CNT 4603: System Administration
Spring 2014

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-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

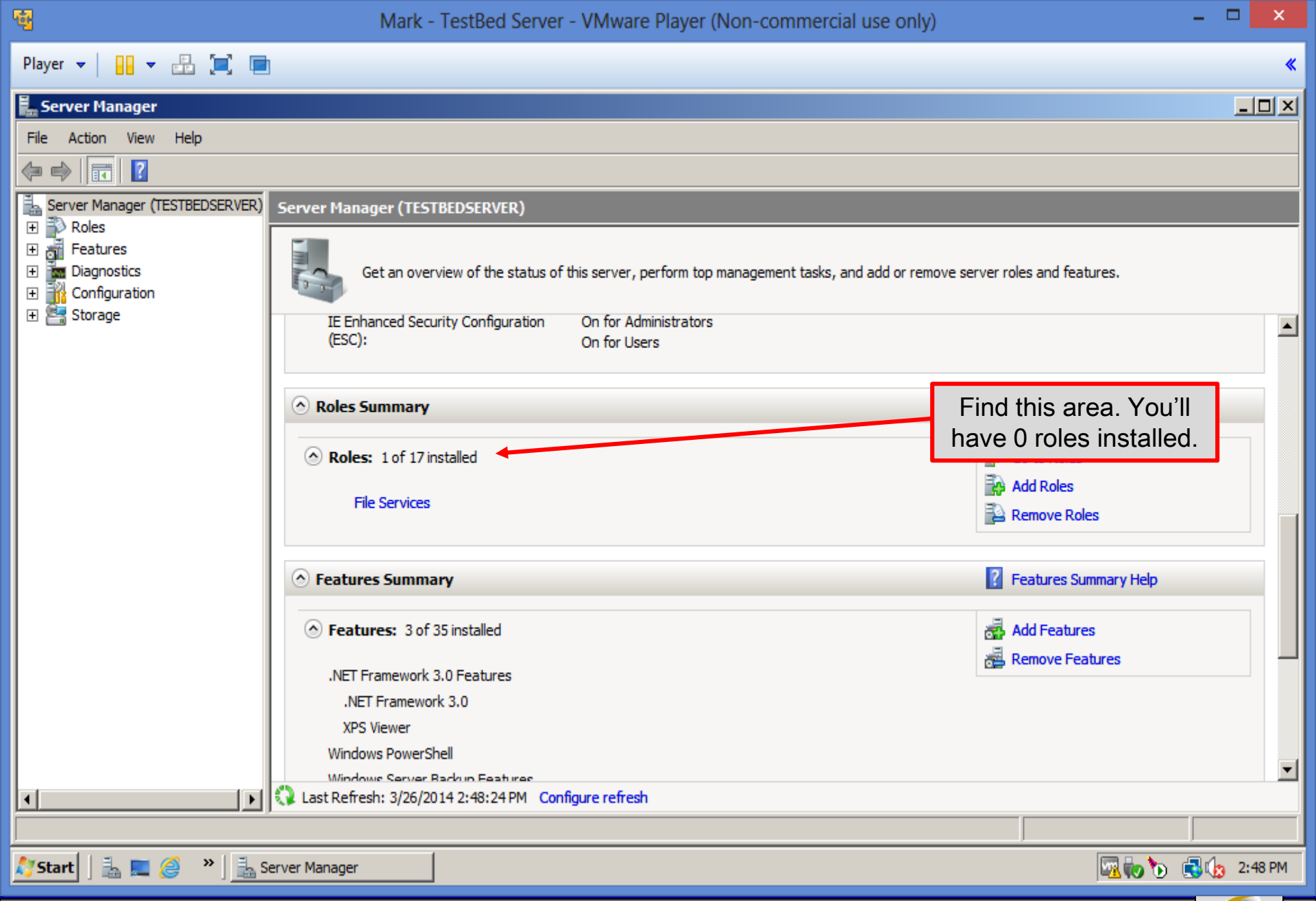
- Active Directory Domain Services provides a directory service that you can use for centralized secure management of your network.
- Installing ADDS on `Mark-Server1` will establish that server as the domain controller for the network that you constructed in Project Four.
- Be sure that you've successfully 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.

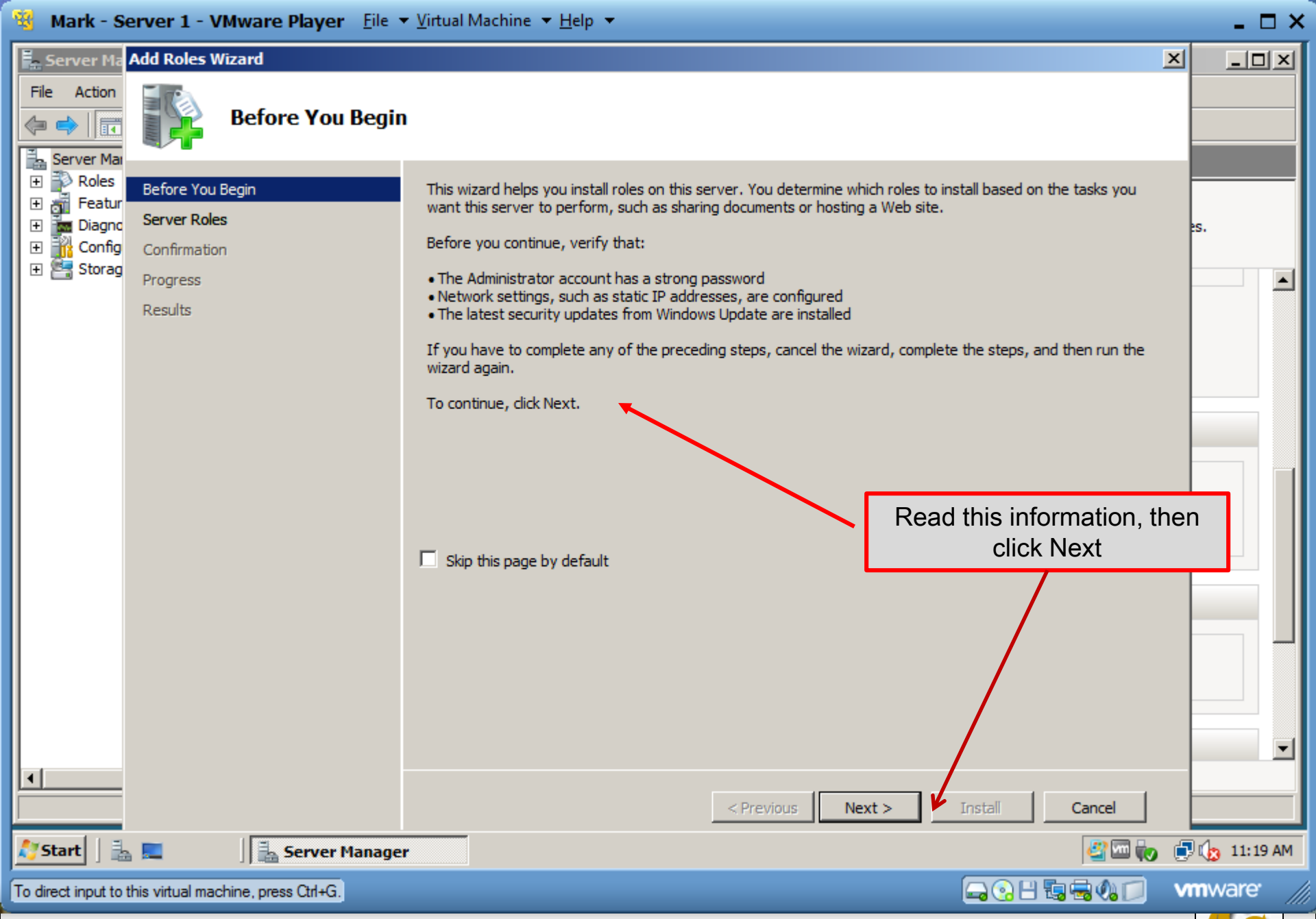
Installing ADDS In Mark-Server1

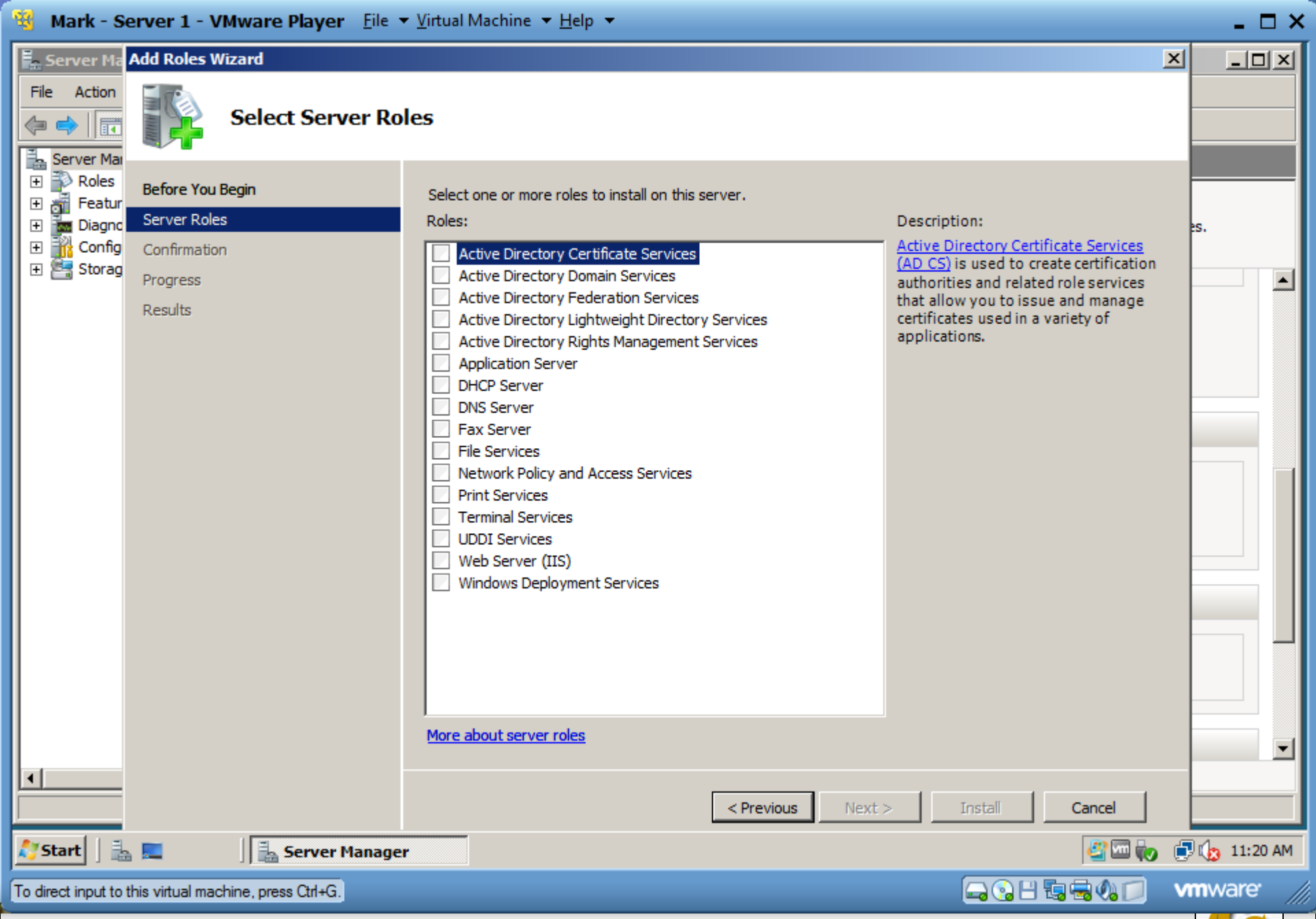
- To begin the process. Start Mark-Server1 and bring up the Server Manager. If you don't have this coming up automatically for your server, Click the Administrative Tools link from the Start menu and then click Server Manager.
- Scroll down the window until you find the Roles Summary sub-window.
- Hopefully by now you are quite familiar with these steps to find the roles a server is performing.
- See next page.

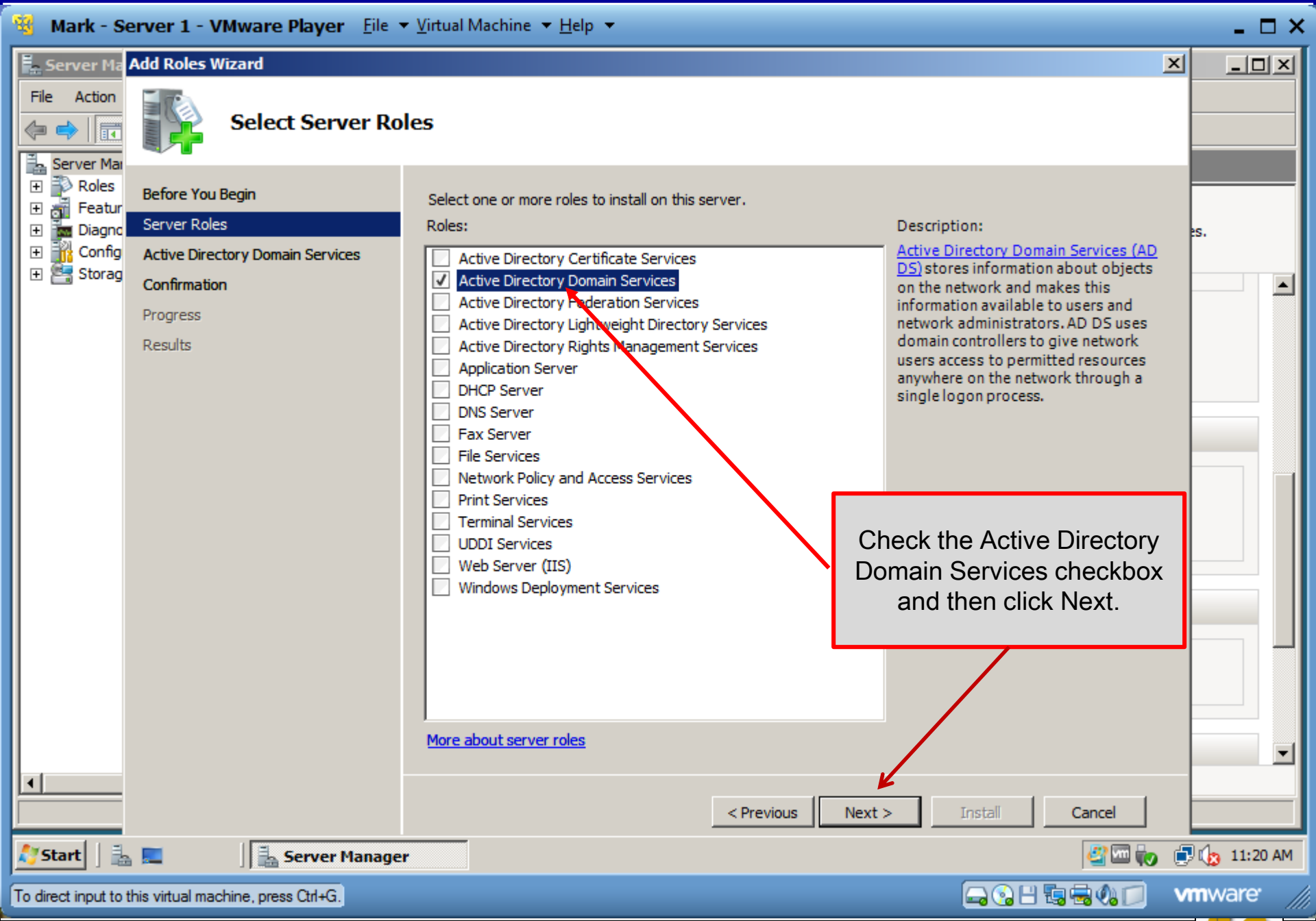

Mark - TestBed Server - VMware Player (Non-commercial use only)
Player
Server Manager
File Action View Help
Server Manager (TESTBEDSERVER)
Roles
Features
Diagnostics
Configuration
Storage
Server Manager (TESTBEDSERVER)
Get an overview of the status of this server, perform top management tasks, and add or remove server roles and features.
IE Enhanced Security Configuration (ESC):
On for Administrators
On for Users
Roles Summary
Roles: 1 of 17 installed
File Services
Add Roles
Remove Roles
Features Summary
Features Summary Help
Features: 3 of 35 installed
Add Features
Remove Features
.NET Framework 3.0 Features
.NET Framework 3.0
XPS Viewer
Windows PowerShell
Last Refresh: 3/26/2014 2:48:24 PM
Configure refresh
Start
Server Manager
2:48 PM
Find this area. You'll have 0 roles installed.

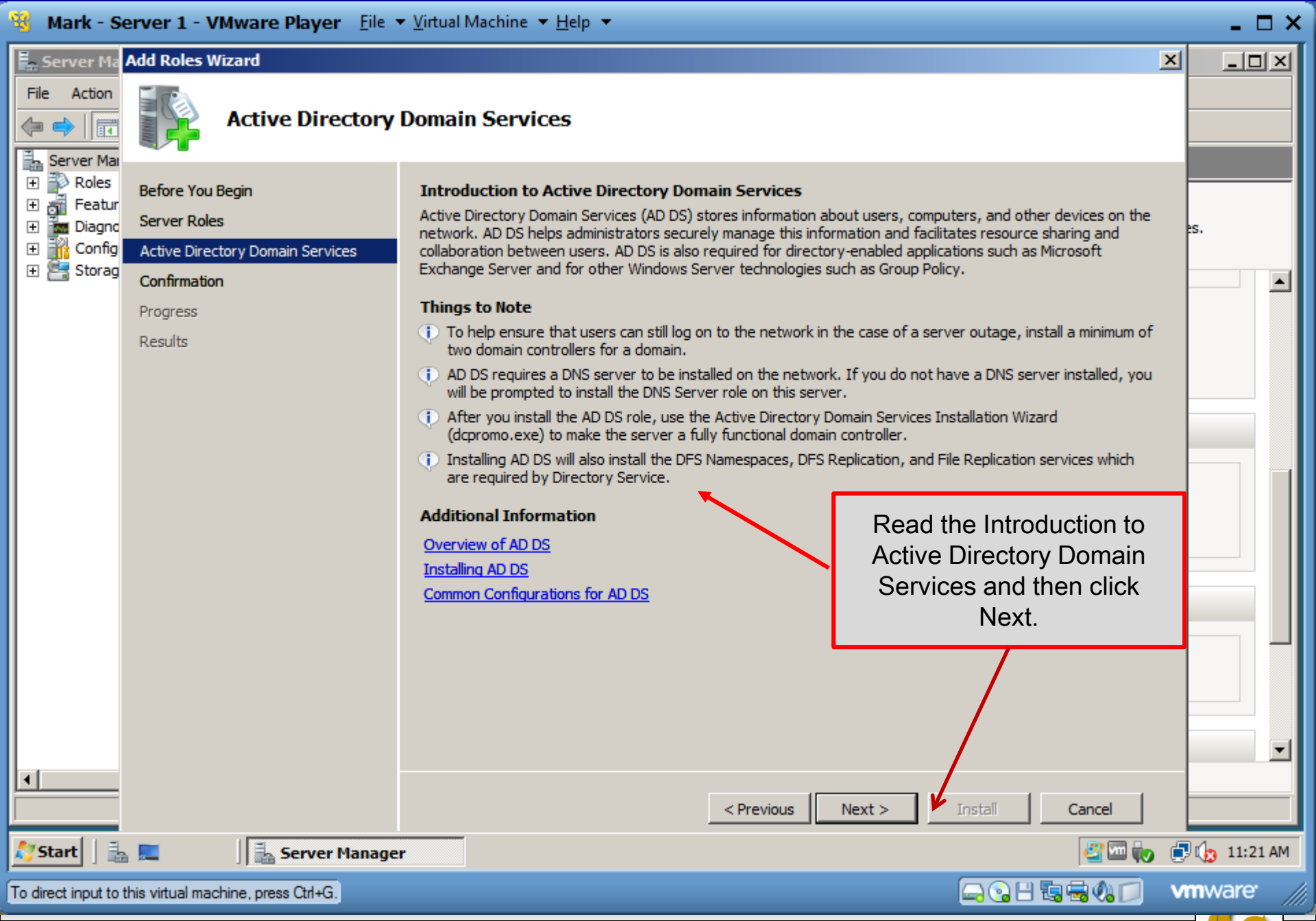
Installing ADDS In Mark-Server1

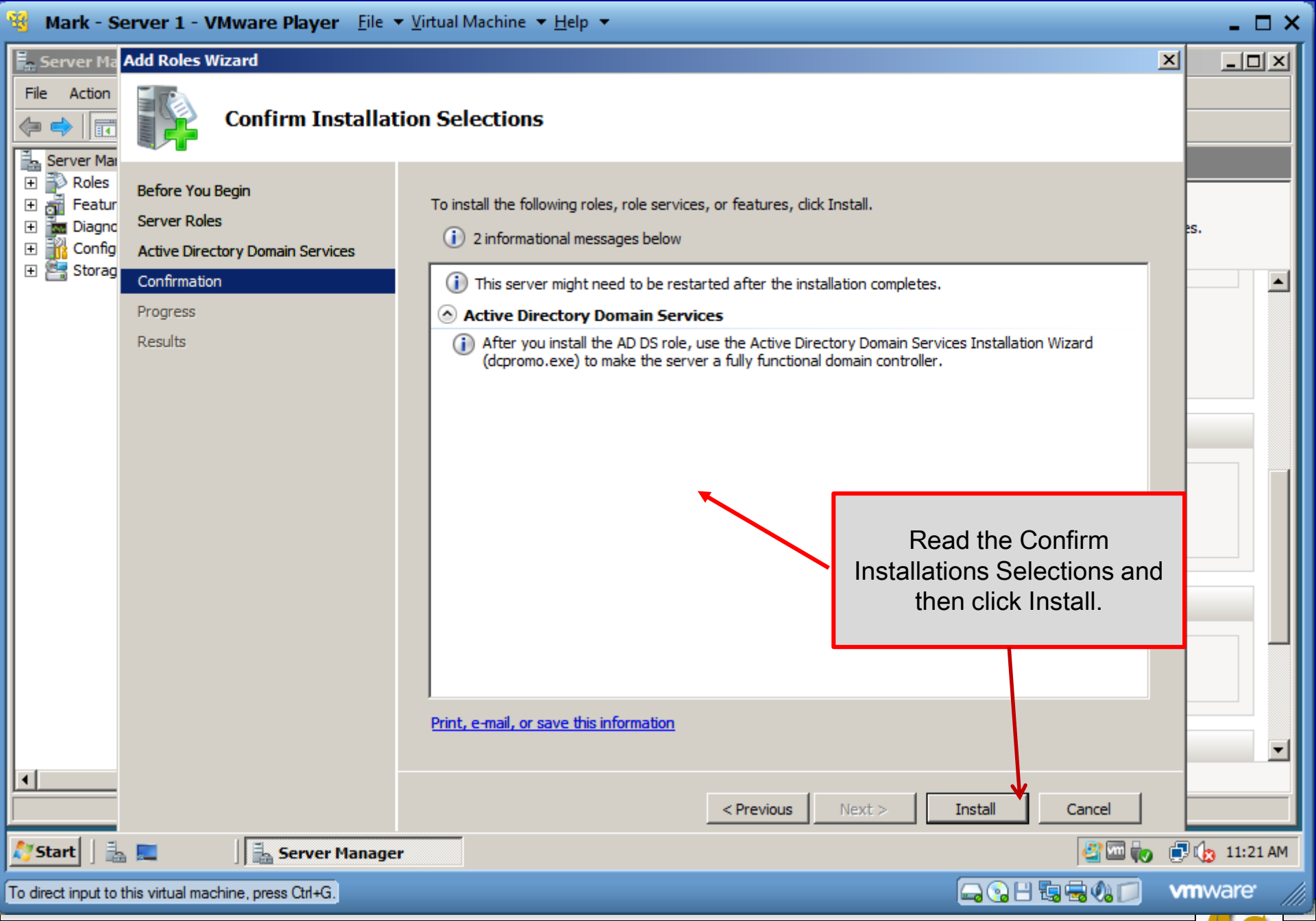
- In the Roles Summary area, click Add Roles.
- You'll most likely see a "Before You Begin" screen. As a future system administrator, you should read the information on this screen so that you are aware of the impact of changing a server's roles. (See next page for screen shot.)
- If the "Before You 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.

