

# MCSA LABs

By Hazim Haseeb



HazimHaseebAli



# Hello!

**I am Hazim Haseeb Ali**

IT admin

You can find me at @HazimHaseebAli



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# MCSA LAB

- PDC19
- DHCP
- DNS
- FSRM
- WSUS
- WDS
- BACKUP
- FSMO
- AD
- GPO



# 1. Install AD Add Users & Groups





Dashboard

Local Server

All Servers

AD DS

DHCP

DNS

File and Storage Services ▸

IIS

WDS

WSUS

## PROPERTIES

For PDC19

TASKS ▾

Computer name	PDC19	Last installed updates	Never
Domain	hazim.com	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-08:00) Pacific Time (US & Canada)
Ethernet0	192.168.199.100, IPv6 enabled	Product ID	Not activated
Operating system version	Microsoft Windows Server 2019 Standard	Processors	Intel(R) Core(TM) i3-4030U CPU @ 1.90GHz, Intel(R) Core(TM) i3-4030U CPU @ 1.90GHz
Hardware information	VMware, Inc. VMware20,1	Installed memory (RAM)	1 GB
		Total disk space	645.88 GB

## EVENTS

All events | 31 total

TASKS ▾

Filter 🔍



Server Name	ID	Severity	Source	Log	Date and Time
PDC19	7024	Error	Microsoft-Windows-Service Control Manager	System	6/5/2024 1:32:58 PM
PDC19	257	Error	WDSSEver	Application	6/5/2024 1:32:58 PM
PDC19	264	Error	WDSPXE	Application	6/5/2024 1:32:58 PM

3:02 PM  
6/5/2024

## Active Directory Users and Computers

File Action View Help



## Active Directory Users and Computers [PDC]

- Saved Queries
- hazim.com
  - Admins
  - Builtin
  - Computers
  - Customer Support
  - DevelopmentTeam
  - Domain Controllers
  - Finance
  - ForeignSecurityPrincipals
  - HR Department
  - IT Department
  - Legal Department
  - Managed Service Accounts
  - Managers
  - Marketing
  - Operations
  - Quality Assurance
  - Sales
  - Users

Name	Type	Description
Ahmed Al-Tayeb	User	
Ahmed Gaber	User	
Aisha Nasser	User	
Ali Abbas	User	
Ali Bin Salman	User	
Amina Al-Sheikh	User	
Amir Khan	User	
Fatima Fawzi	User	
Sales	Security Group - Global	

2:42 PM  
6/3/2024

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Active Directory Users and Computers

File Action View Help

Active Directory Users and Computers [PDC19.ha

Saved Queries

hazim.com

- Builtin
- Computers
- Domain Controllers
- ForeignSecurityPrincipals
- Managed Service Accounts
- Users
- Admins
- Customer Support
- Development Team
- Finance
- HR Department
- IT Department
- Legal Department
- Managers
- Marketing
- Operations
- Project A Team
- Quality Assurance
- Sales
- Staff
- Temporary Staff

Name	Type	Description
Builtin	builtinDomain	
Computers	Container	Default container for up...
ForeignSecurityPrincipals	Container	Default container for sec...
Managed Service Accounts	Container	Default container for ma...
Users	Container	Default container for up...
Admins	Organizational Unit	
Customer Support	Organizational Unit	
Development Team	Organizational Unit	
Domain Controllers	Organizational Unit	Default container for do...
Finance	Organizational Unit	
HR Department	Organizational Unit	
IT Department	Organizational Unit	
Legal Department	Organizational Unit	
Managers	Organizational Unit	
Marketing	Organizational Unit	
Operations	Organizational Unit	
Project A Team	Organizational Unit	
Quality Assurance	Organizational Unit	
Sales	Organizational Unit	
Staff	Organizational Unit	
Temporary Staff	Organizational Unit	

Windows taskbar: 1:57 PM 6/4/2024



Active Directory Users and Computers

File Action View Help

Active Directory Users and Computers [PDC19.ha

Saved Queries

hazim.com

- Builtin
- Computers
- Domain Controllers
- ForeignSecurityPrincipals
- Managed Service Accounts
- Users
  - Admins
  - Customer Support
  - Development Team
  - Finance
  - HR Department
  - IT Department
  - Legal Department
  - Managers
  - Marketing
  - Operations
  - Project A Team
  - Quality Assurance
  - Sales
  - Staff
  - Temporary Staff

Name	Type	Description
Sales	Security Group - Global	
Dalia Al-Khatib	User	
Faisal Al-Mohannadi	User	
Faisal Mahmood	User	
Farah Jaber	User	
Fatima Fawzi	User	
Fatima Hussein	User	
Hana Al-Najjar	User	
Hanan Al-Rashid	User	
Hassan Al-Din	User	
Hassan El-Masry	User	
Huda Al-Shamrani	User	



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Active Directory Users and Computers

File Action View Help

Active Directory Users and Computers [PDC19.ha

hazim.com

- Builtin
- Computers
- Domain Controllers
- ForeignSecurityPrincipals
- Managed Service Accounts
- Users
  - Admins
  - Customer Support
  - Development Team
  - Finance
  - HR Department
  - IT Department
  - Legal Department
  - Managers
  - Marketing
  - Operations
  - Project A Team
  - Quality Assurance
  - Sales
  - Staff
  - Temporary Staff

Name	Type	Description
HR_Department	Security Group - Global	
Omar Farouk	User	
Rami Al-Amin	User	
Rania Al-Haddad	User	
Rania Hassan	User	
Rasha Mahmoud	User	

Windows taskbar: 1:57 PM 6/4/2024



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Active Directory Users and Computers

