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Platform: Windows Server Home Lab Project

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## Active Directory Installation Guide (Windows Server 2019)

### 1. Introduction

This documentation provides a structured, beginner-friendly guide to installing **Active Directory Domain Services (AD DS)** on a Windows Server 2019 virtual machine. It is suitable for IT support, system administrators, and anyone building a home lab environment.

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### 2. Requirements

#### 2.1 System Requirements

##### Component Minimum

OS	Windows Server 2019 (Desktop Experience recommended)
RAM	4–8 GB
CPU	2 cores
Disk	60 GB or more

#### 2.2 Software Requirements

- Windows Server 2019 installed on VMware
  - VMware Tools installed
  - Administrator access
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### 3. Installing Active Directory Domain Services (AD DS)

#### 3.1 Open Server Manager

- AD installation begins in **Server Manager**, which opens automatically on login.
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#### 3.2 Add Roles and Features

1. Click **Manage** (top right)

## 2. Select Add Roles and Features

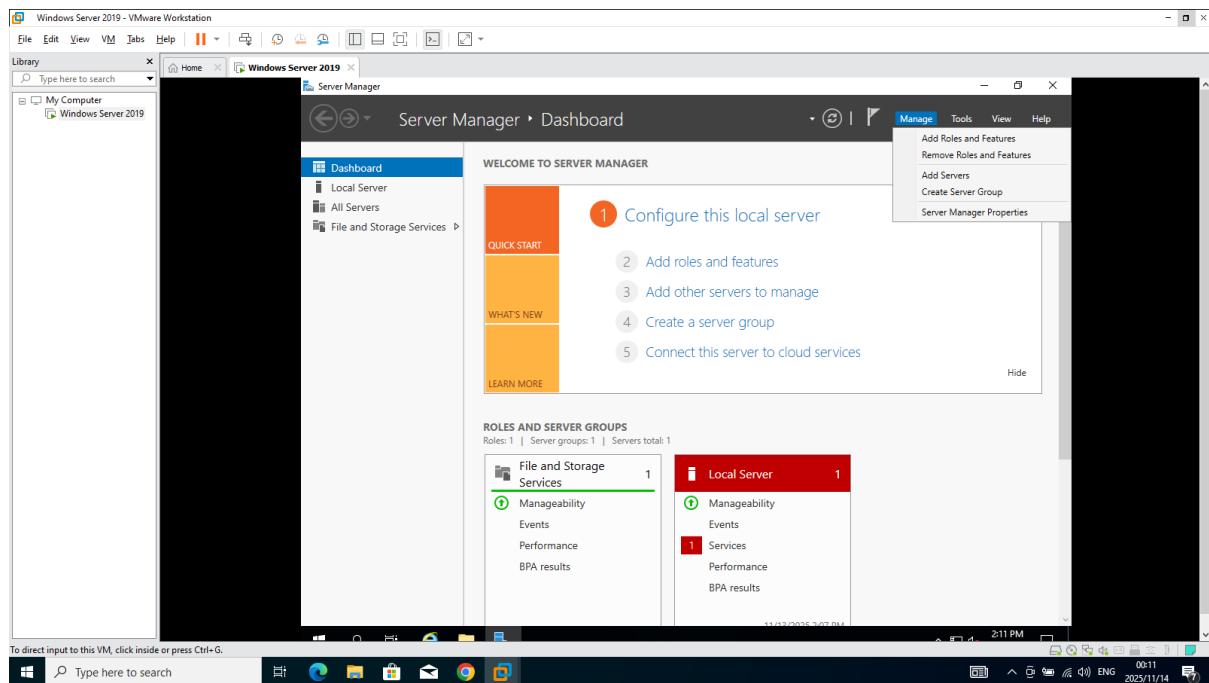


Figure 6: Server Dashboard showing Manager at the top-right corner.

### 3.3 Select Installation Type

- Choose **Role-based or feature-based installation**
- Click **Next**

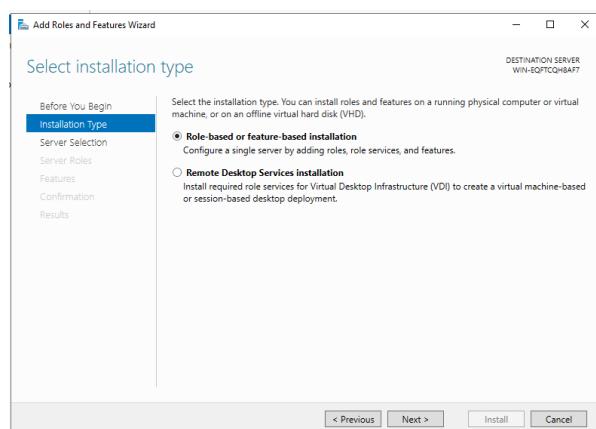


Figure 7: Screen showing Select Installation Type.