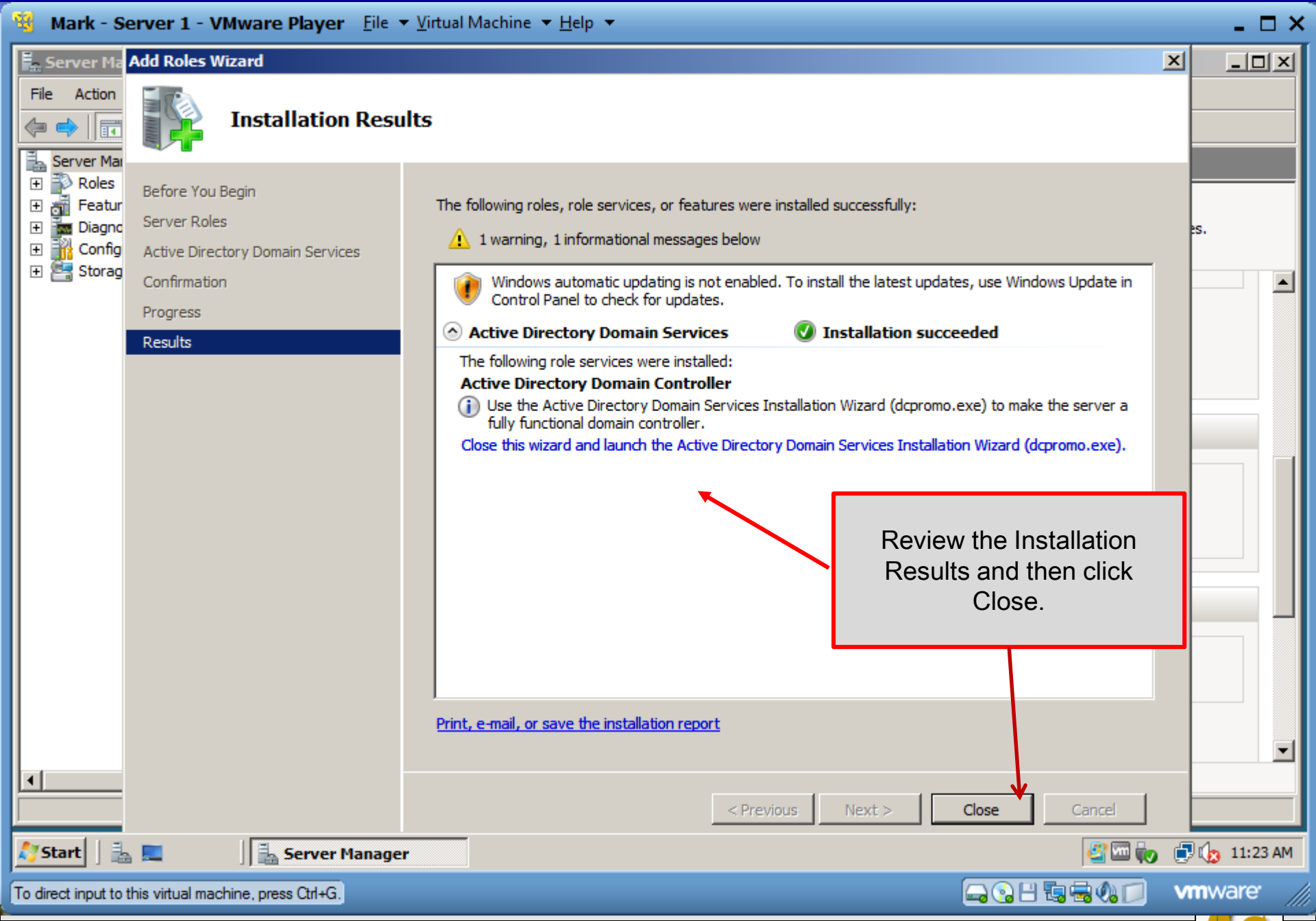

Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Add Roles Wizard
Before You Begin
Before You Begin
Server Roles
Confirmation
Progress
Results
This wizard helps you install roles on this server. You determine which roles to install based on the tasks you want this server to perform, such as 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.
Skip this page by default
Read this information, then click Next
< Previous
Next >
Install
Cancel
Start
Server Manager
11:19 AM
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Add Roles Wizard
Select Server Roles
Before You Begin
Server Roles
Confirmation
Progress
Results
Select one or more roles to install on this server.
Roles:
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
Start
Server Manager
11:20 AM
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Add Roles Wizard
Select Server Roles
Before You Begin
Server Roles
Active Directory Domain Services
Confirmation
Progress
Results
Select one or more roles to install on this server.
Roles:
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 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.
More about server roles
< Previous
Next >
Install
Cancel
Check the Active Directory Domain Services checkbox and then click Next.
Start
Server Manager
11:20 AM
To direct input to this virtual machine, press Ctrl+G.
vmware

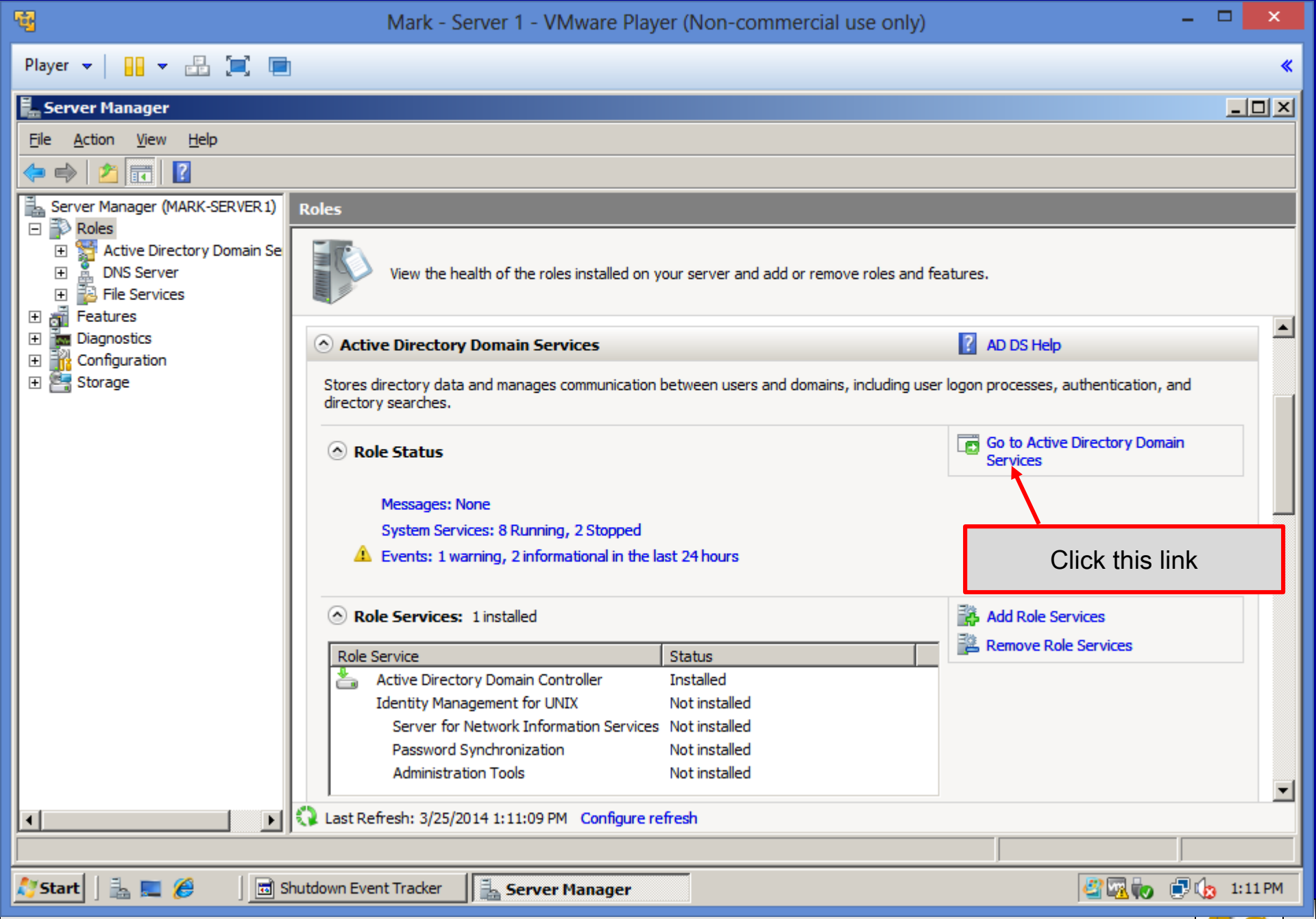

Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Add Roles Wizard
Active Directory Domain Services
Before You Begin
Server Roles
Active Directory Domain Services
Confirmation
Progress
Results
Introduction to Active Directory Domain Services
Active Directory Domain Services (AD DS) stores information about users, computers, and other devices on the network. AD DS helps administrators securely manage this information and facilitates resource sharing and 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.
Things to Note
To help ensure that users can still log on to the network in the case of a server outage, install a minimum of 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.
Additional Information
Overview of AD DS
Installing AD DS
Common Configurations for AD DS
Read the Introduction to Active Directory Domain Services and then click Next.
< Previous
Next >
Install
Cancel
Start
Server Manager
11:21 AM
To direct input to this virtual machine, press Ctrl+G.
vmware

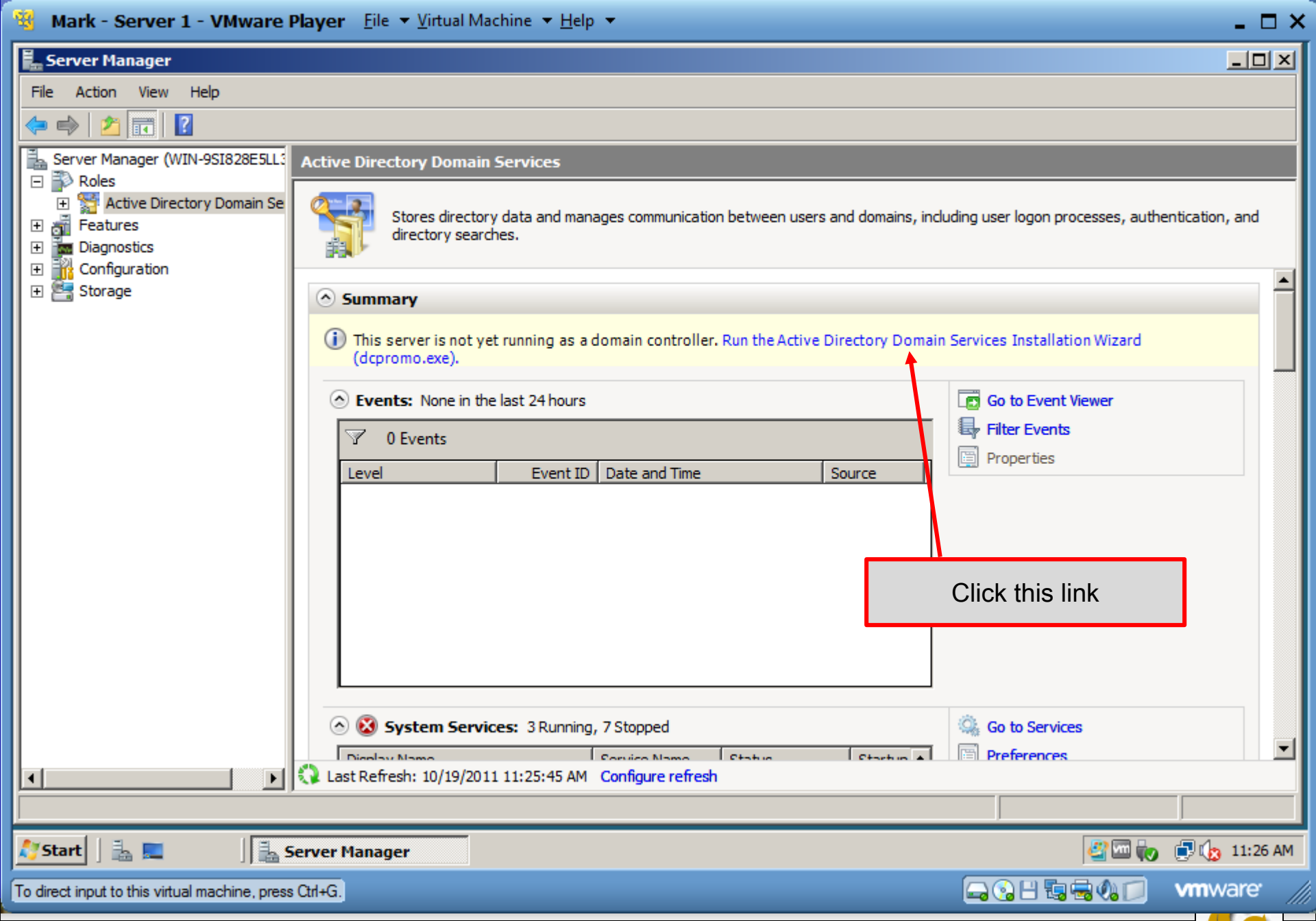

Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Add Roles Wizard
Confirm Installation Selections
Before You Begin
Server Roles
Active Directory Domain Services
Confirmation
Progress
Results
To install the following roles, role services, or features, click Install.
2 informational messages below
This server might need to be restarted after the installation completes.
Active Directory Domain Services
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.
Print, e-mail, or save this information
< Previous
Next >
Install
Cancel
Read the Confirm Installations Selections and then click Install.
Start
Server Manager
11:21 AM
To direct input to this virtual machine, press Ctrl+G.
vmware

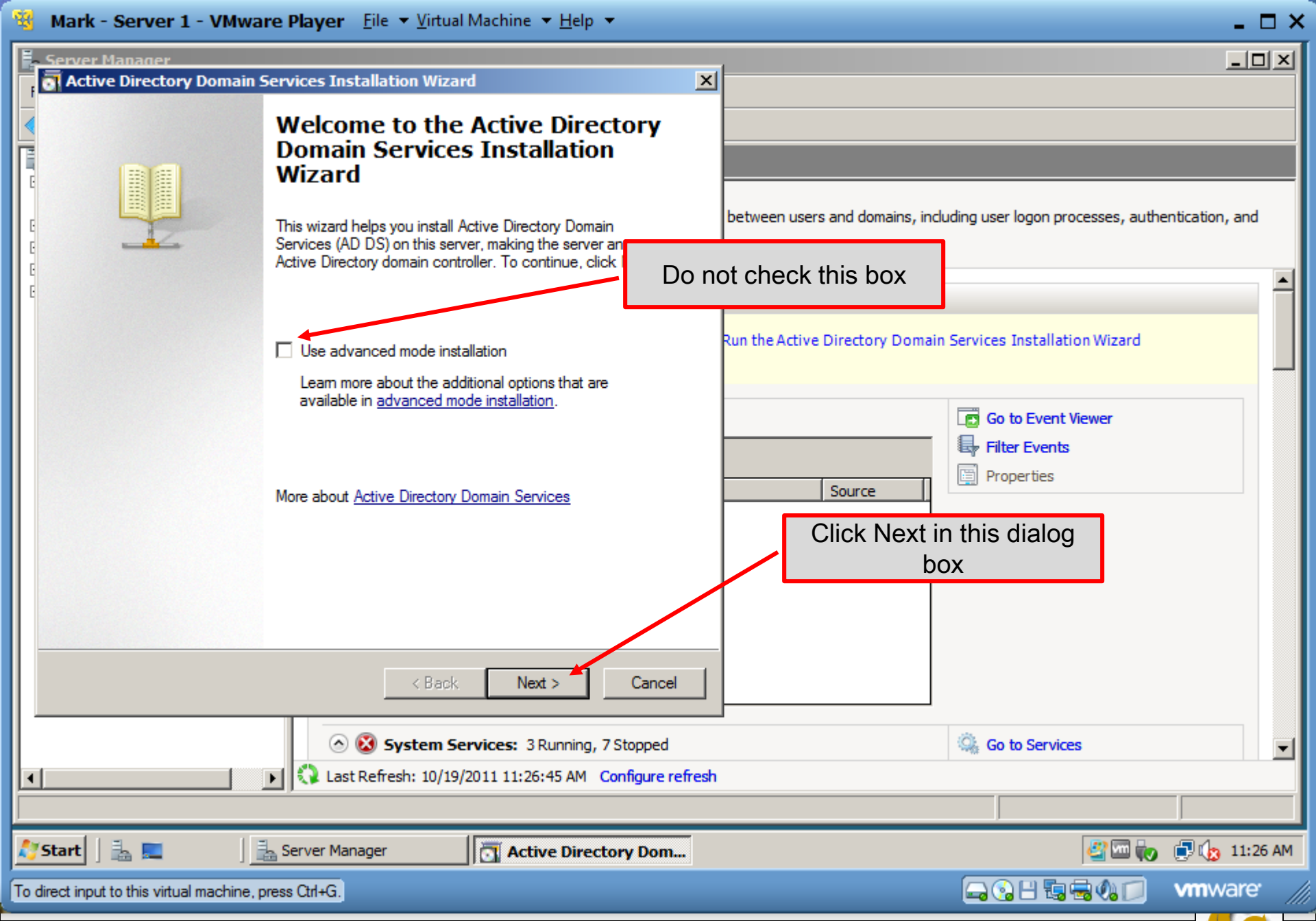

Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Add Roles Wizard
Installation Results
Before You Begin
Server Roles
Active Directory Domain Services
Confirmation
Progress
Results
The following roles, role services, or features were installed successfully:
1 warning, 1 informational messages below
Windows automatic updating is not enabled. To install the latest updates, use Windows Update in Control Panel to check for updates.
Active Directory Domain Services
Installation succeeded
The following role services were installed:
Active Directory Domain Controller
Use the Active Directory Domain Services Installation Wizard (dcpromo.exe) to make the server a fully functional domain controller.
Close this wizard and launch the Active Directory Domain Services Installation Wizard (dcpromo.exe).
Print, e-mail, or save the installation report
Review the Installation Results and then click Close.
< Previous
Next >
Close
Cancel
Start
Server Manager
11:23 AM
To direct input to this virtual machine, press Ctrl+G.
vmware

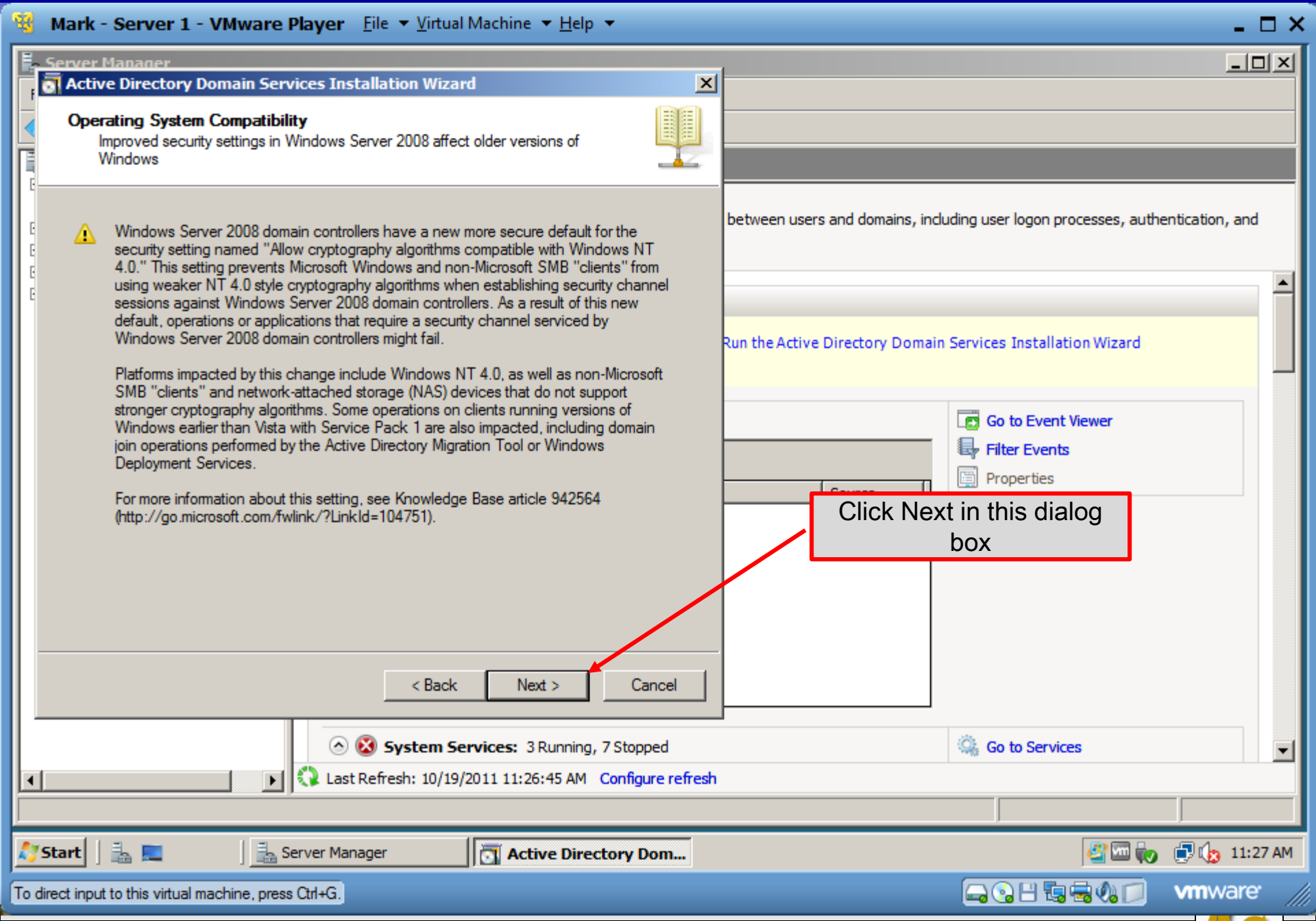
Installing ADDS In Mark-Server1

- 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.


Mark - Server 1 - VMware Player (Non-commercial use only)
Player
Server Manager
File Action View Help
Server Manager (MARK-SERVER1)
Roles
Active Directory Domain Se
DNS Server
File Services
Features
Diagnostics
Configuration
Storage
Roles
View the health of the roles installed on your server and add or remove roles and features.
Active Directory Domain Services
AD DS Help
Stores directory data and manages communication between users and domains, including user logon processes, authentication, and directory searches.
Role Status
Go to Active Directory Domain Services
Messages: None
System Services: 8 Running, 2 Stopped
Events: 1 warning, 2 informational in the last 24 hours
Click this link
Role Services: 1 installed
Add Role Services
Remove Role Services
Role Service
Status
Active Directory Domain Controller
Installed
Identity Management for UNIX
Not installed
Server for Network Information Services
Not installed
Password Synchronization
Not installed
Administration Tools
Not installed
Last Refresh: 3/25/2014 1:11:09 PM
Configure refresh
Start
Shutdown Event Tracker
Server Manager
1:11 PM

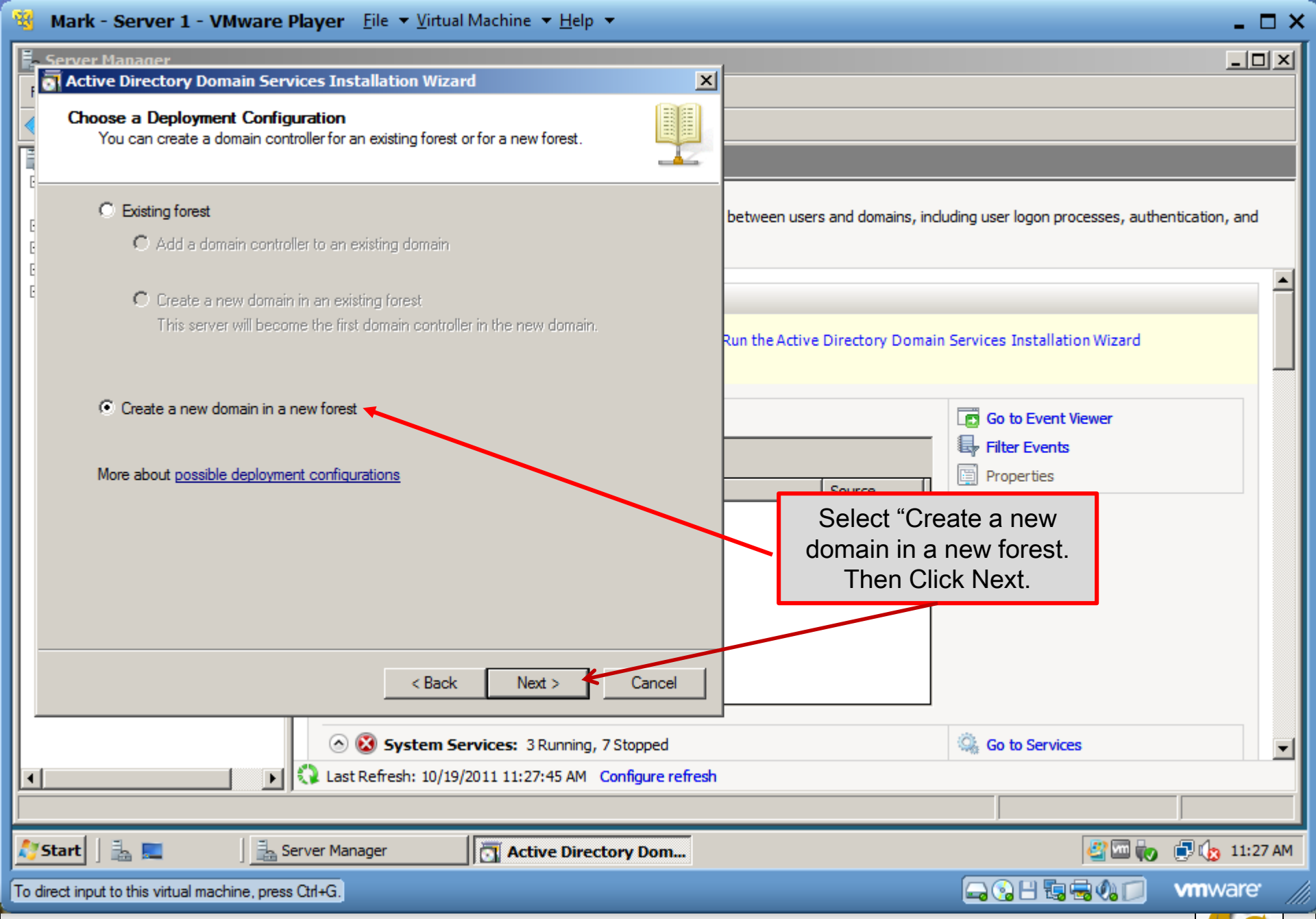

Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Server Manager
File
Action
View
Help
Server Manager (WIN-9SI828E5LL3
Roles
Active Directory Domain Se
Features
Diagnostics
Configuration
Storage
Active Directory Domain Services
Stores directory data and manages communication between users and domains, including user logon processes, authentication, and directory searches.
Summary
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
0 Events
Level
Event ID
Date and Time
Source
Go to Event Viewer
Filter Events
Properties
Click this link
System Services: 3 Running, 7 Stopped
Go to Services
Preferences
Last Refresh: 10/19/2011 11:25:45 AM
Configure refresh
Start
Server Manager
11:26 AM
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Server Manager
Active Directory Domain Services Installation Wizard
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
Use advanced mode installation
Learn more about the additional options that are available in advanced mode installation.
More about Active Directory Domain Services
< Back
Next >
Cancel
Do not check this box
Click Next in this dialog box
between users and domains, including user logon processes, authentication, and
Run the Active Directory Domain Services Installation Wizard
Go to Event Viewer
Filter Events
Properties
Source
System Services: 3 Running, 7 Stopped
Go to Services
Last Refresh: 10/19/2011 11:26:45 AM
Configure refresh
Start
Server Manager
Active Directory Dom...
11:26 AM
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Server Manager
Active Directory Domain Services Installation Wizard
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-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 security 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).
< Back
Next >
Cancel
between users and domains, including user logon processes, authentication, and
Run the Active Directory Domain Services Installation Wizard
Go to Event Viewer
Filter Events
Properties
Click Next in this dialog box
System Services: 3 Running, 7 Stopped
Go to Services
Last Refresh: 10/19/2011 11:26:45 AM
Configure refresh
Start
Server Manager
Active Directory Dom...
11:27 AM
To direct input to this virtual machine, press Ctrl+G.
vmware

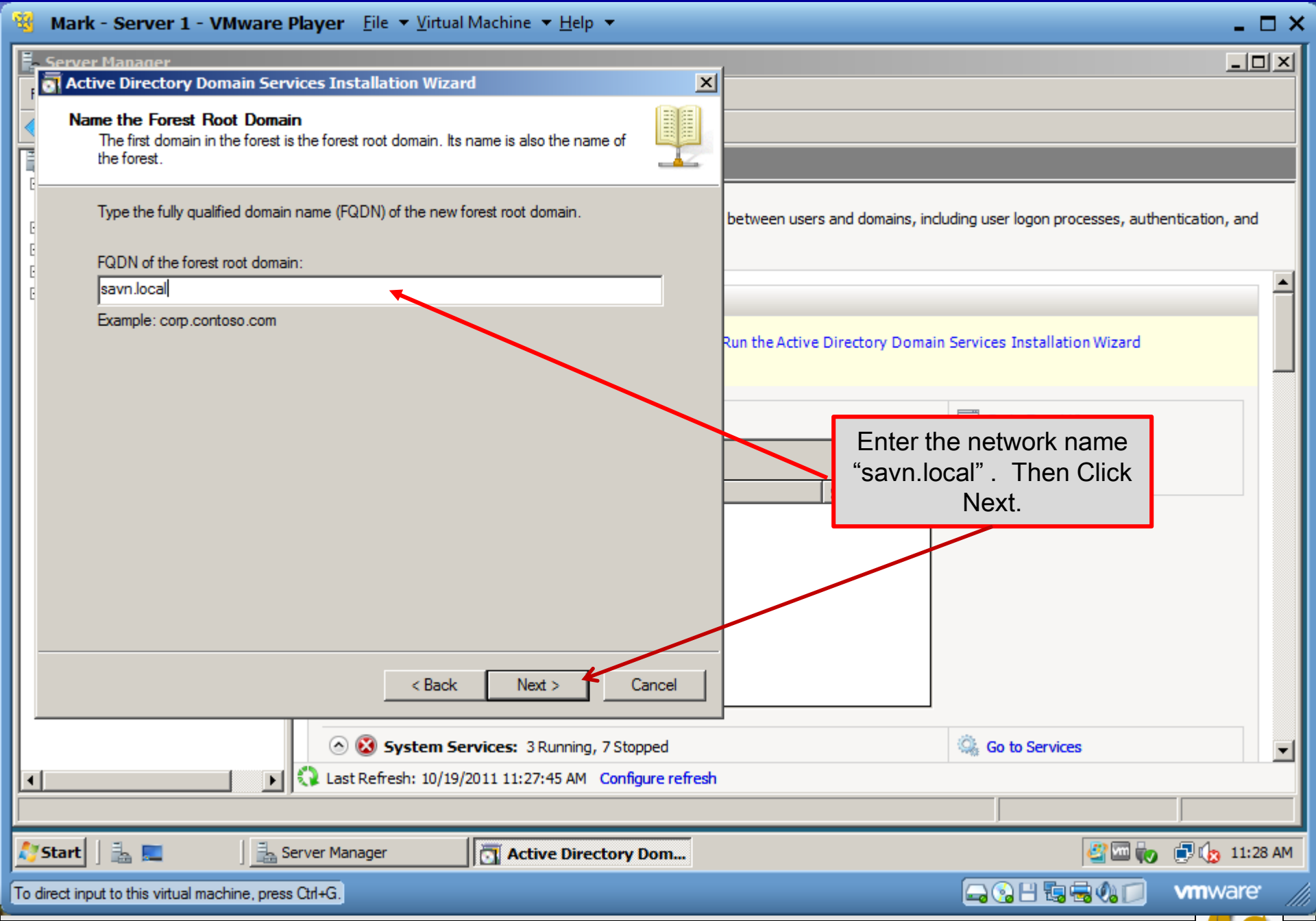
Installing ADDS In Mark-Server1

- 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.


Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Server Manager
Active Directory Domain Services Installation Wizard
Choose a Deployment Configuration
You can create a domain controller for an existing forest or for a new forest.
Existing forest
Add a domain controller to an existing domain
Create a new domain in an existing forest
This server will become the first domain controller in the new domain.
Create a new domain in a new forest
More about possible deployment configurations
< Back
Next >
Cancel
between users and domains, including user logon processes, authentication, and
Run the Active Directory Domain Services Installation Wizard
Go to Event Viewer
Filter Events
Properties
Select "Create a new domain in a new forest. Then Click Next.
System Services: 3 Running, 7 Stopped
Go to Services
Last Refresh: 10/19/2011 11:27:45 AM
Configure refresh
Start
Server Manager
Active Directory Dom...
11:27 AM
To direct input to this virtual machine, press Ctrl+G.
vmware

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.

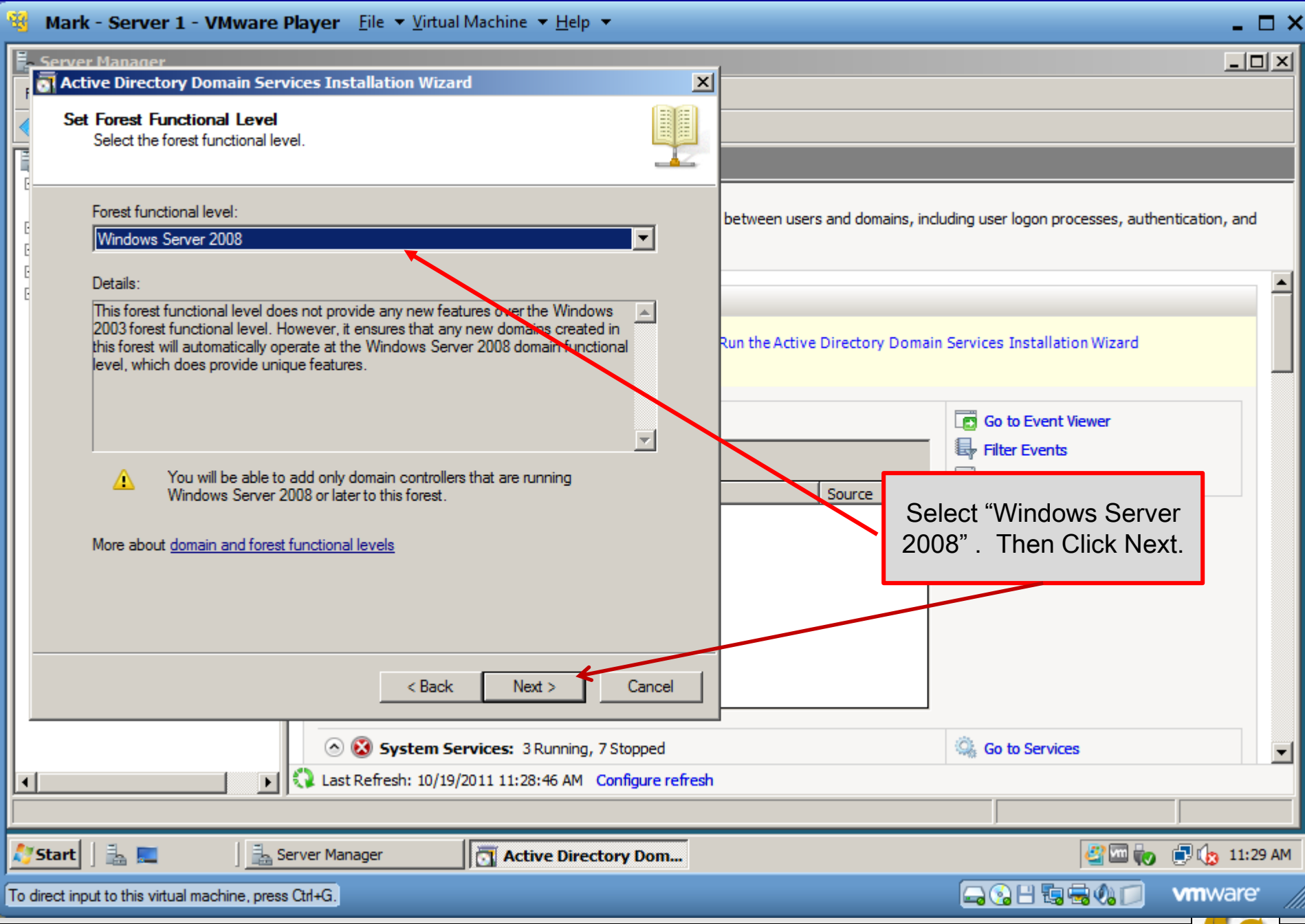

Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Server Manager
Active Directory Domain Services Installation Wizard
Name the Forest Root Domain
The first domain in the forest is the forest root domain. Its name is also the name of the forest.
Type the fully qualified domain name (FQDN) of the new forest root domain.
FQDN of the forest root domain:
savn.local
Example: corp.contoso.com
< Back
Next >
Cancel
between users and domains, including user logon processes, authentication, and
Run the Active Directory Domain Services Installation Wizard
Enter the network name "savn.local" . Then Click Next.
System Services: 3 Running, 7 Stopped
Go to Services
Last Refresh: 10/19/2011 11:27:45 AM
Configure refresh
Start
Server Manager
Active Directory Dom...
11:28 AM
To direct input to this virtual machine, press Ctrl+G.
vmware

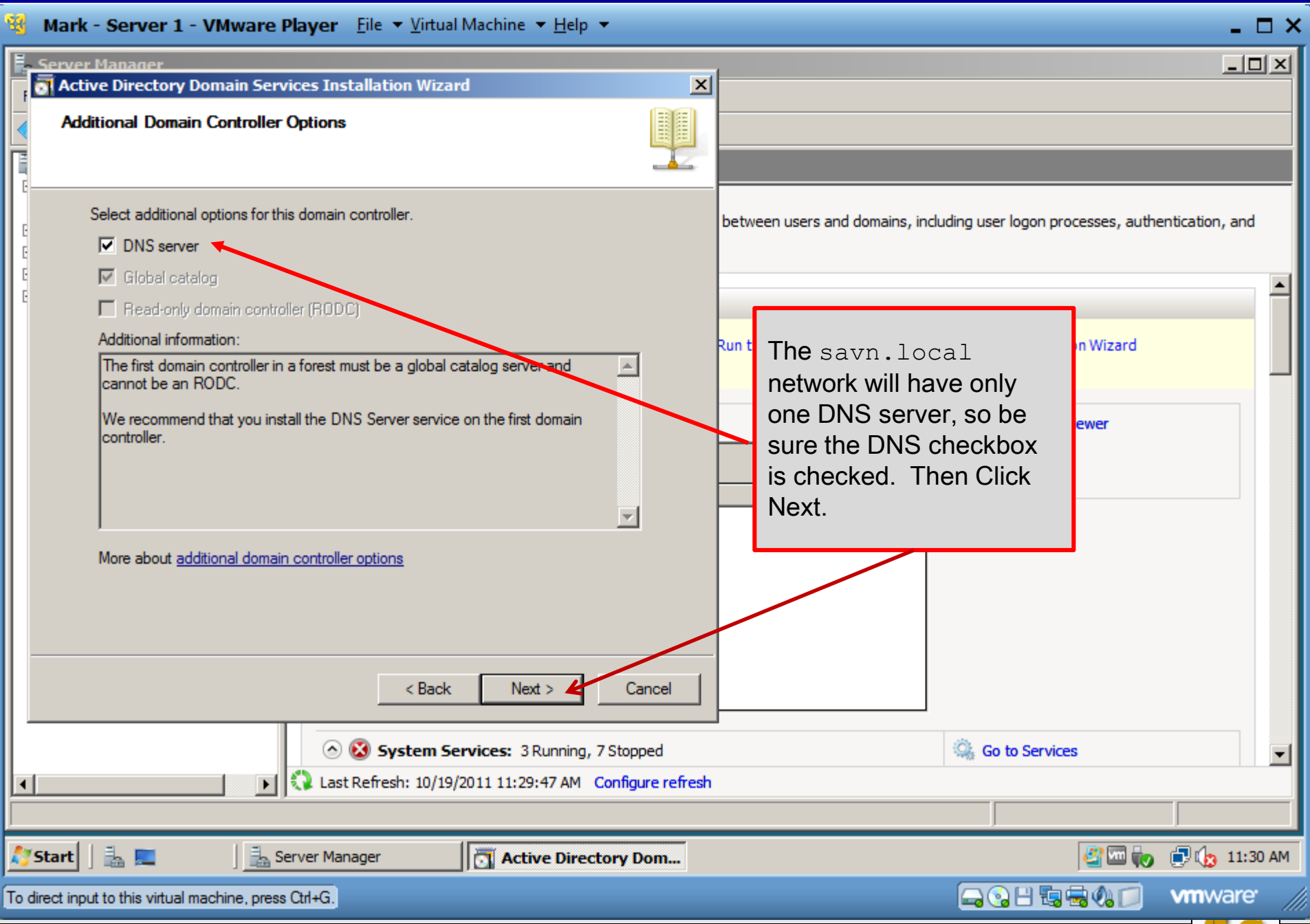
Installing ADDS In Mark-Server1

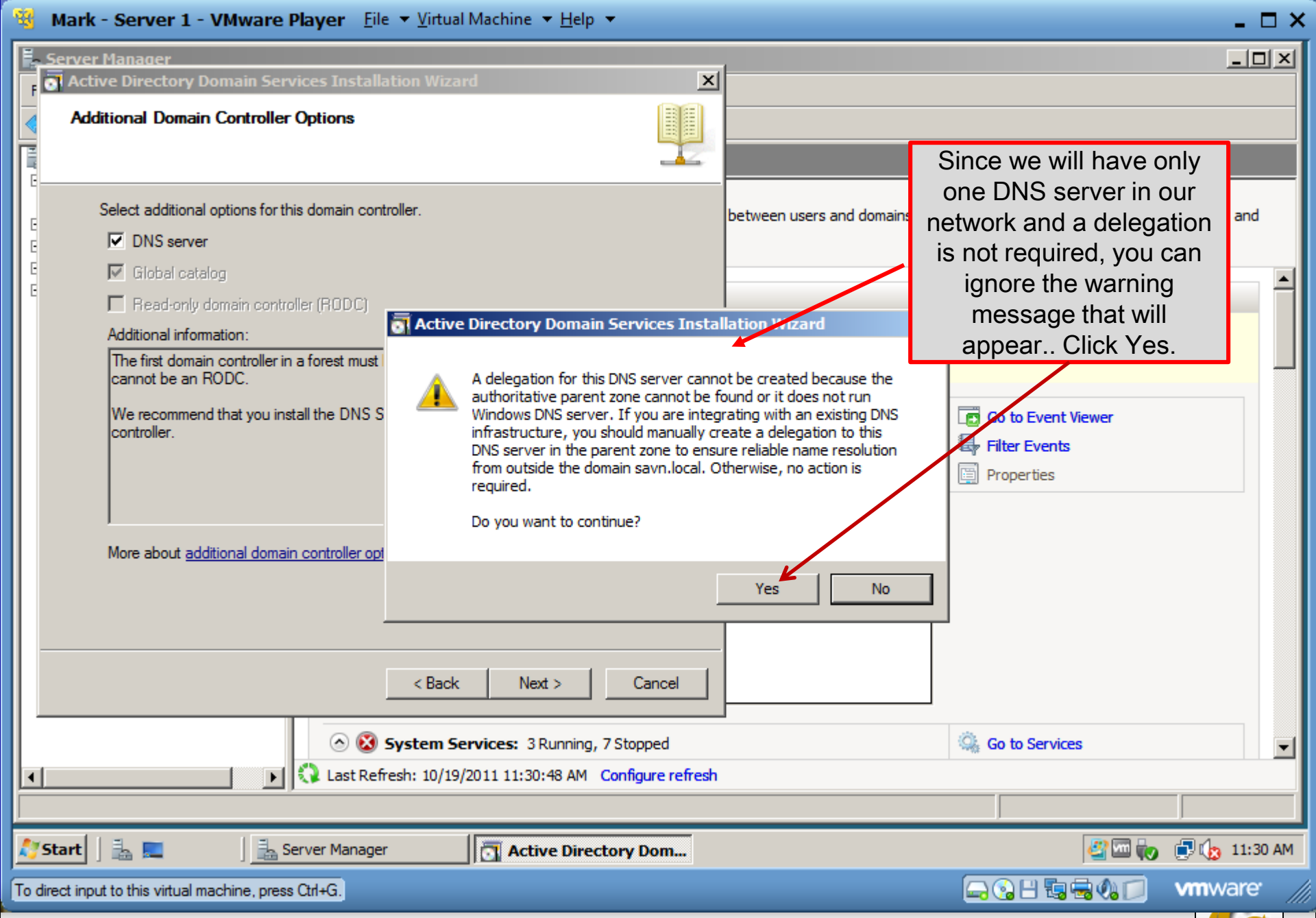
- Recall from our earlier discussions about Active Directory that domain controllers can run different versions of Windows Server operating systems.
- The ADDS functional level of a domain or forest depends on which versions of Windows Server operating systems you run on the domain controllers in the 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.

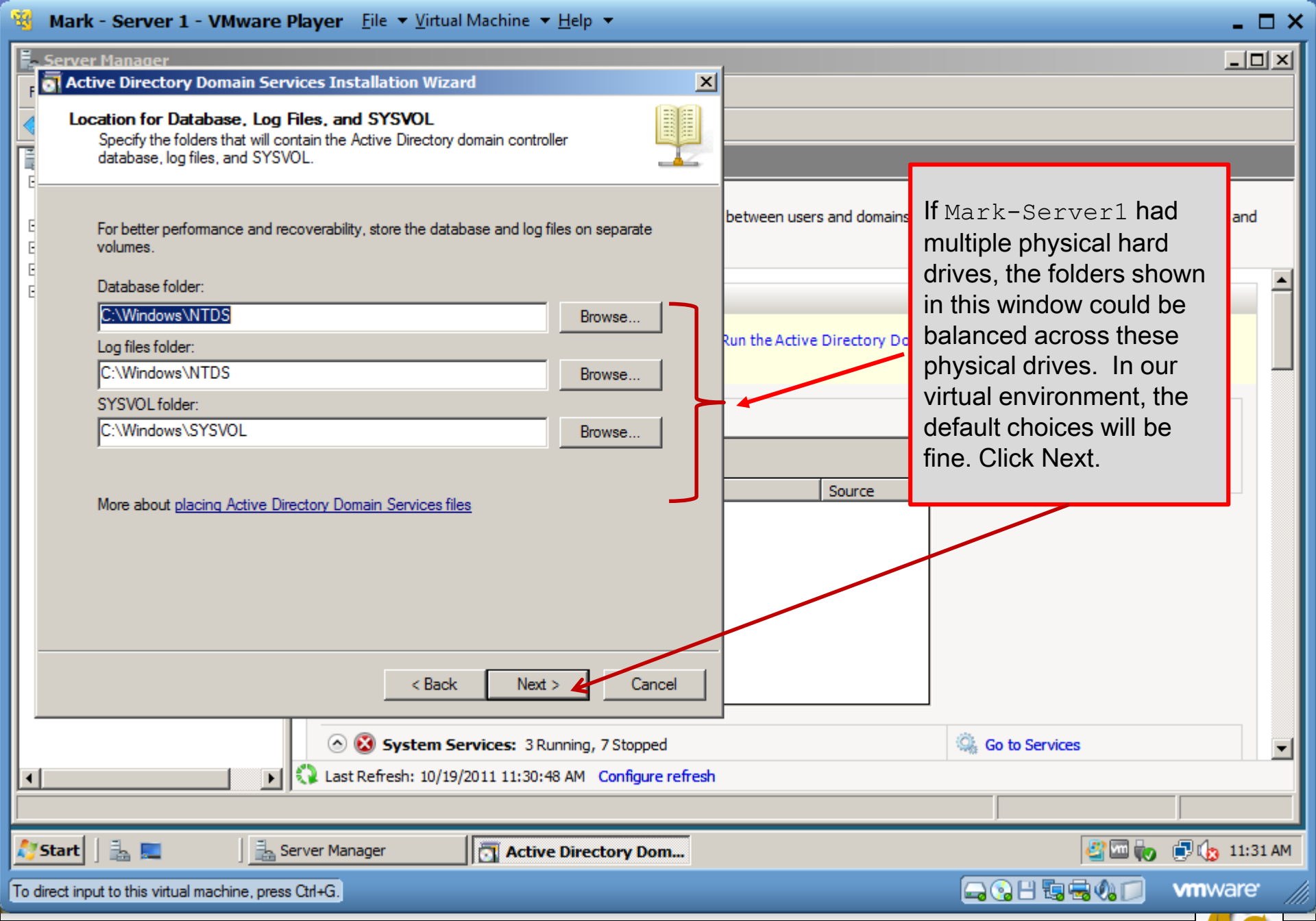
Installing ADDS In Mark-Server1

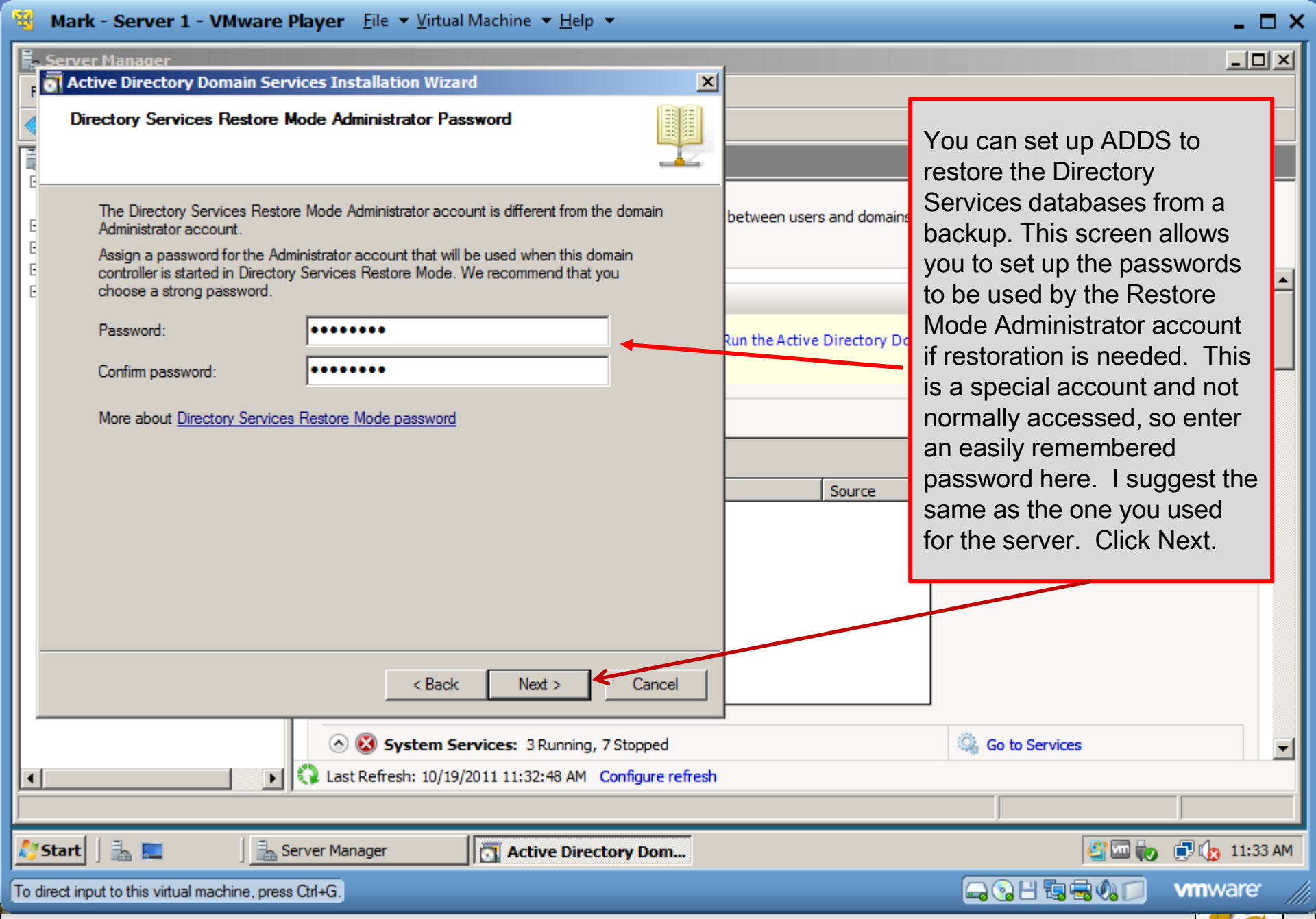
- In our case, we will set the highest functional level, which is Windows Server 2008, since all of our virtual servers are running Windows Server 2008 and we do not have any servers running an older version of the operating system.


Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Server Manager
Active Directory Domain Services Installation Wizard
Set Forest Functional Level
Select the forest functional level.
Forest functional level:
Windows Server 2008
Details:
This forest functional level does not provide any new features over the Windows 2003 forest functional level. However, it ensures that any new domains created in this forest will automatically operate at the Windows Server 2008 domain functional level, which does provide unique features.
You will be able to add only domain controllers that are running Windows Server 2008 or later to this forest.
More about domain and forest functional levels
< Back
Next >
Cancel
between users and domains, including user logon processes, authentication, and
Run the Active Directory Domain Services Installation Wizard
Go to Event Viewer
Filter Events
Source
Select "Windows Server 2008" . Then Click Next.
System Services: 3 Running, 7 Stopped
Go to Services
Last Refresh: 10/19/2011 11:28:46 AM
Configure refresh
Start
Server Manager
Active Directory Dom...
11:29 AM
To direct input to this virtual machine, press Ctrl+G.
vmware

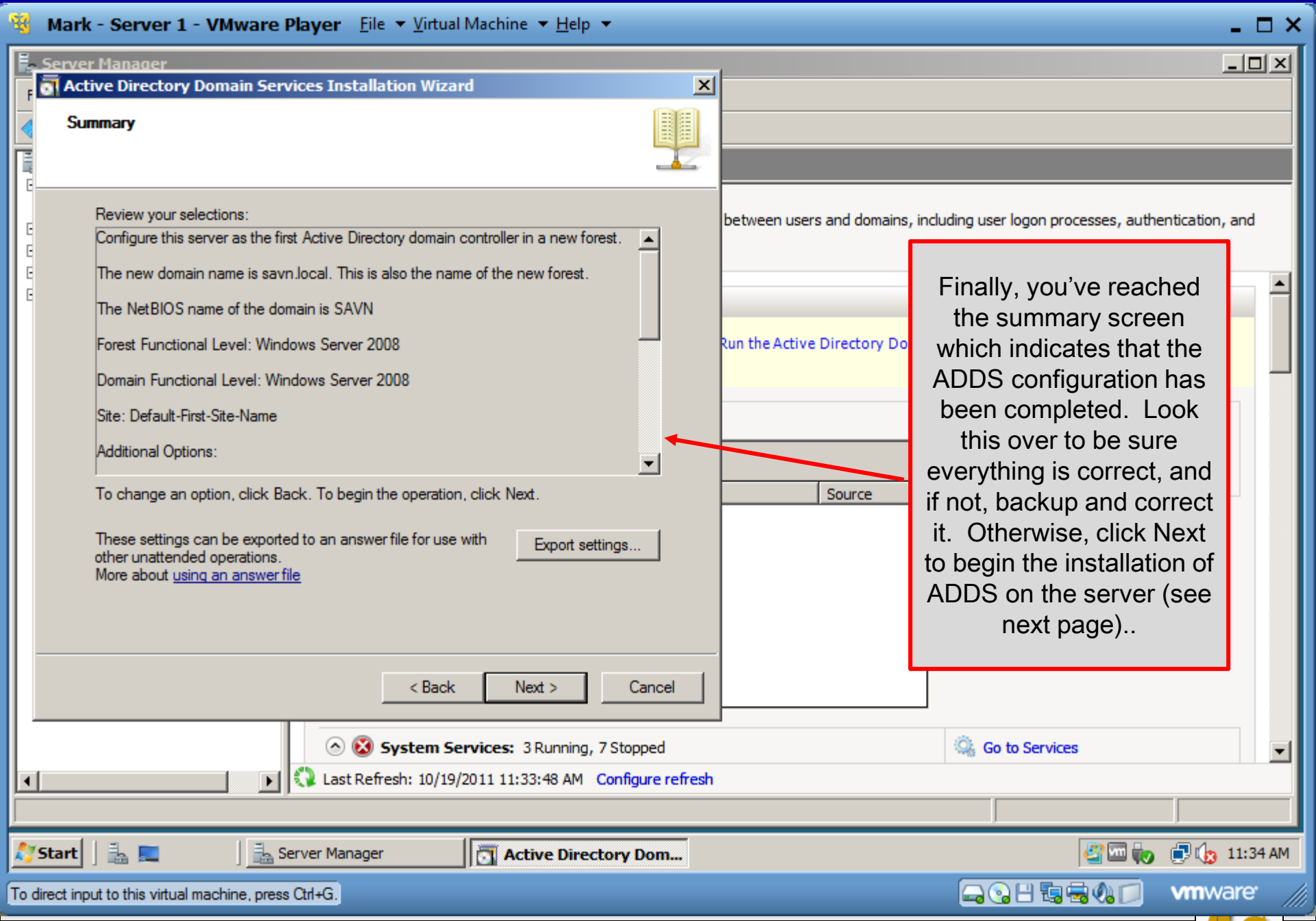

Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Server Manager
Active Directory Domain Services Installation Wizard
Additional Domain Controller Options
Select additional options for this domain controller.
DNS server
Global catalog
Read-only domain controller (RODC)
Additional information:
The first domain controller in a forest must be a global catalog server and cannot be an RODC.
We recommend that you install the DNS Server service on the first domain controller.
More about additional domain controller options
< Back
Next >
Cancel
between users and domains, including user logon processes, authentication, and
The savn.local network will have only one DNS server, so be sure the DNS checkbox is checked. Then Click Next.
System Services: 3 Running, 7 Stopped
Go to Services
Last Refresh: 10/19/2011 11:29:47 AM
Configure refresh
Start
Server Manager
Active Directory Dom...
11:30 AM
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Server Manager
Active Directory Domain Services Installation Wizard
Additional Domain Controller Options
Select additional options for this domain controller.
DNS server
Global catalog
Read-only domain controller (RODC)
Additional information:
The first domain controller in a forest must
cannot be an RODC.
We recommend that you install the DNS S
controller.
More about additional domain controller opt
< Back
Next >
Cancel
Active Directory Domain Services Installation Wizard
A delegation for this DNS server cannot be created because the authoritative parent zone cannot be found or it does not run Windows DNS server. If you are integrating with an existing DNS infrastructure, you should manually create a delegation to this DNS server in the parent zone to ensure reliable name resolution from outside the domain savn.local. Otherwise, no action is required.
Do you want to continue?
Yes
No
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.
between users and domains
and
Go to Event Viewer
Filter Events
Properties
System Services: 3 Running, 7 Stopped
Go to Services
Last Refresh: 10/19/2011 11:30:48 AM
Configure refresh
Start
Server Manager
Active Directory Dom...
11:30 AM
To direct input to this virtual machine, press Ctrl+G.
vmware

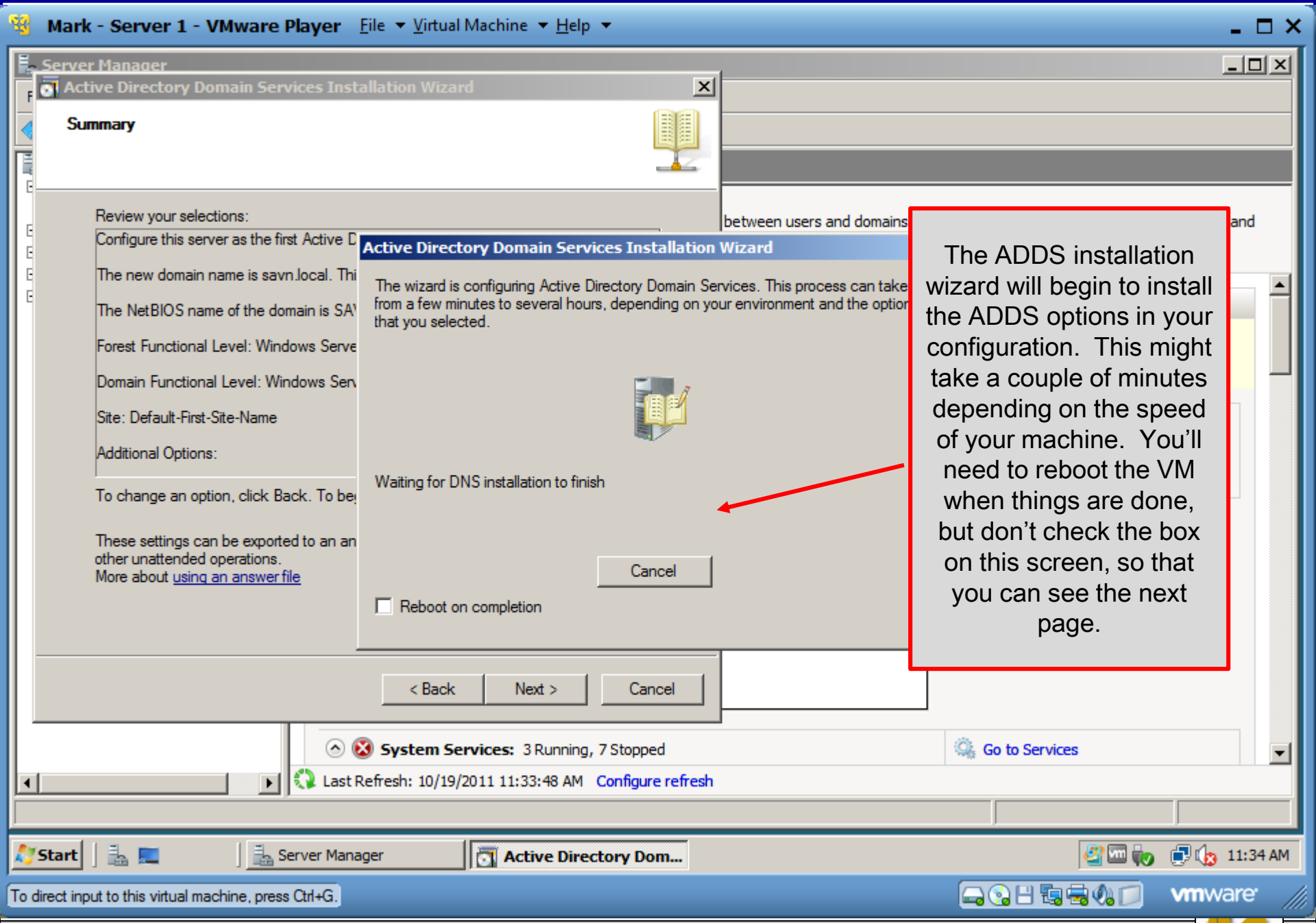

Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Server Manager
Active Directory Domain Services Installation Wizard
Location for Database, Log Files, and SYSVOL
Specify the folders that will contain the Active Directory domain controller database, log files, and SYSVOL.
For better performance and recoverability, store the database and log files on separate volumes.
Database folder:
C:\Windows\NTDS
Browse...
Log files folder:
C:\Windows\NTDS
Browse...
SYSVOL folder:
C:\Windows\SYSVOL
Browse...
More about placing Active Directory Domain Services files
< Back
Next >
Cancel
between users and domains
and
Run the Active Directory Do
Source
System Services: 3 Running, 7 Stopped
Go to Services
Last Refresh: 10/19/2011 11:30:48 AM
Configure refresh
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.
Start
Server Manager
Active Directory Dom...
11:31 AM
To direct input to this virtual machine, press Ctrl+G.
vmware



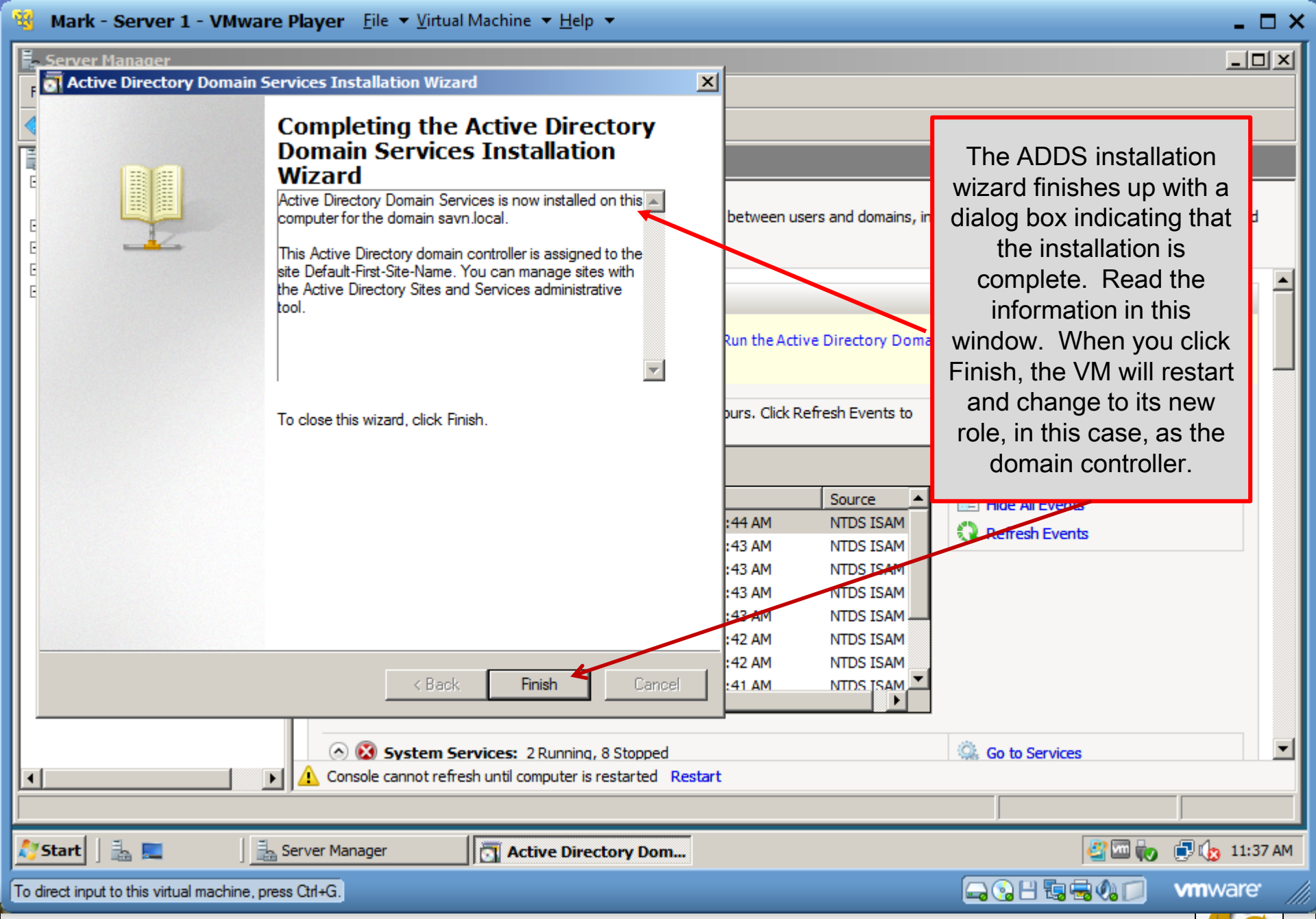
You can set up ADDS to restore the Directory Services databases from a backup. This screen allows you to set up the passwords to be used by the Restore Mode Administrator account if restoration is needed. This is a special account and not normally accessed, so enter an easily remembered password here. I suggest the same as the one you used for the server. Click Next.

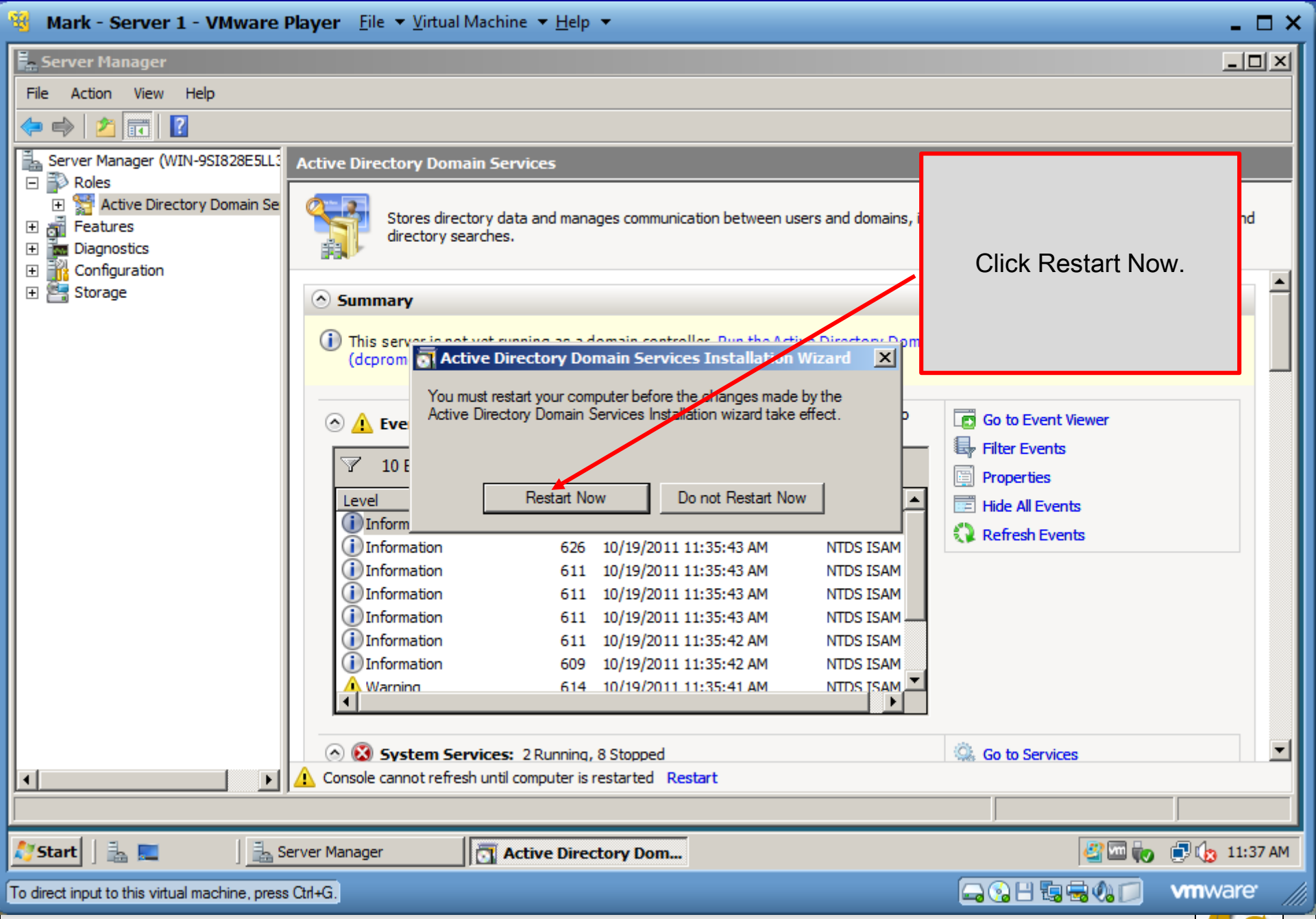


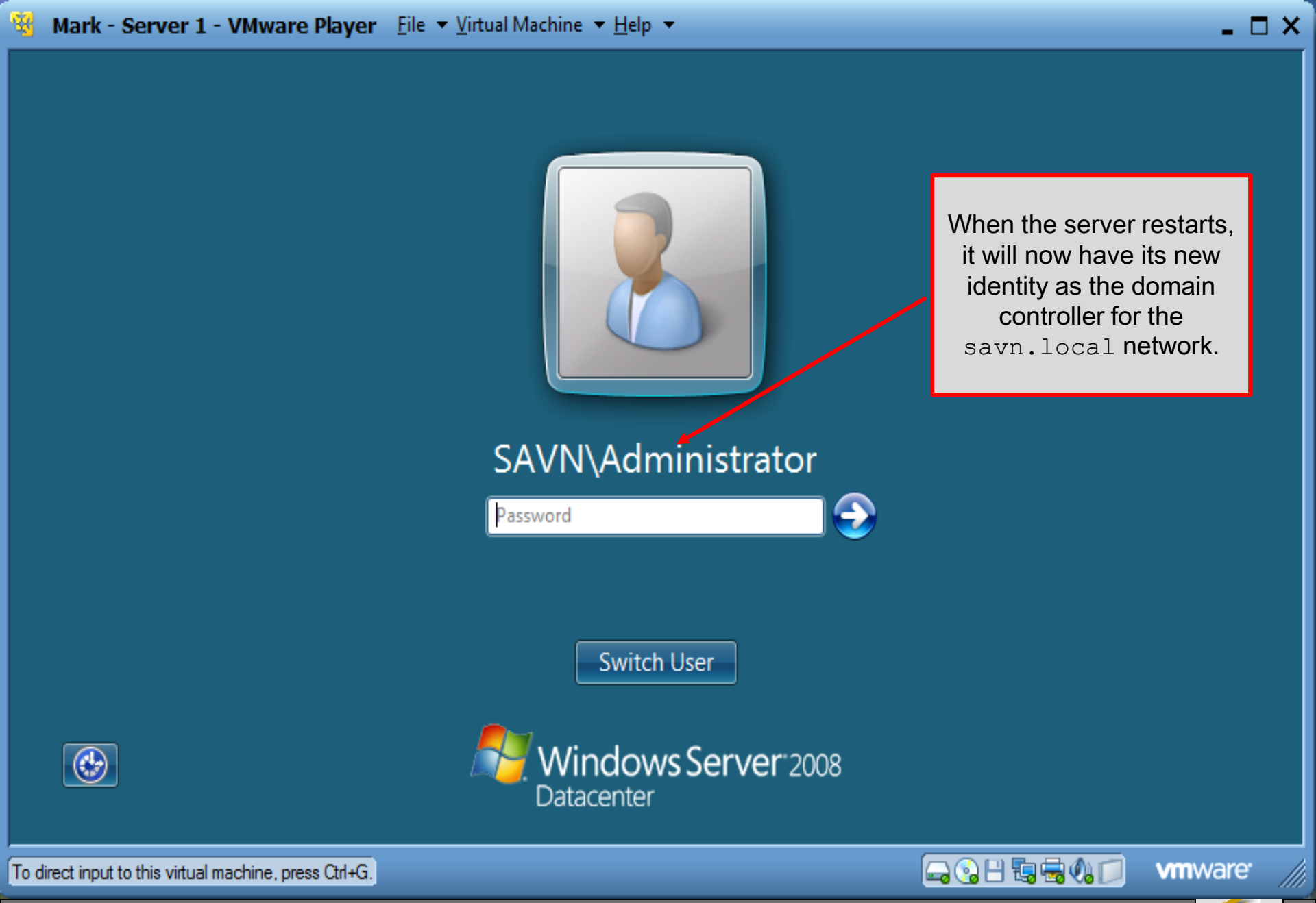
Finally, you've reached the summary screen which indicates that the ADDS configuration has been completed. Look this over to be sure everything is correct, and if not, backup and correct it. Otherwise, click Next to begin the installation of ADDS on the server (see next page)..

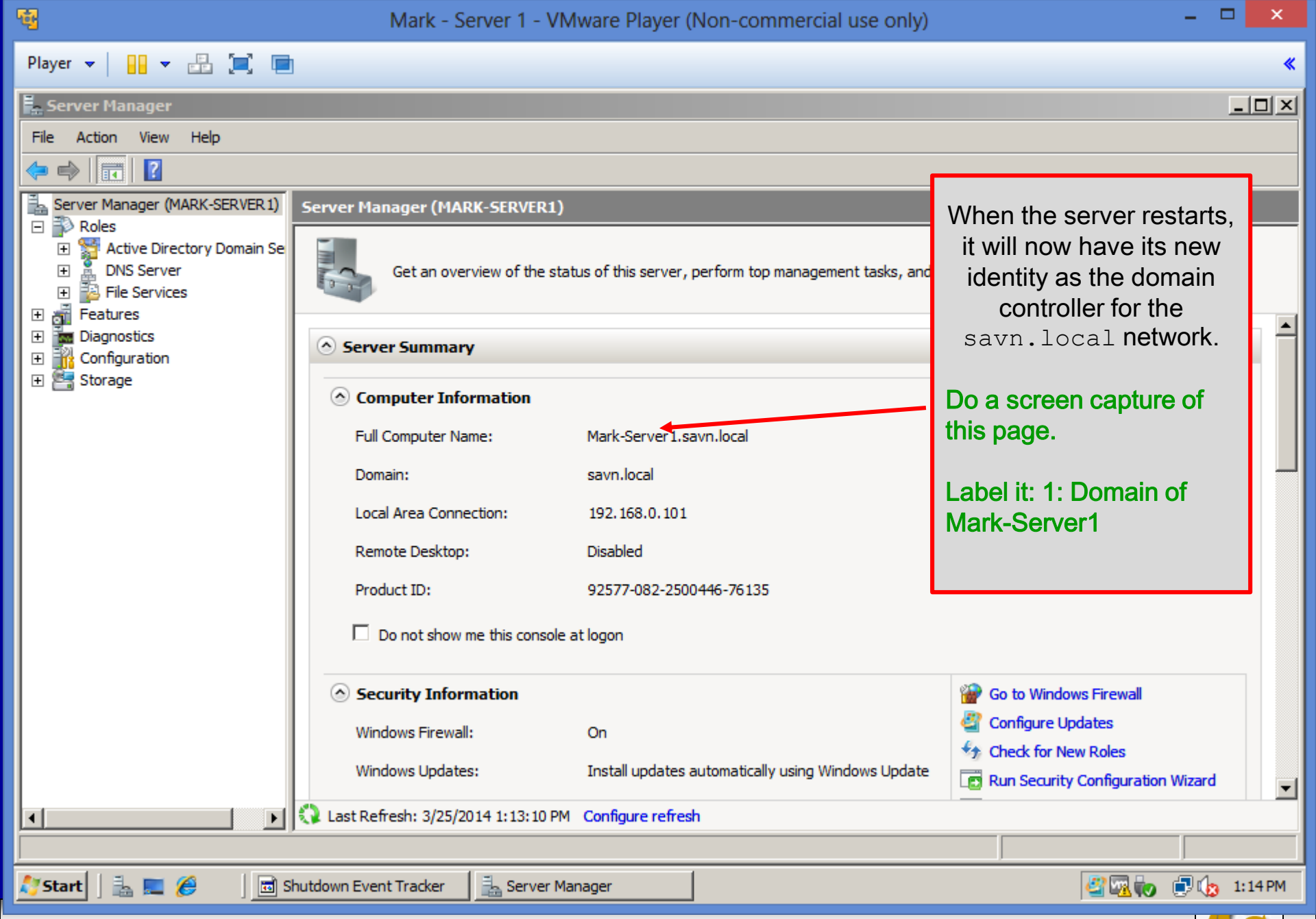


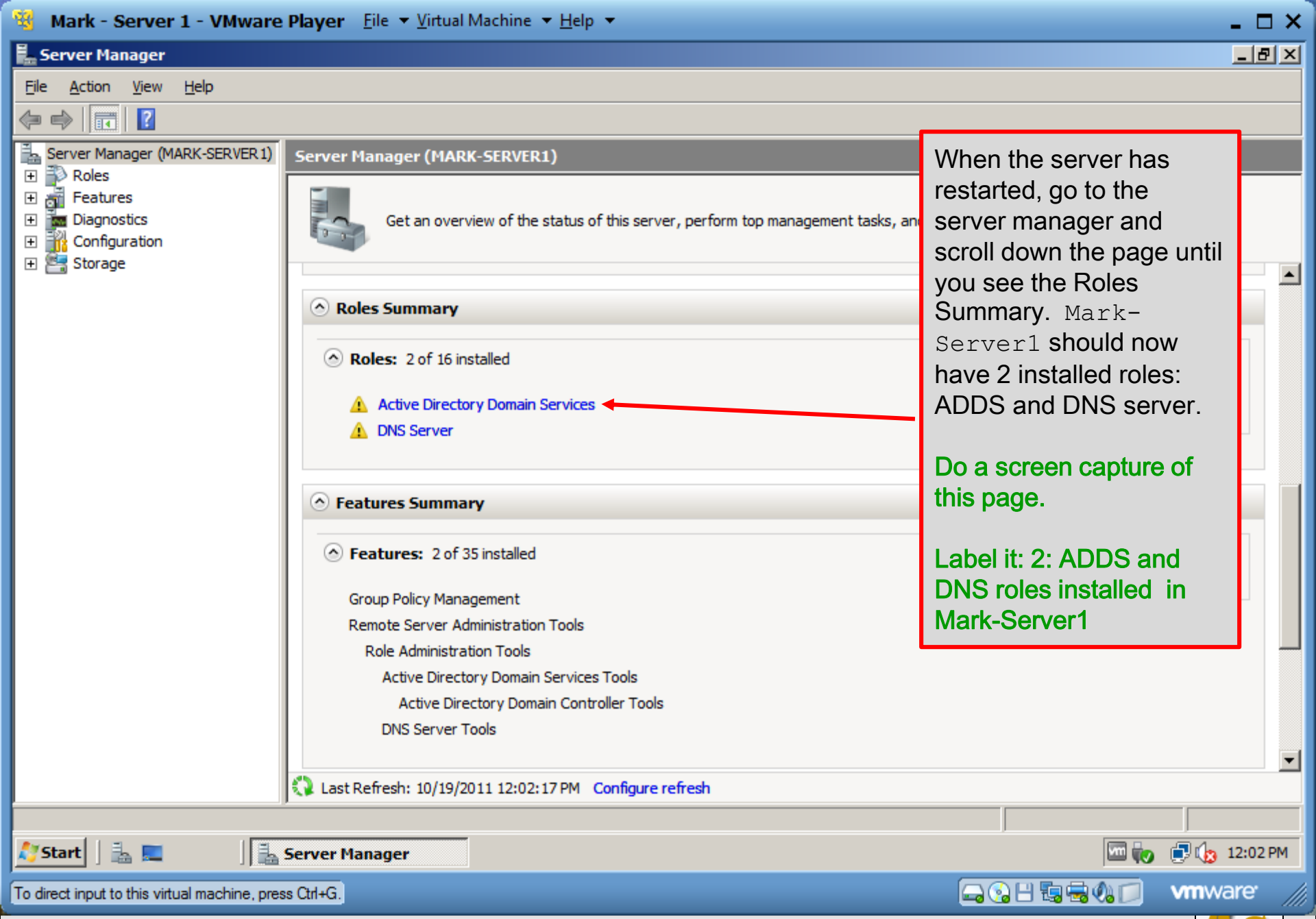
The ADDS installation wizard will begin to install the ADDS options in your configuration. This might take a couple of minutes depending on the speed of your machine. You'll need to reboot the VM when things are done, but don't check the box on this screen, so that you can see the next page.