File Action View Help

Active Directory Users and Computers [PDC19.ha

Saved Queries

hazim.com

- Builtin
- Computers
- Domain Controllers
- ForeignSecurityPrincipals
- Managed Service Accounts
- Users
- Admins
- Customer Support
- Development Team
- Finance
- HR Department
- IT Department
- Legal Department
- Managers
- Marketing
- Operations
- Project A Team
- Quality Assurance
- Sales
- Staff
- Temporary Staff

Name	Type	Description
Marketing	Security Group - Global	
Laila Al-Hakeem	User	
Latifa Al-Mutawa	User	
Layla Al-Khaled	User	
Leila Fathi	User	
Leila Said	User	
Lina Abdel Rahman	User	
Maha Al-Jaber	User	

Windows taskbar: 1:57 PM 6/4/2024



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Active Directory Users and Computers

File Action View Help

Active Directory Users and Computers [PDC19.ha

hazim.com

- Builtin
- Computers
- Domain Controllers
- ForeignSecurityPrincipals
- Managed Service Accounts
- Users
- Admins
- Customer Support
- Development Team
- Finance
- HR Department
- IT Department
- Legal Department
- Managers
- Marketing
- Operations
- Project A Team
- Quality Assurance
- Sales
- Staff
- Temporary Staff

Name	Type	Description
Customer_Support	Security Group - Global	
Ahmed Al-Tayeb	User	
Ahmed Gaber	User	
Aisha Al-Mutairi	User	
Aisha Nasser	User	
Ali Abbas	User	



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## 2. Partitions mangement



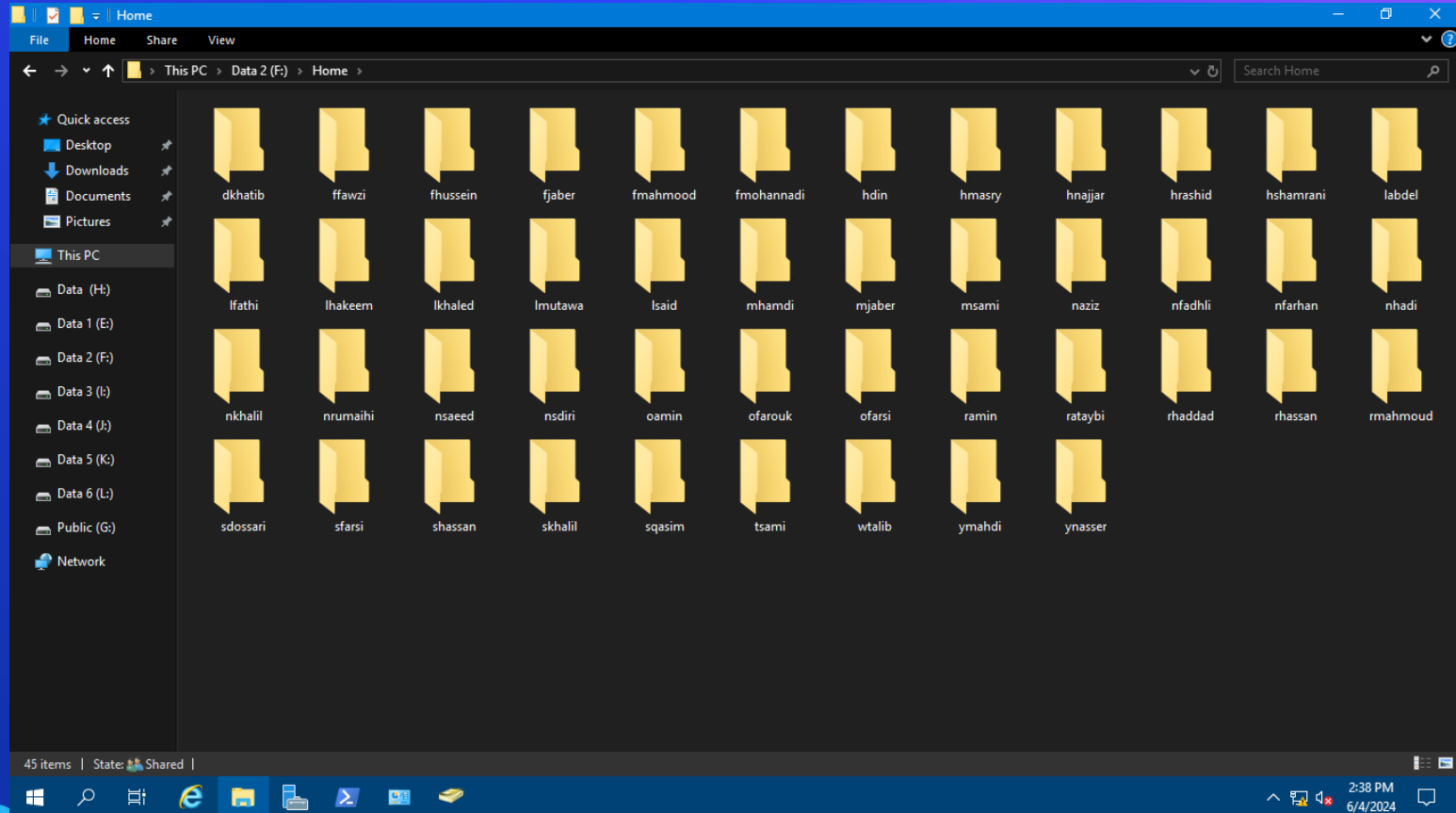
# Partistions

The image shows a Windows 10 desktop environment. The File Explorer window displays the 'This PC' view, showing a sidebar with 'Quick access' and 'This PC' sections. The main area is divided into 'Folders (7)' and 'Devices and drives (10)'. The 'Folders' section includes 3D Objects, Desktop, Downloads, Documents, Music, and Pictures. The 'Devices and drives' section shows Local Disk (C:) with 135 GB free of 145 GB, DVD Drive (D:) with 0 bytes free of 4.24 GB, Public (G:) with 48.7 GB free of 48.8 GB, Data (H:) with 48.7 GB free of 48.8 GB, Data 5 (K:) with 48.7 GB free of 48.8 GB, and Data 6 (L:) with 60.4 GB free of 60.5 GB. The taskbar at the bottom shows the Start button, Search, Task View, and several pinned applications. The system tray in the bottom right corner shows the time as 2:21 PM on 6/4/2024.

