## CNT 4603: System Administration Spring 2011

### **Project Five**

Implementing Active Directory Domain Services And Joining A Domain

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# **Project Five**

- **Title:** "Project Five: Implementing Active Directory Domain Services And Joining A Domain"
- **Points:** 30 points
- **Due Date:** April 1, 2011 (this is no joke!) by 11:55 pm WebCourses time.
- Objectives: The completion of Project Four left you with a virtual network of three machines, named Server01, Server02, and Client01. For our savn.local network we will make Server01 the domain controller. This project will implement the Active Directory Domain Services on this server by configuring its server roles and join the two other VMs to the virtual network.
- **Deliverables:** Three screen shots as shown on pages 35,49, and 59.





## Project Five – Background

- Active Directory Domain Services provides a directory service that you can use for centralized secure management of your network.
- Installing ADDS on Server01 will establish that server as the domain controller for the savn.local network that you constructed in Project 4.
- Be sure that you've successfully verified the IP connectivity of all three VMs and your host computer before you begin this project. You should have done this in Project Three Phase 3.
- What you'll be doing in this project is installing ADDS on Server01 and configuring its server roles as a domain controller. Following this you will join Server02 and Client01 to the domain now controlled by Server01.



## Project Five – Background

- The next several pages will step you through the process of installing ADDS on Server01 and configuring its server role as the domain controller.
- Note that Server01 must be running in order to install ADDS and configure its server roles. The other VMs do not need to be running for this first part.



- To begin the process. Start Server01 and bring up the Server Manager. If you don't have this coming up automatically for your server, Click the Administrative Tools link from the Start menu and then click Server Manager.
- Scroll down the window until you find the Roles Summary sub-window.
- See next page.



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- In the Roles Summary area, click Add Roles.
- You'll most likely see a "Before You Begin" screen. As a future system administrator, you should read the information on this screen so that you are aware of the impact of changing a server's roles. (See next page for screen shot.)
- If the "Before You Begin" screen appeared, click Next. Otherwise select Server Roles from the menu on the left side of the screen. Either way you should now see the screen that appears on page 9.



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Server01 - Microsoft Virtual PC 2007

Action Edit CD Floppy Help



Virtual PC Console

📑 Server01 - Microsoft Virtual PC 2007

Action Edit CD Floppy Help

#### Add Roles Wizard

Before You Begin



#### Select Server Roles

Select one or more roles to install on this server.

Server Roles Roles: Description: Active Directory Domain Services (AD Active Directory Domain Services Active Directory Certificate Services DS) stores information about objects Active Directory Domain Services Confirmation on the network and makes this Active Directory Federation Services information available to users and Progress Active Directory Lightweight Directory Services network administrators, AD DS uses domain controllers to give network Results Active Directory Rights Management Services users access to permitted resources Application Server anywhere on the network through a DHCP Server single logon process. DNS Server Fax Server File Services Network Policy and Access Services Print Services Check the Active Director Terminal Services UDDI Services Domain Services checkbox Web Server (IIS) and then click Next. Windows Deployment Services More about server roles < Previous Next > Cancel 🗐 🍖 4:01 PM Server Manager Start e - 11

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Action Edit CD Floppy Help

#### Add Roles Wizard



#### Active Directory Domain Services

#### Before You Begin Introduction to Active Directory Domain Services Active Directory Domain Services (AD DS) stores information about users, computers, and other devices on the Server Roles network. AD DS helps administrators securely manage this information and facilitates resource sharing and Active Directory Domain Services collaboration between users. AD DS is also required for directory-enabled applications such as Microsoft Exchange Server and for other Windows Server technologies such as Group Policy. Confirmation Things to Note Progress To help ensure that users can still log on to the network in the case of a server outage, install a minimum of Results two domain controllers for a domain. AD DS requires a DNS server to be installed on the network. If you do not have a DNS server installed, you will be prompted to install the DNS Server role on this server. After you install the AD DS role, use the Active Directory Domain Services Installation Wizard (dcpromo.exe) to make the server a fully functional domain controller. Installing AD DS will also install the DFS Namespaces, DFS Replication, and File Replication services which are required by Directory Service. Read the Introduction to Additional Information Active Directory Domain Overview of AD DS Installing AD DS Services and then click Common Configurations for AD DS Next. < Previous Next : Cancel 🗐 🕼 4:04 PM 📥 💻 🏉 ا 🛼 Server Manager Start 🥪 🕑 📙 🧰 🚣

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- Notice that after the installation of ADDS, indicating a successful install, that ADDS has not actually be installed.
- The ADDS Installation Wizard still needs to run. Return to the Server Manager window if you're not already there.
- Under Roles Summary, click Go to Roles on the right hand side of the window. You should see the screen shown on the next page.
- Click the Go to Active Directory Domain Services link, you'll then see the screen on page 16.

