

LAB : Active Directory Domain Service





192.168.1.10 192.168.1.20

A. YÊU CẦU:

- Cài đặt dịch vụ **ADDS** trên máy *PC01:*

Tạo Domain Group và Domain User

- PC client tham gia vào domain đã cấu hình ở PC01
- Cài đặt Additional Domain Controller trên Server thứ 2 (PC06)

B. CHUẨN BỊ:

- + PC01: Windows Server 2016 để cài ADDS (Đã cài dịch vụ DNS)
- + PC02 & PC03: Windows 10 để join vào domain.



+ PC06: Windows Server 2016 (Đã cài dịch vụ DNS -

Alternate DNS Server) đóng vai trò Additional Domain Controller

THỰC HIỆN:

PHẦN 1: CÀI ĐẶT ADDS TRÊN WINSERVER

- B1. Mở Server Manager, vào menu Manage, chọn Add Roles and Features
- **B2.** Màn hình Welcome \rightarrow Next
- **B3.** Màn hình Select installation type \rightarrow Chọn Role-based or feature-based installation
- \rightarrow Next

2	Add Roles and Features Wizard
Select installation	on type destination server
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.
	< Previous Next > Install Cancel

B4. Màn hình Select destination server, giữ như mặc định \rightarrow Next

B5. Màn hình Select server roles, đánh dấu chọn vào ô Active Directory Domain Services

CÔNG TY TNHH TƯ VÂN VÀ DỊCH VỤ CHUYÊN VIỆT TRUNG TÂM TIN HỌC VNPRO

ĐC: 276 - 278 Ung Văn Khiêm, P.25, Q.Binh Thạnh, Tp Hồ Chí Minh **Đ**T: (028) 35124257 | **Hotline:** 0933427079 **Email:** vnpro@vnpro.org



🛓 Add Roles and Features Wizard		- 🗆 X
Add Roles and Features Wizard Select server roles Before You Begin Installation Type Server Selection Server Roles Features AD DS Confirmation Results	Select one or more roles to install on the selected server. Roles Active Directory Certificate Services Active Directory Pederation Services Active Directory Rights Management Services Active Directory Rights Management Services Device Health Attestation DHCP Server OHCP Server File and Storage Services (1 of 12 installed) Host Guardian Service Hyper-V MultiPoint Services Network Policy and Access Services Print and Document Services	DESTINATION SERVER PC01.23th02.vnpro
	Remote Access Remote Desktop Services Volume Activation Services Web Server (IIS)	

B6. Tại cửa sổ Confirmation, click vào Install để cài đặt

📥 Add Roles and Features Wizard		_		х
Confirm installation	on selections	DESTINAT PC01.2	FION SERV 23th02.vnp	ER ro
Before You Begin	To install the following roles, role services, or features on selected server, click Insta	al.		
Installation Type	Restart the destination server automatically if required			
Server Selection Server Roles	Optional features (such as administration tools) might be displayed on this page be been selected automatically. If you do not want to install these optional features, cl their check boxes.	ecause th lick Previo	ey have ous to cle	sar
AD DS	Active Directory Domain Services			
Confirmation	Group Policy Management			
Results	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			
	Export configuration settings Specify an alternate source path			
	< Previous Next > Insta		Cancel	

B8. Tại cửa sổ Results, sau khi quá trình cài đặt hoàn thành click vào Promote this server to a domain controller

CÔNG TY TNHH TƯ VÂN VÀ DỊCH VỤ CHUYÊN VIỆT TRUNG TÂM TIN HỌC VNPRO

ĐC: 276 - 278 Ung Văn Khiêm, P.25, Q.Bình Thạnh, Tp Hồ Chí Minh **ĐT**: (028) 35124257 | **Hotline**: 0933427079 **Email**: vnpro@vnpro.org



B9. Tick vào Add a new forest → Nhập tên domain (ví dụ /mã lớp học/.VNPRO) → Next



