Preparing a lab machine for AX 2012 R3 CU8

Document prepared in the framework of Microsoft Academic EMEA Council's project "Mobile Application and Curriculum Development". Project team members:

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Preparing the lab machine for AX

Introduction

The purpose of this document is to present a way of building a smaller AX development machine (with some limitations, like missing EP) than the demo version from CustomerSource that requires more reasonable resources, and can be accommodated by university lab machines.

The recommended setup is to use a virtual machine. For this you can use one of several virtualization tools: Hyper-V (included in Windows 8/8.1, Windows Server 2008 R2/2012/2012 R2), VMWare Workstation (or ESX), Oracle's VirtualBox or even other more exotic tools.

System requirements

The following are the requirements for the host machine:

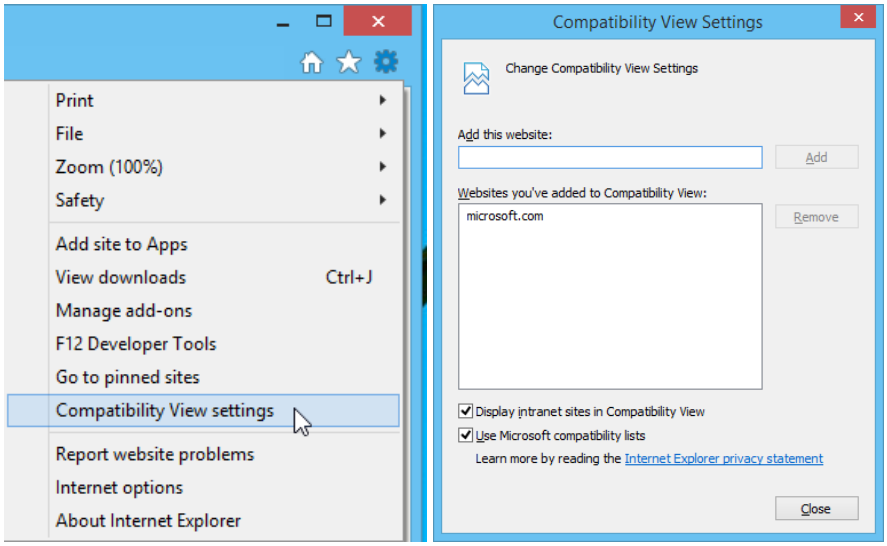
- Processor:
  - Minimum a 1.4GHz 64-bit processor with 4 cores/threads, recommended an i7 with 4 cores/8 threads with support for Data Execution Prevention, hardware virtualization (VT-x/VT-d) and second-level address translation (SLAT) – most of these should be enabled from BIOS.
- Memory:
  - If running the VM in a virtual mode, then minimum 8GB of RAM, recommended 12GB or more
  - If you are running directly from a VHD(X) then a minimum of 4GB should be enough, after the initial configuration is complete (this approach will be explained later and can be used only if your main OS is Windows 8 or greater).
- Storage space:
  - Minimum of 150GB of free space. You can also use an external HDD – preferably a USB3 one if your computer supports it. For best performances an SSD would be recommended.
- Operating System:
  - Any operating system that supports a virtualization technology should be fine, but recommended is to use at least a Windows 8 x64
- Virtualization technology:
  - Hyper-V is recommended (you can enable Hyper-V from Control Panel > Programs and Features > Turn Windows features on or off)
  - VMWare Workstation (you have to follow a separate tutorial for installing it)
  - Oracle VirtualBox (you have to follow a separate tutorial for installing it)

Prerequisites

We will mainly be focusing on Hyper-V, but we will also show the necessary steps for setting up the machine using VMWare Workstation, VirtualBox and also running directly from a VHD(X).

Please be advised that the browser that you need to use for the most parts is Internet Explorer 8+.

Please set the **microsoft.com** sites in compatibility view mode in Internet Explorer:



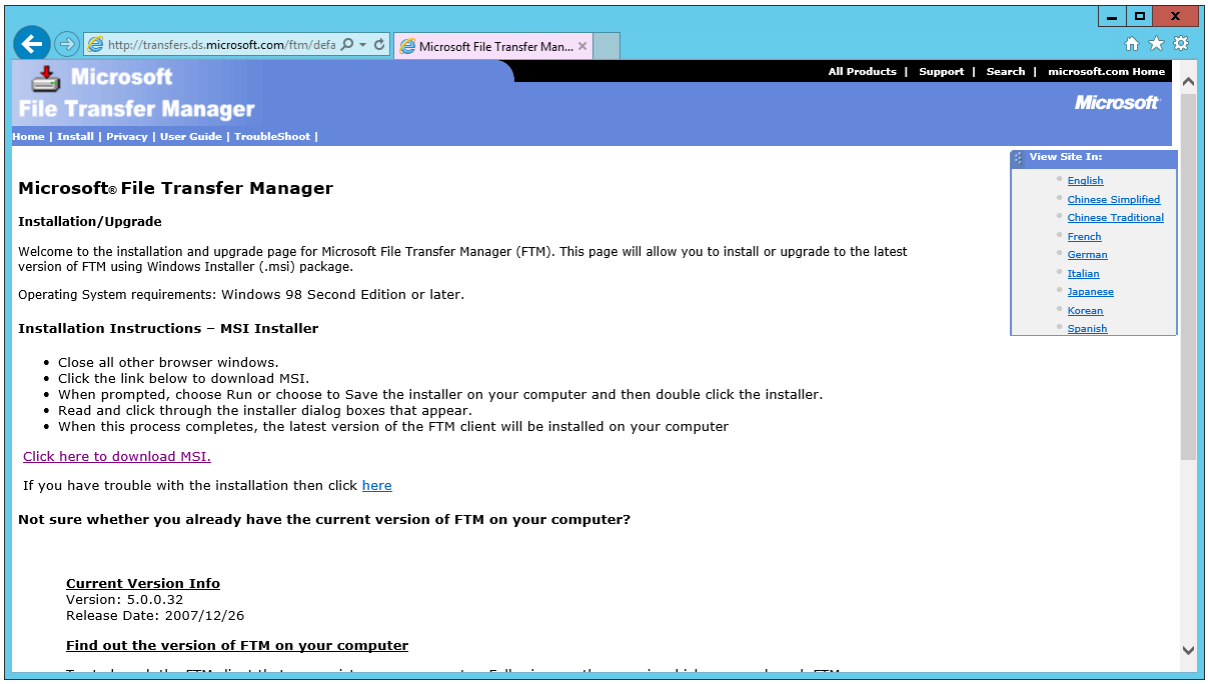
Things you need to download prior to starting the configuration:

1. Windows Server 2012 R2 Standard with Update ISO (if you don't have an MSDN/MSDNAA/DreamSpark subscription then you can use an evaluation version: http://www.microsoft.com/en-us/evalcenter/evaluate-windows-server-2012-r2 - choose ISO)
2. Office Professional Plus 2013 with SP1 ISO (if you don't have an MSDN subscription then you can use an evaluation version: http://www.microsoft.com/en-us/evalcenter/evaluate-office-professional-plus-2013 - choose ISO)
3. Visual Studio Ultimate 2013 with Update 4 (or Professional) (if you don't have an MSDN/MSDNAA/DreamSpark subscription then you can use an evaluation version: http://www.visualstudio.com/downloads/download-visual-studio-vs - choose DVD9 ISO)
4. SQL Server 2014 ISO (you can use the Developer version. If you don't have an MSDN/MSDNAA/DreamSpark subscription then you can use an evaluation version: http://www.microsoft.com/en-us/evalcenter/evaluate-sql-server-2014 - choose ISO)
5. Microsoft Dynamics AX 2012 R3 installation media – for this you need access to CustomerSource (the steps are explained below) or ask your supervisor for an installation image
6. Microsoft Dynamics AX 2012 R3 Cumulative Update 8 – for this you need access to Life Cycle Services (the steps are explained below) or ask your supervisor to download it for you
7. Microsoft Dynamics AX 2012 R3 CU8 Demo Data – for this you need access to CustomerSource (the steps are explained below) or ask your supervisor to download it for you
8. Microsoft Dynamics AX 2012 Test Data Transfer Tool – for this you need access to Life Cycle Services (the steps are explained below) or ask your supervisor to download it for you

Accessing Microsoft Dynamics CustomerSource

Install Microsoft File Transfer Manager

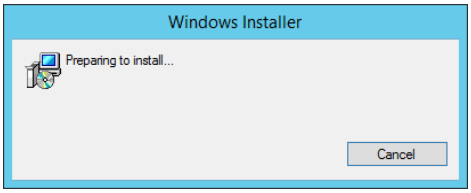
To be able to download packages from CustomerSource, first you need to install a tool called Microsoft File Transfer Manager that you can download from the following address: http://transfers.ds.microsoft.com/ftm/default.aspx?target=install

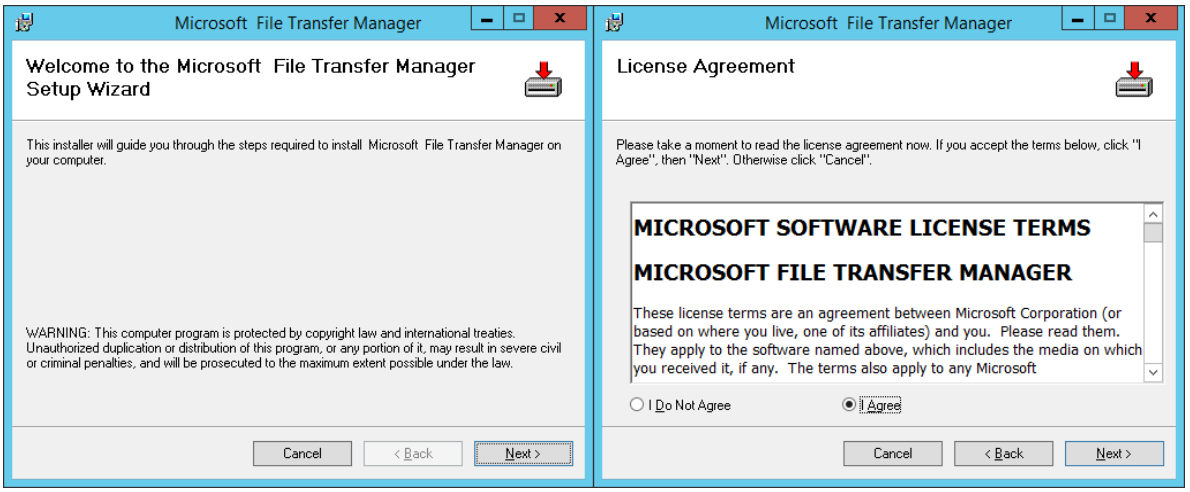


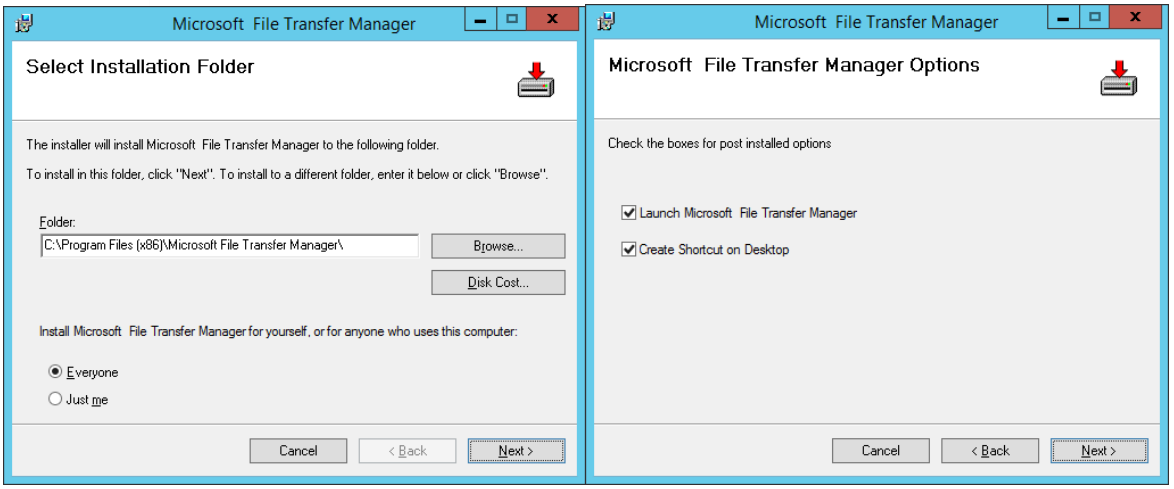
From this page choose **Click here to download MSI**.

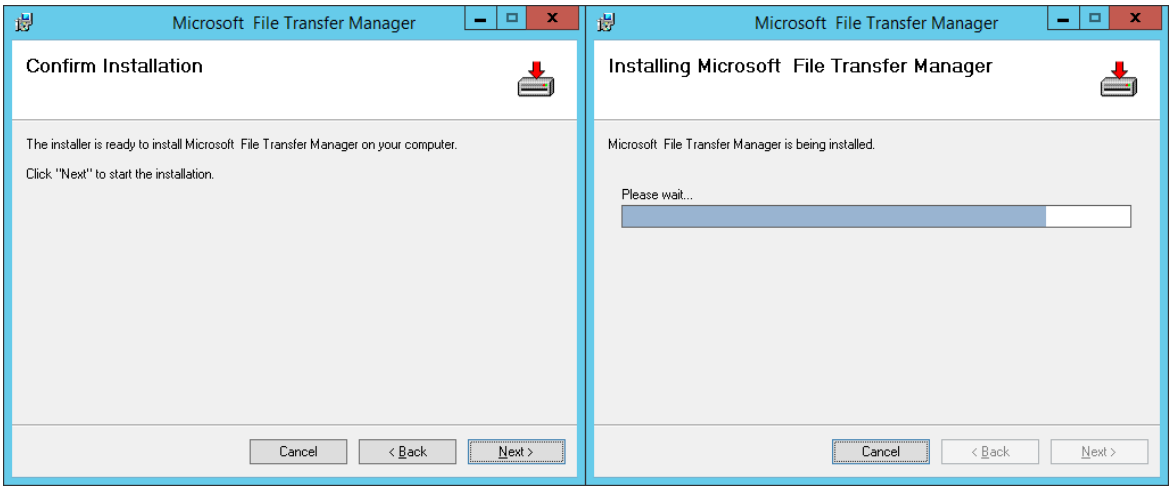
Choose Save.

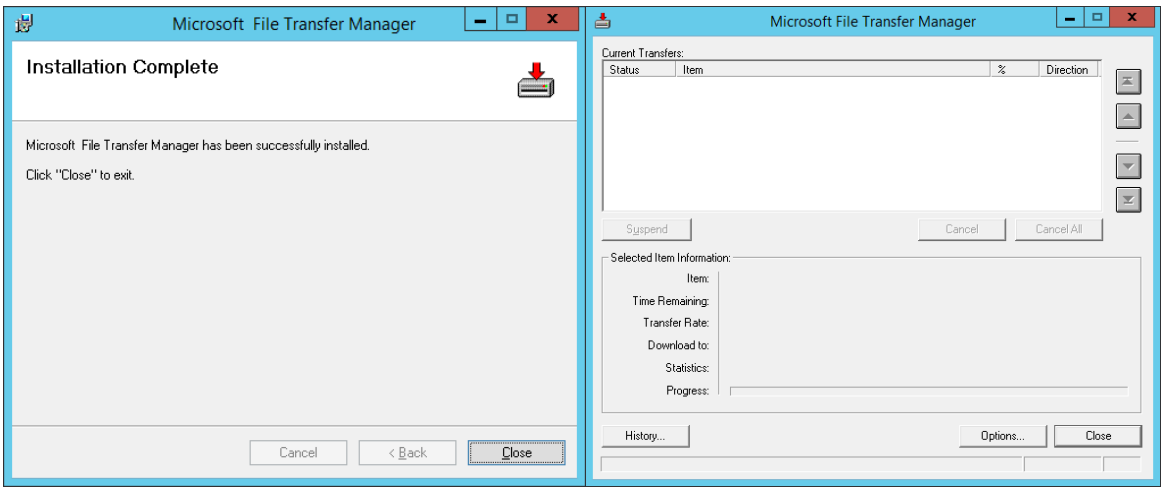
After the download is complete, choose Run.

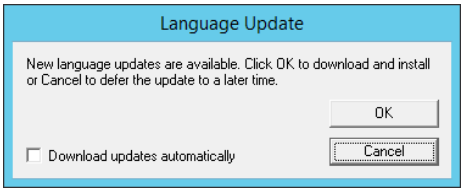






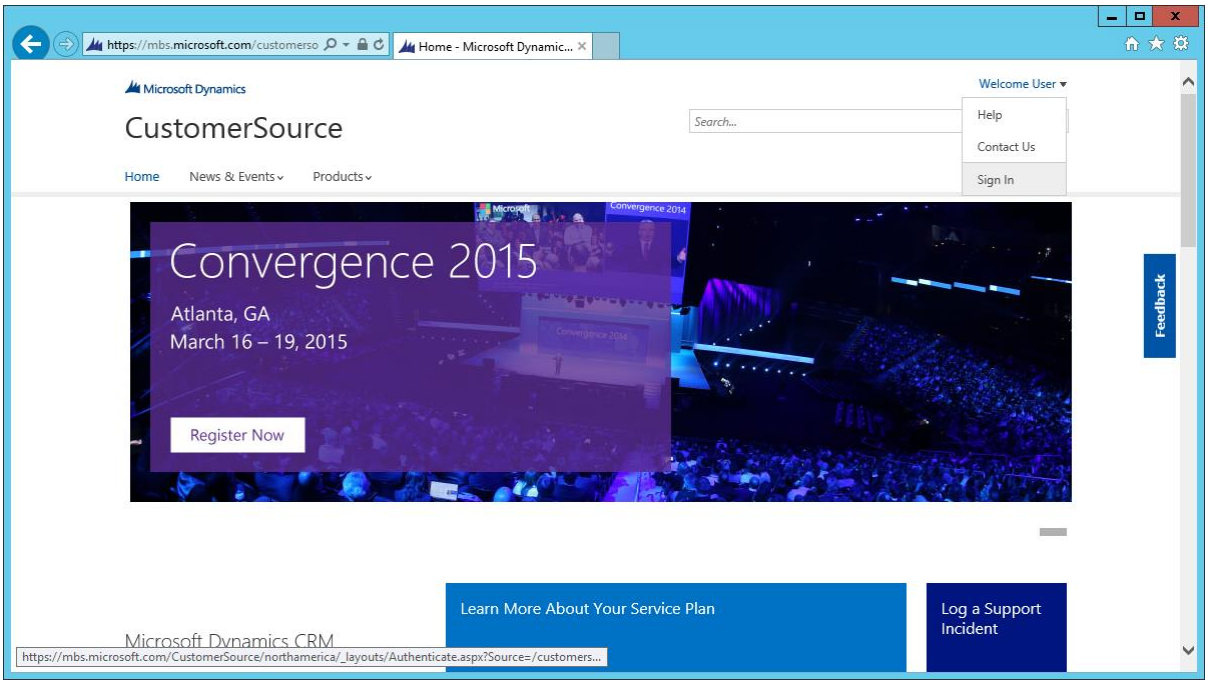




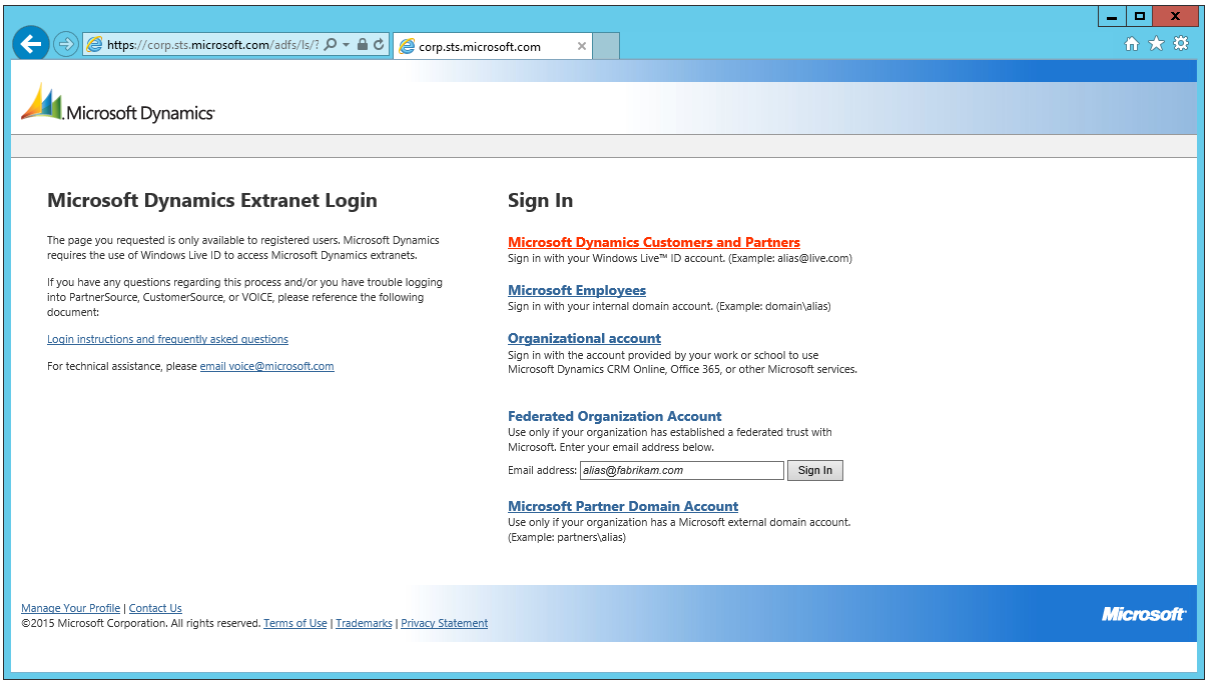


Access CustomerSource

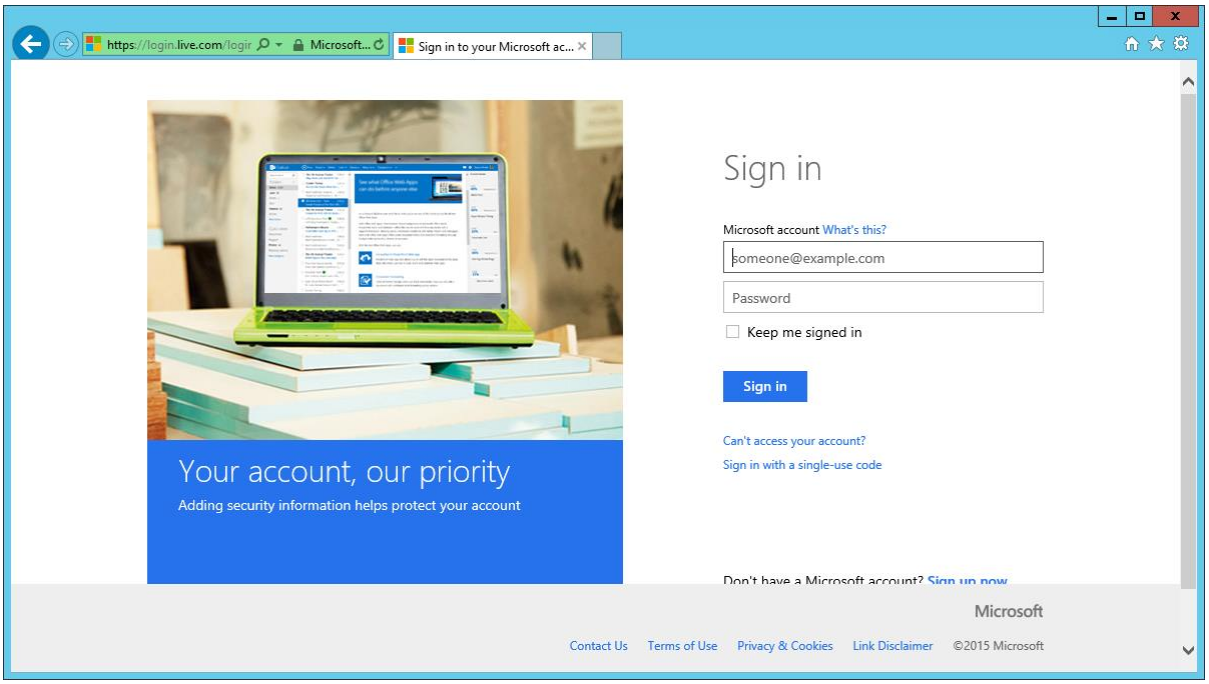
To access CustomerSource go to the following link: https://mbs.microsoft.com/customersource



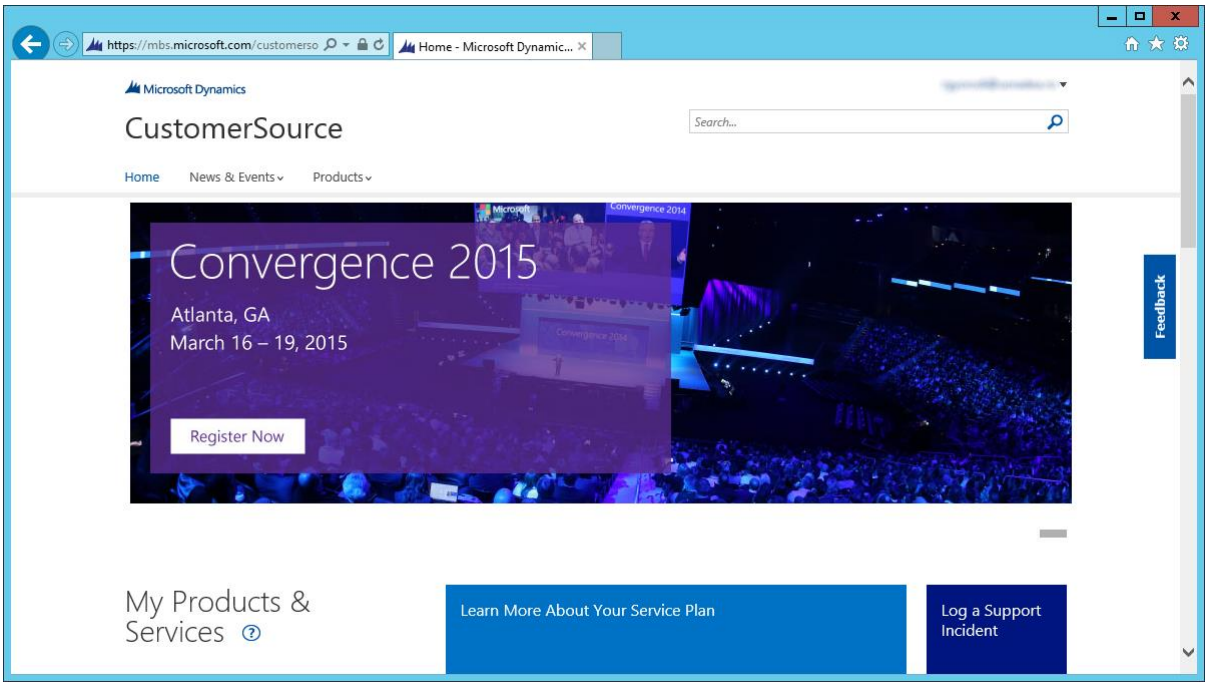
Here click on the Welcome User menu and choose Sign In.



From here choose Microsoft Dynamics Customers and Partners.

