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:** 35 points
• **Due Date:** April 4, 2014 by 11:59 pm WebCourses time.
• **Objectives:** The completion of Project Four left you with a virtual network of three machines, named Mark-Server1, Mark-Server2, and Mark-Mark-Client1. For our savn.local network we will make Mark-Server1 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:** Six screen shots as shown on pages 35, 36, 39, 51, 63, and 64. Make sure your server name shows in the screen shots.
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 Mark-Server1 will establish that server as the domain controller for the network that you constructed in Project Four.

• 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 Five.

• What you’ll be doing in this project is installing ADDS on Mark-Server1 and configuring its server roles as a domain controller. Following this you will join Mark-Server2 and Mark-Client1 to the domain now controlled by Mark-Server1.
Project Five – Background

• The next several pages will step you through the process of installing ADDS on Mark-Server1 and configuring its server role as the domain controller.

• Note that Mark-Server1 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.
Installing ADDS In Mark-Server1

• To begin the process. Start Mark-Server1 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.

• Hopefully by now you are quite familiar with these steps to find the roles a server is performing.

• See next page.
Find this area. You'll have 0 roles installed.
Installing ADDS In Mark-Server1

- 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.
This wizard helps you install roles on this server. You determine which roles to install based on the tasks you want this server to perform, such as sharing documents or hosting a web site.

Before you continue, verify that:

- The Administrator account has a strong password
- Network settings, such as static IP addresses, are configured
- The latest security updates from Windows Update are installed

If you have to complete any of the preceding steps, cancel the wizard, complete the steps, and then run the wizard again.

To continue, click Next.

Read this information, then click Next.
Check the Active Directory 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.
Installing ADDS In Mark-Server1

- 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.
This server is not yet running as a domain controller. Run the Active Directory Domain Services Installation Wizard (dcpromo.exe).

System Services: 3 Running, 7 Stopped

Click this link
Welcome to the Active Directory Domain Services Installation Wizard

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

Do not check this box

Use advanced mode installation

Learn more about the additional options that are available in advanced mode installation.

Click Next in this dialog box
Operating System Compatibility

Improved security settings in Windows Server 2008 affect older versions of Windows.

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-Windows 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 security channel serviced by Windows Server 2008 domain controllers may fail.

Platforms impacted by this change include Windows NT 4.0, as well as non-Windows 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
Installing ADDS In Mark-Server1

• 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.
Installing ADDS In Mark-Server1

• 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.
Installing ADDS In Mark-Server1

• 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.
Installing ADDS In Mark-Server1

- 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 Mark-Server1 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 accessed, 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.
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 restarts, it will now have its new identity as the domain controller for the savn.local network.

Do a screen capture of this page.

Label it: 1: Domain of Mark-Server1
When the server has restarted, go to the server manager and scroll down the page until you see the Roles Summary. Mark-Server1 should now have 2 installed roles: ADDS and DNS server.

Do a screen capture of this page.

Label it: 2: ADDS and DNS roles installed in Mark-Server1
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.

Do a screen capture of this screen.

Label it: 3: Domain Controller
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 (Mark–Server1) 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 Mark–Server2 and Mark–Client1 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 should take you far less time than Project Four required.
Joining A Domain – Mark-Server2

• To begin the process of joining Mark-Server2 to the savn.local network, start both Mark-Server1 and Mark-Server2 running.

• From a command prompt, have Mark-Server2 ping Mark-Server1 to verify connectivity.
Mark-Server2 pings Mark-Server1 to verify connectivity.
Joining A Domain – Mark–Server2

• From the Start menu in Mark–Server2, 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”
When the Windows Security window prompts you for the username and password, enter the user name Administrator and the password for the domain controller (Mark-Server1), then Click “OK”
Mark-Server2 has successfully joined the savn.local network.

Click “OK” and go through the restart procedure.
Click “OK” and go through the restart procedure.
In the Server Manager we now see Mark-Server2 now a part of the savn.local domain.

Do a screen capture of this page.

Label it: 4: Mark-Server2 joins savn.local domain.
Joining A Domain – Mark-Client1

• The procedure for getting the Vista-based Mark-Client1 to join the savn.local domain is essentially the same as that of the Server2008-based Mark-Server2.

• Before proceeding, open a Command Prompt in Mark-Client1 and verify that Mark-Server1 is accessible by pinging the server, as shown on the next page.
Mark-Client1 pings Mark-Server1 to verify connectivity
Joining A Domain – Mark-Client1

• To connect Mark-Client1 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.
When the Windows Security window prompts you for the username and password, enter the user name Administrator and the password for the domain controller (Mark-Server1), then Click “OK”
Mark-Client1 has now joined the savn.local domain.

Click OK.
Client1 has now joined the savn.local domain. Click OK. Go through the restart procedure.
The client machine is now part of the savn.local domain.
The client machine is now part of the savn.local domain.

Do a screen shot of this page. Label it “5: Mark-Client1 joins savn.local domain”
In the Active Directory Users and Computers administrative tool for Mark-Server1, go to the savn.local domain and select Computers. Do a screen capture of this screen as your final deliverable for this project. Label it: 6: Computers in savn.local AD.

This screen shows both Mark-Server2 and Mark-Client1 as part of the savn.local domain as controlled by Mark-Server1.
Project Five

• The deliverables for this project consists of six screen shots as shown on pages 35, 36, 39, 51, 63, and 64 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.