Active Directory Domain Serv	ices Configuration Wizard		>
Deployment Co	nfiguration		TARGET SERVER
Deployment Configuration Domain Controller Option DNS Options Additional Options Paths Review Options Prerequisites Check	Select the deployment operations Add a domain controller to Add a new domain to an <u>end</u> Add a new <u>forest</u> Specify the domain information <u>R</u> oot domain name:	on an existing domain xisting forest n for this operation 23TH02.VNPRO	
Installation Results			
	More about deployment confi	gurations	Install

B10. Nhập Password khôi phục \rightarrow VnPro@123 \rightarrow Next

💼 Active Directory Domain Service:	-		×		
Domain Controller	TAF PC01.2	RGET SER 23th02.vr	VER npro		
Deployment Configuration Domain Controller Options DNS Options Paths Review Options Prerequisites Check Installation Results	Select functional level of the new forest a 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 2016 * Windows Server 2016 * e (DSRM) password ••••••••			
	< Pre	evious Nex		Cancel	1

B11. Tại cửa số DNS Options, chọn Next

CÔNG TY TNHH TƯ VÁN VÀ DỊCH VỤ CHUYÊN VIỆT TRUNG TÂM TIN HỌC VNPRO

ĐC: 276 - 278 Ung Văn Khiêm, P.25, Q.Bình Thạnh, Tp Hồ Chí Minh **Đ**T: (028) 35124257 | **Hotline**: 0933427079 **Email**: vnpro@vnpro.org

					Đ T: (0	028) 3512
🚡 Active Directory Domain Service	s Configuration Wizard			-		×
DNS Options				T PCC	ARGET SE 01.23th02.v	RVER /npro
Deployment Configuration Domain Controller Options DNS Options Additional Options Paths Review Options Prerequisites Check Installation	Specify DNS delegation options					
Results						
	More about DNS delegation					
	[< Previous N	ext >	Install	Canc	el

B12. Chọn Next cho tới cửa sổ Prerequisites Check → Install

🚡 Active Directory Domain Services	s Configuration Wizard — 🗌	×
Prerequisites Chec	K TARGET SER PC01.23th02.vr	VER
All prerequisite checks pass	ed successfully. Click 'Install' to begin installation. Show more	×
Deployment Configuration Domain Controller Options	Prerequisites need to be validated before Active Directory Domain Services is installed on this computer	
DNS Options	Rerun prerequisites check	
Additional Options Paths	⊘ View results	
Review Options Prerequisites Check	Windows Server 2016 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.	
Installation Results	For more information about this setting, see Knowledge Base article 942564 (http:// go.microsoft.com/fwlink/?Linkld=104751).	
	 Prerequisites Check Completed All prerequisite checks passed successfully. Click 'Install' to begin installation. 	
	A If you click Install, the server automatically reboots at the end of the promotion operation.	
	More about prerequisites	
	< Previous Next > Install Cance	

B13. Sau khi máy được Restart, mở Control Panel \rightarrow Network and Sharing Center, chọn Change Adapter Settings. Chuột phải lên card LAN, chọn Properties \rightarrow Chọn Internet Protocol Version 4 (TCP/IPv4) \rightarrow Nhấn Properties.



Intel(R) 82574	L Gigabit Network Conne	ection
		Configure
his connection use:	s the following items:	
Client for Mi	crosoft Networks	
File and Prir	nter Sharing for Microsoft	Networks
Microsoft N	t Scheduler stwads Adapter Multiplay	or Protocol
 Microsoft IV Link-Laver 	Topology Discovery Map	per I/O Driver
🗹 🔺 Link-Layer	Topology Discovery Resp	oonder
🗹 📥 Internet Pro	tocol Version 6 (TCP/IPv	(6)
V Internet Pro	tocol Version 4 (TCP/IPv	(4)
	220	Dranadian
Install	Uninstall	riopenies
Install Description	Uninstall	riopenues
Install Description Transmission Cont	Uninstall	ocol. The default

B14. Ở mục Preferred DNS Server, trỏ về IP của chính mình \rightarrow OK

Internet Protocol Version 4 (TCP/IPv4)	Properties	х
General		
You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.	natically if your network supports ask your network administrator	
Obtain an IP address automatical	ly	
• Use the following IP address:		1
IP address:	192.168.1.100	
Subnet mask:	255.255.255.0	
Default gateway:	192.168.1.1	
Obtain DNS server address auton	natically	
• Use the following DNS server add	resses:	
Preferred DNS server:	192.168.1.100	
Alternate DNS server:		
Validate settings upon exit	Advanced	
	OK 🔀 Cancel	