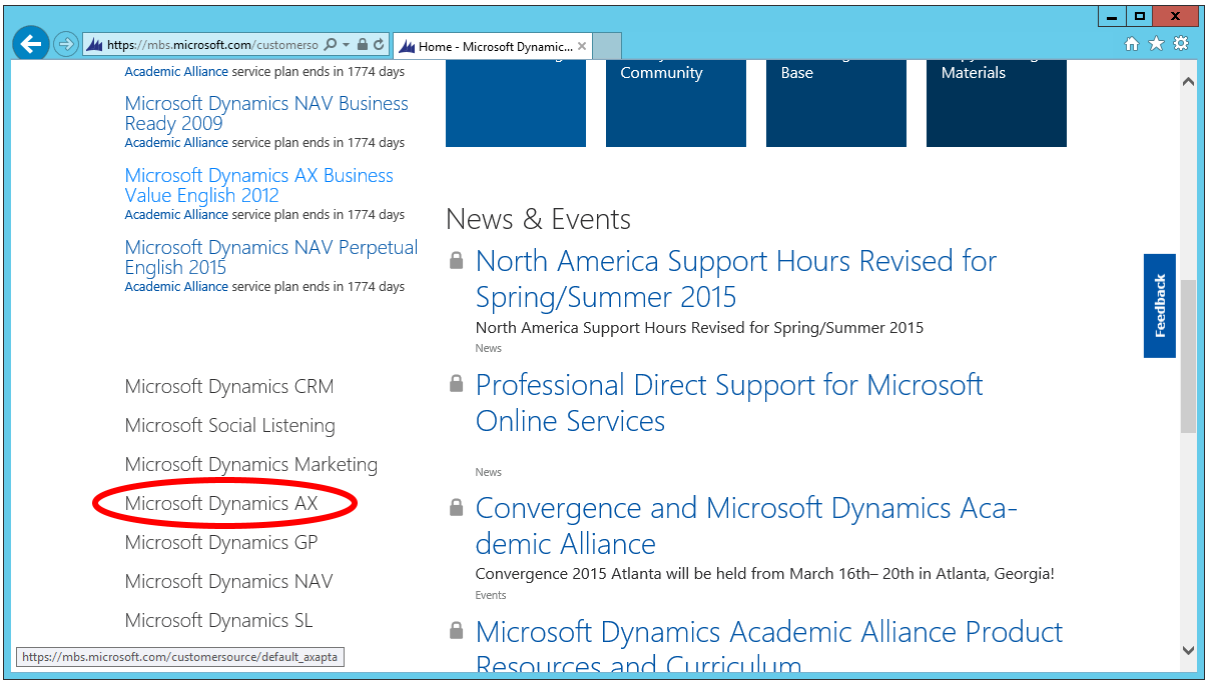


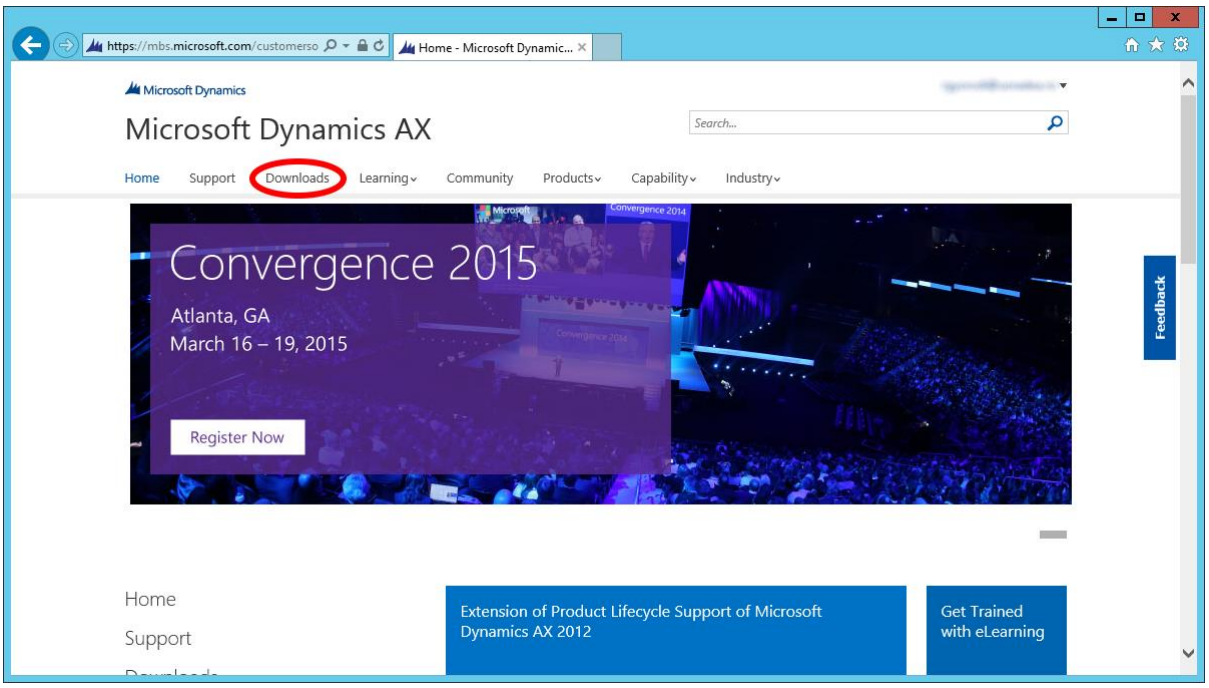
Provide your login details and password.



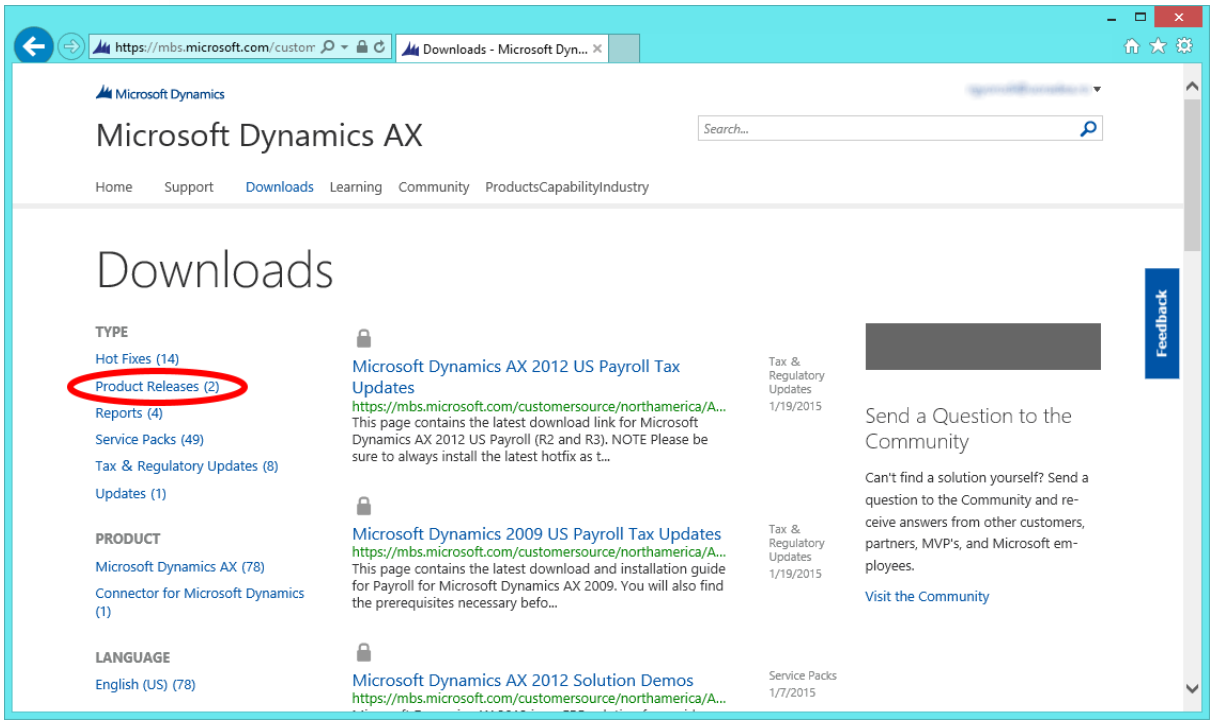
Download the Microsoft Dynamics AX 2012 R3 installation media

After you are logged in to CustomerSource, scroll down and click on the Microsoft Dynamics AX link.

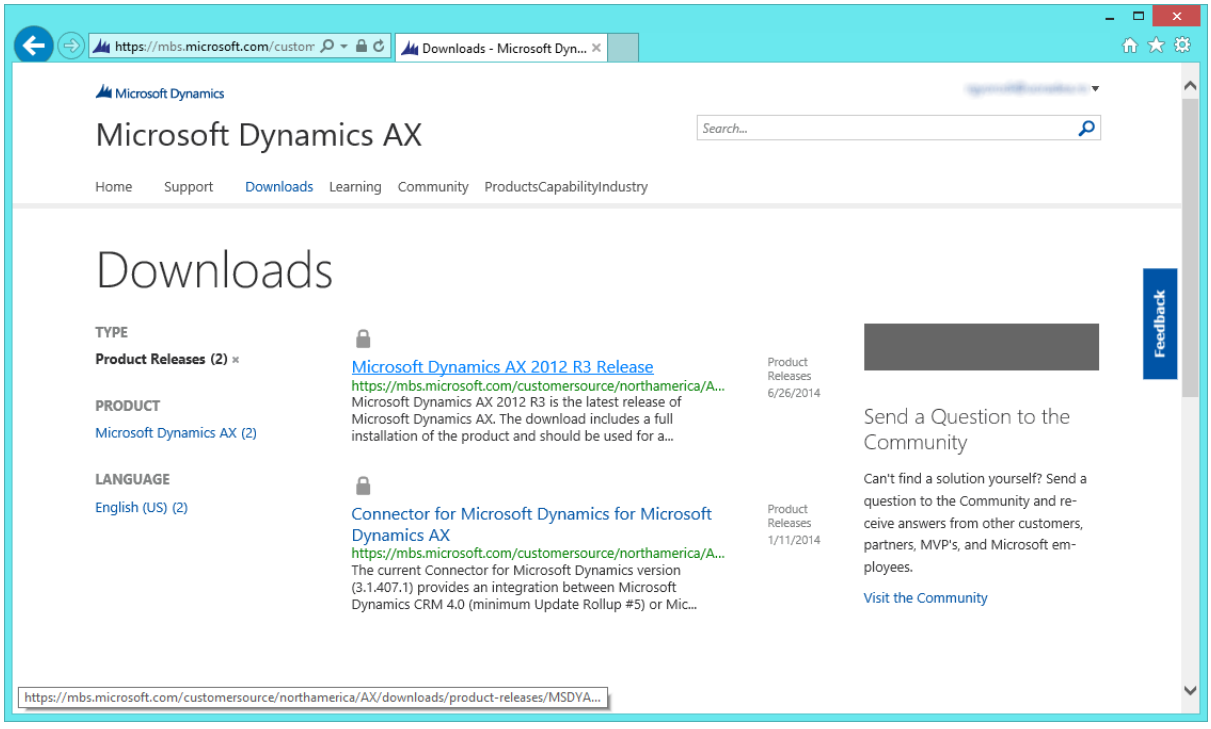




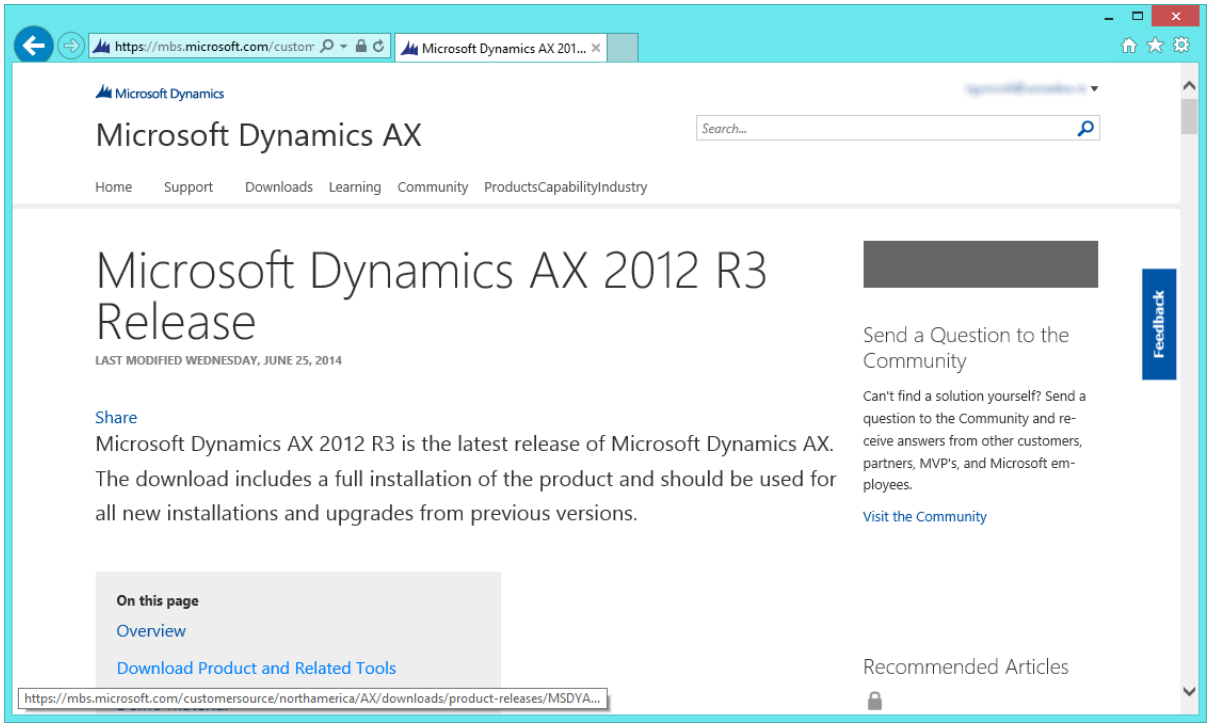
Click on the Downloads menu.



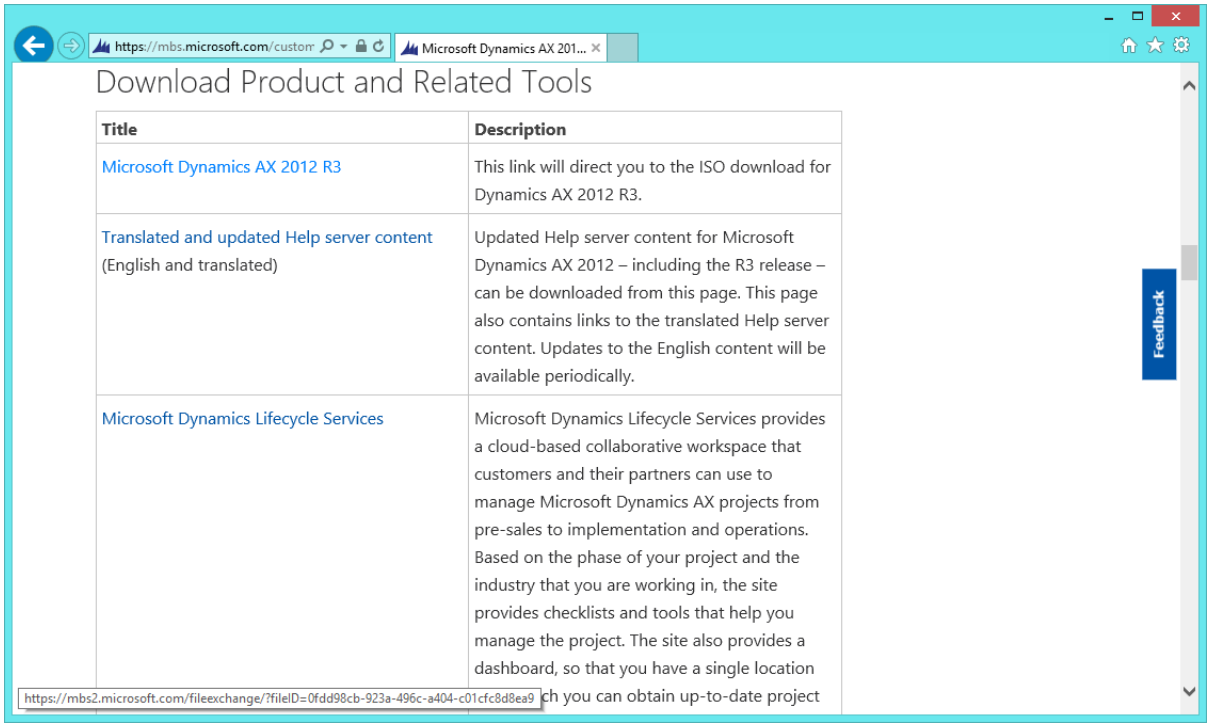
Click on Product Releases.



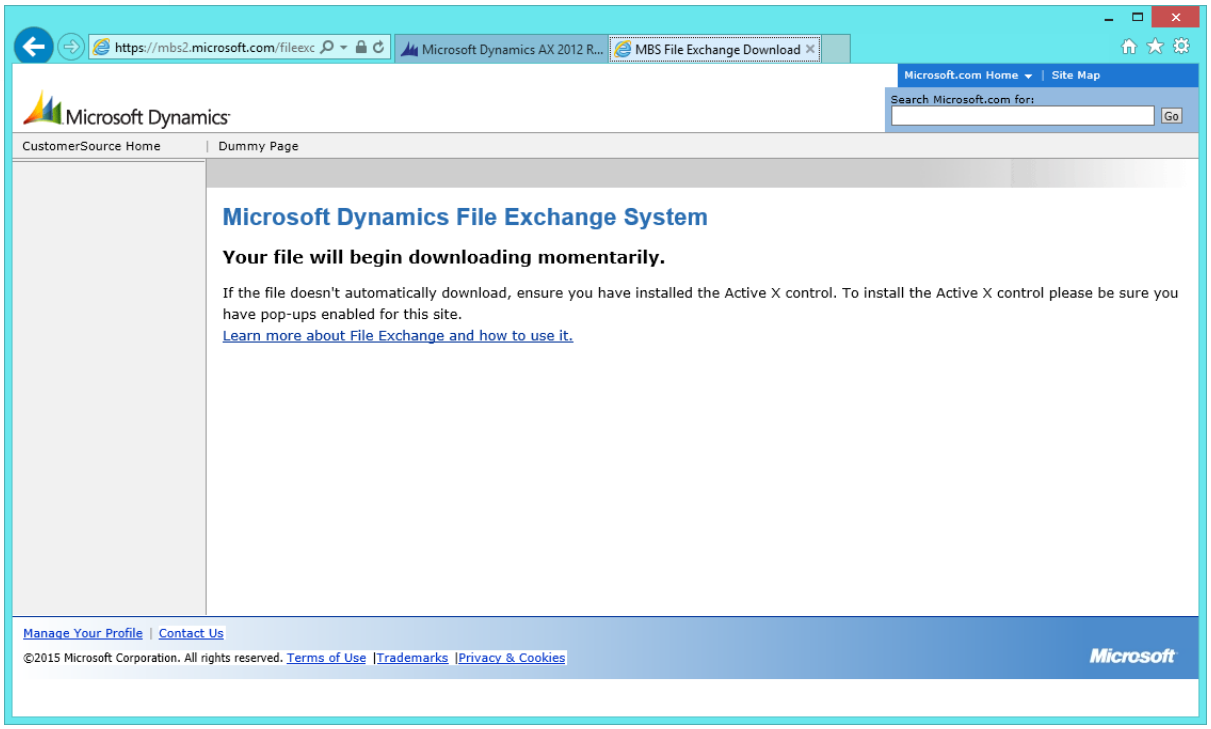
Click on Microsoft Dynamics AX 2013 R3 Release.



Click on Download Product and Related Tools.



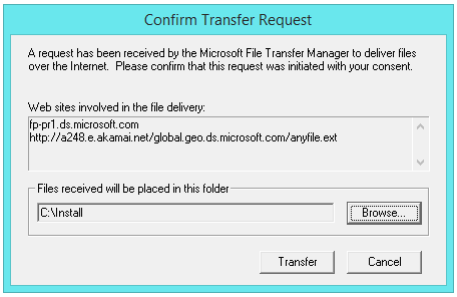
Click on Microsoft Dynamics AX 2012 R3 (the link to the ISO download).



A new page will open and that should start the Microsoft File Transfer Manager you installed earlier.

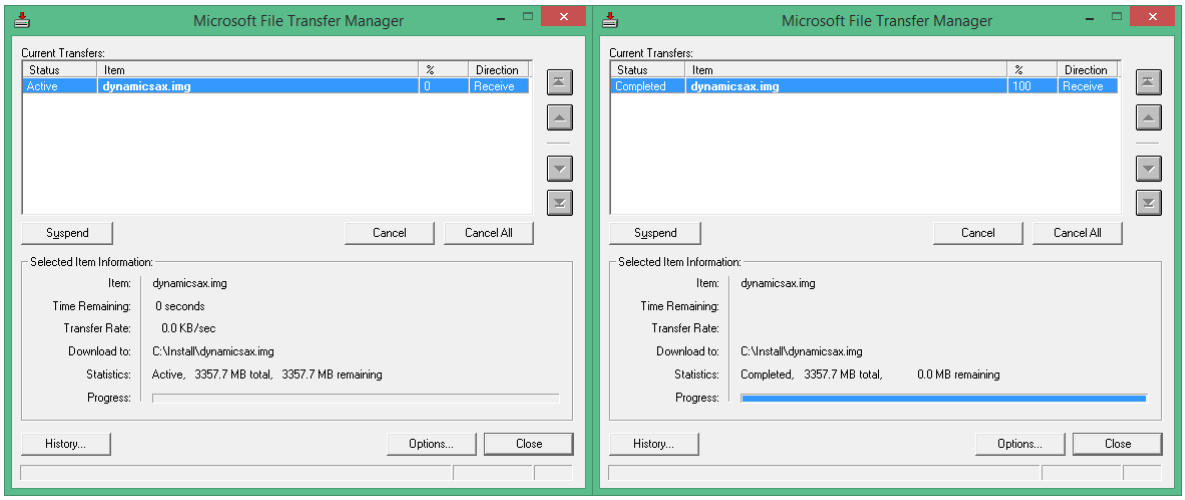
If this does not open then you have a configuration problem with Internet Explorer. Please check that you are running in Compatibility Mode and that ActiveX scripts are allowed to run.

Probably you will get a dialog box asking for some Language Update … you can safely Cancel that.

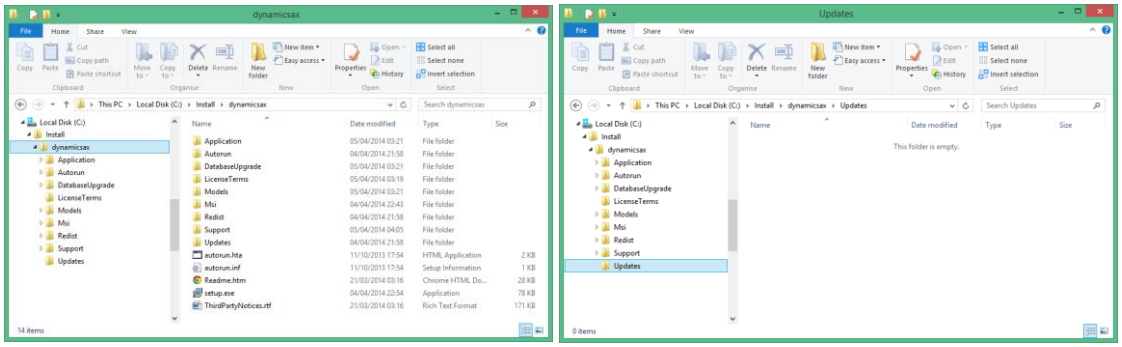


You should choose the download location for the ISO image, for example C:\Install

After this the transfer begins:



After you downloaded the image, mount it in Windows (you can safely change the extension from .IMG to .ISO) and copy the contents to a directory, e.g. C:\Install\dynamicsax

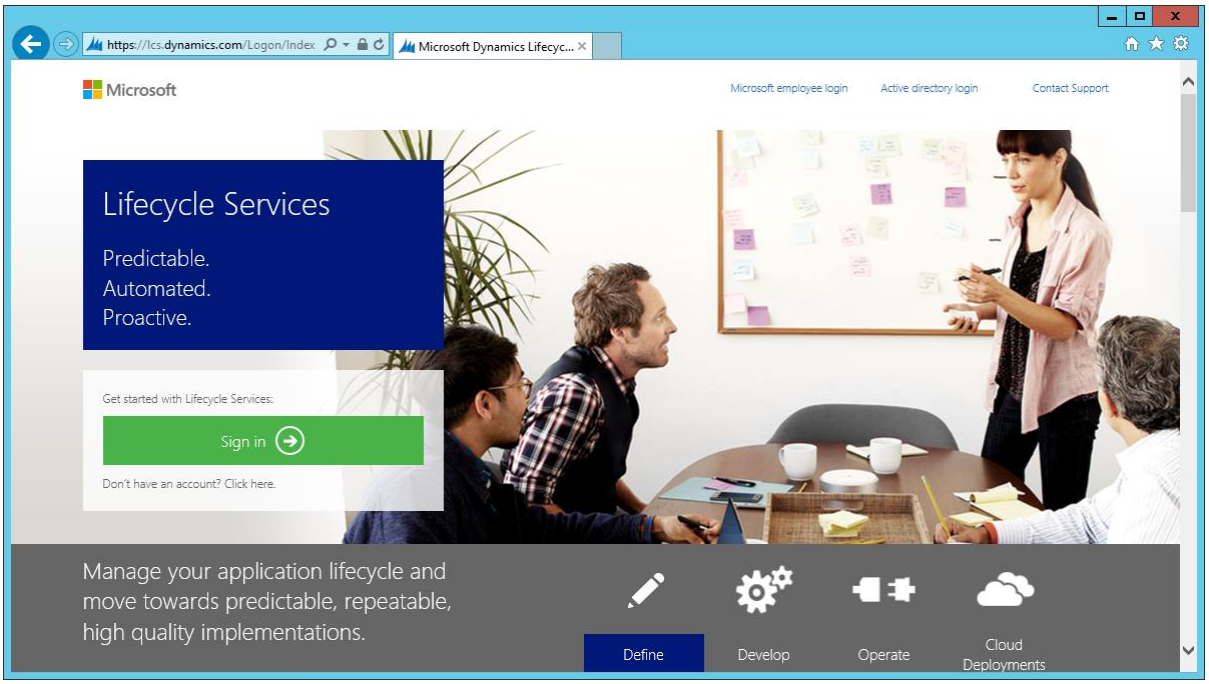


After copying the entire content, you can eject the mounted ISO.

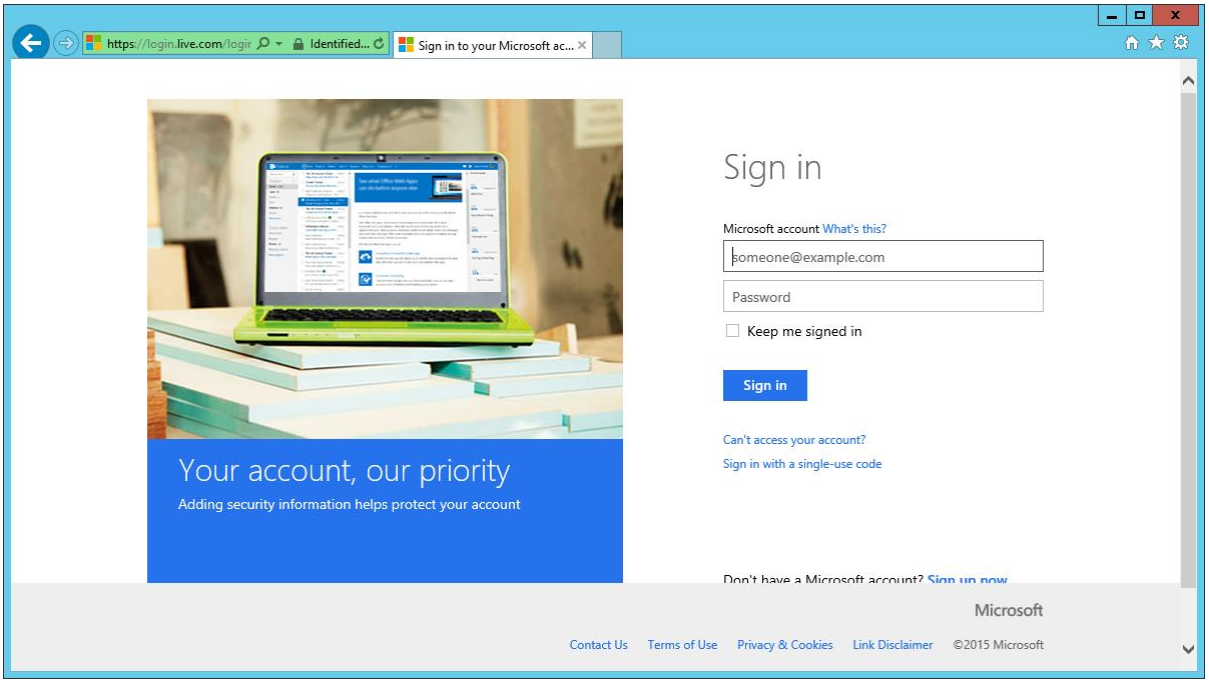
You can check that the Updates folder is empty. **Please create a new directory named CU8**.

Download Microsoft Dynamics AX 2012 R3 Cumulative Update 8

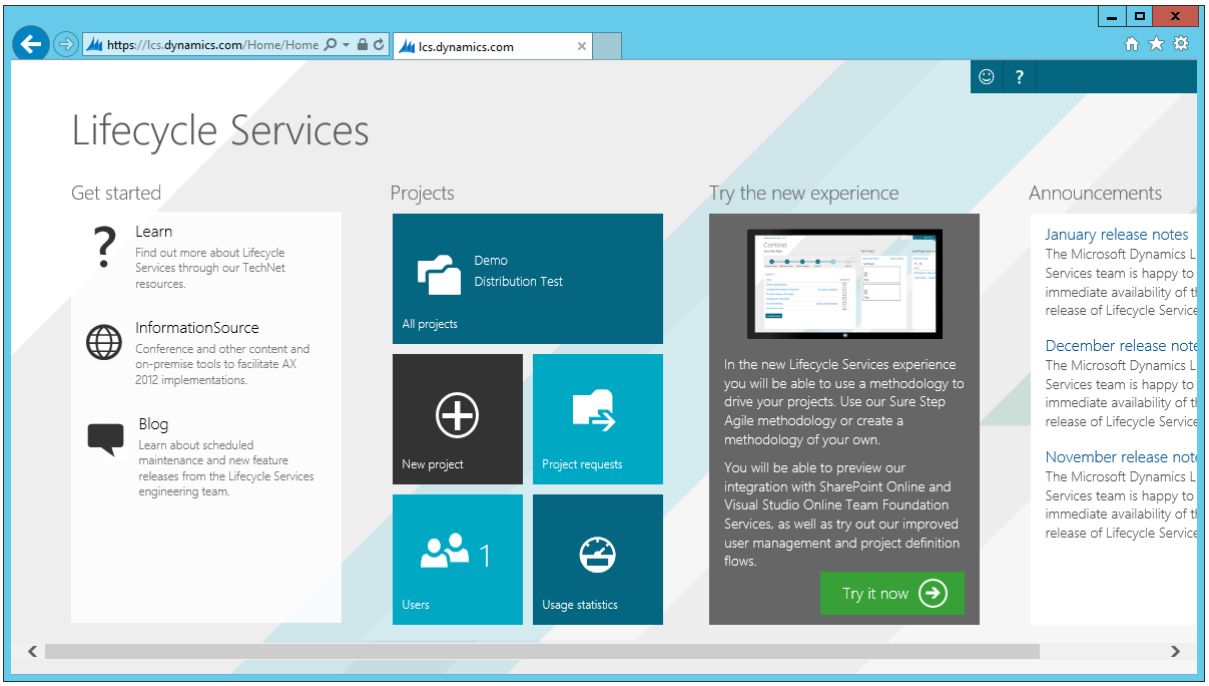
For this you need to access Microsoft Life Cycle Services through the following link:
https://lcs.dynamics.com



Click on Sign In.

