Lab Guide

Install "Active Directory Domain Services"

Install "Active Directory Domain Services", and Promote "DC1" to a "Domain Controller"

1. To prepare the virtual machine, open PowerShell as administrator and type the following command to rename the machine to "DC1"



- 2. Configure static IP configuration before installing Active Directory, you can do that using Network Connections from Control panel or using PowerShell as follows
 - Use ipconfig to know the interface name

Administrator: C:\Windows\System32\WindowsPowerShell\v1.0\powershell.exe PS C:\> ipconfig Windows IP Configuration Ethernet adapter Ethernet: Connection-specific DNS Suffix Link-local IPv6 Address fe80::55f6:d7b7:8896:fdb9%3 169.254.253.185 255.255.0.0 Autoconfiguration IPv4 Address. Tunnel adapter isatap.{E3D88D44-D589-4A8A-8978-AD1B6CE75FE2}: Connection-specific DNS Suffix . : C:\> PS C:\> _

• Use the following command to set the IP Address, Subnet Mask and the Default Gateway

PS C:\> New-NetIPA	ddress -InterfaceAlias ethernet -IPAddress 10.10.10.1 -PrefixLength 24
-DefaultGateway 1	0.10.10.254
IPAddress	: 10.10.10.1
InterfaceIndex	: 3
InterfaceAlias	: Ethernet
AddressFamily	: IPv4
Type	: Unicast
PrefixLength	: 24
PrefixOrigin	: Manual
SuffixOrigin	: Manual
AddressState	: Tentative
ValidLifetime	: Infinite ([TimeSpan]::MaxValue)
PreferredLifetime	: Infinite ([TimeSpan]::MaxValue)
SkipAsSource	: False
PolicyStore	: ActiveStore
IPAddress	: 10.10.10.1
InterfaceIndex	: 3
InterfaceAlias	: Ethernet
AddressFamily	: IPv4
Type	: Unicast
PrefixLength	: 24
PrefixOrigin	: Manual
SuffixOrigin	: Manual
AddressState	: Invalid
ValidLifetime	: Infinite ([TimeSpan]::MaxValue)
PreferredLifetime	: Infinite ([TimeSpan]::MaxValue)
SkipAsSource	: False
PolicyStore	: PersistentStore

• Use the following command to configure DNS server address

	Z Administrator: Windows PowerShell	_		×
P P	PS C:\> PS C:\> <mark>Set-DnsClientServerAddress</mark> -InterfaceAlias ethernet -ServerAddresses.	10.10	.10.1	^

3. Open Server Manager, Select Add Roles and Features

📥 Server Manager		- 0 ×
Server M	anager 🕻 Dashboard 🛛 🗸 🕫 🚩 Manag	ge Tools View Help
Dashboard Local Server	WELCOME TO SERVER MANAGER	
■ All Servers ■ File and Storage Services ▷	QUICK START 2 Add roles and features	
	WHAT'S NEW 4 Create a server group 5 Connect this server to cloud services	
	LEARN MORE	Hide
	Roles AND SERVER GROUPS Roles: 1 Server groups: 1 Servers total: 1 File and Storage Services 1 The manageability Imageability	1
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4. In "Before you begin" window, review the required tasks and make sure you finished them before you continue



5. For the installation type keep the selection on "Role-based or feature-based installation", and click Next



6. In "Select Destination Server" window, click Next

📥 Server	Manager			– 0 ×
\mathbf{E}	📥 Add Roles and Features Wiz	ard — — X	Manage Tools	View Help
🛄 Da:	Select destination	DN SERVER DESTINATION SERVER		^
Loc	Before You Begin	Select a server or a virtual hard disk on which to install roles and features.		
	Installation Type	Select a server from the server pool		
File File	Server Selection	 Select a virtual hard disk 		
	Server Roles	Server Pool		
	Features	Eller		
	Confirmation	File:		
	Results	Name IP Address Operating System		
		DC1 10.10.10.1 Microsoft Windows Server 2016 Datacenter		
				Hide
		1 Computer(s) found		
		This page shows servers that are running Windows Server 2012 or a newer release of Windows Server,		
		and that have been added by using the Add Servers command in Server Manager. Offline servers and newly-added servers from which data collection is still incomplete are not shown.		
		e	ers 1	
		< Previous Next > Install Cancel	ability	Touch keyboard 🗸
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7. In Select Server Roles window, select "Active Directory Domain Services"

