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Intro to Active Directory

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Intro to Active Directory

Active Directory Domain Services merupakan fitur utama pada Windows Server yang digunakan untuk centralized management and authentication. ADDS terdiri dari beberapa services seperti DNS , LDAP , GPO dan Kerberos . Gabungan protocol tersebut digunakan sebagai penunjang agar proses manajemen dan autentikasi dapat dilakukan. Pada ADDS, perlu didefinisikan terlebih dahulu nama **domain** yang akan digunakan.

Server yang dijadikan sebagai pengatur atau controller suatu Active Directory Domain disebut sebagai **Domain Controller**, sedangkan server atau client yang diatur oleh controller tersebut disebut sebagai **Domain Member**. Domain Member tersebut dapat diatur melalui Domain Controller.

Untuk informasi lebih lanjut tentang Windows Server, dapat mengakses link berikut:

<https://learn.microsoft.com/id-id/windows-server/identity/ad-ds/get-started/virtual-dc/active-directory-domain-services-overview>

Active Directory Deployment

Pada praktikum ini, akan mengkonfigurasi Domain Controller untuk domain **domain.local**

Instalasi melalui Server Manager

Berikut langkah – langkah konfigurasi Active Directory melalui **Server Manager**:

1. Buka **Server Manager** pilih **Add roles and features**

Server Manager Dashboard

WELCOME TO SERVER MANAGER

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

2. Pilih **Role-based or feature-based installation**

Select installation type

DESTINATION SERVER
winsrv

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.

3. Pilih **winsrv** sebagai destination server

Select destination server

DESTINATION SERVER
winsrv

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Confirmation

Results

Select a server or a virtual hard disk on which to install roles and features.

