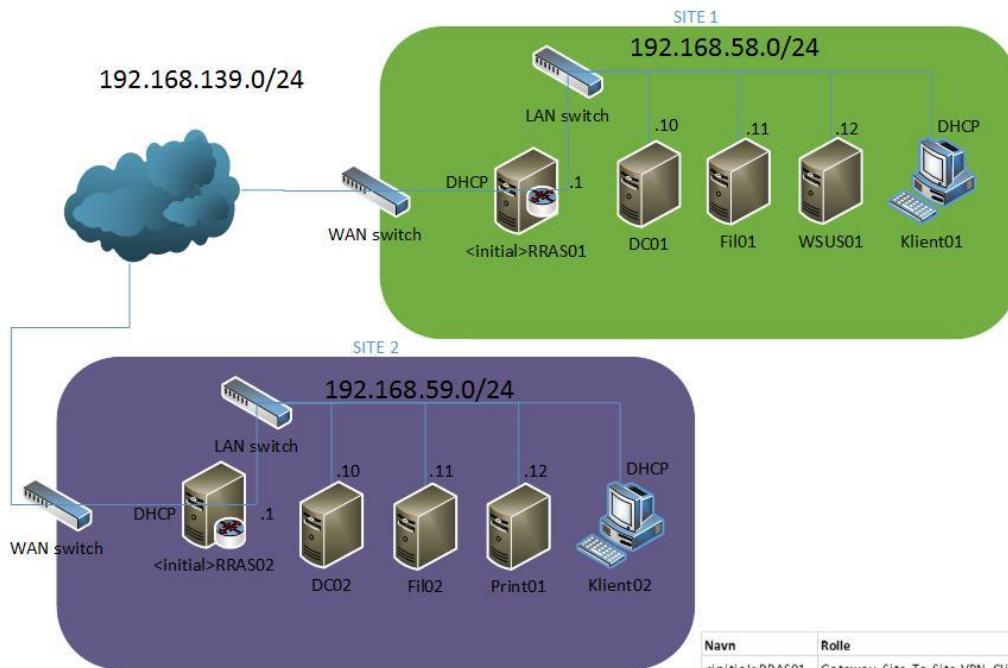


Installing and configuring WSUS

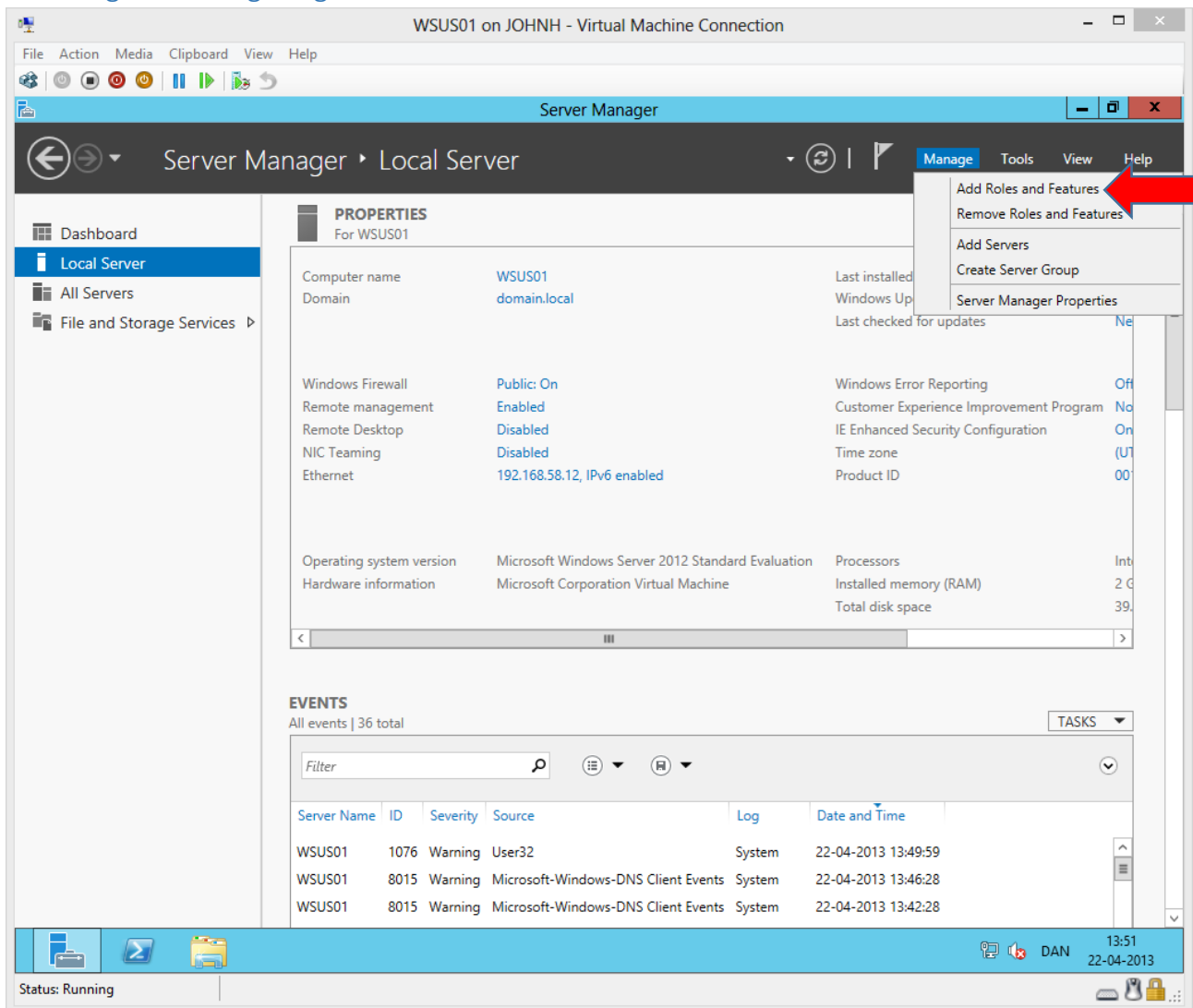
In this guide we install and configure the Windows Server Update Services role on WSUS01 in site 1.

We will create a Group Policy Object (GPO) that will configure our servers and workstations to use WSUS01 for Microsoft Updates instead of the public Microsoft Updates servers.

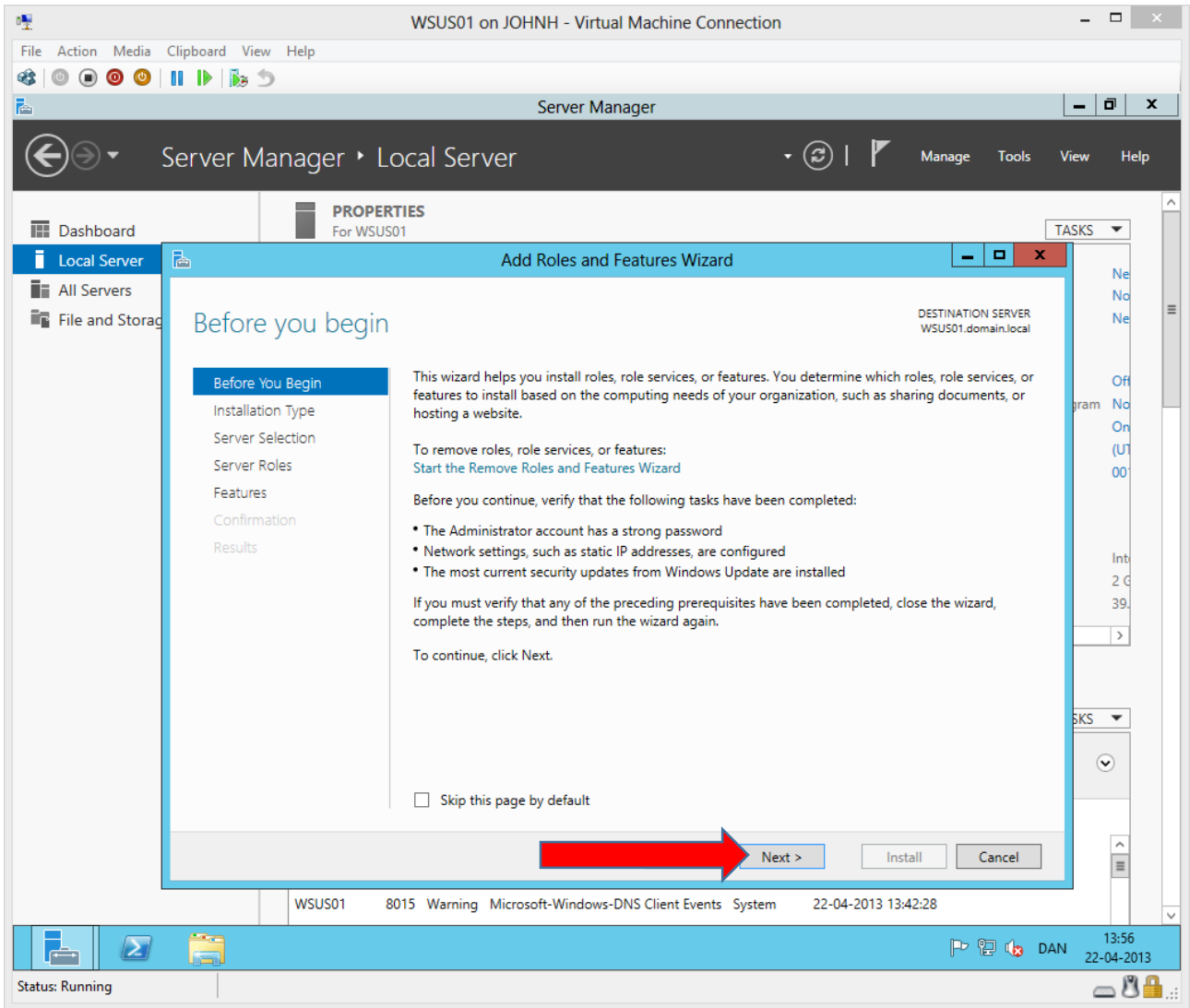


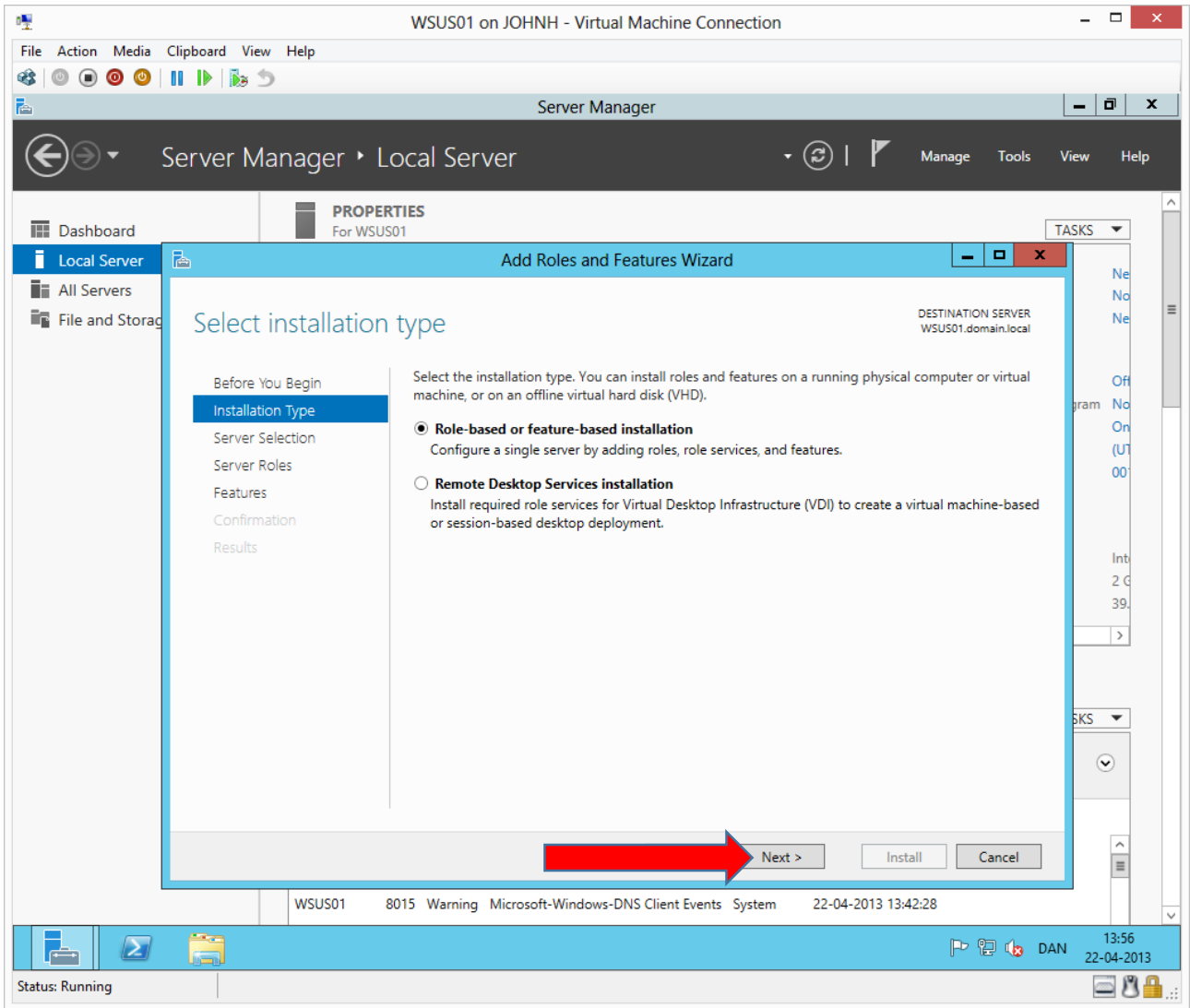
Navn	Rolle	Operativsystem
<initial>RRAS01	Gateway, Site-To-Site VPN, Client/server VPN	Server 2012 Standard
DC01	Domain Controller, DNS, DHCP, PKI	Server 2012 Standard
Fil01	Fileserver	Server 2012 Standard
WSUS01	Windows Server Update Services Server	Server 2012 Standard
<initial>RRAS02	Gateway, Site-To-Site VPN, Client/server VPN	Server 2012 Standard
DC02	Domain Controller, DNS, DHCP	Server 2012 Standard
Fil02	Fileserver	Server 2012 Standard
Print01	Printserver	Server 2012 Standard
Klient01	Workstation	Windows 8 Enterprise
Klient02	Workstation	Windows 8 Enterprise

Installing and configuring WSUS on WSUS01



After the basic setup of WSUS01, we will add a new role.





The screenshot shows the 'Add Roles and Features Wizard' in Server Manager. The current step is 'Select destination server'. The wizard is titled 'Add Roles and Features Wizard' and is for 'WSUS01'. The 'Destination Server' is 'WSUS01.domain.local'. The 'Server Selection' step is active, with options to 'Select a server from the server pool' (selected) or 'Select a virtual hard disk'. A table lists the server pool with one entry: 'WSUS01.domain.local' with IP '192.168.58.12' and OS 'Microsoft Windows Server 2012 Standard Evaluation'. A red arrow points to the 'Next >' button.

Server Manager

Server Manager ▸ Local Server

Dashboard

Local Server

All Servers

File and Storage

PROPERTIES For WSUS01

Tasks

DESTINATION SERVER WSUS01.domain.local

Select destination server

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Confirmation

Results

Select a server or a virtual hard disk on which to install roles and features.

Select a server from the server pool

Select a virtual hard disk

Server Pool

Filter:

Name	IP Address	Operating System
WSUS01.domain.local	192.168.58.12	Microsoft Windows Server 2012 Standard Evaluation

1 Computer(s) found

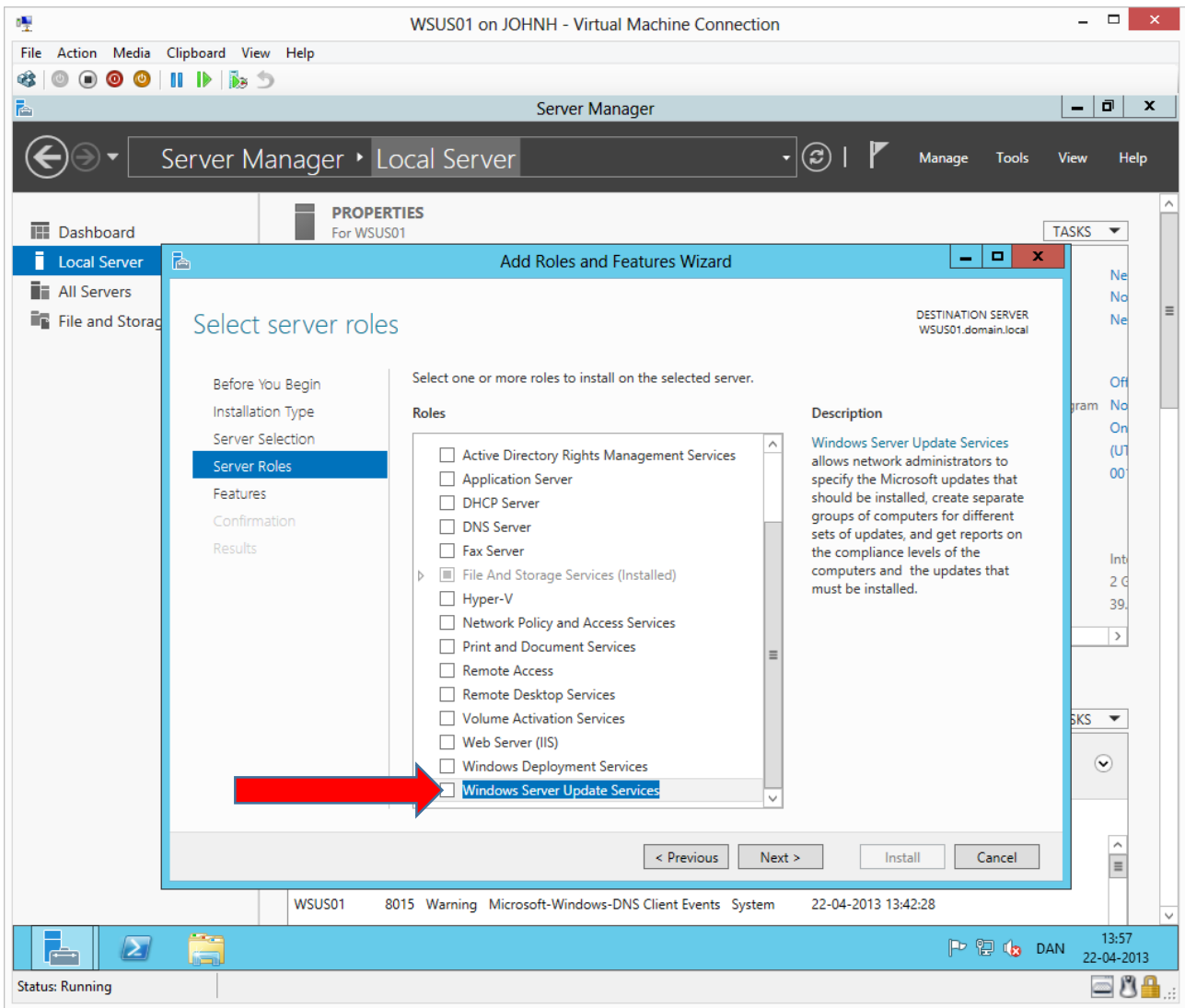
This page shows servers that are running Windows Server 2012, and that have been added by using the Add Servers command in Server Manager. Offline servers and newly-added servers from which data collection is still incomplete are not shown.

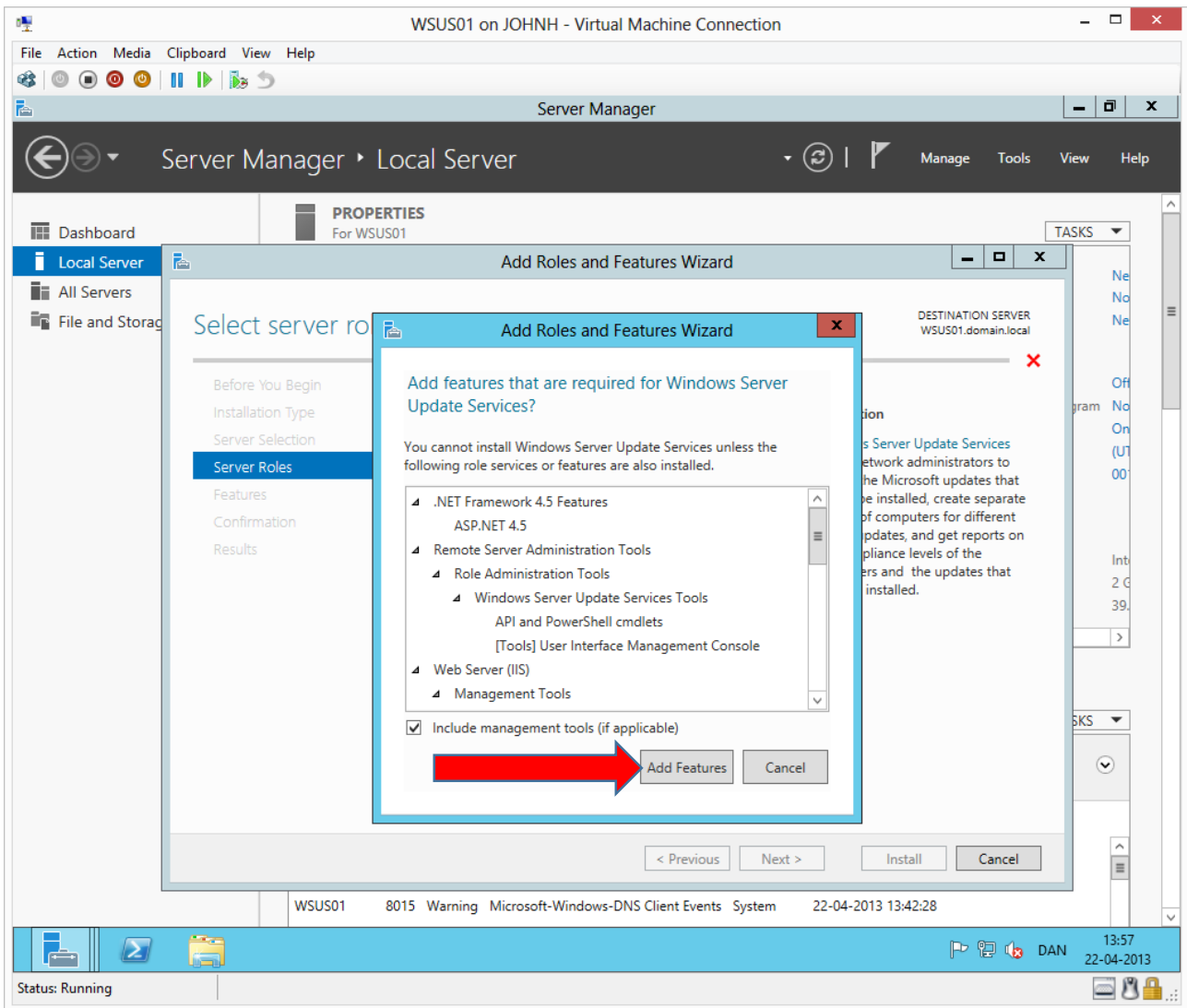
Next > Install Cancel

WSUS01 8015 Warning Microsoft-Windows-DNS Client Events System 22-04-2013 13:42:28

Status: Running

13:57 22-04-2013





WSUS01 on JOHNNH - Virtual Machine Connection

Server Manager

Server Manager ▸ Local Server

Dashboard

Local Server

PROPERTIES For WSUS01

Tasks

Add Roles and Features Wizard

Select server roles

DESTINATION SERVER
WSUS01.domain.local

Before You Begin
Installation Type
Server Selection
Server Roles
Features
WSUS
Role Services
Content
Web Server Role (IIS)
Role Services
Confirmation
Results

Select one or more roles to install on the selected server.