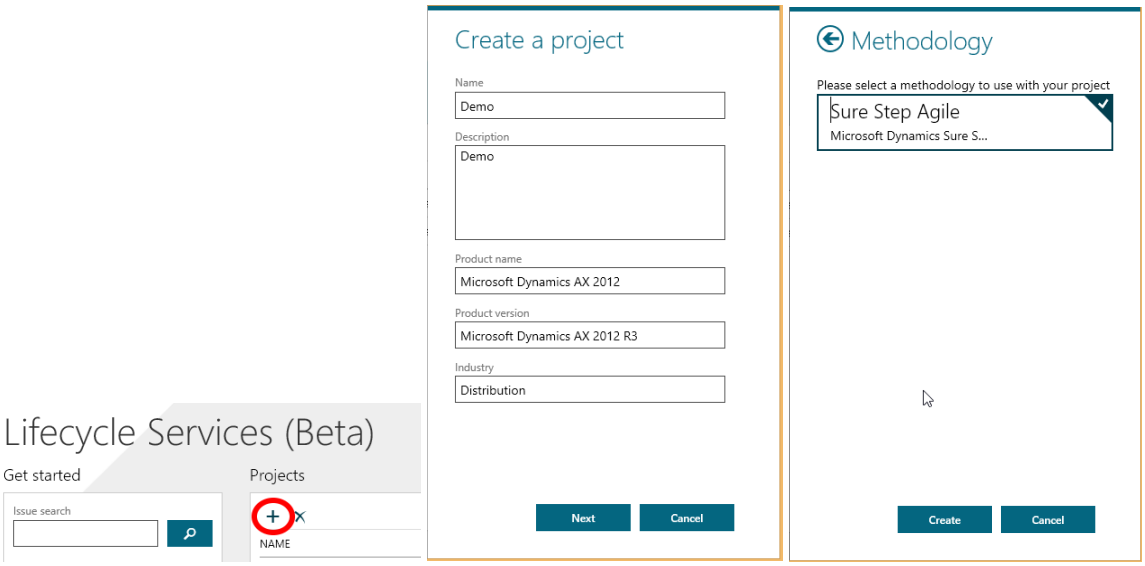


Provide your login details and password.

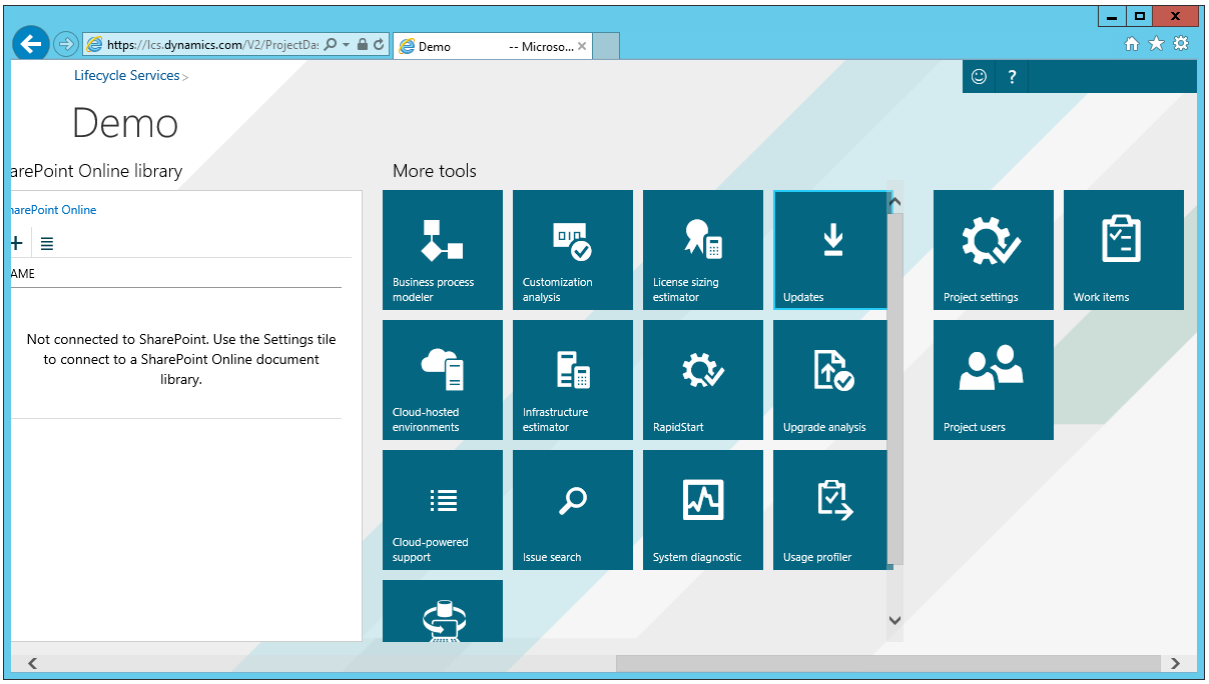


From here, if you are not using the new version, then you should click on Try it now.

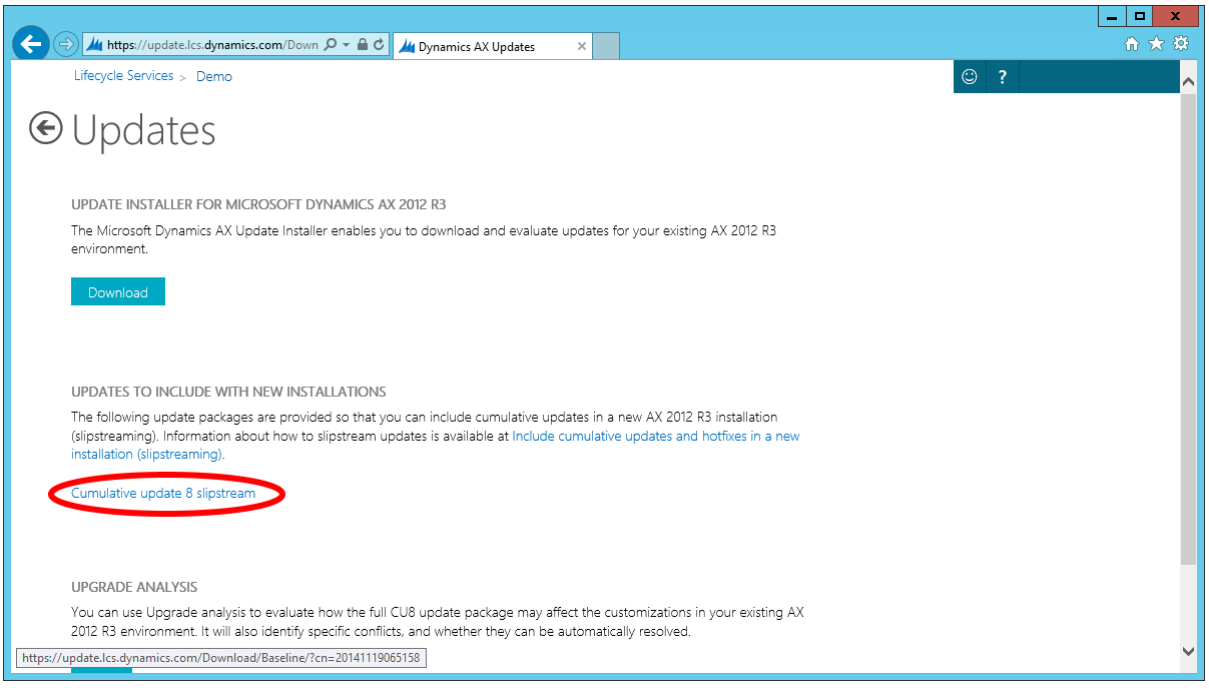
If you have a project already defined, choose that, if not, then create a new project.



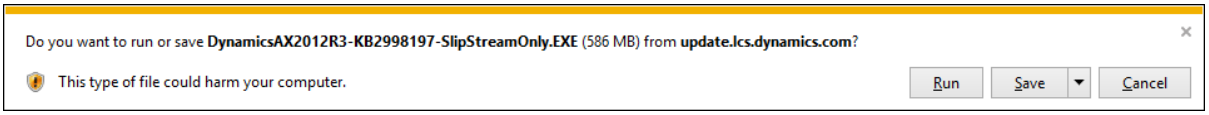
After you choose a project or created a new one, scroll to the right until you see a tile labelled Updates.



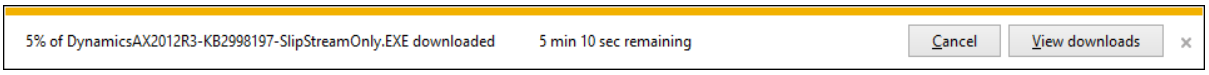
Click on the Updates tile.

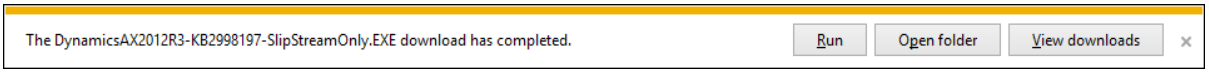


From this page choose the Cumulative update 8 slipstream link.

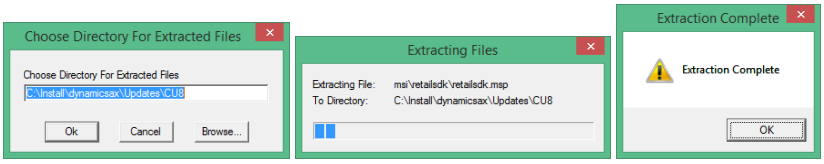


Save the file.

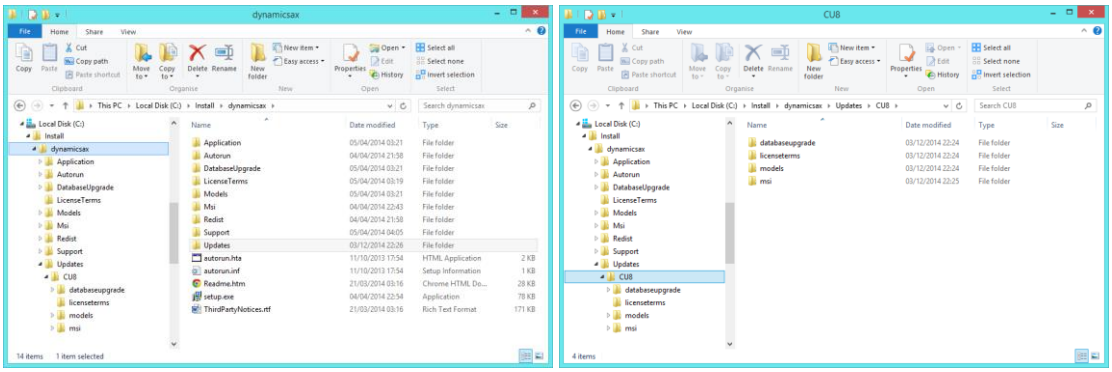




Choose Run or Open folder and run the file from there.

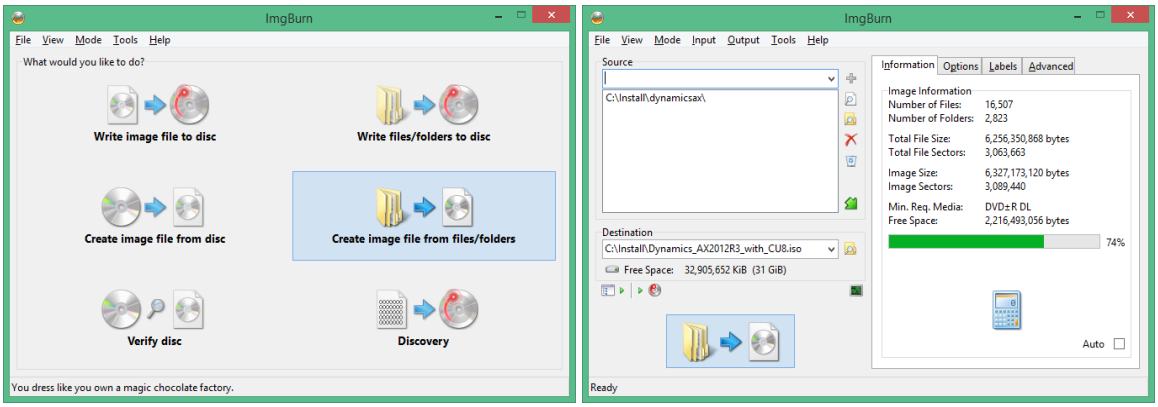


You should choose the newly created CU8 directory from where you copied the contents of the AX installation media, e.g. **C:\Install\dynamicsax\Updates\CU8**.



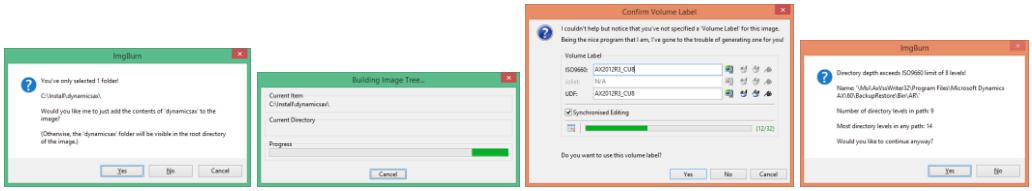
Now you could use this directory as a shared folder and access it from the network, or you could create an ISO image with the slipstreamed content. For the second option we could use a small tool called ImgBurn (http://imgburn.com – be careful to download the actual tool and not click on advertisements!!! For this, click on the Download menu item, and from there click on a Mirror link).

Start ImgBurn.

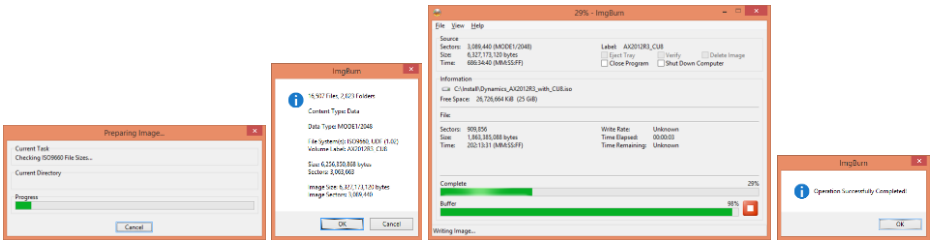


For the source choose the directory where you copied the content of the installation media. As destination you can specify a desired name, like: Dynamics_AX2012R3_with_CU8.iso. After that press the highlighted left bottom button to create the ISO image.

You will probably get a message box that you only selected one directory. Please choose Yes to add the content of that directory to the image.



Probably you will get a message about exceeding the ISO9660 directory depth limit. You can safely continue by choosing Yes.



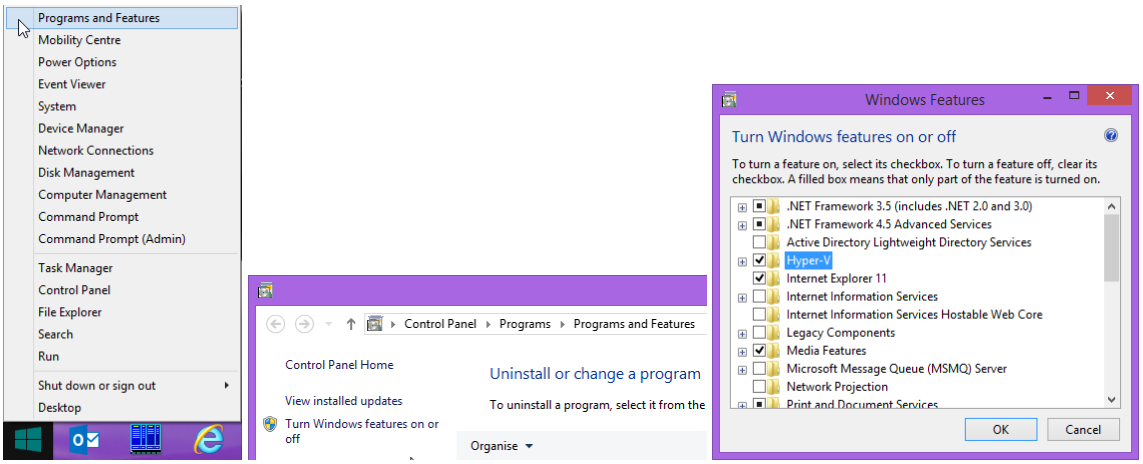
Congratulations, now you have a slipstreamed installation ISO for Dynamics AX 2012 R3 with CU8.

Creating the virtual machine

Using Hyper-V

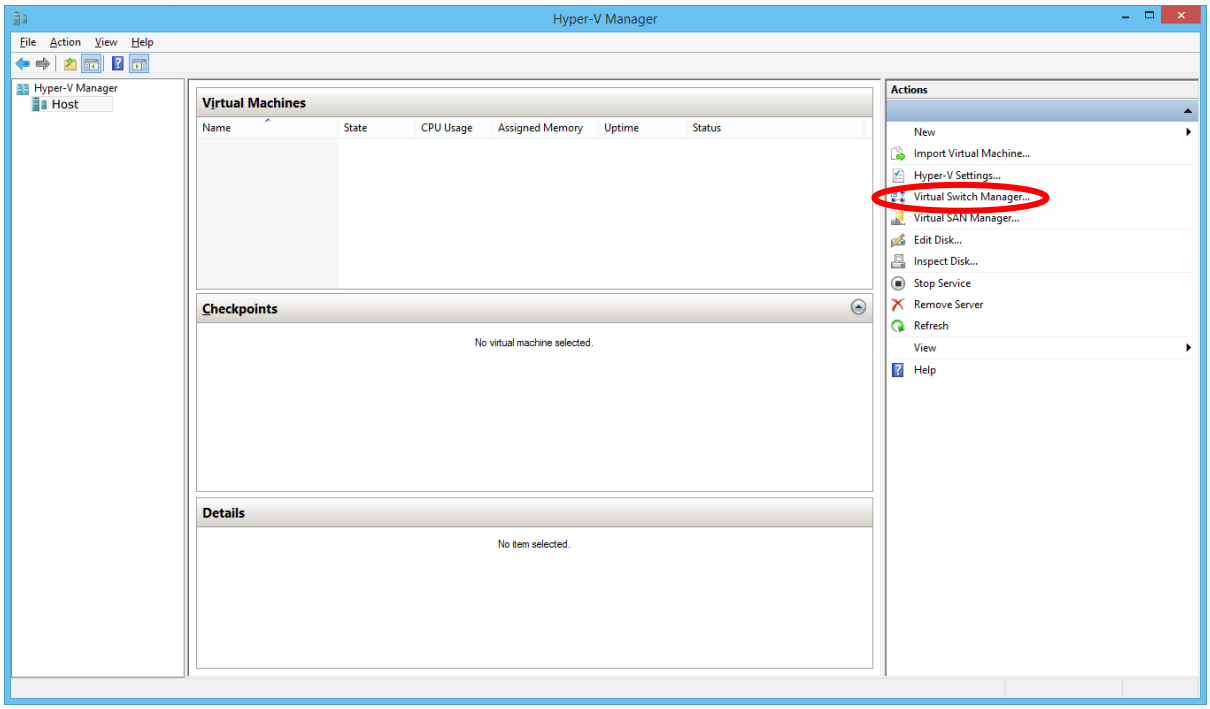
As we stated at the beginning, we will focus on using Hyper-V, but other virtualization tools should work similarly.

To enable Hyper-V you should access Programs and Features from Control Panel, or from the Start menu (right-click on the lower left corner of the Desktop).

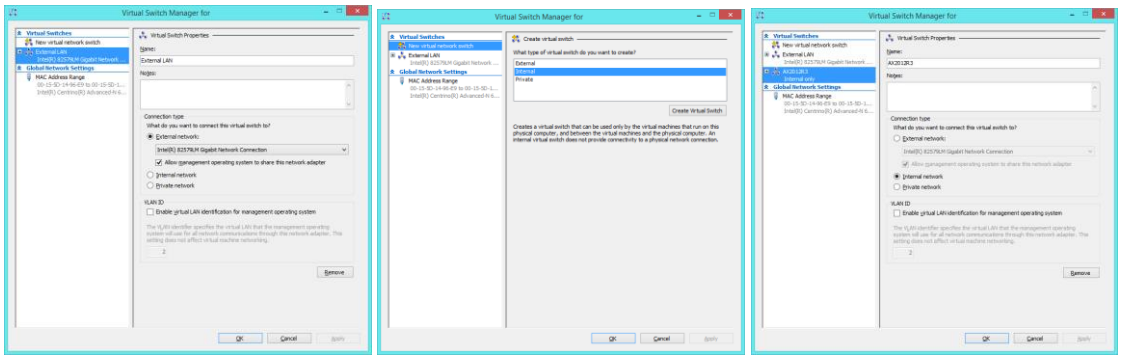


Hyper-V will be installed and you will be asked to restart your machine (maybe several times).

Start the Hyper-V Manager.



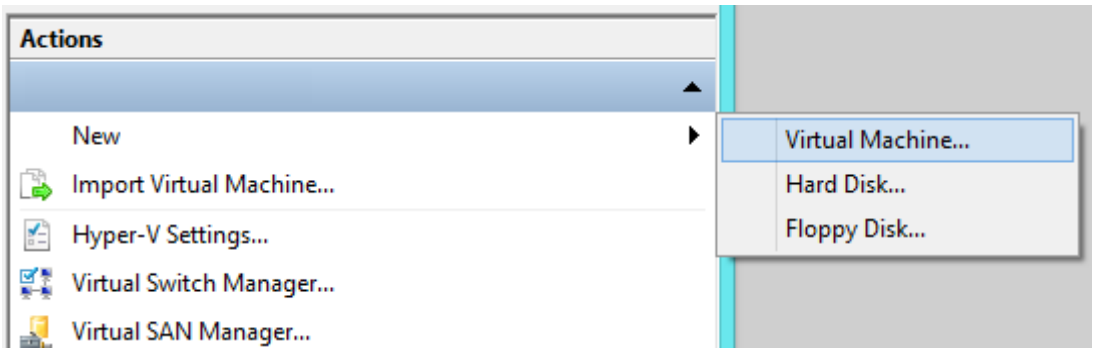
First we need to configure the Virtual Switch so that we could provide networking to the virtual machine, for this click on Virtual Switch Manager.

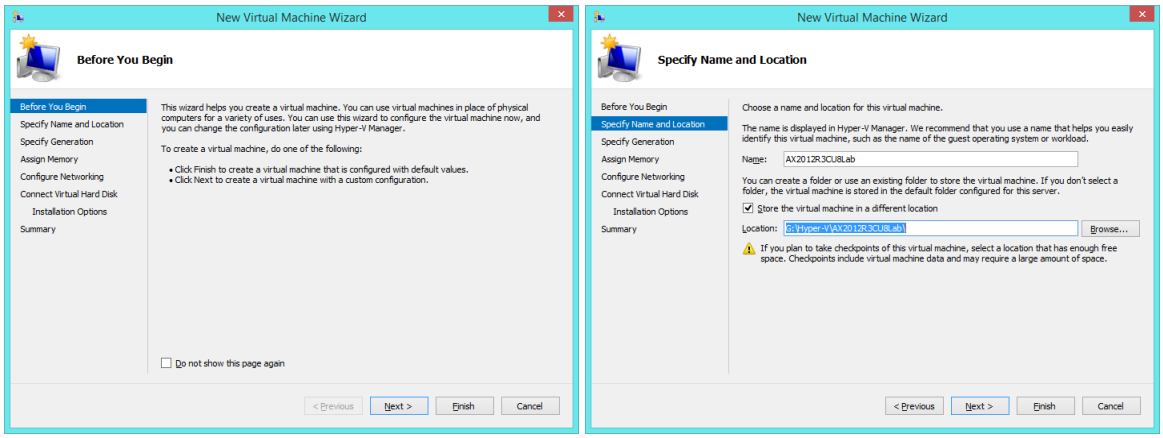


You probably already have a virtual switch (linked to the network card of the host). If you don't have one, then create one External switch and choose one of the existing network cards.

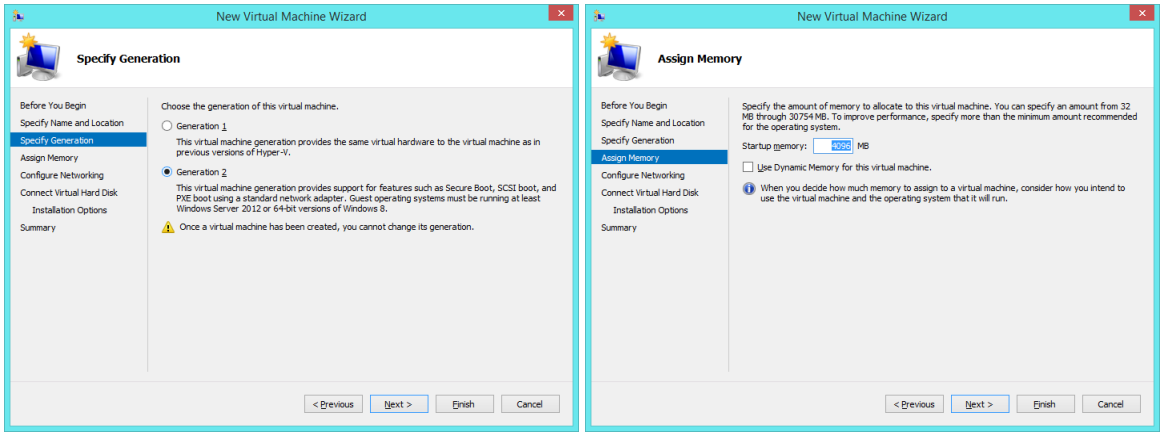
Create a new Internal virtual switch and name it **AX2012R3**.

Now back in the Hyper-V Manager choose from Actions the option New > Virtual Machine.



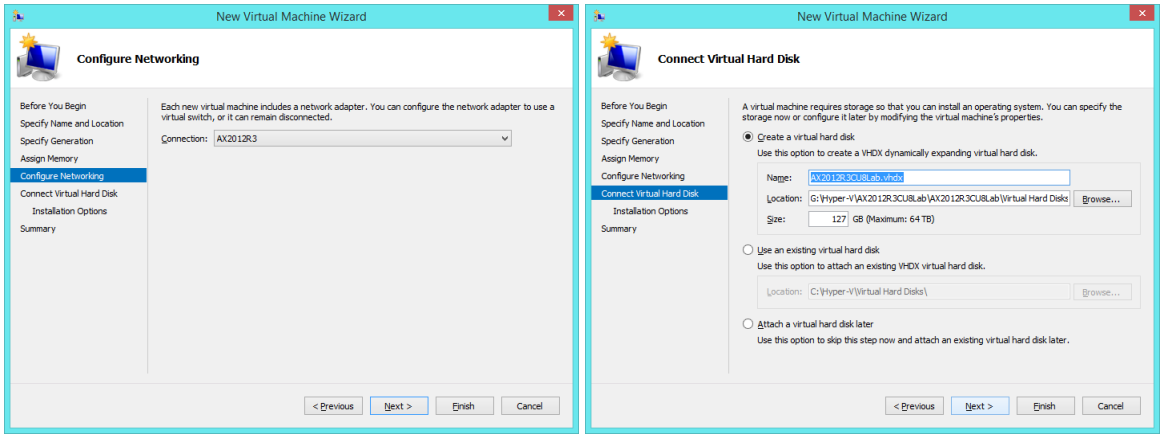


Name the virtual machine as: **AX2012R3CU8Lab**, and choose a location where to store it.



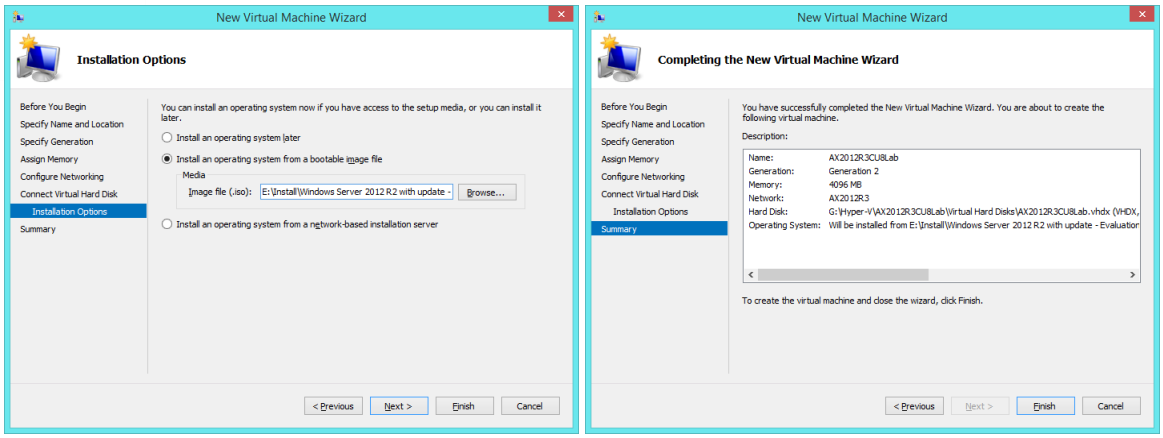
Select Generation 2, as it provides more features.

For memory specify **4096**.



For networking, connect the virtual machine first to the **AX2012R3** virtual switch (we will connect the machine to the external network later).

