

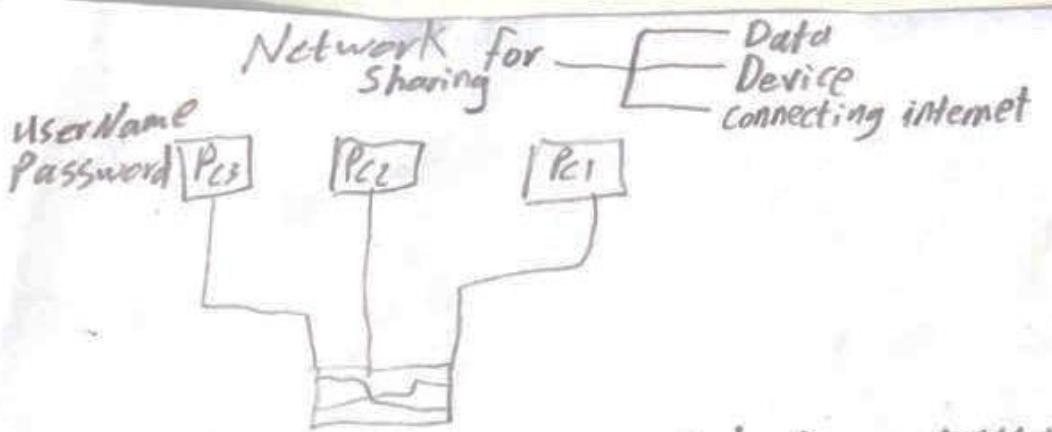
Dr.Lway Faisal

د. لَوَيْ فَاسِلَ

Windows Server 2019

Network Administrator





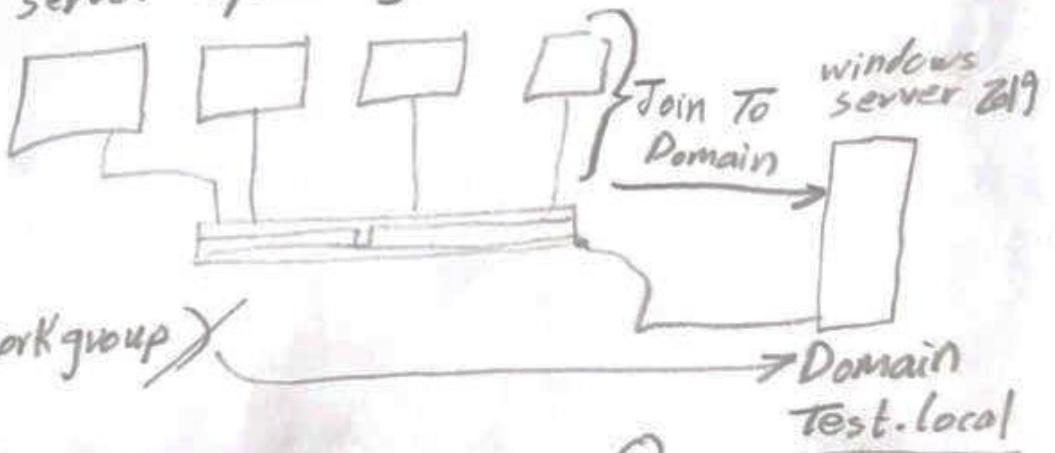
Management
1) workgroup → very bad for company.
No centralization for administration.

2) Login problem
2) Lock USB

problem of work group

Client operating System

server operating system



* duplicating info to other server

* each server has IP address

④ *DHCP

↳ Network configuration.

⑤ *DNS: Local Test

IP: ^{has} 192.168.3.4

* print server

* WSUS

Windows server update server

* WDS



* All devices can login

* can stop USB → * Group Policy

* Close games

* Unified Background

* install New O.S

* Moving Data To server and from server To other user

③ Data exchange with file server

- Limit to size for each user 1GB.
- file screening: .doc .PDF .~~0~~ .PPTX
MP3X . MP4X . EXE

Q1: What is the difference between windows server 2019 and windows O.s?

	Windows 2010 operation sys	Window server 2019
Purpose	Designed for personal computers, laptops, and other devices, prioritizing user compatibility with a wide range of applications.	Designed for servers and data centers, focusing on providing network services, managing resources, and supporting enterprise-level applications.
Features	Oriented towards individual user tasks, including a GUI, personalization options, entertainment apps, productivity tools, gaming support, and security features.	Includes features optimized for server roles such as Active Directory Domain Services, DHCP, DNS, Hyper-V virtualization, and more.
Licensing	Usually licensed per device, with editions like Home, Pro, and Enterprise, etc.	Licensed per physical processor or virtual machine, with options for Standard and Datacenter editions, priced for enterprise.
Support and Updates	Receives regular updates, including feature updates and security patches, with mainstream support typically lasting for several years.	Receives long-term support with regular security updates and patches, with extended support available as an option.
Hardware and Performance	Designed to run on a wide range of consumer-grade hardware..	Optimized for server hardware configurations, supporting high-performance computing

Q: What are benefits of windows server for networking administrates?

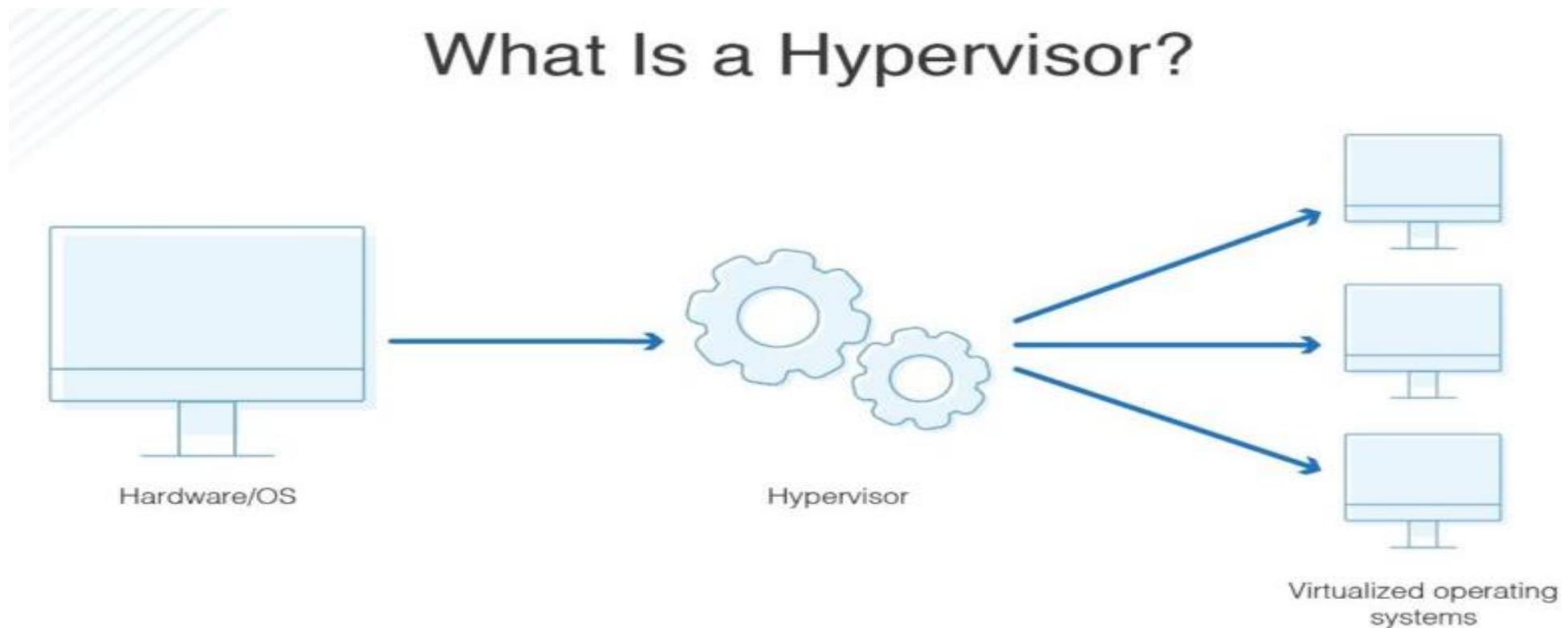
1. Centralized management of network services such as Active Directory, DNS, DHCP, and file sharing.
2. Enhanced security features including role-based access control (RBAC), Windows Defender, and encryption capabilities.
3. Scalability to support growing network infrastructures and increased workloads.
4. Integration with cloud services and hybrid cloud environments through features like Azure Active Directory and Azure Backup.
5. Simplified administration through remote management tools like Windows Admin Center and PowerShell scripting.
6. High availability and fault tolerance with features such as failover clustering and Network Load Balancing (NLB).