Roles	Description
<input type="checkbox"/> Active Directory Rights Management Services	
<input type="checkbox"/> Application Server	
<input type="checkbox"/> DHCP Server	
<input type="checkbox"/> DNS Server	
<input type="checkbox"/> Fax Server	
<input checked="" type="checkbox"/> File And Storage Services (Installed)	
<input type="checkbox"/> Hyper-V	
<input type="checkbox"/> Network Policy and Access Services	
<input type="checkbox"/> Print and Document Services	
<input type="checkbox"/> Remote Access	
<input type="checkbox"/> Remote Desktop Services	
<input type="checkbox"/> Volume Activation Services	
<input checked="" type="checkbox"/> Web Server (IIS)	
<input type="checkbox"/> Windows Deployment Services	
<input checked="" type="checkbox"/> Windows Server Update Services	

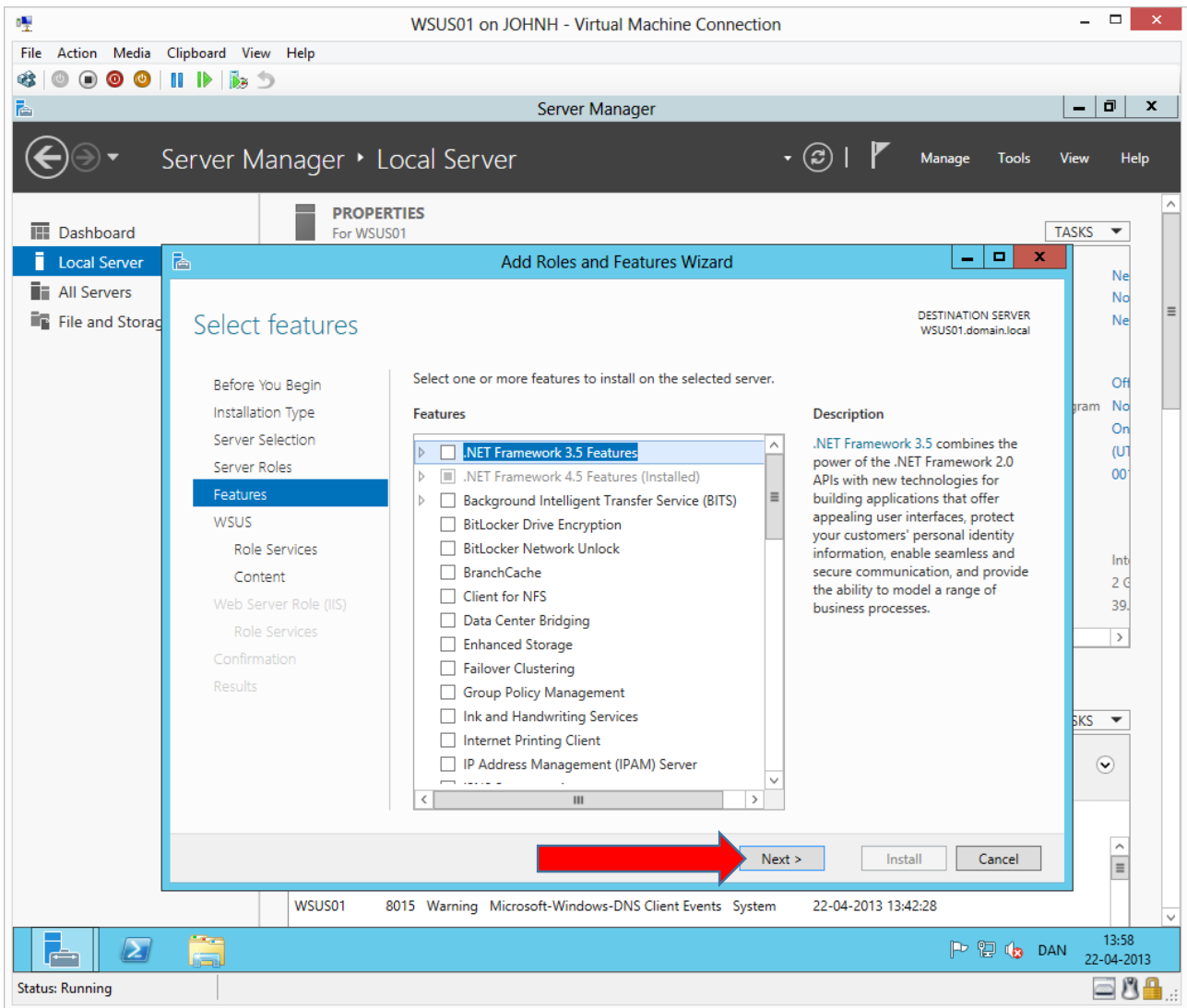
Description
Windows Server Update Services
allows network administrators to specify the Microsoft updates that should be installed, create separate groups of computers for different sets of updates, and get reports on the compliance levels of the computers and the updates that must be installed.

Next > Install Cancel

WSUS01 8015 Warning Microsoft-Windows-DNS Client Events System 22-04-2013 13:42:28

Status: Running

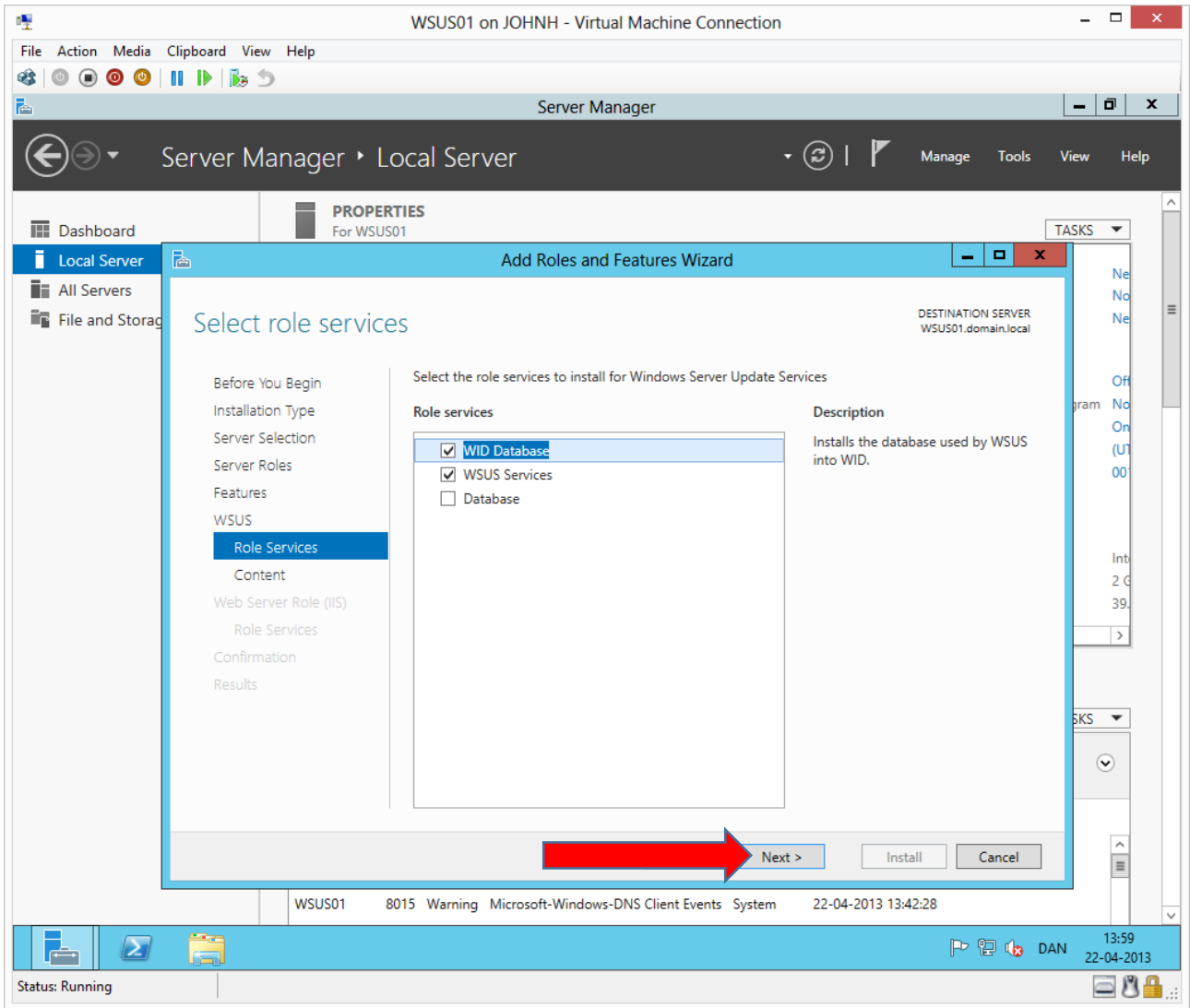
13:57 22-04-2013

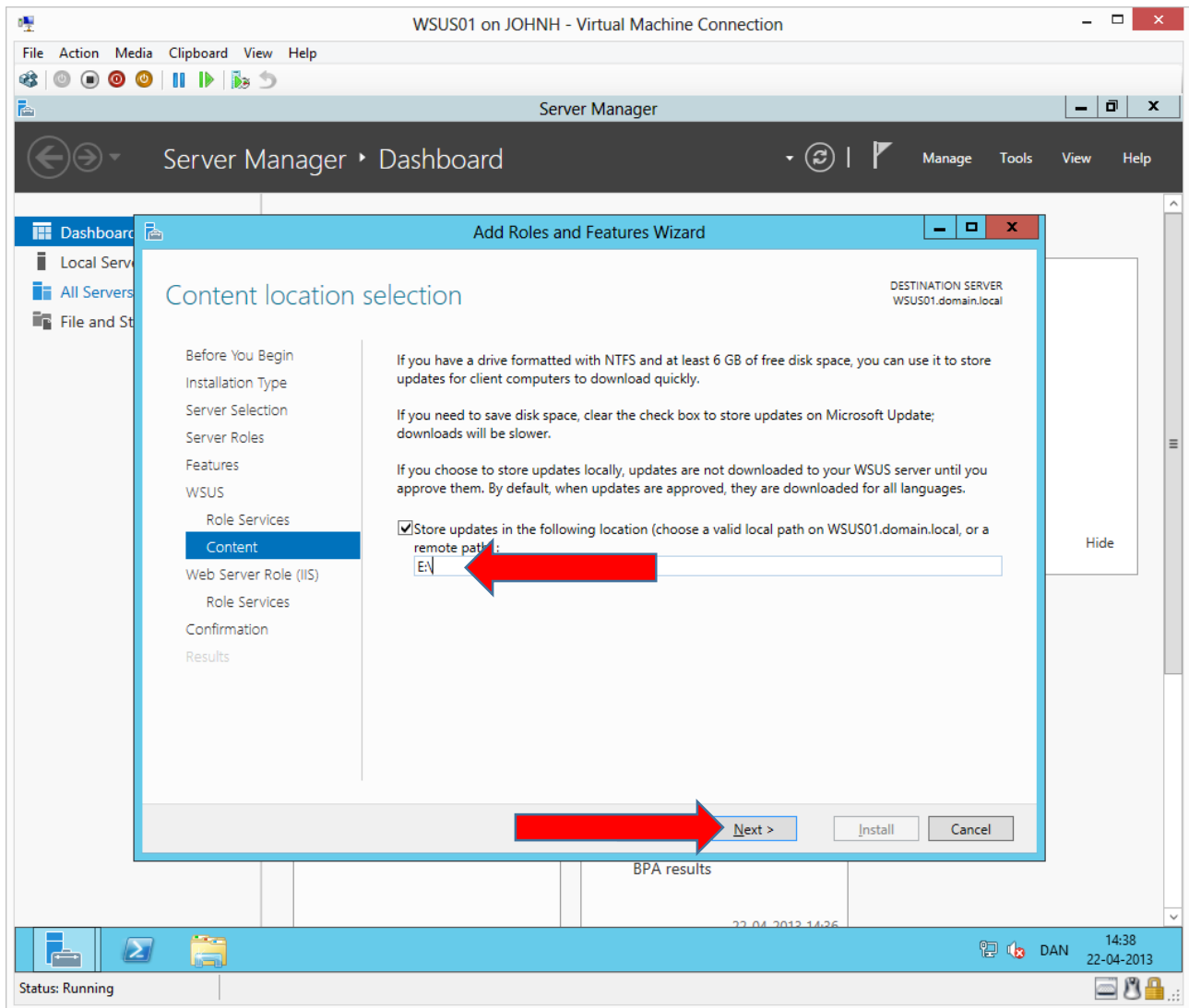


The screenshot shows a virtual machine connection window titled "WSUS01 on JOHNH - Virtual Machine Connection". Inside, the Server Manager console is open to the "Local Server" view. The "Add Roles and Features Wizard" is displayed, specifically the "Windows Server Update Services" step. The wizard includes a navigation pane on the left with "WSUS" selected, and a main content area with instructions and a "Next >" button. A red arrow points to the "Next >" button. The system tray at the bottom shows the date and time as 22-04-2013 13:42:28.

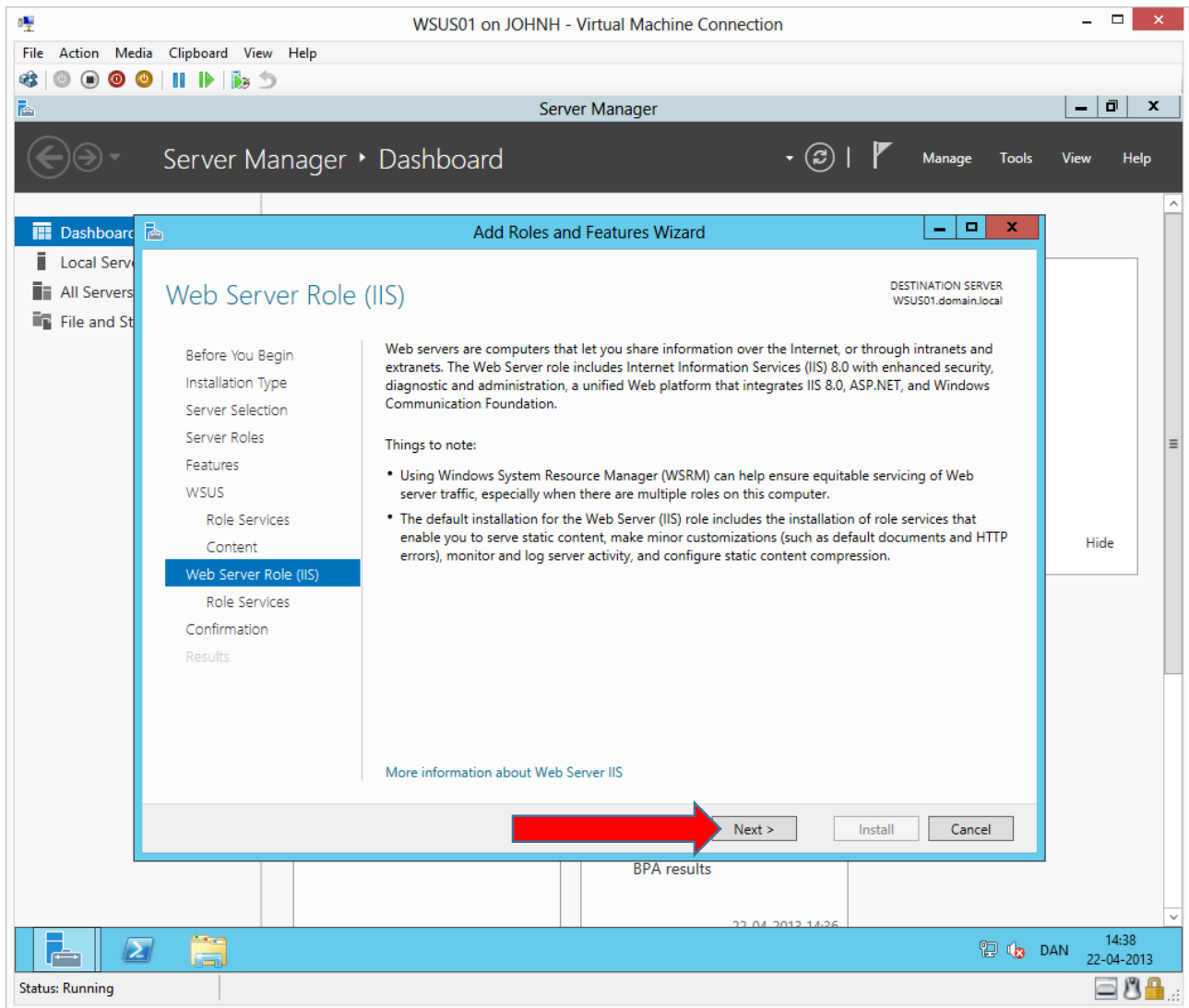
WSUS01 8015 Warning Microsoft-Windows-DNS Client Events System 22-04-2013 13:42:28