📥 Server N	lanager			– 0 ×
$\langle \boldsymbol{\epsilon} \rangle$	📥 Add Roles and Features Wiza	rd	- 🗆 X	Manage Tools View Help
Da:	Select server rol	es	DESTINATION SERVER DC1	
Loc	Before You Begin	Select one or more roles to install on the selected server.		
All	Installation Type	Roles	Description	
ii ¶ File	Server Selection Server Roles Features Confirmation Results	Active Directory Certificate Services Active Directory Domain Services Active Directory Lightweight Directory Services Active Directory Lightweight Directory Services Active Directory Rights Management Services Device Health Attestation DHCP Server Faile and Storage Services (1 of 12 installed) Host Guardian Service Hyper-V MultiPoint Services Network Controller Network Policy and Access Services Print and Document Services Remote Access Remote Access Volume Activation Services Volume Activation Service Volume Activation Service Vo	Active Directory Domain Services (AD DS) stores information about objects on the network and makes this information available to users and network administrators. AD DS uses domain controllers to give network users access to permitted resources anywhere on the network through a single logon process.	Hide
		< Previous Next	> Install Cancel	ability
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8. In the popup window click "Add Features" to accept the required features to be installed.

📥 Server Manager	-			×
	🚘 Add Roles and Features Wizar	3	- 🗆 X	Manage Task Mana Hala
			DESTINATION SERVER	Manage lools View Help
	Select server role	Add Roles and Features Wizard	C1	
Dashboard		,	×	
Local Serve	Before You Begin	Add features that are required for Active Directory		
All Servers	Installation Type	Domain Services?	otion	
File and Ste	Server Selection	You cannot install Active Directory Domain Services unless the	Directory Domain Services	
	Server Roles	following role services or features are also installed.	on the network and makes	
	Features	[Tools] Group Policy Management	ormation available to users twork administrators AD DS	
	Confirmation	Remote Server Administration Tools Role Administration Tools	omain controllers to give	
	Results	AD DS and AD LDS Tools	k users access to permitted tes anywhere on the network	
		Active Directory module for Windows PowerShell AD DS Tools	h a single logon process.	
		[Tools] Active Directory Administrative Center [Tools] AD DS Spap-las and Command-Line Tools		
		[100is] AD D3 Shap-ins and command-time roots		
				Hide
		Include management tools (if applicable)		
		Add Features Cancel		
				1
		< Previous Next >	Install Cancel	~
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				0

- 9. Finally click Install to finish the Installation
- 10. After the installation is finished, you can start promoting this server to a "Domain Controller" from the highlighted link "Promote this server to a domain controller"

📥 Add Roles and Features Wiza	rd	_		×
Installation prog	ress	DESTINA	TION SERV	VER DC1
Before You Begin	View installation progress			
Installation Type	i Feature installation			
Server Selection Server Roles	Configuration required. Installation succeeded on DC1.			
Features AD DS Confirmation Results	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			
	You can close this wizard without interrupting running tasks. View task propage again by clicking Notifications in the command bar, and then Task De Export configuration settings < Previous Next > Close	ogress or o etails.	open this Cance	2

11. In the Deployment Configuration window, Select "Add a new forest", and type the root domain name "lab.local", then click Next.

Active Directory Domain Services Configuration Wizard			_		×		
Deployment Con	Deployment Configuration				TAI	RGET SEF	VER DC1
Deployment Configuration Domain Controller Options DNS Options Additional Options Paths Review Options Prerequisites Check Installation Results	Select the deployment opera Add a domain controller Add a new domain to an Add a new forest Specify the domain informat Root domain name: More about deployment cor	ation r to an existing n existing fores tion for this op [domain t peration ab.local				
		< Prev	ious Next >	Insta		Cance	9

12. In the Domain controller Options window, leave the check box marked for "Domain Name System (DNS) server, because this is the first server in the environment and there is no DNS installed yet. Type the AD restore mode password "Pa\$\$word", then click next.