PHÀN 2: Join Workstation vào Domain Controller (Thực hiện trên PC02 & PC03)

B1. Click chuột phải vào This PC \rightarrow Properties



This PC		Open	
		Pin to Quick access	
-	•	Manage	
		Pin to Start	
		Map network drive	
Recycle E		Disconnect network drive	
		Create shortcut	
		Delete	
		Rename	
Control Pa		Properties	

- **B2.** Tại mục Computer name, domain, and workgroup settings \rightarrow Change Settings
- B3. Chọn Change

System Propertie	s					×
Computer Name	Hardware	Advanced	System Pr	otection	Remote	
Windo on the	ws uses the network.	e following inf	ormation to	identify y	our comput	er
Computer descri	ption:					
	Fi C	or example: "I omputer".	Vitchen Con	nputer'' o	r ''Mary's	
Full computer na	me: P	C02.23th02.v	npro			
Workgroup:	W)			
To use a wizard to join a domain or workgroup, click Network ID To rename this computer or change its domain or Change						
						20
		ОК		Cancel	Ap	ply

B4. Tick chọn Domain \rightarrow Nhập tên Domain đã tạo trên WinServer \rightarrow 23TH02.VNPRO \rightarrow OK

 \times

		CÔNG TY TNH
Pro		ĐC : 276 - 278 Ur ĐT : (028) 351242
	Computer Name/Domain Changes X	
	You can change the name and the membership of this computer. Changes might affect access to network resources.	
	Computer name: PC02	
	Full computer name: PC02.23th02.vnpro	
	More	
	Member of	
	Omain:	

Workgroup:

Windows Security

to join the domain.

B5. Nhập Username/Password tài khoản quản trị \rightarrow Administrator / Test123 \rightarrow OK

Computer Name/Domain Changes

Administrator

OK.

OK

Enter the name and password of an account with permission

Cancel

0

Cancel

B6. Màn hình xuất hiện thông báo join vào domain thành công \rightarrow Restart máy

Domain: 23TH02.VNPRO





B7. Thực hiện tương tự cho PC03

PHẦN 3: CÀI ĐẶT ADDITIONAL DOMAIN CONTROLLER

B1 → B8: Tương tự ở Phần 1

B9. Tick vào Add a domain controller to an existing domain

🚡 Active Directory Domain Services	Configuration Wizard					-		×
Deployment Confi	guration					TAF PC06.2	RGET SEF 23th02.vi	VER
Deployment Configuration Domain Controller Options Additional Options Paths Review Options Prerequisites Check Installation Results	Select the deployment o Add a <u>d</u> omain contr Add a new domain t Add a new <u>f</u> orest Specify the domain info D <u>o</u> main: Supply the credentials t <no credentials="" provide<="" th=""><th>operation oller to an existi to an <u>e</u>xisting for mation for this o perform this o ed></th><th>ng domain rest operation * uperation</th><th></th><th></th><th><u>S</u></th><th>elect</th><th></th></no>	operation oller to an existi to an <u>e</u> xisting for mation for this o perform this o ed>	ng domain rest operation * uperation			<u>S</u>	elect	
	More about deploymen	t configurations						
		< <u>P</u> r	revious	Next >	Insta		Cance	:I

B10. Nhập domain MCSA.VNPRO → Chọn Select → Nhập tài khoản Administrator / Test123
→ Chọn Domain → OK → Next



		D1 : (028) 35124257	Hotune:
Windows Se	ecurity		×
Compu	iter Name/Doma	iin Changes	
Enter the to join th	name and password e domain.	of an account with permission	
A	Administrator		
	•••••	ି	
	Domain: 23TH02.VNP	RO	
	ОК	Cancel	