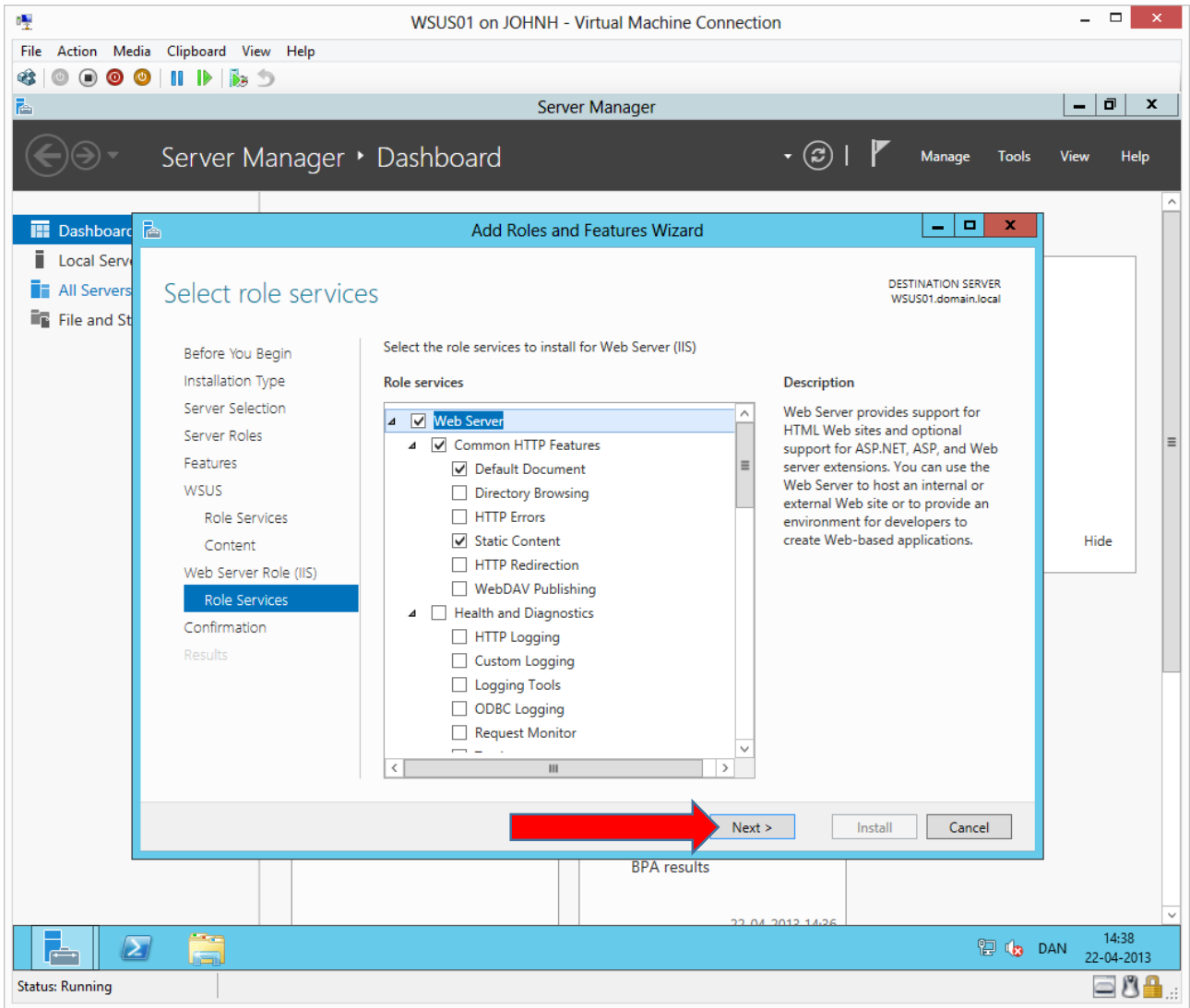
Status: Running

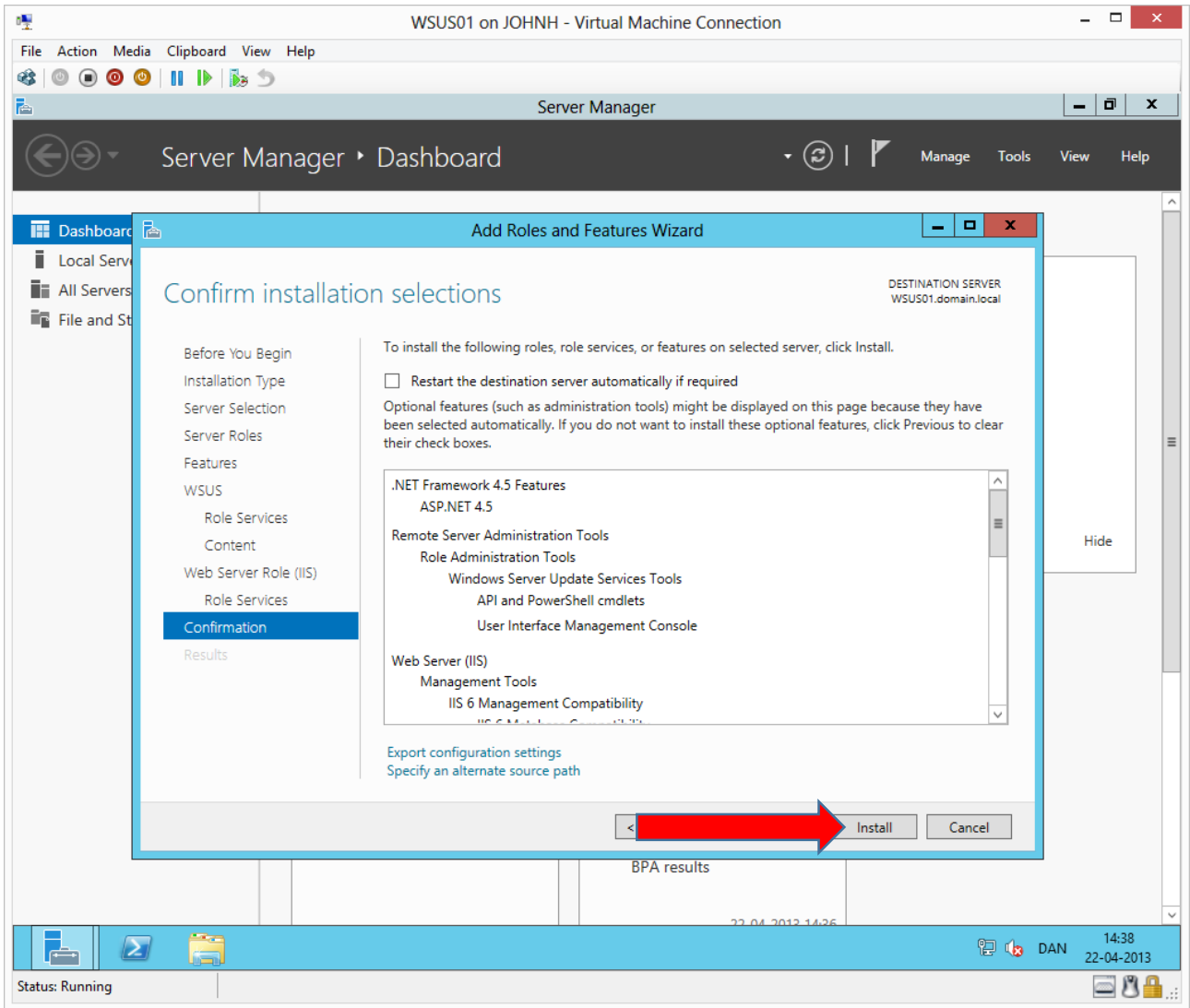




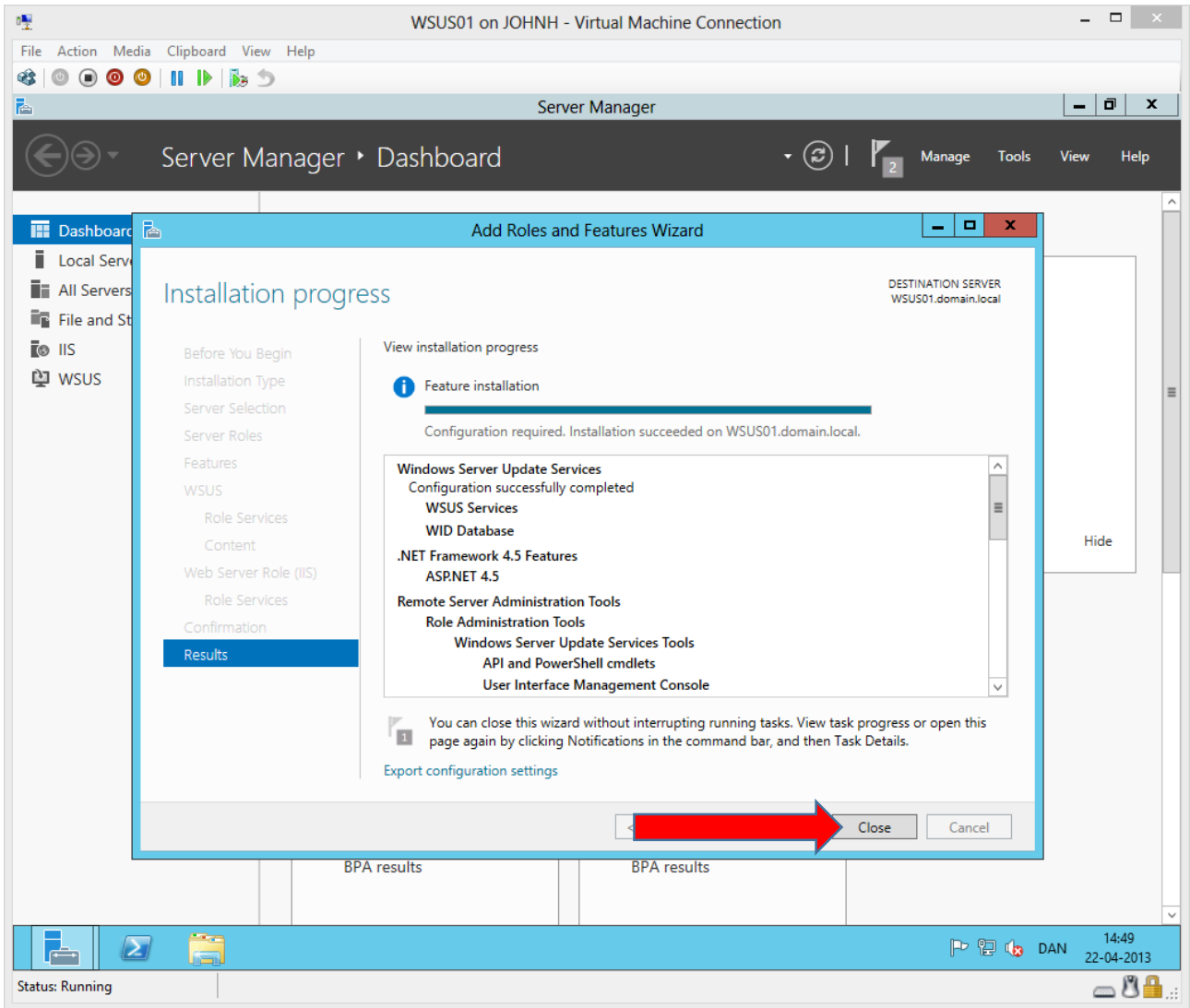
Change the drive letter path to the one of the added extra disk, here **E:**







The screenshot shows a virtual machine connection window titled "WSUS01 on JOHNH - Virtual Machine Connection". Inside, the Server Manager interface is visible, with the "Add Roles and Features Wizard" open. The wizard is in the "Results" step of the "Installation progress" phase. The "View installation progress" section shows a "Feature installation" step that is complete, with the message "Configuration required. Installation succeeded on WSUS01.domain.local." Below this, a list of installed features is shown, including "Windows Server Update Services" (with sub-items "Additional configuration must be performed before continuing" and "Launch Post-Installation tasks"), "WSUS Services", "WID Database", ".NET Framework 4.5 Features" (with sub-item "ASPNET 4.5"), and "Remote Server Administration Tools" (with sub-items "Role Administration Tools" and "Windows Server Update Services Tools API and PowerShell cmdlets"). A red arrow points to the "Launch Post-Installation tasks" link. At the bottom of the wizard, there are buttons for "< Previous", "Next >", "Close", and "Cancel". The taskbar at the bottom shows the system tray with the time 14:46 on 22-04-2013 and the user name DAN. The status bar at the bottom left indicates "Status: Running".



The screenshot displays the Windows Server Manager interface for a virtual machine named 'WSUS01 on JOHNH'. The main dashboard area is titled 'WELCOME TO SERVER MANAGER' and features a 'QUICK START' section with four numbered steps: 1. Configure this local server, 2. Add roles and features, 3. Add other servers to manage, and 4. Create a server group. Below this, the 'ROLES AND SERVER GROUPS' section shows two server groups: 'File and Storage Services' and 'IIS', each with a 'Manageability' status icon and a list of associated services. A right-hand pane lists various components and services, with a red arrow pointing to 'Windows Server Update Services'. The bottom of the window shows a taskbar with system icons, the user name 'DAN', and the date '23-04-2013' at '08:24'. The status bar at the bottom left indicates 'Status: Running'.

WSUS01 on JOHNH - Virtual Machine Connection

File Action Media Clipboard View Help

Server Manager

Server Manager Dashboard

Dashboard

- Local Server
- All Servers
- File and Storage Services
- IIS
- WSUS

WELCOME TO SERVER MANAGER

1 Configure this local server

2 Add roles and features

3 Add other servers to manage

4 Create a server group

QUICK START

WHAT'S NEW

LEARN MORE

ROLES AND SERVER GROUPS

Roles: 3 | Server groups: 1 | Servers total: 1

File and Storage Services 1

- Manageability
- Events
- Services
- Performance
- BPA results

IIS

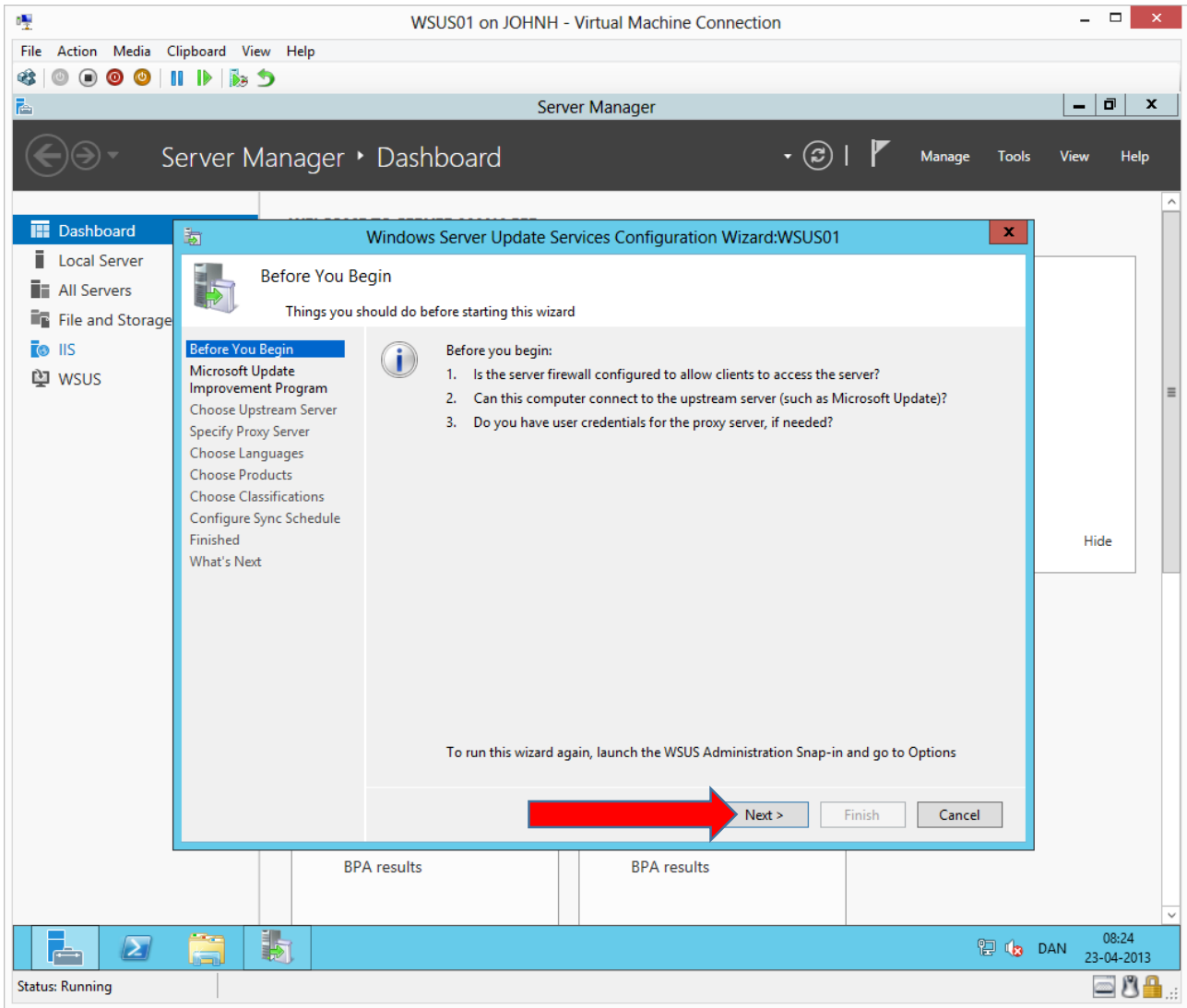
- Manageability
- Events
- Services
- Performance
- BPA results

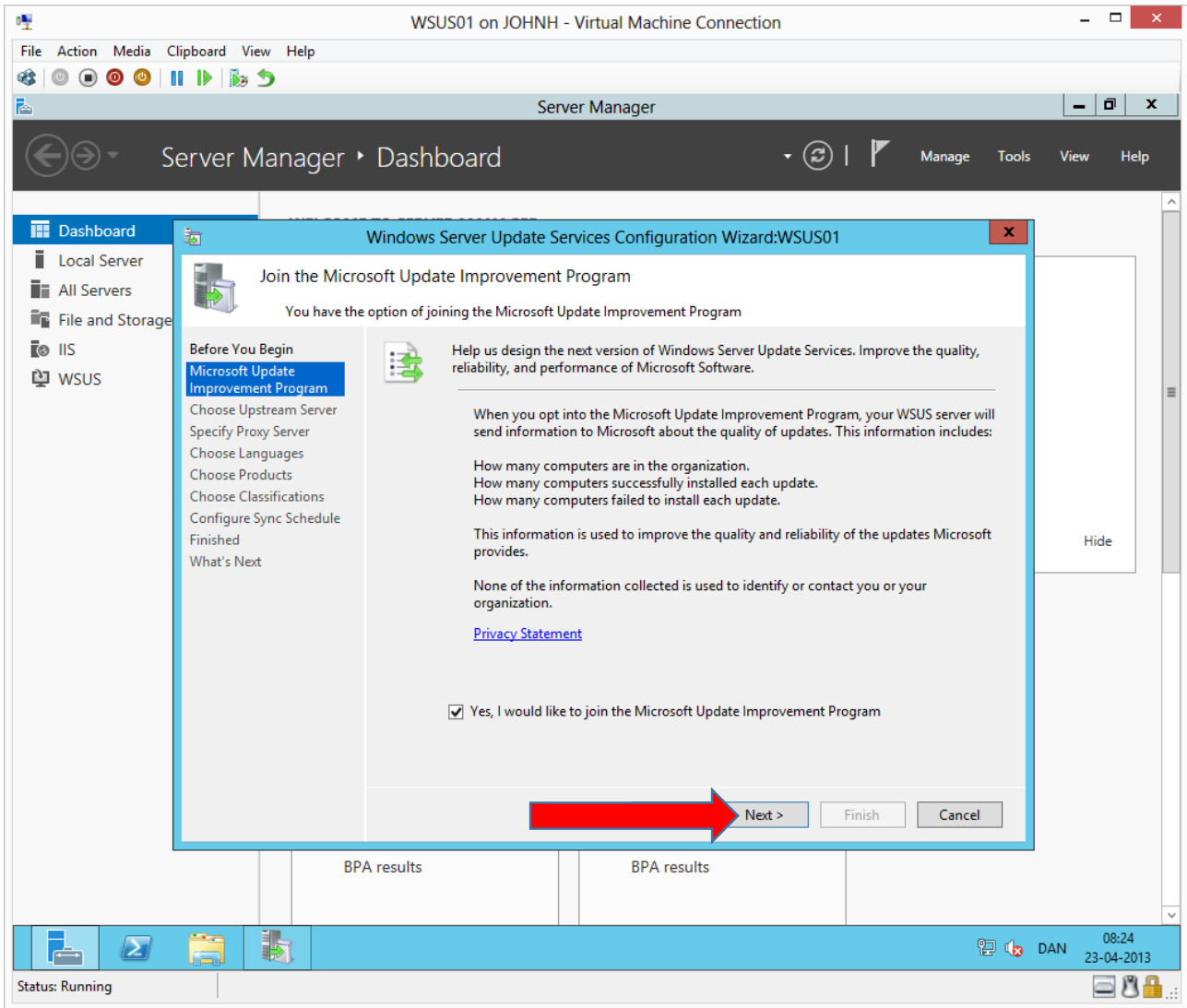
Component Services

- Computer Management
- Defragment and Optimize Drives
- Event Viewer
- Internet Information Services (IIS) Manager
- iSCSI Initiator
- Local Security Policy
- ODBC Data Sources (32-bit)
- ODBC Data Sources (64-bit)
- Performance Monitor
- Resource Monitor
- Security Configuration Wizard
- Services
- System Configuration
- System Information
- Task Scheduler
- Windows Firewall with Advanced Security
- Windows Memory Diagnostic
- Windows PowerShell
- Windows PowerShell (x86)
- Windows PowerShell ISE
- Windows PowerShell (x86)
- Windows PowerShell ISE (x86)
- Windows Server Backup
- Windows Server Update Services

Status: Running

DAN 08:24 23-04-2013





The screenshot shows the Windows Server Update Services Configuration Wizard for WSUS01. The window title is "WSUS01 on JOHNNH - Virtual Machine Connection". The wizard is titled "Windows Server Update Services Configuration Wizard: WSUS01" and is currently on the "Choose Upstream Server" step. The step title is "Choose Upstream Server" with the instruction "Provide the upstream server from which you want to synchronize content".

The wizard has a left-hand navigation pane with the following steps:

- Before You Begin
- Microsoft Update Improvement Program
- Choose Upstream Server** (current step)
- Specify Proxy Server
- Choose Languages
- Choose Products
- Choose Classifications
- Configure Sync Schedule
- Finished
- What's Next

The main content area contains the following text and options:

You can choose the upstream server from which your server synchronizes updates.

- Synchronize from Microsoft Update
- Synchronize from another Windows Server Update Services server

Server name:

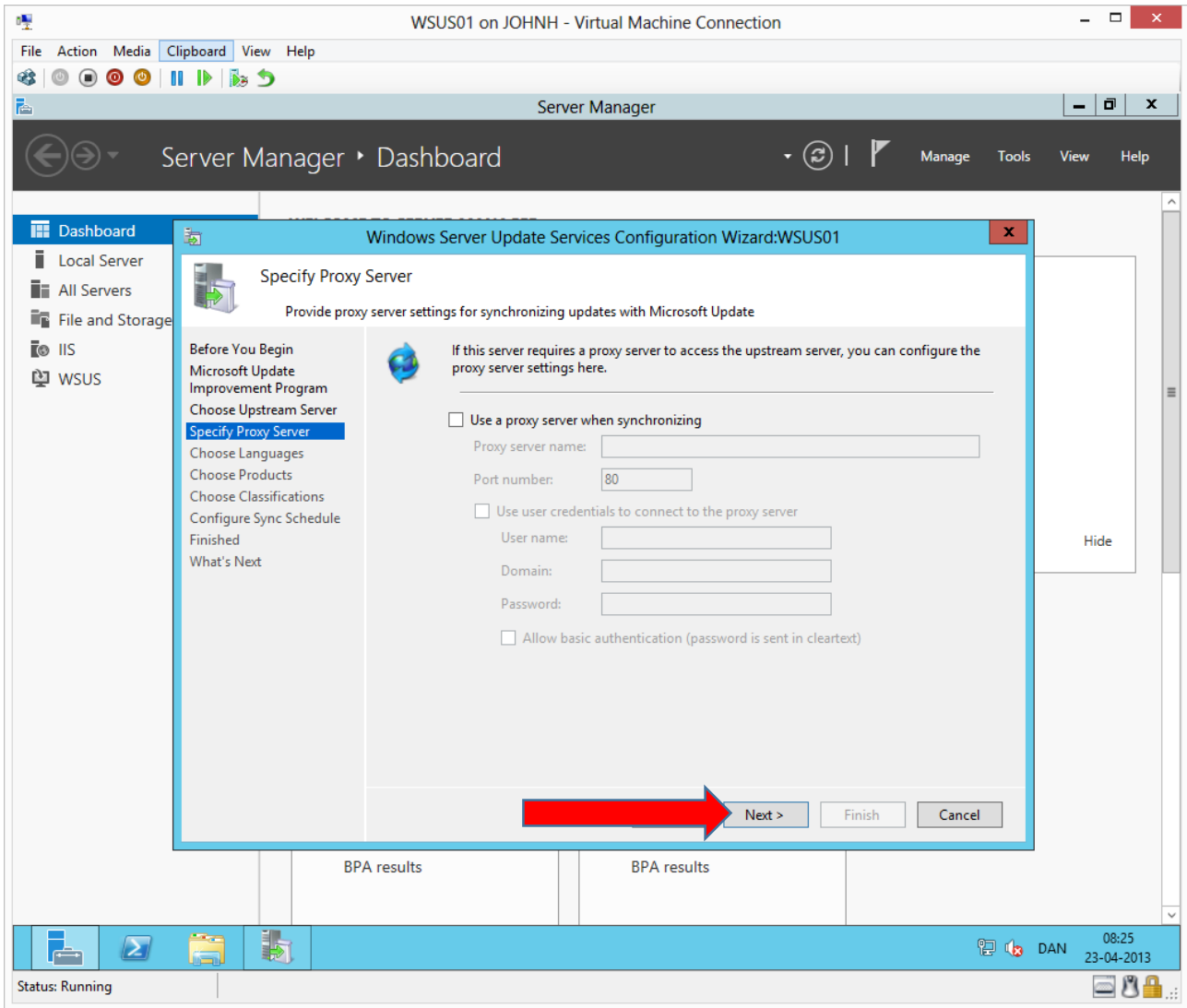
Port number:

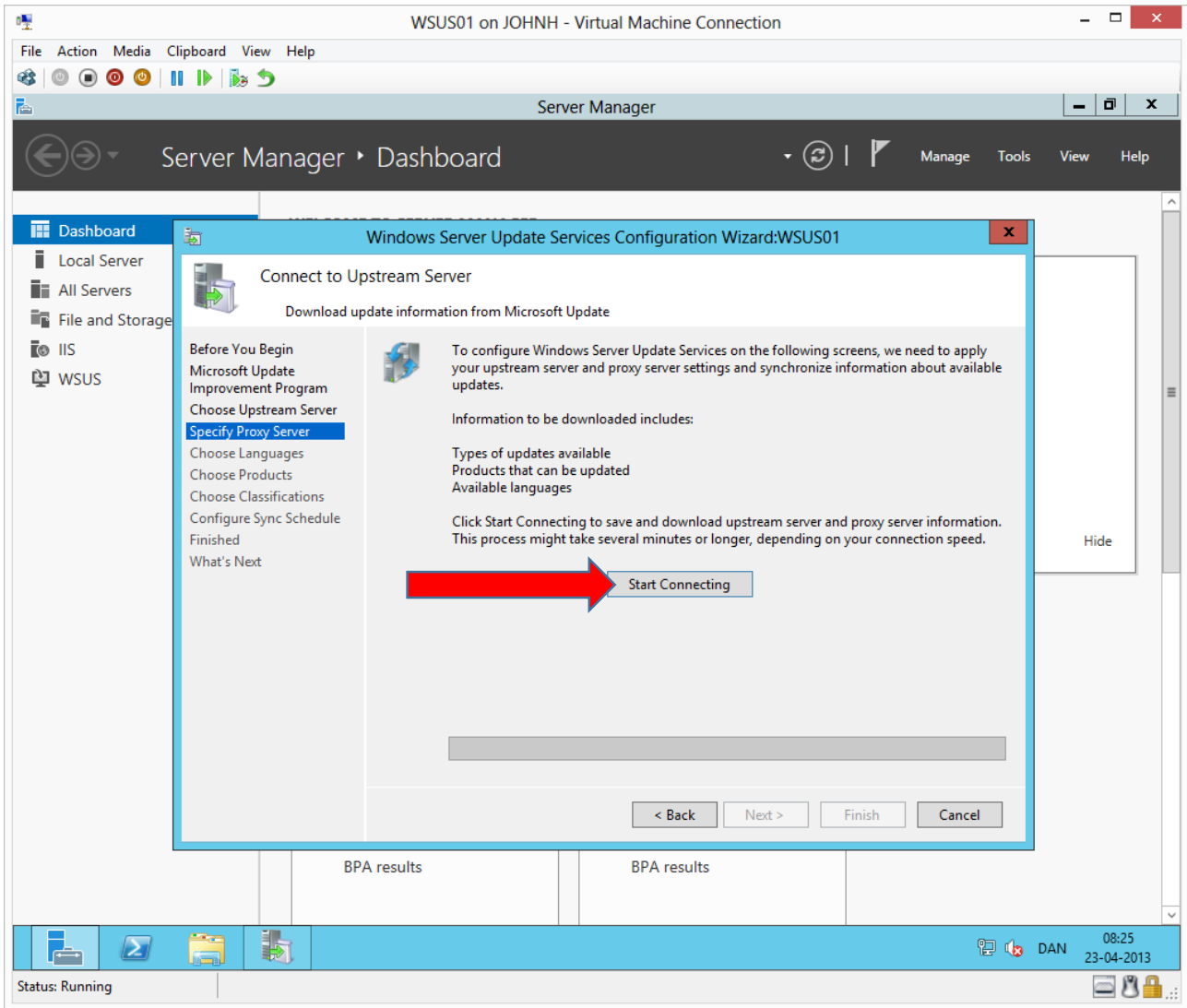
Use SSL when synchronizing update information
If using SSL, ensure that the upstream WSUS server is also configured to support SSL.