Computer specifications to install win server 2019

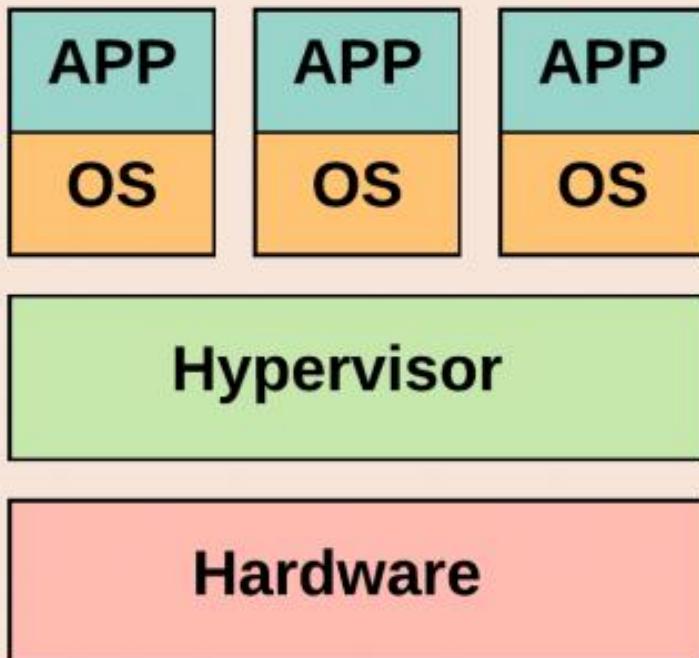
ITEM	MINIMUM	RECOMMENDED
Processor	Any Intel 1GHz or higher	Intel 2GHz or higher, Dual core, 64-bit
Memory (RAM)	8GB	8GB or higher
Operating System	Windows 7	Windows 7, 64-bit or higher
Storage Configuration	50GB, RAID 0	100GB, RAID 1
Networking	10/100 MB	Gigabit, Dual interfaces
.Net Framework	3.5	4.5

Q: Explain the idea of virtualization operating system?

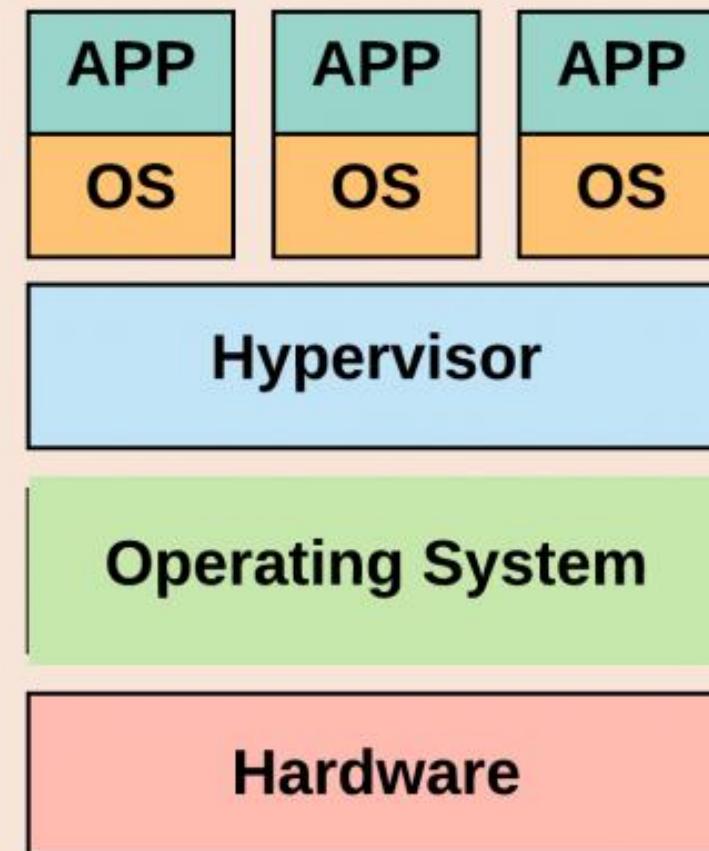
A virtualization operating system allows multiple virtual machines (VMs) to run on a single physical server, effectively abstracting the hardware from the operating system. This enables better resource utilization, improved scalability, and easier management of IT infrastructure by consolidating multiple virtual environments onto a single physical machine.



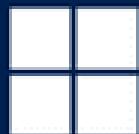
Types of Hypervisor



Type1 Hypervisor



Type2 Hypervisor



Microsoft

Automation

Orchestrator

Service Mgmt.

Service Manager

Protection

Data Protection Manager

Monitoring

Operations Manager

Self-Service

App Controller

VM Management

Virtual Machine Manager

Hypervisor

Hyper-V

VMware

vCenter Orchestrator

vCloud Automation Center

vSphere Data Protection

vCenter Ops Mgmt. Suite

vCloud Director

vCenter Server

vSphere Hypervisor

Installing links:

 Windows10

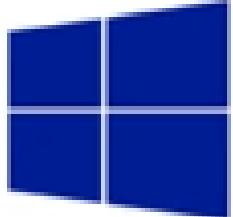
<https://drive.google.com/file/d/1ON8diVI-tDw1hcTKdbue0gsPywHp5bFj/view>

 Windows Server 2019

<https://drive.google.com/file/d/1I9aUuU29PL6a0YqjxqErfqYP66NFVD-g/view>

 VMware Workstation 17.0.2 Pro

<https://drive.google.com/file/d/1oNMqqi-7amMaL39cLXx70bBSWpLyBlmh/view>



Windows Server 2019

Windows Server 2019 will be available in Datacenter, Standard, and Essentials editions

Windows Server 2019 Focused on

- Hyper-converged Infrastructure (HCI)
- Application Platform
- Hybrid
- Security