☒ **Select a server from the server pool**

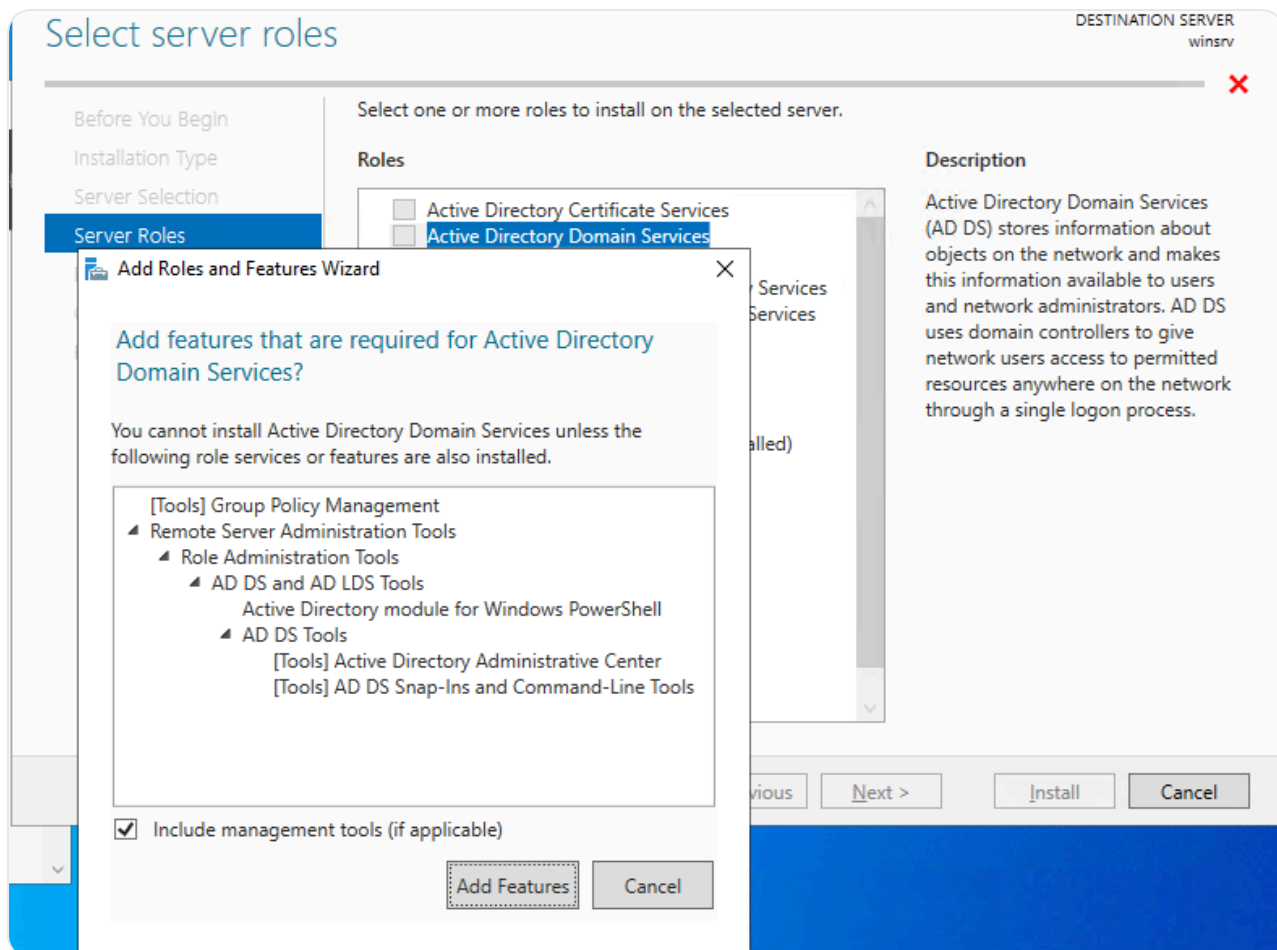
☐ Select a virtual hard disk

Server Pool

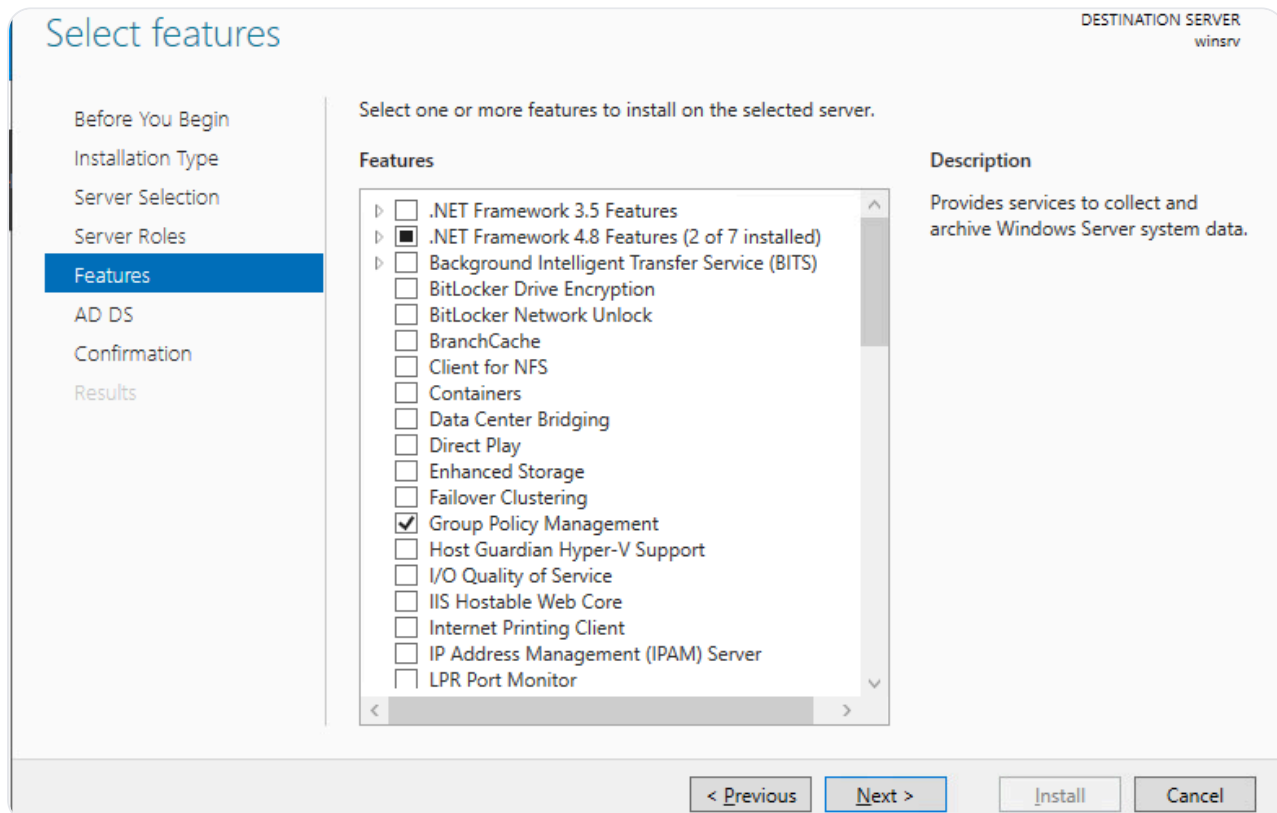
Filter:

Name	IP Address	Operating System
winsrv	192.168.192.1	Microsoft Windows Server 2022 Datacenter

4. Saat pemilihan **Server Roles**, pilih **Active Directory Domain Services**. Lalu, pilih **Add Features**



5. Saat proses pemilihan features, pilih **Next**



6. Pada bagian **Active Directory Domain Services**, pilih **Next**

Active Directory Domain Services

DESTINATION SERVER
winsrv

- 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](#)

< Previous Next > Install Cancel

7. Saat proses konfirmasi, centang **Restart the destination server automatically if required**. Lalu, pilih **Yes** lalu lanjut dengan menekan tombol **Install**

Confirm installation selections

DESTINATION SERVER
winsrv

- 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

Add Roles and Features Wizard



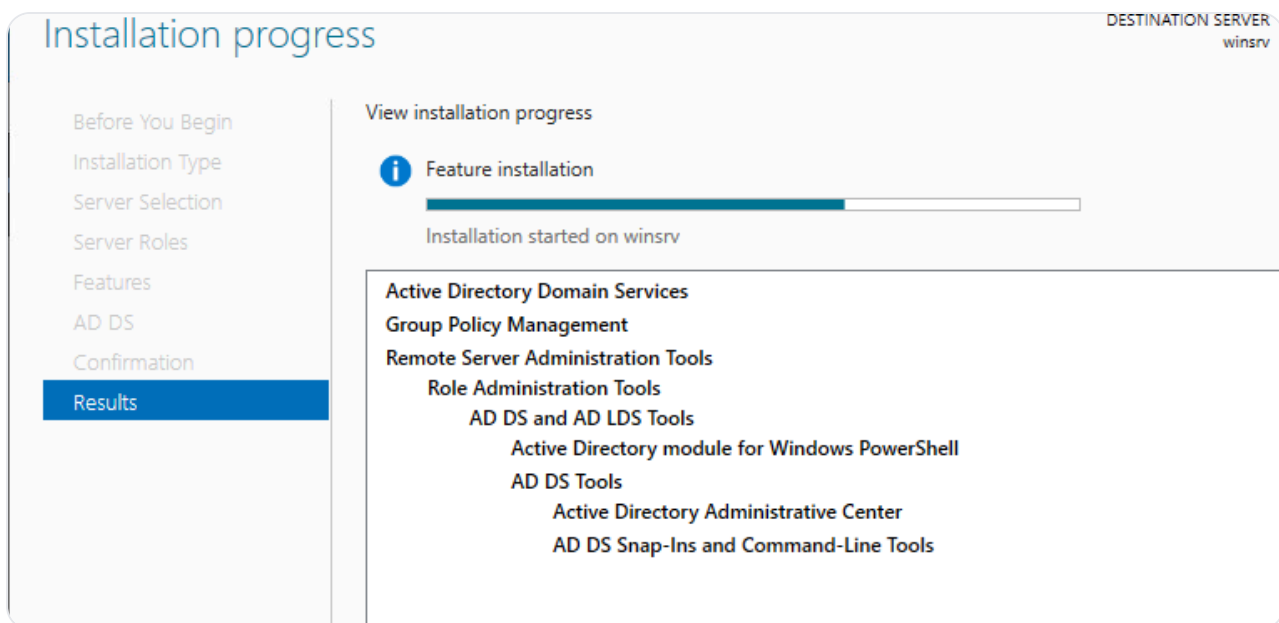
If a restart is required, this server restarts automatically, without additional notifications. Do you want to allow automatic restarts?