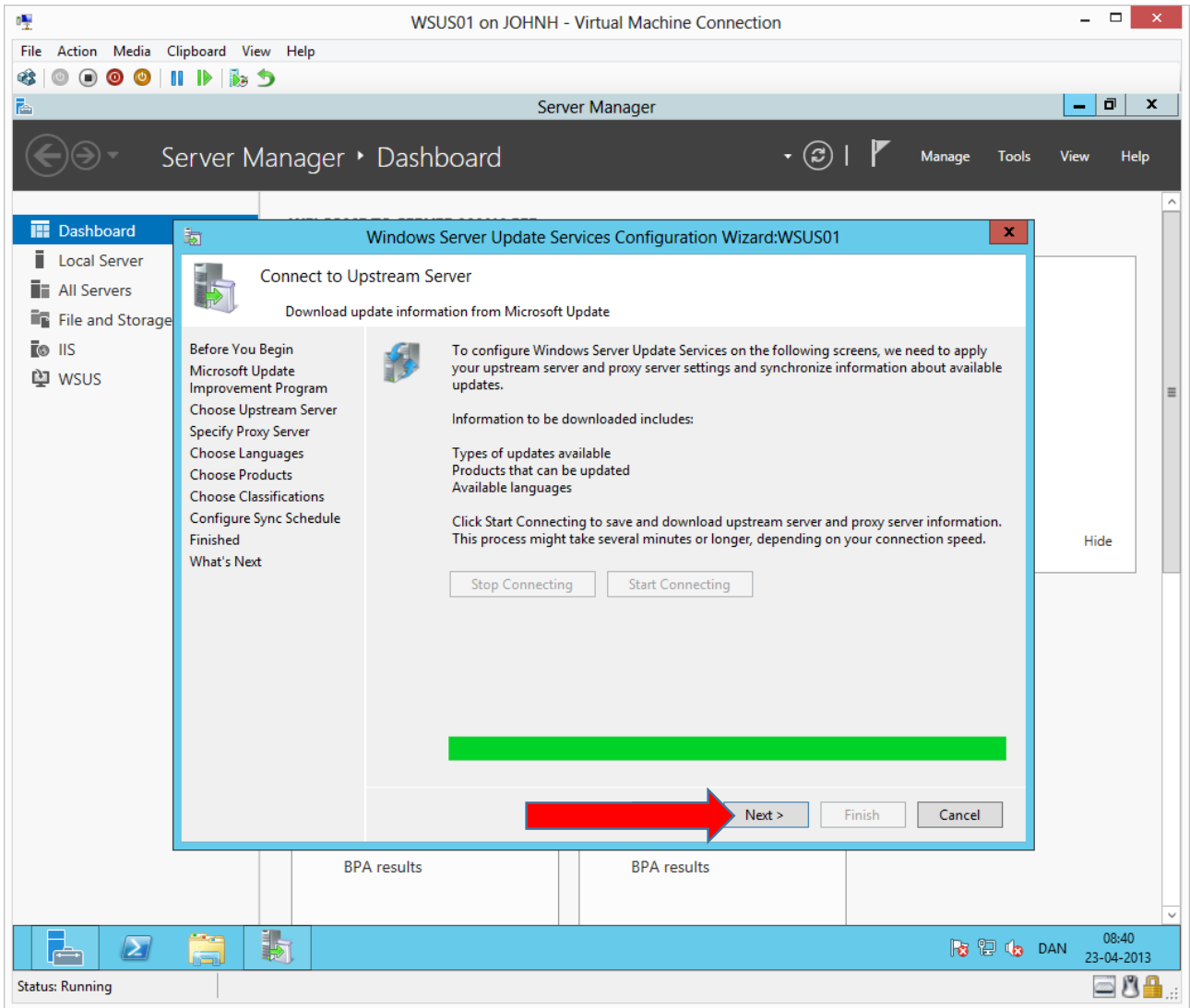
This is a replica of the upstream server
A replica server mirrors update approvals, settings, computers and groups from its parent. Updates can be approved only on the upstream server.

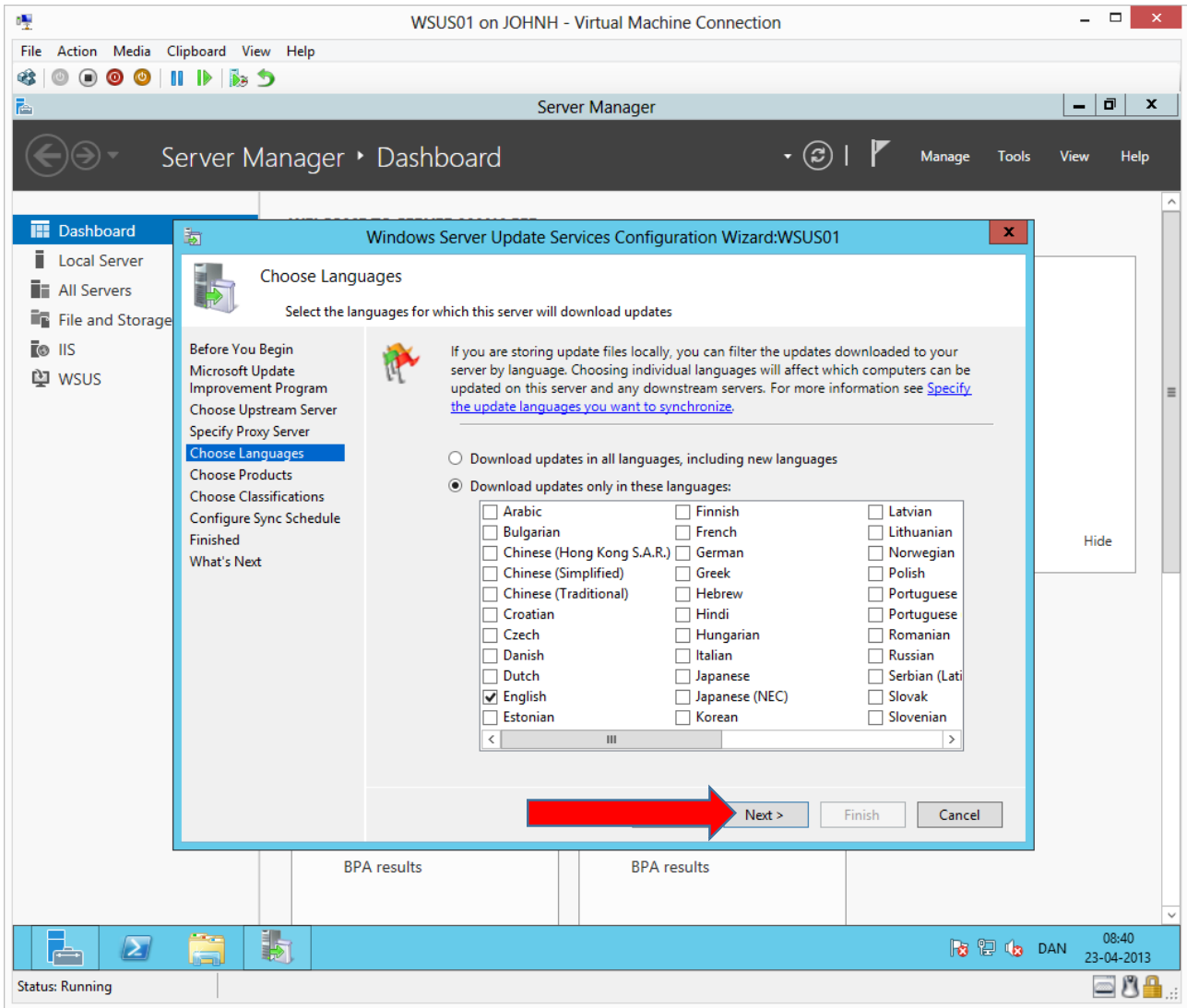
At the bottom of the wizard, there are three buttons: "Next >" (highlighted with a red arrow), "Finish", and "Cancel".

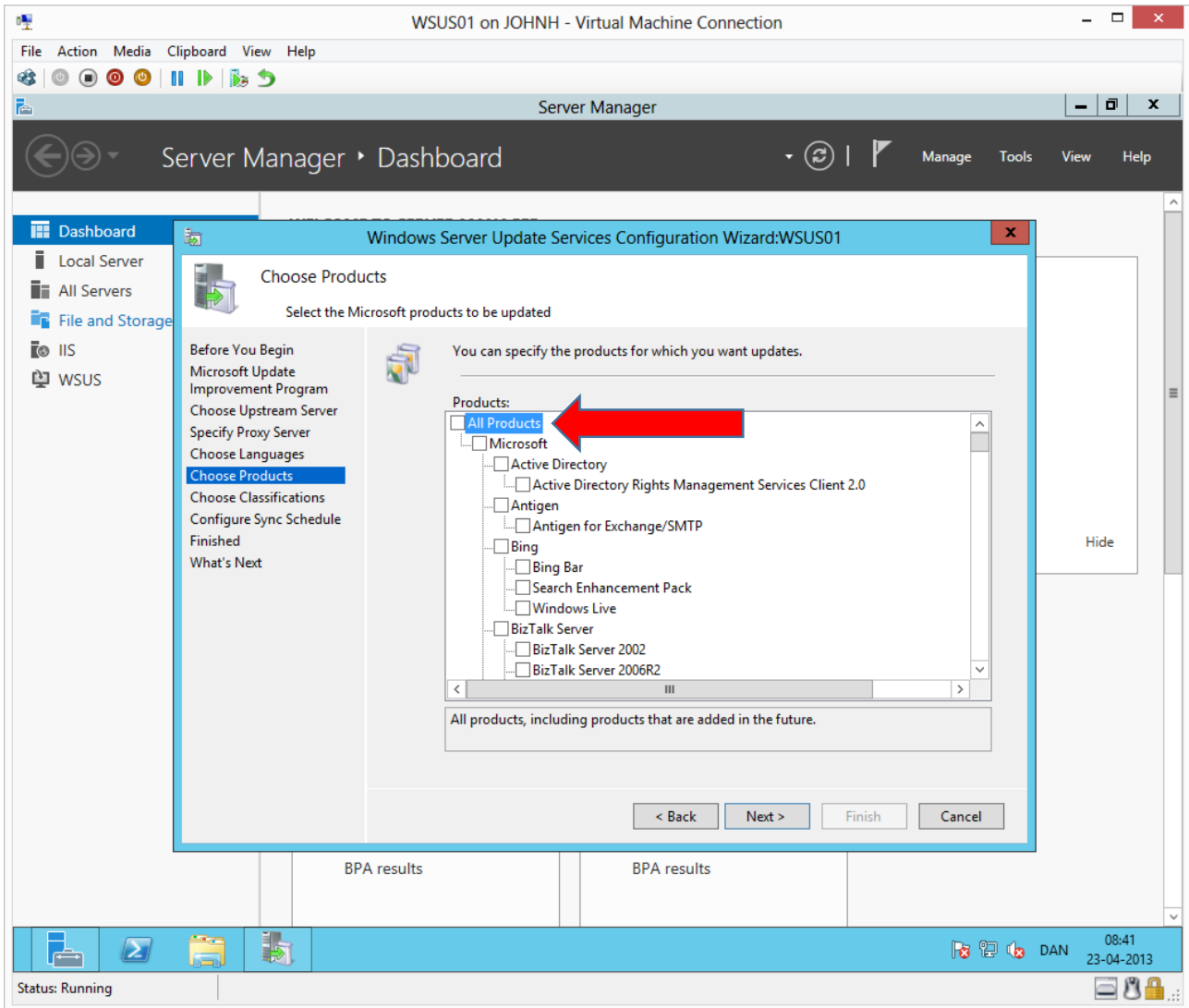
The background shows the Server Manager Dashboard with a "Local Server" icon selected in the left pane. The taskbar at the bottom shows the system tray with the time "08:25" and date "23-04-2013". The status bar at the bottom left indicates "Status: Running".