Active Directory Users and Computers window is open, showing the hierarchy of the 'hazim.com' domain. The left pane shows the domain structure, and the right pane shows the list of users and groups.

Name	Type
Computers	Container
Customer Support	Organizational
Development Team	Organizational
Domain Controllers	Organizational
Finance	Organizational
ForeignSecurityPrincipals	Container
HR Department	Organizational
IT Department	Organizational
Legal Department	Organizational
Managed Service Accounts	Container
Managers	Organizational
Marketing	Organizational
Operations	Organizational
Project A Team	Organizational
Quality Assurance	Organizational
Sales	Organizational
Staff	Organizational

# Creat Home Folder for all users



# Creat Home Folder for all users

File Explorer window showing the 'dkhatib' folder in the 'Home' directory. The folder contains 21 text documents named 'dkhatib (1)' through 'dkhatib (21)', all dated 6/5/2024 1:20 PM and 0 KB in size. The left sidebar shows the 'Home' folder selected under 'Data 2 (F:)'. The taskbar at the bottom shows various application icons and the system clock.

Name	Date modified	Type	Size
dkhatib (1)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (2)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (3)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (4)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (5)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (6)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (7)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (8)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (9)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (10)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (11)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (12)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (13)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (14)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (15)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (16)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (17)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (18)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (19)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (20)	6/5/2024 1:20 PM	Text Document	0 KB
dkhatib (21)	6/5/2024 1:20 PM	Text Document	0 KB



Active Directory Administrative Center

Active Directory Administrative Center ▶ hazim (local) ▶

Active Directory... ◀

hazim (local) (28)

Filter

Name	Type	Description
Customer Support	Organizati...	
Development Team	Organizati...	
Domain Controllers	Organizati...	Default container for dom...
Finance	Organizati...	
ForeignSecurityPrincipals	Container	Default container for secur...
HR Department	Organizati...	
Infrastructure	infrastructu...	
IT Department	Organizati...	
Keys	Container	Default container for key o...
Legal Department	Organizati...	
LostAndFound	lostAndFou...	Default container for orph...
Managed Service Accounts	Container	Default container for man...
Managers	Organizati...	
Marketing	Organizati...	
NTDS Quotas	msDS-Quo...	Quota specifications conta...
Operations	Organizati...	
Program Data	Container	Default location for storag...
Project A Team	Organizati...	
Quality Assurance	Organizati...	

Admins

Tasks

Admins

- New
- Delete
- Move...
- Search under this node
- Properties

hazim (local)

- Change domain controller
- Raise the forest functional leve...
- Raise the domain functional le...
- Enable Recycle Bin ...

New

- Search under this node
- Properties

WINDOWS POWERSHELL HISTORY

7:23 PM  
6/5/2024



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# 3. GPOs set password policies



**Group Policy Management**

File Action View Window Help

Group Policy Management

- Forest: hazim.com
  - Domains
    - hazim.com
      - Default Domain Policy**
        - Admins
        - Customer Support
        - Development Team
        - Domain Controllers
        - Finance
        - HR Department
        - IT Department
        - Legal Department
        - Managers
        - Marketing
        - Operations
        - Project A Team
        - Quality Assurance
        - Sales
        - Staff
        - Temporary Staff
        - Group Policy Objects
        - WMI Filters
        - Starter GPOs
- Sites
  - Group Policy Modeling
  - Group Policy Results

**Default Domain Policy**

Scope Details Settings Delegation

**Links**

Display links in this location: hazim.com

The following sites, domains, and OUs are linked to this GPO:

Location	Enforced	Link Enabled	Path
hazim.com	No	Yes	hazim.com

**Security Filtering**

The settings in this GPO can only apply to the following groups, users, and computers:

Name
Authenticated Users

Add... Remove Properties

**WMI Filtering**

This GPO is linked to the following WMI filter:

WMI Filter
<none>

Open

# Create GPOs for all groups

The screenshot displays the Group Policy Management console. On the left, the tree view shows a hierarchy of Group Policy Objects (GPOs) under 'Group Policy Objects'. The 'Quality Assurance' GPO is selected and highlighted. The right pane shows the 'Quality Assurance' GPO configuration, with the 'Group Policy Inheritance' tab active. A table lists the linked GPOs.

Link Order	GPO	Enforced	Link Enabled	GPO Status	WMI Filter	Modified
1	QUALITY GPO	No	Yes	Enabled	None	6/5/2024 7:26:3

Group Policy Management

File Action View Window Help

DEV GPO

Domain Controllers

Finance

Finance GPO

HR Department

HR GPO

IT Department

IT GPO

Legal Department

LEGAL GPO

Managers

MANGERS GPO

Marketing

MARKTING GPO

Operations

OPERATIONS GPO

Project A Team

Quality Assurance

QUALITY GPO

Sales

SALES GPO

Staff

STAFF GPO

Temporary Staff

Group Policy Objects

CUSTOMER GPO

Default Domain Controllers Policy

Default Domain Policy

DEV GPO

Finance GPO

HR GPO

IT GPO

LEGAL GPO

MANGERS GPO

MARKTING GPO

**SALES GPO**

Scope Details Settings Delegation

Action Update

**Properties**

Letter	A
Location	\\PDC19\Sales
Reconnect	Enabled
Use first available	Disabled
Hide/Show this drive	No change
Hide/Show all drives	No change