Yes No

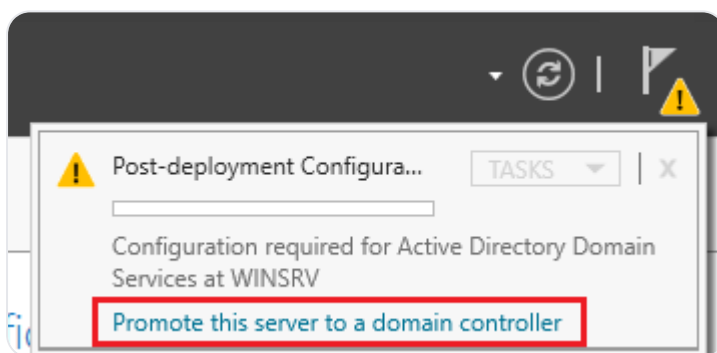
[Export configuration settings](#)
[Specify an alternate source path](#)

< Previous Next > Install Cancel

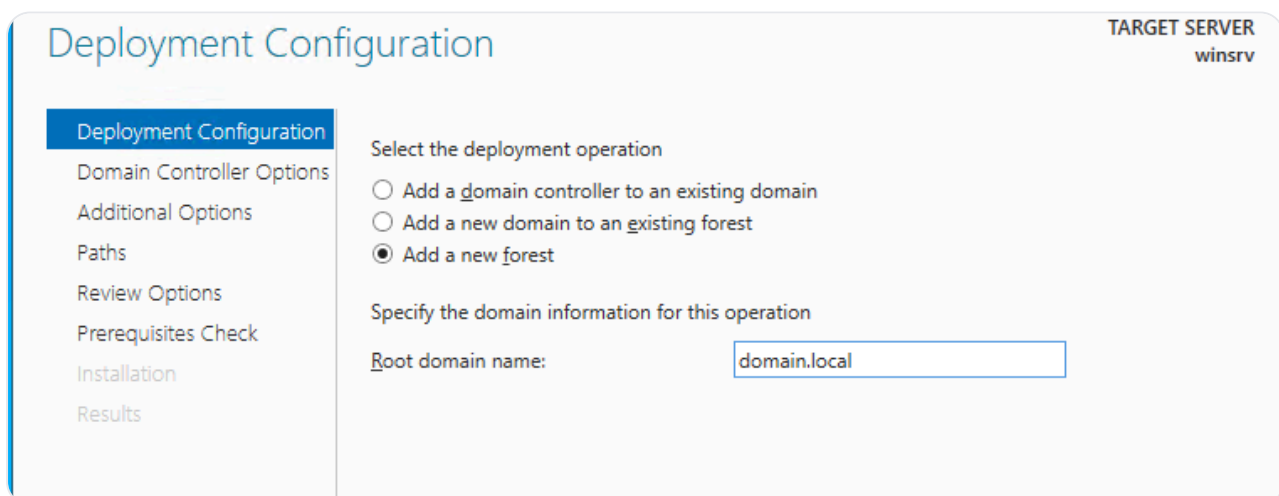
8. Tunggu proses instalasi hingga selesai



9. Setelah proses instalasi selesai, buka **Server Manager**. Tekan icon bendera dan pastikan terdapat Post-deployment configuration Active Directory Domain Services. Pilih **Promote this server to a domain controller**.



10. Pada bagian Deployment Configuration, pilih **Add a new forest**. Lalu masukan nama domain yang akan digunakan. Masukan domain.local sebagai nama domain.



Jika sudah lanjut dengan menekan tombol Next

11. Pada bagian Domain Controller Options, masukan password yang digunakan untuk Directory Services Restore Mode.

Domain Controller Options

TARGET SERVER
winsrv

Deployment Configuration

Domain Controller Options

DNS Options

Additional Options

Paths

Review Options

Prerequisites Check

Installation

Results

Select functional level of the new forest and root domain

Forest functional level: Windows Server 2016

Domain functional level: Windows Server 2016

Specify domain controller capabilities

☒ Domain Name System (DNS) server

☒ Global Catalog (GC)

☐ Read only domain controller (RODC)

Type the Directory Services Restore Mode (DSRM) password

Password:

Confirm password:

Jika sudah tekan tombol **Next**

12. Karena konfigurasi yang dilakukan adalah konfigurasi Domain Controller untuk domain yang baru, pada bagian DNS Options, pilih **Next**

DNS Options

TARGET SERVER
winsrv

Deployment Configuration

Domain Controller Options

DNS Options

Additional Options

A delegation for this DNS server cannot be created because the authoritative parent zone cannot be found... Show more X

Specify DNS delegation options

☐ Create DNS delegation

13. Pada bagian NetBIOS name, tekan tombol **Next**

Additional Options

TARGET SERVER
winsrv

Deployment Configuration

Domain Controller Options

DNS Options

Additional Options

Paths

Review Options

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

The NetBIOS domain name: DOMAIN

14. Pada bagian Paths, tekan tombol **Next**

Paths

TARGET SERVER
winsrv

Deployment Configuration

Domain Controller Options

DNS Options

Additional Options

Paths

Review Options

Prerequisites Check

Installation

Results

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

Database folder:

C:\Windows\NTDS

Log files folder:

C:\Windows\NTDS

folder:

C:\Windows\SYSVOL

15. Tekan tombol **Next** pada bagian Review Options

Review Options

TARGET SERVER
winsrv

Deployment Configuration

Domain Controller Options

DNS Options

Additional Options

Paths

Review Options

Prerequisites Check

Installation

Results

Review your selections:

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

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

The NetBIOS name of the domain: DOMAIN

Forest Functional Level: Windows Server 2016

Domain Functional Level: Windows Server 2016

Additional Options:

Global catalog: Yes

DNS Server: Yes

16. Tunggu proses prerequisites check hingga selesai. Jika sudah tekan tombol **Install**

Prerequisites Check

TARGET SERVER
winsrv

Deployment Configuration

Domain Controller Options

DNS Options

Additional Options

Paths

Review Options

Prerequisites Check

Installation

Results

✔ All prerequisite checks passed successfully. Click 'Install' to begin installation. [Show more](#) ✕

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

[Rerun prerequisites check](#)

[View results](#)

⚠ Windows Server 2022 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

17. Saat proses instalasi, server akan otomatis ter-restart.

<https://learnhub.itnsa.id/course?course=windows-course&lesson=f460a351-5bb0-4b21-93ab-3199d676ccf0>

7/16

You're about to be signed out

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

[Close](#)

18. Setelah restart, login sebagai user Administrator yang sebelumnya sudah digunakan. Saat windows server dijadikan sebagai Domain Controller, user Administrator tersebut akan berubah menjadi Domain Administrator.