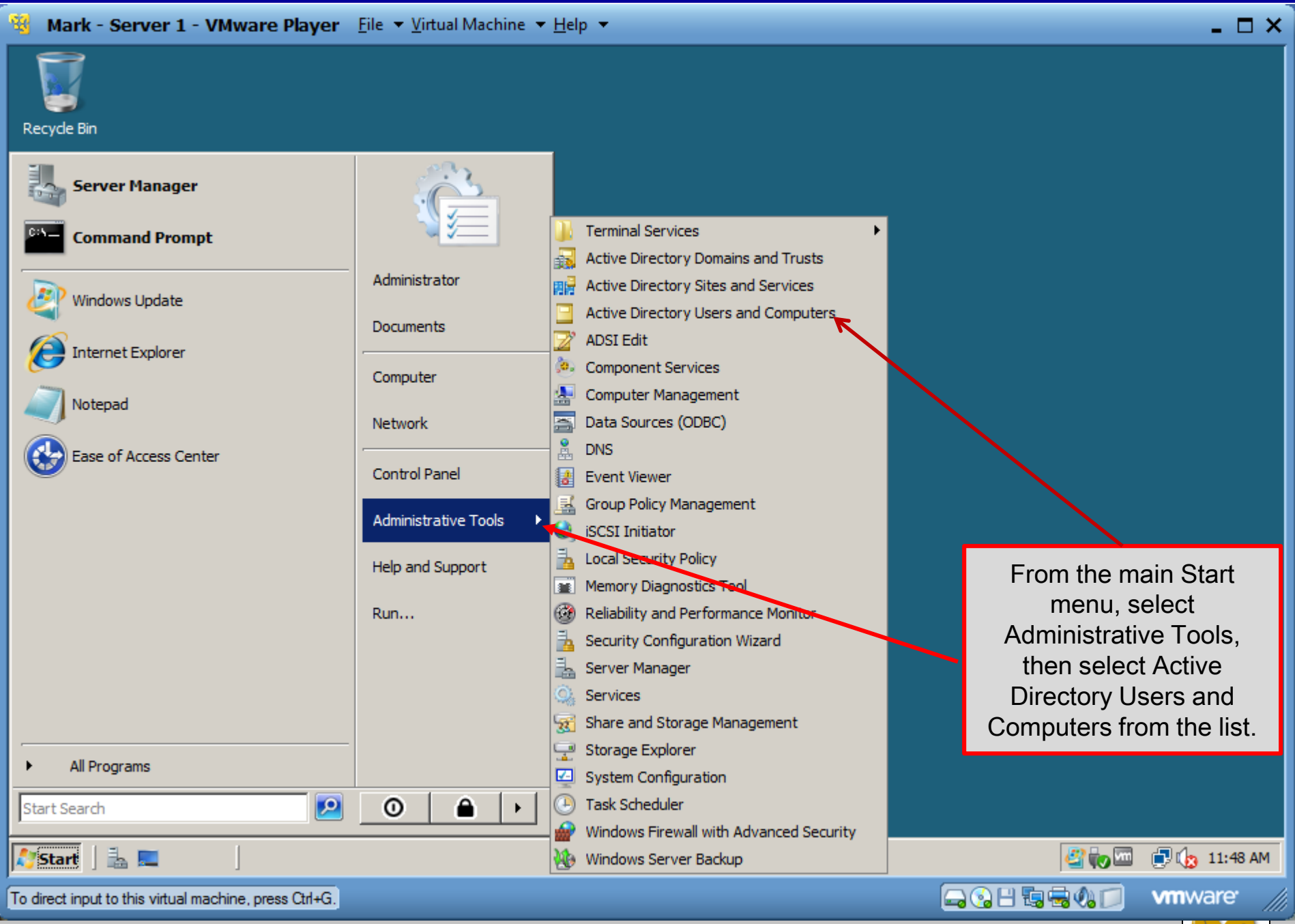

Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Server Manager
Active Directory Domain Services Installation Wizard
Completing the Active Directory Domain Services Installation Wizard
Active Directory Domain Services is now installed on this computer for the domain savn.local.
This Active Directory domain controller is assigned to the site Default-First-Site-Name. You can manage sites with the Active Directory Sites and Services administrative tool.
To close this wizard, click Finish.
< Back
Finish
Cancel
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.
between users and domains, in
Run the Active Directory Doma
urs. Click Refresh Events to
Source
:44 AM NTDS ISAM
:43 AM NTDS ISAM
:43 AM NTDS ISAM
:43 AM NTDS ISAM
:43 AM NTDS ISAM
:42 AM NTDS ISAM
:42 AM NTDS ISAM
:41 AM NTDS ISAM
Refresh Events
System Services: 2 Running, 8 Stopped
Go to Services
Console cannot refresh until computer is restarted
Restart
Start
Server Manager
Active Directory Dom...
11:37 AM
To direct input to this virtual machine, press Ctrl+G.
vmware

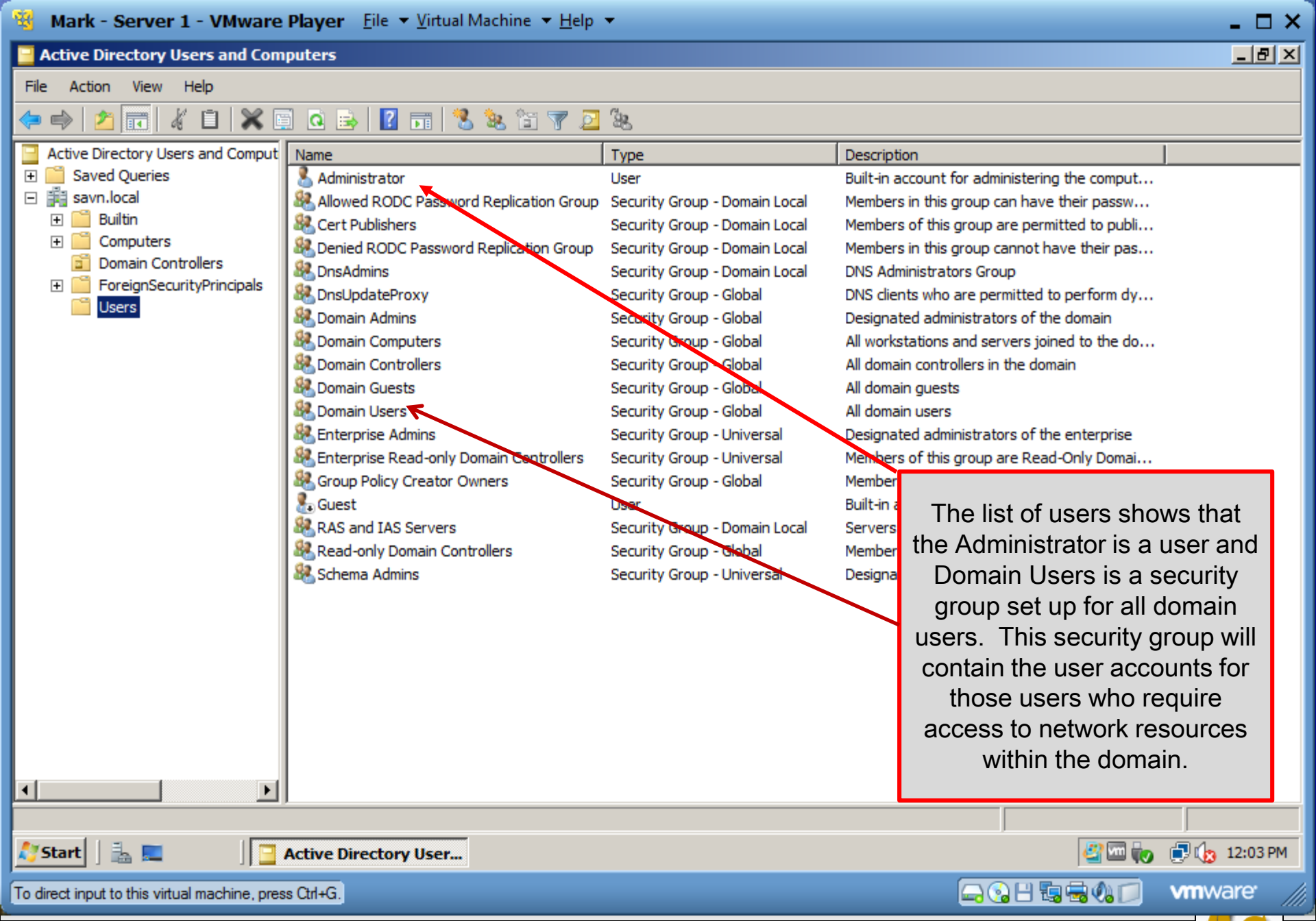

Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Server Manager
File
Action
View
Help
Server Manager (WIN-9SI828E5LL3
Roles
Active Directory Domain Se
Features
Diagnostics
Configuration
Storage
Active Directory Domain Services
Stores directory data and manages communication between users and domains,
directory searches.
Summary
Active Directory Domain Services Installation Wizard
You must restart your computer before the changes made by the Active Directory Domain Services Installation wizard take effect.
Restart Now
Do not Restart Now
Click Restart Now.
Level
Information 626 10/19/2011 11:35:43 AM NTDS ISAM
Information 611 10/19/2011 11:35:43 AM NTDS ISAM
Information 611 10/19/2011 11:35:43 AM NTDS ISAM
Information 611 10/19/2011 11:35:43 AM NTDS ISAM
Information 611 10/19/2011 11:35:42 AM NTDS ISAM
Information 609 10/19/2011 11:35:42 AM NTDS ISAM
Warning 614 10/19/2011 11:35:41 AM NTDS ISAM
Go to Event Viewer
Filter Events
Properties
Hide All Events
Refresh Events
System Services: 2 Running, 8 Stopped
Go to Services
Console cannot refresh until computer is restarted
Restart
Start
Server Manager
Active Directory Dom...
11:37 AM
To direct input to this virtual machine, press Ctrl+G.
vmware

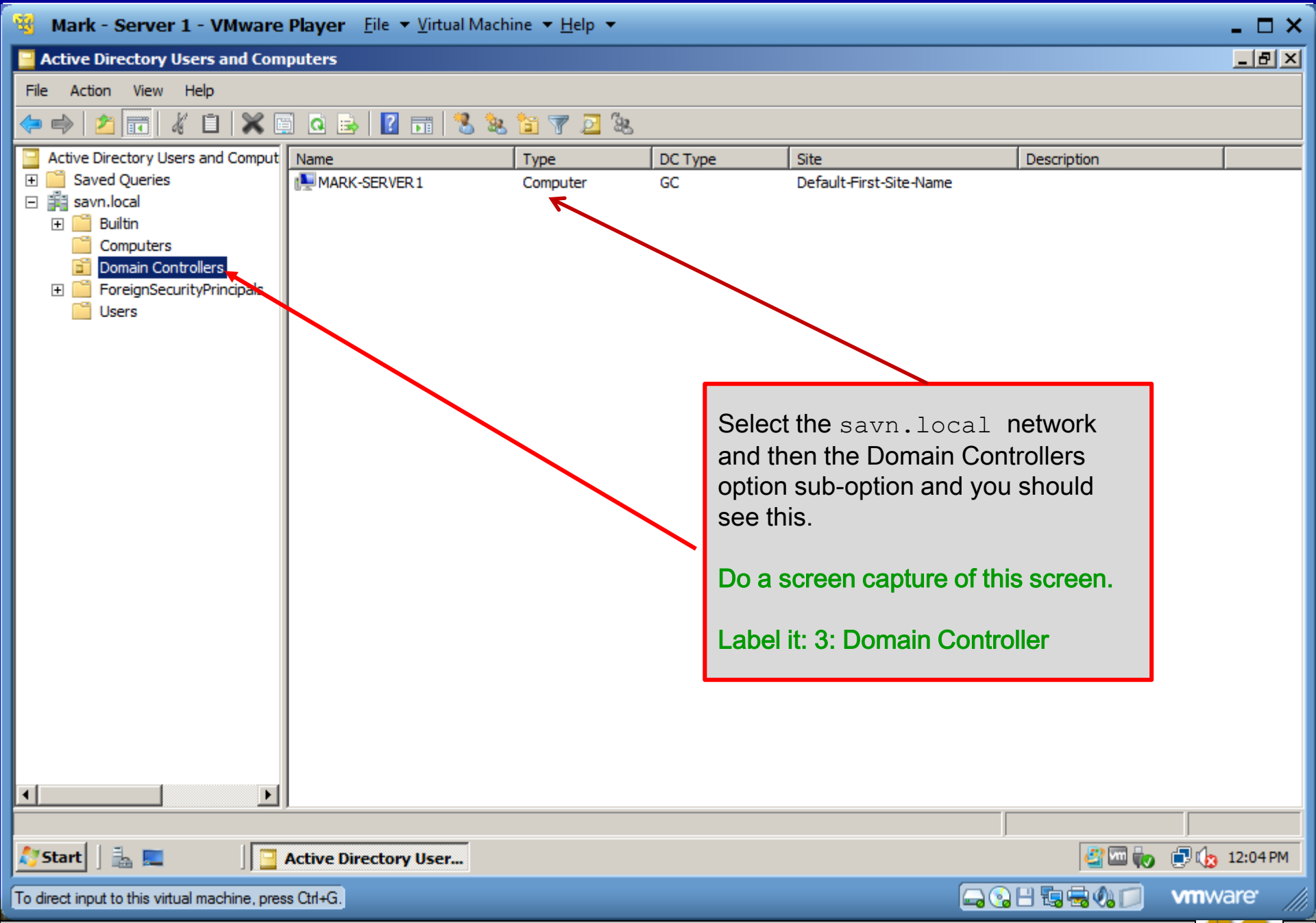

Mark - Server 1 - VMware Player
File
Virtual Machine
Help
When the server restarts, it will now have its new identity as the domain controller for the savn.local network.
SAVN\Administrator
Password
Switch User
Windows Server 2008
Datacenter
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Server 1 - VMware Player (Non-commercial use only)
Player
Server Manager
File Action View Help
Server Manager (MARK-SERVER1)
Roles
Active Directory Domain Se
DNS Server
File Services
Features
Diagnostics
Configuration
Storage
Server Manager (MARK-SERVER1)
Get an overview of the status of this server, perform top management tasks, and
Server Summary
Computer Information
Full Computer Name: Mark-Server1.savn.local
Domain: savn.local
Local Area Connection: 192.168.0.101
Remote Desktop: Disabled
Product ID: 92577-082-2500446-76135
Do not show me this console at logon
Security Information
Windows Firewall: On
Windows Updates: Install updates automatically using Windows Update
Go to Windows Firewall
Configure Updates
Check for New Roles
Run Security Configuration Wizard
Last Refresh: 3/25/2014 1:13:10 PM Configure refresh
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
Start
Shutdown Event Tracker
Server Manager
1:14 PM


Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Server Manager
File
Action
View
Help
Server Manager (MARK-SERVER1)
Roles
Features
Diagnostics
Configuration
Storage
Server Manager (MARK-SERVER1)
Get an overview of the status of this server, perform top management tasks, an
Roles Summary
Roles: 2 of 16 installed
Active Directory Domain Services
DNS Server
Features Summary
Features: 2 of 35 installed
Group Policy Management
Remote Server Administration Tools
Role Administration Tools
Active Directory Domain Services Tools
Active Directory Domain Controller Tools
DNS Server Tools
Last Refresh: 10/19/2011 12:02:17 PM
Configure refresh
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
Start
Server Manager
12:02 PM
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Recycle Bin
Server Manager
Command Prompt
Windows Update
Internet Explorer
Notepad
Ease of Access Center
All Programs
Start Search
Administrator
Documents
Computer
Network
Control Panel
Administrative Tools
Help and Support
Run...
Terminal Services
Active Directory Domains and Trusts
Active Directory Sites and Services
Active Directory Users and Computers
ADSI Edit
Component Services
Computer Management
Data Sources (ODBC)
DNS
Event Viewer
Group Policy Management
iSCSI Initiator
Local Security Policy
Memory Diagnostics Tool
Reliability and Performance Monitor
Security Configuration Wizard
Server Manager
Services
Share and Storage Management
Storage Explorer
System Configuration
Task Scheduler
Windows Firewall with Advanced Security
Windows Server Backup
From the main Start menu, select Administrative Tools, then select Active Directory Users and Computers from the list.
Start
11:48 AM
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Active Directory Users and Computers
File
Action
View
Help
Active Directory Users and Comput
Saved Queries
savn.local
Builtin
Computers
Domain Controllers
ForeignSecurityPrincipals
Users
Name
Type
Description
Administrator
User
Built-in account for administering the comput...
Allowed RODC Password Replication Group
Security Group - Domain Local
Members in this group can have their passw...
Cert Publishers
Security Group - Domain Local
Members of this group are permitted to publi...
Denied RODC Password Replication Group
Security Group - Domain Local
Members in this group cannot have their pas...
DnsAdmins
Security Group - Domain Local
DNS Administrators Group
DnsUpdateProxy
Security Group - Global
DNS clients who are permitted to perform dy...
Domain Admins
Security Group - Global
Designated administrators of the domain
Domain Computers
Security Group - Global
All workstations and servers joined to the do...
Domain Controllers
Security Group - Global
All domain controllers in the domain
Domain Guests
Security Group - Global
All domain guests
Domain Users
Security Group - Global
All domain users
Enterprise Admins
Security Group - Universal
Designated administrators of the enterprise
Enterprise Read-only Domain Controllers
Security Group - Universal
Members of this group are Read-Only Domai...
Group Policy Creator Owners
Security Group - Global
Guest
RAS and IAS Servers
Security Group - Domain Local
Read-only Domain Controllers
Security Group - Global
Schema Admins
Security Group - Universal
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.
Start
Active Directory User...
12:03 PM
To direct input to this virtual machine, press Ctrl+G.
vmware

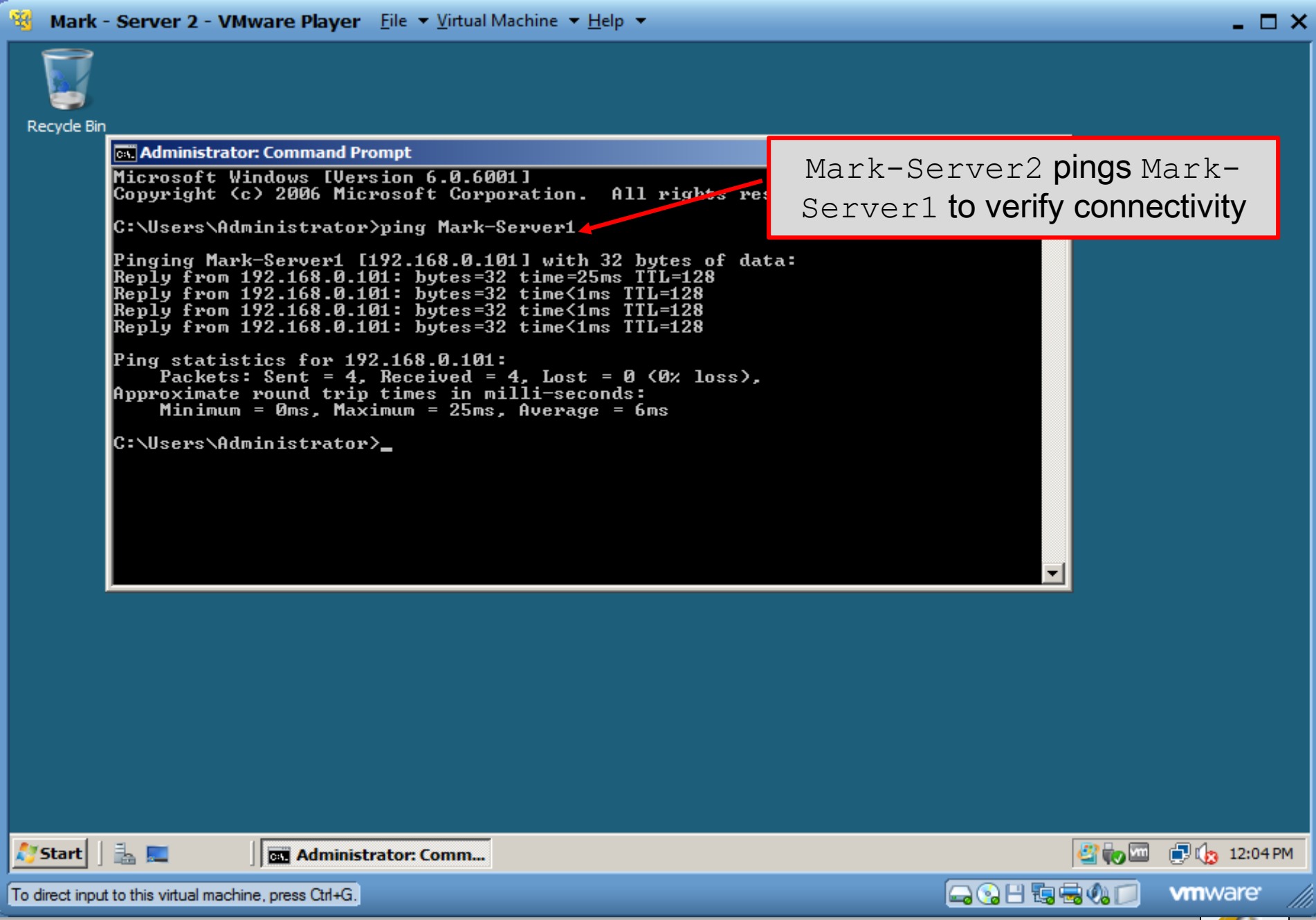

Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Active Directory Users and Computers
File
Action
View
Help
Active Directory Users and Comput
Saved Queries
savn.local
Builtin
Computers
Domain Controllers
ForeignSecurityPrincipals
Users
Name
Type
DC Type
Site
Description
MARK-SERVER1
Computer
GC
Default-First-Site-Name
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
Start
Active Directory User...
12:04 PM
To direct input to this virtual machine, press Ctrl+G.
vmware

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.