Windows Server 2019 feature differentiation

Feature	Datacenter	Standard
Core functionality of Windows Server	Yes	Yes
OSEs / Windows Server containers with Hyper-V isolation]	Unlimited	2
Windows Server containers without Hyper-V isolation	Unlimited	Unlimited
Host Guardian Service	Yes	Yes
Storage features including Storage Spaces Direct and Storage Replica	Yes	No
Shielded Virtual Machines	Yes	No
Networking stack	Yes	No

Windows Server 2019 Training

02 - How to Install Windows Server 2019 GUI (Desktop Experience)



Windows Server 2019

Processor: Minimum: 1.4 GHz 64-bit Processor

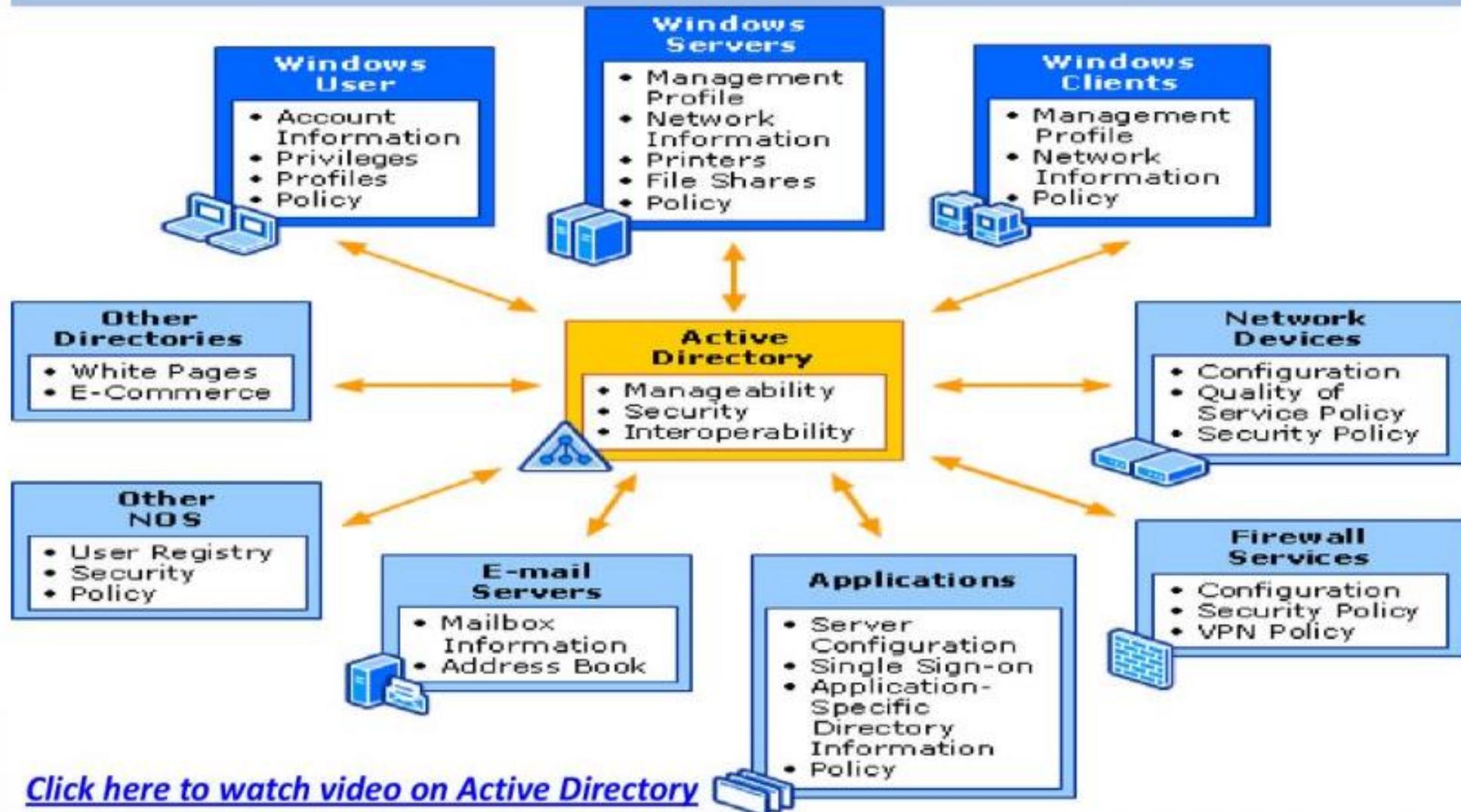
RAM: Minimum: 512 MB

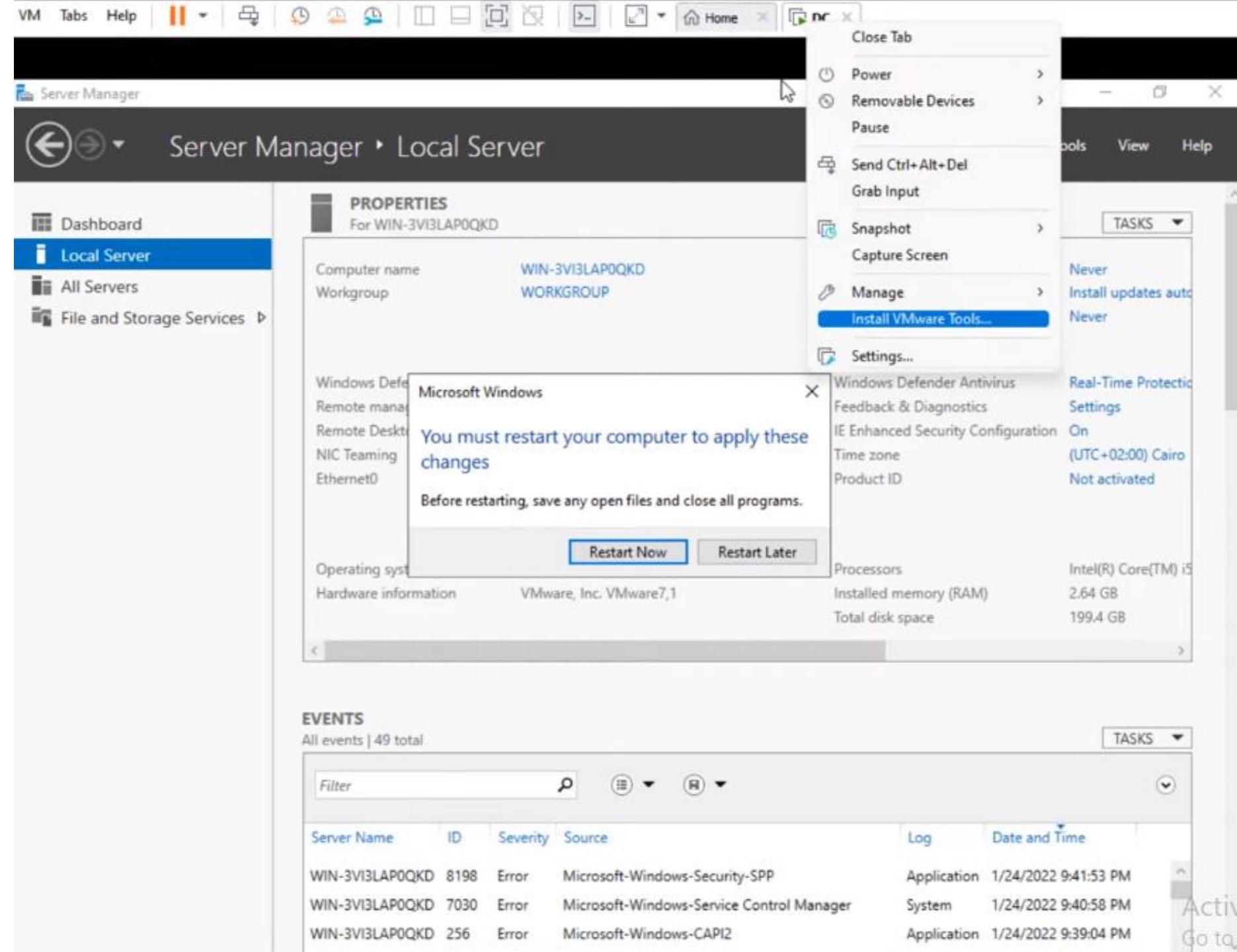
Disk Space: Minimum: 32 GB

Windows Server 2019 will be available in Datacenter, Standard, and Essentials editions

- GUI
- Core

that uses a namespace based on the Internet standard DNS.







Dashboard

Local Server

All Servers

File and Storage Se



File

Computer

View

Manage

Drive Tools

This PC



S



Quick access

Desktop

Downloads

Documents

Pictures

This PC

Network

Folders (7)

3D Objects

Documents

Music

Videos

Devices and drives (2)

Local Disk (C:)

189 GB free of 199 GB

Desktop

Downloads

Pictures

DVD Drive (D:) VMware Tools

0 bytes free of 114 MB

CDPS

VMware Product Installation

Preparing 'VMware Tools' for installation...

DVD Drive (D:) VMware Tools

Select to choose what happens with this disc.

9 items

1 item selected

WIN-3VI3LAP0QKD 256

Error

Microsoft-Windows-CAPI2

Act

Go to



Dashboard

Local Server

All Servers

File and Storage Services

PROPERTIES

For WIN-3VI3LAP0QKD

TASKS

Computer name	WIN-3VI3LAP0QKD	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Install updates auto
		Last checked for updates	Never

Windows Defender Firewall	Public: On	Windows Defender Antivirus	Real-Time Protection
Remote management	Enabled	Feedback & Diagnostics	Settings
Remote Desktop	Disabled	IE Enhanced Security Configuration	On
NIC Teaming	Disabled	Time zone	(UTC+02:00) Cairo
Ethernet0	IPv4 address assigned by DHCP, IPv6 enabled	Product ID	Not activated

Operating system version	Microsoft Windows Server 2019 Datacenter	Processors	Intel(R) Core(TM) i5
Hardware information	VMware, Inc. VMware7,1	Installed memory (RAM)	2.64 GB
		Total disk space	199.4 GB

EVENTS

All events | 49 total

TASKS

Server Name	ID	Severity	Source	Log	Date and Time
WIN-3VI3LAP0QKD	8198	Error	Microsoft-Windows-Security-SPP	Application	1/24/2022 9:41:53 PM
WIN-3VI3LAP0QKD	7030	Error	Microsoft-Windows-Service Control Manager	System	1/24/2022 9:40:58 PM
WIN-3VI3LAP0QKD	256	Error	Microsoft-Windows-CAPI2	Application	1/24/2022 9:39:04 PM

Activ
Go to



Dashboard

Local Server

All Servers

File and Sto

System Properties

PROPERTIES

TASKS

Computer Name/Domain Changes

You can change the name and the membership of this computer. Changes might affect access to network resources.

