

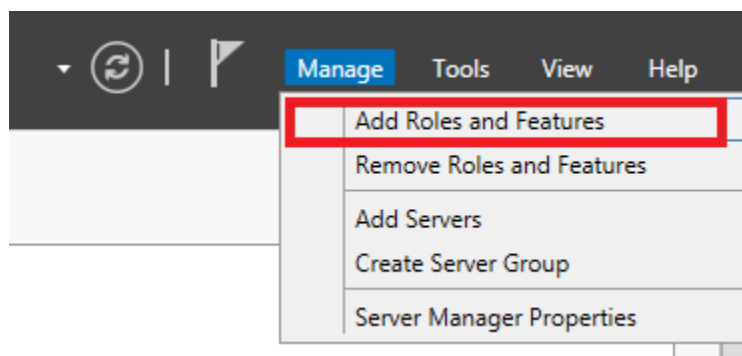
Active Directory Installation on Windows Server 2012

What really active directory is..? Active Directory Domain Services (AD DS) is an extensible and scalable directory service you can use to efficiently manage network resources. As an administrator, you need to be deeply familiar with how Active Directory technology works. Active Directory uses Domain Name System (DNS). DNS is a standard Internet service that organizes groups of computers into domains. DNS domains are organized into a hierarchical structure. The DNS domain hierarchy is defined on an Internet-wide basis, and the different levels within the hierarchy identify computers, organizational domains, and top-level domains. DNS is also used to map host names to numeric TCP/IP addresses. Through DNS, an Active Directory domain hierarchy can also be defined on an Internet-wide basis, or the domain hierarchy can be separate from the Internet and private.

With Windows Server 2012, you install Active Directory in a **two-part process**. First you start the process in Server Manager by tapping or clicking Manage and then Add Roles And Features. This runs the Add Roles And Features Wizard, which you use to specify that you want to add the AD DS role to the server. This installs binaries needed for the role, and the progress of this process is shown on the Installation Progress page. Binaries needed to install roles and features are referred to as **payloads**. With Windows Server 2012, not only can you uninstall a role or feature, but you also can uninstall and remove the payload for that feature or role using the **–Remove** parameter of the **Uninstall-WindowsFeature** cmdlet. You can restore a removed payload using the **Install-WindowsFeature** cmdlet. By default, payloads are restored via Windows Update. Use the **–Source** parameter to restore a payload from a WIM mount point.

Ok lets begin the first part process of Active Directory Installation on Windows Server 2012. To do this we need to add ADDS role to server 2012 as below:

- Click **Manage** and then Add **Roles And features** in Server Manager



- This run the Add Roles and features wizard. Click next.
- Select **Role-based or feature-based installation**. Click next.

The screenshot shows the 'Add Roles and Features Wizard' window. The title bar says 'Add Roles and Features Wizard'. The main heading is 'Select installation type'. On the right, it says 'DESTINATION SERVER DC2K12'. On the left, there is a navigation pane with the following items: 'Before You Begin', 'Installation Type' (highlighted), 'Server Selection', 'Server Roles', 'Features', 'Confirmation', and 'Results'. The main content area has the text: '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)'. There are two radio button options:

- ☒ **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.

- If you have multiple servers in available pool, select the server which you want to promote as a Active Directory Server. In this lab I have a single server name *DC2k12*, so I select this server

The screenshot shows the 'Add Roles and Features Wizard' window at the 'Select destination server' step. The title bar says 'Add Roles and Features Wizard'. The main heading is 'Select destination server'. On the right, it says 'DESTINATION SERVER DC2K12'. On the left, the navigation pane has 'Before You Begin', 'Installation Type', 'Server Selection' (highlighted), 'Server Roles', 'Features', 'Confirmation', and 'Results'. The main content area has the text: 'Select a server or a virtual hard disk on which to install roles and features.' There are two radio button options:

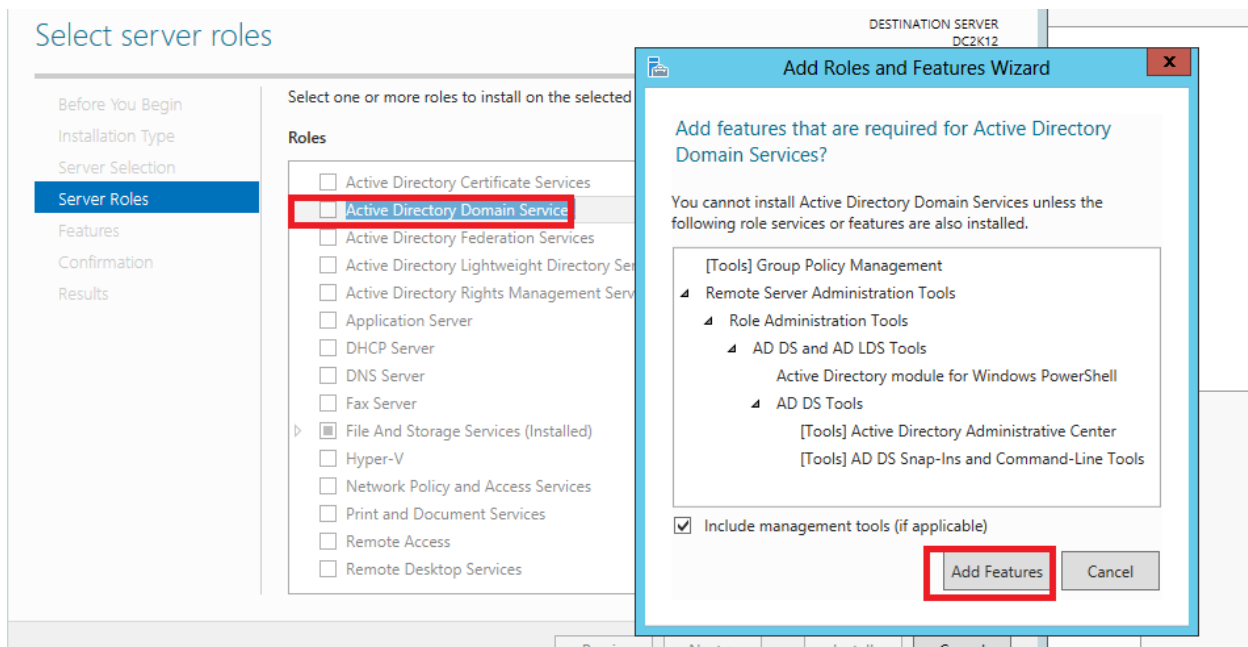
- ☒ Select a server from the server pool
- ☐ Select a virtual hard disk

 Below this is a section titled 'Server Pool' containing a table. At the top of the table is a 'Filter:' text box. The table has three columns: 'Name', 'IP Address', and 'Operating System'. There is one row of data:

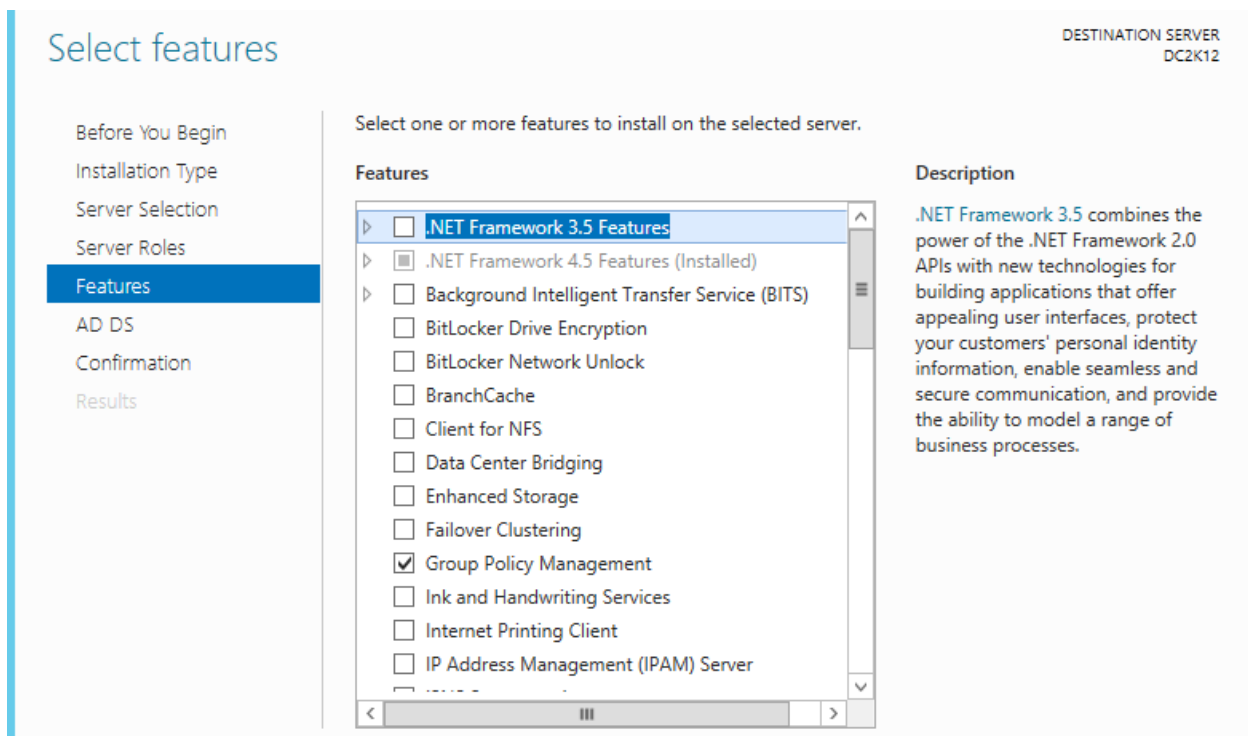
Name	IP Address	Operating System
DC2K12	192.168.61.128	Microsoft Windows Server 2012 Standard

 The row for 'DC2K12' is highlighted in blue.

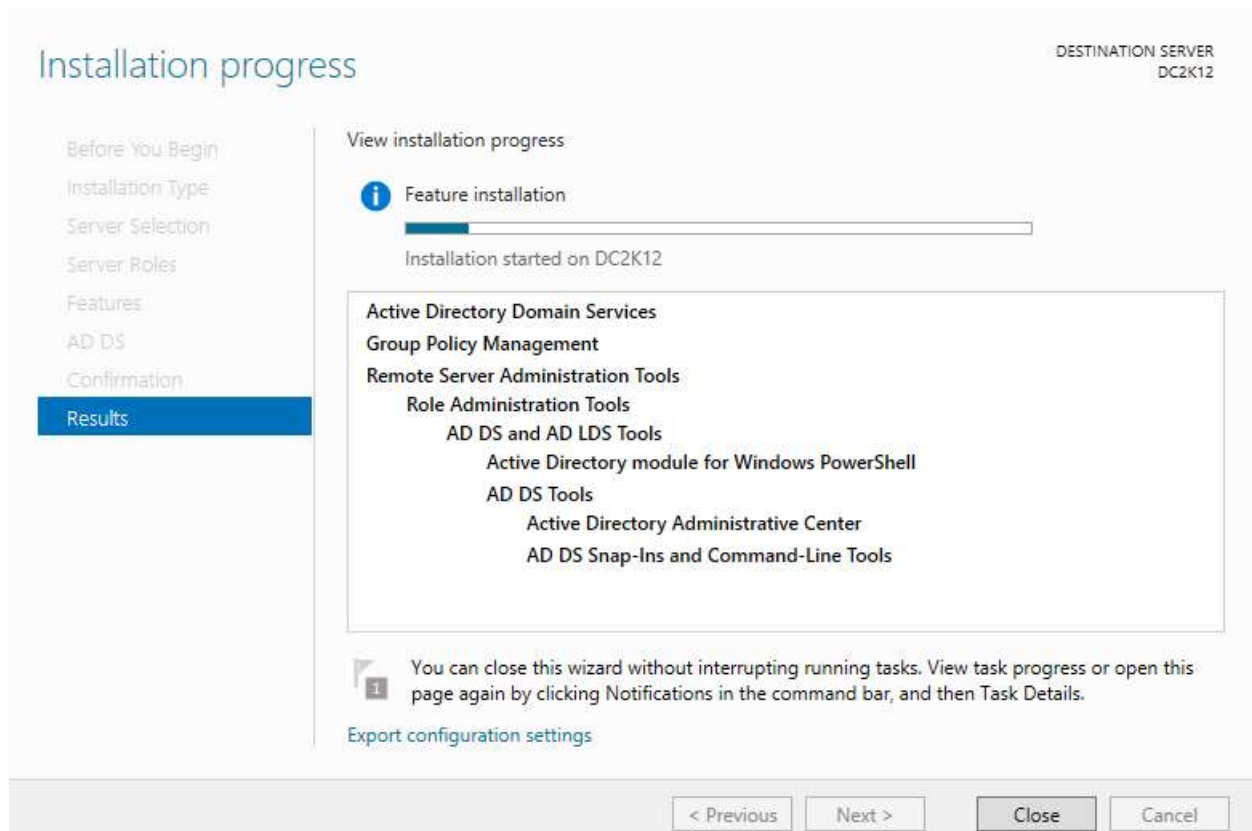
- On *Select Server roles* page, click **Active Directory Domain Services** and it prompt feature window that are required for Active Directory Domain Services. Click **Add features**.