Instalasi melalui Powershell

Instalasi Active Directory Domain Services melalui Powershell dapat dilakukan dengan perintah berikut:

1. Install Roles terlebih dahulu menggunakan perintah berikut

```
Install-WindowsFeature -IncludeManagementTools AD-Domain-Services
```

2. Deploy Active Directory menggunakan perintah berikut

```
Install-ADDSForest -DomainName domain.local
```

Lalu, masukan safe administrator password dengan **Skill39!**

```
PS C:\Users\Administrator> Install-ADDSForest -DomainName domain.local
SafeModeAdministratorPassword: *****
Confirm SafeModeAdministratorPassword: *****

The target server will be configured as a domain controller and restarted when this operation is complete.
Do you want to continue with this operation?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "Y"): A
```

Tunggu proses instalasi hingga selesai

```
Install-ADDSForest

Validating environment and user input
All tests completed successfully
[oooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooo]
Installing new forest
Starting

The target server will be configured as a domain controller and restarted when this operation is complete.
Do you want to continue with this operation?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "Y"): A
WARNING: This computer has at least one physical network adapter that does not have static IP address(es) assigned to
its IP Properties. If both IPv4 and IPv6 are enabled for a network adapter, both IPv4 and IPv6 static IP addresses
should be assigned to both IPv4 and IPv6 Properties of the physical network adapter. Such static IP address(es)
assignment should be done to all the physical network adapters for reliable Domain Name System (DNS) operation.

WARNING: 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
"domain.local". Otherwise, no action is required.
```

3. Setelah selesai, login ke dalam Windows Server menggunakan user Administrator sebelumnya



Active Directory Object

Pada Active Directory, terdapat berbagai macam object yang dapat dibuat dan diatur. Berikut adalah beberapa object yang ada pada Active Directory:

1. Computer Object

Merepresentasikan komputer yang menjadi Domain Member suatu domain.

2. User Object

Merepresentasikan user yang dapat digunakan untuk login pada komputer Domain Member.

3. Group Object

Merepresentasikan group yang ada pada domain.

4. Organizational Unit

Digunakan sebagai container untuk menyimpan berbagai object seperti User dan Group.

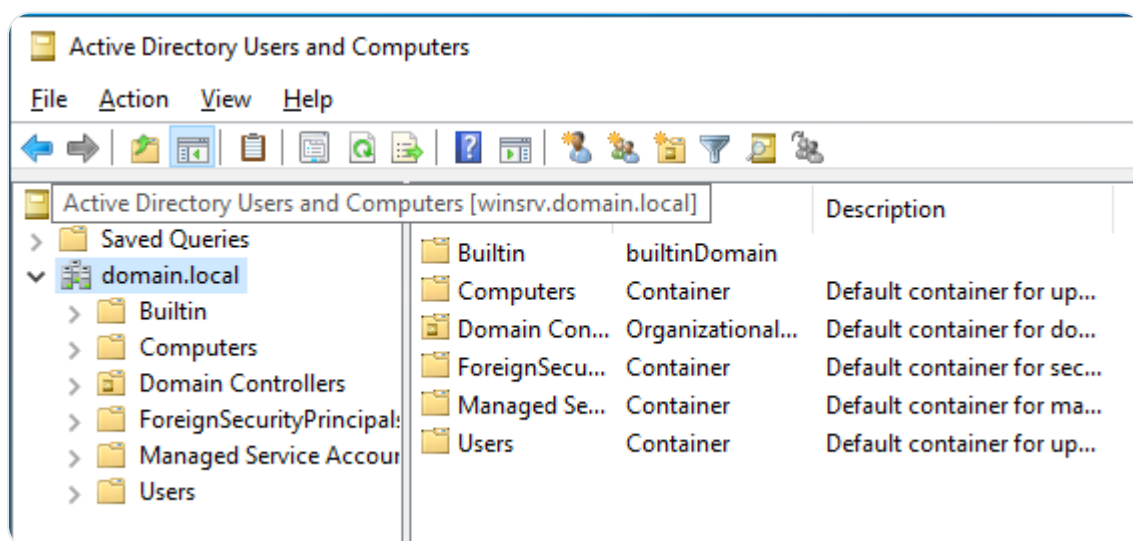
5. Domain Controller Object

Merepresentasikan komputer yang menjadi Domain Controller. Suatu domain dapat memiliki lebih satu Domain Controller.

Managing Active Directory

Active Directory Users and Computers (dsa.msc)

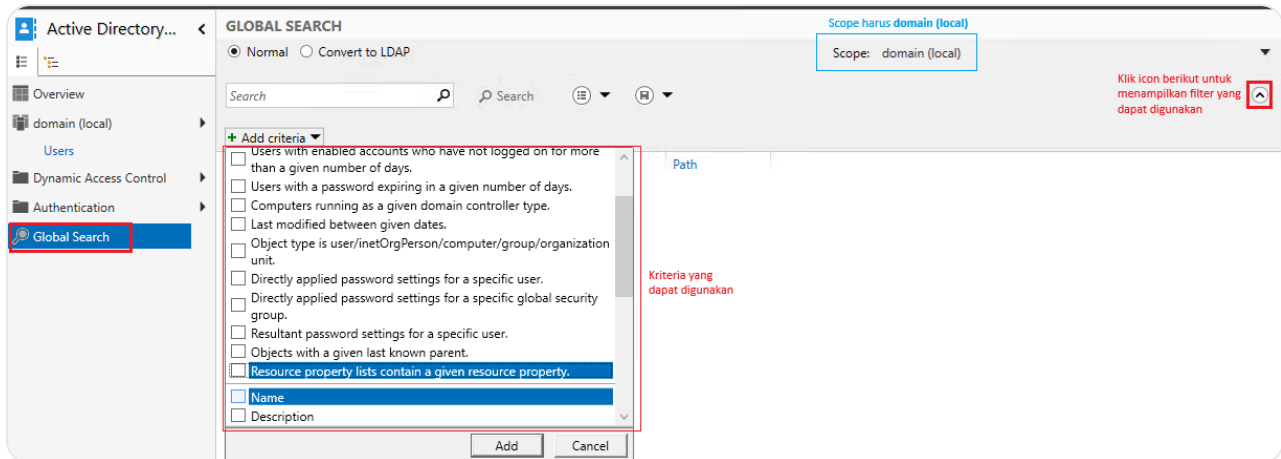
Selain menggunakan tools **Active Directory Users and Computers (dsa.msc)**, terdapat tools lain yang dapat digunakan untuk manajemen Active Directory yaitu **Active Directory Administrative Center (dsac.exe)**. Berikut adalah tools **dsa.msc** yang umum digunakan dalam manajemen Active Directory:



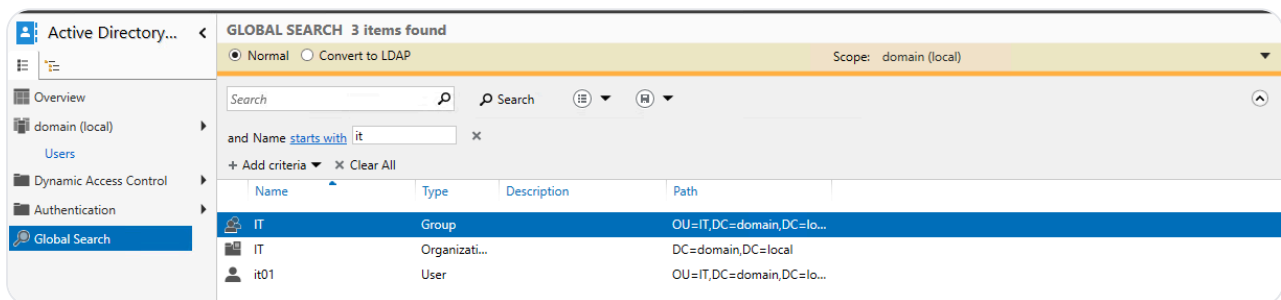
Active Directory Administrative Center (dsac.exe)

Active Directory Administrative Center (dsac.exe) dapat digunakan untuk mencari object pada Active Directory dengan kriteria tertentu dan pembuatan fine-grained

password policy. Untuk mencari object berdasarkan suatu kriteria, gunakan fitur Global Search seperti berikut:



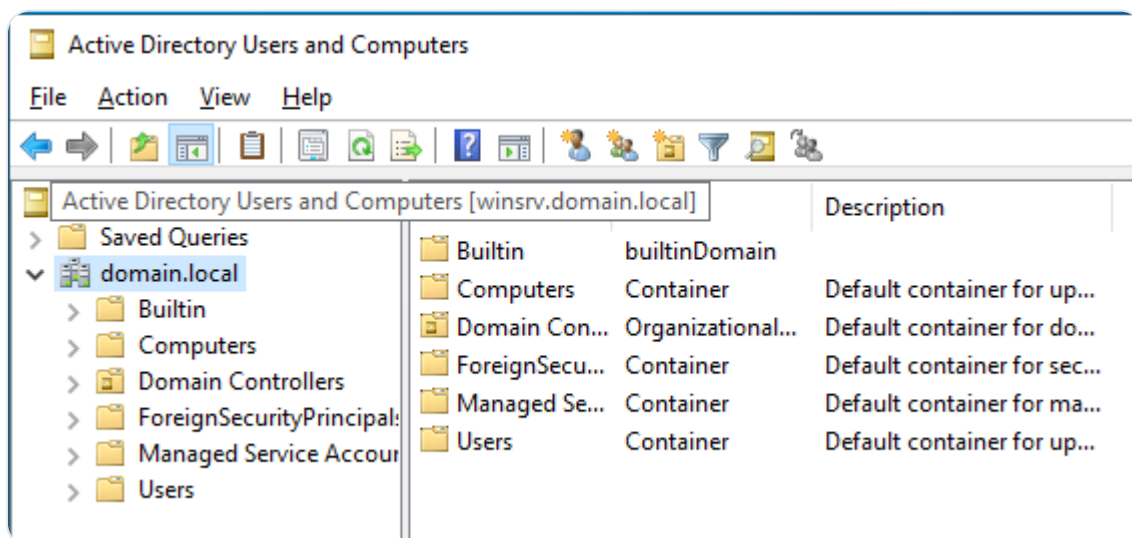
Contohnya seperti berikut untuk menampilkan object yang namanya dimulai dengan kalimat it



Active Directory Object Creation

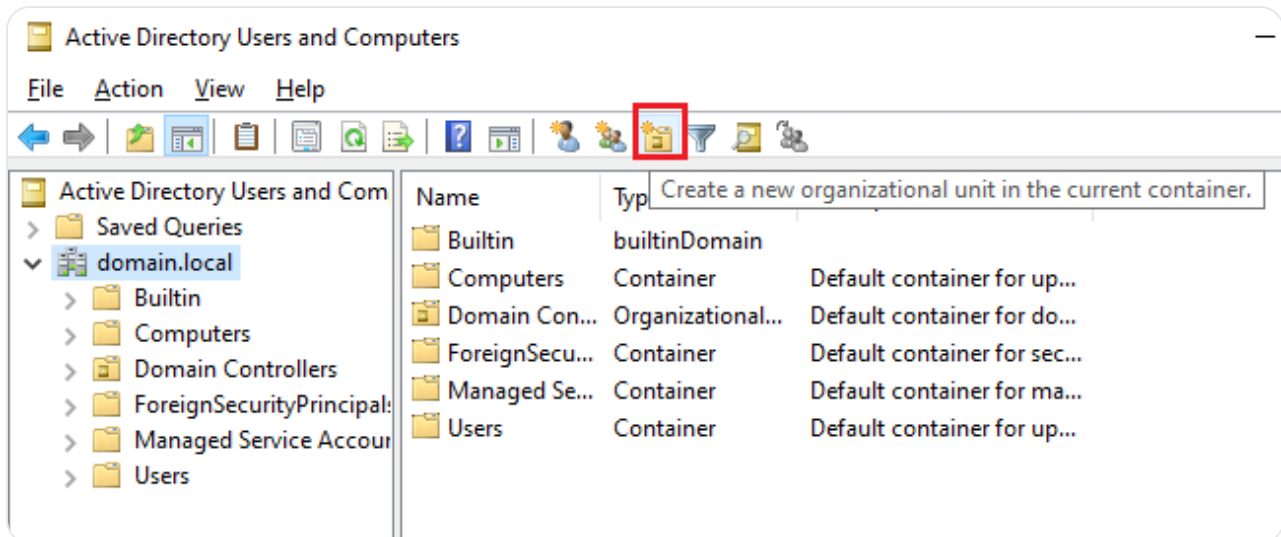
Proses pembuatan object pada Active Directory dapat dilakukan menggunakan tools