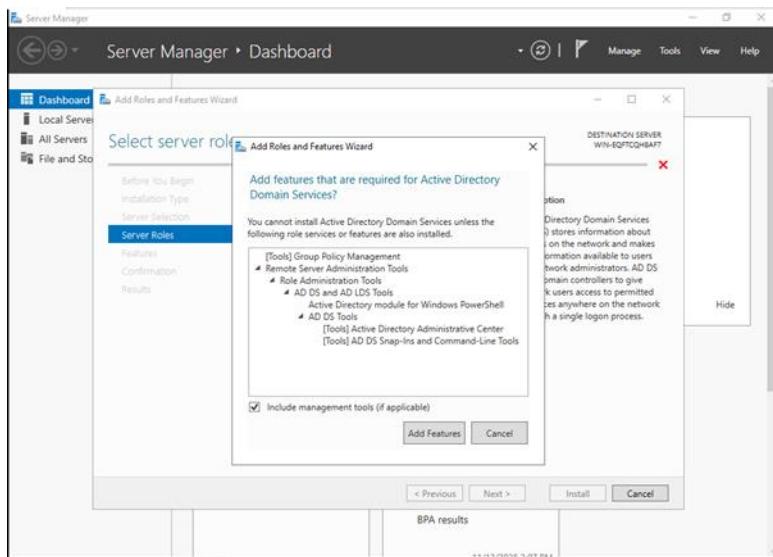
### 3.4 Select Destination Server

- Choose **Select a server from the server pool**

- Verify your server name is selected
  - Click **Next**
- 

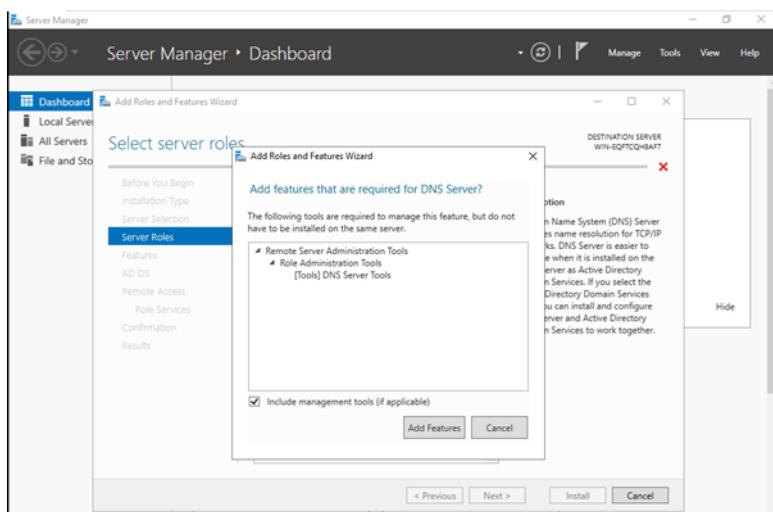
### 3.5 Select Server Roles

1. Check **Active Directory Domain Services**
2. A pop-up will appear → Click **Add Features**
3. Check **Group Policy Management**



**Figure 8:** Screen showing Group Policy Management and Add Features

4. A pop-up will appear → Click **Add Features**
5. Check **Remote Server Administration Tool**



**Figure 9:** Screen showing Remote Server Administration Tool and Add Features

6. A pop-up will appear → Click **Add Features**
  7. Click **Next**
- 

### **3.6 Confirm Features**

- Keep default settings
  - Click **Next**
- 

### **3.7 AD DS Overview**

- Read summary if needed
  - Click **Next**
- 

### **3.8 Install AD DS**

- Click **Install**
  - Wait for the installation to finish (do not restart yet)
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## **4. Configuring Active Directory Domain Services**

### **4.1 Promote Server to a Domain Controller**

After installation, a yellow notification appears in Server Manager.