- Make sure **Group Policy Management Console** and **remote server administration tool** is selected. Click next.



- Click next and click **Install** to add the roles to this local server. View the Installation progress and wait till it complete.



Ok so once it complete we have to start our second part process on the same wizard page to install Active Directory on server. When the installation completes, you start the Active Directory Domain Services Configuration Wizard by tapping or clicking the **Promote This Server To A Domain Controller** link on the Installation Progress page and then use this wizard to configure the role.

Installation progress

DESTINATION SERVER
DC2K12

Before You Begin

Installation Type

Server Selection

Server Roles


Features

AD DS

Confirmation

Results

View installation progress

 Feature installation

Configuration required. Installation succeeded on DC2K12.

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

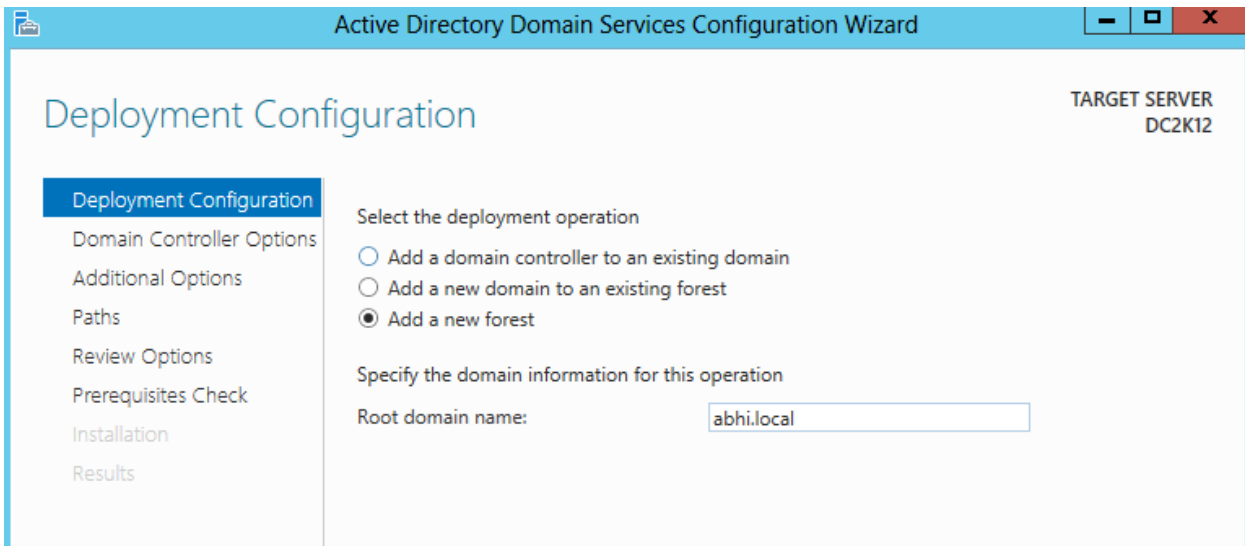
Active Directory module for Windows PowerShell

AD DS Tools

Active Directory Administrative Center

AD DS Snap-Ins and Command-Line Tools

- On *Deployment Configuration* page, select **Add a new forest**, since we are going to install first Active Directory server in this lab. If we have already a domain in our network and we are prompting windows 2012 server as active directory server we have to choose other two option depend on our need.