Computer name:

PDC19

Full computer name:

PDC19

More...

Change...

Member of

 Domain: Workgroup:

WORKGROUP

OK

Cancel

Apply

Operating system	Windows Server 2019 Datacenter	Processor	Intel(R) Core(TM) i5
Version	Windows Server 2019 Datacenter	Installed memory (RAM)	2.64 GB
Build	17763.1	Total disk space	199.4 GB
System rating	Excellent	System rating	Excellent
System rating	Excellent	System rating	Excellent

Last installed updates

Windows Update

Never

Last checked for updates

Install updates auto

Never

Windows Defender Antivirus

Real-Time Protection

Feedback & Diagnostics

Settings

IE Enhanced Security Configuration

On

Time zone

(UTC+02:00) Cairo

Product ID

Not activated

Filter



Server Name	ID	Severity	Source	Log	Date and Time
WIN-3VI3LAP0QKD	8198	Error	Microsoft-Windows-Security-SPP	Application	1/24/2022 9:41:53 PM
WIN-3VI3LAP0QKD	7030	Error	Microsoft-Windows-Service Control Manager	System	1/24/2022 9:40:58 PM
WIN-3VI3LAP0QKD	256	Error	Microsoft-Windows-CAPI2	Application	1/24/2022 9:39:04 PM



Dashboard

Local Server

All Servers

File and Storage Services ▾

PROPERTIES

For WIN-3VI3LAP0QKD

TASKS ▾

Computer name	WIN-3VI3LAP0QKD	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Install updates auto
		Last checked for updates	Never
Windows Defender Firewall	Public: On	Windows Defender Antivirus	Real-Time Protection
Remote management	Enabled	Feedback & Diagnostics	Settings
Remote Desktop	Disabled	IE Enhanced Security Configuration	On
NIC Teaming	Disabled	Time zone	(UTC+02:00) Cairo
Ethernet0	IPv4 address assigned by DHCP, IPv6 enabled	Product ID	Not activated
Operating system version	Microsoft Windows Server 2019 Datacenter	Processors	Intel(R) Core(TM) i5
Hardware information	VMware, Inc. VMware7.1	Installed memory (RAM)	2.64 GB
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EVENTS

All events | 49 total

TASKS ▾

Server Name	ID	Severity	Source	Log	Date and Time
WIN-3VI3LAP0QKD	8198	Error	Microsoft-Windows-Security-SPP	Application	1/24/2022 9:41:53 PM
WIN-3VI3LAP0QKD	7030	Error	Microsoft-Windows-Service Control Manager	System	1/24/2022 9:40:58 PM
WIN-3VI3LAP0QKD	256	Error	Microsoft-Windows-CAPI2	Application	1/24/2022 9:39:04 PM



Dashboard

Local Server

All Servers

File and Storage Se

Network Connections

All Control Panel Items ▸ Network Connections

Search Network Connections

Organize

Disable this

 Ethernet0
Unidentified network
Intel(R) 82574L GigaEthernet0 Status
Ethernet0 Properties

Networking

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

Obtain an IP address automatically

Use the following IP address:

IP address: 192 . 168 . 1 . 2

Subnet mask: 255 . 255 . 255 . 0

Default gateway: . . .

Obtain DNS server address automatically

Use the following DNS server addresses:

Preferred DNS server: 192 . 168 . 1 . 2

Alternate DNS server: . . .