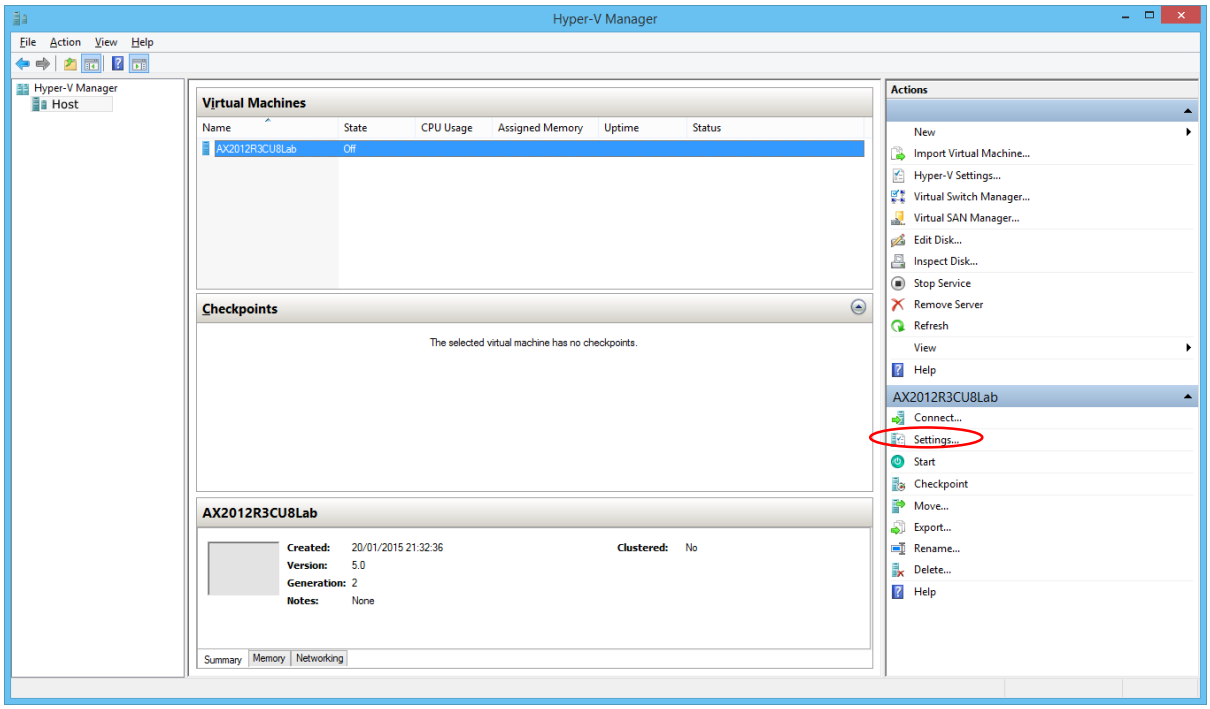
Choose to create a new virtual hard disk with the size at least 127 GB.

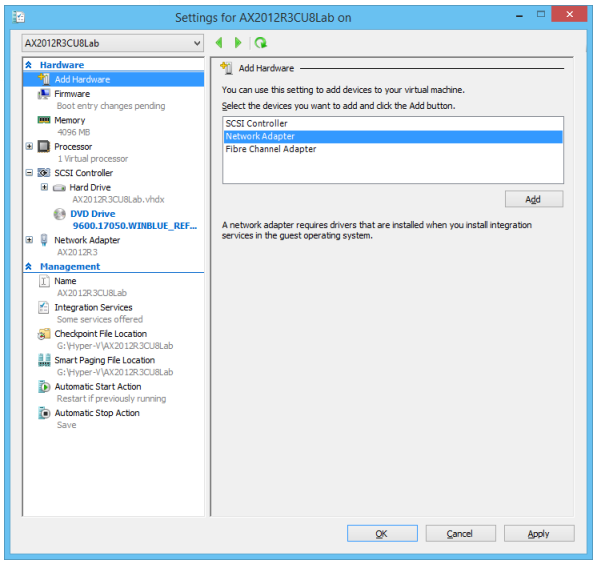


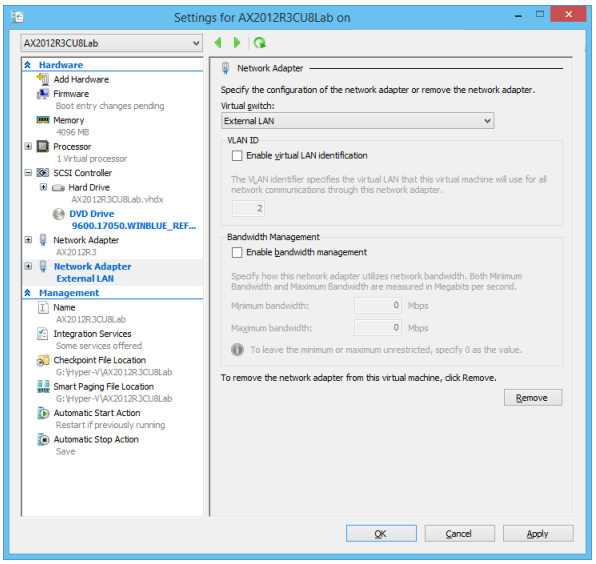
Choose to install an operating system from a bootable image and provide the path to the downloaded ISO image of Windows Server 2012 R2 with update.

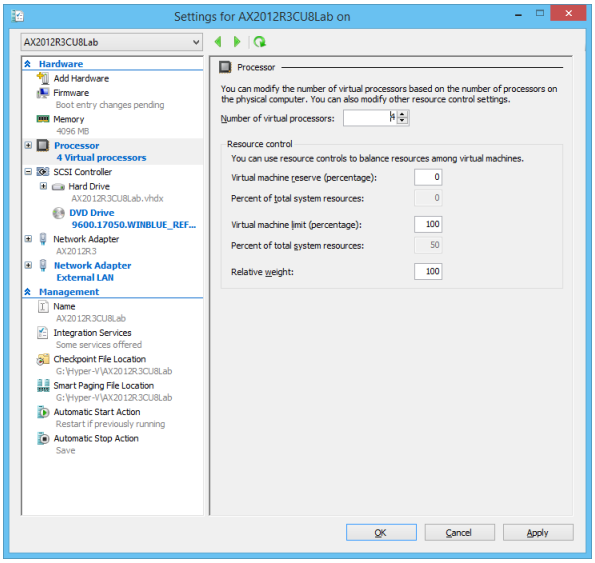
Now that the Virtual Machine is created, we will configure some settings. So back, from the Hyper-V Manager, select the new virtual machine and then click on Settings.

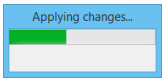
- We will add a new network adapter linked to the external switch
- We will increase the number of virtual processors to 4











Using VMWare Workstation

TODO: Steps for VMWare

Using Oracle VirtualBox

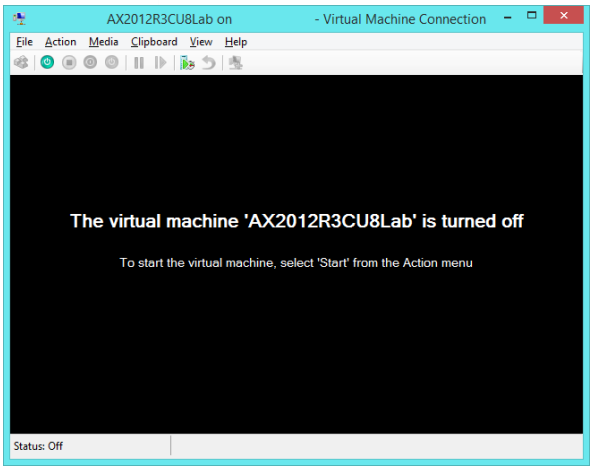
TODO: Steps for VirtualBox

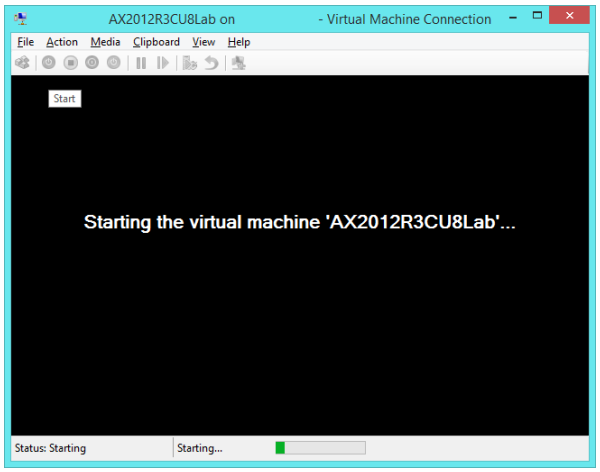
Install Windows Server 2012 R2 Standard with Update

Now that the virtual machine is configured, we can start it up and install the system.

Using Hyper-V

From the Hyper-V Manager, select the virtual machine and click Connect. This will bring up a new window that will display the console of the virtual machine. Here you can press the Start button (or from the Action menu choose Start).





Using VMWare Workstation

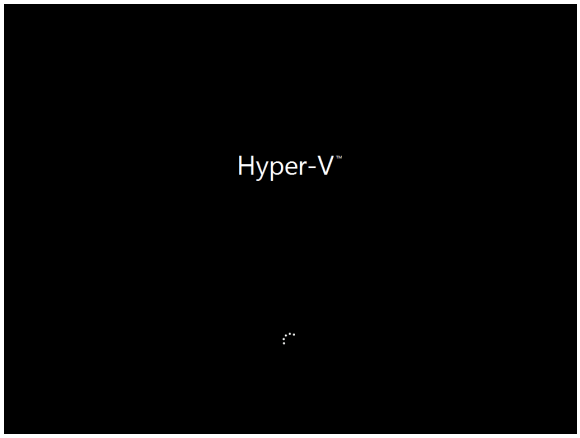
TODO: Steps for VMWare

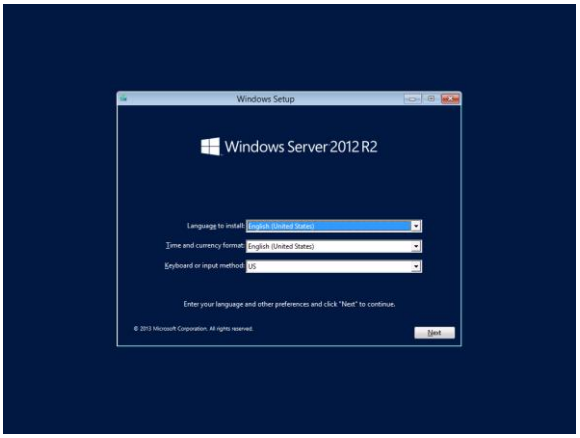
Using Oracle VirtualBox

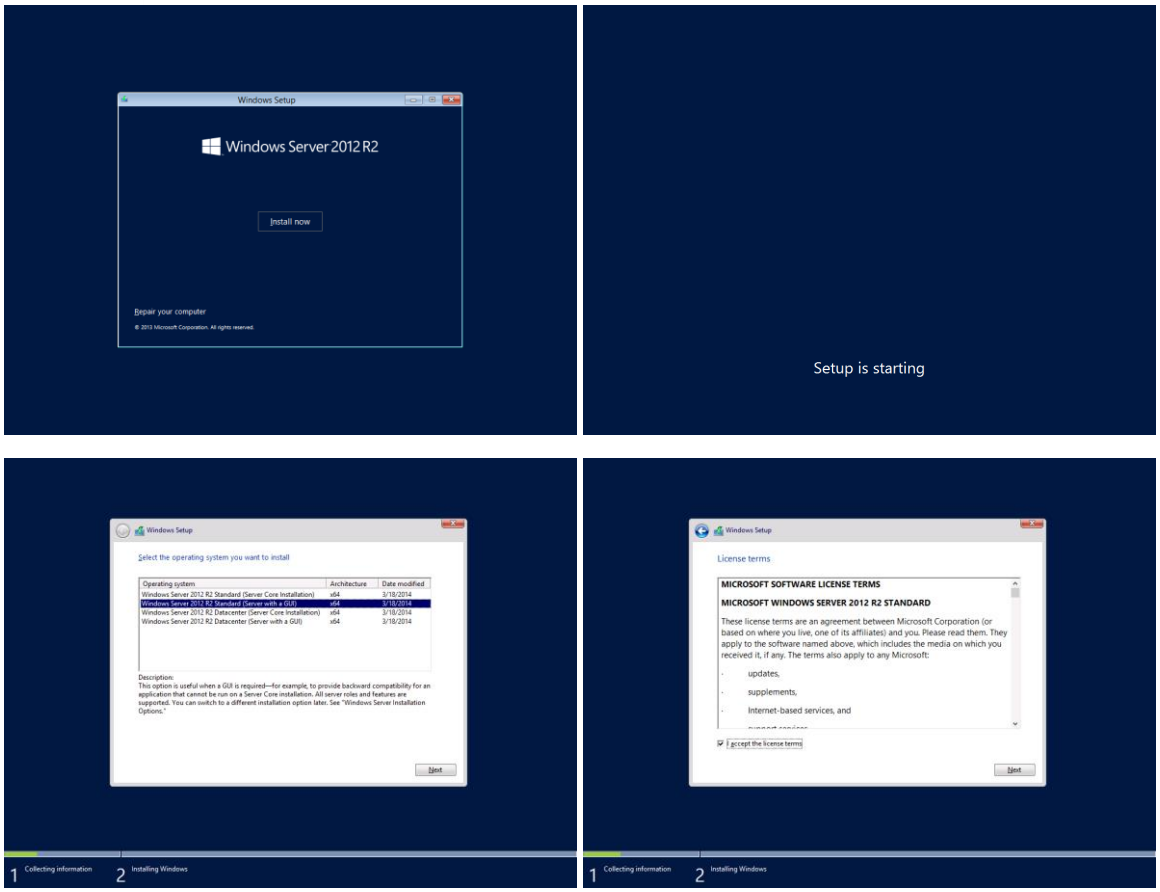
TODO: Steps for VirtualBox

Common steps

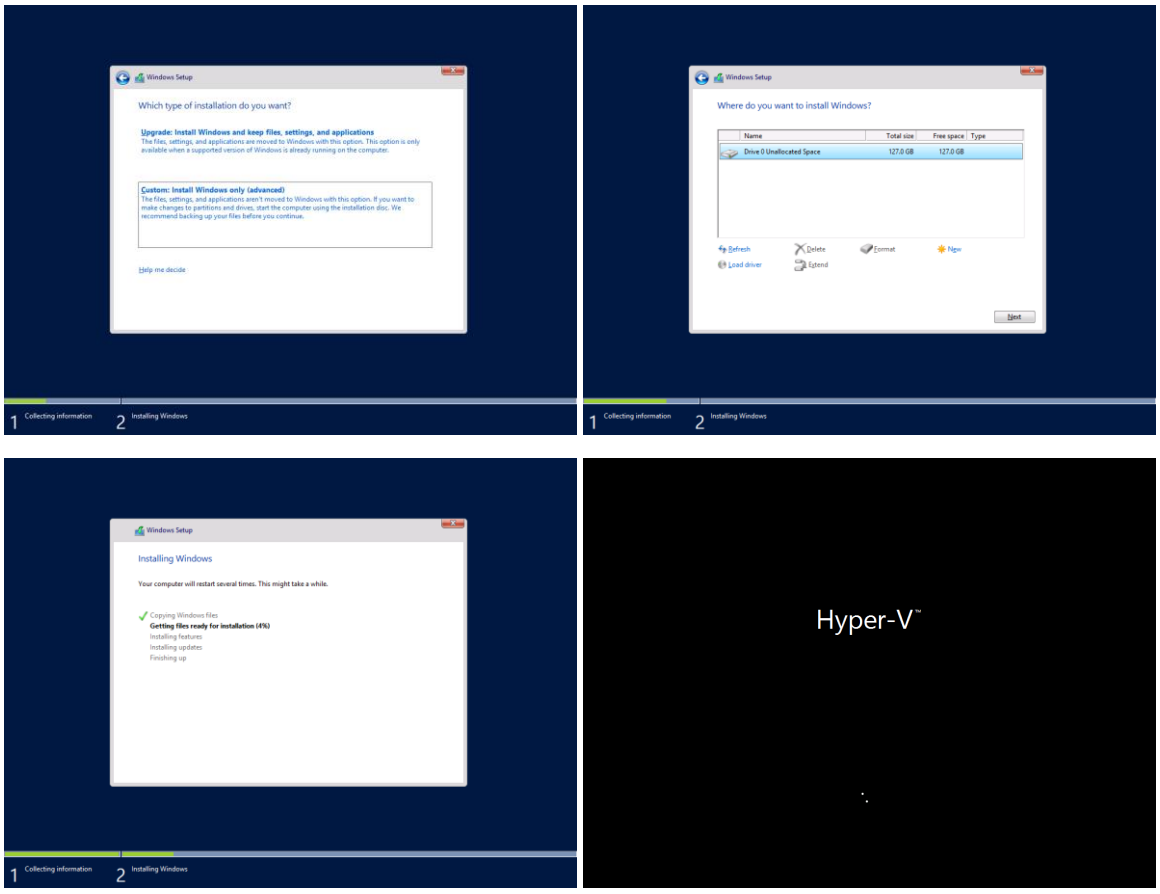
Once the virtual machine starts, you can install the operating system as you would on a real machine.

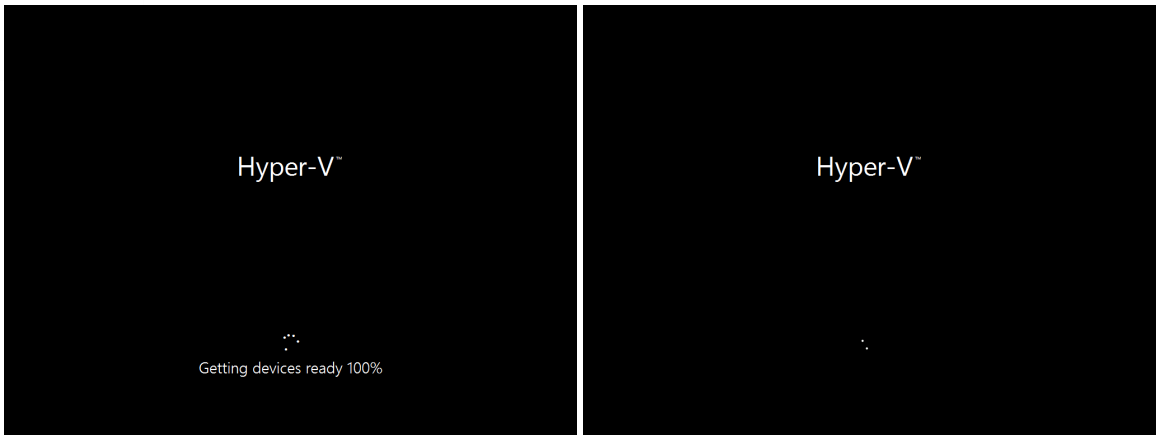




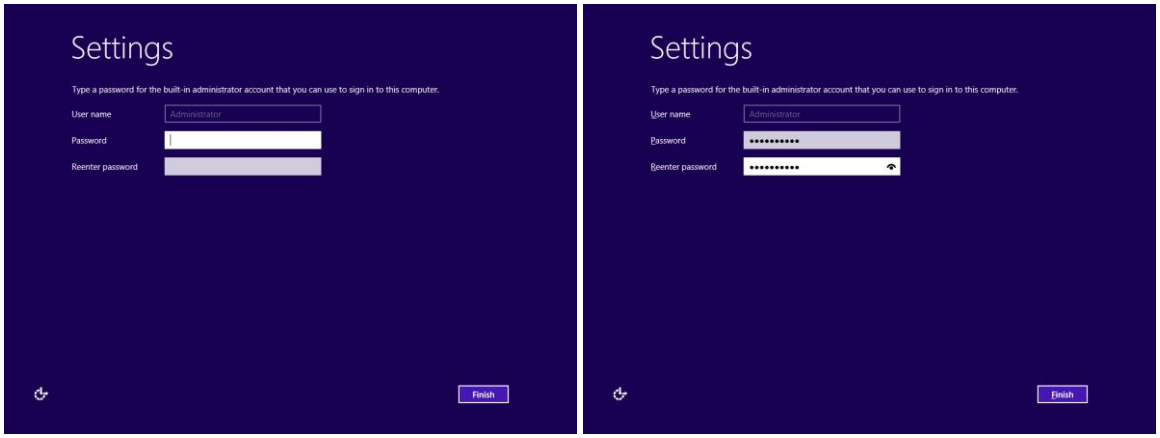


Please choose an option with Server with a GUI (Standard should be enough).

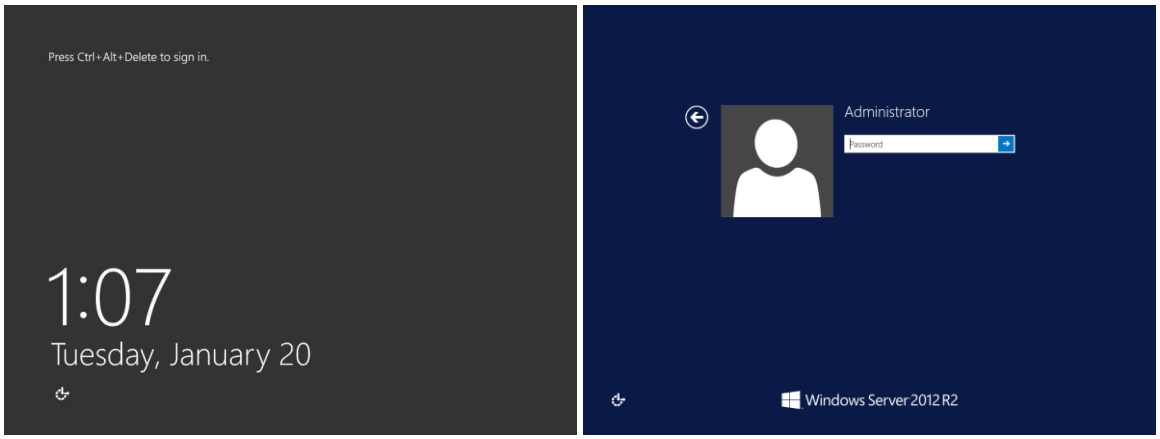


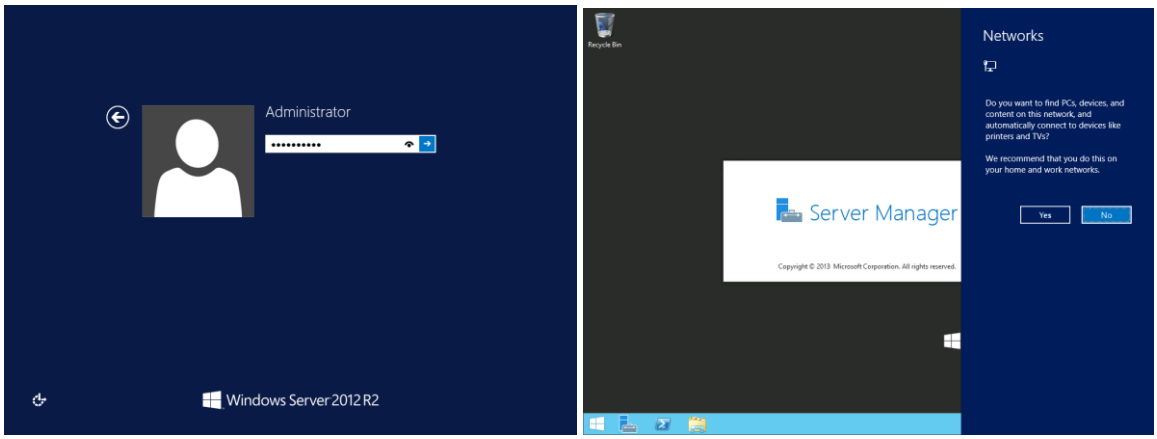


Windows Server 2012 R2 configuration

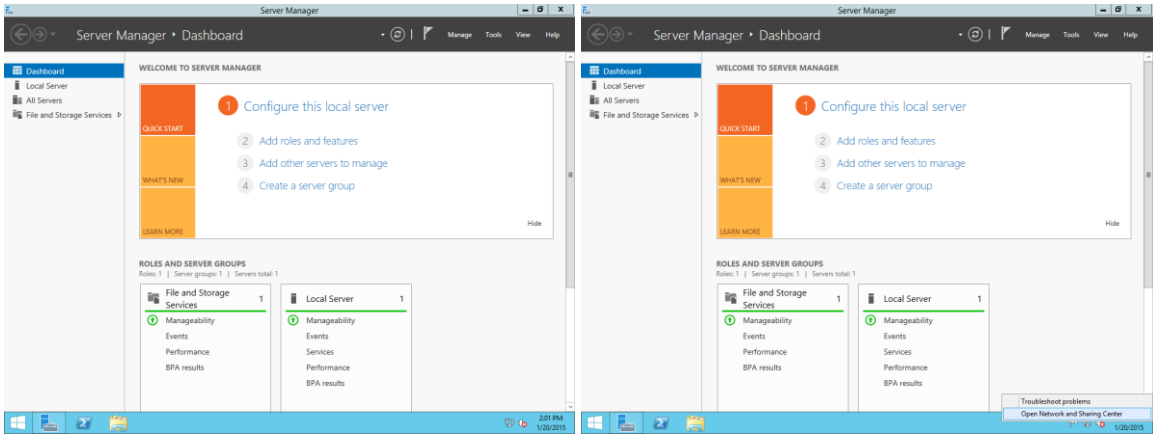


For user Administrator set a password, e.g. the standard one: **pass@word1** (we will be using this password throughout the document, if you changed it use your own instead of this one)

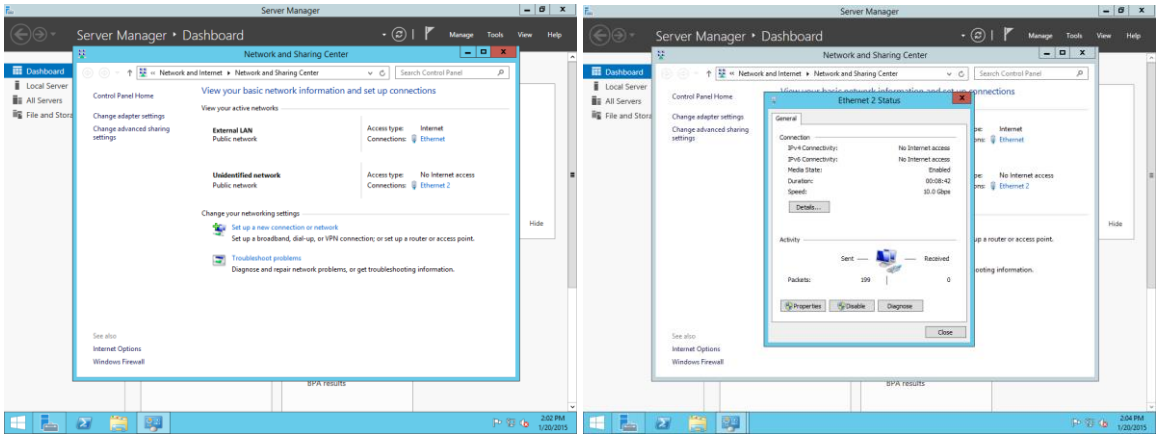




If you are asked if you want to find other PCs or devices choose No.



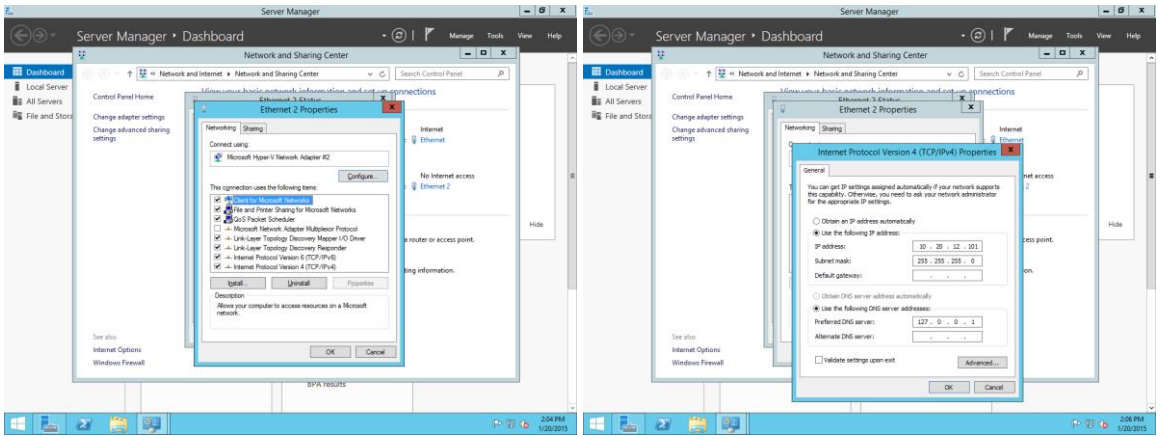
After the first login, the Server Manager tool should be displayed. First we will set the internal IP so that the domain would have a statically assigned address. For this we can right-click on the network icon in the right-bottom corner and choose Open Network and Sharing Center.



From here click on Ethernet 2 network connection to bring up the status of that network card. Now click on Properties, select Internet Protocol Version 4 (TCP/IPv4) and click on Properties, to bring up the IPv4 settings for this card. Please set some static IP address parameters, e.g.:

- Use the following IP address
  - IP address: 10.20.12.101
  - Subnet mask: 255.255.255.0
  - Default gateway: <empty>

- Use the following DNS server addresses:
  - Preferred DNS server: 127.0.0.1
  - Alternate DNS server: <empty>

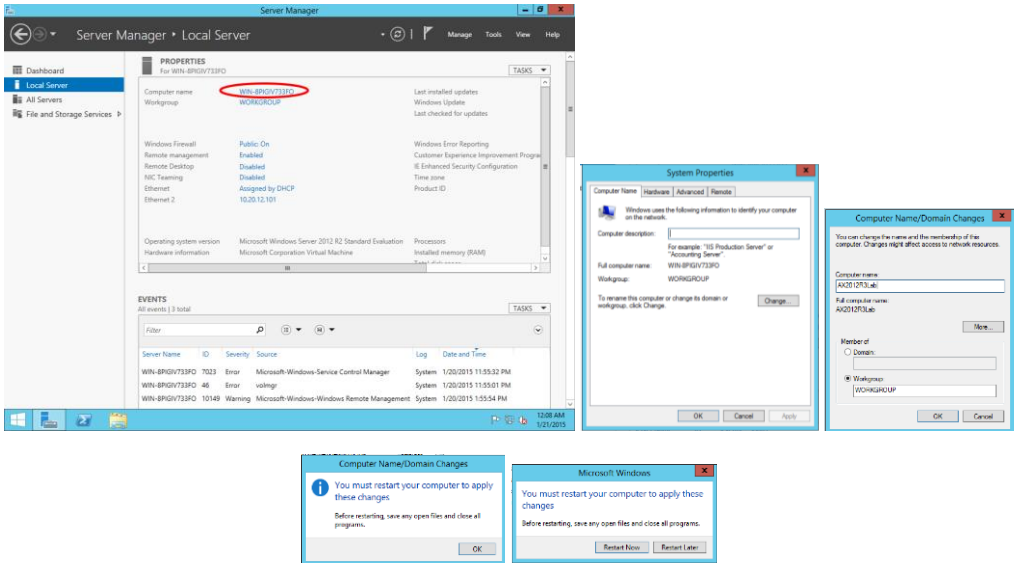


Please uncheck Internet Protocol Version 6 (TCP/IPv6) for both network adapters (Ethernet and Ethernet 2).