The screenshot shows the 'Active Directory Domain Services Configuration Wizard' window. The title bar reads 'Active Directory Domain Services Configuration Wizard'. The main heading is 'Deployment Configuration'. In the top right corner, it says 'TARGET SERVER DC2K12'. On the left, there is a navigation pane with the following items: 'Deployment Configuration' (selected), 'Domain Controller Options', 'Additional Options', 'Paths', 'Review Options', 'Prerequisites Check', 'Installation', and 'Results'. The main content area is titled 'Select the deployment operation' and contains three radio button options: 'Add a domain controller to an existing domain', 'Add a new domain to an existing forest', and 'Add a new forest' (which is selected). Below this, there is a section titled 'Specify the domain information for this operation' with a label 'Root domain name:' and a text box containing 'abhi.local'.

- On *Domain Controller Options* page, Select **Forest Functional level** and **Domain Functional level** which suite to your environment. With Server 2012 Active Directory we have a new Forest and Domain Functional level which is Windows Server 2012. And since this is going to be first

Domain controller in this lab network it automatically checked the Global Catalog option and it ready to advertise itself as a GC.

The screenshot shows the 'Domain Controller Options' step of the Active Directory Domain Services Configuration Wizard. The left sidebar contains a list of steps: Deployment Configuration, Domain Controller Options (highlighted), DNS Options, Additional Options, Paths, Review Options, Prerequisites Check, Installation, and Results. The main area is titled 'Domain Controller Options' and includes the following sections:

- Select functional level of the new forest and root domain:**
 - Forest functional level: Windows Server 2012
 - Domain functional level: Windows Server 2012
- 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: [masked]
 - Confirm password: [masked]

The top right corner indicates 'TARGET SERVER DC2K12'.

- Verify the **NetBIOS** name assigned to the domain and click next.

The screenshot shows the 'Additional Options' step of the Active Directory Domain Services Configuration Wizard. The left sidebar contains a list of steps: Deployment Configuration, Domain Controller Options, DNS Options, Additional Options (highlighted), Paths, Review Options, Prerequisites Check, Installation, and Results. The main area is titled 'Additional Options' and includes the following sections:

- Verify the NetBIOS name assigned to the domain and change it if necessary:**
 - The NetBIOS domain name: ABHI

The top right corner indicates 'TARGET SERVER DC2K12'.

- Enter the location of the **Database, Log Files and SYSVOL** folder and click next.



- If you want to view Windows Powershell script to automate installation click *View Scripts* on *Review Options* page and click next. Script for this lab network shown below:

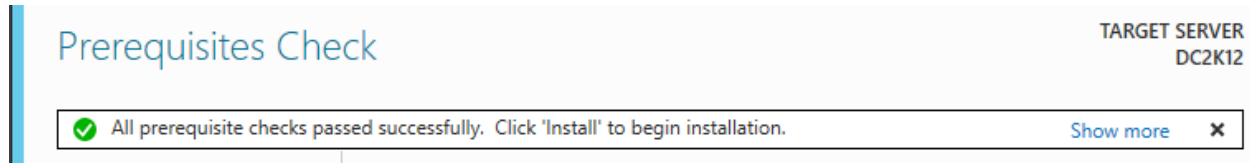
```

#
# Windows PowerShell script for AD DS Deployment
#

Import-Module ADDSDeployment
Install-ADDSForest `
-CreateDnsDelegation:$false `
-DatabasePath "C:\Windows\NTDS" `
-DomainMode "Win2012" `
-DomainName "abhi.local" `
-DomainNetbiosName "ABHI" `
-ForestMode "Win2012" `
-InstallDns:$true `
-LogPath "C:\Windows\NTDS" `
-NoRebootOnCompletion:$false `
-SysvolPath "C:\Windows\SYSVOL" `
-Force:$true

```

- Make sure all prerequisites Checks passed successfully. If its Green then click **Install** to begin installation.