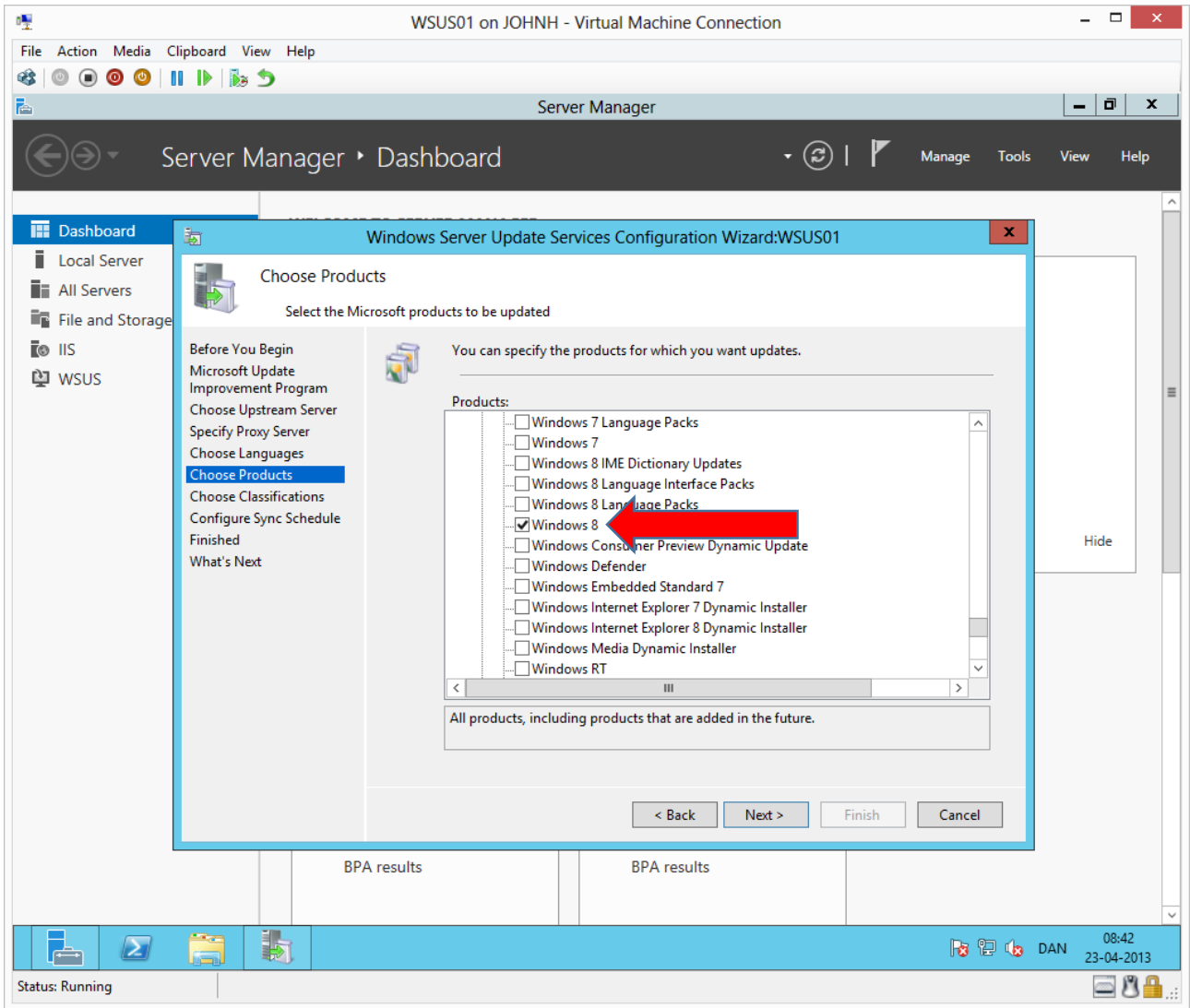


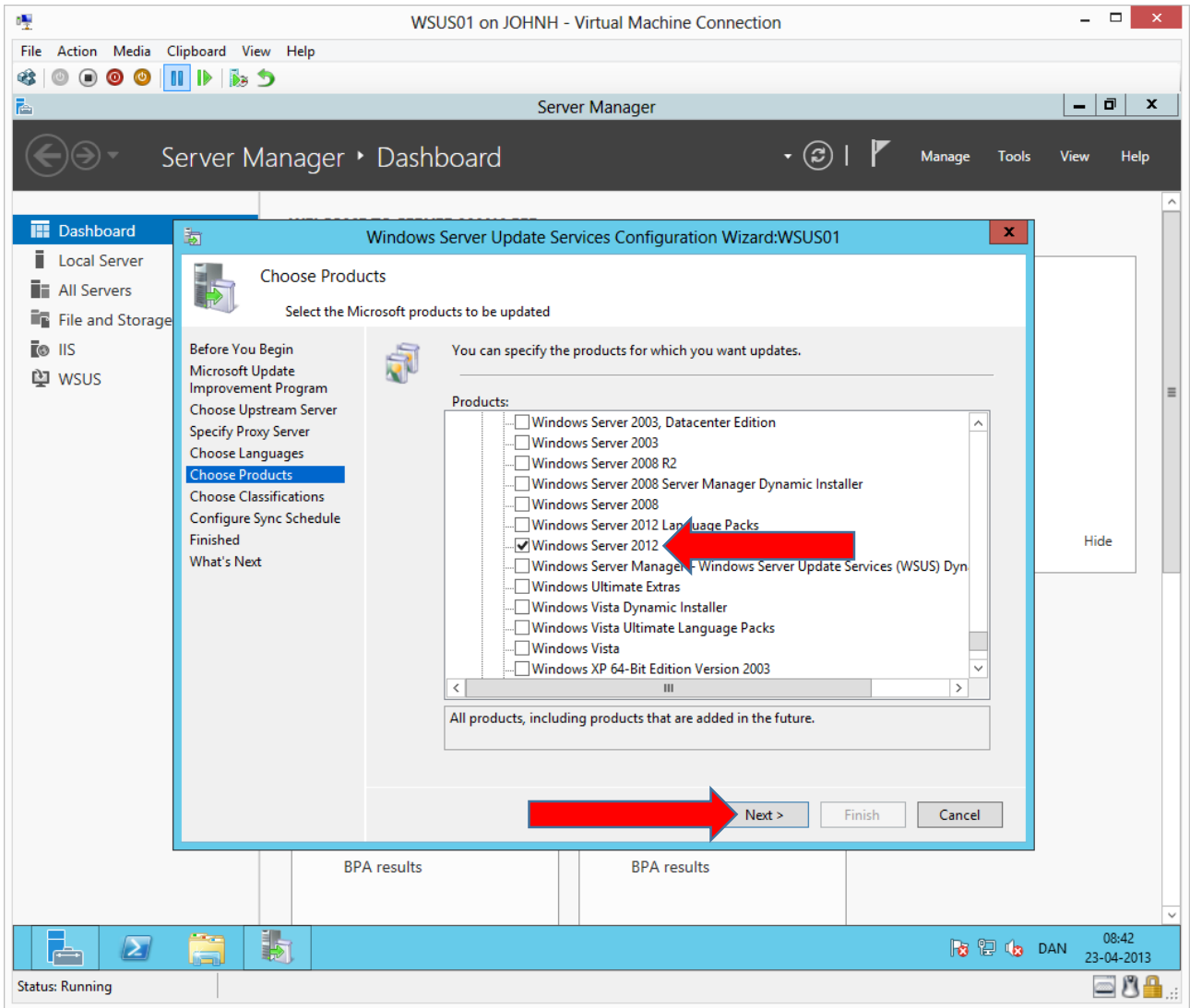


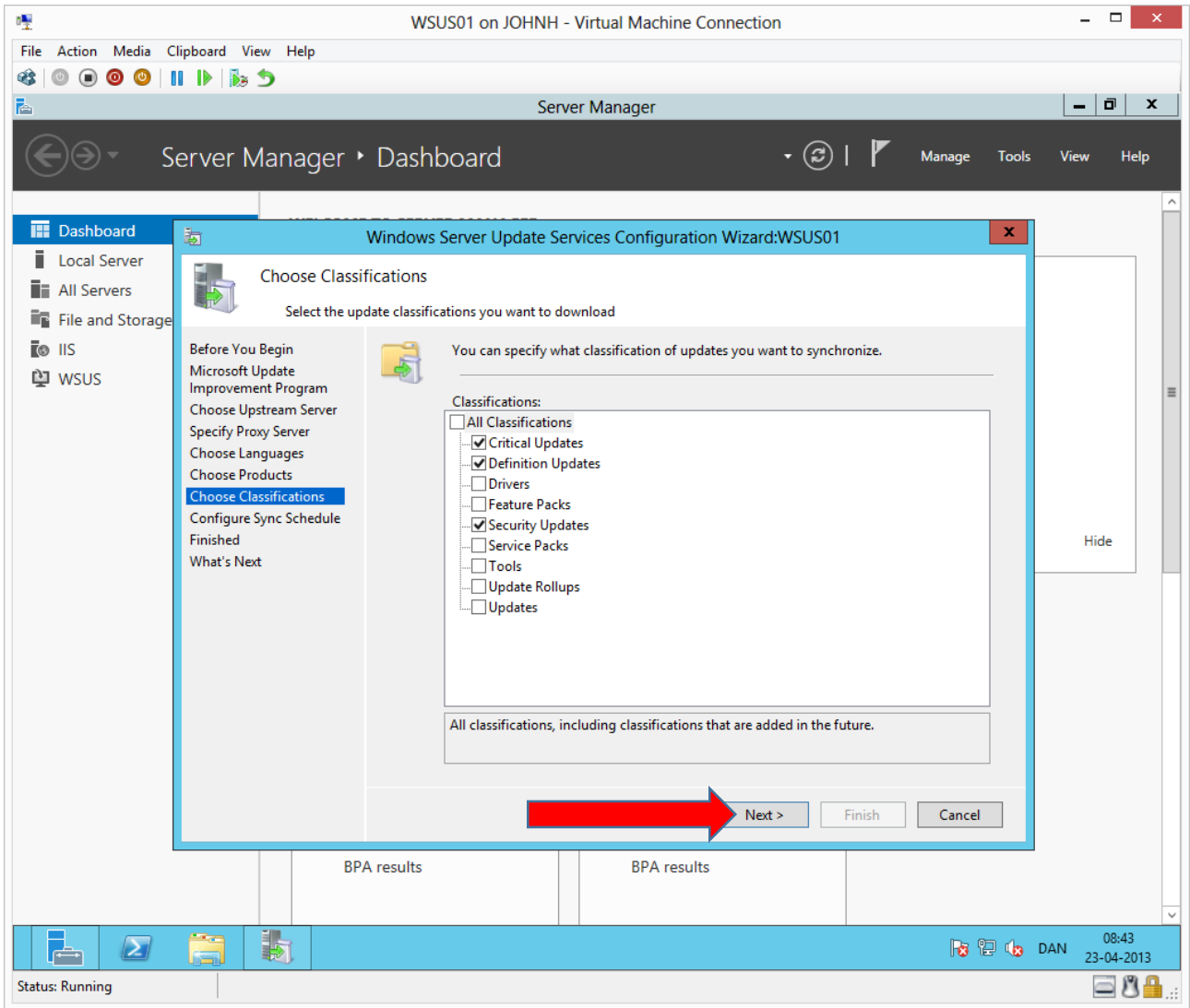


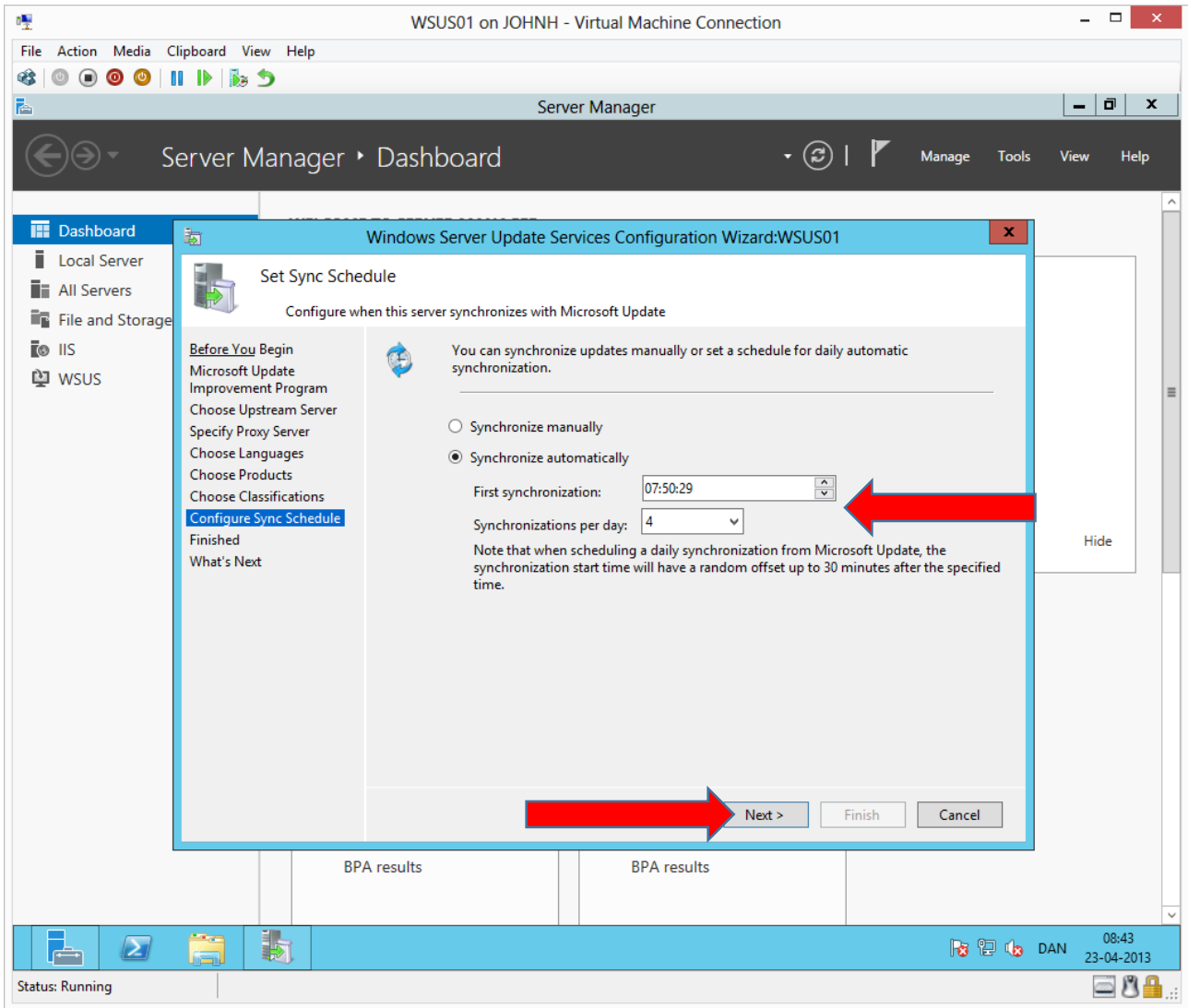


First put a check mark in **All Products** then remove it again. This way we have removed all below check marks including Microsoft Office updates, that we do not need in this environment.

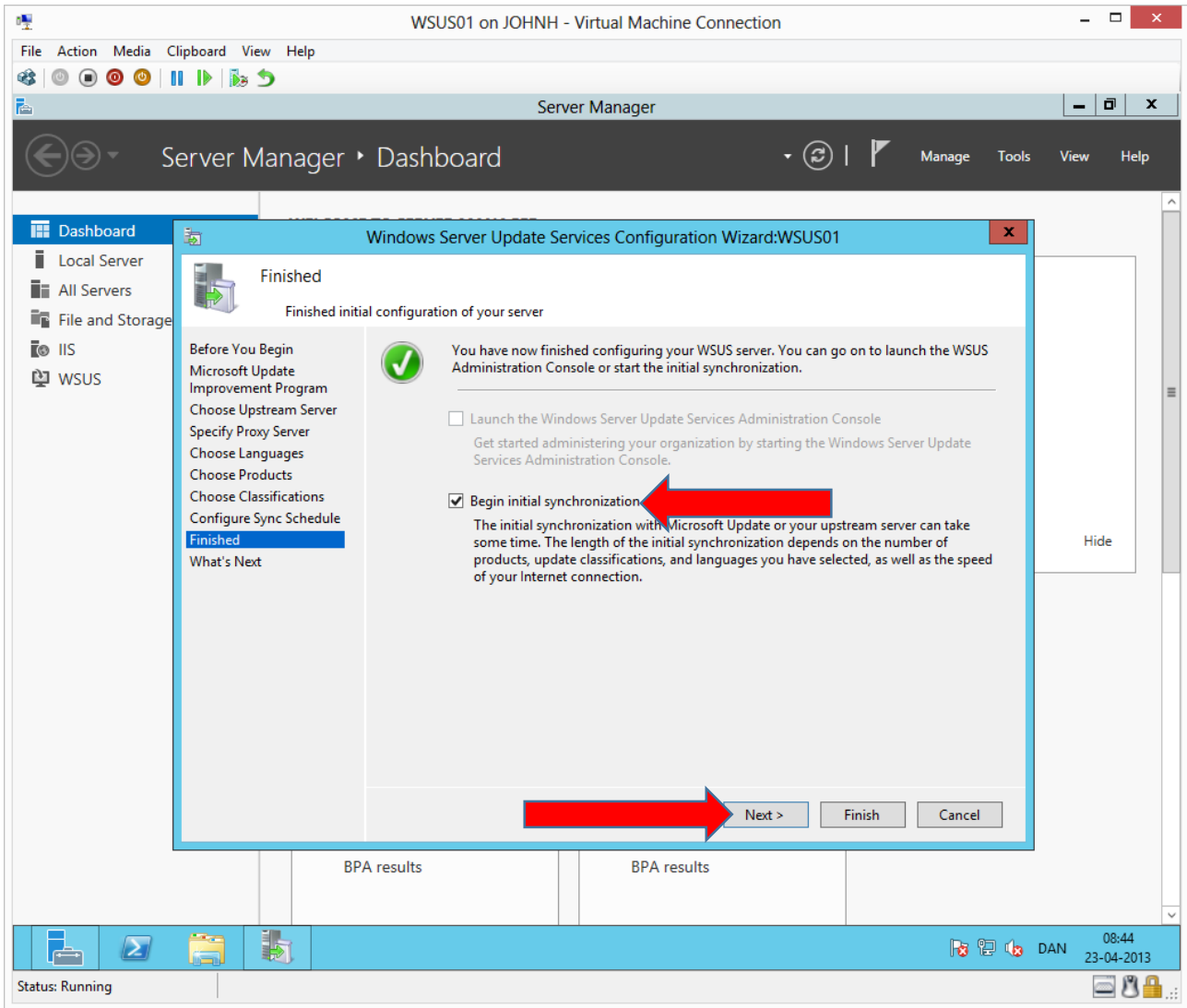


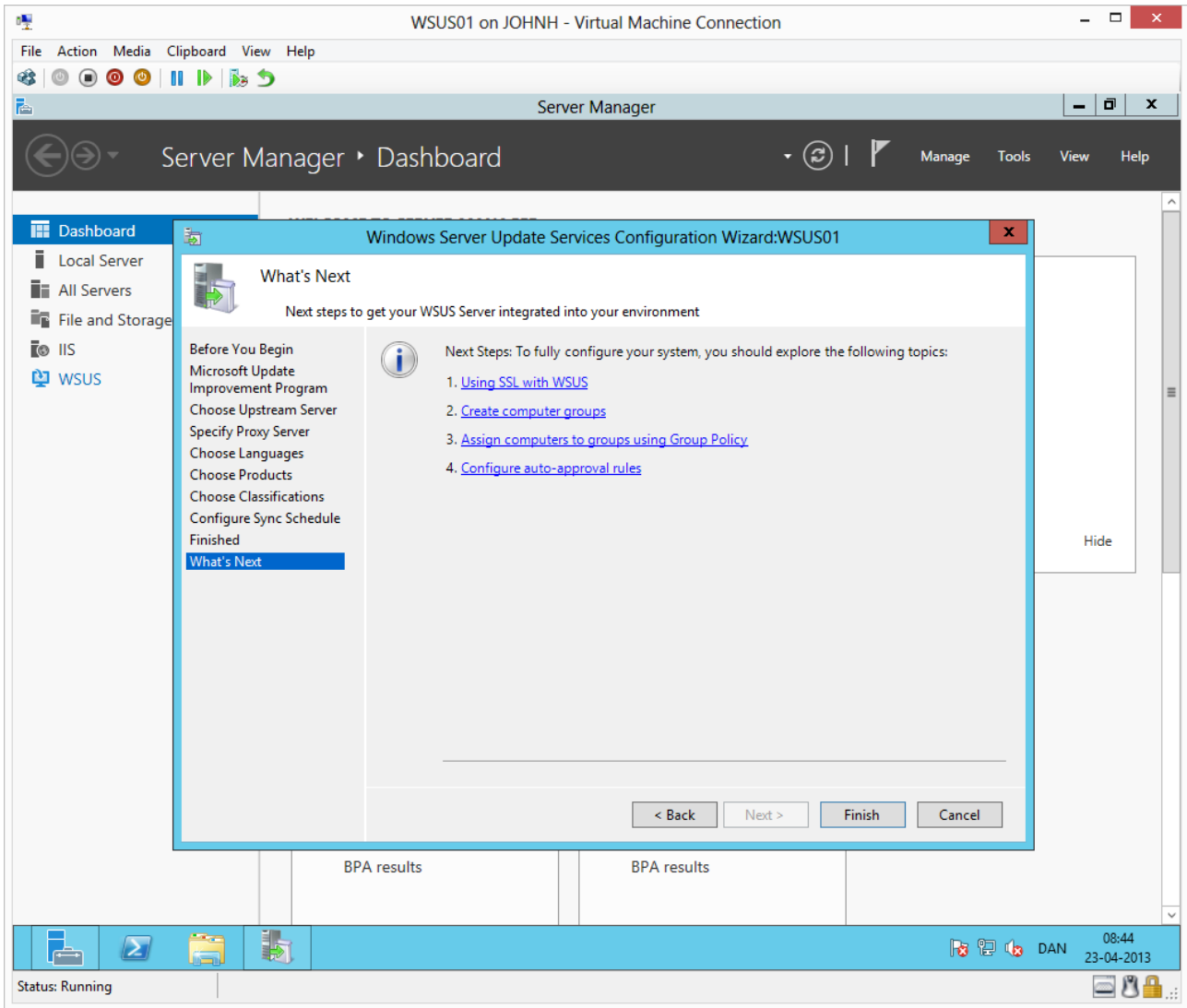




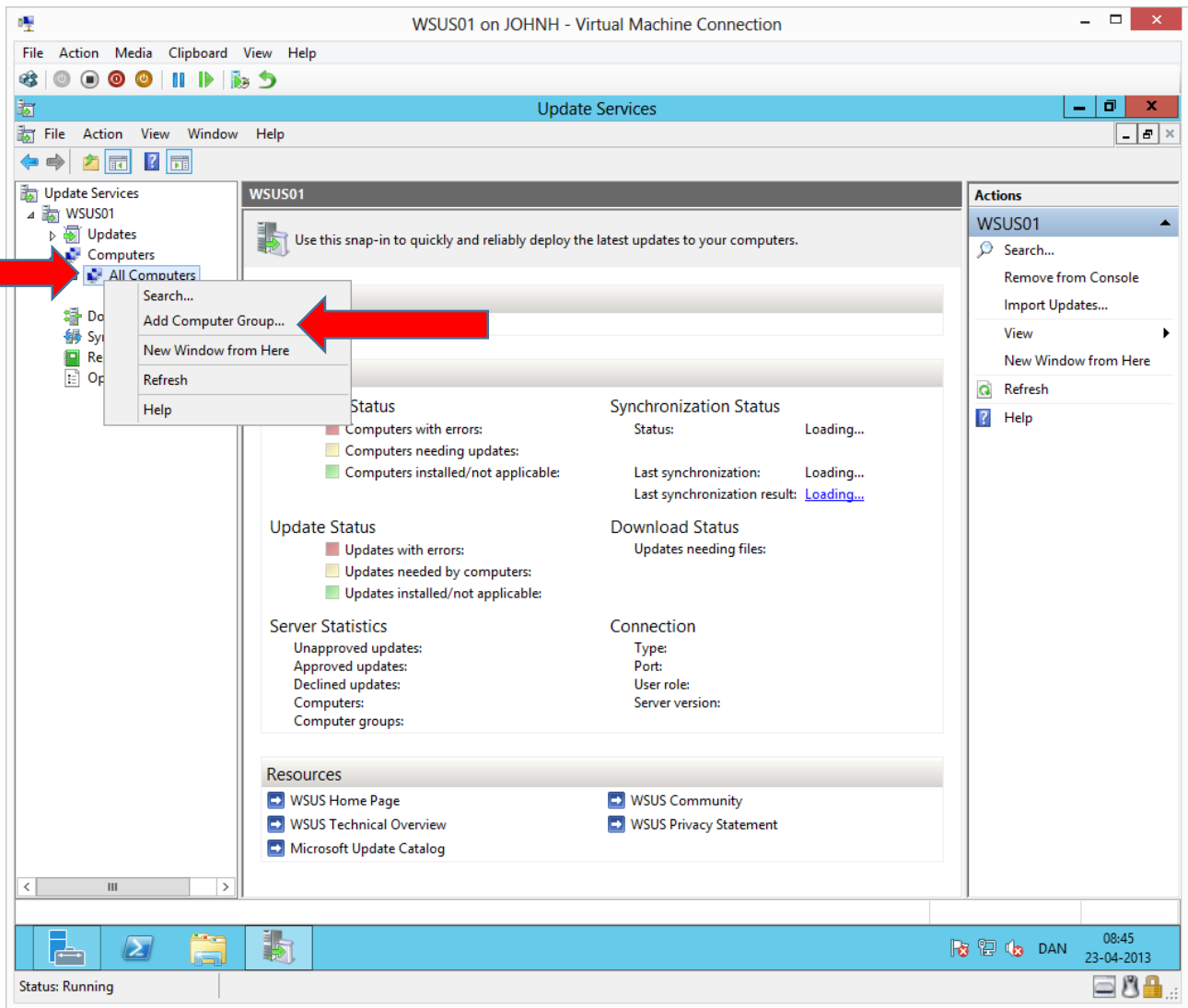


How often must WSUS01 check the public Microsoft Update servers for new updates.





Help page for WSUS configuration (If you did not have this guide).



We will create WSUS computer groups by right clicking **All Computers**→**Add Computer Group**...

The screenshot shows the WSUS01 console interface. A dialog box titled "Add Computer Group" is open, prompting the user to "Specify a name for the new computer group." The "Name" field contains the text "Ledelse". A red arrow points from the text "Ledelse" to the "Add" button. Below the dialog box, the console displays the following information:

To Do

- 2 security updates are waiting to be [approved](#).
- 19 critical updates are waiting to be [approved](#).
- Your WSUS server currently shows that no computers are registered to receive updates. For information, see [this help topic](#).

Last synchronization result: [Succeeded](#)

Update Status

Updates with errors:	0
Updates needed by computers:	0
Updates installed/not applicable:	0

Download Status

Updates needing files:	0
------------------------	---

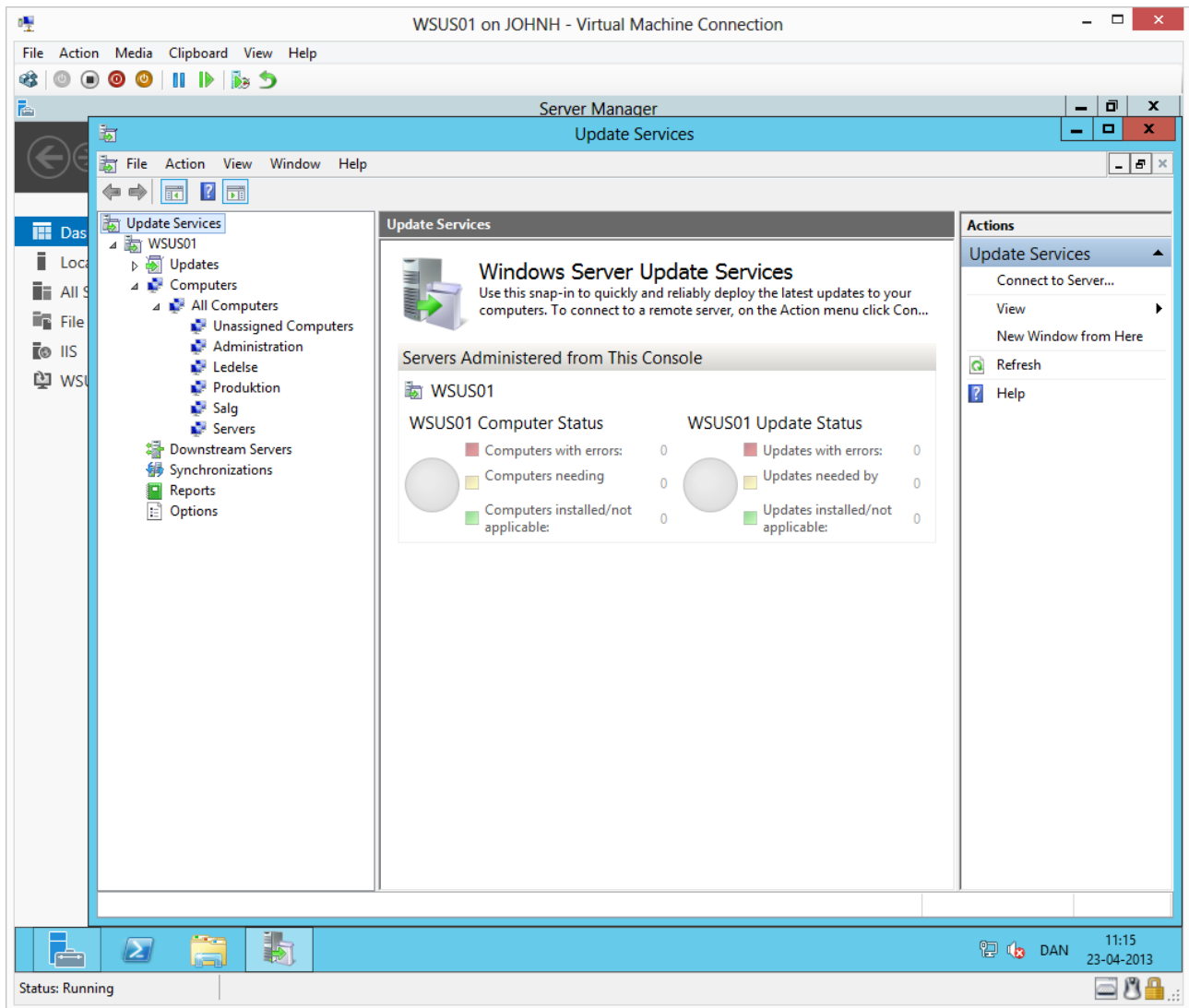
Server Statistics

Unapproved updates:	20
Approved updates:	0
Declined updates:	0
Computers:	0
Computer groups:	0

Connection

Type:	Local/SSL
Port:	8530
User role:	Administrator
Server version:	6.2.9200.16384

The console also shows a "To Do" section with 2 security updates and 19 critical updates waiting to be approved. The "Update Status" section shows 0 updates with errors, 0 updates needed by computers, and 0 updates installed/not applicable. The "Download Status" section shows 0 updates needing files. The "Server Statistics" section shows 20 unapproved updates, 0 approved updates, 0 declined updates, 0 computers, and 0 computer groups. The "Connection" section shows the server is connected via Local/SSL on port 8530, with the user role Administrator and server version 6.2.9200.16384.