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崎 Server01 - Microsoft Virtual PC 2007	
Action Edit CD Floppy Help	
Server Manager	×
File Action View Help	
Server Manager (SERVER01) Active Directory Domain Services	
E S Roles	
Features     Stores directory data and manages communication between users and domains, including user logon     processes, authentication, and directory searches.	
End Diagnostics      Diagnostics	
E Storage Storage	
This server is not yet running as a domain controller. Run the Active Directory Domain Services	
Installation Wizard (dcpromo.exe).	
Events: None in the last 24 hours     Go to Event Viewer	
✓     0 Events	
Level Event ID Date and Time	
Click this link	
System Services: 4 Running, 6 Stopped Go to Services	-
Last Refresh: 10/7/2010 5:16:48 PM Configure refresh	
Start 🛛 🚋 🏉 🗍 🚠 Server Manager 🔮 👘 🕼 5:17 Pi	1
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- The next step will be to make decisions about the forests and domains that will be part of the network we are creating.
- Recall that a forest is a collection of logical domains.
- We are going to create a single domain, so our selection, as shown on the next page, will be to create a new domain in a new forest.





- You will enter, as shown on the next page, "savn.local" as the FQDN (fully qualified domain name).
- Because we will have one forest with one domain, the DNS name is called the forest root domain.





- Recall from our earlier discussions about Active Directory that domain controllers can run different versions of Windows Server operating systems.
- The ADDS functional level of a domain or forest depends on which versions of Windows Server operating systems you run on the domain controllers in the domain or forest.
- The domain or forest's advanced features are related to its functional level.
- See Active Directory Part 2 pages 9 and 10 for more details.

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• In our case, we will set the highest functional level, which is Windows Server 2008, since all of our virtual servers are running Windows Server 2008 and we do not have any servers running an older version of the operating system.











Action Edit CD Floppy Help



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Serve	01 - Microsoft Virtual PC 2007	×
Action	Active Directory Domain Services Installation Wizard	×
	Beview your selections:       Configure this server as the first Active Directory domain controller in a new forest.         The new domain name is savn.local. This is also the name of the new forest.       Finally, you've reached the summary screen which indicates that the ADDS configuration has been completed. Look this over to be sure everything is correct, and if not, backup and correct it. Otherwise, click Next to begin the installation of ADDS on the server (see next page)         The settings can be exported to an answer file for use with other unattended operations.       Export settings	
₹	K Next > Cancel    Cancel	-
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Server01 - Microsoft Virtual PC 2007

Action Edit CD Floppy Help



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Server01 - Microsoft Virtual PC 2007

Action Edit CD Floppy Help



#### Recycle Bin

Server Manager	<u> </u>		
Command Prompt		Terminal Services	<b>&gt;</b>
Internet Explorer	Administrator	Active Directory Sites and Services	
	Documents	Active Directory Users and Comput ADSI Edit	er
	Computer	Component Services	
Notepad	Network	Data Sources (ODBC)	
Ease of Access Center	Control Panel	Burner DNS	
	Administrative Tools	Group Policy Management	
	Help and Support	Local Security Policy	From the main Start
	Run	Reliability and Performance Monitor	menu, select
		Security Configuration Wizero	then select Active
		Services	Directory Users and
 ▶ ∆∥ Programs		Storage Explorer	Computers from the list.
Start Search		System Configuration	
		Windows Firewall with Advanced Se	curity
💦 Start 📗 🚠 💻 🏉		🛞 Windows Server Backup	🔜 🕼 12:46 PM
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# Project Five – Joining The Domain

- For a VM to access the network resources of the savn.local domain, the VM must be a member of the domain.
- This process is called joining a domain.
- In this part of the project you will contact the domain controller (Server01) from a VM and request to become a member of the domain.
- The actual process of joining a domain varies somewhat from operating system to operating system, so you will see some differences between the actions when Server02 and Client01 join the domain, but in both cases you will use the Computer Name/Domain Changes dialog box to accomplish the join.
- The actual process is quite simple and will take you far less time than Project Four required.