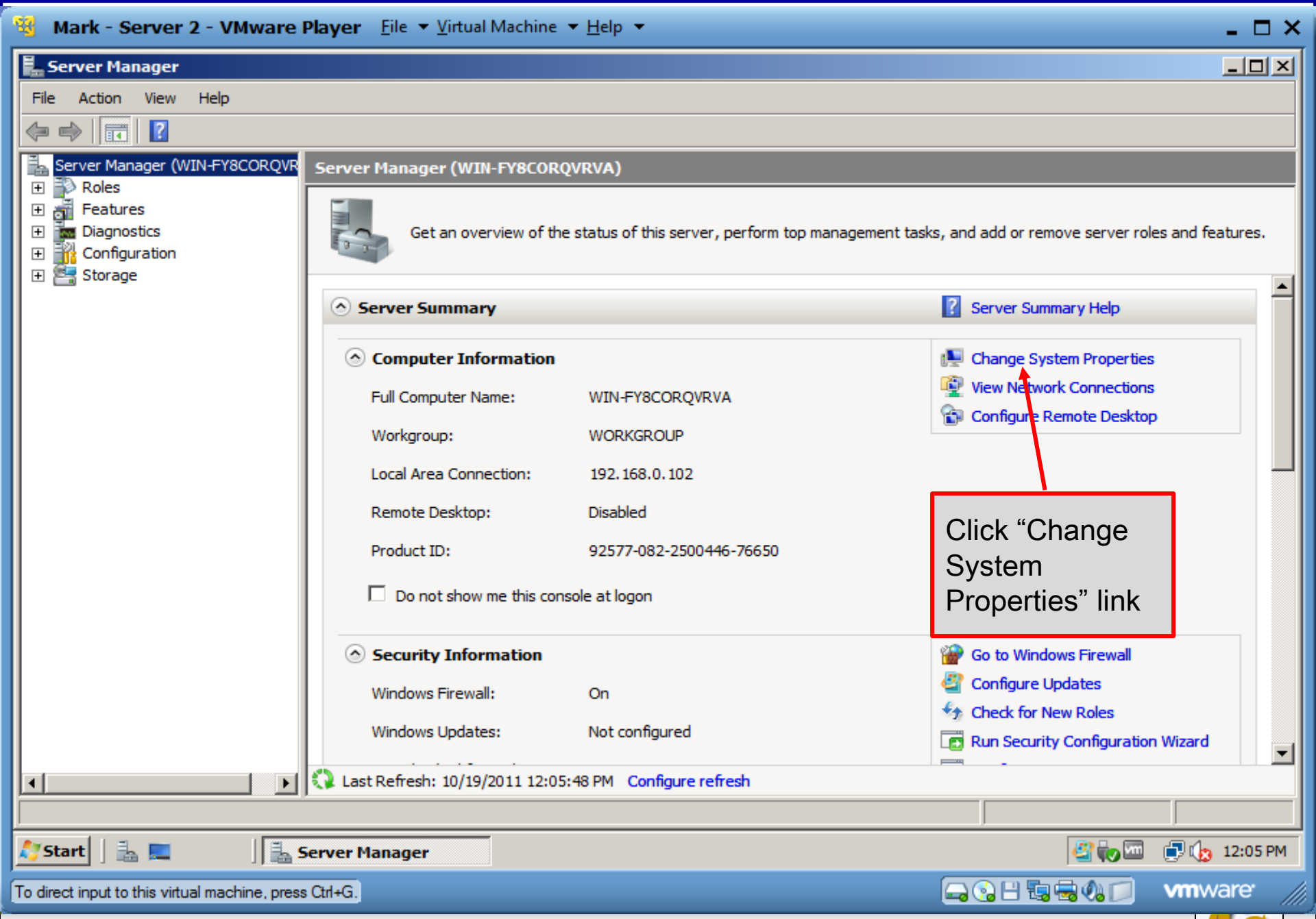
Joining A Domain – Mark-Server2

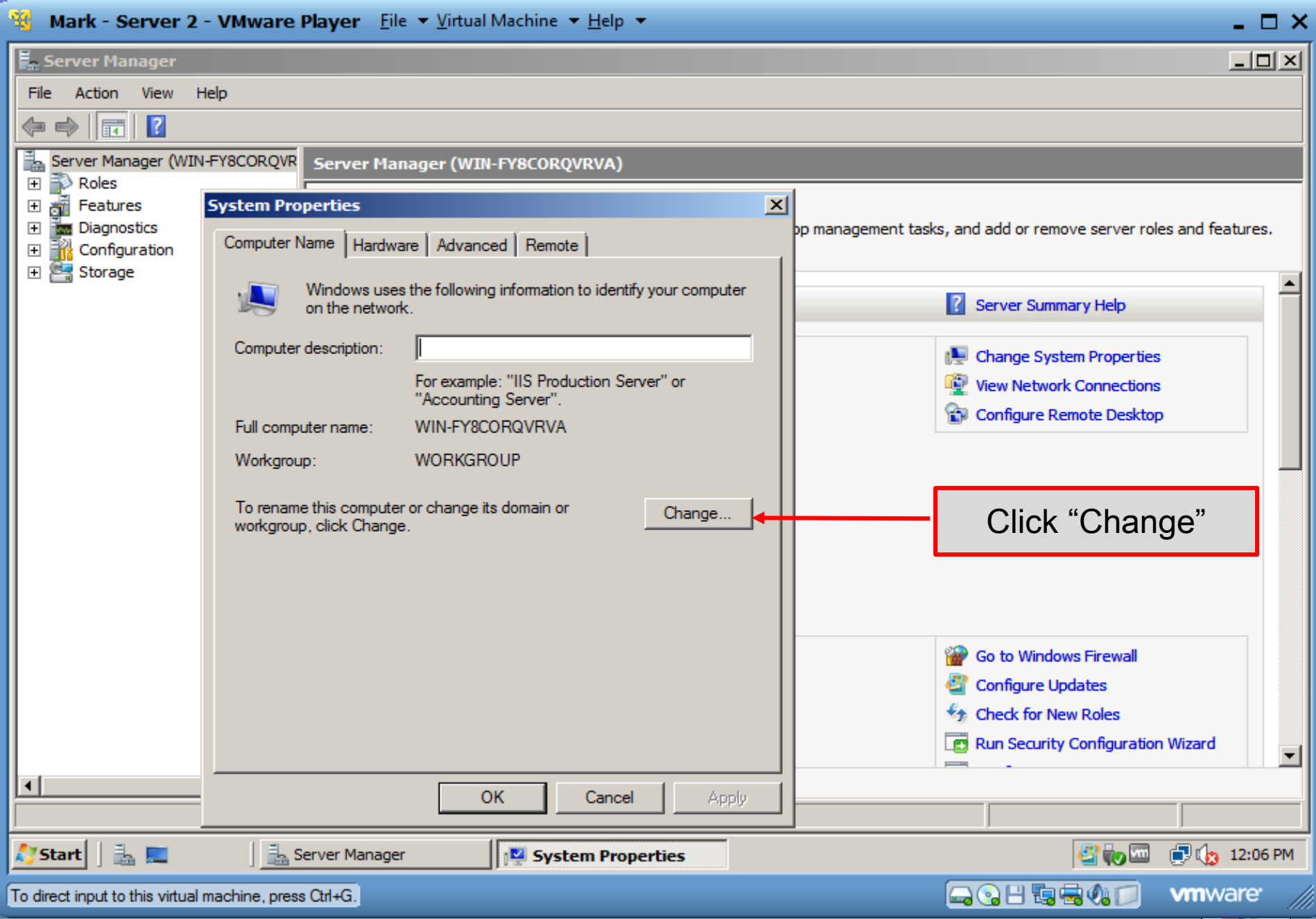
- To begin the process of joining Mark-Server2 to the savn.local network, start both Mark-Server1 and Mark-Server2 running.
- From a command prompt, have Mark-Server2 ping Mark-Server1 to verify connectivity.

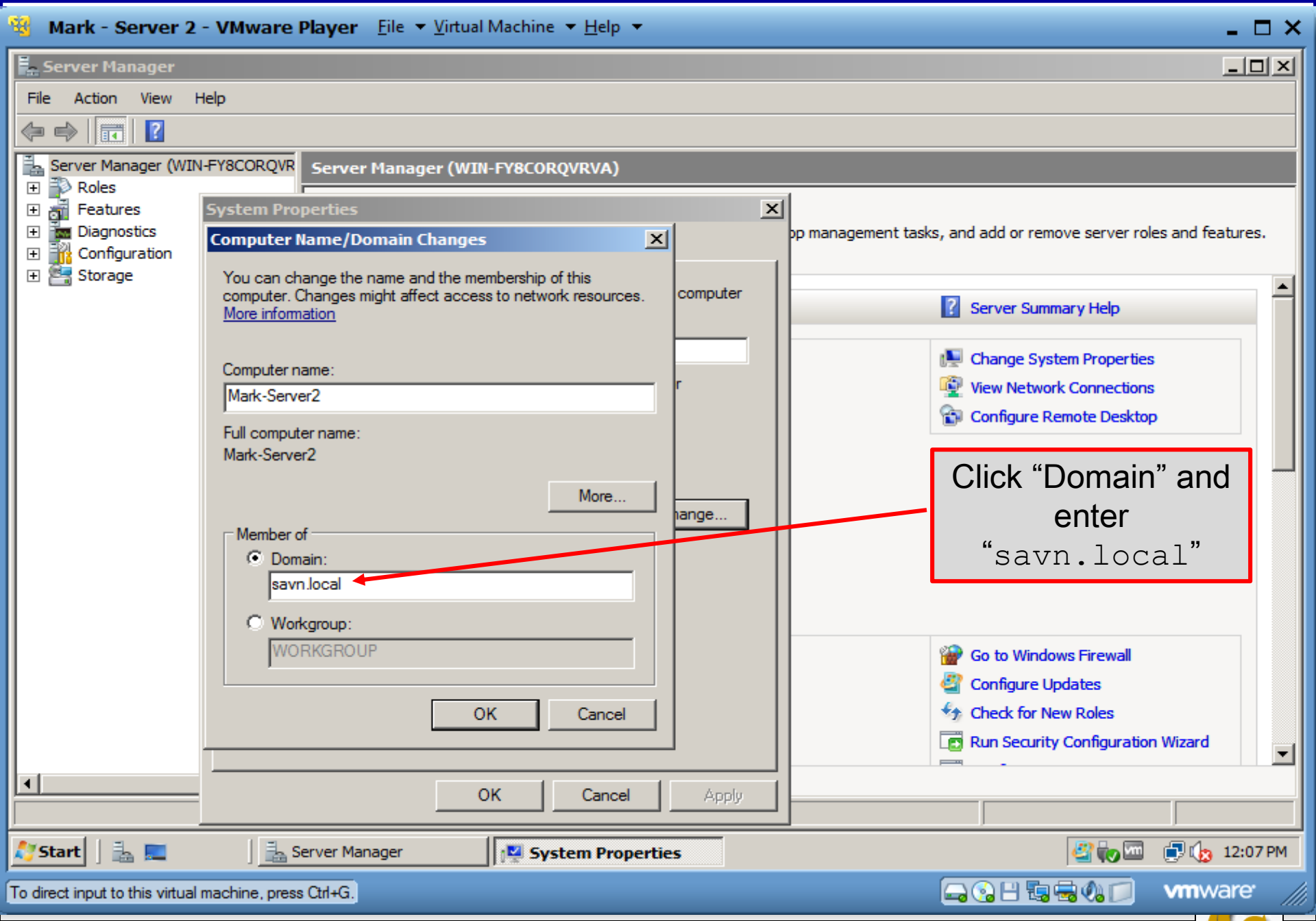

Mark - Server 2 - VMware Player File Virtual Machine Help
Recycle Bin
Administrator: Command Prompt
Microsoft Windows [Version 6.0.6001]
Copyright (c) 2006 Microsoft Corporation. All rights res
C:\Users\Administrator>ping Mark-Server1
Pinging Mark-Server1 [192.168.0.101] with 32 bytes of data:
Reply from 192.168.0.101: bytes=32 time=25ms 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 = 25ms, Average = 6ms
C:\Users\Administrator>_
Mark-Server2 pings Mark-Server1 to verify connectivity
Start
Administrator: Comm...
12:04 PM
To direct input to this virtual machine, press Ctrl+G.
vmware

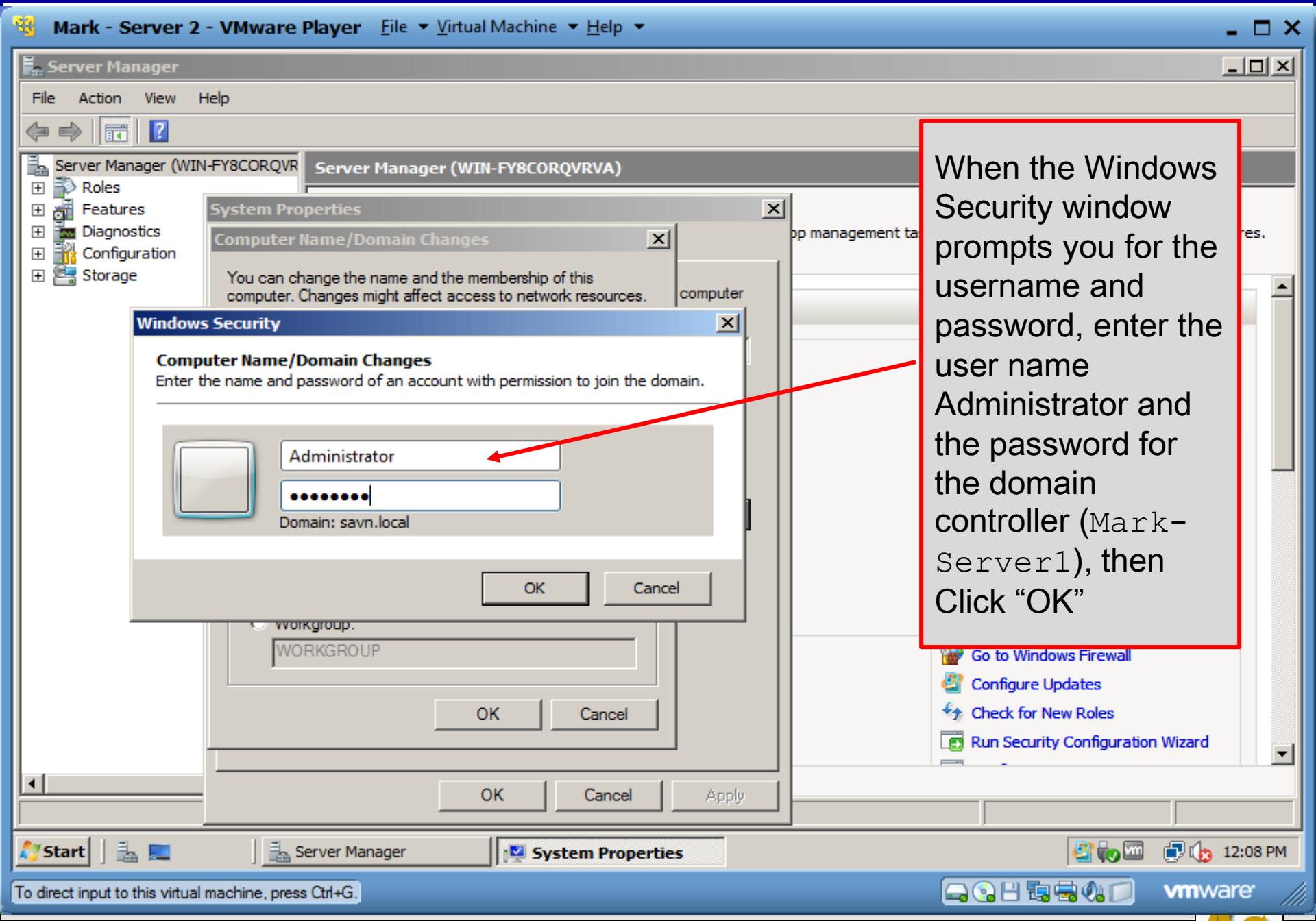
Joining A Domain – Mark-Server2

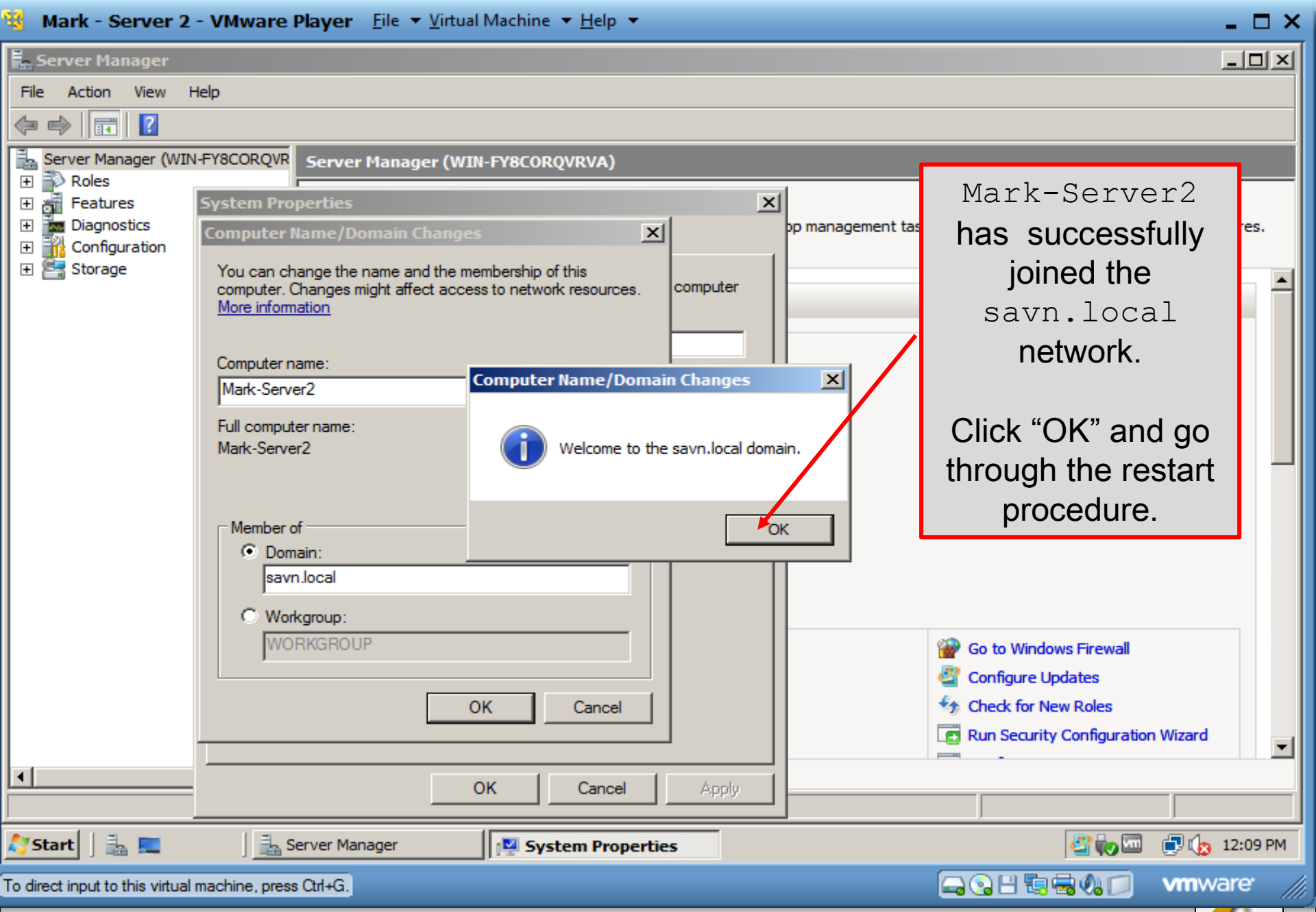
- From the Start menu in Mark-Server2, click on Administrative Tools, then click the link for Server Manager.
- You should see the window as shown on the next page.

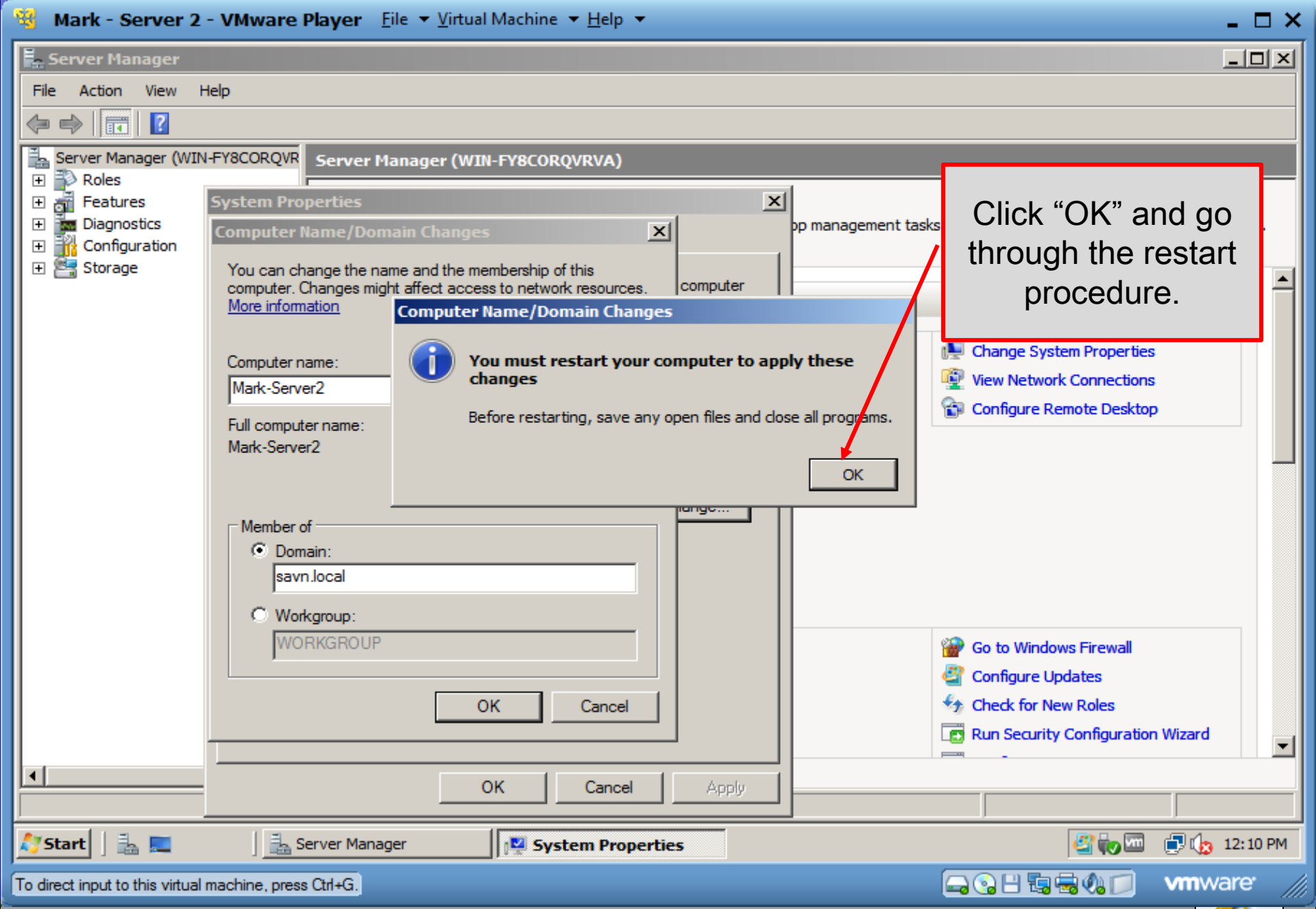

Mark - Server 2 - VMware Player
File
Virtual Machine
Help
Server Manager
File
Action
View
Help
Server Manager (WIN-FY8CORQVR
Roles
Features
Diagnostics
Configuration
Storage
Server Manager (WIN-FY8CORQVRVA)
Get an overview of the status of this server, perform top management tasks, and add or remove server roles and features.
Server Summary
Server Summary Help
Computer Information
Full Computer Name: WIN-FY8CORQVRVA
Workgroup: WORKGROUP
Local Area Connection: 192.168.0.102
Remote Desktop: Disabled
Product ID: 92577-082-2500446-76650
Do not show me this console at logon
Change System Properties
View Network Connections
Configure Remote Desktop
Click “Change System Properties” link
Security Information
Windows Firewall: On
Windows Updates: Not configured
Go to Windows Firewall
Configure Updates
Check for New Roles
Run Security Configuration Wizard
Last Refresh: 10/19/2011 12:05:48 PM
Configure refresh
Start
Server Manager
12:05 PM
To direct input to this virtual machine, press Ctrl+G.
vmware

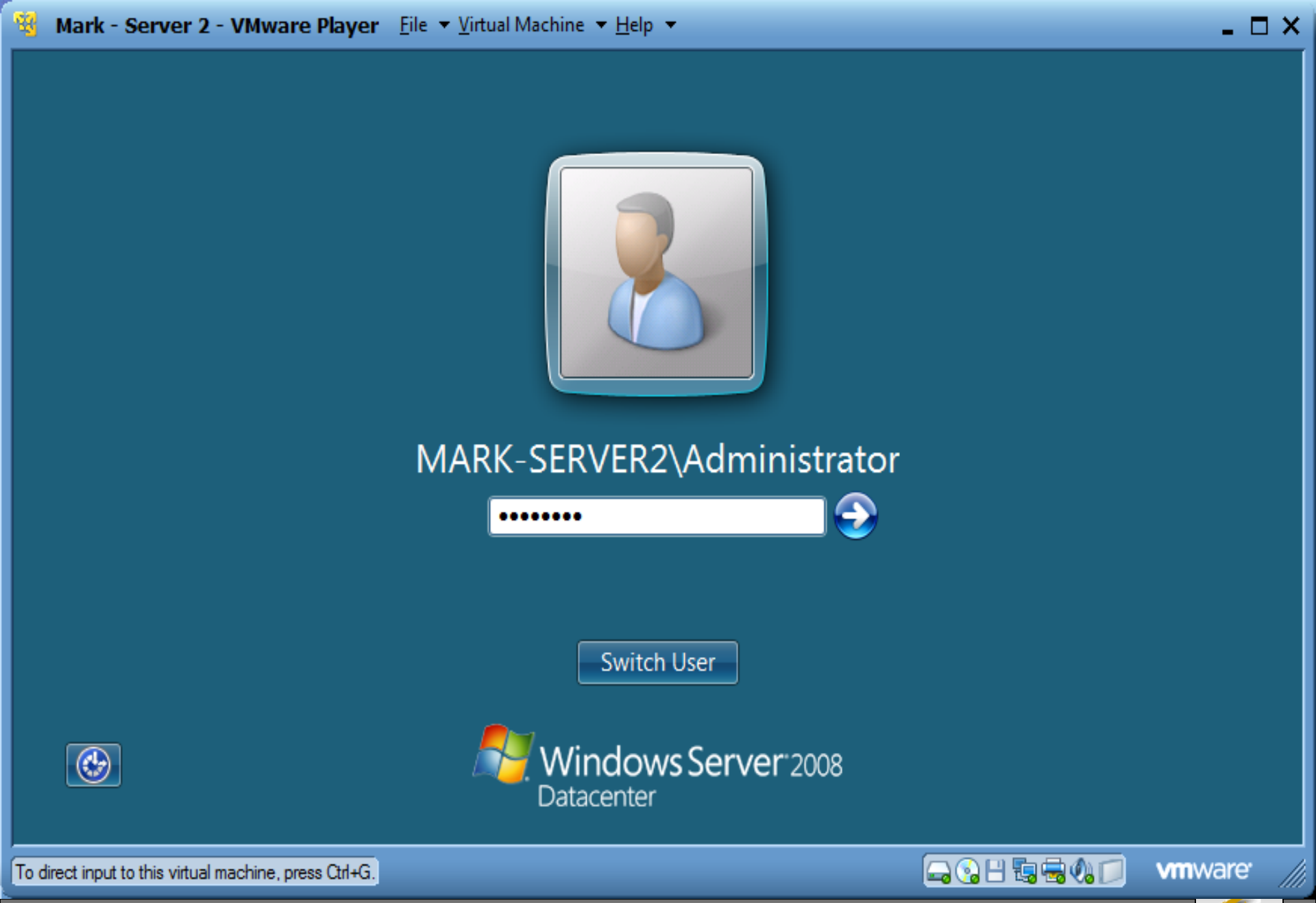

Mark - Server 2 - VMware Player
File
Virtual Machine
Help
Server Manager
File
Action
View
Help
Server Manager (WIN-FY8CORQVR
Roles
Features
Diagnostics
Configuration
Storage
Server Manager (WIN-FY8CORQVRVA)
System Properties
Computer Name
Hardware
Advanced
Remote
Windows uses the following information to identify your computer on the network.
Computer description:
For example: "IIS Production Server" or "Accounting Server".
Full computer name:
WIN-FY8CORQVRVA
Workgroup:
WORKGROUP
To rename this computer or change its domain or workgroup, click Change.
Change...
OK
Cancel
Apply
Server Summary Help
Change System Properties
View Network Connections
Configure Remote Desktop
Go to Windows Firewall
Configure Updates
Check for New Roles
Run Security Configuration Wizard
Click “Change”
Start
Server Manager
System Properties
12:06 PM
To direct input to this virtual machine, press Ctrl+G.
vmware