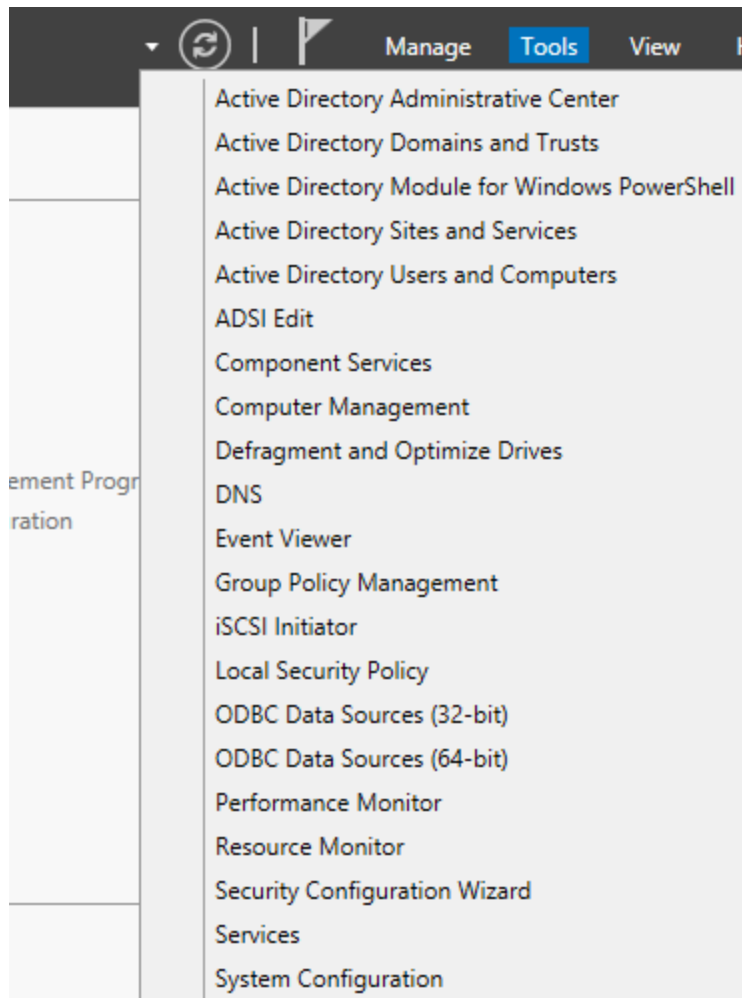


- View the installation progress and once it complete server will automatically reboot. Once server rebooted successfully login the server with domain account.

Open Server Manager Dashboard and select Local Server to view the details:



- On the server manager page click tools to view the tools available for Active Directory on this server.



- Open Command prompt window, and run following command to view the FSMO role status:

Netdom query fsmo

```
Microsoft Windows [Version 6.2.9200]
(c) 2012 Microsoft Corporation. All rights reserved.

C:\Users\PriyaAbhi>netdom query fsmo
Schema master                DC2K12.abhi.local
Domain naming master         DC2K12.abhi.local
PDC                          DC2K12.abhi.local
RID pool manager             DC2K12.abhi.local
Infrastructure master        DC2K12.abhi.local
The command completed successfully.
```

So we have now learned how to install Active Directory on Windows Server 2012 from the Active Directory Domain Services Configuration Wizard by tapping or clicking the Promote This Server To A Domain Controller link on the Installation Progress page.

This wizard replaces **Dcpromo.exe**, which was used previously for promoting domain controllers. The wizard also will run **Adprep.exe** to prepare schema as appropriate. If you do not run *Adprep.exe* separately beforehand and you are installing the first domain controller that runs Windows Server 2012 in an existing domain or forest, the wizard will prompt you to supply credentials to run Adprep commands. To prepare a forest, you need to provide credentials for a member of the Enterprise Admins group, the Schema Admins group, and the Domain Admins group in the domain that hosts the schema master. To prepare a domain, you need to provide credentials for a member of the Domain Admins group.