**Common**

**Options**

Stop processing items on this extension if an error occurs on this item	No
Run in logged-on user's security context (user policy option)	No
Remove this item when it is no longer applied	No
Apply once and do not reapply	No

**Shortcuts**

**Shortcut (Path: %DesktopDir%\Sales )**

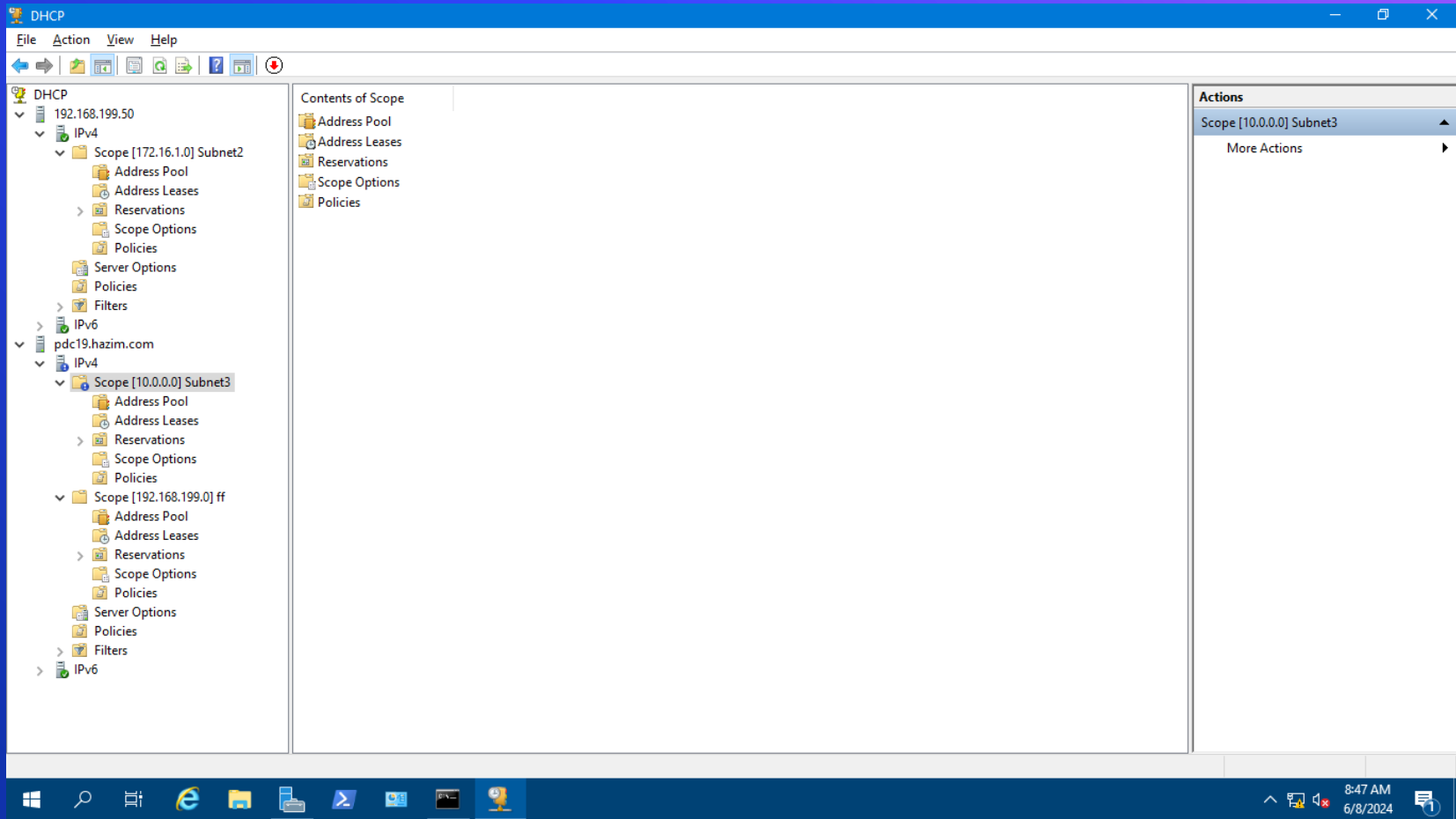
**Sales (Order: 1)**

**General**

Action	Update
<b>Attributes</b>	
Target type	File system object
Shortcut path	%DesktopDir%\Sales
Target path	\\PDC19\Sales

# 4. Setup DHCP creat Pools





**5.**  
**DNS**  
**creat zone**  
**creat revarse zone**  
**add reverse records**



DNS Manager

File Action View Help

Navigation icons: Back, Forward, Home, Search, etc.

**DNS**

- Core\_Server.hazim.com
  - Forward Lookup Zones
    - CORE\_ZONE
  - Reverse Lookup Zones
    - 199.168.192.in-addr.arpa
  - Trust Points
  - Conditional Forwarders
- PDC19
  - Forward Lookup Zones
    - \_msdcs.hazim.com
      - hazim.com
        - \_msdcs
          - \_sites
          - \_tcp
          - \_udp
        - DomainDnsZones
        - ForestDnsZones
  - Reverse Lookup Zones
    - 199.168.192.in-addr.arpa
  - Trust Points
  - Conditional Forwarders