Rename your machine

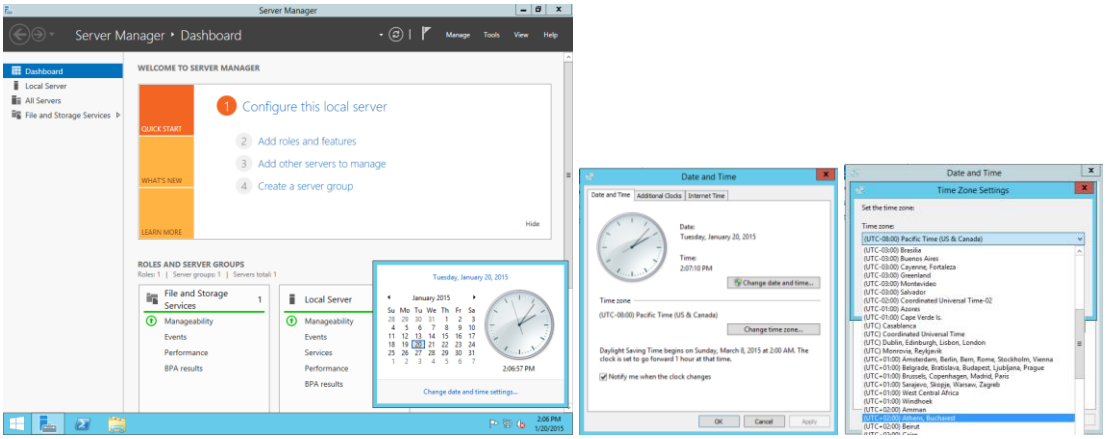
At this point we should rename our system. From Server Manager select the Local Server and then click on the random Computer name. You will get a dialog with the System Properties. Click on the Change button. Input the new computer name, e.g. **AX2012R3Lab** (we will be using this name throughout the document, but if you changed it, please use your name), and press OK, then on the next dialog click on Restart Now button.

Remark: If you will be using multiple machines on the same network, then it would be a good idea that each machine have its unique computer name and specific IP address. Alternatively, you could install a Windows Server (virtual) machine with Routing and Remote Access Services with NAT enabled for each of the different subnets defined for the corresponding machines – if you use this, then you can use the same name for each machine, but you have to set different IP and subnets for them.



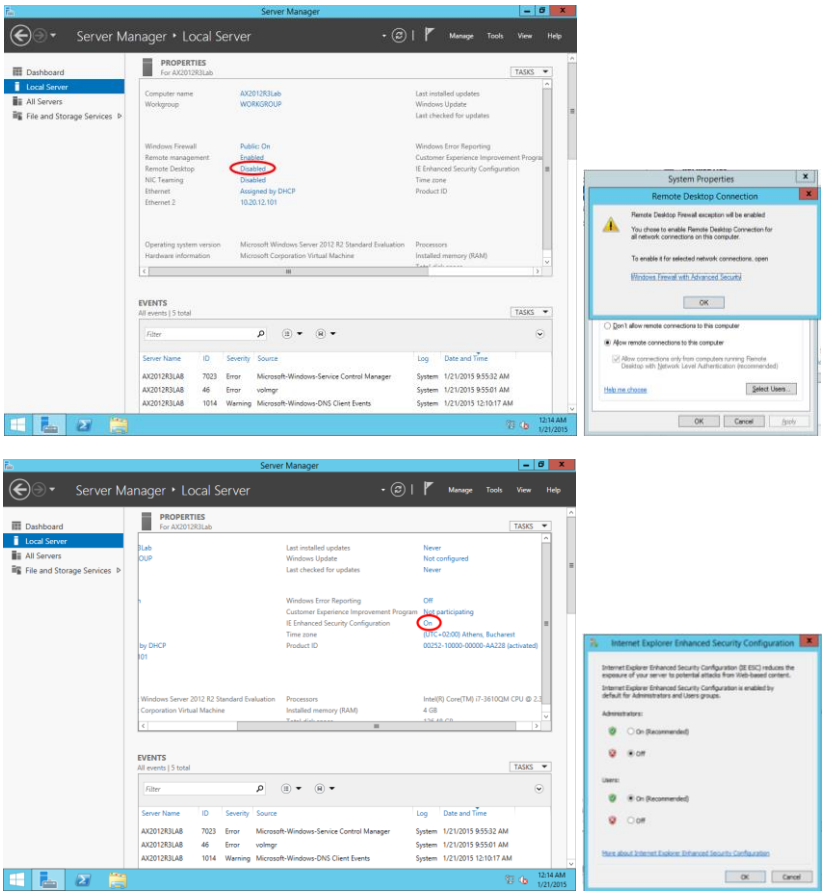
Set the correct time zone

After the system restarts and you login, we should set the correct time zone for your region. For this right-click on the clock from the right-bottom corner and click on Change date and time settings.



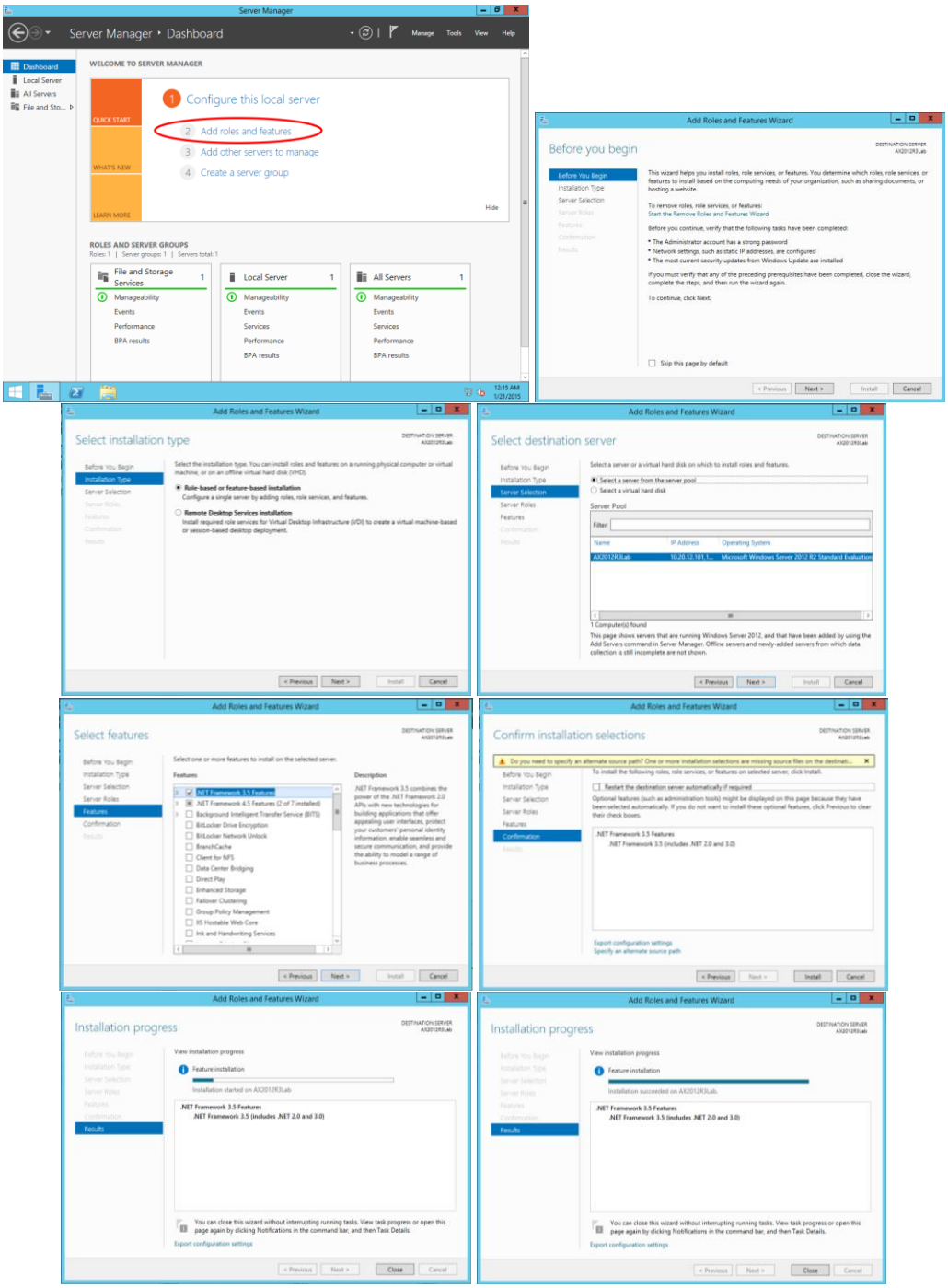
Enable Remote Desktop and disable IE Enhanced Security

Next you should enable Remote Desktop and disable IE Enhanced Security Configuration from the Server Manager, by selecting the Local Server.



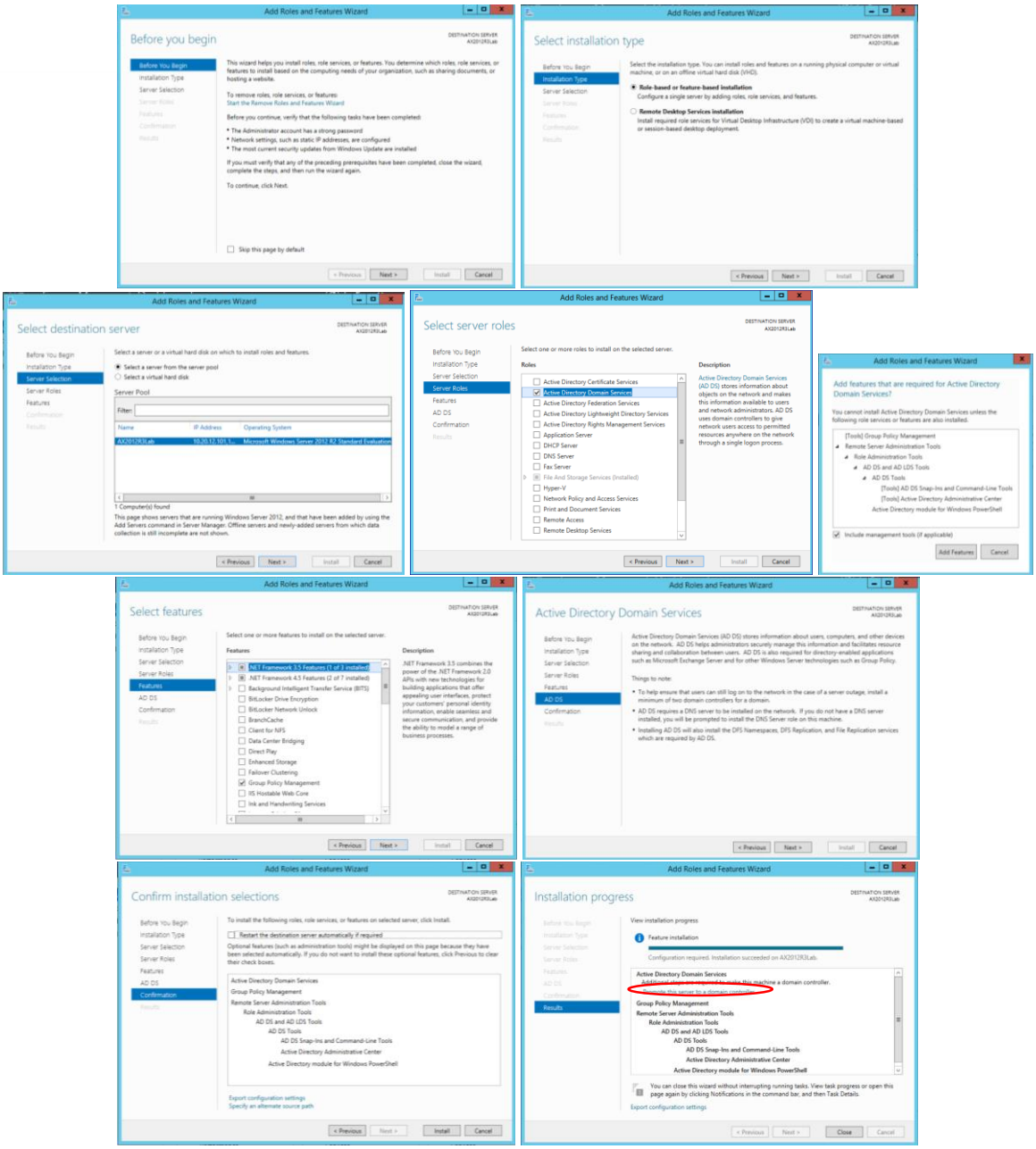
Install .NET Framework 3.5

Different components from Dynamics AX still require .NET Framework 3.5 and below, so we need to install those components. For this, from Server Manager's Dashboard choose Add roles and features. Press Next, Next, Next, Next, select .NEXT Framework 3.5 Features, Next, Install. Wait until the installation finishes and then press Close.



Install Active Directory

Now that the basic operating system is finished, we can start configuring the required components for Dynamics AX. The first one is the existence of a Windows Domain. For this we need to install the Active Directory Domain Services. This is done from Server Manager's Dashboard, from where we select, as before Add roles and features. On the Add Roles and Features Wizard press Next, Next, Next. For Server Roles select the Active Directory Domain Services option. You will get a popup dialog box with Add features that are required for Active Directory Domain Services, press the Add Features button. Back on the Server Roles selection screen, press Next, Next (we are not adding other features at this time), on the AD DS screen press Next and on the Confirmation screen press Install. Wait until the installation finishes, then click on the Promote this server to a domain controller link from the Results screen.

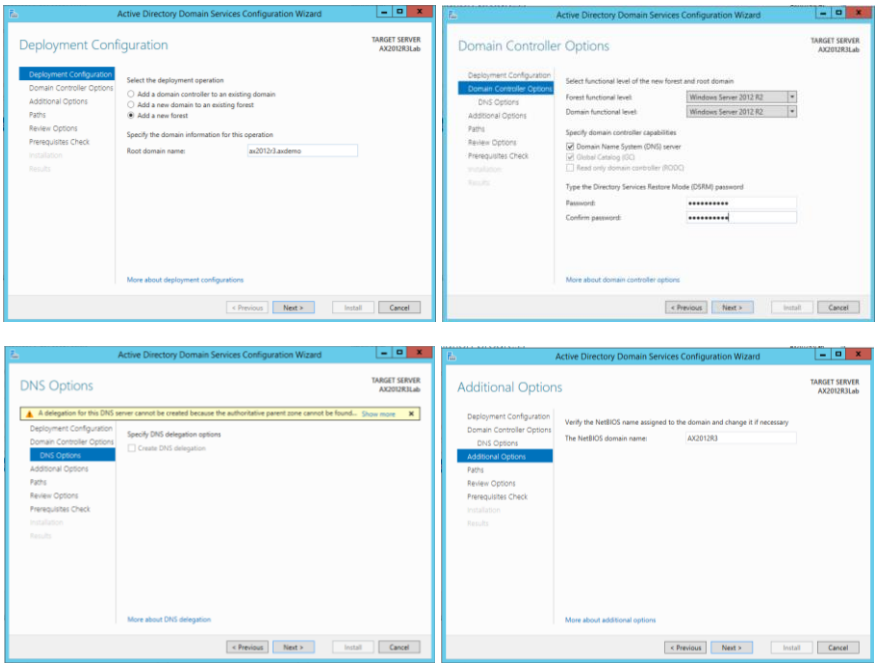


The next steps will actually deploy our Active Directory server. Because this is a new domain and it is not part of any larger entity, we will select Add a new forest on de Deployment Configuration screen, specify the Root domain name, e.g. **ax2012r3.axdemo** (we will be using this full domain name throughout the document, but if you changed it, please use your full domain name) and press Next.

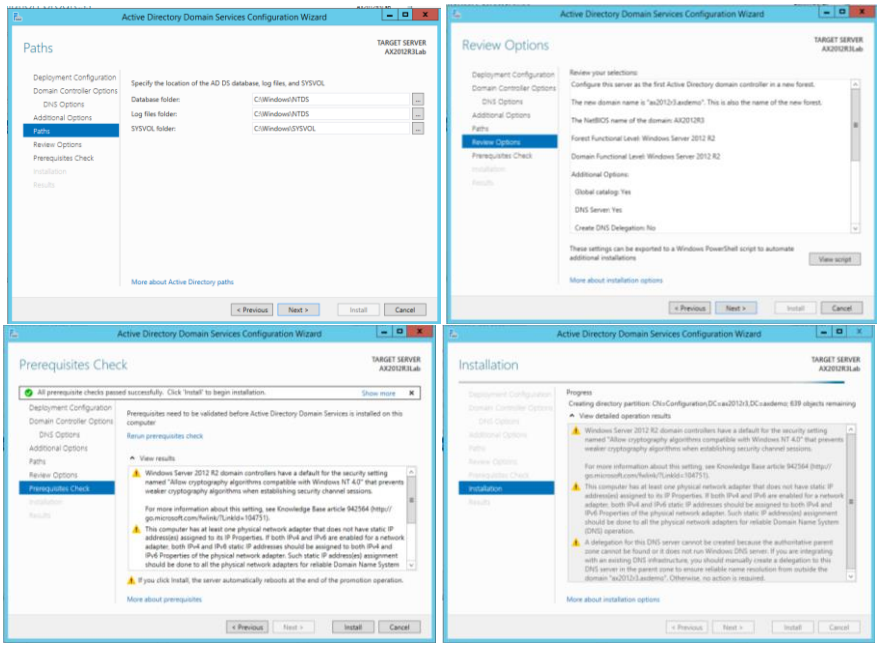
Remark: If you will be using multiple machines on the same network, then it would be a good idea that each machine have its unique Root domain name. Alternatively, you could install a Windows Server (virtual) machine with Routing and Remote Access Services with NAT enabled for each of the different subnets defined for the corresponding machines – if you use this, then you can use the same root domain name for each machine, but you have to set different IP and subnets for them.

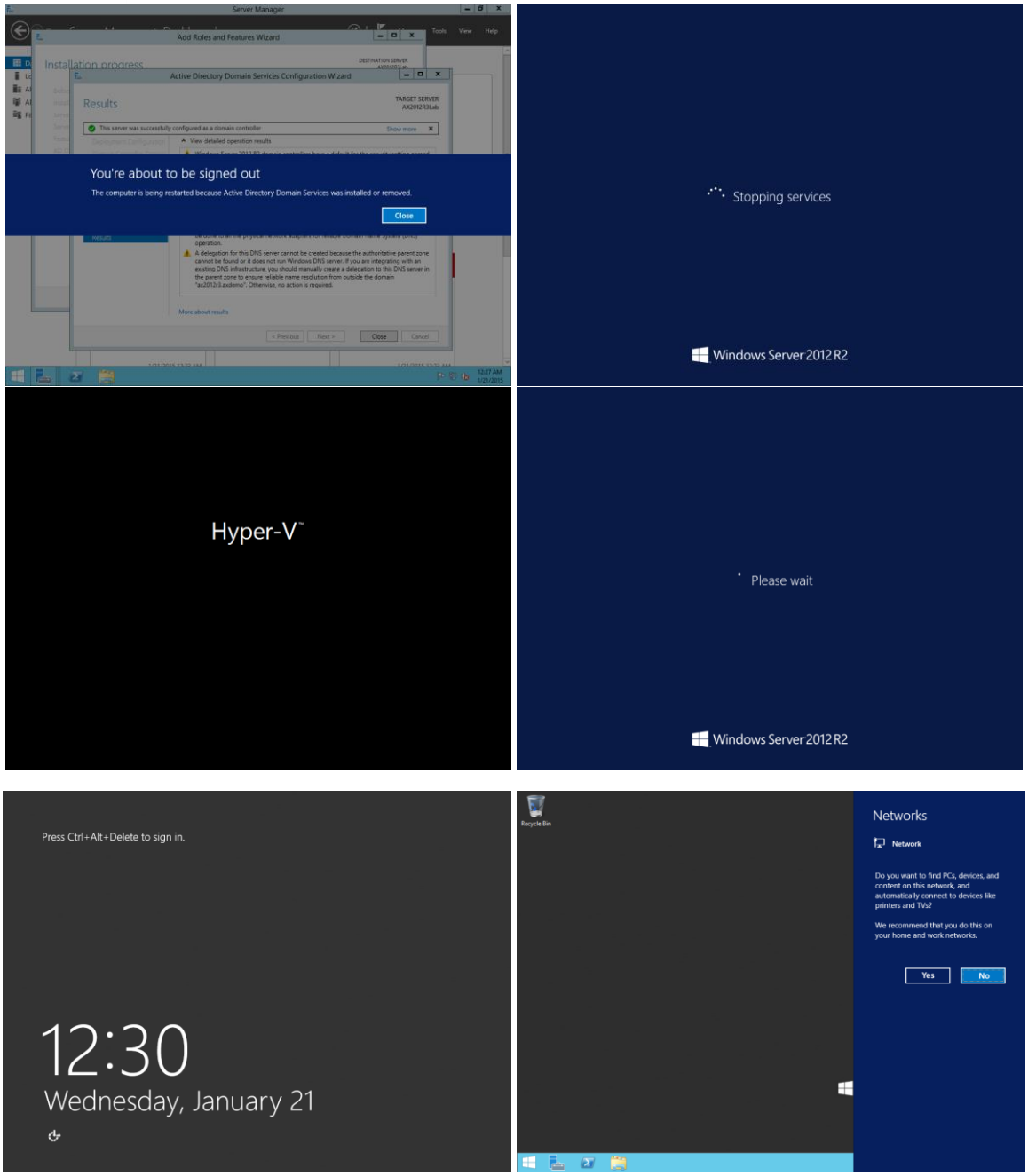
On the Domain Controller Options screen provide the DSRM password. For simplicity use the same password as for Administrator (**pass@word1**). Press Next, Next. On the Additional Options screen

you can see the **NetBIOS** name of your domain (in our case **AX2012R3**, we will be using this domain name throughout the document, but if you changed it, please use your domain name) press Next.



Press Next, Next. On the Prerequisites Check screen all checks should pass successfully. Press Install. Wait until the installation finishes. After the installation finishes you will get a system message that you will be signed out. Just wait and your system will restart. After restart, login with Administrator. Probably you will get a question about turning on network discovery – please choose No.





Create the necessary accounts in AD

To be able to setup the services needed by Dynamics AX, we need to create some AD accounts. For the purpose of this setup we will create the following accounts:

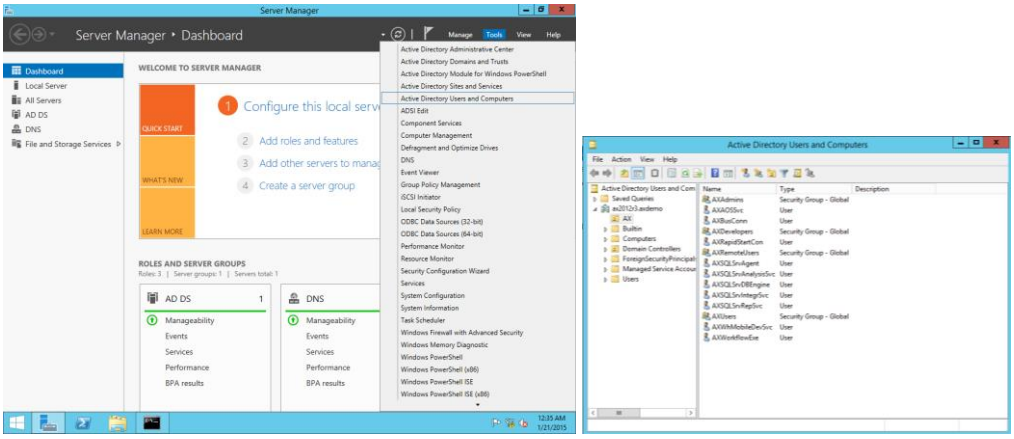
- AXAOSSvc
- AXBusConn
- AXSQLSrvAgent
- AXSQLSrvAnalysisSvc
- AXSQLSrvDBEngine
- AXSQLSrvIntegrSvc
- AXSQLSrvRepSvc
- AXRapidStartCon
- AXWhMobileDevSvc

- AXWorkflowExe

For these accounts we will set the same password as for Administrator (**pass@word1**) and the following properties:

- User cannot change password
- Password never expires

Actually you should also set Password never expires for the Administrator account.



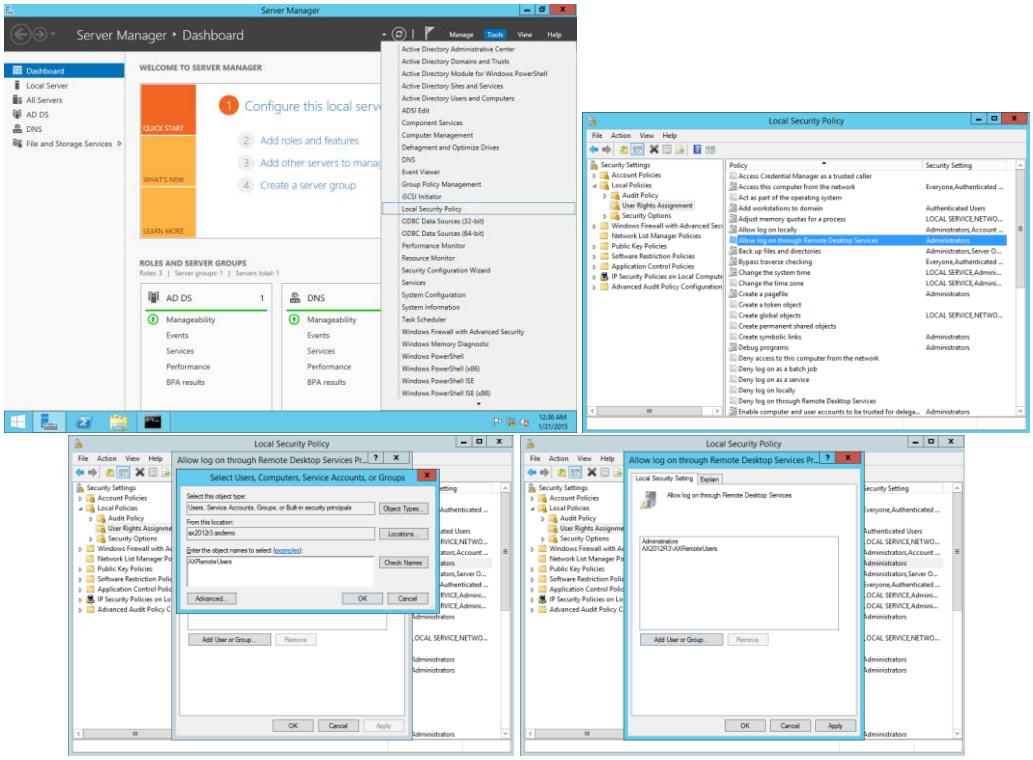
TODO: Describe the AX OU & user creation process.

Create the necessary security groups in AD

If you would like to use your machine with multiple users, you should also setup some security groups:

- AXAdmins
- AXUsers
- AXRemoteUsers
- AXDevelopers

AXRemoteUsers should also be allowed to login remotely. For this you should start Local Security Policy tool, expand Security Settings > Local Policies > User Rights Assignments and double click on Allow logon through Remote Desktop Services. On the dialog press the Add User or Group button and add the AXRemoteUsers group.

