Sales OU).
- . Apply GPOs (link policies to OU).
- . Logical grouping by department/location.

How to use:

- (a) Open ADUC → Right-click domain → New → OU.
 - (b) Move objects or create inside.
 - (c) Link GPOs or delegate control.
- Design hierarchy first.

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

ANS-

Delegate AD Privileges:

- (a) Open ADUC → Right-click OU → Delegate Control.
- (b) Click Next → Add users/groups → Next.
- (c) Choose Common tasks (e.g., reset passwords) or Custom → Next.
- (d) Select permissions (e.g., “Reset user passwords”) → Next → Finish.
- (e) Verify via Effective Access tab. Delegation limits scope to OU without full admin rights.