Active Directory Users and Computers (dsa.msc) seperti yang ada pada gambar berikut:

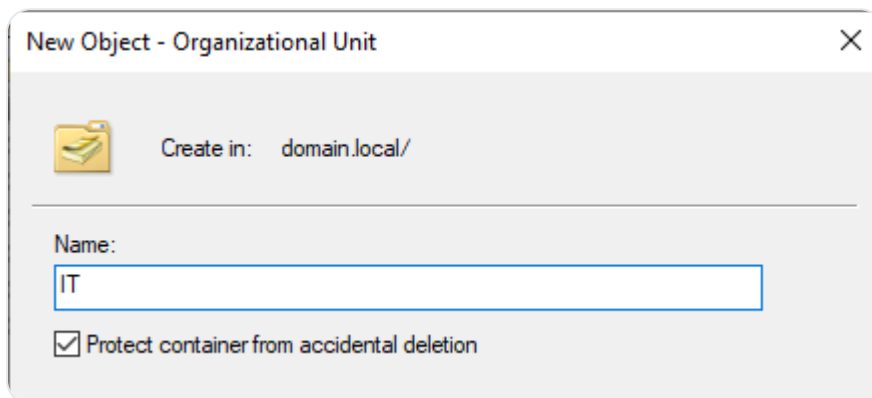


Pembuatan Organizational Unit

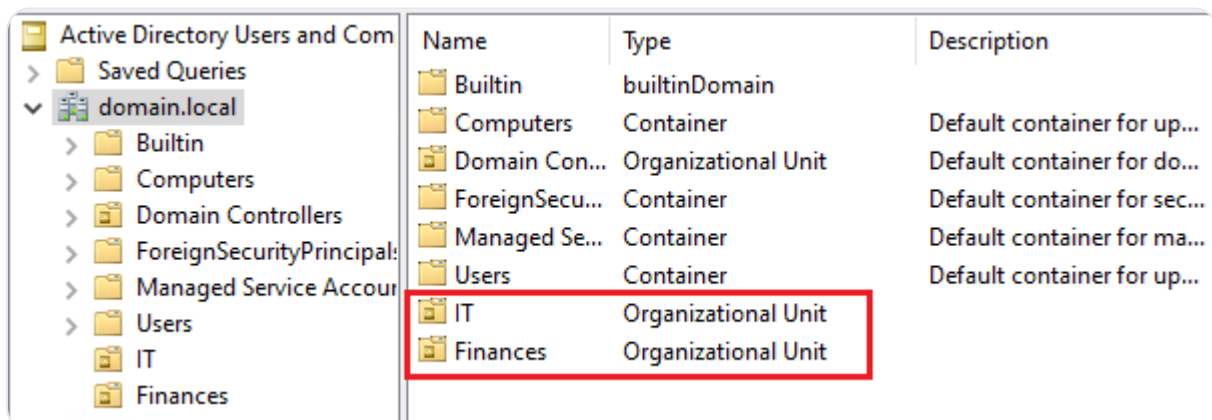
Untuk membuat Organizational Unit pada **domain.local**, tekan icon folder seperti contoh berikut:



Lalu, masukan nama organizational unit yang akan dibuat. Jika sudah klik **OK**

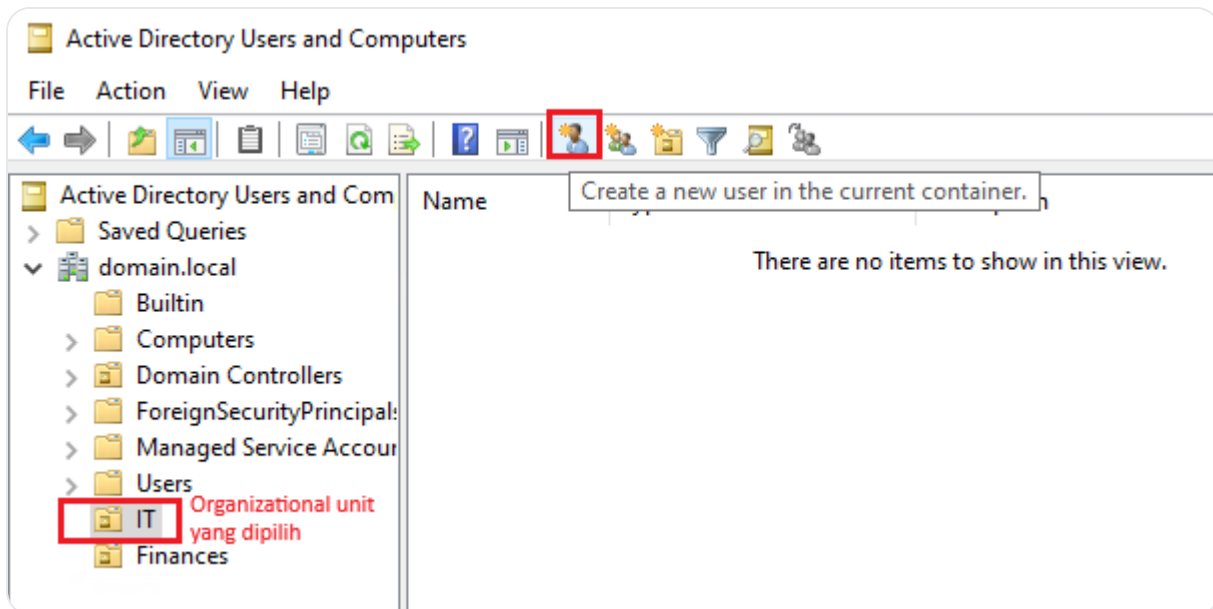


Dengan menggunakan cara yang sama, buat organizational unit baru bernama **Finances** seperti contoh berikut:

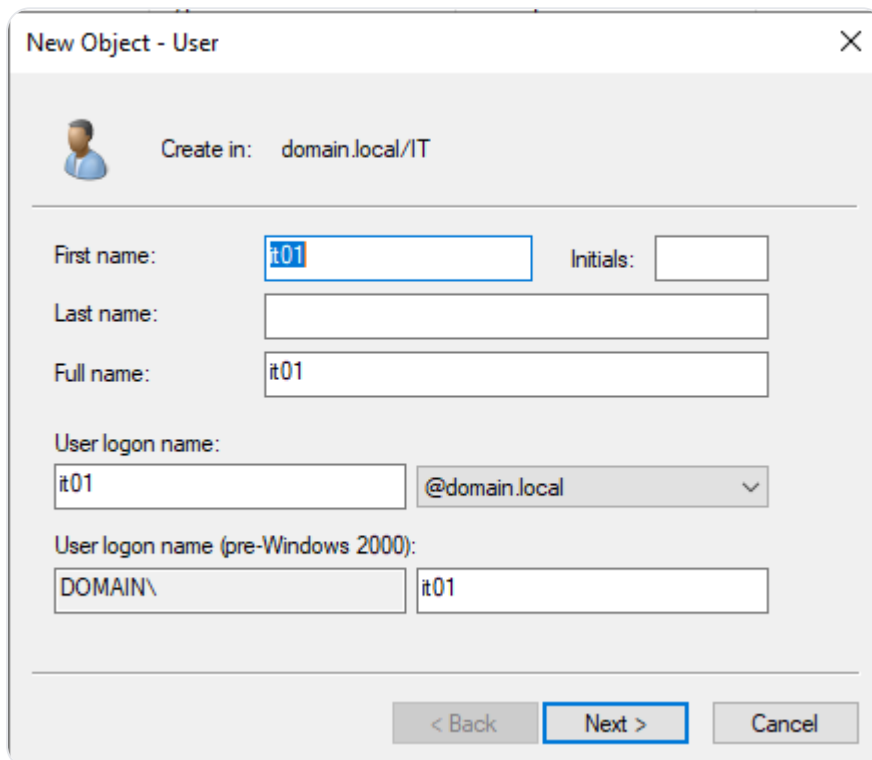


Pembuatan Active Directory User

Untuk membuat User, pilih target Organizational Unit terlebih dahulu. Lalu, tekan icon bertanda merah pada gambar dibawah ini:



Dilanjut dengan memasukkan nama dan atribut user yang akan dibuat:



Masukan password dari user yang akan dibuat dan pastikan user tidak perlu mengganti password saat login

New Object - User

Create in: domain.local/IT

Password: [masked]

Confirm password: [masked]

☒ User must change password at next logon

☐ User cannot change password

☐ Password never expires

☐ Account is disabled

< Back Next > Cancel

Pastikan user berhasil dibuat

Dengan cara yang sama, buat user bernama **finance01** pada **Finances** organizational unit