B11. Nhập Password khôi phục \rightarrow VnPro@123 \rightarrow Next

🚡 Active Directory Domain Service	s Configuration Wizard		_		х
Domain Controlle	r Options		TA PC06	RGET SEI	RVER
Deployment Configuration Domain Controller Options DNS Options Additional Options Paths Review Options Prerequisites Check Installation Results	Specify domain controller capabilities Domain Name System (DNS) serve Global Catalog (GC) Read only domain controller (ROD Şite name: Type the Directory Services Restore M Passwor <u>d</u> : Confirm password: More about domain controller option	and site information er Default-First-Site-Name lode (DSRM) password	×		
	<	Previous Next >	Install	Cance	el

B12. Muc Additional Options \rightarrow Chon Any domain controller

D 11 (020) 001212	57 Hount, 095
- 0	×
TARGET SER PC06.23th02.vn	VER
	V
	tall Cance

B13. Các mục còn lại chọn Next và Install để cài đặt

B14. Sau khi máy được Restart, chỉnh lại địa chỉ Alternate DNS Server

$ ightarrow \ \uparrow$ 🛐 « Network	and Internet Network and Sharing Center V O Search Control Panel
Control Panel Home	View your basic network information and set up connections Fibernet Statue Fibernet Properties X
Change advanced sharing settings	Networking s: No Internet access Co s: Ethernet Internet Protocol Version 4 (TCP/IPv4) Properties X
	General Th You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. ccess point. C Ogbtain an IP address automatically tion. Image: C Image: C 192.168.1.150 Subnet mask: 255.255.0 192.168.1.1
See also	I Optain DNS server address automatically Image: Usg the following DNS server addresses: Preferred DNS server: 192 . 168 . 1 . 100 Alternate DNS server: 192 . 168 . 1 . 150
Internet Options Windows Firewall	Validate settings upon exit Advanced



PHÀN 4: TẠO DOMAIN GROUP VÀ DOMAIN USER (PC01 – Primary ADDS)

B1. Vào Server Manager \rightarrow Tools \rightarrow Active Directory Domains and Trusts



B2. Click chuột phải vào Server → Manage

🛃 Active Direct	ory Domains and Trusts		
File Action	<u>V</u> iew <u>H</u> elp		
🔶 🔿 📄	1 🗊 🔒 🛛 🖬		
Active Directo	ory Domains and Trust Name		Туре
2511102	Manage		There are no items to show in this view.
	Raise Domâin Functional Level		
	View	>	
	Export List		
	Properties		
	Help		

B3. Tại cửa sổ Active Directory Users and Computer, chuột phải vào Server \rightarrow New \rightarrow Group



Active Directory Users and Computers		_	\times
<u>File Action View H</u> elp			
🔶 🤿 🙍 💼 🗎 🗐 🐼 📑	🐍 🔌 📁 🍸 🚨 🖗		
Active Directory Users and Com Saved Queries Builtin Delegate Control Find Change Domain Change Domain Controller Raise domain functional level. Operations Masters	Type Description builtinDomain tainer Default container for up nizational Default container for do tainer Default container for sec tainer Default container for ma tainer Default container for up		
New	> Computer		
All Tasks	> Contact		
View	Group		
Refresh Export List	netOrgPerson w msDS-ShadowPrincipalContainer msImaging-PSPs		
Properties	MSMQ Queue Alias		
Help	Organizational Unit		
	Printer		
< >	User Shared Folder		
Create a new object	Shared Folder		

B4. Nhập tên Group \rightarrow OK

New Object - Group		\times
Create in: 23TH0	2.VNPRO/	
Group name:		
23TH02		
Group name (pre-Windows 200	00):	
23TH02		
Group scope	Group type	
O Domain local	Security	
Global	Obistribution	
	OK Ca	ncel

B5. Tại cửa sổ Active Directory Users and Computer, chuột phải vào Server \rightarrow New \rightarrow User



Active Directory Users and Computers	_	\times
<u>File Action View Help</u>		
⇐ ➡ 🚈 📅 🗊 @ 📾 🛛 🗊 🐍 🗽 🗑 🍸 🖉 🍇		
Active Directory Users and Com Name Type Description > Saved Queries Builtin builtinDomain > Builtin Delegate Control iner Default container for up > Builtin Delegate Control iner Default container for do > ☐ Don Change Domain iner Default container for sec > ☐ Fore Change Domain Controller iner Default container for up > ☐ Mar Raise domain functional level ty Group ty Group		
New > Computer		
All Tasks > Contact		
View Sroup		
Refresh msDS-ShadowPrincipalContainer Export List msImaging-PSPs		
Properties MSMQ Queue Alias		
Help Organizational Unit Printer		
User		
Create a new object		