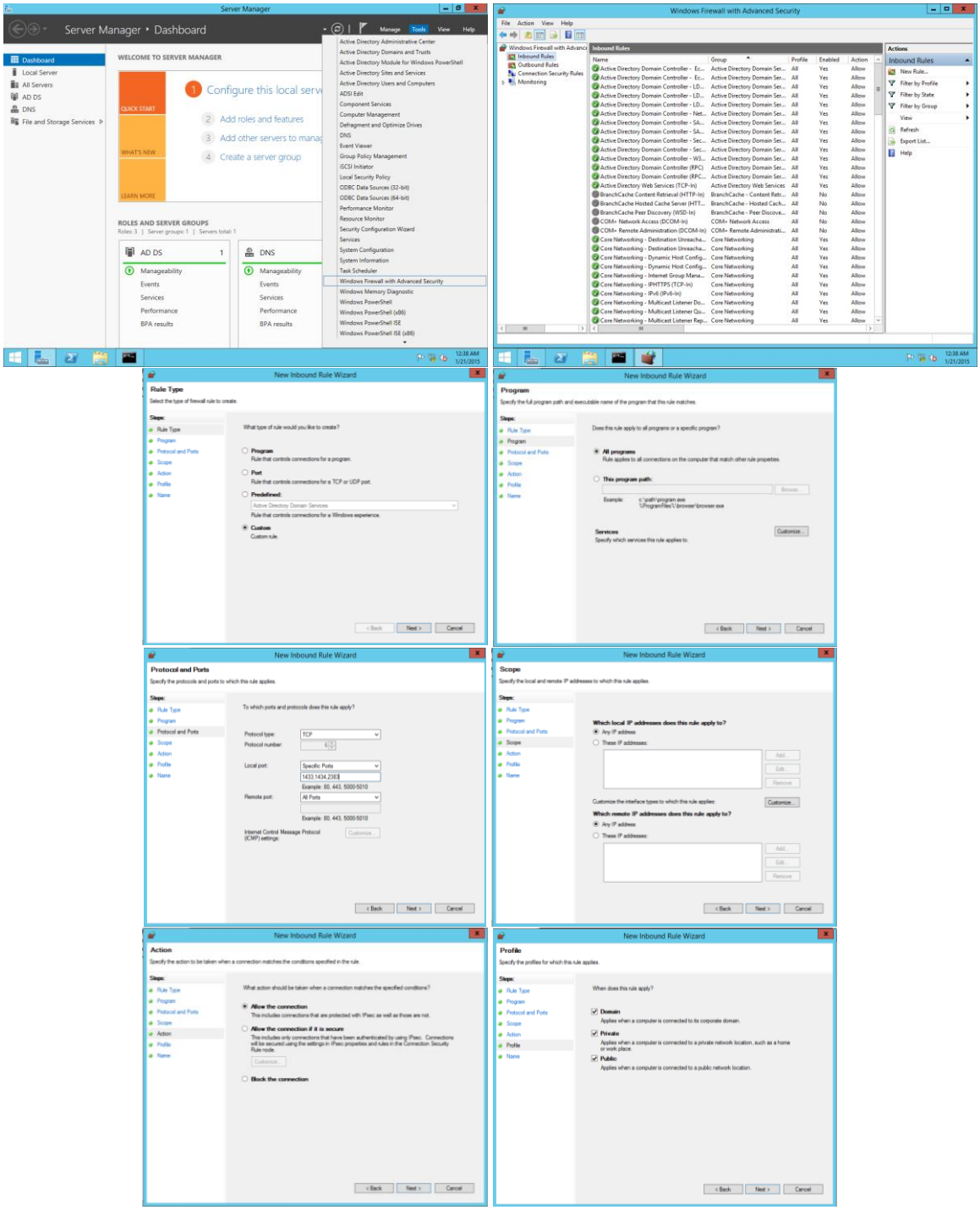


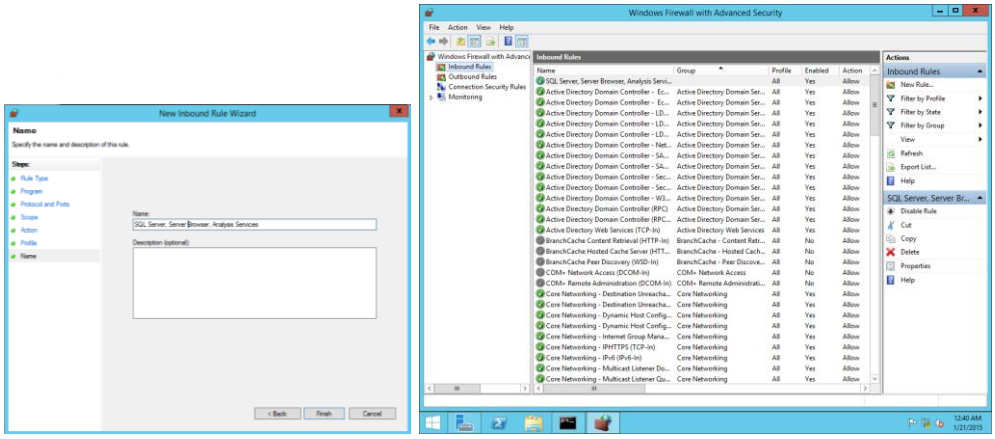
Remark: You should do a full Windows Update (Control Panel > System and Security > Windows Update > Check for updates) and install all updates. But first go the Change settings option and select Download updates but let me choose whether to install them and check both checkboxes (Give me recommended updates the same way I receive important updates, Give me updates for other Microsoft products when I update Windows). If after installing the updates it requires a restart, then restart the machine and check again for updates. If there are more updates available install those too.

Open firewall for remote SQL access

To be able to connect remotely to the local SQL Server you will need to open up the corresponding ports in the Windows Firewall.

From the Tools menu in Server Manager select Windows Firewall with Advanced Security. Select Inbound Rules and then from the Actions menu select New Rule. For the Rule Type select Custom, then click Next. For Program select All programs then press Next. For Protocol and Ports select Protocol type: TCP, Local port: Specific Ports: 1433, 1434, 2383, Remote port: All Ports, then press Next. For Scope leave Any IP address, press Next. For Action select Allow the connection, press Next. For Profile select all Domain, Private and Public check boxes, press Next. For Name specify SQL Server, Server Browser, Analysis Services and press Finish.


Server Manager
Server Manager • Dashboard
Windows Firewall with Advanced Security
New Inbound Rule Wizard
Rule Type
Program
Protocol and Ports
Scope
Action
Profile

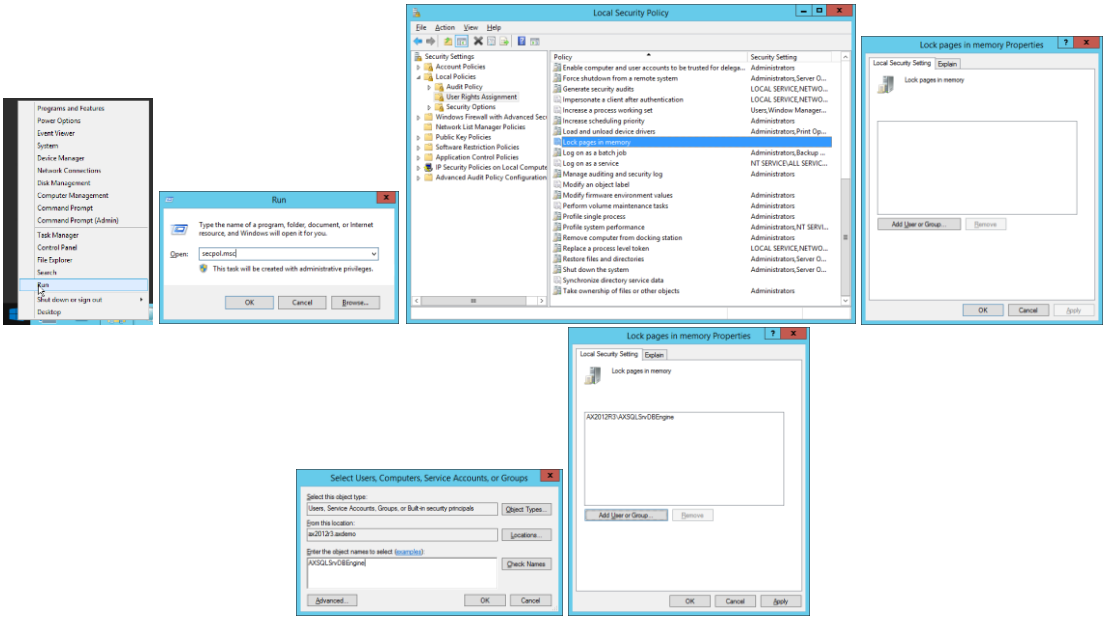


Enable the Lock Pages in Memory Option for SQL Server Account

To be able to optimize SQL Server performance, you should enable the lock pages in memory option for the user account under which SQL Server is running.

For this you should open the Local Security Policy tool by right-clicking on the lower left corner of the desktop (on the Start menu) and select Run (or press Win + R), input **secpol.msc** and press OK.

From the Local Security Policy tool expand Security Settings > Local Policies > User Rights Assignment and double click on Lock pages in memory. On the properties dialog press the Add User or Group button, on the Select Users, Computers, Service Accounts, or Groups dialog specify **AXSQLSrvDBEngine** and press OK, then OK again. You can close the tool.



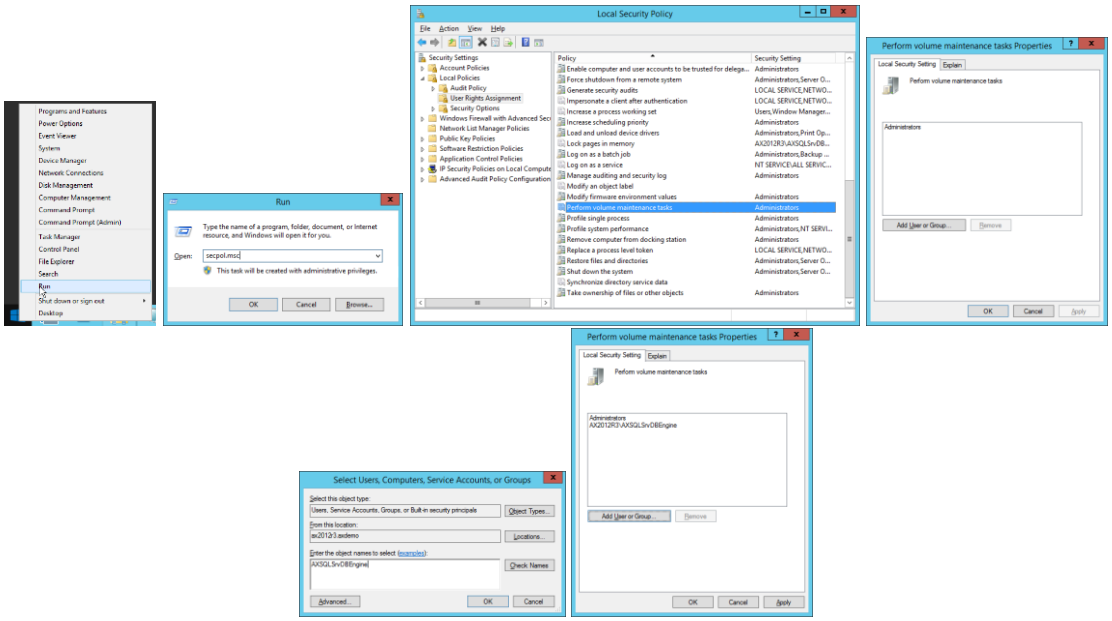
Enable Database Instant File Initialization for SQL Server Account

To be able to optimize SQL Server performance, you should enable the database instant file initialization option for the user account under which SQL Server is running.

For this you should open the Local Security Policy tool by right-clicking on the lower left corner of the desktop (on the Start menu) and select Run (or press Win + R), input **secpol.msc** and press OK.

From the Local Security Policy tool expand Security Settings > Local Policies > User Rights Assignment and double click on Perform volume maintenance tasks. On the properties dialog press the Add User

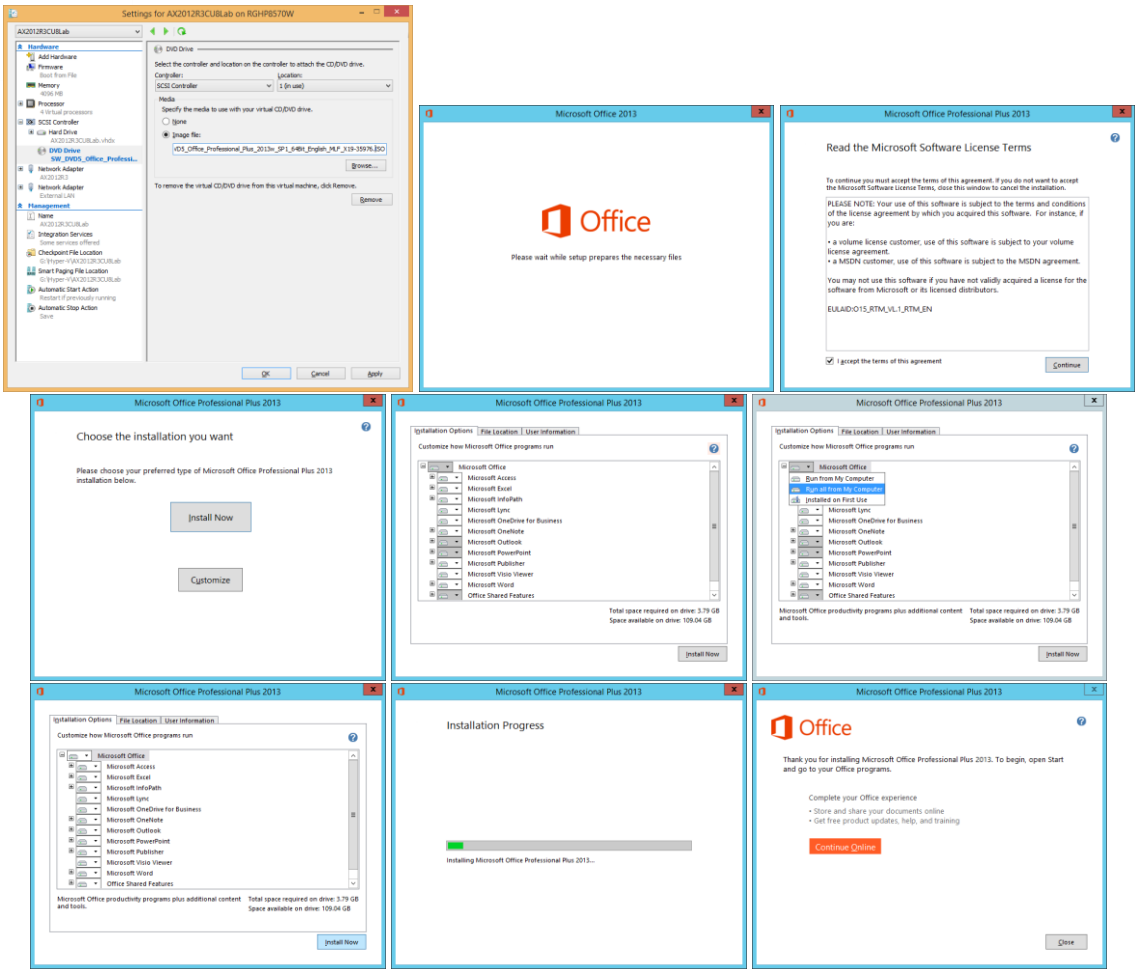
or Group button, on the Select Users, Computers, Service Accounts, or Groups dialog specify **AXSQLSrvDBEngine** and press OK, then OK again. You can close the tool.



Install Office 2013 Pro Plus with SP1

To be able to install Office, you will need to mount your Office ISO. For this, if you are using a virtual machine, you need to go to Hyper-V Manager, select the correct machine and click on the Settings link or from the Action menu select Settings. Now expand the SCSI Controller, click on DVD Drive and select Image file, where click on the Browse button and choose the correct Office ISO file. Alternatively, if you have your ISO file on a local or a network drive, you can access that location and double-click on the ISO file. This will mount the ISO file as a new DVD drive. After you mounted the DVD drive the setup should start automatically. If not, just launch the setup from the DVD drive.

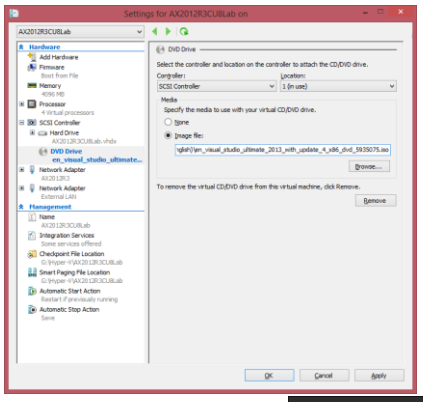
The setup should prepare the necessary files and then present you with the license terms. Accept them and press Continue. Choose Customize, click on Microsoft Office and choose Run all from My Computer, the press Install Now. Wait until the installation finishes and then press Close.

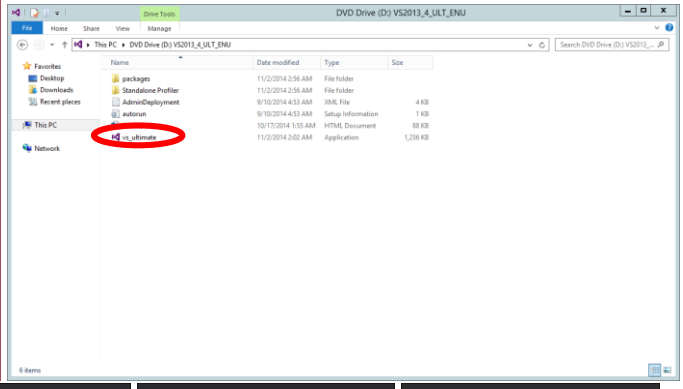


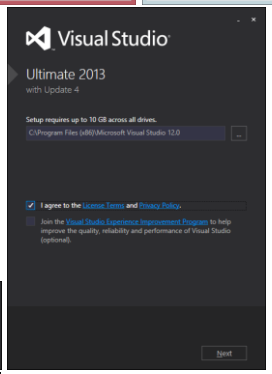
Remark: You should do a full Windows Update (Control Panel > System and Security > Windows Update > Check for updates) and install all updates.

Install Visual Studio 2013 with Update 4

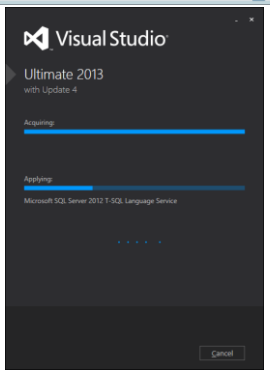
To be able to install Visual Studio, you will need to mount your Visual Studio ISO. For this, if you are using a virtual machine, you need to go to Hyper-V Manager, select the correct machine and click on the Settings link or from the Action menu select Settings. Now expand the SCSI Controller, click on DVD Drive and select Image file, where click on the Browse button and choose the correct Visual Studio ISO file. Alternatively, if you have your ISO file on a local or a network drive, you can access that location and double-click on the ISO file. This will mount the ISO file as a new DVD drive. After you mounted the DVD drive the setup should start automatically. If not, just launch the setup from the DVD drive.

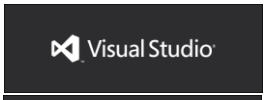


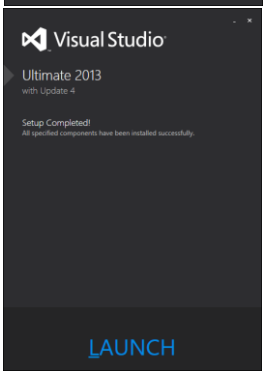


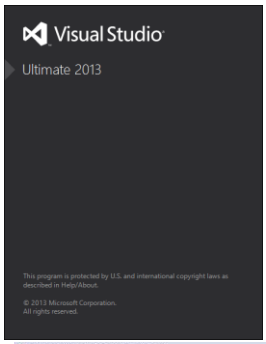

Visual Studio
Ultimate 2013
with Update 4
Setup requires up to 10 GB across all drives.
I agree to the License Terms and Privacy Policy.
Next


Visual Studio
Ultimate 2013
with Update 4
Optional features to install:
Blend for Visual Studio
LightSwitch
Microsoft Foundation Classes for C++
Microsoft Office Developer Tools
Microsoft SQL Server Data Tools
Microsoft Web Developer Tools
Tools for Maintaining Store Apps for Windows 8
Silverlight Development Kit
Windows Phone 8.0 SDK
Select All
Setup requires up to 10 GB across all drives.
Back
INSTALL


Visual Studio
Ultimate 2013
with Update 4
Acquiring:
Applying:
Microsoft SQL Server 2012 T-SQL Language Service
Cancel


Visual Studio


Visual Studio
Ultimate 2013
with Update 4
Setup Completed!
All specified components have been installed successfully.
LAUNCH


Visual Studio
Ultimate 2013
This program is protected by U.S. and international copyright laws as described in Help/About.
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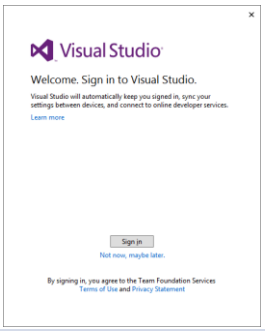
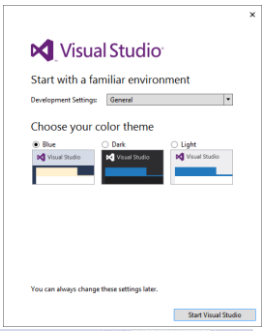
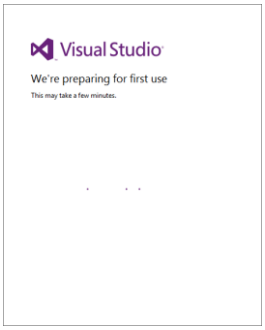
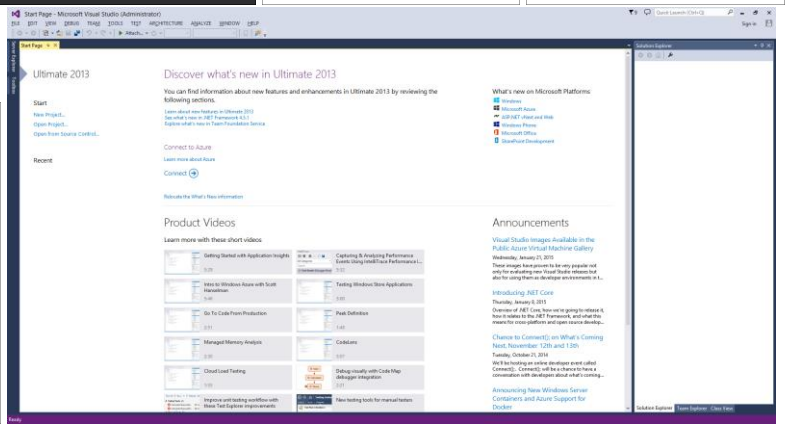
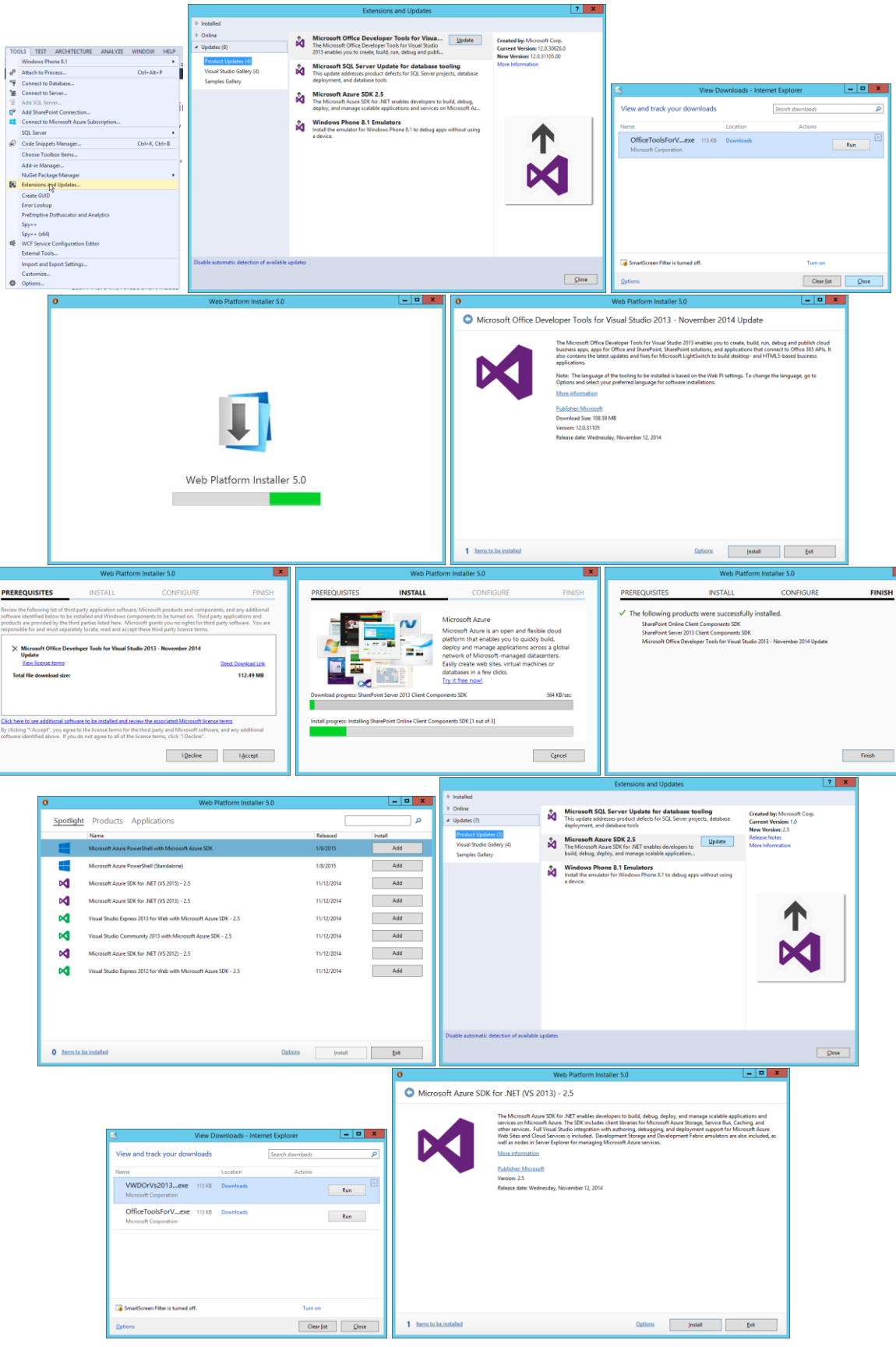
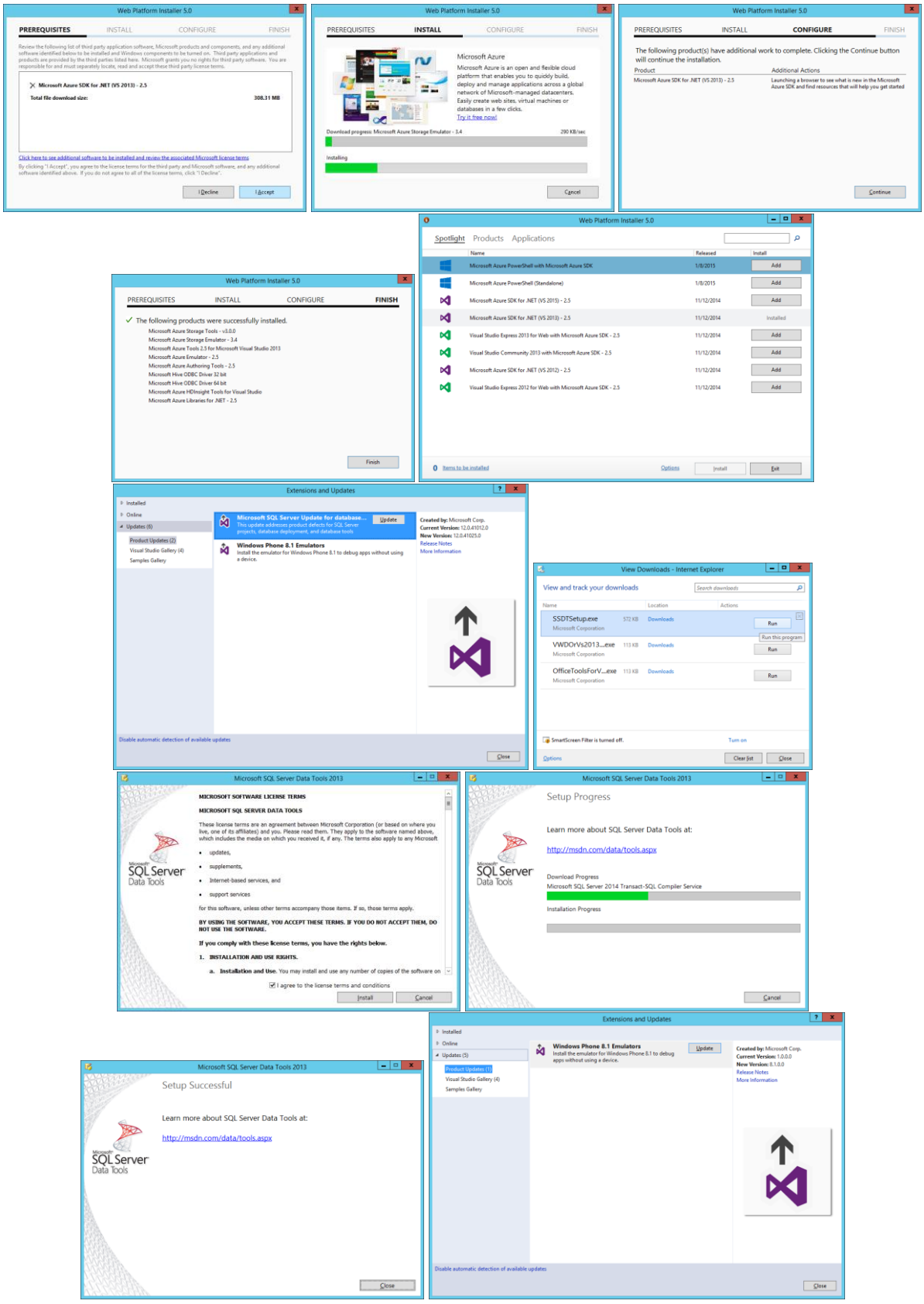

Visual Studio
Welcome. Sign in to Visual Studio.
Visual Studio will automatically keep you signed in, sync your settings between devices, and connect to online developer services.
Learn more
Sign in
Not now, maybe later.
By signing in, you agree to the Team Foundation Services
Terms of Use and Privacy Statement


Visual Studio
Start with a familiar environment
Development Settings:
General
Choose your color theme
Blue
Dark
Light
You can always change these settings later.
Start Visual Studio


Visual Studio
We're preparing for first use
This may take a few minutes.


