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.

	Add Roles and Features Wizard
Select installation	type Destination server
Before You Begin	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).
Installation Type	
Server Selection	Role-based or feature-based installation Configure a single course building role configure and features
Server Roles	Configure a single server by adding roles, role services, and features.
Features	O Remote Desktop Services installation
	Install required role services for Virtual Desktop Infrastructure (VDI) to create a virtual machine-based
	or session-based desktop deployment.
Results	

• 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

Select destination	on server		DESTINATION S	ERVER
Before You Begin Installation Type Server Selection	Select a server or a Select a server f Select a virtual h	virtual hard disk on which t rom the server pool nard disk	o install roles and features.	
Server Roles	Server Pool			
Features				
Confirmation	Filter:			
Results	Name	IP Address	Operating System	
	DC2K12	192.168.61.128	Microsoft Windows Server 2012 Standard	

• 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*.

elect server ro	bles	
	Select one or more roles to install on the selected	Add Roles and Features Wizard
Before You Begin Installation Type	Roles	Add features that are required for Active Directory Domain Services?
Server Roles	Active Directory Certificate Services Active Directory Domain Service Active Directory Education Services	You cannot install Active Directory Domain Services unless the following role services or features are also installed.
Confirmation	Active Directory Lightweight Directory Ser	[Tools] Group Policy Management
	Active Directory Rights Management Serv	▲ Remote Server Administration Tools
	Application Server	A Role Administration Tools
	DHCP Server	▲ AD DS and AD LDS Tools
	DNS Server	Active Directory module for Windows PowerShell
	Fax Server	▲ AD DS Tools
	File And Storage Services (Installed)	[Tools] Active Directory Administrative Center
	Hyper-V	[Tools] AD DS Snap-Ins and Command-Line Tools
	Network Policy and Access Services	
	Print and Document Services	U Include management tools (if applicable)
	Remote Access	
	Remote Desktop Services	Add Features Cancel

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

Select features		DESTINATION SERVER DC2K12
Before You Begin Installation Type	Select one or more features to install on the selected server	Description
Server Selection Server Roles		.NET Framework 3.5 combines the power of the .NET Framework 2.0
Features	Background Intelligent Transfer Service (BITS)	 building applications that offer appealing user interfaces, protect
Confirmation	BitLocker Drive Encryption BitLocker Network Unlock	your customers' personal identity information, enable seamless and
Results	BranchCache Client for NFS Data Center Bridging	the ability to model a range of business processes.
	Enhanced Storage Failover Clustering	
	Group Policy Management	
	Internet Printing Client IP Address Management (IPAM) Server	
	< III >	~

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

Before You Begin	View installation progress
Installation Type	Feature installation
Server Selection	
Server Roles	Installation started on DC2K12
Features	Active Directory Domain Services
AD DS	Group Policy Management
Confirmation	Remote Server Administration Tools
Results	Role Administration Tools
	AD DS and AD LDS Tools
	Active Directory module for Windows PowerShell
	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.

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.



• 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.

b	Active Directory Domain Services	Configuration Wizard	_ D X
Deployment Conf	iguration		TARGET SERVER DC2K12
Deployment Configuration Domain Controller Options Additional Options Paths Review Options Prerequisites Check Installation Results	Select the deployment operation Add a domain controller to an existi Add a new domain to an existing for Add a new forest Specify the domain information for this Root domain name:	ng domain rest operation 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.

Domain Controlle	r Options			TARGET SERVER DC2K12
Deployment Configuration Domain Controller Options DNS Options Additional Options Paths	Select functional level of the new fores Forest functional level: Domain functional level: Specify domain controller capabilities	t and root domain Windows Server 2012 Windows Server 2012	•	
Prerequisites Check Installation Results	Domain Name System (DNS) server Global Catalog (GC) Read only domain controller (ROD)	r C)		
	Password: Confirm password:			

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

A	Active Directory Domain Servic	es Configuration Wizard	_ 🗆 🗙
Additional Optior	IS		TARGET SERVER DC2K12
Deployment Configuration Domain Controller Options DNS Options	Verify the NetBIOS name assigned the NetBIOS domain name:	to the domain and change it if necessary ABHI	
Additional Options			
Paths			
Review Options			
Prerequisites Check			
Installation			

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

B	Active Directory Domain Services	Configuration Wizard	_ D X
Paths			TARGET SERVER DC2K12
Deployment Configuration	Specify the location of the AD DS datab	ase, log files, and SYSVOL	
	Database folder:	C:\Windows\NTDS	
Additional Options	Log files folder:	C:\Windows\NTDS	
	SYSVOL folder:	C:\Windows\SYSVOL	
Paths			
Review Options			
Prerequisites Check			
Installation			
Results			

• 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:

```
File Edit Format View Help
#
# 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:

Dishboard	PROPERTIES for DC2X12			TASHS .
Local Server	Corporter norte: Donnie	DCRX12 gibts forcal	Last controlled signalates Wivelows Update Last checked for systemes	Narver Kast envilgaved Neves
R File and Storage Service: P	Woolpos Fassall Renato management Renato Dealogo NG Trannog Difamet	Public: Ciri Brahled Disabled Disabled Tail: 160.1.1	Workbow Error Reporting Customer Experience Information Program 8. Inflammed Security Carelynology Time and Product ID	cre Not participating Ge (UTC - 0530) Drenna, Kohata, Muettas, Raw Dehr Nat activated
	Operating system version	Microsoft Windows Server 2012 Standard	Prosant	West Ro Core(TM) (3-2100 CPU @ 3.10GHz

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

	• (<u>) </u>		Manage	Tools	View	ŀ
- (*		Active Active Active Active Active ADSI 8	Director Director Director Director Director director	ny Administra ny Domains a ny Module fo ny Sites and S ny Users and	ative Cente and Trusts or Windows Services Computer	PowerSh	ell
ement Progr ration	-	Comp Comp Defrag DNS Event Group iSCSI I Local 2 ODBC ODBC ODBC Perfor Resou Securi Servic Syster	onent Se uter Mar gment ar Viewer Policy N nitiator Data So Data So mance N rce Mon ty Config es n Config	ervices nagement nd Optimize Management Policy urces (32-bit urces (64-bit Monitor itor guration Wiz uration	Drives t) t)		

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

Nertdom 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 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.