B6. Nhập các trường thông tin \rightarrow Next

New Object - User		×
🤱 Create in:	23TH02.VNPRO/	
First name:	Viet Duc Initials:	
Last name:	Tran	
Full name:	Viet Duc Tran	
User logon name:		
VietDuc	@23TH02.VNPRO ~	
User logon name (pre	-Windows 2000):	
23TH02\	VietDuc	
	< Back Next > Cancel	I

B7. Nhập Password cho user \rightarrow VnPro@123 \rightarrow Chọn các tùy chọn Password hoặc vô hiệu hóa user (ở đây mình làm đang làm test nên chọn luôn User cannot change password) \rightarrow Next

	×
102.VNPRO/	
•••••	
•••••	
ord at next logon	
word	
< Back Next >	Cancel
	102.VNPRO/ ••••••••••••••••••••••••••••••••••••

B8. Kiểm tra lại thông tin user \rightarrow Finish

ew Obje	ect - User		
8	Create in:	23TH02.VNPRO/	
When y	ou click Finish	the following object will be created:	
Full nar	me: Viet Duc T	an	^
User lo	gon name: Viel	Duc@23TH02.VNPRO	
The us	er cannot char	ge the password.	
			~
		C Back Einish	Cancel

B9. Quay trở lại PC02 \rightarrow Chọn Other User \rightarrow Nhập User/Pass vừa tạo





B10. Như vậy sau khi máy đã vào domain và đăng nhập với tài khoản Viet Duc Tran

← → ~ ↑ 🦲 > This PC > Local Disk (C:) > Users			~ 2	✓ ひ Search Users		
 ✓ Quick access Desktop ✓ Downloads ※ Documents ✓ User Accounts ✓ → ↑ ※ Control Panel Hon 	> Contro	Jame defaultuser0 Public user VietDuc I Panel > User Accounts > User Accounts	Date modified 12/27/2018 5:41 PM 12/27/2018 5:47 PM 10/12/2023 1:44 AM 10/12/2023 2:13 AM ccounts	Type File folder File folder File folder File folder	Size	>





B11. Quay trở lại Additional DC (PC06), vào Server Manager Server Manager \rightarrow Tools \rightarrow

Active Directory Domains and Trusts → Click chuột phải vào Server → Manage

Active 😹	Directory Domains and Trusts		_		\times
File Act	ion View Help				
Active	Active Directory Users and Computers File Action View Help	-		×	•
	🗢 🔿 📶 📋 📴 🧟 😼 📓 🐨 🖉 🏂 🗞				•
	 Active Directory Users and Com Saved Queries Saved Queries Saved Queries Sathour Vippe Description Builtin Computers Computers ForeignSecurityPrincipal Managed Service Accour Users Viet Duc Tran Viser 				F

Ta thấy được group và user trên Primary DC đã được đồng bộ sang ADC

PHÀN 5: Các câu lệnh PowerShell liên quan

- Di chuyển domain master roles từ Main DC sang Addition DC, nhằm giảm workloads mà Main DC phải thực hiện

Thực hiện:

- Trên Main DC -> Open Powershell

Transfer RID Master Role

Move-ADDirectoryServerOperationMasterRole -Identity <tên máy Add DC> -OperationMasterRole RIDMaster

Transfer PDC Emulator Role

Move-ADDirectoryServerOperationMasterRole -Identity <tên máy Add DC> -OperationMasterRole PDCEmulator

Transfer Infrastructure Master Role

Move-ADDirectoryServerOperationMasterRole -Identity <tên máy Add DC> -OperationMasterRole InfrastructureMaster



Kiểm tra kết quả bằng câu lệnh

netdom query fsmo

DC: 276 - 278 Ung Van Khiem, P.25, Q.Binh Thanh, Tp Ho Chi Minh **D**T: (028) 35124257 | **Hotline**: 0933427079 **Email**: vnpro@vnpro.org