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.
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.
Project Five – Installing ADDS In Server01

• 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.
Project Five – Installing ADDS In Server01

• 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.
Read this information, then click Next.
Select Server Roles

Before You Begin

Server Roles

Confirmation
Progress
Results

Select one or more roles to install on this server.

- Active Directory Certificate Services
- Active Directory Domain Services
- Active Directory Federation Services
- Active Directory Lightweight Directory Services
- Active Directory Rights Management Services
- Application Server
- DHCP Server
- DNS Server
- Fax Server
- File Services
- Network Policy and Access Services
- Print Services
- Terminal Services
- UDDI Services
- Web Server (IIS)
- Windows Deployment Services

Description:
Active Directory Certificate Services (AD CS) is used to create certification authorities and related role services that allow you to issue and manage certificates used in a variety of applications.

More about server roles

< Previous  Next >  Install  Cancel
Check the Active Director Domain Services checkbox and then click Next.
Read the Introduction to Active Directory Domain Services and then click Next.
Read the Confirm Installations Selections and then click Install.
Review the Installation Results and then click Close.
Project Five – Installing ADDS In Server01

• 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.
Click this link
This server is not yet running as a domain controller. Run the Active Directory Domain Services Installation Wizard (dcpromo.exe).
Welcome to the Active Directory Domain Services Installation Wizard

This wizard helps you install Active Directory Services (AD DS) on this server, making the server an Active Directory domain controller. To continue, click Next.

- Do not check this box
- Click Next in this dialog box
Windows Server 2008 domain controllers have a new more secure default for the security setting named "Allow cryptography algorithms compatible with Windows NT 4.0." This setting prevents Microsoft Windows and non-Microsoft SMB "clients" from using weaker NT 4.0 style cryptography algorithms when establishing security channel sessions against Windows Server 2008 domain controllers. As a result of this new default, operations or applications that require a secure channel serviced by Windows Server 2008 domain controllers might fail.

Platforms impacted by this change include Windows NT 4.0, as well as non-Microsoft SMB "clients" and network-attached storage (NAS) devices that do not support stronger cryptography algorithms. Some operations on clients running versions of Windows earlier than Vista with Service Pack 1 are also impacted, including domain join operations performed by the Active Directory Migration Tool or Windows Deployment Services.

For more information about this setting, see Knowledge Base article 942564 (http://go.microsoft.com/fwlink/?LinkId=104751).

Click Next in this dialog box.
Project Five – Installing ADDS In Server01

• 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.
Select “Create a new domain in a new forest.” Then Click Next.
Project Five – Installing ADDS In Server01

• 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.
Enter the network name “savn.local”. Then Click Next.
Project Five – Installing ADDS In Server01

• 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.
Project Five – Installing ADDS In Server01

• 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.
Select “Windows Server 2008”. Then Click Next.
The `savn.local` network will have only one DNS server, so be sure the DNS checkbox is checked. Then Click Next.
Since we will have only one DNS server in our network and a delegation is not required, you can ignore the warning message that will appear. Click Yes.
If Server01 had multiple physical hard drives, the folders shown in this window could be balanced across these physical drives. In our virtual environment, the default choices will be fine. Click Next.
You can set up ADDS to restore the Directory Services databases from a backup. This screen allows you to set up the passwords to be used by the Restore Mode Administrator account if restoration is needed. This is a special account and not normally access, so enter an easily remembered password here. I suggest the same as the one you used for the server. Click Next.
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 ADDS installation wizard will begin to install the ADDS options in your configuration. This might take a couple of minutes depending on the speed of your machine. You’ll need to reboot the VM when things are done, but don’t check the box on this screen, so that you can see the next page.
The ADDS installation wizard finishes up with a dialog box indicating that the installation is complete. Read the information in this window. When you click Finish, the VM will restart and change to its new role, in this case, as the domain controller.
You must restart your computer before the changes made by the Active Directory Domain Services Installation wizard take effect.

Click Restart Now.
When the server restarts, it will now have its new identity as the domain controller for the savn.local network.
When the server has restarted, go to the server manager and scroll down the page until you see the Roles Summary. Server01 should now have 2 installed roles: ADDS and DNS server. **Do a screen capture of this page.**
From the main Start menu, select Administrative Tools, then select Active Directory Users and Computers from the list.
The list of users shows that the Administrator is a user and Domain Users is a security group set up for all domain users. This security group will contain the user accounts for those users who require access to network resources within the domain.
Select the `savn.local` network and then the Domain Controllers option sub-option and you should see this.
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.
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.
Project Five – Joining A Domain – Server02

Server02 pings Server01 to verify connectivity

C:\Users\Administrator>ping server01

Pinging server01 [192.168.0.101] with 32 bytes of data:
Reply from 192.168.0.101: bytes=32 time<1ms TTL=128
Reply from 192.168.0.101: bytes=32 time<1ms TTL=128
Reply from 192.168.0.101: bytes=32 time<1ms TTL=128
Reply from 192.168.0.101: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.0.101:
   Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
   Minimum = 0ms, Maximum = 0ms, Average = 0ms
• 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.
Click “Change System Properties” link
Click "Change"
Click “Domain” and enter “savn.local”
You can change the name and the membership of this computer. Changes might affect access to network resources. More information

Computer name: Server02
Full computer name: Server02

Member of:
- Domain: savn.local
- Workgroup: WORKGROUP

Click “OK”
When the Windows Security window prompts you for the username and password, enter the user name Administrator and the password for the domain controller (Server01), then click “OK”.
Server02 has not successfully joined the savn.local network.
Click “OK” and go through the restart procedure.
Do a screen capture of this screen which shows Server02 now a part of the savn.local domain.
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.
Client01 pings Server01 to verify connectivity
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.
Select “Advanced system settings”.

When the User Account Control box appears, just click Continue.
When the System Properties dialog box appears, select the Computer Name tab.
Click the “Change” button.
Click the “Domain” option and enter “savn.local” as the domain.
Click the “Domain” option and enter “savn.local” as the domain. Click the “Change” button. When the Windows Security window prompts you for the username and password, enter the user name Administrator and the password for the domain controller (Server01), then Click “OK”
Client01 has now joined the savn.local domain.

Click OK. Go through the restart procedure.
In the Active Directory Users and Computers administrative tool for Server01, go to the savn.local domain and select Computers. Do a screen capture of this screen as your final deliverable for this project.

This screen shows both Server02 and Client01 as part of the savn.local domain as controlled by Server01.
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.