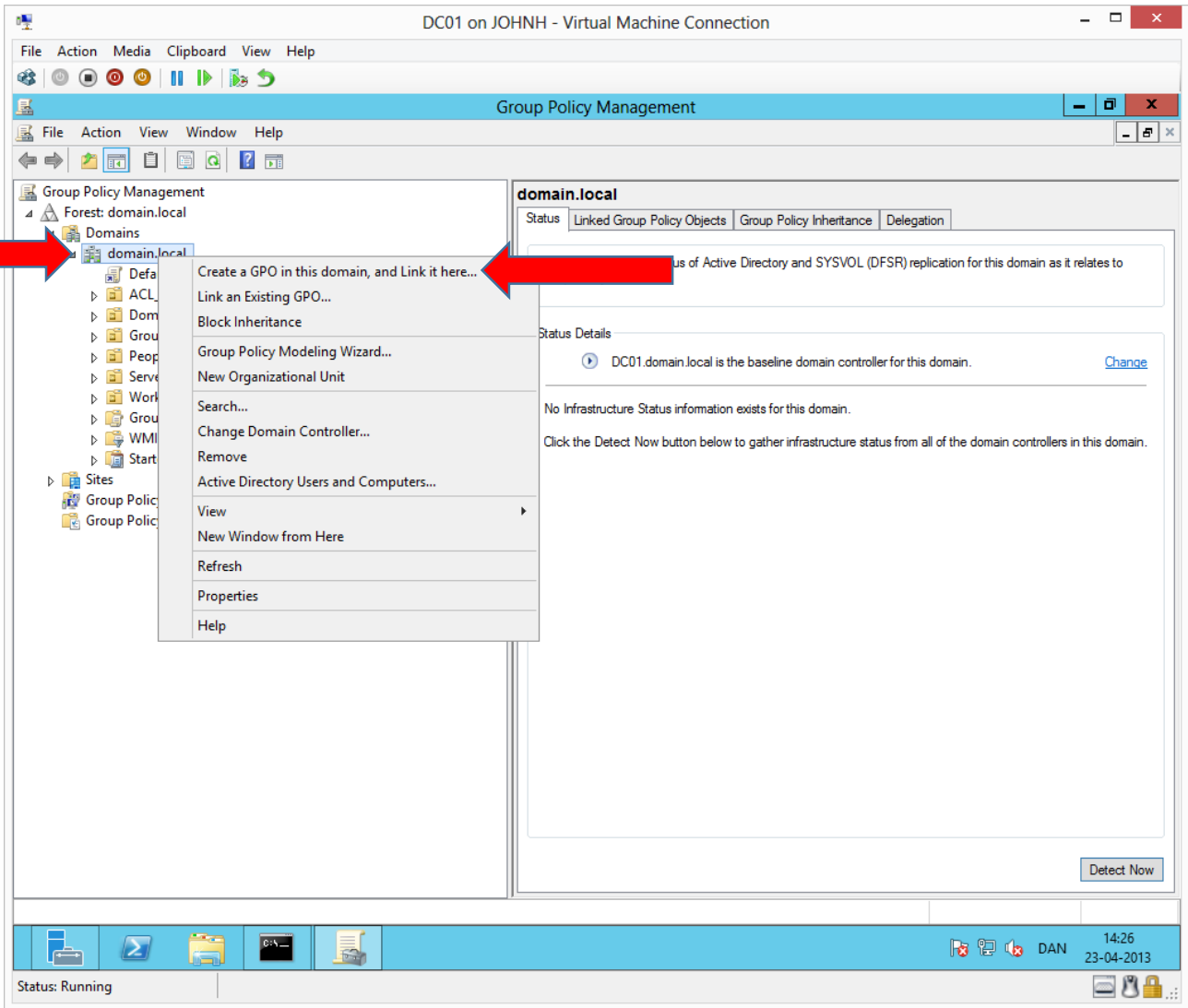


Create the remaining computer groups above.

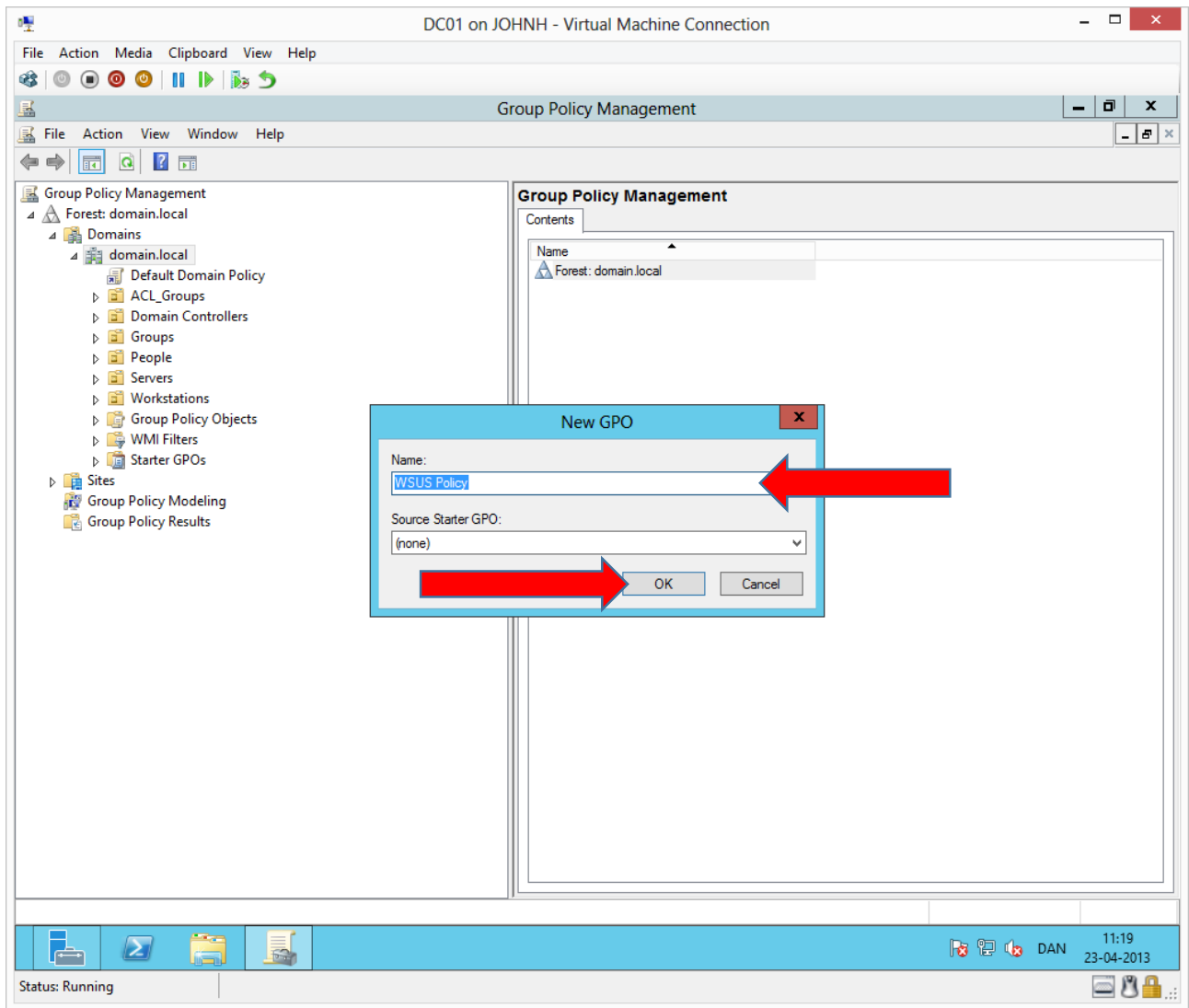
Configuration with Group Policy Object (GPO)

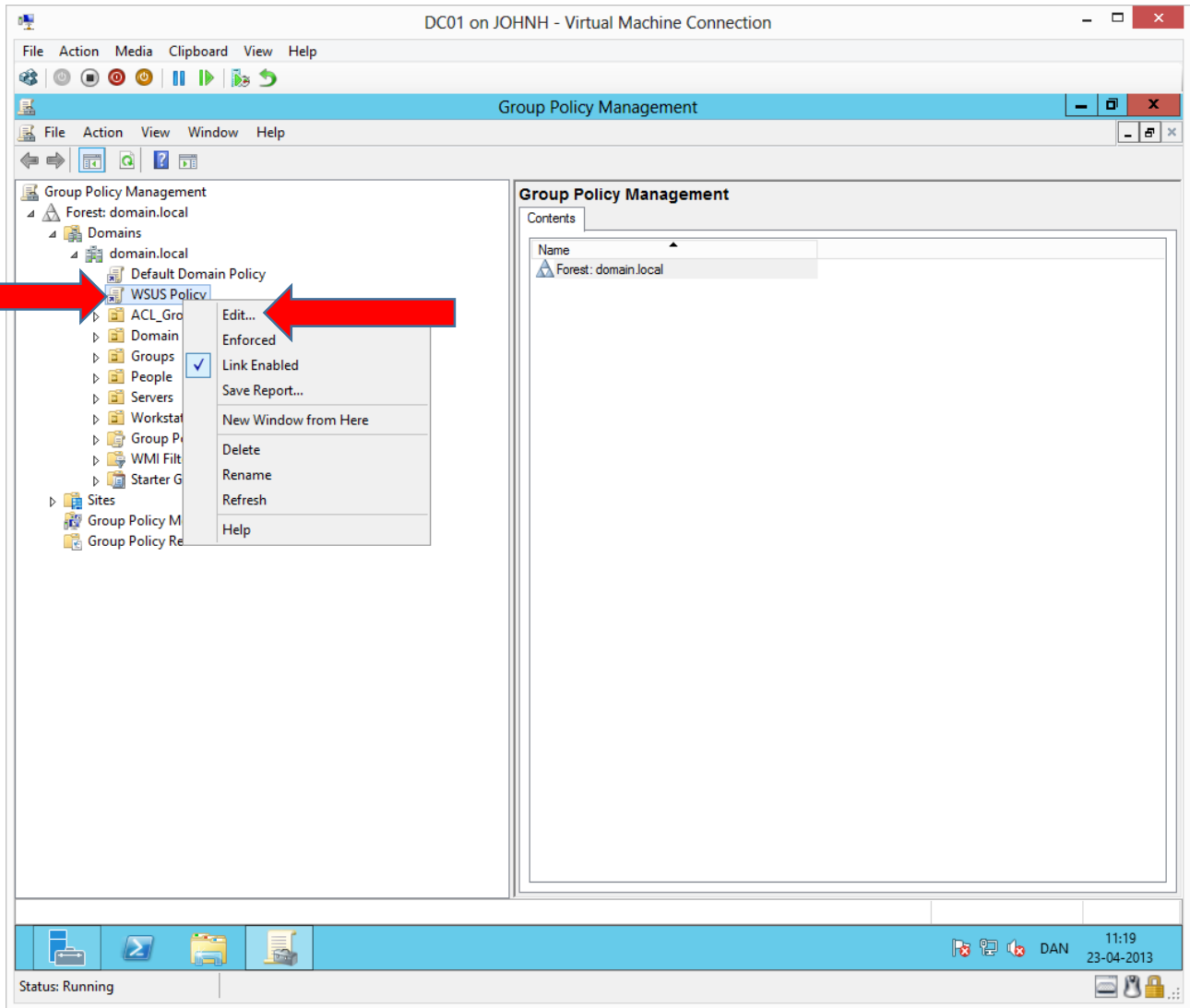
In this part we create a GPO, that configures our workstations and servers to use our own WSUS server for Microsoft Updates.

The screenshot shows the Windows Server Manager interface. At the top, a window title bar reads "DC01 on JOHNNH - Virtual Machine Connection". Below it is the "Server Manager" application window. The main area displays a "WELCOME TO SERVER MANAGER" dashboard with a "QUICK START" section containing four numbered steps: 1. Configure this local server, 2. Add roles and features, 3. Add other servers to manage, and 4. Create a server group. Below this is the "ROLES AND SERVER GROUPS" section, which shows two columns of roles: "AD DS" (with 1 server) and "DHCP". Each role has sub-items for Manageability, Events, Services, Performance, and BPA results. On the right side, a list of server roles and features is displayed, with a red arrow pointing to "Group Policy Management". The list includes: Active Directory Administrative Center, Active Directory Domains and Trusts, Active Directory Module for Windows PowerShell, Active Directory Sites and Services, Active Directory Users and Computers, ADSI Edit, Component Services, Computer Management, Defragment and Optimize Drives, DHCP, DNS, Event Viewer, Group Policy Management, iSCSI Initiator, Local Security Policy, ODBC Data Sources (32-bit), ODBC Data Sources (64-bit), Performance Monitor, Resource Monitor, Security Configuration Wizard, Services, System Configuration, System Information, Task Scheduler, Windows Firewall with Advanced Security, Windows Memory Diagnostic, Windows PowerShell, Windows PowerShell (x86), and Windows PowerShell ISE. The bottom of the screen shows the Windows taskbar with the system tray displaying the time as 11:17 on 23-04-2013 and the user name DAN. The status bar at the bottom left indicates "Status: Running".

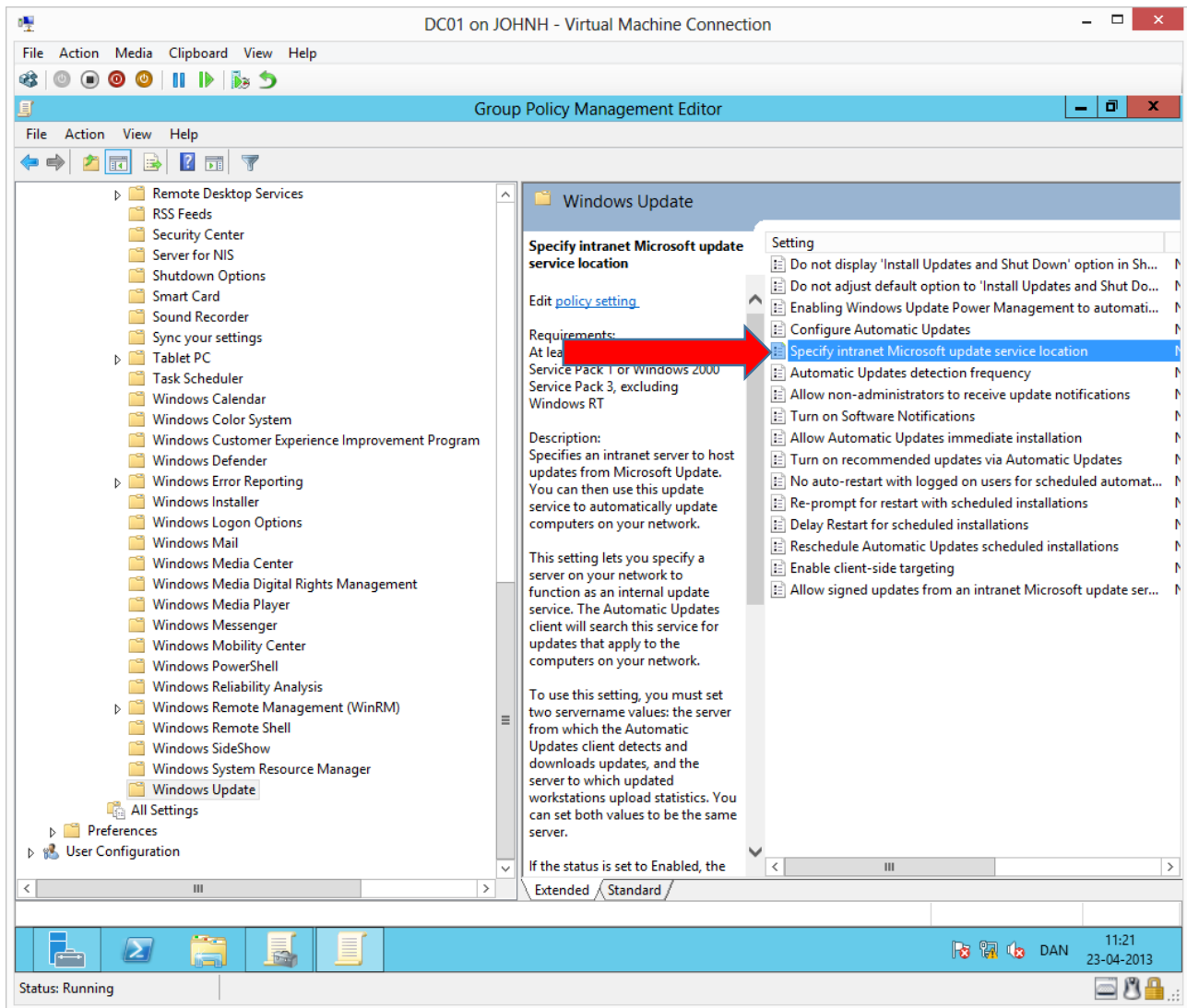


Create a new GPO by right clicking the domain name → **Create a GPO in this...**

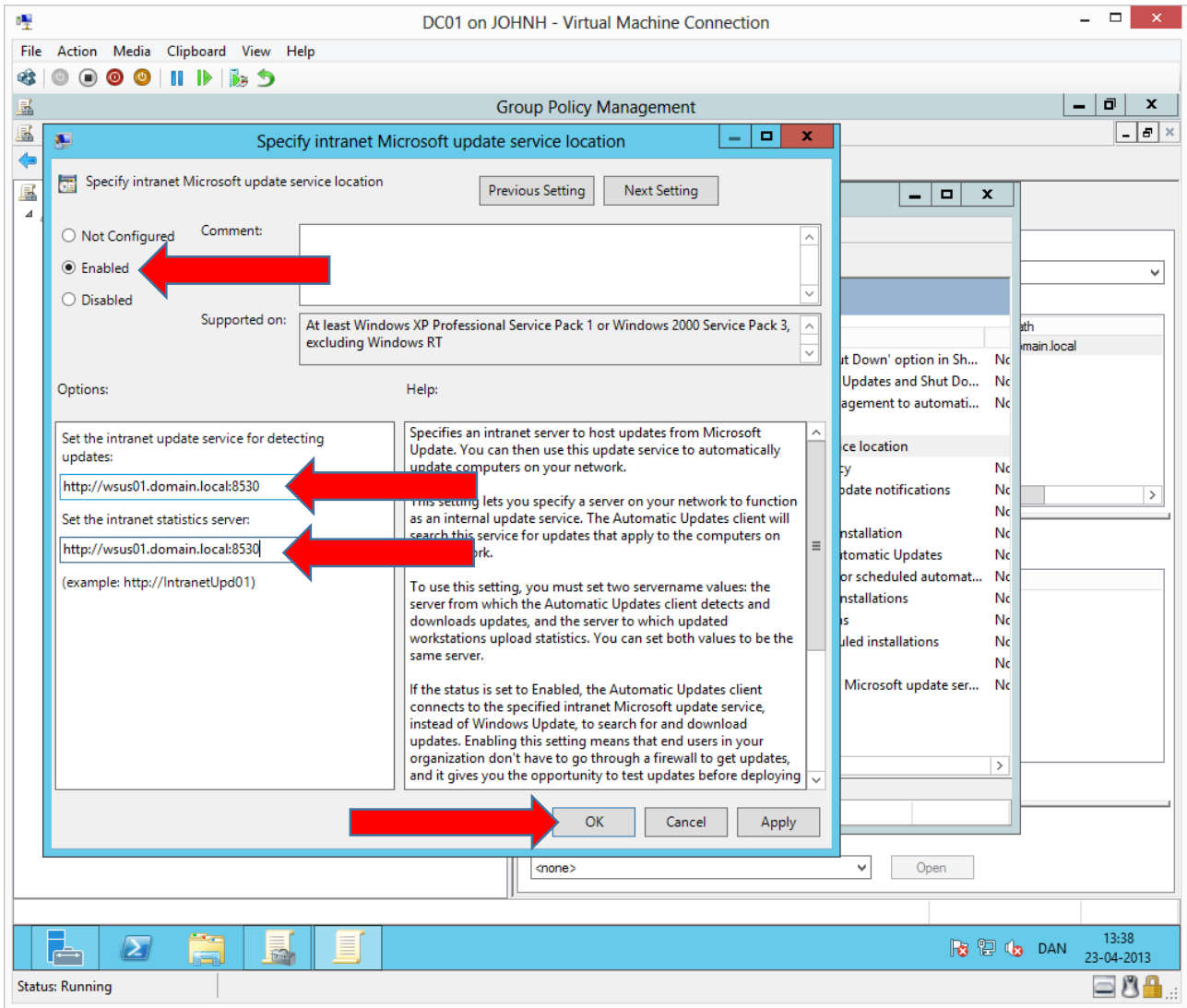




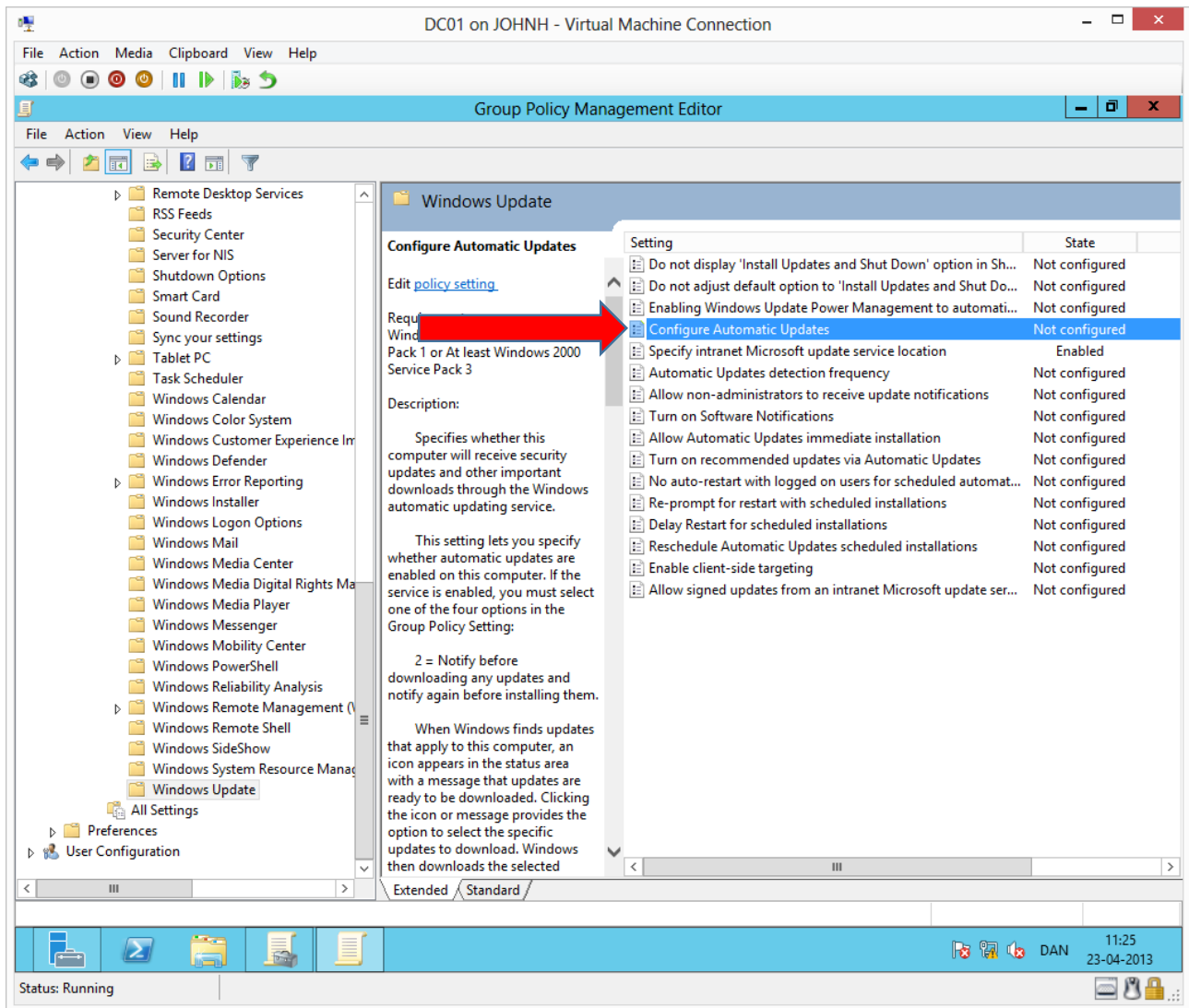
We change settings in the new policy by right clicking it → **Edit**