Name	Type	Data	Timestamp
_msdcs			
_sites			
_tcp			
_udp			
DomainDnsZones			
ForestDnsZones			
(same as parent folder)	Start of Authority (SOA)	[27], pdc19.hazim.com., h...	static
(same as parent folder)	Name Server (NS)	pdc19.hazim.com.	static
(same as parent folder)	Host (A)	192.168.199.100	6/4/2024 1:00:00 PM
Core_Server	Host (A)	192.168.199.50	6/8/2024 7:00:00 AM
PC01	Host (A)	192.168.199.10	6/4/2024 7:00:00 PM
pdc19	Host (A)	192.168.199.100	static





DNS Manager

File Action View Help

Core\_Server.hazim.com

- Forward Lookup Zones
  - CORE\_ZONE
- Reverse Lookup Zones
  - 199.168.192.in-addr.arpa
- Trust Points
- Conditional Forwarders

PDC19

- Forward Lookup Zones
  - \_msdcs.hazim.com
  - hazim.com
    - \_msdcs
      - \_sites
      - \_tcp
      - \_udp
      - DomainDnsZones
      - ForestDnsZones
- Reverse Lookup Zones
  - 199.168.192.in-addr.arpa
- Trust Points
- Conditional Forwarders

Name	Type	Data	Timestamp
(same as parent folder)	Start of Authority (SOA)	[4], pdc19.hazim.com., ho...	static
(same as parent folder)	Name Server (NS)	pdc19.hazim.com.	static
192.168.199.10	Pointer (PTR)	PC01.hazim.com.	6/8/2024 8:00:00 AM
192.168.199.100	Pointer (PTR)	pdc19.hazim.com.	static
192.168.199.50	Pointer (PTR)	Core_Server.hazim.com.	6/8/2024 8:00:00 AM

# 6. Join PC01 to the Domain and login



### System Properties

#### Computer Name/Domain Changes

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

Computer name:  
PC01

Full computer name:  
PC01.hazim.com

More...

Member of

☐ Domain:  
hazim.com

☒ Workgroup:  
DSFDSFSD

OK Cancel

### Windows Security

#### Computer Name/Domain Changes

Enter the name and password of an account with permission to remove this computer from the domain.

User name

Password

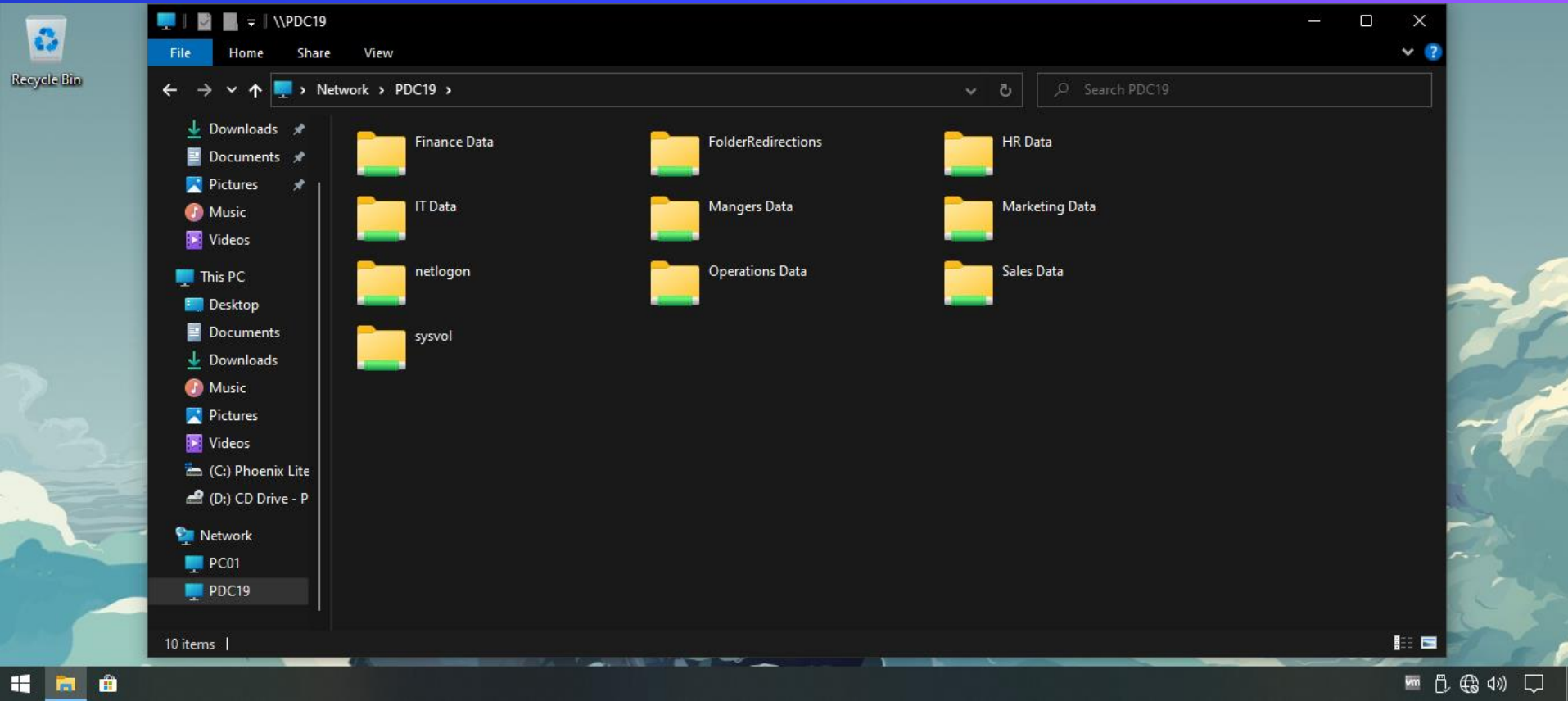
Domain: hazim.com

OK Cancel

- Related settings
- [BitLocker settings](#)
  - [Device Manager](#)
  - [Remote desktop](#)
  - [System protection](#)
  - [Advanced system settings](#)
  - [Rename this PC \(advanced\)](#)