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### Project Five - Joining A Domain - Server02

- To begin the process of joining Server02 to the savn.local network, start both Server01 and Server02 running.
- From a command prompt, have Server02 ping Server01 to verify connectivity.



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#### Project Five - Joining A Domain - Server02





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### Project Five - Joining A Domain - Server02

- From the Start menu in Server02, click on Administrative Tools, then click the link for Server Manager.
- You should see the window as shown on the next page.



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📕 Server Manager				
<u>File Action View H</u> elp				
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Server Manager (SERVER02)	Server Manager (SERVER	102)		
Roles     Features     Diagnostics     Configuration     Storage	Get an overvie roles and featu	w of the status of this server, perf ires.	form top management tasks, and add or remove	server
	Server Summary		Server Summary Help	
	Computer Inform	ation	E Change System Properties	
	Full Computer Name:	Server02	View Network Connections	
	Workgroup:	WORKGROUP		
	Local Area Connection:	192.168.0.102	Click "Change	
	Remote Desktop:	Disabled	System	
	Product ID:	92573-082-2500115-76134	Properties" link	
	Do not show me	this console at logon		
	Security Information	tion	🔐 Go to Windows Firewall	
	Windows Firewall:	On	Configure Updates	
	Last Refresh: 10/18/201	0 10:23:52 AM Configure refresh		<b>•</b>
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Server02 - Microsoft Virtual PC 20	07			
Action Edit CD Floppy Help				
Server Manager				
File Action View Help				
Server Manager (SERVER02)	Server Manager (SERV	/ER02)		
Features System Pro	perties		×	n management tasks, and add or remove server
Diagnostics     Configuration     Computer N	lame Hardware Advance	ed Remote		in an agement wais, and add or remove server
🕀 🚰 Storage			. []	
	on the network.	Information to identify your com	puter	Server Summary Help
Computer	description: Server02			Change System Properties
	, For example	: "IIS Production Server" or		View Network Connections
E.I. and	"Accounting	g Server".		😭 Configure Remote Desktop
Puil compt	Jtername: Serveruz			
Workgrou	p. wonkand	JUF		
To rename workgroup	e this computer or change its click Change	domain or Chang	je	Click "Change"
	, ener energe.			
				🐨 Go to Windows Firewall
				Configure Updates
				Check for New Roles
	0	K Cancel	Apply	
🕂 Start 🛛 🏭 🔜 🖉 🚊 S	erver Manager	🛓 Server Manager	i 🛂 Sys	stem Properties 👘 🕞 🕼 10:23 AN
<ul><li>Solution</li></ul>				
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📑 Server02 - Microsoft	Virtual PC 2007				
Action Edit CD FI	oppy Help				
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File Action View	Help				
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Server Manager (SE	Computer Name/Domain Ch	anges	×		
	You can change the name and computer. Changes might affec More information	the membership of t access to network	this resources.	management tasks, and ad	d or remove server
				Server Summary Help	-
	Computer name:				
	Server02			Change System Properti	es
	Full computer name:			Configure Remote Deskt	0D
	Server02				·
				Click "Doma	ain" and 🛛 🦳
			More	enter	r l
	Member of			"savn.lo	ocal"
	O Domain:				
	,				
	• Workgroup:			Go to Windows Firewall	
	WORKGROUP			Configure Updates	
				Check for New Roles	-
		OK	Cancel		
灯 Start 🛛 🚠 📃	Server Manager	Server Manager	j⊈ Syst	tem Properties	🗊 🏡 10:23 AM
See 19 19 19 19 19 19 19 19 19 19 19 19 19					
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🛼 Server Manager					<u>- 🗆 ×</u>
File Action View Help					
🗇 🔿   📰   김					
Server Manager (SERVER02)	Server Manager (SERVE	R02)			
Features     Features     Diagnostics     Configuration     Storage	Get an overview of the status of this server, perform top management tasks, and add or remove server roles and features.				
	Server Summary		? Se	rver Summary Help	1
	Computer Inform	ation	👰 Ch	ange System Properties	
	Full Computer Name:	Server02.savn.local	👰 Vi	Do a screen capture of this	
	Domain:	savn.local 🕇		screen which	
	Local Area Connection:	192.168.0.102		shows Server02 now a part of the	
	Remote Desktop:	Disabled		savn.local	
	Product ID:	92573-082-2500115-76134		domain.	
	🗖 Do not show me	this console at logon			
	Security Information	tion	🔐 Go	) to Windows Firewall	
	Windows Firewall:	On	🗳 Co 🦘 Ch	nfigure Updates leck for New Roles	
	Last Refresh: 10/18/201	0 4:09:41 PM Configure refresh			
	,				
灯 Start 🛛 🚠 📰 👘 🗍 🕌	Server Manager			P 🕼	4:09 PM
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### Project Five - Joining A Domain - Client01