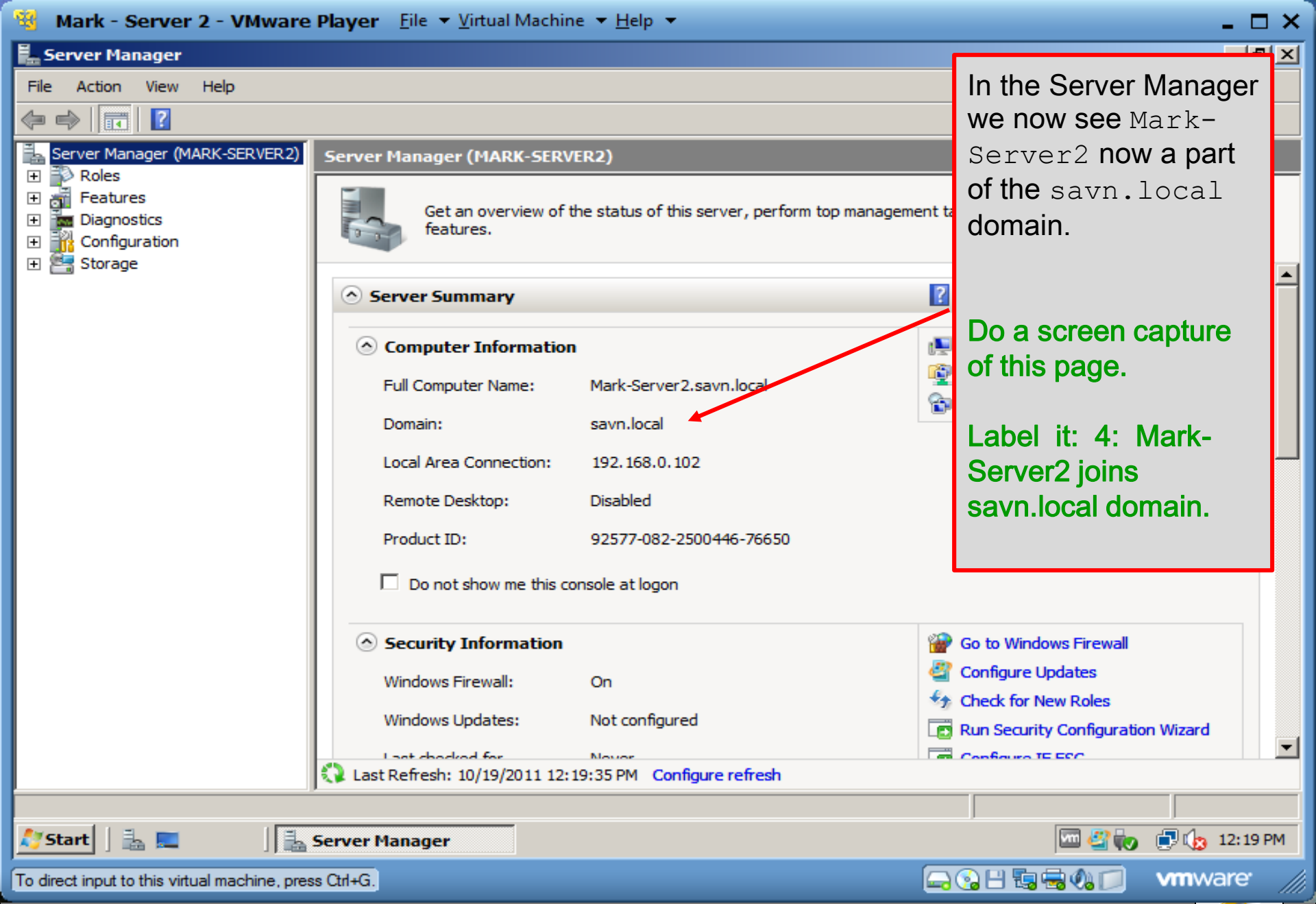

Mark - Server 2 - VMware Player
File
Virtual Machine
Help
Server Manager
File
Action
View
Help
Server Manager (WIN-FY8CORQVR
Roles
Features
Diagnostics
Configuration
Storage
Server Manager (WIN-FY8CORQVRVA)
System Properties
Computer Name/Domain Changes
You can change the name and the membership of this computer. Changes might affect access to network resources.
More information
Computer name:
Mark-Server2
Full computer name:
Mark-Server2
More...
Member of
Domain:
savn.local
Workgroup:
WORKGROUP
OK
Cancel
OK
Cancel
Apply
Server Summary Help
Change System Properties
View Network Connections
Configure Remote Desktop
Click “Domain” and enter “savn.local”
Go to Windows Firewall
Configure Updates
Check for New Roles
Run Security Configuration Wizard
Start
Server Manager
System Properties
12:07 PM
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Server 2 - VMware Player
File
Virtual Machine
Help
Server Manager
File
Action
View
Help
Server Manager (WIN-FY8CORQVR
Roles
Features
Diagnostics
Configuration
Storage
Server Manager (WIN-FY8CORQVRVA)
System Properties
Computer Name/Domain Changes
You can change the name and the membership of this computer. Changes might affect access to network resources.
Windows Security
Computer Name/Domain Changes
Enter the name and password of an account with permission to join the domain.
Administrator
Domain: savn.local
OK
Cancel
WORKGROUP
OK
Cancel
OK
Cancel
Apply
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"
Go to Windows Firewall
Configure Updates
Check for New Roles
Run Security Configuration Wizard
Start
Server Manager
System Properties
12:08 PM
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Server 2 - VMware Player
File
Virtual Machine
Help
Server Manager
File
Action
View
Help
Server Manager (WIN-FY8CORQVR
Roles
Features
Diagnostics
Configuration
Storage
Server Manager (WIN-FY8CORQVRVA)
System Properties
Computer Name/Domain Changes
You can change the name and the membership of this computer. Changes might affect access to network resources.
More information
Computer name:
Mark-Server2
Full computer name:
Mark-Server2
Member of
Domain:
savn.local
Workgroup:
WORKGROUP
OK
Cancel
Computer Name/Domain Changes
Welcome to the savn.local domain.
OK
OK
Cancel
Apply
Mark-Server2 has successfully joined the savn.local network.
Click "OK" and go through the restart procedure.
Go to Windows Firewall
Configure Updates
Check for New Roles
Run Security Configuration Wizard
Start
Server Manager
System Properties
12:09 PM
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Server 2 - VMware Player
File
Virtual Machine
Help
Server Manager
File
Action
View
Help
Server Manager (WIN-FY8CORQVR
Roles
Features
Diagnostics
Configuration
Storage
Server Manager (WIN-FY8CORQVRVA)
System Properties
Computer Name/Domain Changes
You can change the name and the membership of this computer. Changes might affect access to network resources.
More information
Computer name:
Mark-Server2
Full computer name:
Mark-Server2
Member of
Domain:
savn.local
Workgroup:
WORKGROUP
OK
Cancel
OK
Cancel
Apply
Computer Name/Domain Changes
You must restart your computer to apply these changes
Before restarting, save any open files and close all programs.
OK
Click “OK” and go through the restart procedure.
Change System Properties
View Network Connections
Configure Remote Desktop
Go to Windows Firewall
Configure Updates
Check for New Roles
Run Security Configuration Wizard
Start
Server Manager
System Properties
12:10 PM
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Server 2 - VMware Player
File
Virtual Machine
Help
MARK-SERVER2\Administrator
Switch User
Windows Server 2008
Datacenter
To direct input to this virtual machine, press Ctrl+G.
vmware



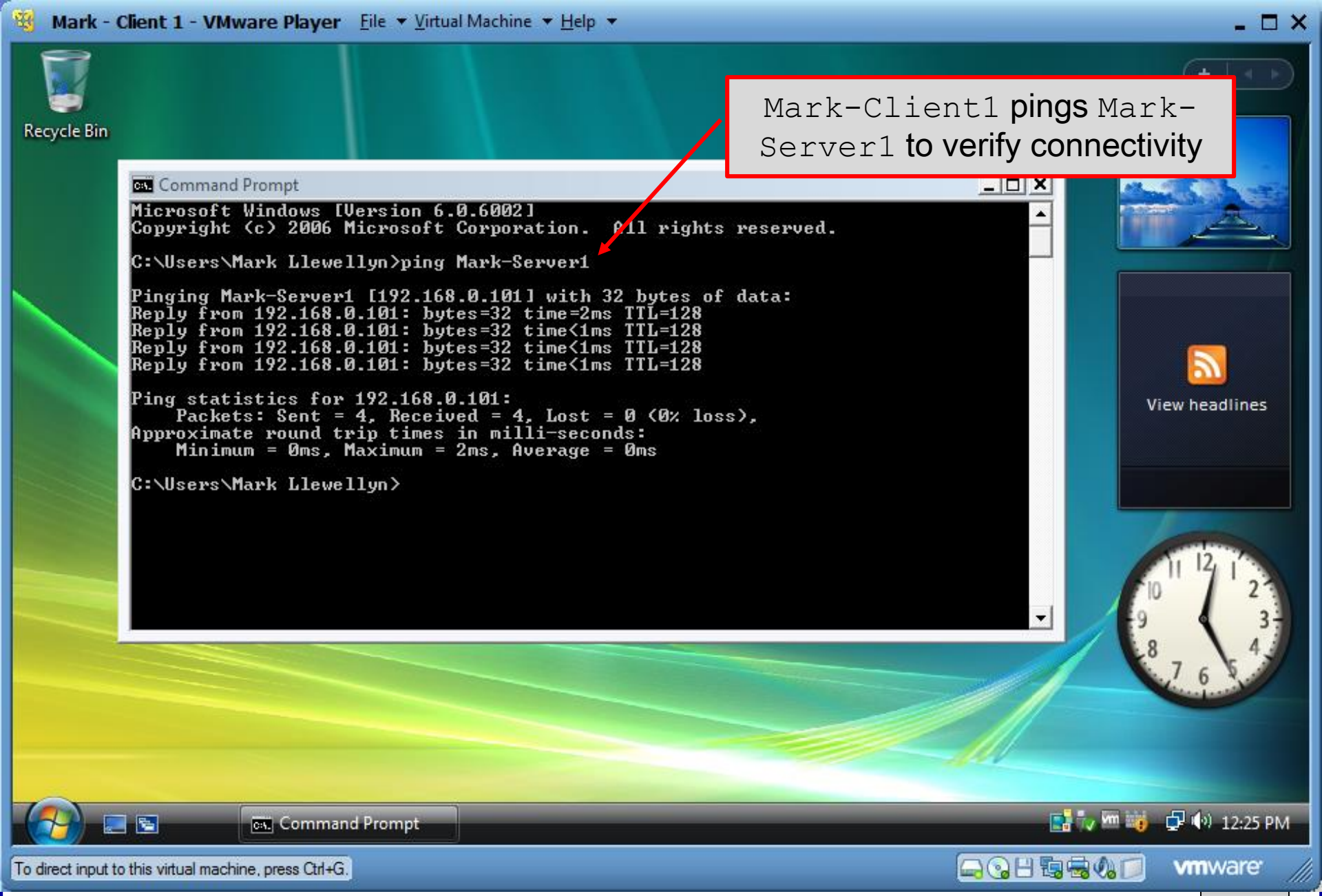
In the Server Manager we now see `Mark-Server2` now a part of the `savn.local` domain.

Do a screen capture of this page.

Label it: 4: Mark-Server2 joins savn.local domain.

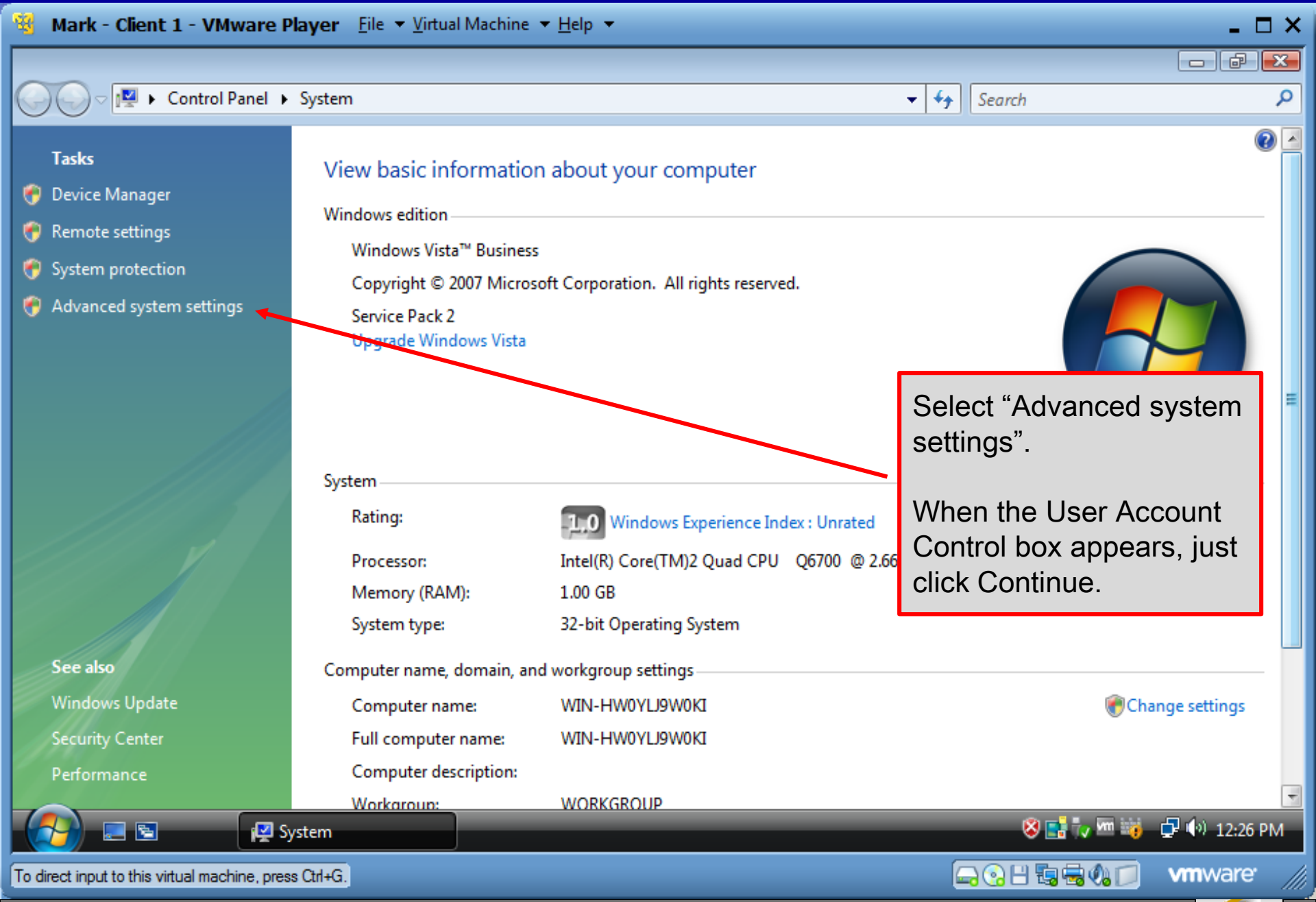
Joining A Domain – Mark-Client1

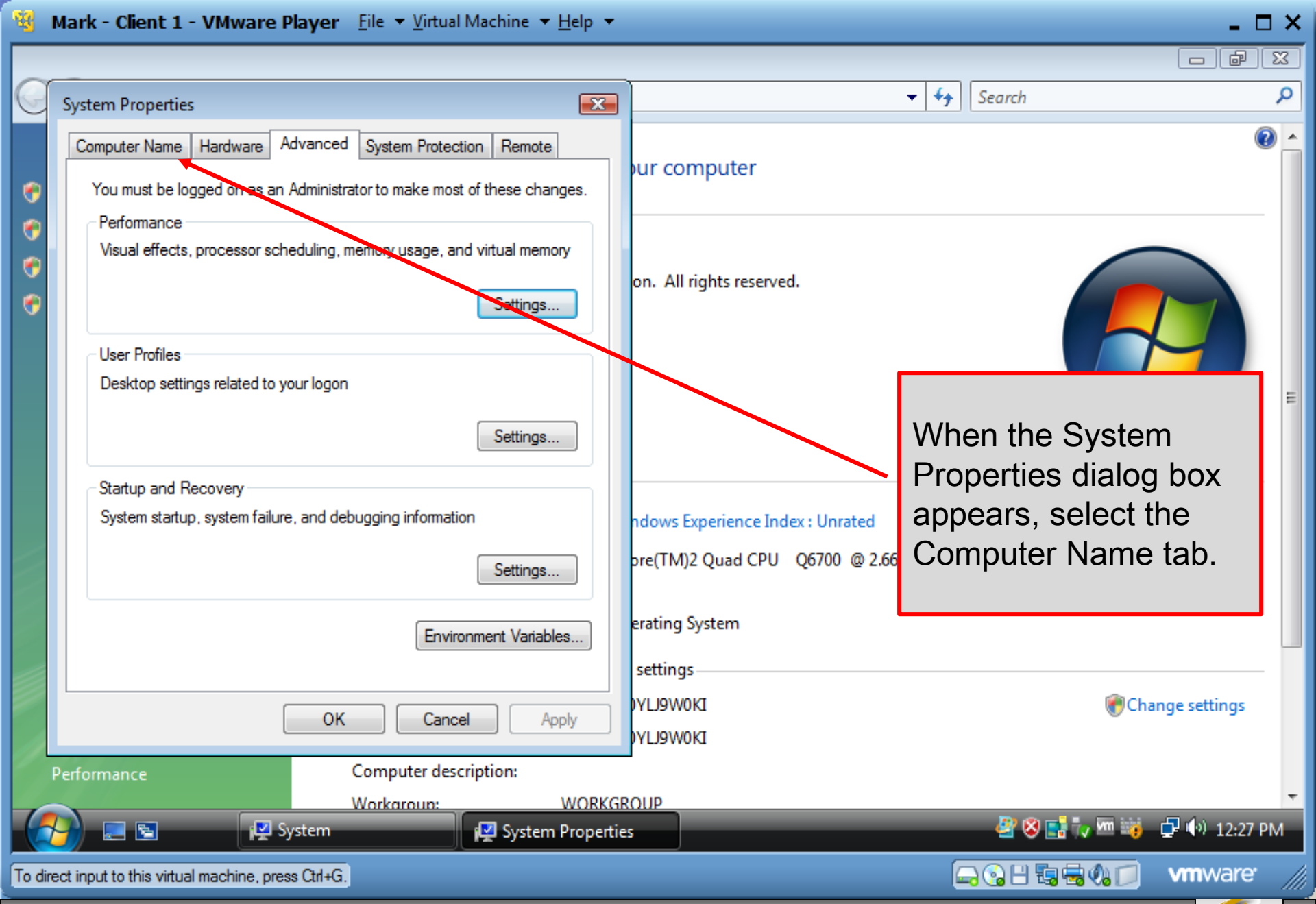
- The procedure for getting the Vista-based Mark-Client1 to join the savn.local domain is essentially the same as that of the Server2008-based Mark-Server2.
- Before proceeding, open a Command Prompt in Mark-Client1 and verify that Mark-Server1 is accessible by pinging the server, as shown on the next page.

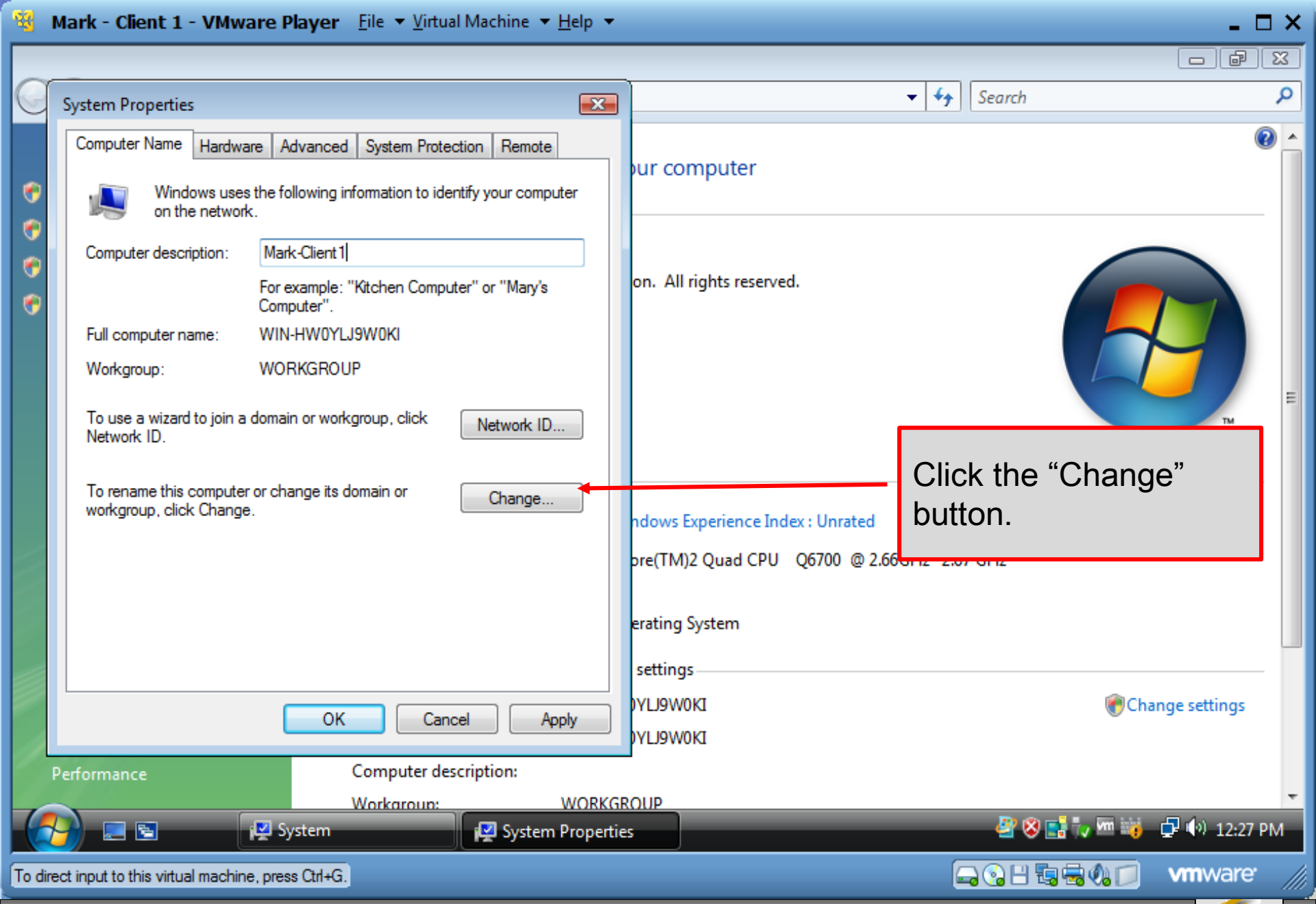

Mark - Client 1 - VMware Player
File
Virtual Machine
Help
Recycle Bin
Mark-Client1 pings Mark-Server1 to verify connectivity
Command Prompt
Microsoft Windows [Version 6.0.6002]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.
C:\Users\Mark Llewellyn>ping Mark-Server1
Pinging Mark-Server1 [192.168.0.101] with 32 bytes of data:
Reply from 192.168.0.101: bytes=32 time=2ms 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 = 2ms, Average = 0ms
C:\Users\Mark Llewellyn>
View headlines
Command Prompt
12:25 PM
To direct input to this virtual machine, press Ctrl+G.
vmware

Joining A Domain – Mark-Client1

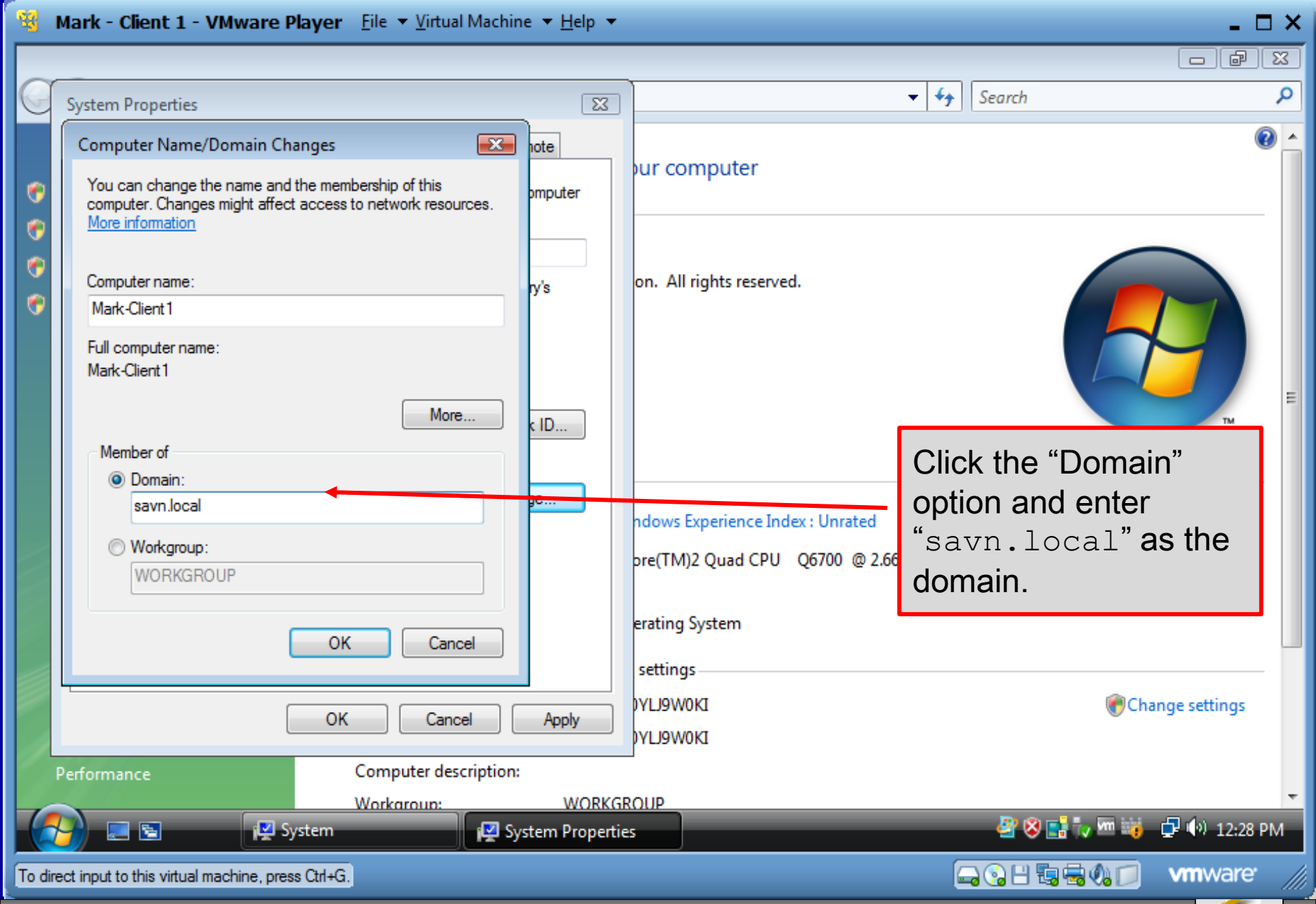
- To connect Mark-Client1 to the savn.local domain, click Start, right click Computer, then click Properties, and then click Advanced System Settings.
- This will open the System Properties dialog box as shown on the next page.