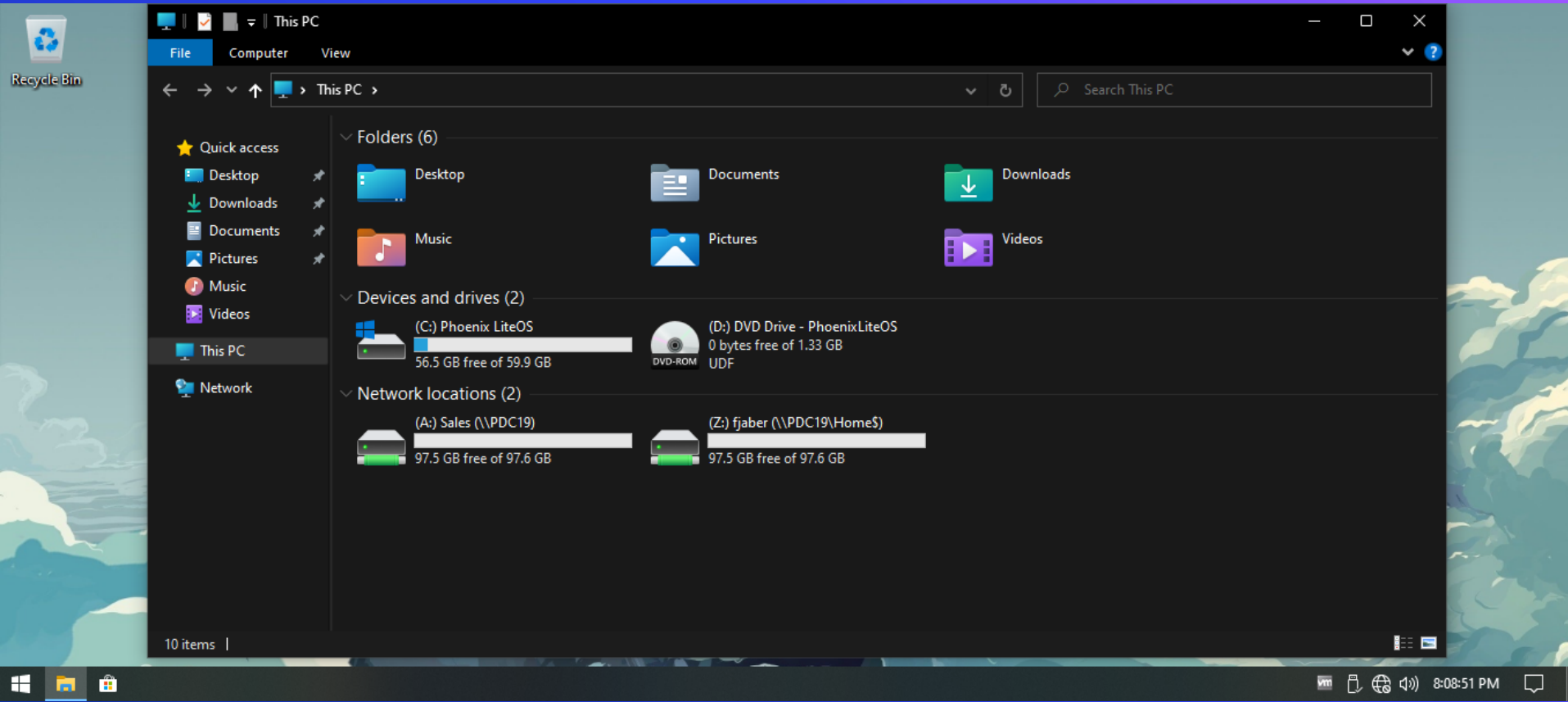
### Windows specifications





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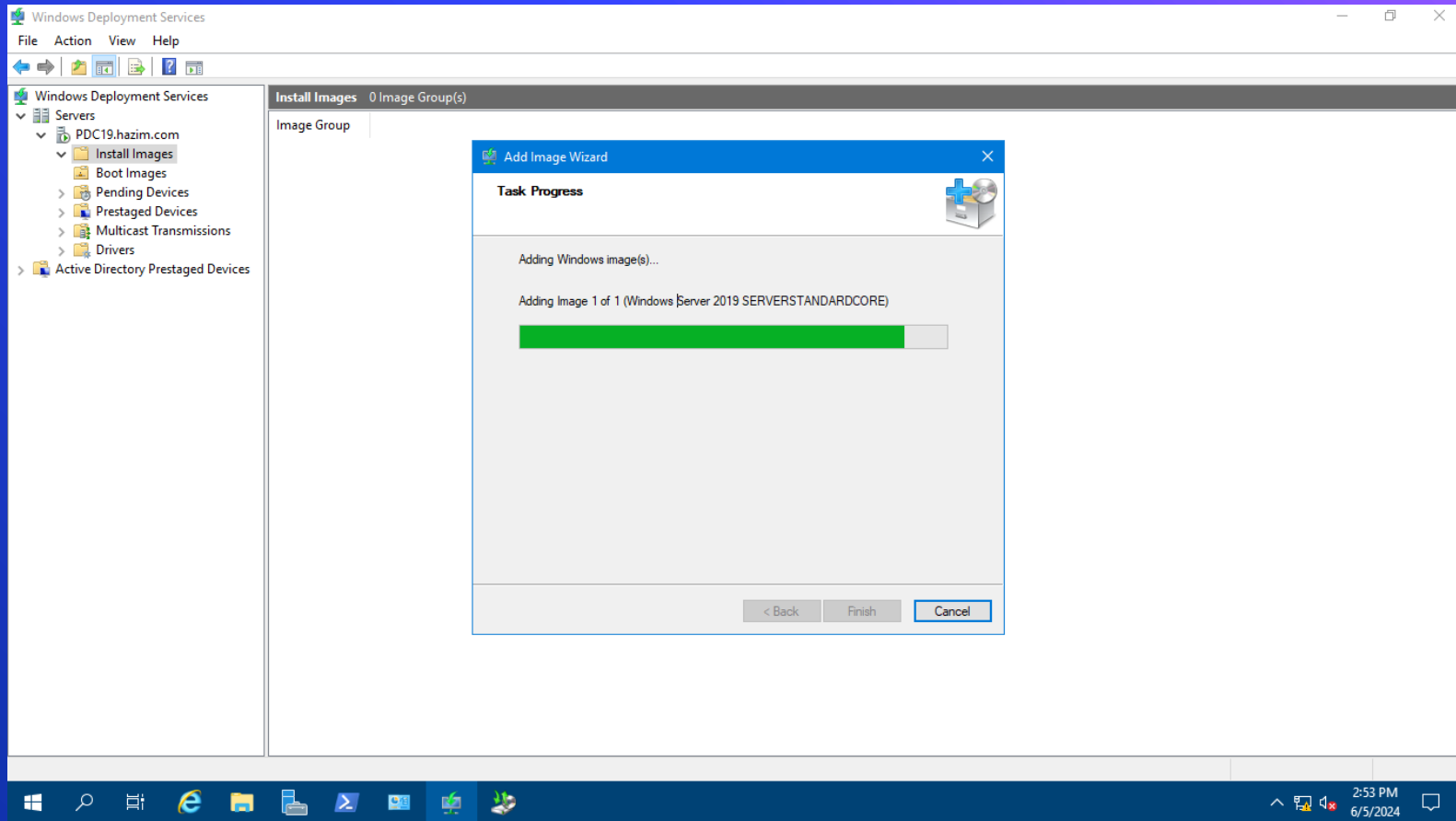