1. Click **Promote this server to a domain controller**
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### **4.2 Deployment Configuration Options**

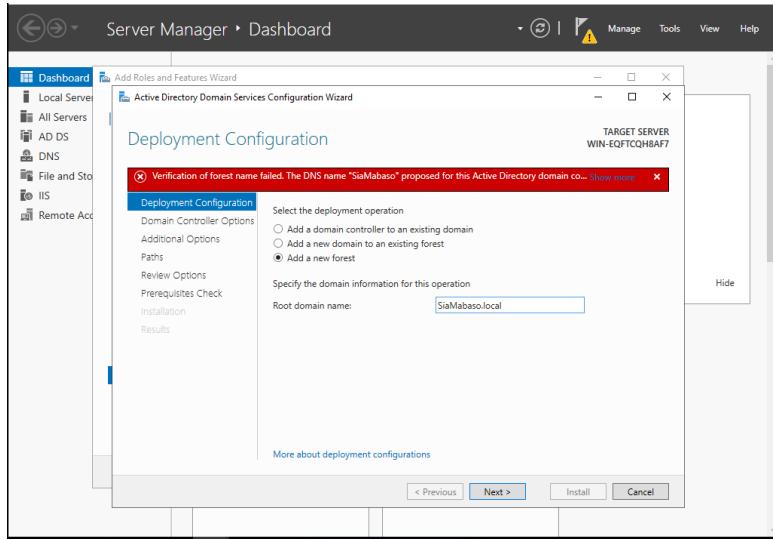
Choose one:

#### **Option A: Add a New Forest**

(If building a new domain)

- Select **Add a new forest**

- Enter Root domain name (e.g., **mylab.local**). You have to put “**.local**” otherwise an error message will pop-up.

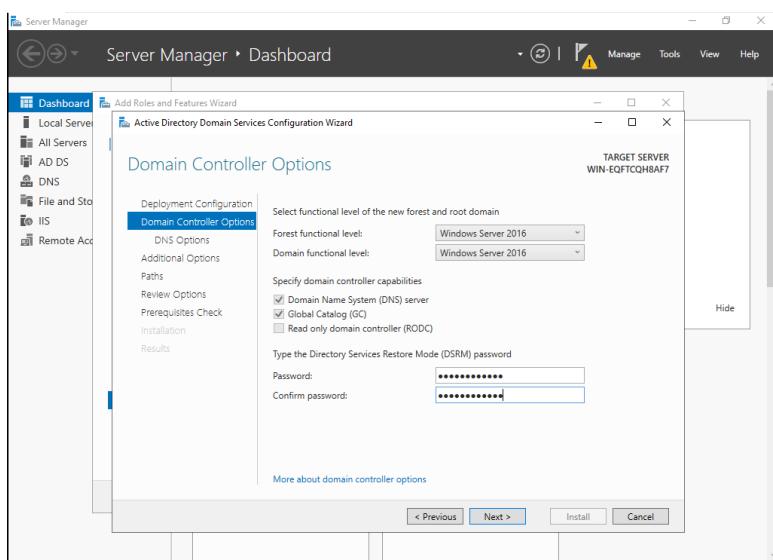


**Figure 10:** Screen showing Deployment Configuration with deployment operation option and root domain name box (**SiaMabaso.local**).

- Click **Next**
- 

### 4.3 Domain Controller Options

- Choose Forest and Domain functional level: **Windows Server 2016**
- Leave DNS and GC (Global Catalog) checked
- Enter a **DSRM password** (Directory Services Restore Mode)



**Figure 11:** Screen showing Domain Controller Option with Forest and Domain functional level, DNS and GC and DSRM password.

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- 4. Click **Next**

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#### 4.4 DNS Options

- Ignore DNS delegation warning
  - Click **Next**
- 

#### 4.5 Additional Options

- Confirm **NetBIOS domain name**
  - Click **Next**
- 

#### 4.6 Paths

- Leave default paths:
    - Database: C:\Windows\NTDS
    - Log files: C:\Windows\NTDS
    - SYSVOL: C:\Windows\SYSVOL
  - Click **Next**
- 

#### 4.7 Review Options

- Review all settings
  - Click **Next**
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#### 4.8 Prerequisites Check