Validate settings upon exit

OK **Cancel**

1 item 1 item selected

Creating Active Directory: add servers then configure it

The screenshot shows the Server Manager Dashboard. The left sidebar has a 'Dashboard' tab selected, along with 'Local Server', 'All Servers', and 'File and Storage Services'. The main area is titled 'WELCOME TO SERVER MANAGER' and features a 'QUICK START' section with five numbered steps: 1. Configure this local server, 2. Add roles and features, 3. Add other servers to manage, 4. Create a server group, and 5. Connect this server to cloud services. A 'WHAT'S NEW' section and a 'LEARN MORE' button are also present. Below this, the 'ROLES AND SERVER GROUPS' section shows 'File and Storage Services' (1), 'Local Server' (1), and 'All Servers' (1). Each item has a green 'Manageability' icon, a red 'Events' icon, a red 'Services' icon, a green 'Performance' icon, and a green 'BPA results' icon. The 'File and Storage Services' section also lists 'Events', 'Performance', and 'BPA results'. The 'Local Server' and 'All Servers' sections also list 'Events', 'Performance', and 'BPA results'. The bottom of the dashboard shows the date and time: 2/14/2022 6:11 PM for each section.

WELCOME TO SERVER MANAGER

QUICK START

1 Configure this local server

2 Add roles and features

3 Add other servers to manage

4 Create a server group

5 Connect this server to cloud services

WHAT'S NEW

LEARN MORE

ROLES AND SERVER GROUPS

Roles: 1 | Server groups: 1 | Servers total: 1

File and Storage Services	Local Server	All Servers
1	1	1
Manageability	Manageability	Manageability
Events	Events	Events
Performance	Services	Services
BPA results	Performance	Performance
	BPA results	BPA results

2/14/2022 6:11 PM

2/14/2022 6:11 PM

In Active Directory of 2019, what is the difference between: domain and domain Controller?

- **Domain:** is a logical grouping of network resources (such as computers, users, printers, and other objects) that share a common directory database. In Windows Server environments, Active Directory Domain Services (AD DS) is used to manage and organize these resources within a domain. A domain provides centralized authentication and authorization services, allowing users to log in to the network and access resources using their domain credentials.
- **Domain Controllers:** Domain Controllers (DCs) are servers that host the Active Directory database and provide authentication and authorization services within a domain. Each domain must have at least one domain controller, which is responsible for processing logon requests, maintaining the directory database, replicating changes to other domain controllers, and enforcing security policies.
- **Domain** represents a logical grouping of network resources, while **domain controllers** are the servers responsible for hosting and managing the Active Directory database and providing essential directory services within that domain.



Add Roles and Features

Remove Roles and Features

Add Servers

Create Server Group

Server Manager Properties

Server Manager ▸ Local Server

Dashboard

Local Server

All Servers

File and Storage Services ▾

PROPERTIES

For PDC19

Computer name	PDC19	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Download updates only, using Windows Update
		Last checked for updates	Never
Windows Defender Firewall	Public: On	Windows Defender Antivirus	Real-Time Protection: On
Remote management	Enabled	Feedback & Diagnostics	Settings
Remote Desktop	Disabled	IE Enhanced Security Configuration	On
NIC Teaming	Disabled	Time zone	(UTC+02:00) Cairo
Ethernet0	192.168.1.2, IPv6 enabled	Product ID	Not activated
Operating system version	Microsoft Windows Server 2019 Datacenter	Processors	Intel(R) Core(TM) i5-4300U CPU @ 1.90GHz, Intel(R) Core(TM) i5-4300U CPU @ 1.90GHz
Hardware information	VMware, Inc. VMware7.1	Installed memory (RAM)	2.64 GB
		Total disk space	199.4 GB

EVENTS

All events | 11 total

TASKS ▾

Server Name	ID	Severity	Source	Log	Date and Time
PDC19	8198	Error	Microsoft-Windows-Security-SPP	Application	2/14/2022 6:11:42 PM
PDC19	8198	Error	Microsoft-Windows-Security-SPP	Application	2/14/2022 6:11:22 PM
PDC19	134	Warning	Microsoft-Windows-Time-Service	System	2/14/2022 6:11:15 PM
PDC19	134	Warning	Microsoft-Windows-Time-Service	System	2/14/2022 6:11:13 PM
PDC19	1014	Warning	Microsoft-Windows-DNS Client Events	System	2/14/2022 6:11:13 PM
PDC19	10149	Warning	Microsoft-Windows-Windows Remote Management	System	2/14/2022 3:42:26 PM
PDC19	8198	Error	Microsoft-Windows-Security-SPP	Application	2/14/2022 3:31:05 PM



Dashboard

Local Server

All Servers

File and Storage Services

WELCOME TO SERVER MANAGER

QUICK START

1 Configure this local server

- 2 [Add roles and features](#) 
- 3 Add other servers to manage
- 4 Create a server group
- 5 Connect this server to cloud services

WHAT'S NEW

LEARN MORE

Hide

ROLES AND SERVER GROUPS

Roles: 1 | Server groups: 1 | Servers total: 1

 File and Storage Services

1

 Manageability

Events

Performance

BPA results

 Local Server

1

 Manageability

Events

 Services

Performance

BPA results

2/14/2022 6:11 PM

 All Servers

1

 Manageability

Events

 Services

Performance

BPA results

2/14/2022 6:11 PM

Add Roles and Features Wizard

Before you begin

DESTINATION SERVER
PDC19

Before You Begin

- Installation Type
- Server Selection
- Server Roles
- Features
- Confirmation
- Results

This wizard helps you install roles, role services, or features. You determine which roles, role services, or features to install based on the computing needs of your organization, such as sharing documents, or hosting a website.

To remove roles, role services, or features:
[Start the Remove Roles and Features Wizard](#)

Before you continue, verify that the following tasks have been completed:

- The Administrator account has a strong password
- Network settings, such as static IP addresses, are configured
- The most current security updates from Windows Update are installed

If you must verify that any of the preceding prerequisites have been completed, close the wizard, complete the steps, and then run the wizard again.

To continue, click Next.

Skip this page by default

[< Previous](#) [Next >](#) [Install](#) [Cancel](#)

Manage Tools View Help

Servers 1

Pageability
Events
Performance
BPA results

Events
2 Services
Performance
BPA results

Events
2 Services
Performance
BPA results

2/14/2022 6:11 PM 2/14/2022 6:11 PM

Select installation type

DESTINATION SERVER
POC19

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Confirmation

Results

Select the installation type. You can install roles and features on a running physical computer or virtual machine, or on an offline virtual hard disk (VHD).

 Role-based or feature-based installation

Configure a single server by adding roles, role services, and features.

 Remote Desktop Services installation

Install required role services for Virtual Desktop Infrastructure (VDI) to create a virtual machine-based or session-based desktop deployment.