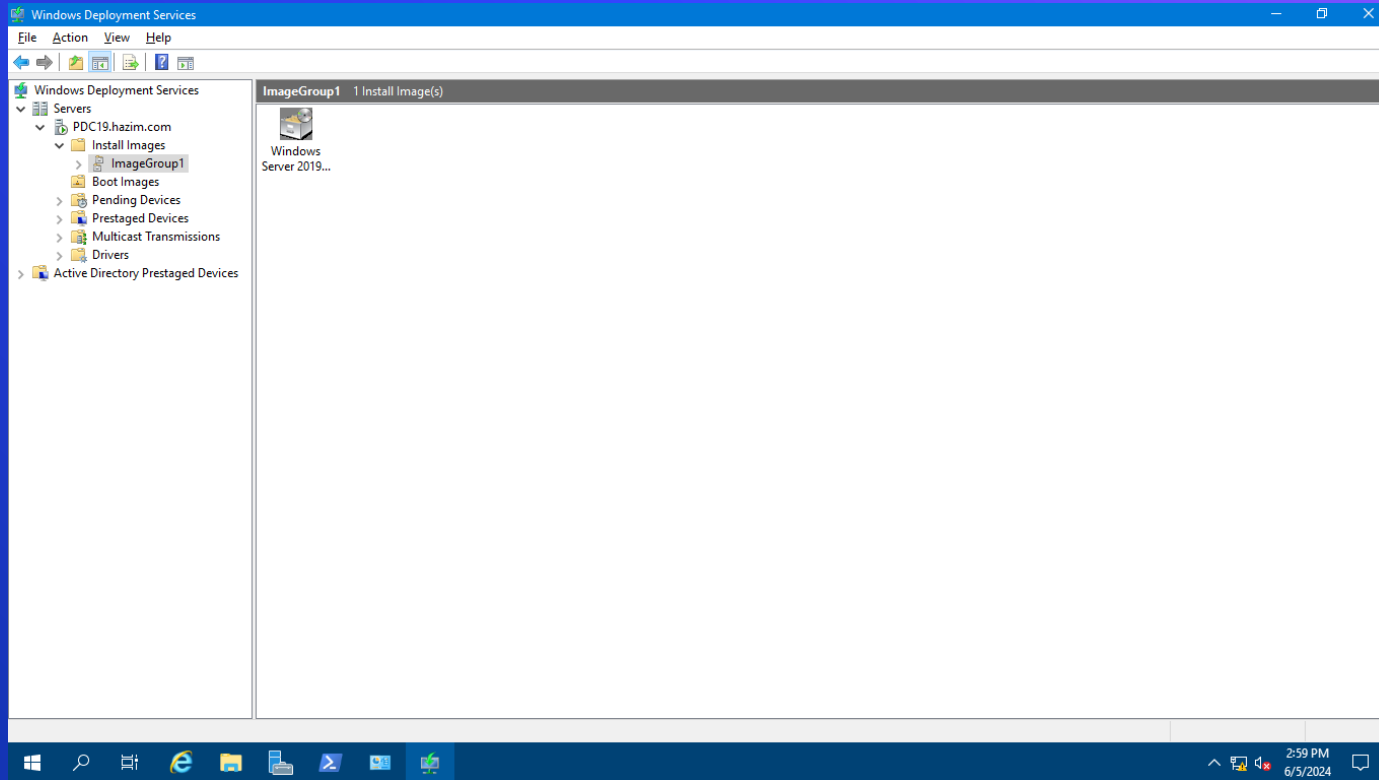
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# 7. WDS setup add images install using PXE









Loading files...