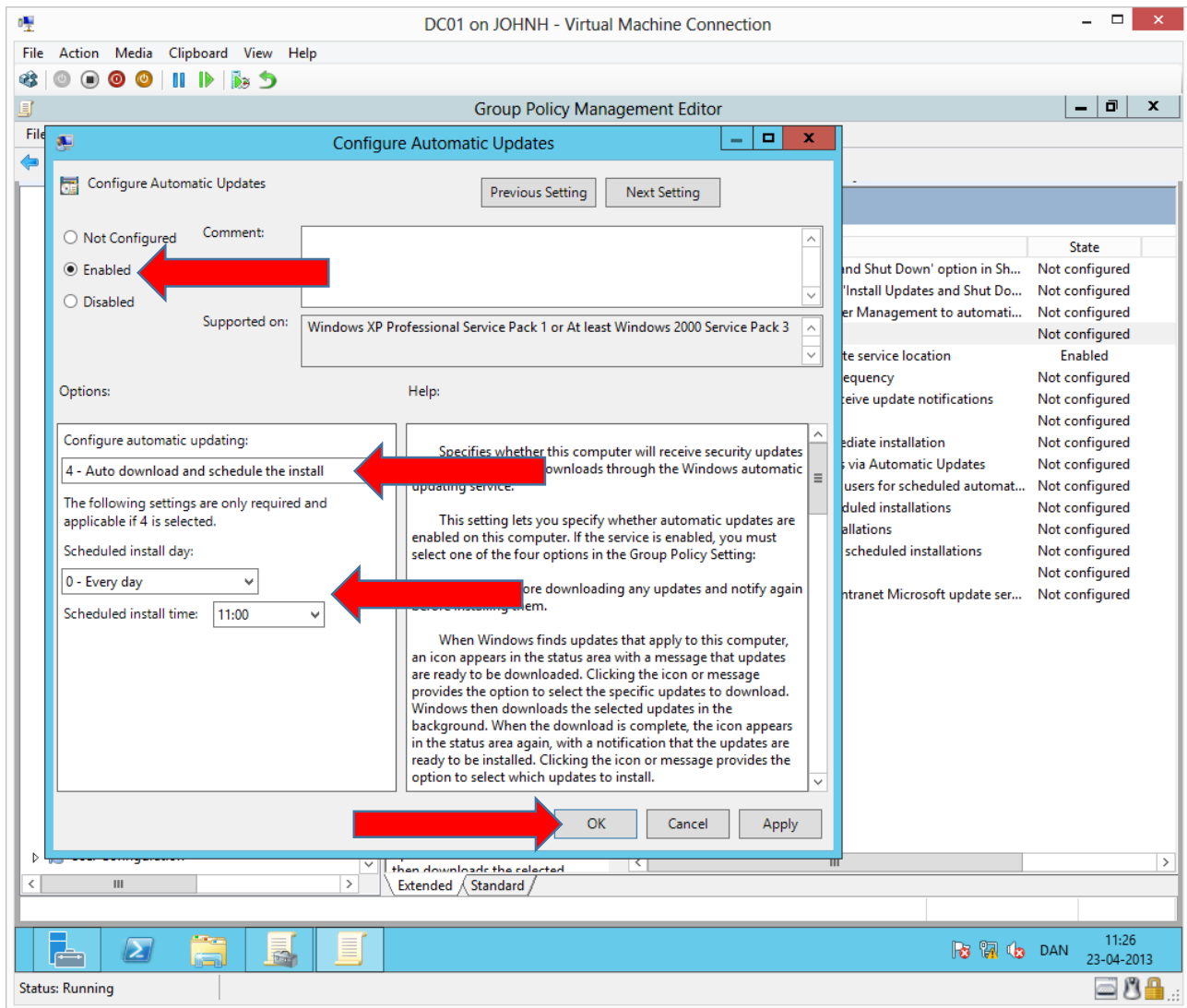
Navigate to Computer Configuration → Administrative Templates → Windows Components → Windows Update and double click **Specify intranet Microsoft Update service location**



Enable the setting and complete path + port number pointing at WSUS01.



Double click

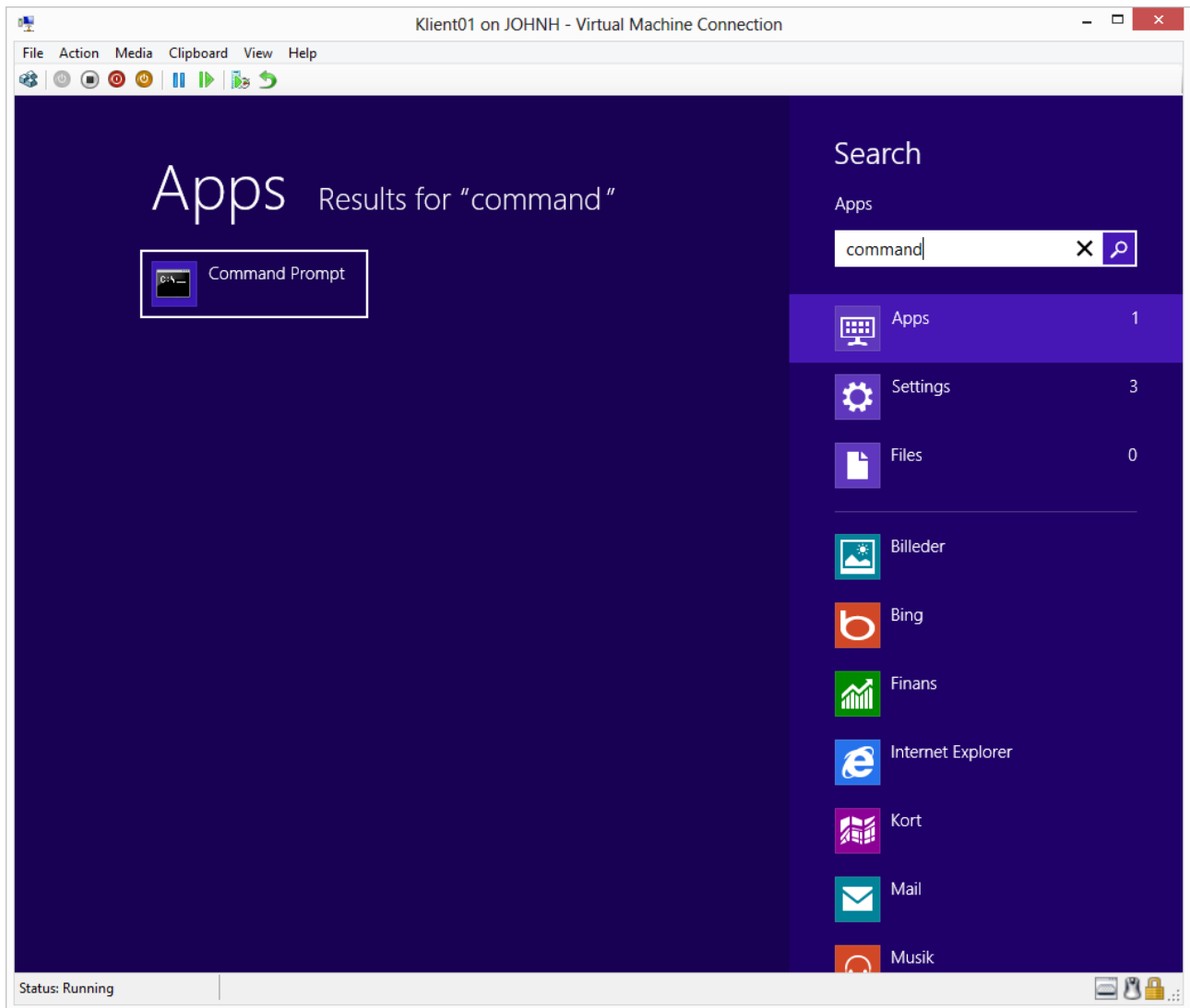


Complete and click **OK** then close all open windows on DC01.

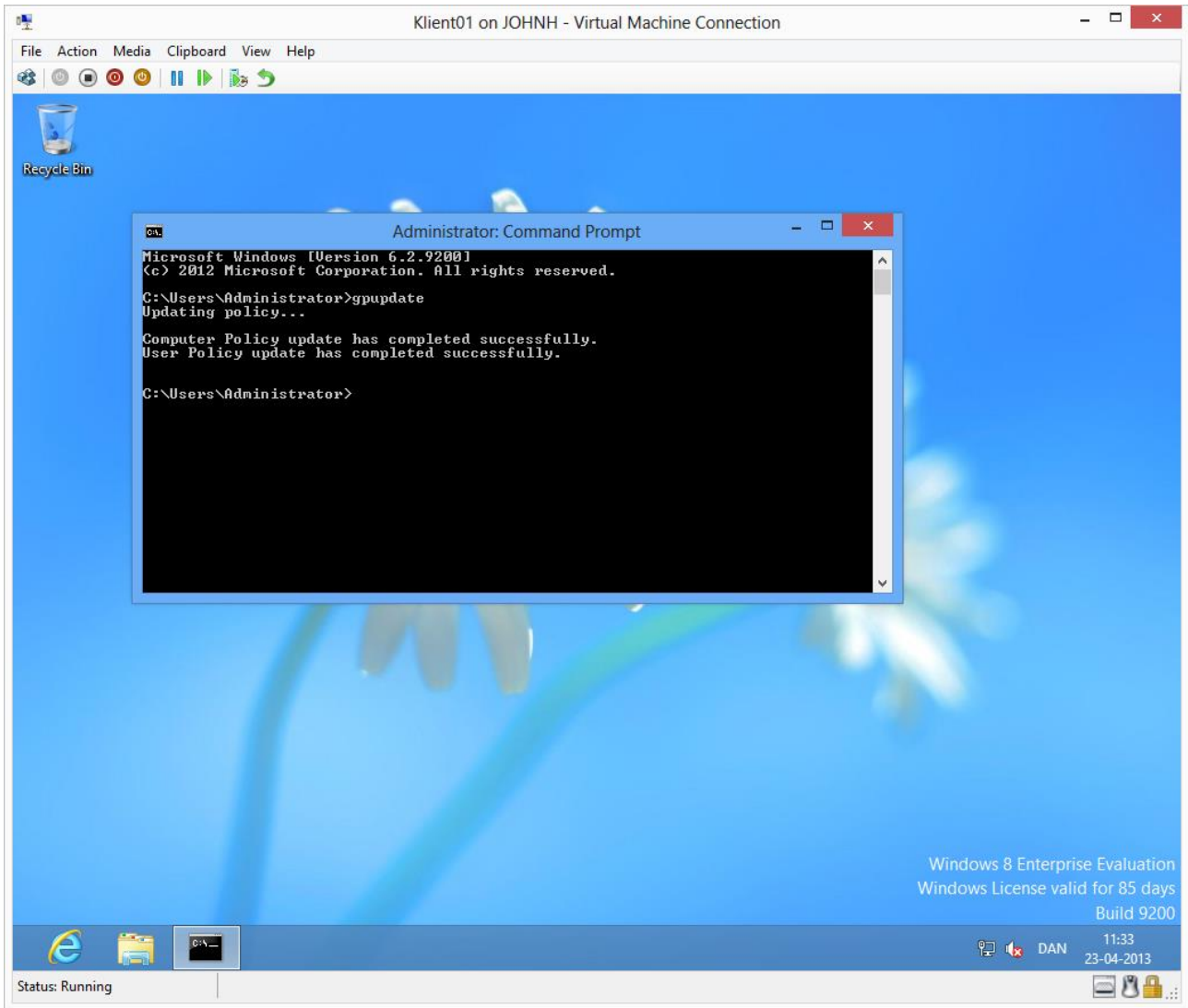
Notice. We just created a GPO on the highest level in our domain. Settings in this GPO will apply to **all** users, workstations, member servers and domain controllers in our domain. We have just configured member servers and domain controllers to install Microsoft Updates, which per default automatically will restart the machine, as needed. In a production environment, you should test updates first and should be very careful about which servers you let update and restart automatically. We do this in our test environment to have some machines to manage in WSUS. Our test users do not care about service downtime.

Verify WSUS configuration

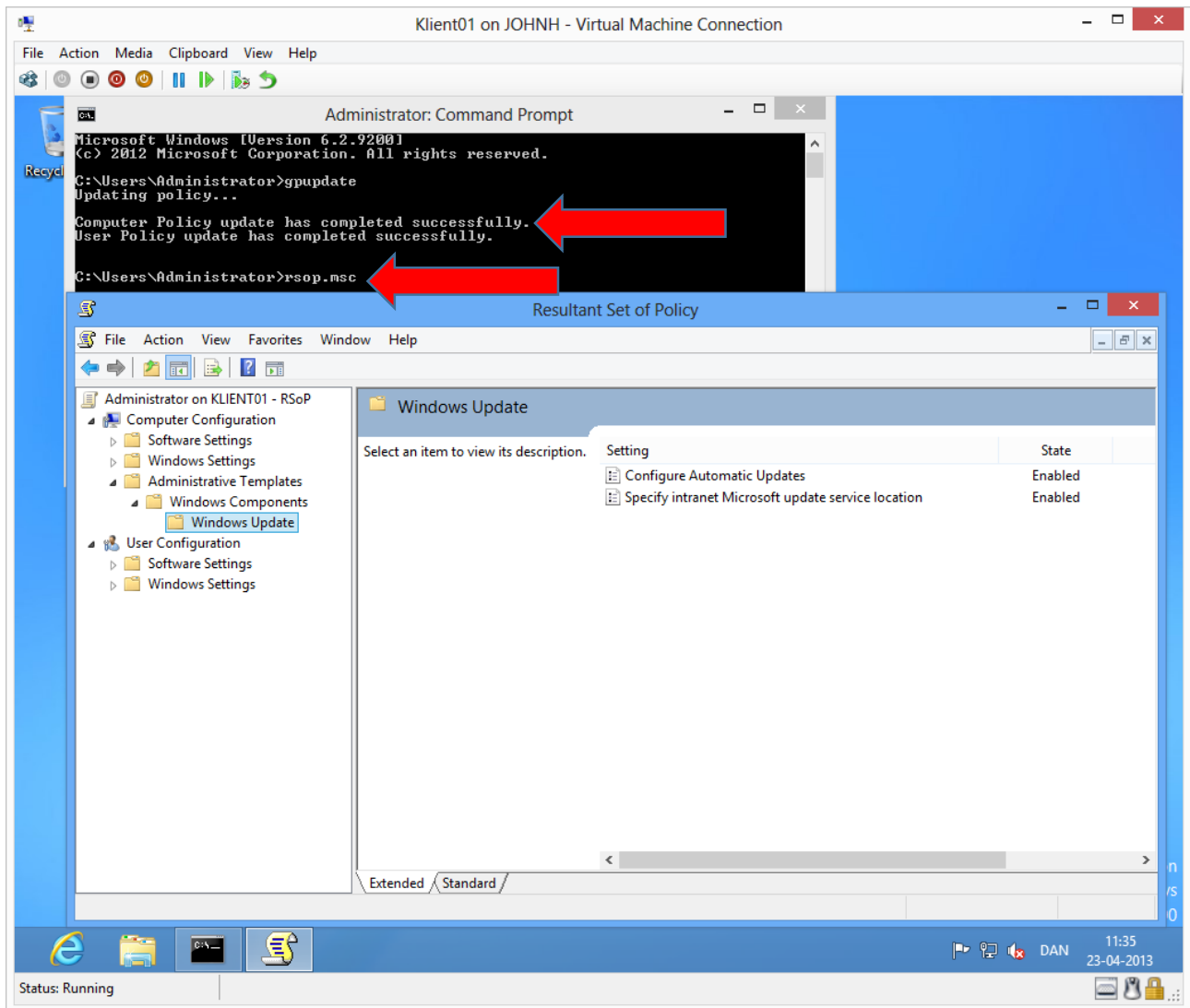
We will now verify if Klient01 is managed by our WSUS settings.



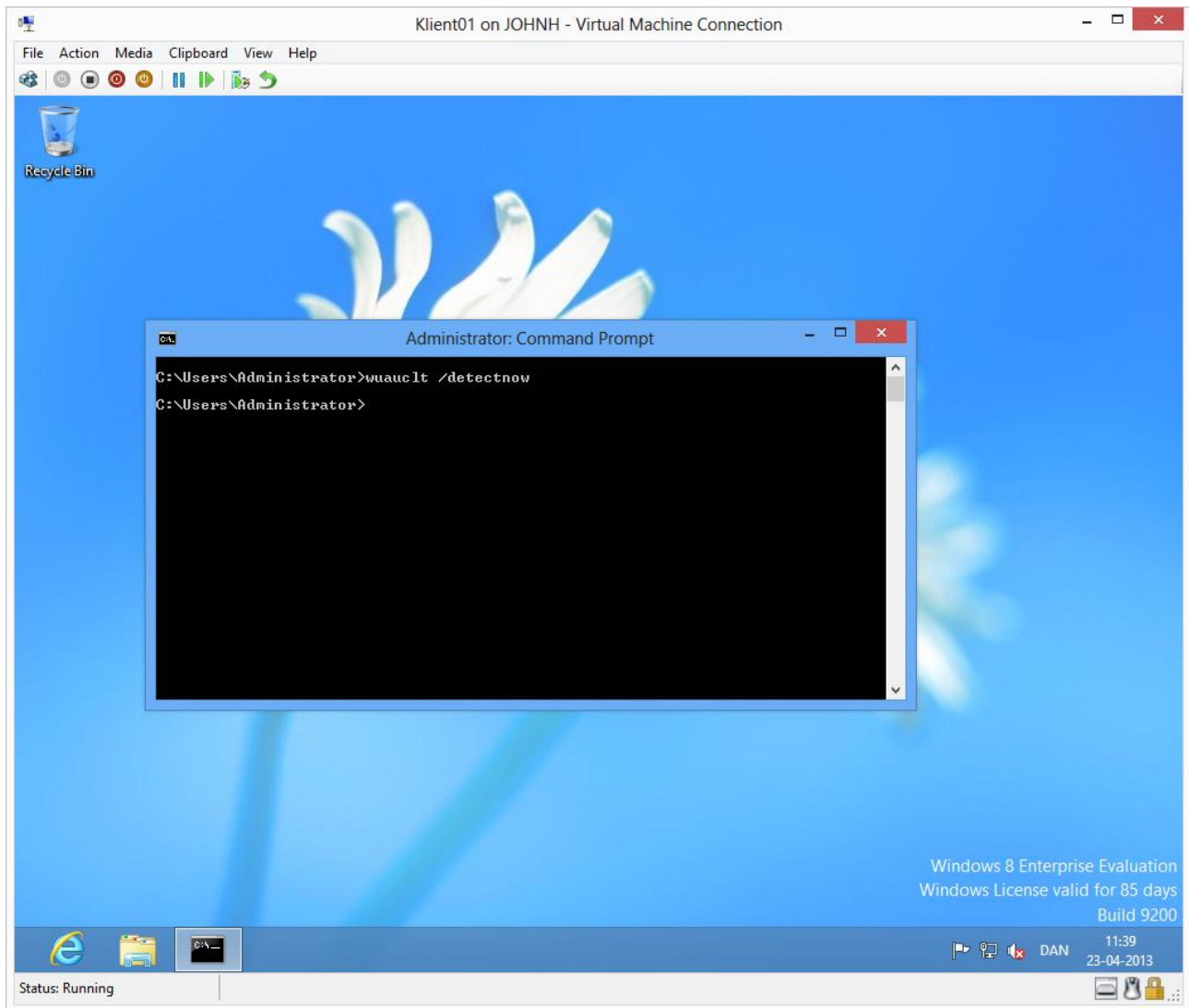
Press the **Windows key** and type **command** or **cmd**



Gpupdate forces Klient01 to look for new GPO'er and/or settings.