Hide

Servers 1

Cancel

< Previous

Next >

Install

Events

Performance

BPA results

Events

Services

Performance

BPA results

Events

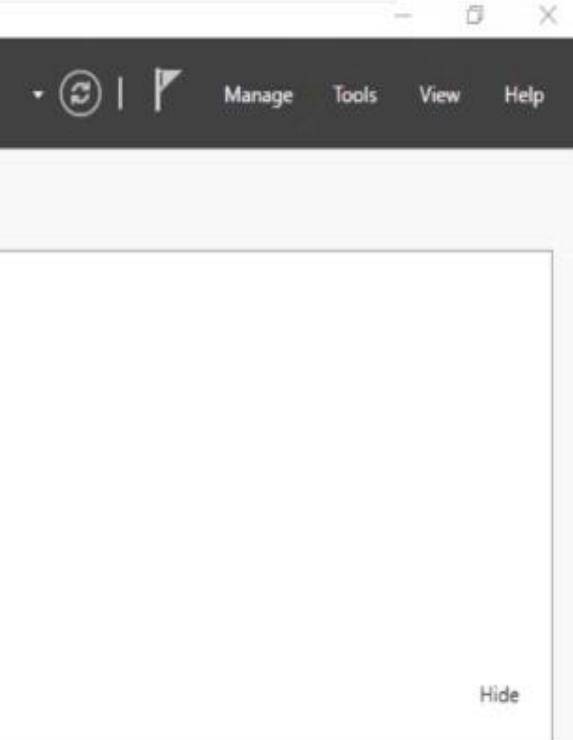
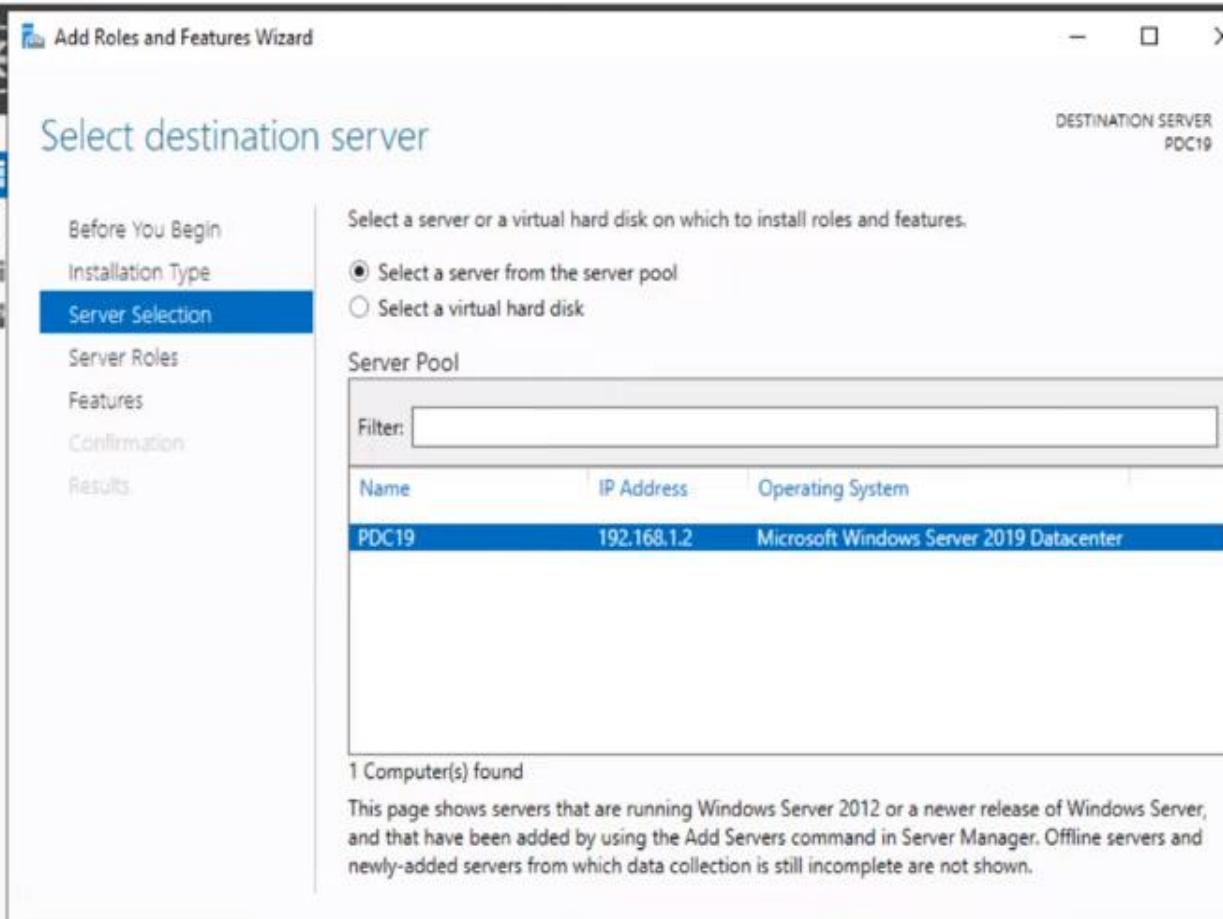
Services

Performance

BPA results

2/14/2022 6:11 PM

2/14/2022 6:11 PM



Select server roles

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Confirmation

Results

Select one or more roles to install on the selected server.

Roles

- Active Directory Certificate Services
- Active Directory Domain Services
- Active Directory Federation Services
- Active Directory Lightweight Directory Services
- Active Directory Rights Management Services
- Device Health Attestation
- DHCP Server
- DNS Server
- Fax Server
- File and Storage Services (1 of 12 installed)
- Host Guardian Service
- Hyper-V
- Network Controller
- Network Policy and Access Services
- Print and Document Services
- Remote Access
- Remote Desktop Services
- Volume Activation Services
- Web Server (IIS)
- Windows Deployment Services

DESTINATION SERVER
PDC19

Description

Active Directory Certificate Services (AD CS) is used to create certification authorities and related role services that allow you to issue and manage certificates used in a variety of applications.

Hide

Servers 1

< Previous

Next >

Install

Cancel

Traceability

Events

Performance

BPA results

Events

Services

Performance

BPA results

2/14/2022 6:11 PM

Events

Services

Performance

BPA results

2/14/2022 6:11 PM

Select server roles

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Confirmation

Results

Select one

Roles

A

A

A

A

A

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W

Add Roles and Features Wizard

Add features that are required for Active Directory Domain Services?

You cannot install Active Directory Domain Services unless the following role services or features are also installed.

[Tools] Group Policy Management

► Remote Server Administration Tools

► Role Administration Tools

► AD DS and AD LDS Tools

Active Directory module for Windows PowerShell

► AD DS Tools

[Tools] Active Directory Administrative Center

[Tools] AD DS Snap-Ins and Command-Line Tools

 Include management tools (if applicable)

Add Features

Cancel

< Previous

Next >

Install

Cancel

Manageability

Servers 1

Events

Services

Performance

BPA results

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Events

Services

Performance

BPA results

2/14/2022 6:11 PM

Select server roles

DESTINATION SERVER
PDC19

The screenshot shows the 'Add Roles and Features Wizard' in progress. The 'Server Roles' tab is selected on the left navigation bar. The main window displays the 'Select one or more roles and features' step, specifically for 'Active Directory Domain Services'. The 'Remote Server Administration Tools' feature is selected. The 'Add Features' button is highlighted. The 'Server Configuration' pane shows the 'Servers' tab with 1 server selected. The 'Events' and 'Performance' tabs are visible in the bottom navigation bar.

Add Roles and Features Wizard



Manage Tools View Help

Select server roles

Before You Begin

Installation Type

Server Selection

Server Roles

Features

AD DS

Confirmation

Results

Select one or more roles to install on the selected server.