Mark - Client 1 - VMware Player
File
Virtual Machine
Help
Control Panel
System
Search
Tasks
Device Manager
Remote settings
System protection
Advanced system settings
View basic information about your computer
Windows edition
Windows Vista™ Business
Copyright © 2007 Microsoft Corporation. All rights reserved.
Service Pack 2
Upgrade Windows Vista
System
Rating:
Windows Experience Index : Unrated
Processor:
Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66
Memory (RAM):
1.00 GB
System type:
32-bit Operating System
Computer name, domain, and workgroup settings
Computer name:
WIN-HW0YLJ9W0KI
Change settings
Full computer name:
WIN-HW0YLJ9W0KI
Computer description:
Workgroup:
WORKGROUP
See also
Windows Update
Security Center
Performance
Select “Advanced system settings”.
When the User Account Control box appears, just click Continue.
System
12:26 PM
To direct input to this virtual machine, press Ctrl+G.
vmware

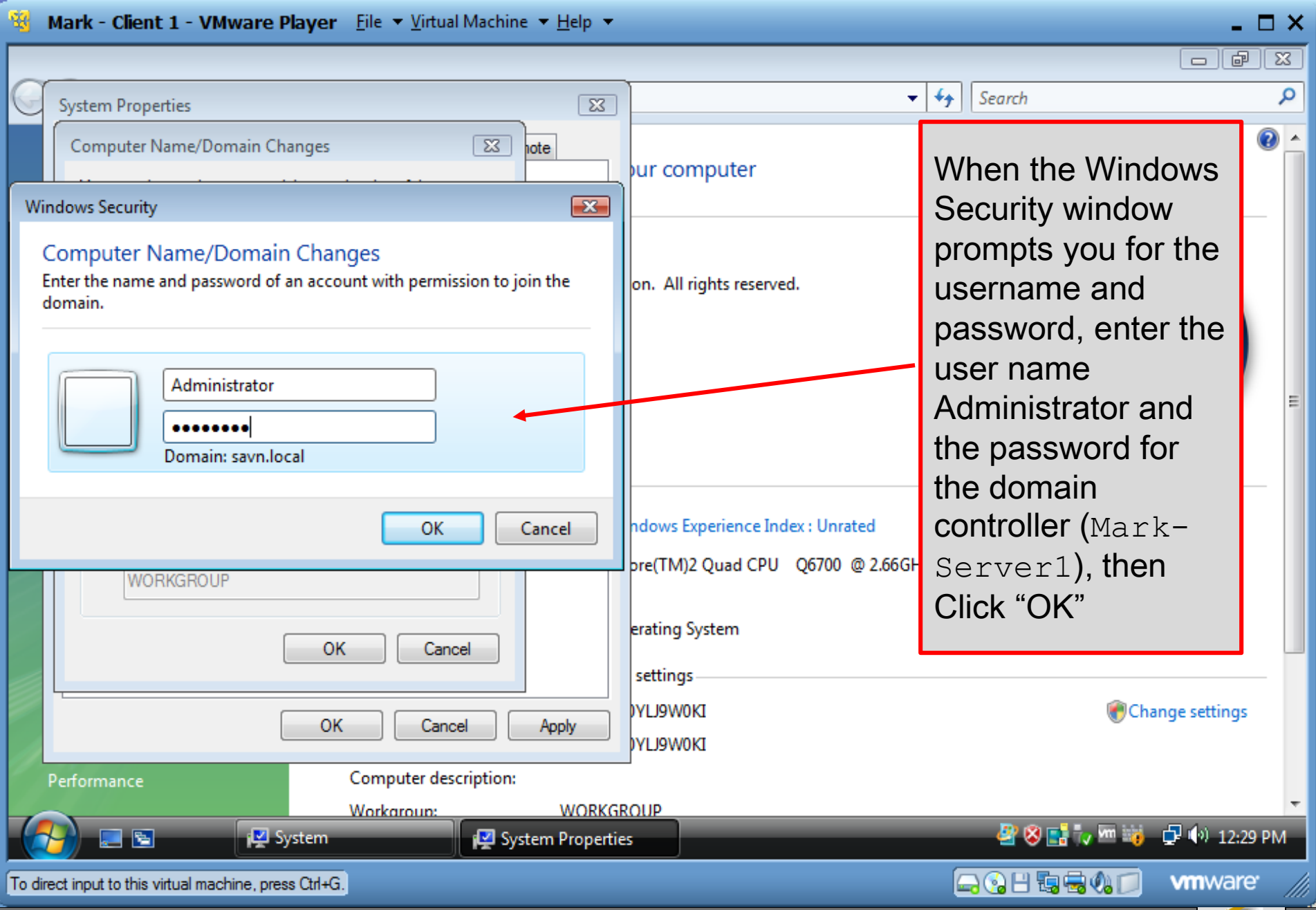

Mark - Client 1 - VMware Player
File
Virtual Machine
Help
System Properties
Computer Name
Hardware
Advanced
System Protection
Remote
You must be logged on as an Administrator to make most of these changes.
Performance
Visual effects, processor scheduling, memory usage, and virtual memory
Settings...
User Profiles
Desktop settings related to your logon
Settings...
Startup and Recovery
System startup, system failure, and debugging information
Settings...
Environment Variables...
OK
Cancel
Apply
When the System Properties dialog box appears, select the Computer Name tab.
Search
Change settings
Performance
Computer description:
Workgroup:
WORKGROUP
System
System Properties
12:27 PM
To direct input to this virtual machine, press Ctrl+G.
vmware

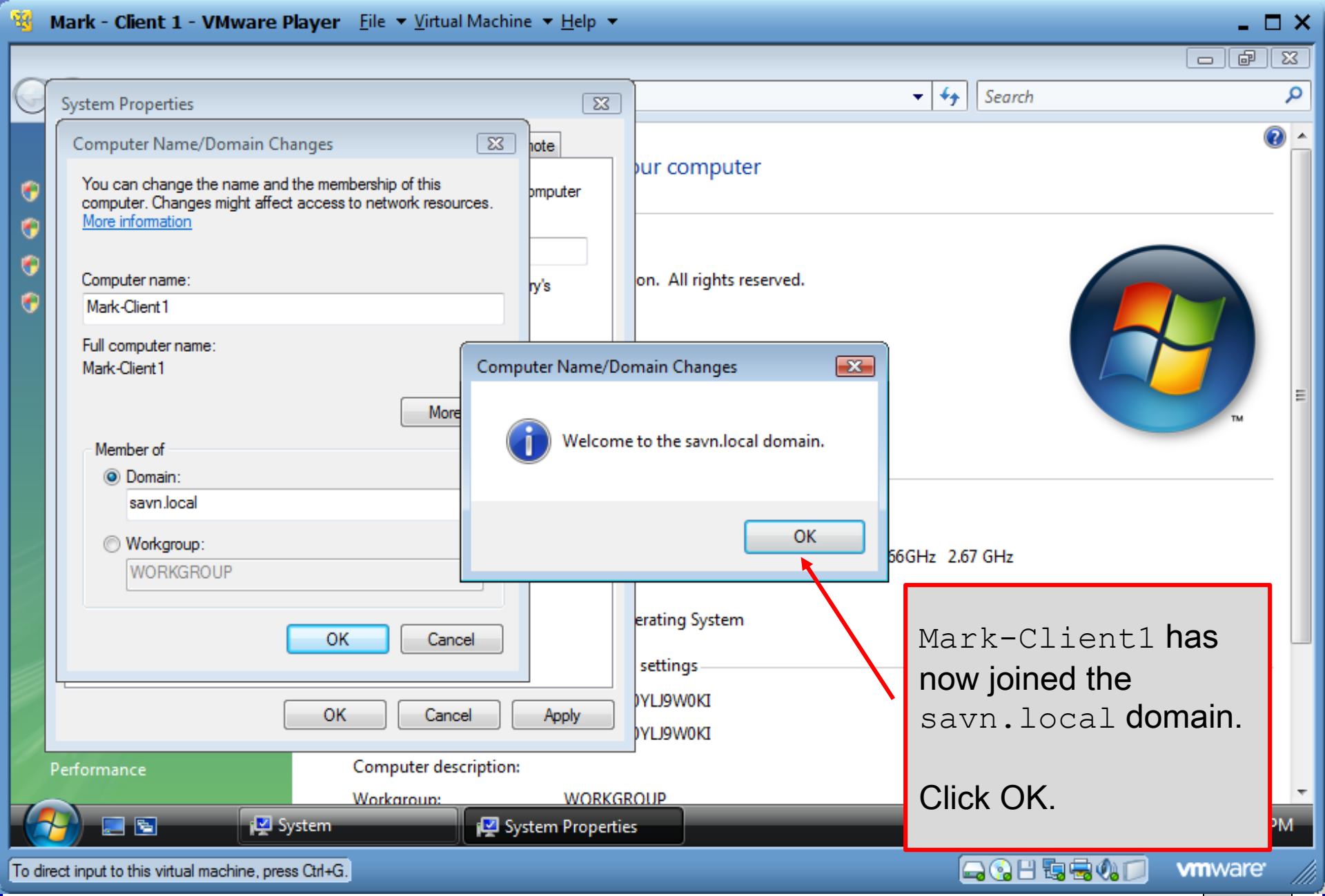


Click the “Change” button.



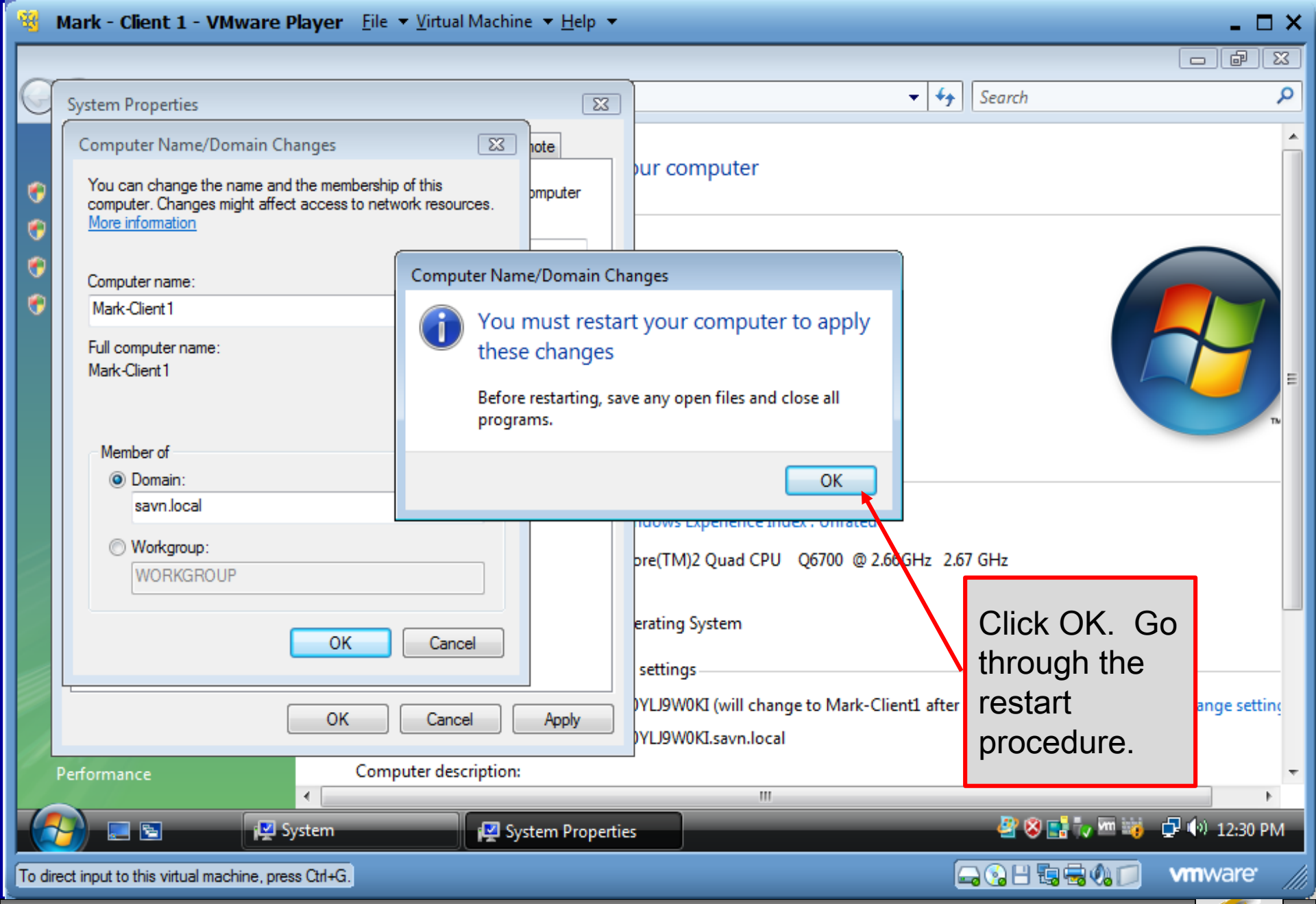
Click the "Domain" option and enter "`savn.local`" as the domain.

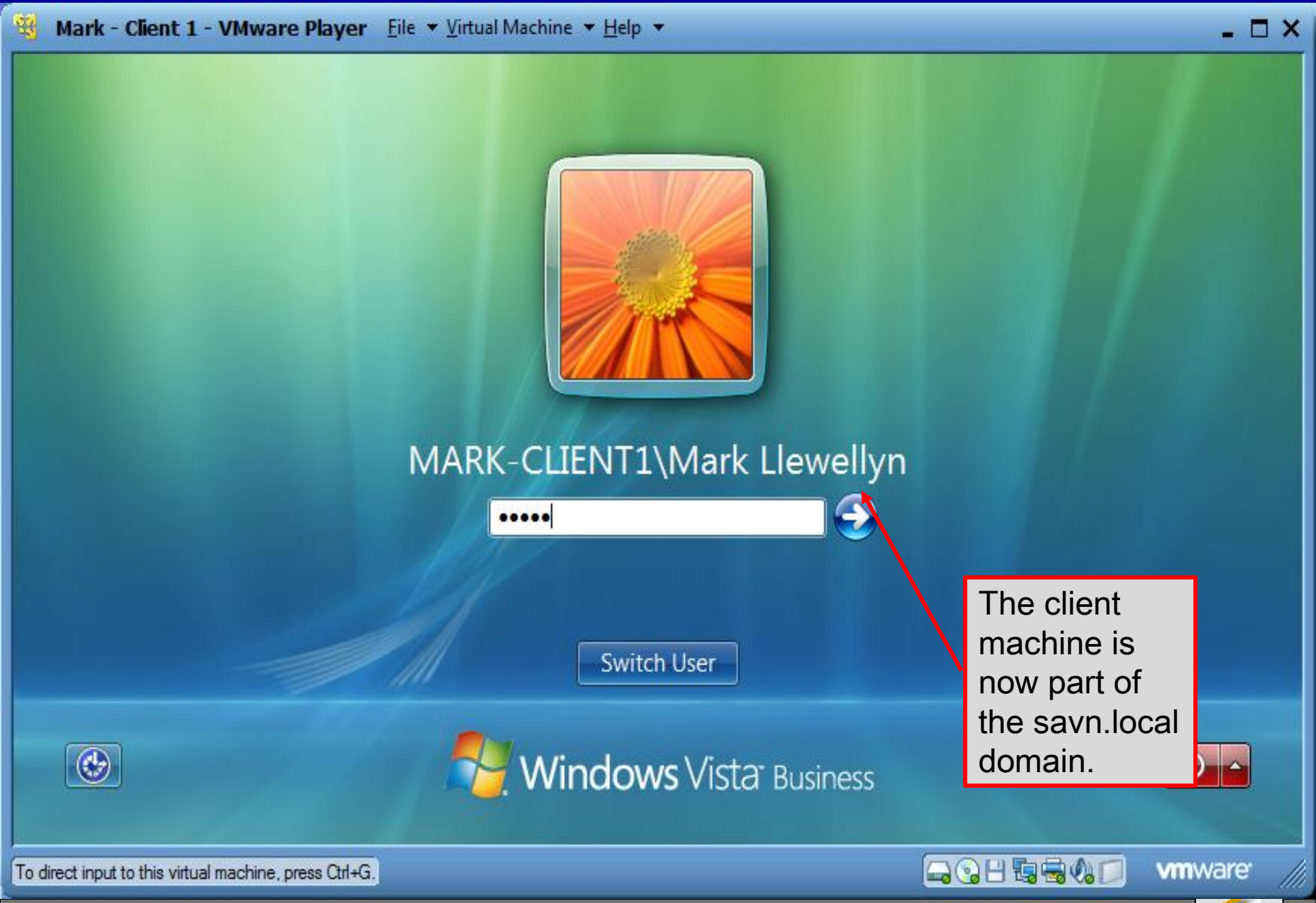

Mark - Client 1 - VMware Player
File
Virtual Machine
Help
System Properties
Computer Name/Domain Changes
Windows Security
Computer Name/Domain Changes
Enter the name and password of an account with permission to join the domain.
Administrator
Domain: savn.local
OK
Cancel
WORKGROUP
OK
Cancel
OK
Cancel
Apply
Search
ur computer
on. All rights reserved.
ndows Experience Index : Unrated
re(TM)2 Quad CPU Q6700 @ 2.66GH
erating System
settings
YLJ9W0KI
YLJ9W0KI
Change settings
Performance
Computer description:
Workgroup: WORKGROUP
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"
System
System Properties
12:29 PM
To direct input to this virtual machine, press Ctrl+G.
vmware

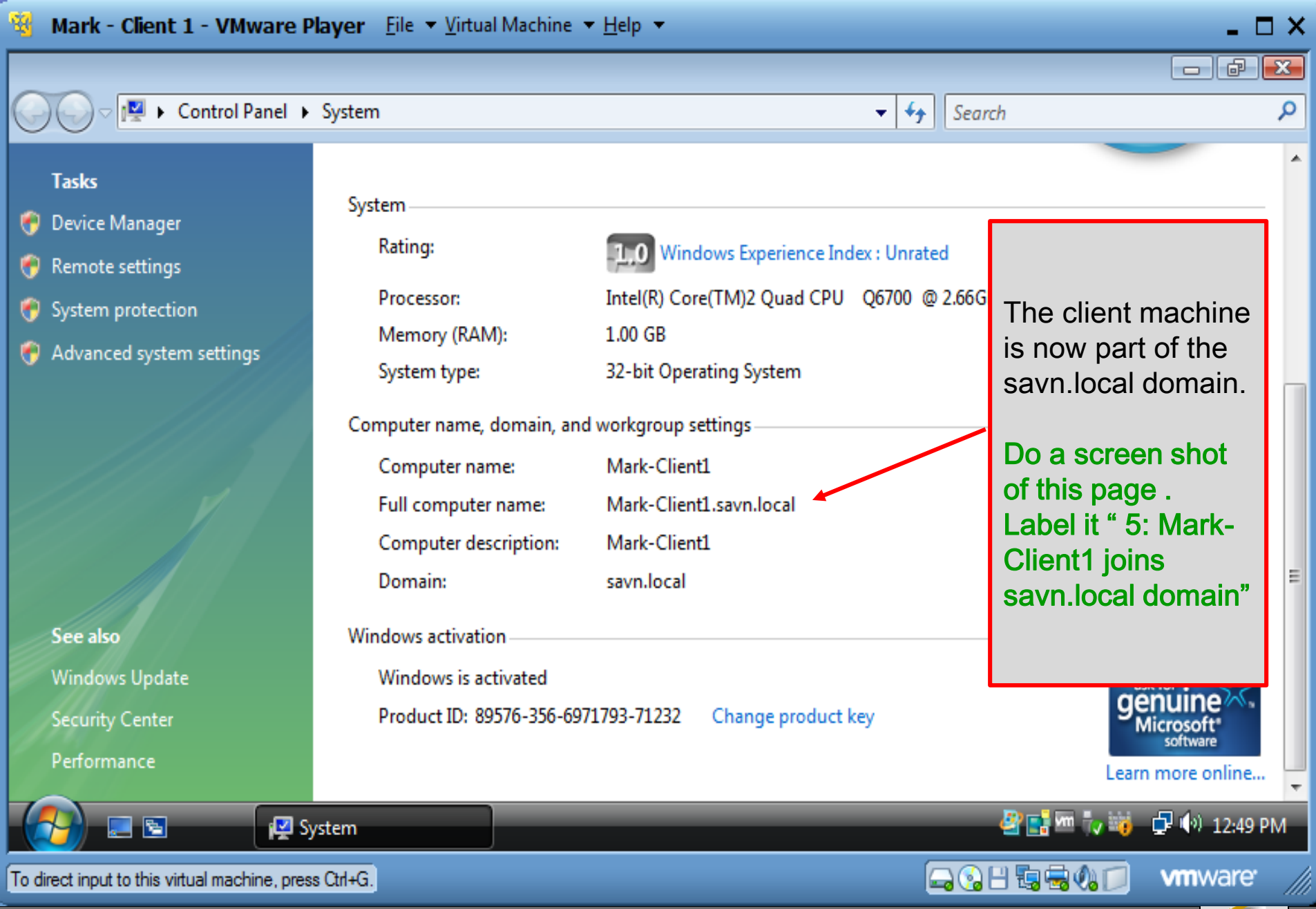


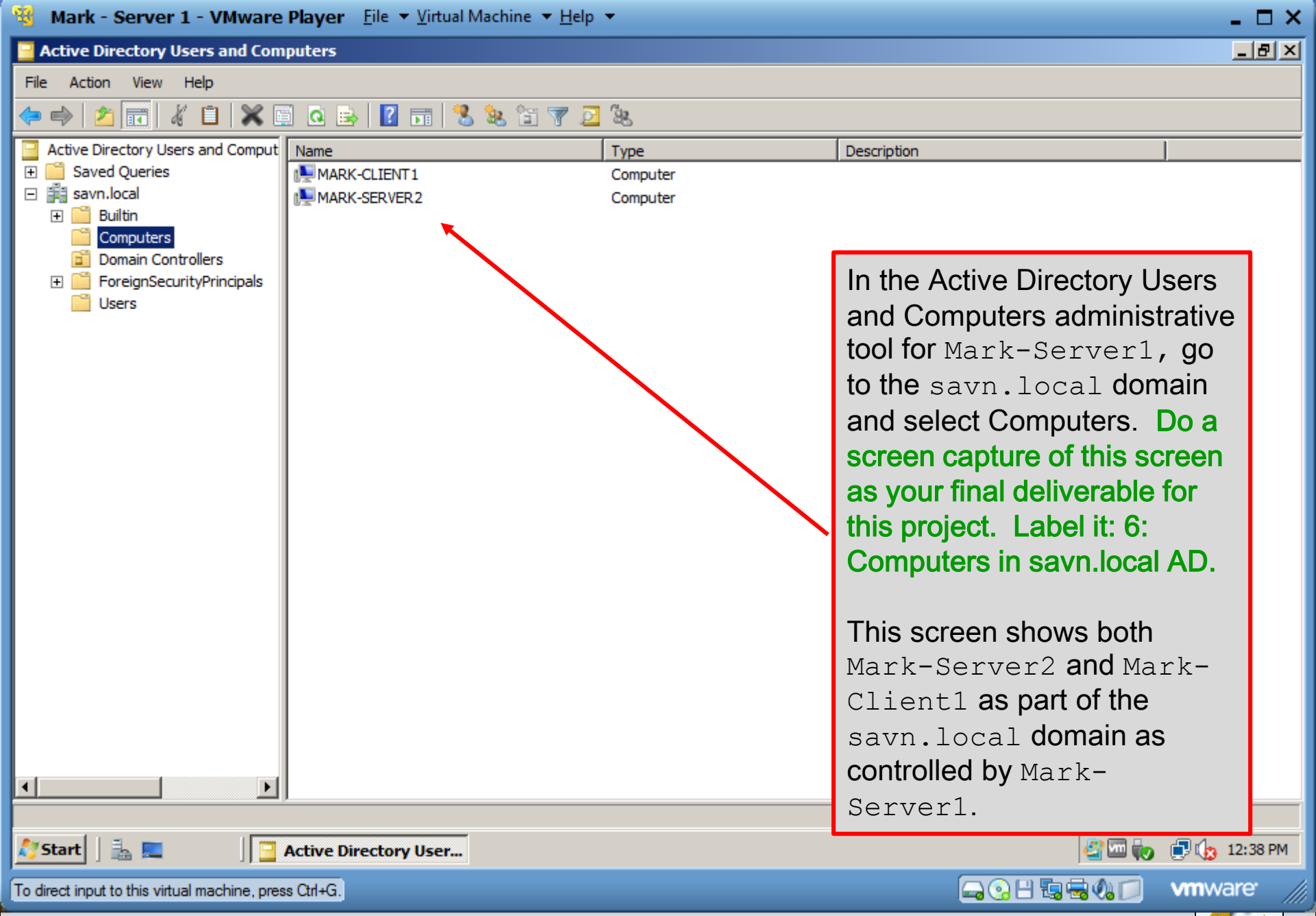
`Mark-Client1` has now joined the `savn.local` domain.

Click OK.


Mark - Client 1 - VMware Player
File
Virtual Machine
Help
System Properties
Computer Name/Domain Changes
You can change the name and the membership of this computer. Changes might affect access to network resources.
More information
Computer name:
Mark-Client1
Full computer name:
Mark-Client1
Member of
Domain:
savn.local
Workgroup:
WORKGROUP
OK
Cancel
OK
Cancel
Apply
Computer Name/Domain Changes
You must restart your computer to apply these changes
Before restarting, save any open files and close all programs.
OK
Click OK. Go through the restart procedure.
Search
Performance
Computer description:
System
System Properties
12:30 PM
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Client 1 - VMware Player
File
Virtual Machine
Help
MARK-CLIENT1\Mark Llewellyn
Switch User
Windows Vista Business
The client machine is now part of the savn.local domain.
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Client 1 - VMware Player
File
Virtual Machine
Help
Control Panel
System
Search
Tasks
Device Manager
Remote settings
System protection
Advanced system settings
See also
Windows Update
Security Center
Performance
System
Rating:
1.0
Windows Experience Index : Unrated
Processor:
Intel(R) Core(TM)2 Quad CPU Q6700 @ 2.66G
Memory (RAM):
1.00 GB
System type:
32-bit Operating System
Computer name, domain, and workgroup settings
Computer name:
Mark-Client1
Full computer name:
Mark-Client1.savn.local
Computer description:
Mark-Client1
Domain:
savn.local
Windows activation
Windows is activated
Product ID: 89576-356-6971793-71232
Change product key
genuine
Microsoft
software
Learn more online...
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"
System
12:49 PM
To direct input to this virtual machine, press Ctrl+G.
vmware


Mark - Server 1 - VMware Player
File
Virtual Machine
Help
Active Directory Users and Computers
File
Action
View
Help
Active Directory Users and Comput
Saved Queries
savn.local
Builtin
Computers
Domain Controllers
ForeignSecurityPrincipals
Users
Name
Type
Description
MARK-CLIENT1
Computer
MARK-SERVER2
Computer
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.
Start
Active Directory User...
12:38 PM
To direct input to this virtual machine, press Ctrl+G.
vmware

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.