Ultimate 2013
Discover what's new in Ultimate 2013
Start
Recent
Connect to Azure
Product Videos
Announcements


Extensions and Updates
View Downloads - Internet Explorer
Web Platform Installer 5.0
Microsoft Office Developer Tools for Visual Studio 2013 - November 2014 Update
PREREQUISITES
INSTALL
CONFIGURE
FINISH
Microsoft Azure
Spotlight
Products
Applications
Microsoft Azure SDK for .NET (VS 2013) - 2.5


Web Platform Installer 5.0
PREREQUISITES
INSTALL
CONFIGURE
FINISH
Microsoft Azure SDK for .NET (VS 2013) - 2.5
Total file download size:
308.31 MB
I Decline
I Accept
Microsoft Azure
Download progress: Microsoft Azure Storage Emulator - 3.4
Installing
Cancel
The following product(s) have additional work to complete. Clicking the Continue button will continue the installation.
Product
Additional Actions
Continue
Spotlight
Products
Applications
Microsoft Azure PowerShell with Microsoft Azure SDK
Microsoft Azure PowerShell (Standalone)
Microsoft Azure SDK for .NET (VS 2015) - 2.5
Microsoft Azure SDK for .NET (VS 2013) - 2.5
Visual Studio Express 2013 for Web with Microsoft Azure SDK - 2.5
Visual Studio Community 2013 with Microsoft Azure SDK - 2.5
Microsoft Azure SDK for .NET (VS 2012) - 2.5
Visual Studio Express 2012 for Web with Microsoft Azure SDK - 2.5
Items to be installed
Options
Install
Exit
The following products were successfully installed.
Microsoft Azure Storage Tools - v3.0.0
Microsoft Azure Storage Emulator - 3.4
Microsoft Azure Tools 2.5 for Microsoft Visual Studio 2013
Microsoft Azure Emulator - 2.5
Microsoft Azure Authoring Tools - 2.5
Microsoft Hive ODBC Driver 32 bit
Microsoft Hive ODBC Driver 64 bit
Microsoft Azure HDInsight Tools for Visual Studio
Microsoft Azure Libraries for .NET - 2.5
Finish
Extensions and Updates
Installed
Online
Updates (6)
Product Updates (2)
Visual Studio Gallery (4)
Samples Gallery
Microsoft SQL Server Update for database...
Update
Windows Phone 8.1 Emulators
Install the emulator for Windows Phone 8.1 to debug apps without using a device.
Created by: Microsoft Corp.
Current Version: 12.0.41012.0
New Version: 12.0.41025.0
Release Notes
More Information
Disable automatic detection of available updates
Close
View Downloads - Internet Explorer
View and track your downloads
Search downloads
Name
Location
Actions
SSDTSetup.exe
572 KB
Downloads
Run
VWDOrVs2013...exe
113 KB
Run this program
OfficeToolsForV...exe
SmartScreen Filter is turned off.
Turn on
Clear list
Microsoft SQL Server Data Tools 2013
MICROSOFT SOFTWARE LICENSE TERMS
MICROSOFT SQL SERVER DATA TOOLS
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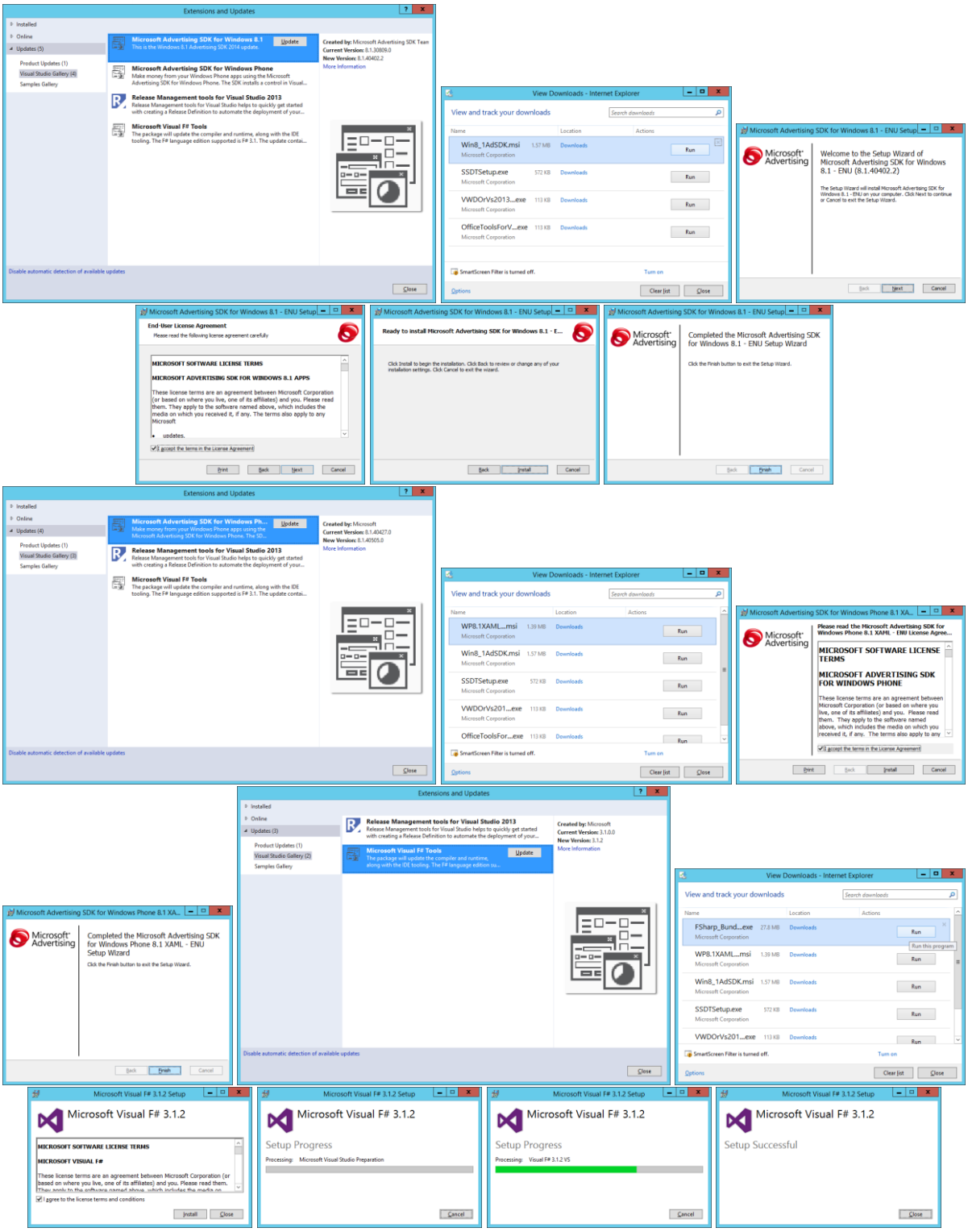
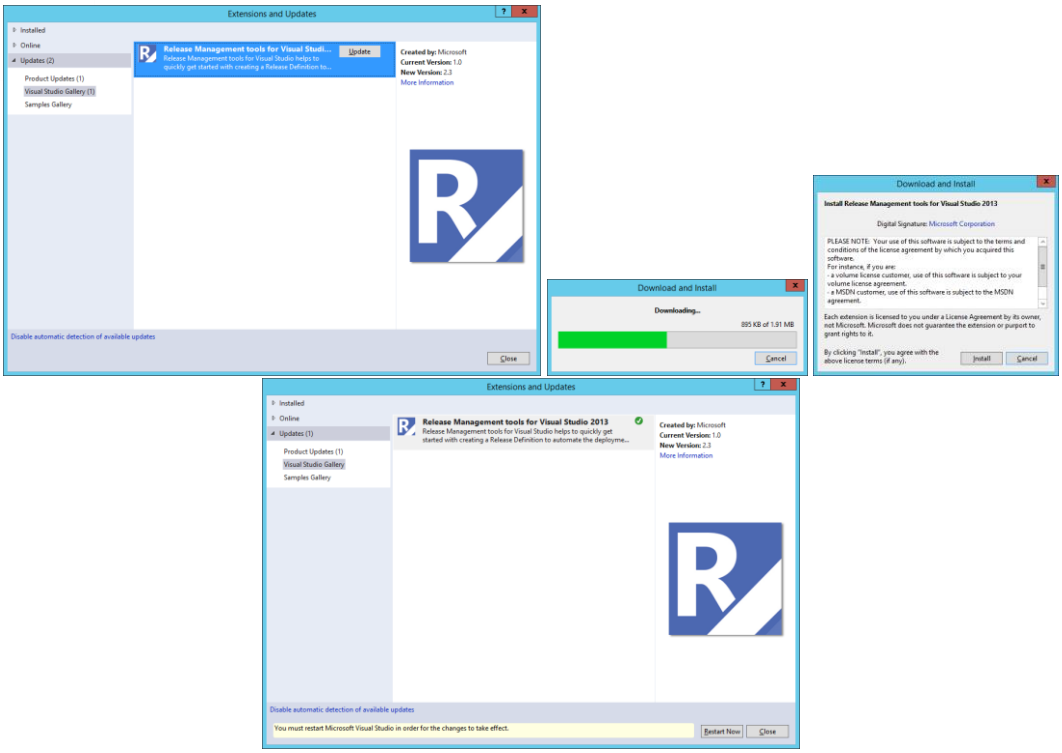
If you comply with these license terms, you have the rights below.
1. INSTALLATION AND USE RIGHTS.
a. Installation and Use. You may install and use any number of copies of the software on
I agree to the license terms and conditions
Install
Cancel
Setup Progress
Learn more about SQL Server Data Tools at:
http://msdn.com/data/tools.aspx
Download Progress
Microsoft SQL Server 2014 Transact-SQL Compiler Service
Installation Progress
Setup Successful
Learn more about SQL Server Data Tools at:
http://msdn.com/data/tools.aspx
Close


Extensions and Updates
Microsoft Advertising SDK for Windows 8.1
Microsoft Advertising SDK for Windows Phone
Release Management tools for Visual Studio 2013
Microsoft Visual F# Tools
View Downloads - Internet Explorer
View and track your downloads
Win8_1AdSDK.msi
SSDTSetup.exe
VWDOrVs2013...exe
OfficeToolsForV...exe
Microsoft Advertising SDK for Windows 8.1 - ENU Setup
Welcome to the Setup Wizard of Microsoft Advertising SDK for Windows 8.1 - ENU (8.1.40402.2)
End-User License Agreement
MICROSOFT SOFTWARE LICENSE TERMS
MICROSOFT ADVERTISING SDK FOR WINDOWS 8.1 APPS
Ready to install Microsoft Advertising SDK for Windows 8.1 - E...
Completed the Microsoft Advertising SDK for Windows 8.1 - ENU Setup Wizard
Extensions and Updates
Microsoft Advertising SDK for Windows Ph...
Release Management tools for Visual Studio 2013
Microsoft Visual F# Tools
View Downloads - Internet Explorer
View and track your downloads
WP8.1XAML...msi
Win8_1AdSDK.msi
SSDTSetup.exe
VWDOrVs201...exe
OfficeToolsFor...exe
Microsoft Advertising SDK for Windows Phone 8.1 XA...
Please read the Microsoft Advertising SDK for Windows Phone 8.1 XAML - ENU License Agree...
MICROSOFT SOFTWARE LICENSE TERMS
MICROSOFT ADVERTISING SDK FOR WINDOWS PHONE
Extensions and Updates
Release Management tools for Visual Studio 2013
Microsoft Visual F# Tools
Microsoft Advertising SDK for Windows Phone 8.1 XA...
Completed the Microsoft Advertising SDK for Windows Phone 8.1 XAML - ENU Setup Wizard
View Downloads - Internet Explorer
View and track your downloads
FSharp_Bund...exe
WP8.1XAML...msi
Win8_1AdSDK.msi
SSDTSetup.exe
VWDOrVs201...exe
Microsoft Visual F# 3.1.2 Setup
Microsoft Visual F# 3.1.2
MICROSOFT SOFTWARE LICENSE TERMS
MICROSOFT VISUAL F#
Microsoft Visual F# 3.1.2 Setup
Microsoft Visual F# 3.1.2
Setup Progress
Microsoft Visual F# 3.1.2 Setup
Microsoft Visual F# 3.1.2
Setup Progress
Microsoft Visual F# 3.1.2 Setup
Microsoft Visual F# 3.1.2
Setup Successful

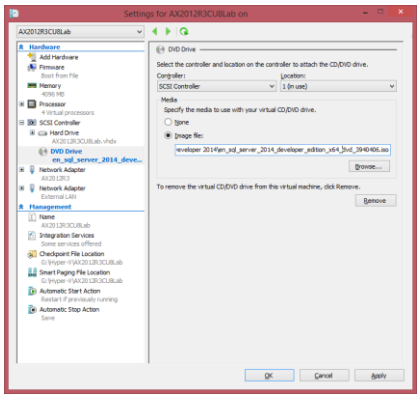


Remark: You should do a full Windows Update (Control Panel > System and Security > Windows Update > Check for updates) and install all updates.

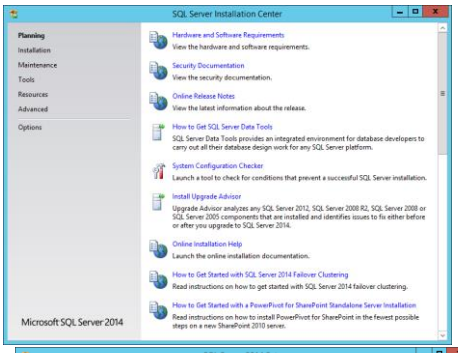
Install SQL Server 2014

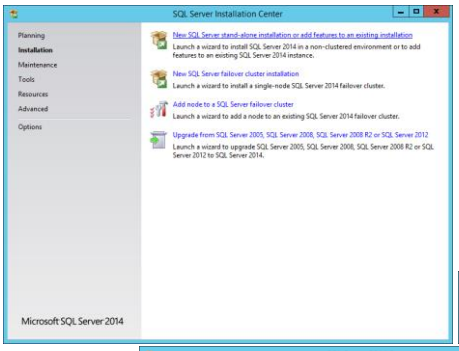
To be able to run Dynamics AX you need to install an SQL Server instance. For this lab machine we could use the Developer version or an evaluation version – Standard should be enough.

To be able to install SQL Server, you will need to mount your SQL Server ISO. For this, if you are using a virtual machine, you need to go to Hyper-V Manager, select the correct machine and click on the Settings link or from the Action menu select Settings. Now expand the SCSI Controller, click on DVD Drive and select Image file, where click on the Browse button and choose the correct SQL Server ISO file. Alternatively, if you have your ISO file on a local or a network drive, you can access that location and double-click on the ISO file. This will mount the ISO file as a new DVD drive. After you mounted the DVD drive the setup should start automatically. If not, just launch the setup from the DVD drive.

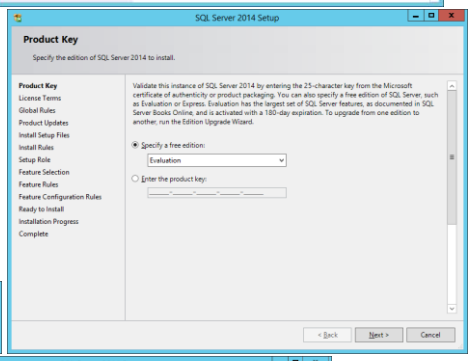

Settings for AX2012R3CU8Lab on
AX2012R3CU8Lab
Hardware
Add Hardware
Firmware
Memory
Processor
SCSI Controller
Hard Drive
DVD Drive
Network Adapter
Management
Integration Services
Checkpoint File Location
Smart Paging File Location
Automatic Start Action
Automatic Stop Action
DVD Drive
Select the controller and location on the controller to attach the CD/DVD drive.
Controller:
Location:
SCSI Controller
1 (in use)
Media
Specify the media to use with your virtual CD/DVD drive.
None
Image file:
Browse...
To remove the virtual CD/DVD drive from this virtual machine, click Remove.
Remove
OK
Cancel
Apply

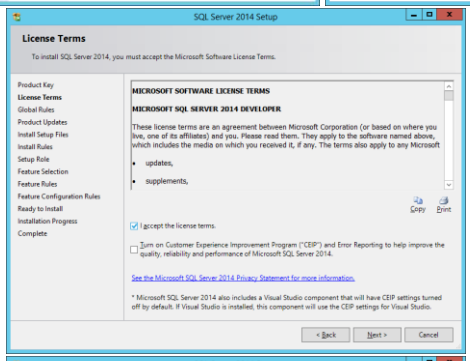

SQL Server 2014
Please wait while Microsoft SQL Server 2014 Setup processes the current operation.


SQL Server Installation Center
Planning
Installation
Maintenance
Tools
Resources
Advanced
Options
Hardware and Software Requirements
View the hardware and software requirements.
Security Documentation
View the security documentation.
Online Release Notes
View the latest information about the release.
How to Get SQL Server Data Tools
SQL Server Data Tools provides an integrated environment for database developers to carry out all their database design work for any SQL Server platform.
System Configuration Checker
Launch a tool to check for conditions that prevent a successful SQL Server installation.
Install Upgrade Advisor
Upgrade Advisor analyzes any SQL Server 2012, SQL Server 2008 R2, SQL Server 2008 or SQL Server 2005 components that are installed and identifies issues to fix either before or after you upgrade to SQL Server 2014.
Online Installation Help
Launch the online installation documentation.
How to Get Started with SQL Server 2014 Failover Clustering
Read instructions on how to get started with SQL Server 2014 failover clustering.
How to Get Started with a PowerPivot for SharePoint Standalone Server Installation
Read instructions on how to install PowerPivot for SharePoint in the fewest possible steps on a new SharePoint 2010 server.
Microsoft SQL Server 2014


SQL Server Installation Center
Planning
Installation
Maintenance
Tools
Resources
Advanced
Options
New SQL Server stand-alone installation or add features to an existing installation
Launch a wizard to install SQL Server 2014 in a non-clustered environment or to add features to an existing SQL Server 2014 instance.
New SQL Server failover cluster installation
Launch a wizard to install a single-node SQL Server 2014 failover cluster.
Add node to a SQL Server failover cluster
Launch a wizard to add a node to an existing SQL Server 2014 failover cluster.
Upgrade from SQL Server 2005, SQL Server 2008, SQL Server 2008 R2 or SQL Server 2012
Launch a wizard to upgrade SQL Server 2005, SQL Server 2008, SQL Server 2008 R2 or SQL Server 2012 to SQL Server 2014.
Microsoft SQL Server 2014


SQL Server 2014
Please wait while Microsoft SQL Server 2014 Setup processes the current operation.


SQL Server 2014 Setup
Product Key
Specify the edition of SQL Server 2014 to install.
Product Key
License Terms
Global Rules
Product Updates
Install Setup Files
Install Rules
Setup Role
Feature Selection
Feature Rules
Feature Configuration Rules
Ready to Install
Installation Progress
Complete
Validate this instance of SQL Server 2014 by entering the 25-character key from the Microsoft certificate of authenticity or product packaging. You can also specify a free edition of SQL Server, such as Evaluation or Express. Evaluation has the largest set of SQL Server features, as documented in SQL Server Books Online, and is activated with a 180-day expiration. To upgrade from one edition to another, run the Edition Upgrade Wizard.
Specify a free edition:
Evaluation
Enter the product key:
< Back
Next >
Cancel


SQL Server 2014 Setup
License Terms
To install SQL Server 2014, you must accept the Microsoft Software License Terms.
Product Key
License Terms
Global Rules
Product Updates
Install Setup Files
Install Rules
Setup Role
Feature Selection
Feature Rules
Feature Configuration Rules
Ready to Install
Installation Progress
Complete
MICROSOFT SOFTWARE LICENSE TERMS
MICROSOFT SQL SERVER 2014 DEVELOPER
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updates,
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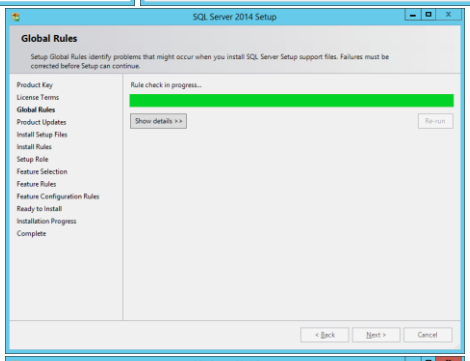
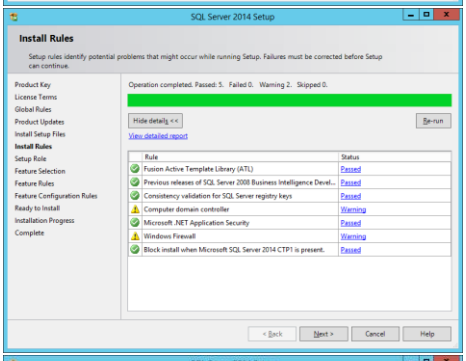
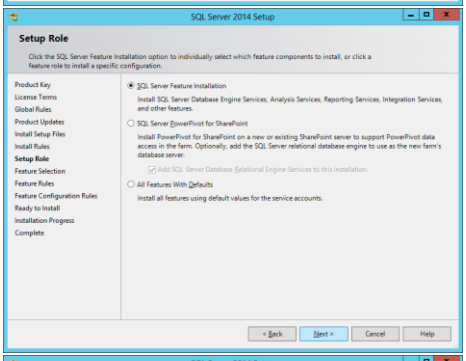
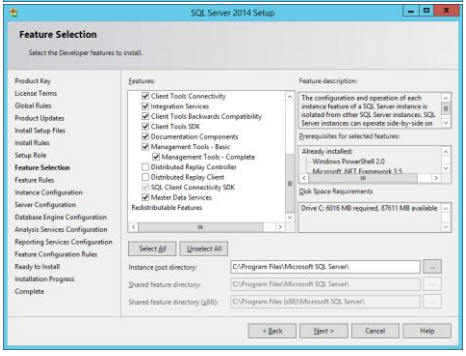
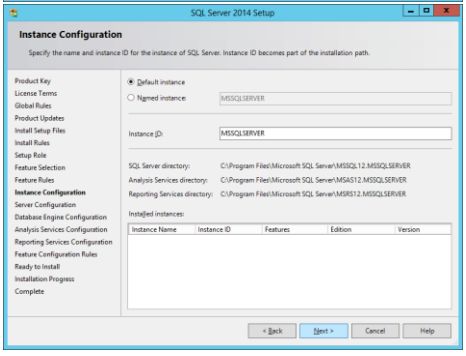
Print
I accept the license terms.
Turn on Customer Experience Improvement Program ("CEIP") and Error Reporting to help improve the quality, reliability and performance of Microsoft SQL Server 2014.
See the Microsoft SQL Server 2014 Privacy Statement for more information.
* Microsoft SQL Server 2014 also includes a Visual Studio component that will have CEIP settings turned off by default. If Visual Studio is installed, this component will use the CEIP settings for Visual Studio.
< Back
Next >
Cancel

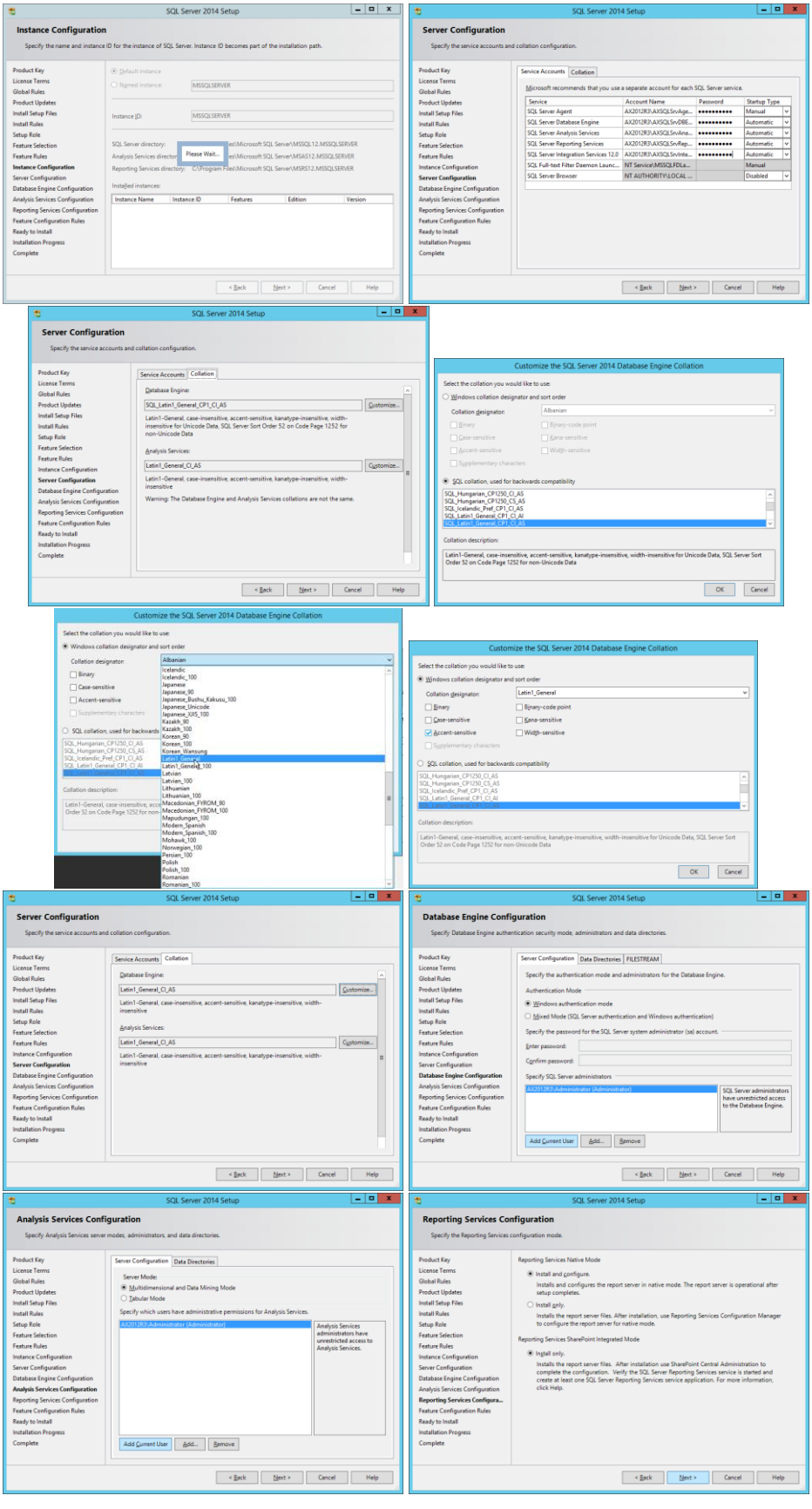

SQL Server 2014 Setup
Global Rules
Setup Global Rules identify problems that might occur when you install SQL Server Setup support files. Failures must be corrected before Setup can continue.
Product Key
License Terms
Global Rules
Product Updates
Install Setup Files
Install Rules
Setup Role
Feature Selection
Feature Rules
Feature Configuration Rules
Ready to Install
Installation Progress
Complete
Rule check in progress...
Show details >>
Re-run
< Back
Next >
Cancel

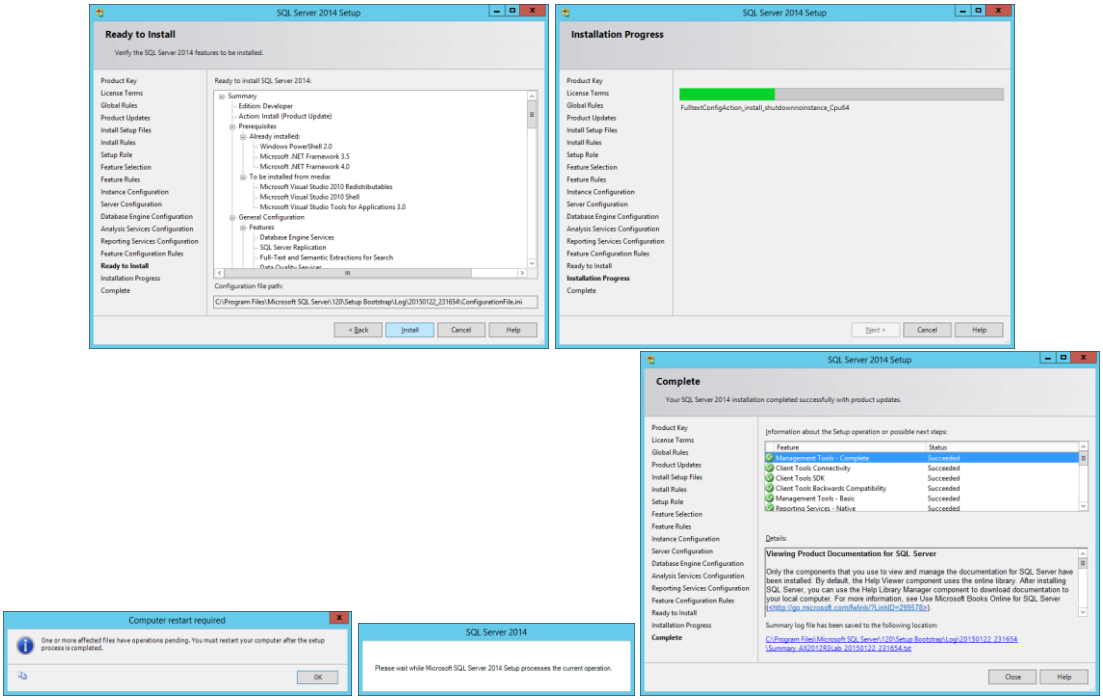

SQL Server 2014 Setup
Install Rules
Setup rules identify potential problems that might occur while running Setup. Failures must be corrected before Setup can continue.
Product Key
License Terms
Global Rules
Product Updates
Install Setup Files
Install Rules
Setup Role
Feature Selection
Feature Rules
Feature Configuration Rules
Ready to Install
Installation Progress
Complete
Operation completed. Passed: 5. Failed 0. Warning 2. Skipped 0.
Hide details <<
Re-run
View detailed report
Rule
Status
Fusion Active Template Library (ATL)
Passed
Previous releases of SQL Server 2008 Business Intelligence Devel...
Passed
Consistency validation for SQL Server registry keys
Passed
Computer domain controller
Warning
Microsoft .NET Application Security
Passed
Windows Firewall
Warning
Block install when Microsoft SQL Server 2014 CTP1 is present.
Passed
< Back
Next >
Cancel
Help