Active Directory Domain Service	es Configuration Wizard		-		×
Domain Controlle	r Options		TAI	RGET SEF	VER DC1
Deployment Configuration Domain Controller Options DNS Options Additional Options Paths Review Options Prerequisites Check Installation Results	Select functional level of the new forest Forest functional level: Domain functional level: Specify domain controller capabilities Omain Name System (DNS) server Global Catalog (GC) Read only domain controller (RODC) Type the Directory Services Restore Mod Password: Confirm password:	and root domain Windows Server Technical Previe ~ Windows Server Technical Previe ~ le (DSRM) password ~ ••••••• ~			
	< Pro	evious Next > Insta	all	Cance	:1

13. In the DNS Options window, ignore the warning and click next.

📥 Active Directory Domain Service	es Configuration Wizard	-		×
DNS Options		TAR	GET SEF	VER DC1
A delegation for this DNS s Deployment Configuration Domain Controller Options DNS Options Additional Options Paths Review Options Prerequisites Check Installation Results	server cannot be created because the authoritative parent zone cannot be found Specify DNS delegation options Create DNS delegation More about DNS delegation	Show n	nore	×
	< Previous Next > Insta		Cance	el 🛛

14. On the additional Options window, you will find the domain NetBIOS name, click next.

📥 Active Directory Domain Service	_		×		
Additional Options					RVER DC1
Deployment Configuration Domain Controller Options DNS Options	Verify the NetBIOS name assigned to th The NetBIOS domain name:	e domain and change it if necessar LAB	У		
Additional Options Paths					
Review Options Prerequisites Check					
Installation					
	More about additional options				
	< P1	revious Next >	Install	Canc	el

Prepared by: Ayman Aly Mahmoud https://www.linkedin.com/in/ayman-mahmoud/ 15. On the Paths windows, don't change the default paths, and click next.

Active Directory Domain Service	es Configuration Wizard		-		×
Paths			TA	RGET SE	RVER DC1
Deployment Configuration Domain Controller Options	Specify the location of the AD	DS database, log files, and SYSVOL			
DNS Options	Database folder:	C:\Windows\NTDS			
Additional Options	Log files folder:	C:\Windows\NTDS			
Paths	SYSVOL folder:	C:\Windows\SYSVOL			
Review Options					
rerequisites Check					
stallation					
esults					
	More about Active Directory p	paths			
		< Previous Next >	Install	Cance	el

16. In the "Review Options" window, check the script if you want, and click Next

📥 Active Directory Domain Service	s Configuration Wizard	-		×
Review Options		TAF	RGET SE	RVER DC1
Deployment Configuration Domain Controller Options DNS Options Additional Options Paths Prerequisites Check Installation Results	Review your selections: Configure this server as the first Active Directory domain controller in a new for The new domain name is "lab.local". This is also the name of the new forest. The NetBIOS name of the domain: LAB Forest Functional Level: Windows Server Technical Preview Domain Functional Level: Windows Server Technical Preview Additional Options: Global catalog: Yes DNS Server: Yes Create DNS Delegation: No These settings can be exported to a Windows PowerShell script to automate additional installations More about installation options	est.	iew scrip	∧

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Join "Client1" to the Domain

- 1. Rename the "Windows 7" VM to the name "Client1"
- 2. Prepare "Client1" to join the domain by configuring the following static IP configuration

Ethernet adapter Local Area Connection:
Connection-specific DNS Suffix .: Description Microsoft Virtual Machine Bus Network Ada
Process Physical Address
DNS Servers : 10.10.10.1 NetBIOS over Tcpip : Enabled
Tunnel adapter isatap.{180BFAA5-2555-4F18-A3CD-1F44DDA3E3C1}:
Media State Media disconnected Connection-specific DNS Suffix . : Description Microsoft ISATAP Adapter Physical Address 00-00-00-00-00-00-E0 DHCP Enabled No Autoconfiguration Enabled : Yes
C:\>

- One of the common issues is to forget to set the DNS server address to the DNS in your Domain

Prepared by: Ayman Aly Mahmoud https://www.linkedin.com/in/ayman-mahmoud/ We can join the domain using the GUI. Go to Control Panel then System Properties, or you can use the following command in PowerShell
 (Run PowerShell as Administrator)
 Add-Computer -DomainName lab.local -Credential Administrator -Restart
 It will ask for the Administrator password, and then restarts.