Roles

- Active Directory Certificate Services
- Active Directory Domain Services
- Active Directory Federation Services
- Active Directory Lightweight Directory Services
- Active Directory Rights Management Services
- Device Health Attestation
- DHCP Server
- DNS Server
- Fax Server
- File and Storage Services (1 of 12 installed)
 - Host Guardian Service
 - Hyper-V
 - Network Controller
 - Network Policy and Access Services
 - Print and Document Services
 - Remote Access
 - Remote Desktop Services
 - Volume Activation Services
 - Web Server (IIS)
 - Windows Deployment Services

DESTINATION SERVER
PDC19

Description

Active Directory Domain Services (AD DS) stores information about objects on the network and makes this information available to users and network administrators. AD DS uses domain controllers to give network users access to permitted resources anywhere on the network through a single logon process.

Hide

Servers 1

Next >

Install

Cancel

Manageability

Events

Performance

BPA results

Events

Services

Performance

BPA results

Events

Services

Performance

BPA results

2/14/2022 6:11 PM

2/14/2022 6:11 PM

Select features

Before You Begin

Installation Type

Server Selection

Server Roles

Features

AD DS

Confirmation

Results

Select one or more features to install on the selected server.

Features

- .NET Framework 3.5 Features
- .NET Framework 4.7 Features (2 of 7 installed)
- Background Intelligent Transfer Service (BITS)
- BitLocker Drive Encryption
- BitLocker Network Unlock
- BranchCache
- Client for NFS
- Containers
- Data Center Bridging
- Direct Play
- Enhanced Storage
- Failover Clustering
- Group Policy Management
- Host Guardian Hyper-V Support
- I/O Quality of Service
- IIS Hostable Web Core
- Internet Printing Client
- IP Address Management (IPAM) Server
- iSNS Server service

DESTINATION SERVER
PDC19

Description

.NET Framework 3.5 combines the power of the .NET Framework 2.0 APIs with new technologies for building applications that offer appealing user interfaces, protect your customers' personal identity information, enable seamless and secure communication, and provide the ability to model a range of business processes.

Hide

Servers

1

Manageability

< Previous

Next >

Install

Cancel

Events

Performance

BPA results

Events

Services

Performance

BPA results

Events

Services

Performance

BPA results

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2/14/2022 6:11 PM



Active Directory Domain Services

DESTINATION SERVER
PDC19

- Before You Begin
- Installation Type
- Server Selection
- Server Roles
- Features
- AD DS**
- Confirmation
- Results

Active Directory Domain Services (AD DS) stores information about users, computers, and other devices on the network. AD DS helps administrators securely manage this information and facilitates resource sharing and collaboration between users.

Things to note:

- To help ensure that users can still log on to the network in the case of a server outage, install a minimum of two domain controllers for a domain.
- AD DS requires a DNS server to be installed on the network. If you do not have a DNS server installed, you will be prompted to install the DNS Server role on this machine.



Azure Active Directory, a separate online service, can provide simplified identity and access management, security reporting, single sign-on to cloud and on-premises web apps.

[Learn more about Azure Active Directory](#)

Configure Office 365 with Azure Active Directory Connect

Hide

Servers 1

Manageability

< Previous

Next >

Install

Cancel

Events

Performance

BPA results

Events

Services

Performance

BPA results

Events

Services

Performance

BPA results

2/14/2022 6:11 PM

2/14/2022 6:11 PM

Add Roles and Features Wizard

Confirm installation selections

DESTINATION SERVER
PDC19

Before You Begin
Installation Type
Server Selection
Server Roles
Features
AD DS
Confirmation
Results

To install the following roles, role services, or features on selected server, click Install.

Restart the destination server automatically if required

Optional features (such as administration tools) might be displayed on this page because they have been selected automatically. If you do not want to install these optional features, click Previous to clear their check boxes.

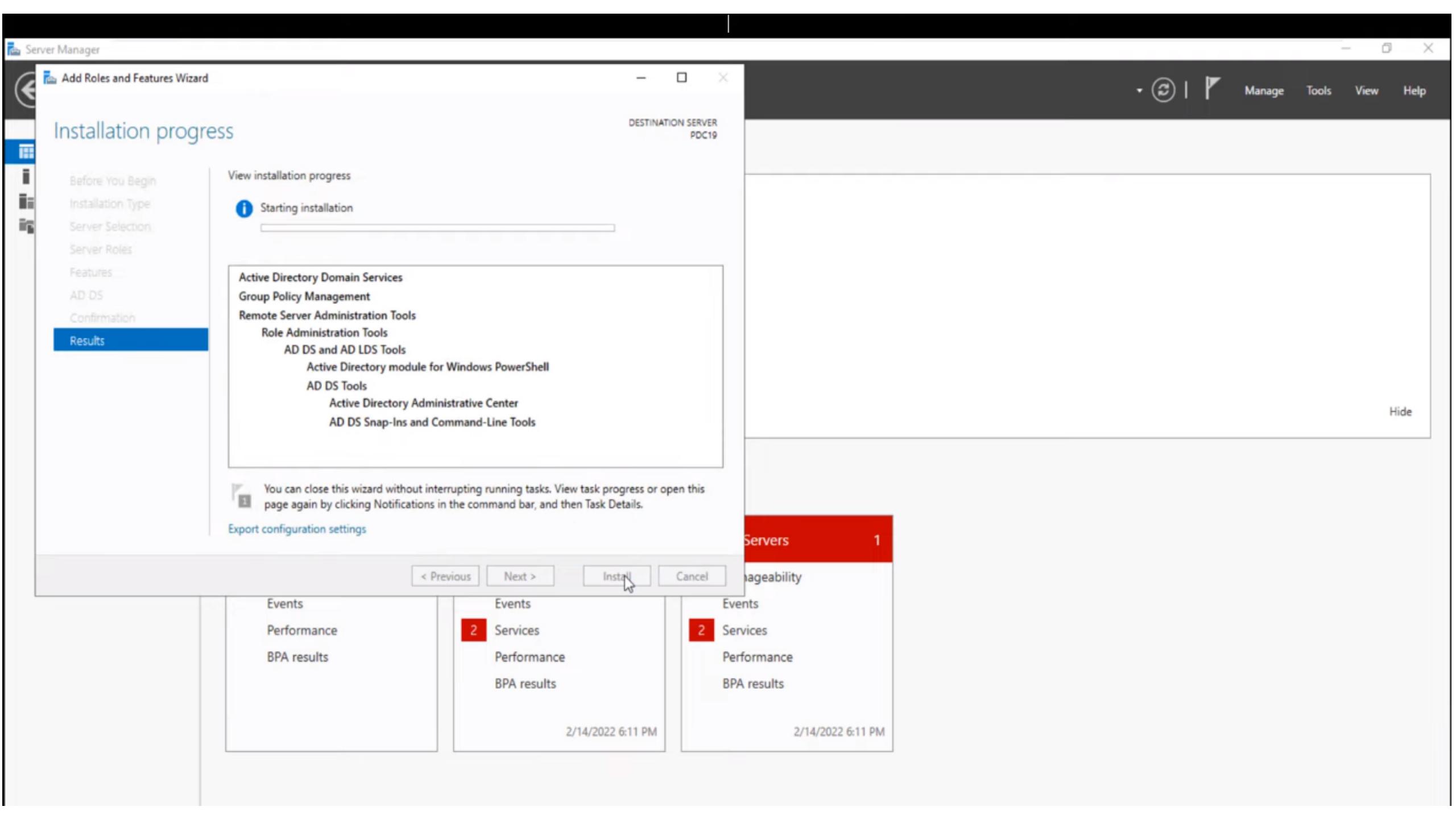
Active Directory Domain Services
Group Policy Management
Remote Server Administration Tools
Role Administration Tools
AD DS and AD LDS Tools
Active Directory module for Windows PowerShell
AD DS Tools
Active Directory Administrative Center
AD DS Snap-Ins and Command-Line Tools

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Export configuration settings
Specify an alternate source path

< Previous Next > **Install** Cancel

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Installation progress

DESTINATION SERVER
PDC19

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Server Selection
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Feature installation

Configuration required. Installation succeeded on PDC19.