- The procedure for getting the Vista-based Client01 to join the savn.local domain is essentially the same as that of the Server2008-based Server02.
- Before proceeding, open a Command Prompt in Client01 and verify that Server01 is accessible by pinging the server, as shown on the next page.



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### Project Five - Joining A Domain - Client01





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### Project Five - Joining A Domain - Client01

- To connect Client01 to the savn.local domain, click Start, right click Computer, then click Properties, and then click Advanced System Settings.
- This will open the System Properties dialog box as shown on the next page.





Virtual PC Console	
Action Edit CD Floppy Help	
System Properties	• • • Search
Computer Name       Hardware       Advanced       System Protection         You must be logged on as an Administrator to make mole of         Performance         Visual effects, processor scheduling, memory usage, and v	n Remote f these changes. vitual memory Settings  on. All rights reserved.
User Profiles Desktop settings related to your logon	Settings  Settings  When the System Properties dialog box appears, select the Computer Name tab.
Environm OK Cancel Windows Opuate Computer descrip	erating System settings C Ption: erating System settings c
Security Center Workgroup: Performance Windows activation –	WORKGROUP
- 🛃 🔄 🌽 🖓 System 👔	😰 System Properties 🚽 😵 🖏 🖵 🌆 4:31 PM
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S Client01 - Microsoft Virtual PC 2007			
Action Edit CD Floppy Help			
	3	-	
System Properties	<b>X</b>	← ← Search	Q
System Properties         Computer Name       Hardware       Advanced         Image: Computer Name       Hardware       Advanced         Image: Computer Name       Windows uses the following in on the network.         Computer description:       Image: Computer Computer Computer Computer.         Computer description:       Image: Computer.         Full computer name:       client01-PC         Workgroup:       WORKGROU         To use a wizard to join a domain or work         Network ID.         To rename this computer or change its dworkgroup, click Change.             OK	System Protection Remote formation to identify your computer "Kitchen Computer" or "Many's P sgroup, click Network ID domain or Change • Cancel Apply Computer description:	<ul> <li>Search</li> <li>pur computer</li> <li>on. All rights reserved.</li> <li>Experience Index : L ore(TM)2 Quad CPL</li> <li>Click the "Chan button.</li> <li>erating System</li> <li>settings</li> <li>C</li> <li>C</li> </ul>	ge"
Security Center	Workgroup: WORKG	ROUP	
Performance	adows activation		
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Client01 - Microsoft Virtual PC 2007	
Action Edit CD Floppy Help	
System Properties	🔀 👻 🍫 Search
System Properties Computer Name/Domain Changes You can change the name and the membership of this computer. Changes might affect access to network resource More information Computer name: client01-PC Full computer name: client01-PC Full computer name: client01-PC More Member of Domain: savn.local Workgroup: WORKGROUP	Image: Search     Image: Sea
OK Cancel OK Cancel OK Cancel Windows Opdate Security Center Performance Windows activation Windows activation	erating System domain. settings C Reply C WORKGROUP WORKGROUP Apply System Properties Apply C C C C C C C C C C C C C
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# **Project Five**

- The deliverables for this project consists of two screen shots as shown on pages 35, 49, and 59 respectively.
- For those of you having memory issues as related to the virtual machines, you will need to have a maximum of two virtual machines running simultaneously for this project. Let Sheldon or me know if you're having issues with this.