Active Directory Users and Com

Saved Queries

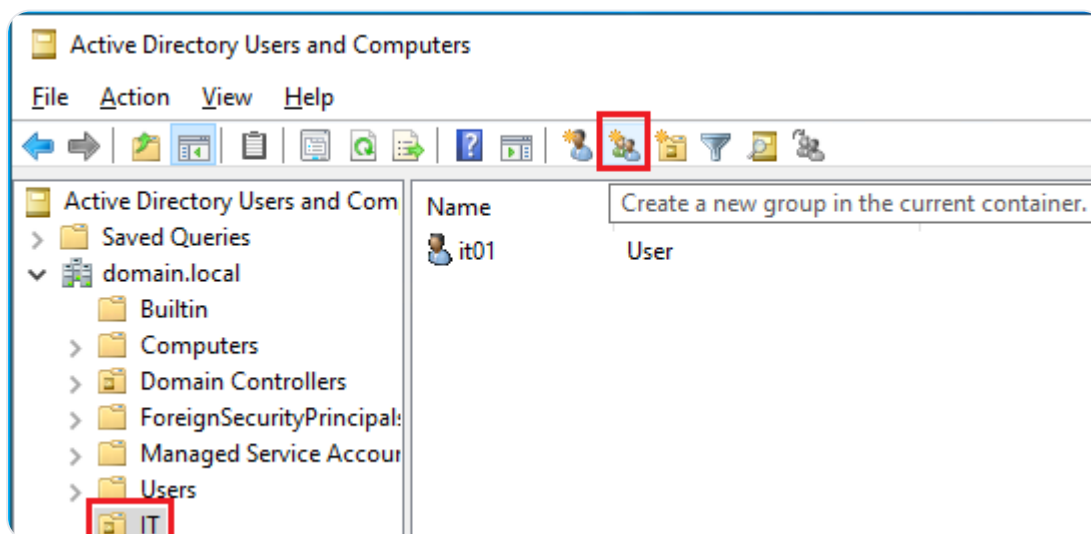
domain.local

Builtin

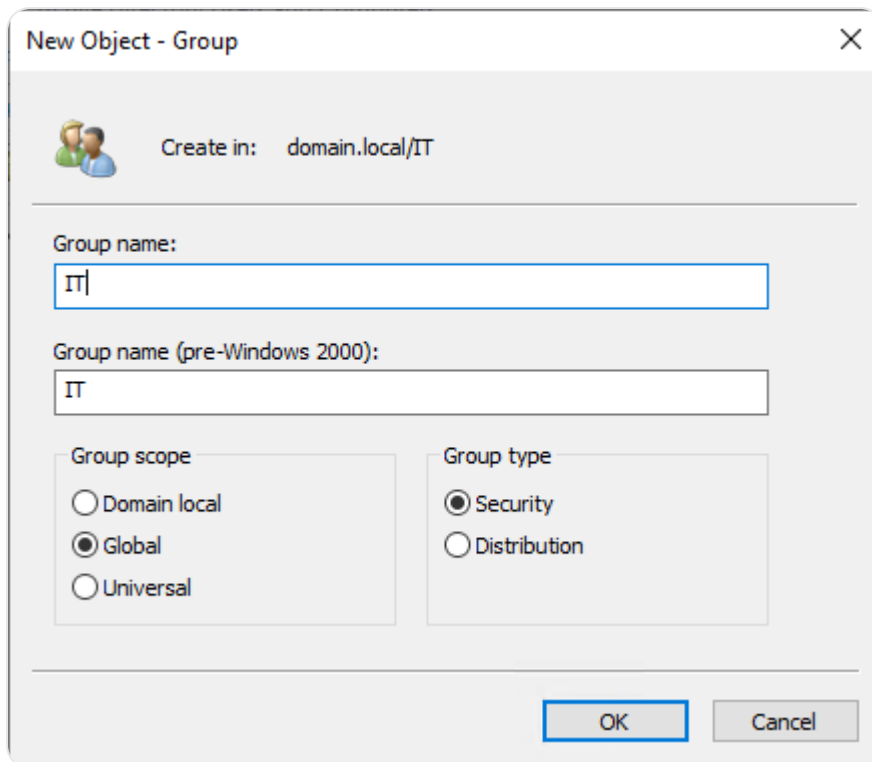
Name	Type	Description
it01	User	

Pembuatan Active Directory Group

Sama seperti pembuatan user, pilih target Organizational Unit terlebih dahulu. Lalu, tekan icon bertanda merah pada gambar dibawah ini:



Masukan nama group yang akan dibuat dan pastikan group bertipe **Security**



New Object - Group

Create in: domain.local/IT

Group name:
IT

Group name (pre-Windows 2000):
IT

Group scope

☐ Domain local
☒ Global
☐ Universal

Group type

☒ Security
☐ Distribution

OK Cancel

Pastikan group berhasil dibuat

Active Directory Users and Com

> Saved Queries

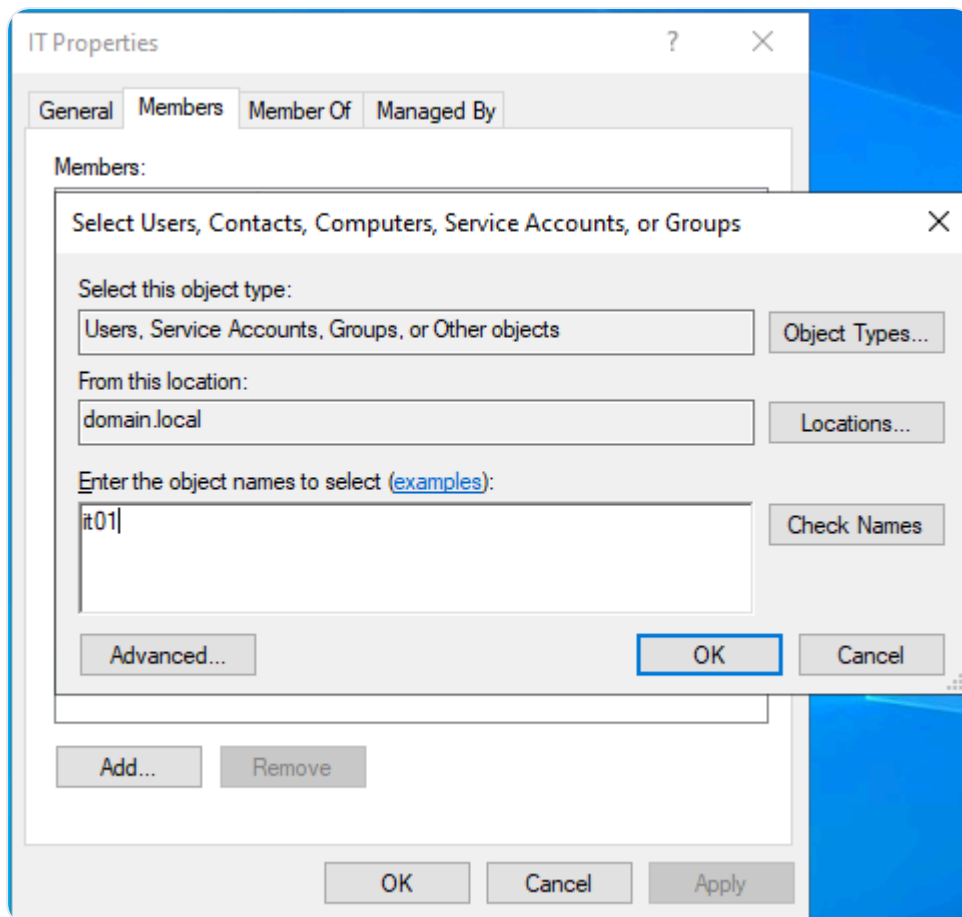
> domain.local

Builtin

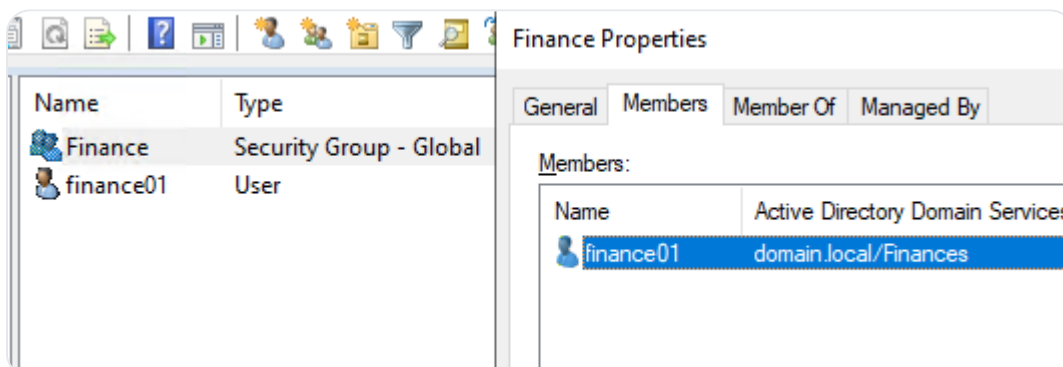
> Computers

Name	Type	Description
IT	Security Group - Global	
it01	User	

Tambahkan user yang akan menjadi anggota group tersebut dengan cara klik objek group yang sudah dibuat, lalu pilih **Members** > **Add...** > masukan nama user yang akan menjadi anggota group



Dengan menggunakan cara yang sama, buat group bernama **Finance** pada **Finances** organizational unit. Lalu, tambahkan user **finance01** sebagai anggota dari group Finance seperti contoh berikut:



Mark Complete & Next