- Ensure all checks pass
- Click **Install**

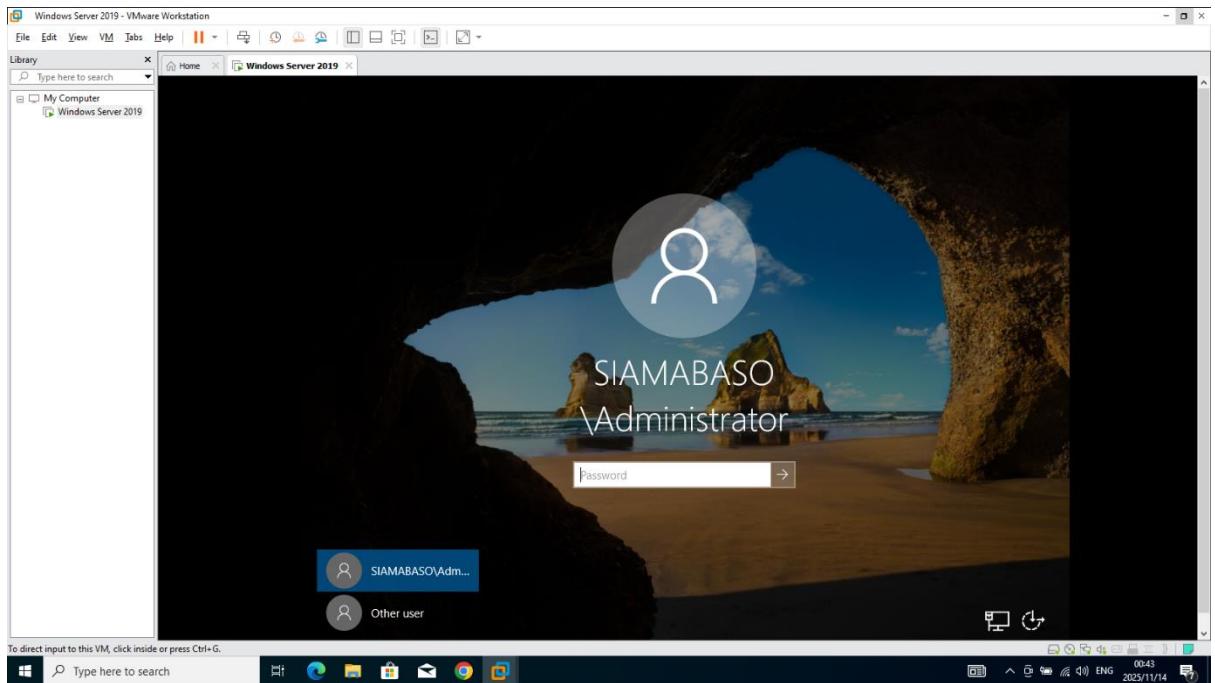
The server will automatically restart once installation completes.

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### 6. Post-Installation Verification

#### 6.1 Log In with Domain Credentials

- After reboot, log in using: **DOMAIN\Administrator** Example:  
**MYLAB\Administrator**

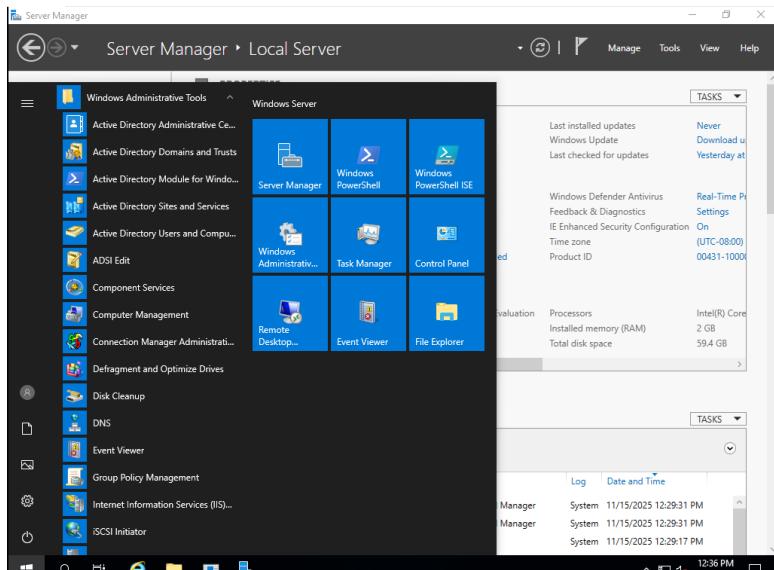


**Figure 12:** Screen showing user domain credentials\ administrator (**SIAMABASO\Administrator**)

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## 6.2 Open Active Directory Tools

1. Click **Start**
2. Open **Windows Administrative Tools**
3. Confirm tools such as:
  - Active Directory Users and Computers
  - Active Directory Domains and Trusts
  - DNS Manager
  - Group Policy Management



**Figure 13:** Screen showing Windows Administrative Tools such as Active Directory Users and Computers, Active Directory Domains and Trusts, DNS Manager, and Group Policy Management.

## 7. Conclusion

You have successfully:

- Installed **Active Directory Domain Services**
- Promoted your server to a **Domain Controller**
- Created your own **Active Directory domain**

This environment is now ready for:

- Adding users & computers
- Creating Organizational Units (OUs)
- Managing Group Policies
- Practicing IT admin tasks for real-world role