IP: 192.168.199.100, File: \Boot\x64\Images\boot.wim



# 8. Setup ADC





Dashboard

Local Server

All Servers

AD DS

File and Storage Services ▸

## PROPERTIES

For ADC19

Computer name ADC19  
Workgroup WORKGROUP

Windows Defender Firewall Public: On  
Remote management Enabled  
Remote Desktop Disabled  
NIC Teaming Disabled  
Ethernet0 192.168.199.150, IPv6 enable

Operating system version Microsoft Windows Server 20  
Hardware information VMware, Inc. VMware20,1

## EVENTS

All events | 16 total

Filter



Server Name	ID	Severity	Source	Log	Date and Time
ADC19	8198	Error	Microsoft-Windows-Security-SPP	Application	6/8/2024 10:47:30 AM
ADC19	472	Warning	ESENT	Application	6/8/2024 10:46:31 AM
ADC19	1023	Error	Microsoft-Windows-Perflib	Application	6/8/2024 9:35:03 AM

## Active Directory Domain Services Configuration Wizard

## Deployment Configuration

TARGET SERVER  
ADC19

## Deployment Configuration

Domain Controller Options

Additional Options

Paths

Review Options

Prerequisites Check

Installation

Results

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...

Supply the credentials to perform this operation

&lt;No credentials provided&gt;

Change...

[More about deployment configurations](#)

&lt; Previous

Next &gt;

Install

Cancel

Server Manager ▸ Local Server

Dashboard  
Local Server  
All Servers  
AD DS  
File and Storage Services ▸

**PROPERTIES**  
For ADC19

Computer name: ADC19  
Workgroup: WORKGROUP

Windows Defender Firewall: Public: On  
Remote management: Enabled  
Remote Desktop: Disabled  
NIC Teaming: Disabled  
Ethernet0: 192.168.199.150, IP...

Operating system version: Microsoft Windows  
Hardware information: VMware, Inc. VMwa...

**EVENTS**  
All events | 16 total

Filter

Server Name	ID	Severity	Source	Log	Date and Time
ADC19	8198	Error	Microsoft-Windows-Security-SPP	Application	6/8/2024 10:47:30 AM
ADC19	472	Warning	ESENT	Application	6/8/2024 10:46:31 AM
ADC19	1023	Error	Microsoft-Windows-Perflib	Application	6/8/2024 9:35:03 AM

Active Directory Domain Services Configuration Wizard

Deployment Configuration

Domain Controller Options

Additional Options

Paths

Review Options

Prerequisites Check

Installation

Results

SELECT THE DEPLOYMENT OPERATION

☒ Add a domain controller to an existing domain

☐ Add a new domain to an existing forest

TARGET SERVER: ADC19

Windows Security

Credentials for deployment operation

Supply credentials for the deployment operation

administrator@hazim.com

.....

OK Cancel

More about deployment configurations

< Previous Next > Install Cancel



## Active Directory Sites and Services

File Action View Help



## Active Directory Sites and Services [ADC19.hazim.com]

- ▼ Sites
  - > Inter-Site Transports
  - > Subnets
  - ▼ Default-First-Site-Name
    - ▼ Servers
      - ▼ ADC19
        - NTDS Settings
      - ▼ PDC19
        - NTDS Settings

Name	From Server	From Site	Type	Description
<automatically generated>	PDC19	Default-First-Si...	Connection	



# 9. Backup



wbadmin - [Windows Server Backup (Local)\Local Backup]

File Action View Help

Windows Server Backup (Local)  
Local Backup

**Local Backup**

You can perform a backup of the selected items.

No backup has been performed yet.

**Messages (Activity from 6/5/2024 4:40 PM)**

Time  
6/5/2024 4:40 PM

**Status**

**Last Backup**

Status: -  
Time: -  
View details

**Backup Once Wizard**

**Backup Progress**

Backup Options  
Select Backup Configuration...  
Select Items for Backup  
Specify Destination Type  
Select Backup Destination  
Confirmation  
**Backup Progress**

Status: Creating shadow copy of volumes...

Status details

Backup location: I:  
Data transferred: 0 KB

Items

Item	Status	Data transferred
System state	Backup not started.	0 KB of 0 KB

You may close this wizard and the backup operation will continue to run in the background.

< Previous Next > Close Cancel

**Actions**

Local Backup

- Backup Schedule...
- Backup Once...
- Recover...
- Configure Performance Settings...
- View
- Help

# 10. FSMO Roles Transfer Seize





## Active Directory Users and Computers

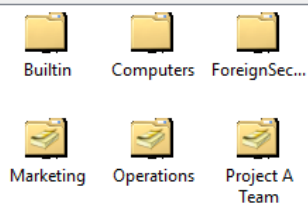
File Action View Help



## Active Directory Users and Computers [

## Saved Queries

- hazim.com
  - Admins
  - Builtin
  - Computers
  - Customer Support
  - Development Team
  - Domain Controllers
  - Finance
  - ForeignSecurityPrincipals
  - HR Department
  - IT Department
  - Legal Department
  - Managed Service Accounts
  - Managers
  - Marketing
  - Operations
  - Project A Team
  - Quality Assurance
  - Sales
  - Staff
  - Temporary Staff
  - Users



## Operations Masters

RID PDC Infrastructure

The operations master manages the allocation of RID pools to other Domain Controllers. Only one server in the domain performs this role.

Operations master:

PDC19.hazim.com

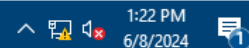
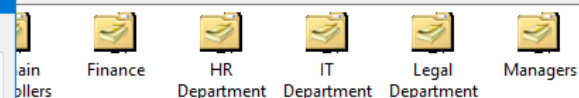
To transfer the operations master role to the following computer, click Change.

Change...

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Close

Cancel

1:22 PM  
6/8/2024

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# Thanks



**Any questions?**

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