After the Computer Policy update has completed, we can check if the settings have been applied on Klient01. This can be done by running **rsop.msc**, which looks in the local configuration on the machine. Here we can see that the two WSUS settings are applied.



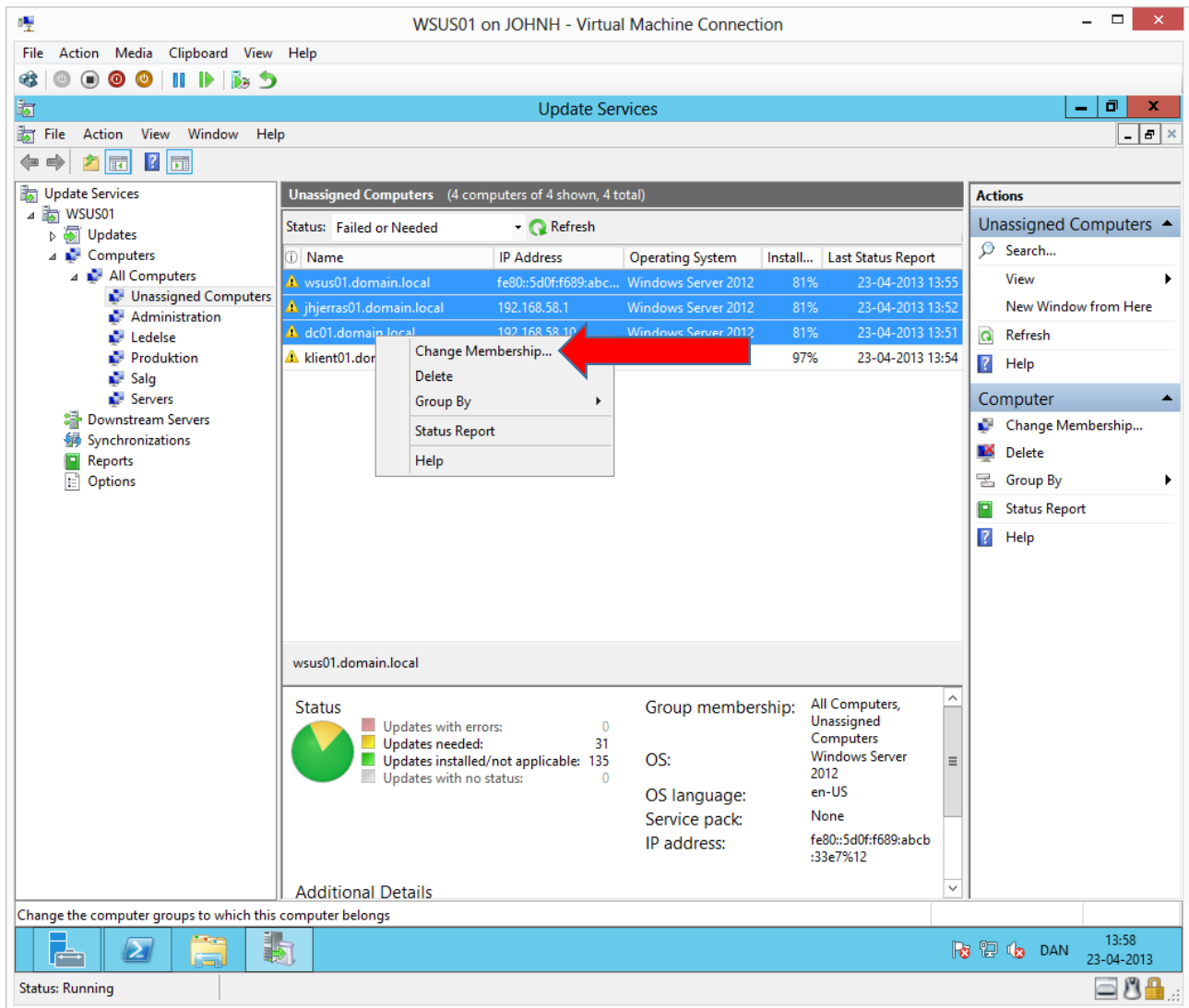
To force the computer to contact the WSUS server, you can type the above command. Notice that some time may pass before the computer is visible on the WSUS server.

Approving updates

On WSUS01, when the computers are visible in the WSUS snap in, we can add the computers to the groups, representing the various departments and approve updates on each of the groups.

Following Microsoft best practice, you should have a test computer group containing computers representing each department of the company with their various combinations of software the company uses. By approving and testing updates against the test group, you are able to find potential issues before the updates are applied to the rest of the company.

In our test environment we approve updates directly on the departments.



To add computers to groups, right click → **Change membership...**

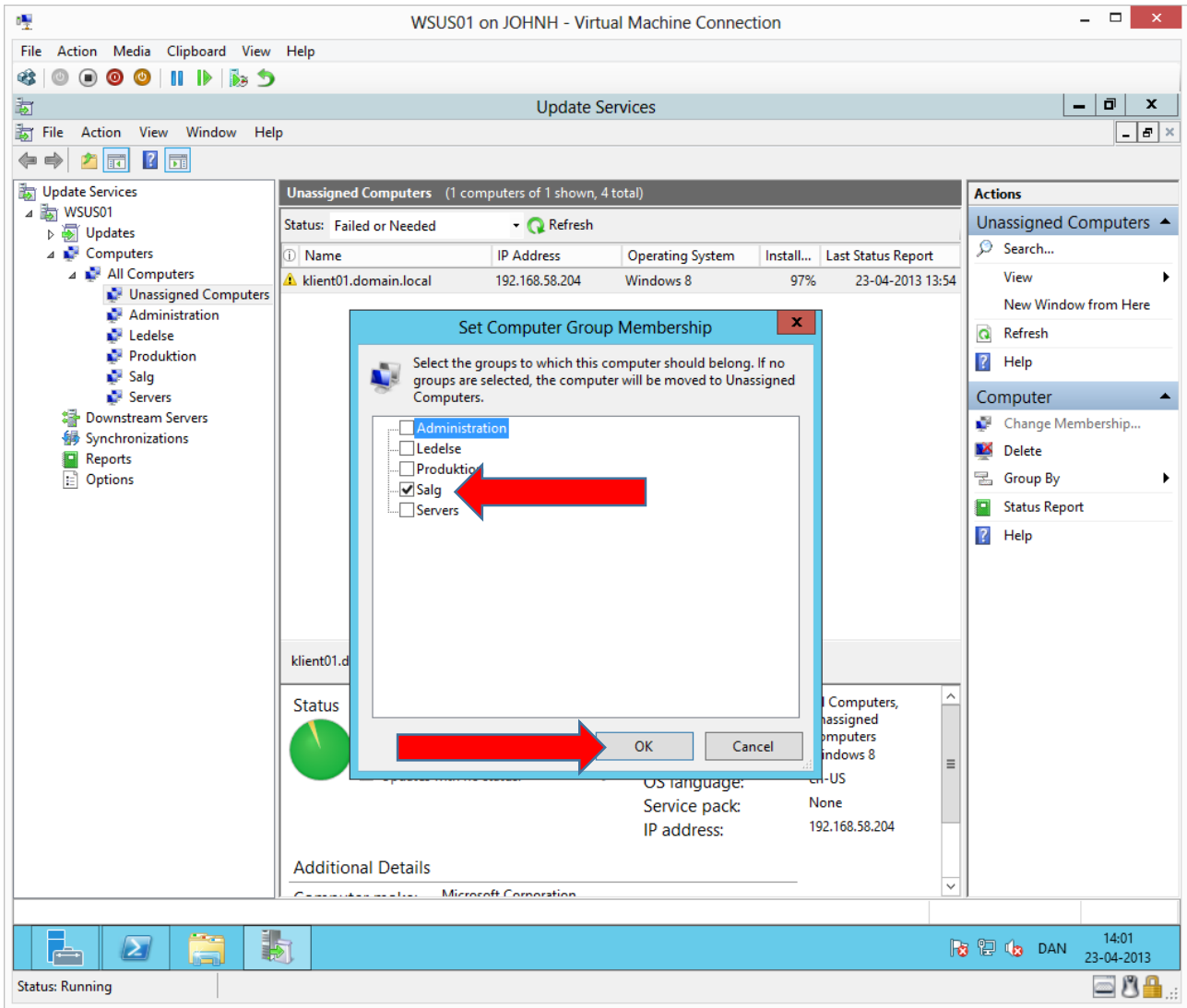
Do this for all servers, even if it does not look like the above image.

The screenshot shows the WSUS console interface. The main window is titled "WSUS01 on JOHNNH - Virtual Machine Connection". The "Update Services" window is open, displaying a list of "Unassigned Computers" (4 computers of 4 shown, 4 total). The status is "Failed or Needed". A dialog box titled "Set Computer Group Membership" is overlaid on the console, prompting the user to select groups for three computers: wsus01.domain.local, jhjerras01.domain.local, and klient01.domain.local. The dialog lists several groups: Administration, Ledelse, Produktion, Salg, and Servers. The "Servers" group is selected with a checkmark. A red arrow points from the "Unassigned Computers" list to the dialog box, and another red arrow points from the dialog box to the "OK" button. The console also shows a "Status" section with a pie chart and a table of system details for the selected computer.

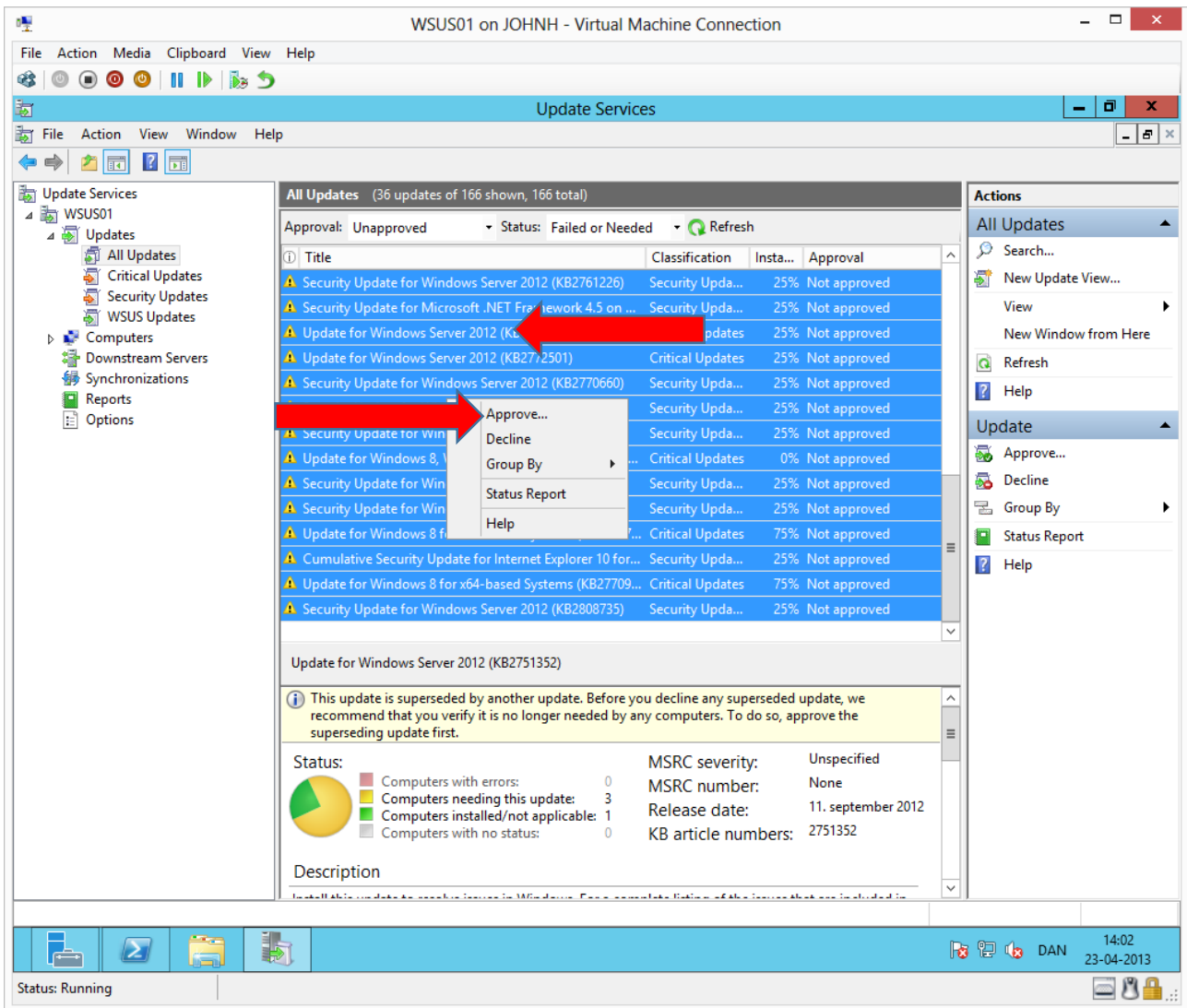
Name	IP Address	Operating System	Install...	Last Status Report
wsus01.domain.local	6-90-5496-f690-abc...	Windows Server 2012	81%	23-04-2013 13:55
jhjerras01.domain.local				13 13:52
dc01.domain.local				13 13:51
klient01.domain.local				13 13:54

Additional Details for wsus01.domain.local:

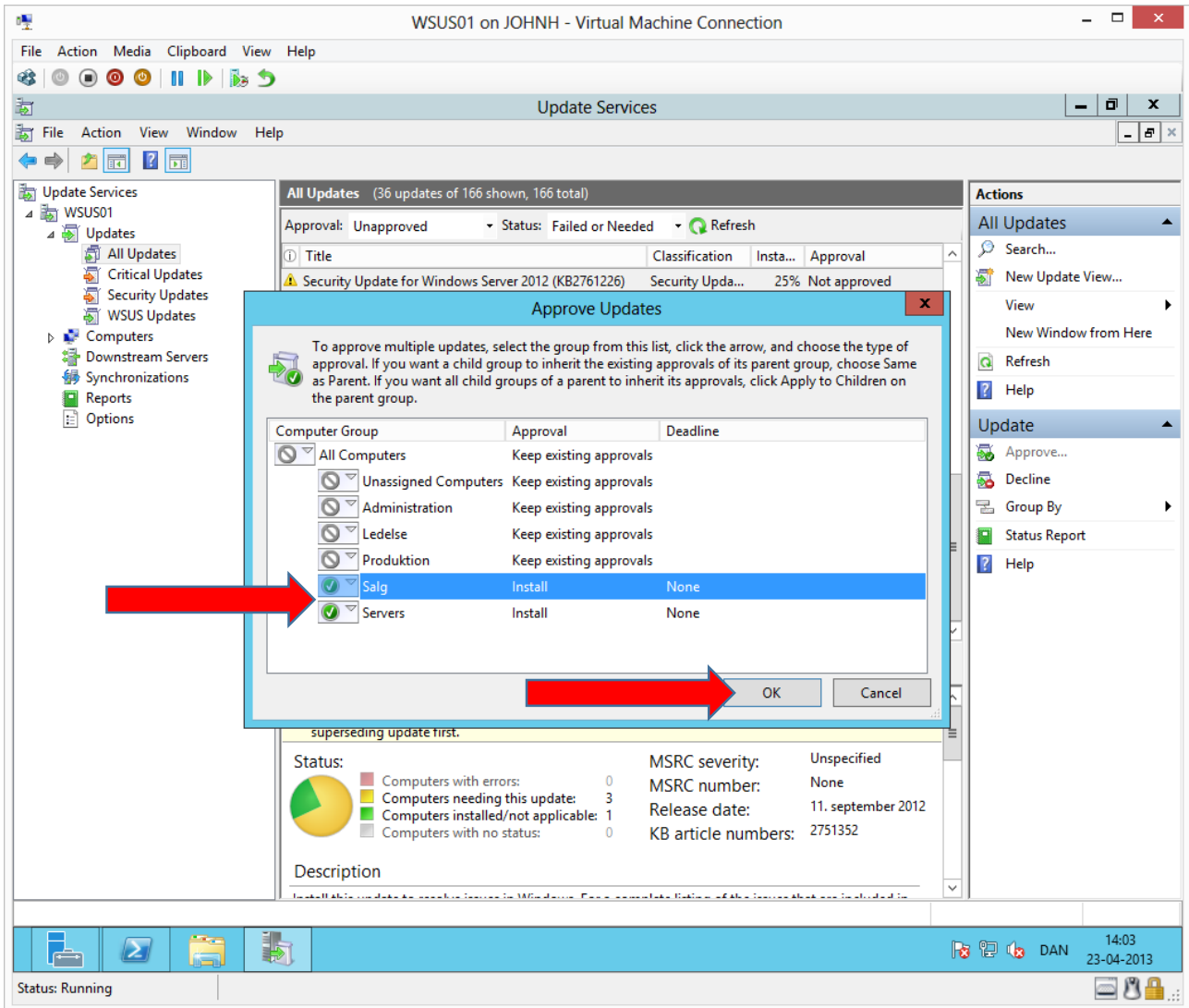
OS:	Windows Server 2012
OS language:	en-US
Service pack:	None
IP address:	fe80::5d0f:f689:abcb:33e7%12



Here Klient01 is added to the sales (salg) group.



To approve updates against a computer group, mark all needed updates, right click one → **Approve...**



Install the updates for the desired groups. When new machines are joined a computer group, they will automatically install already approved updates.

The screenshot shows the WSUS01 console interface. A dialog box titled 'Approval Progress' is open, displaying the following table:

Action	Result
Approving Security Update for Windows Server 2012 (KB2799494) for installation to Sal...	Success
Approving Security Update for Windows Server 2012 (KB2799494) for installation to Ser...	Success
Approving Security Update for Internet Explorer 10 for Windows Server 2012 (KB279705...	Success
Approving Security Update for Internet Explorer 10 for Windows Server 2012 (KB279705...	Success
Approving Security Update for Microsoft .NET Framework 4.5 on Windows 8 and Wind...	Success
Approving Security Update for Microsoft .NET Framework 4.5 on Windows 8 and Wind...	Success
Approving Update for Windows Server 2012 (KB2751352) for installation to Salg...	Success
Approving Update for Windows Server 2012 (KB2751352) for installation to Servers...	Success

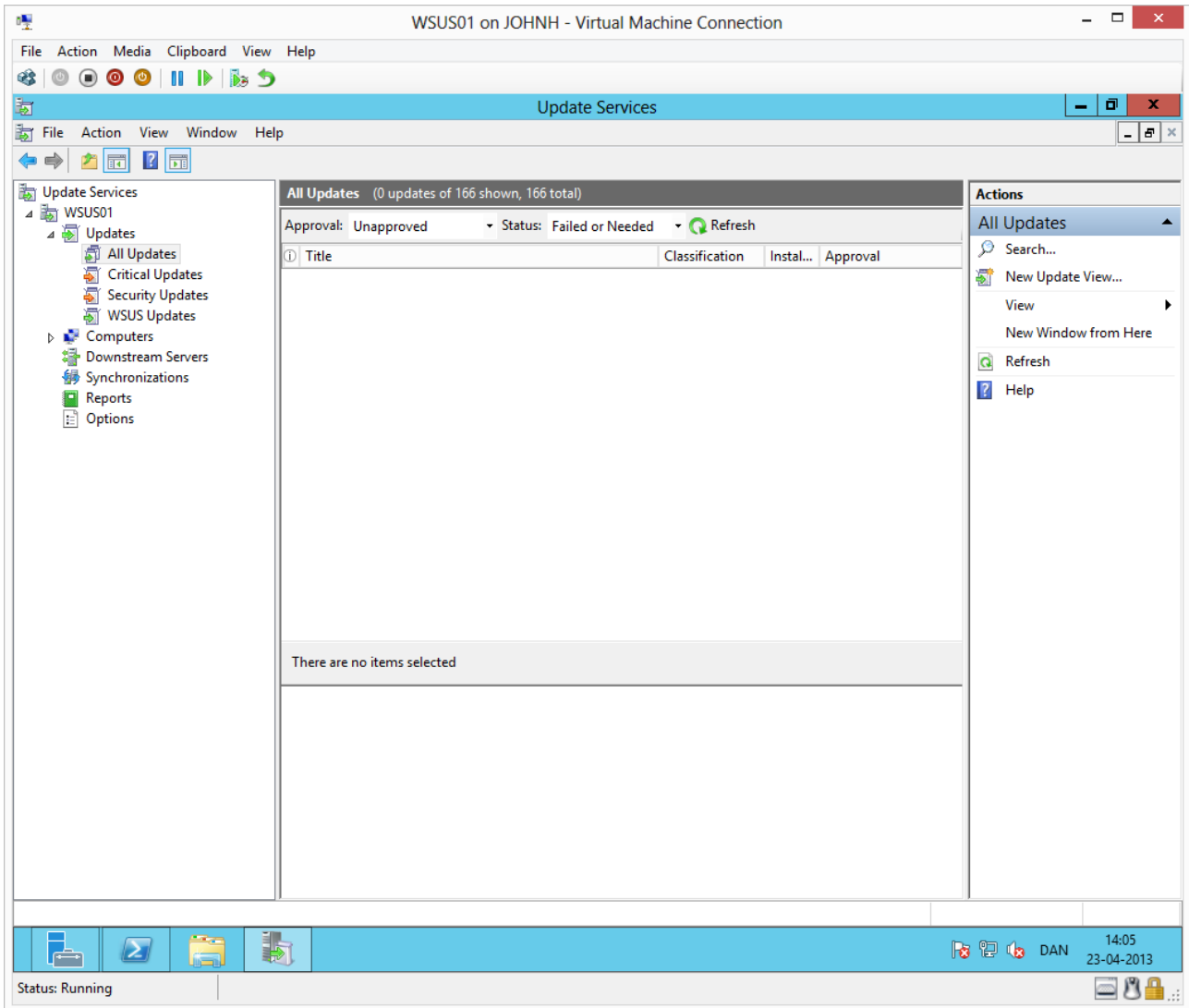
Below the table, a red arrow points to the 'Close' button. The background console shows a list of updates with the following details:

superseding update first.
The files for this update have not yet been downloaded. The update can be approved but will not be available to computers until the download is complete.

Status:

Computers with errors:	0
Computers needing this update:	3
Computers installed/not applicable:	1
Computers with no status:	0

MSRC severity: Unspecified
MSRC number: None
Release date: 11. september 2012
KB article numbers: 2751352



The list of missing updates is now empty until new updates are available from Microsoft or until new machines that are missing updates, contacts the WSUS server.

Computers that have been approved for updates will install the updates according to the schedule we made in our GPO (11:00 O'clock every day)