Active Directory Domain Services

Additional steps are required to make this machine a domain controller.

[Promote this server to a domain controller](#)

Group Policy Management

Remote Server Administration Tools

Role Administration Tools

AD DS and AD LDS Tools

Active Directory module for Windows PowerShell

AD DS Tools

Active Directory Administrative Center

AD DS Snap-Ins and Command-Line Tools

 You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details.

Export configuration settings

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- 4 Create a server group
- 5 Connect this server to cloud services

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ROLES AND SERVER GROUPS

Roles: 0 | Server groups: 1 | Servers total: 1

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Post-deployment Configura...

Configuration required for Active Directory Domain Services at PDC19

[Promote this server to a domain controller](#)

Task Details

Hide

ROLES AND SERVER GROUPS

Roles: 2 | Server groups: 1 | Servers total: 1



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Active Directory Domain Services Configuration Wizard

Deployment Configuration

TARGET SERVER
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Select the deployment operation

- Add a domain controller to an existing domain
- Add a new domain to an existing forest
- Add a new forest

Specify the domain information for this operation

Domain:

 Select...

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Supply the credentials to perform this operation

<No credentials provided>

Change...

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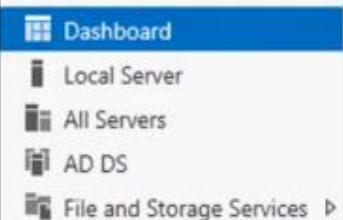
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Select the deployment operation

- Add a domain controller to an existing domain
- Add a new domain to an existing forest
- Add a new forest

Specify the domain information for this operation

Root domain name:

test.local

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DNS Options

A delegation for this DNS server cannot be created because the authoritative parent zone cannot be found... [Show more](#)

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Create DNS delegation

More about DNS delegation

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Verify the NetBIOS name assigned to the domain and change it if necessary

The NetBIOS domain name:

TEST

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More about additional options

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Specify the location of the AD DS database, log files, and SYSVOL

Database folder:	<input type="text" value="C:\Windows\NTDS"/>	...
Log files folder:	<input type="text" value="C:\Windows\NTDS"/>	...
SYSVOL folder:	<input type="text" value="C:\Windows\SYSVOL"/>	...

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More about Active Directory paths

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Review your selections:

Configure this server as the first Active Directory domain controller in a new forest.

The new domain name is "test.local". This is also the name of the new forest.

The NetBIOS name of the domain: TEST

Forest Functional Level: Windows Server 2016

Domain Functional Level: Windows Server 2016

Additional Options:

Global catalog: Yes

DNS Server: Yes

Create DNS Delegation: No

These settings can be exported to a Windows PowerShell script to automate additional installations

View script

More about installation options

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tmp2D36.tmp - Notepad

File Edit Format View Help

```
# Windows PowerShell script for AD DS Deployment
#
Import-Module ADDSDeployment
Install-ADDSForest `-
-CreateDnsDelegation:$false `-
-DatabasePath "C:\Windows\NTDS" `-
-DomainMode "WinThreshold" `-
-DomainName "test.local" `-
-DomainNetbiosName "TEST" `-
-ForestMode "WinThreshold" `-
-InstallDns:$true `-
-LogPath "C:\Windows\NTDS" `-
-NoRebootOnCompletion:$false `-
-SysvolPath "C:\Windows\SYSVOL" `-
-Force:$true
```

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Review your selections:

Configure this server as the first Active Directory domain controller in a new forest.

The new domain name is "test.local". This is also the name of the new forest.

The NetBIOS name of the domain: TEST

Forest Functional Level: Windows Server 2016

Domain Functional Level: Windows Server 2016

Additional Options:

Global catalog: Yes

DNS Server: Yes

Create DNS Delegation: No

These settings can be exported to a Windows PowerShell script to automate additional installations

View script

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Prerequisites Check

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Prerequisites need to be validated before Active Directory Domain Services is installed on this computer

Rerun prerequisites check

View results

⚠ Windows Server 2019 domain controllers have a default for the security setting named "Allow cryptography algorithms compatible with Windows NT 4.0" that prevents weaker cryptography algorithms when establishing security channel sessions.

For more information about this setting, see Knowledge Base article 942564 (<http://go.microsoft.com/fwlink/?LinkId=104751>).

⚠ A delegation for this DNS server cannot be created because the authoritative parent zone cannot be found or it does not run Windows DNS server. If you are integrating with an existing DNS infrastructure, you should manually create a delegation to this DNS server in the parent zone to ensure reliable name resolution from outside the domain "test.local". Otherwise, no action is required.

⚠ If you click Install, the server automatically reboots at the end of the promotion operation.

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⚠ Windows Server 2019 domain controllers have a default for the security setting named "Allow cryptography algorithms compatible with Windows NT 4.0" that prevents weaker cryptography algorithms when establishing security channel sessions.

For more information about this setting, see Knowledge Base article 942564 (<http://go.microsoft.com/fwlink/?LinkId=104751>).

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Results

This server was successfully configured as a domain controller

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Show more

View detailed operation results

Windows Server 2019 domain controllers have a default for the security setting named "Allow cryptography algorithms compatible with Windows NT 4.0" that prevents weaker cryptography algorithms when establishing security channel sessions.

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You're about to be signed out

The computer is being restarted because Active Directory Domain Services was installed or removed.

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Roles: 0 | Server groups: 1 | Servers total: 1

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- Active Directory Module for Windows PowerShell
- Active Directory Sites and Services
- Active Directory Users and Computers **Selected**
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- Component Services
- Computer Management
- Defragment and Optimize Drives
- Disk Cleanup
- DNS
- Event Viewer
- Group Policy Management
- iSCSI Initiator
- Local Security Policy
- Microsoft Azure Services
- ODBC Data Sources (32-bit)
- ODBC Data Sources (64-bit)
- Performance Monitor
- Print Management
- Recovery Drive
- Registry Editor
- Resource Monitor
- Services
- System Configuration
- System Information
- Task Scheduler
- Windows Defender Firewall with Advanced Security
- Windows Memory Diagnostic
- Windows PowerShell
- Windows PowerShell (x86)
- Windows PowerShell ISE
- Windows PowerShell ISE (x86)
- Windows Server Backup

Thanks
End of 1st lecture