SQL Server 2014 Setup
Setup Role
Click the SQL Server Feature Installation option to individually select which feature components to install, or click a feature role to install a specific configuration.
Product Key
License Terms
Global Rules
Product Updates
Install Setup Files
Install Rules
Setup Role
Feature Selection
Feature Rules
Feature Configuration Rules
Ready to Install
Installation Progress
Complete
SQL Server Feature Installation
Install SQL Server Database Engine Services, Analysis Services, Reporting Services, Integration Services, and other features.
SQL Server PowerPivot for SharePoint
Install PowerPivot for SharePoint on a new or existing SharePoint server to support PowerPivot data access in the farm. Optionally, add the SQL Server relational database engine to use as the new farm's database server.
Add SQL Server Database Relational Engine Services to this installation.
All Features With Defaults
Install all features using default values for the service accounts.
< Back
Next >
Cancel
Help


SQL Server 2014 Setup
Feature Selection
Select the Developer features to install.
Product Key
License Terms
Global Rules
Product Updates
Install Setup Files
Install Rules
Setup Role
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Analysis Services Configuration
Reporting Services Configuration
Feature Configuration Rules
Ready to Install
Installation Progress
Complete
Features:
Client Tools Connectivity
Integration Services
Client Tools Backwards Compatibility
Client Tools SDK
Documentation Components
Management Tools - Basic
Management Tools - Complete
Distributed Replay Controller
Distributed Replay Client
SQL Client Connectivity SDK
Master Data Services
Redistributable Features
Feature description:
Prerequisites for selected features:
Already installed:
Windows PowerShell 2.0
Microsoft .NET Framework 3.5
Disk Space Requirements
Drive C: 6016 MB required, 87611 MB available
Select All
Unselect All
Instance root directory:
C:\Program Files\Microsoft SQL Server\
Shared feature directory:
Shared feature directory (x86):
< Back
Next >
Cancel
Help

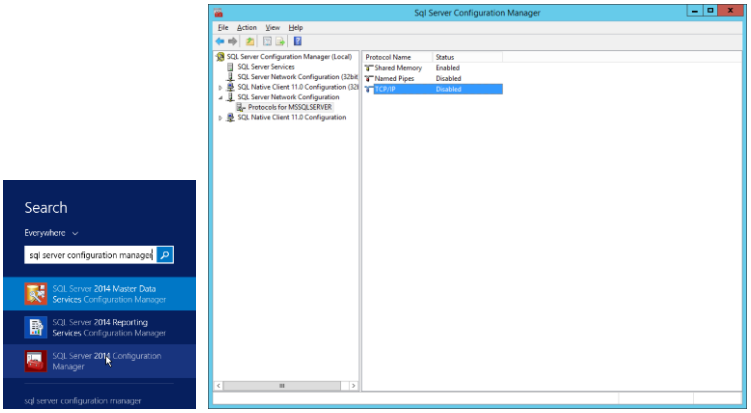

SQL Server 2014 Setup
Instance Configuration
Specify the name and instance ID for the instance of SQL Server. Instance ID becomes part of the installation path.
Product Key
License Terms
Global Rules
Product Updates
Install Setup Files
Install Rules
Setup Role
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Analysis Services Configuration
Reporting Services Configuration
Feature Configuration Rules
Ready to Install
Installation Progress
Complete
Default instance
Named instance:
MSSQLSERVER
Instance ID:
MSSQLSERVER
SQL Server directory:
C:\Program Files\Microsoft SQL Server\MSSQL12.MSSQLSERVER
Analysis Services directory:
C:\Program Files\Microsoft SQL Server\MSAS12.MSSQLSERVER
Reporting Services directory:
C:\Program Files\Microsoft SQL Server\MSRS12.MSSQLSERVER
Installed instances:
Instance Name
Instance ID
Features
Edition
Version
< Back
Next >
Cancel
Help

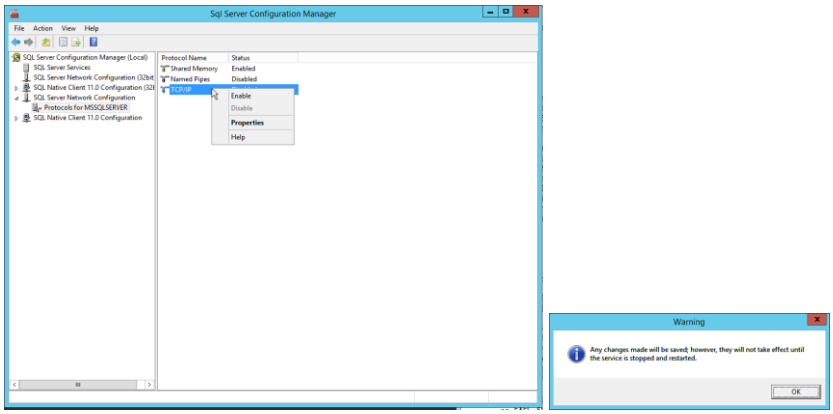

SQL Server 2014 Setup
Instance Configuration
Specify the name and instance ID for the instance of SQL Server. Instance ID becomes part of the installation path.
Server Configuration
Specify the service accounts and collation configuration.
Customize the SQL Server 2014 Database Engine Collation
Database Engine Configuration
Specify Database Engine authentication security mode, administrators and data directories.
Analysis Services Configuration
Specify Analysis Services server modes, administrators, and data directories.
Reporting Services Configuration
Specify the Reporting Services configuration mode.

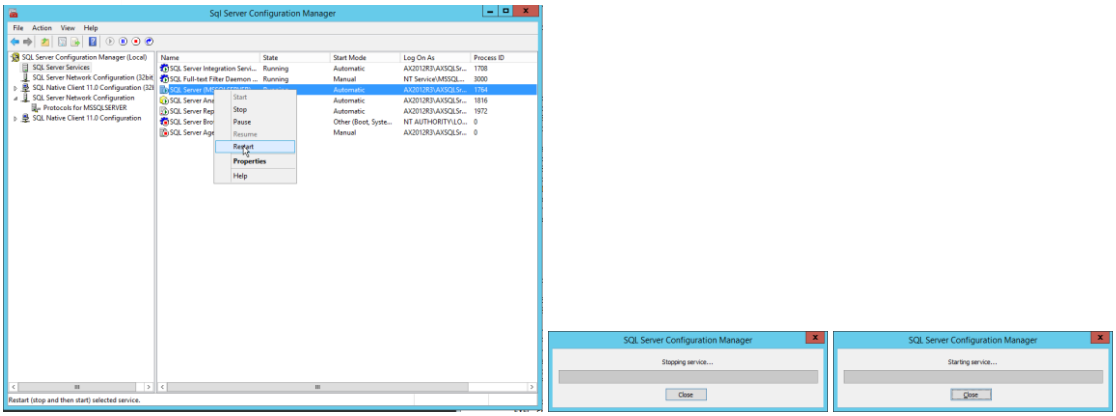


Enable TCP/IP Server Network Protocol

After the installation finished, to be able to access the SQL Server from remote, you need to enable the TCP/IP Server Network Protocol. For this you need to start the SQL Server Configuration Manager (you can search for it). Expand SQL Server Configuration Manager (local) > SQL Server Network Configuration > Protocols for <instance> (MSSQLSERVER). Right click on TCP/IP, select Enable and press OK. Then go to SQL Server Services and from the list right-click on SQL Server <instance> (MSSQLSERVER) and choose Restart.





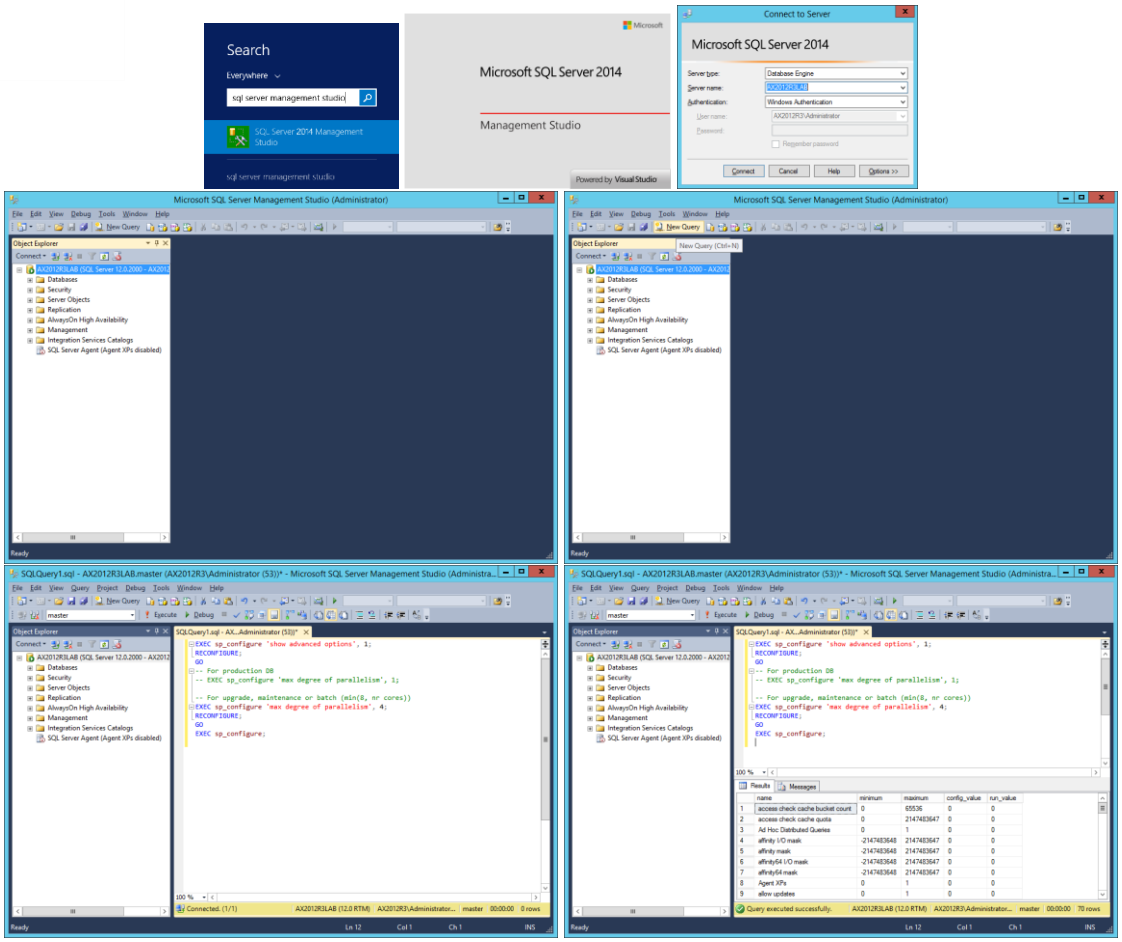


Configuring max degree of parallelism

You should also configure the maximum degree of parallelism for SQL Server. For this you should open SQL Server Management Studio (you can search for it), connect to the local server using Windows authentication, then open a New Query, paste and execute the following script:

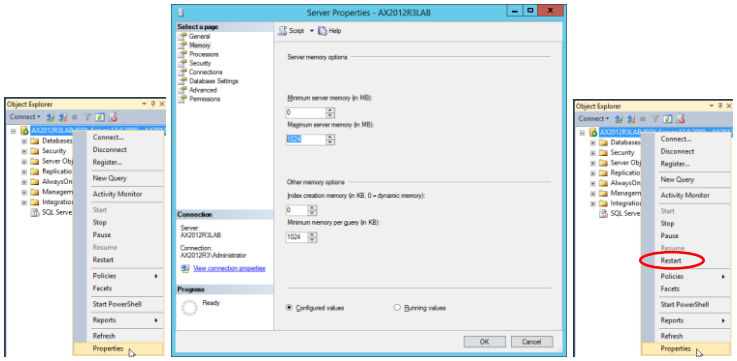
```
EXEC sp_configure 'show advanced options', 1;
RECONFIGURE;
GO
-- For production DB
-- EXEC sp_configure 'max degree of parallelism', 1;

-- For upgrade, maintenance or batch (min(8, nr cores))
EXEC sp_configure 'max degree of parallelism', 4;
RECONFIGURE;
GO
EXEC sp_configure;
```



Configuring max server memory

To be able to run in this constrained environment you should reduce the maximum memory that SQL Server will use. For this, from SQL Server Management Studio (see above), right-click on the SQL server and choose Properties. From the properties dialog you choose the Memory page and specify 1024 as the maximum memory, press OK, then right-click on the SQL server and choose Restart.



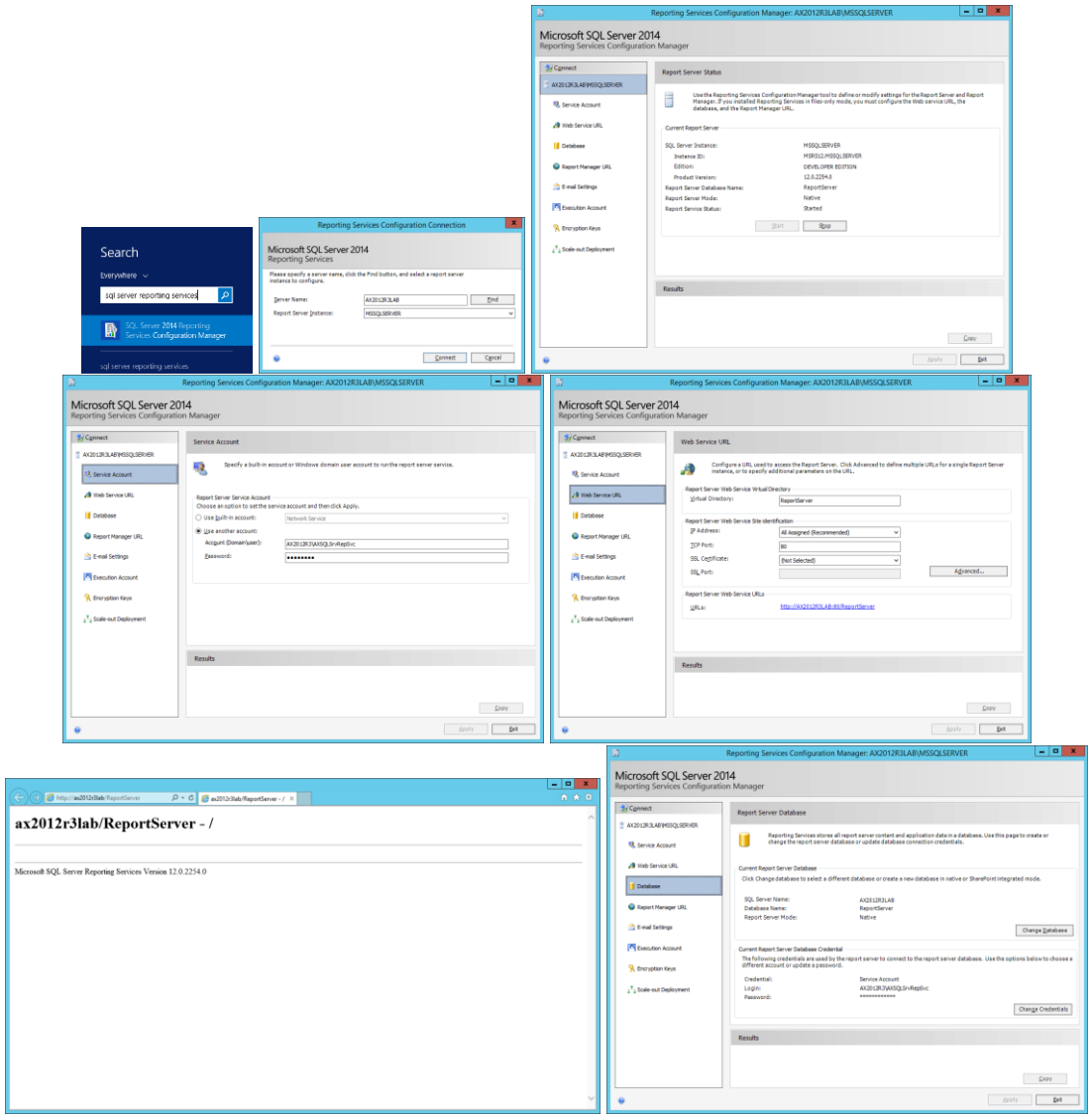
Remark: You should do a full Windows Update (Control Panel > System and Security > Windows Update > Check for updates) and install all updates.

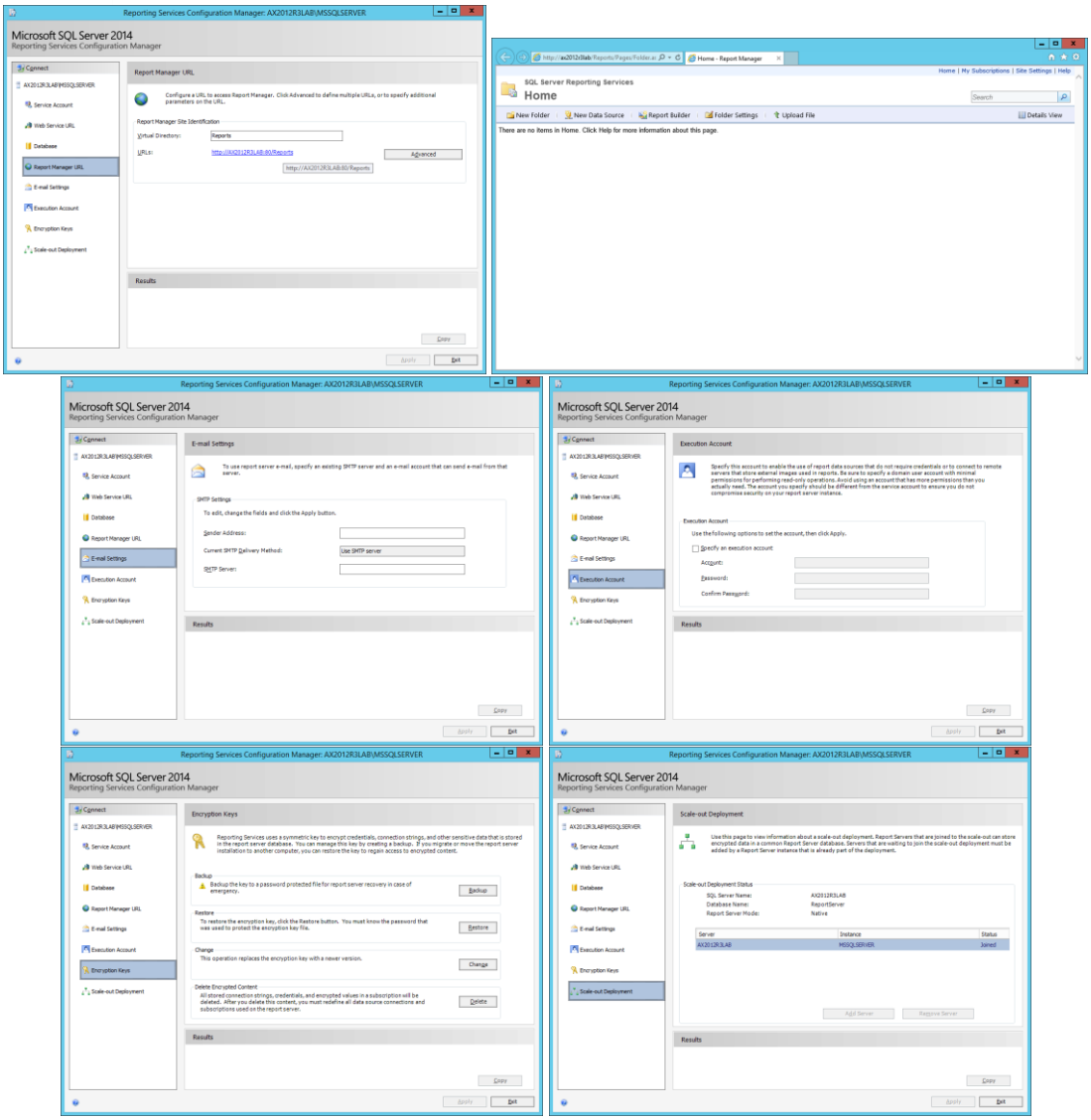
Verify Reporting Services configuration

Dynamics AX uses Reporting Services for generating reports. We should check if Reporting Services is correctly configured before installing the corresponding AX components.

For this we need to open SQL Server Reporting Services Configuration Manager (you can search for it). Connect to the local server (**AX2012R3LAB**) and the Report Server Instance **MSSQLSERVER**.

Check if the status is Started, check that the Service Account is **AX2012R3\AXSQLSrvRepSvc**, check if the Web Service URL is working by clicking on the Report Server Web Service URLs (http://AX2012R3LAB:80/ReportServer), this should bring up the Report Server site in your browser. Check the Report Manager URL by clicking on the specified URLs (http://AX2012R3LAB:80/Reports), this should bring up the reports published on this Reporting Services Server (at the moment the list should be empty). If you want you can also just verify the information on the Database, E-mail Settings, Execution Account, Encryption Keys and Scale-out Deployment pages too.

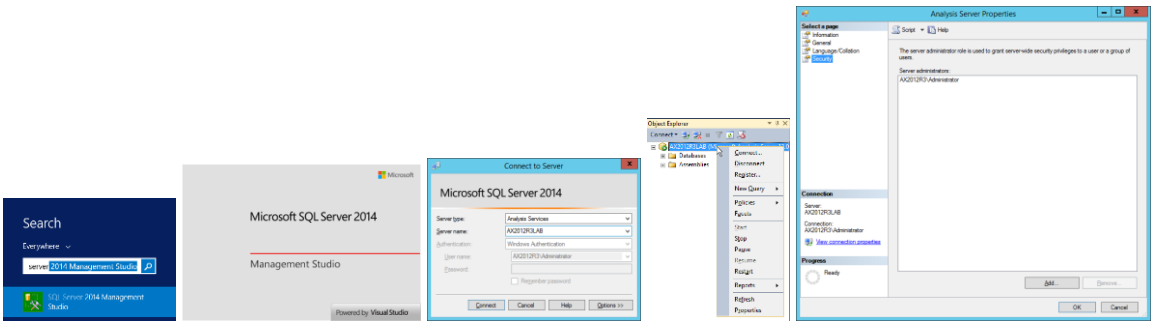


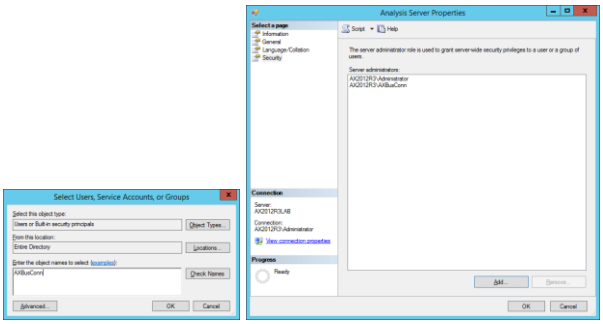


Configure Analysis Services

Dynamics AX uses Analysis Services for storing and processing cubes. We should check if Analysis Services is correctly configured before installing the corresponding AX components.

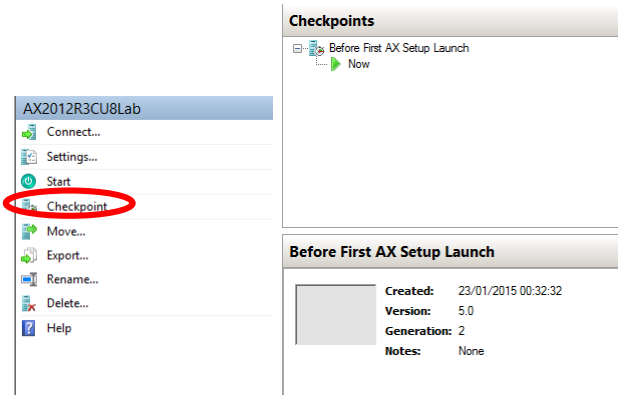
For this we need to open SQL Server Management Studio (you can search for it). Connect to the local Analysis Services server (**AX2012R3LAB**), then right-click on the server and select Properties. On the Properties dialog, select Security and add **AXBusConn** to the list of Server administrators.





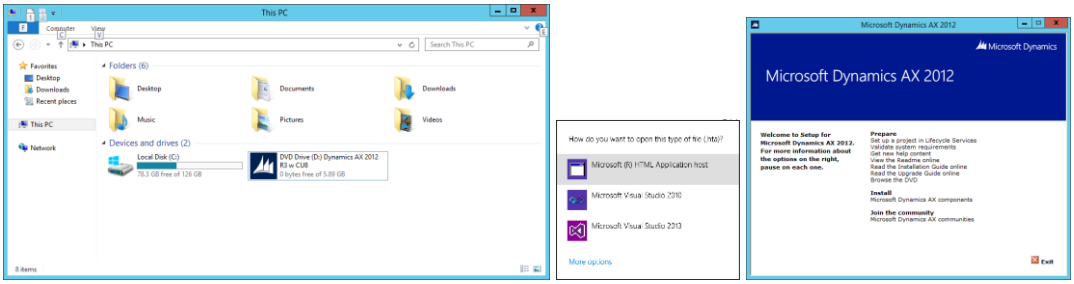
Create a checkpoint before the first AX Setup launch

Remark: If you are running a virtual machine, then create a checkpoint. Name it for example: Before First AX Setup Launch.

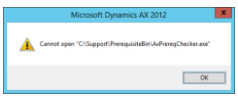


Validate system requirements for AX

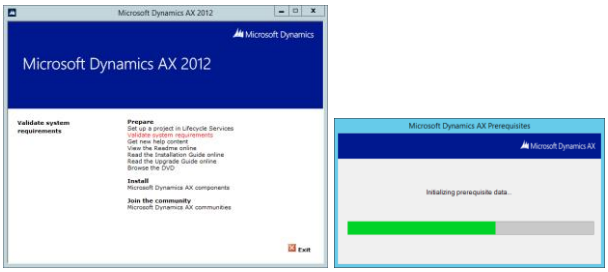
To be able to install AX 2012 R3 with CU8, you will need to mount your slipstreamed AX ISO. For this, if you are using a virtual machine, you need to go to Hyper-V Manager, select the correct machine and click on the Settings link or from the Action menu select Settings. Now expand the SCSI Controller, click on DVD Drive and select Image file, where click on the Browse button and choose the correct slipstreamed AX 2012 R3 with CU8 ISO file. Alternatively, if you have your ISO file on a local or a network drive, you can access that location and double-click on the ISO file. This will mount the ISO file as a new DVD drive. After you mounted the DVD drive the setup should start automatically. If not, just launch the setup from the DVD drive.



Before installing the AX components, we should run the system requirements validation steps.



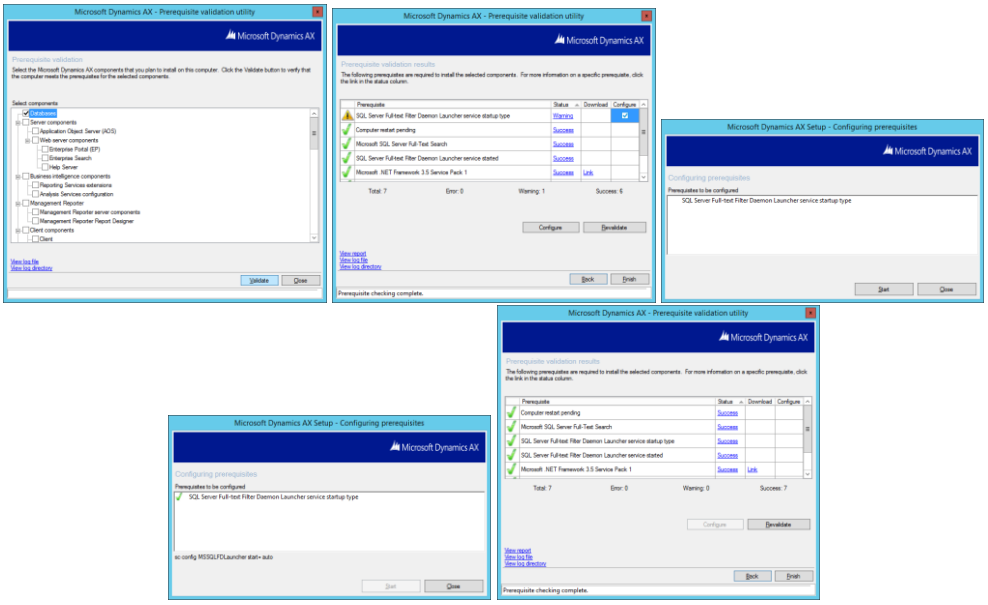
Remark: If you encounter an error, like the one above, you should restart the setup.



Validate Databases

Check only the Databases and press Validate. Probably the SQL Server Full-text Filter Daemon Launcher service startup type is not correct. Check the Configure check-box and press the Configure button.

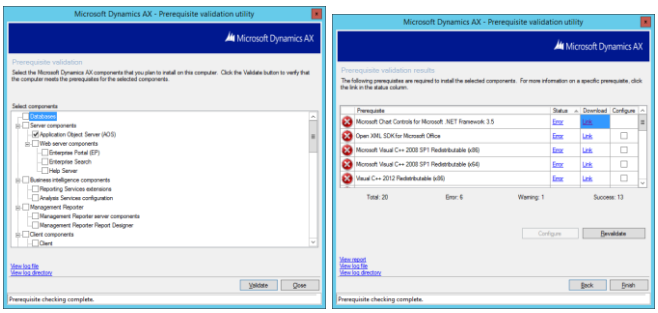
On the Configuring prerequisites dialog press the Start button. Wait until the configuration finishes and then press Close. Now the validation should be without any errors or warnings. Press Finish.

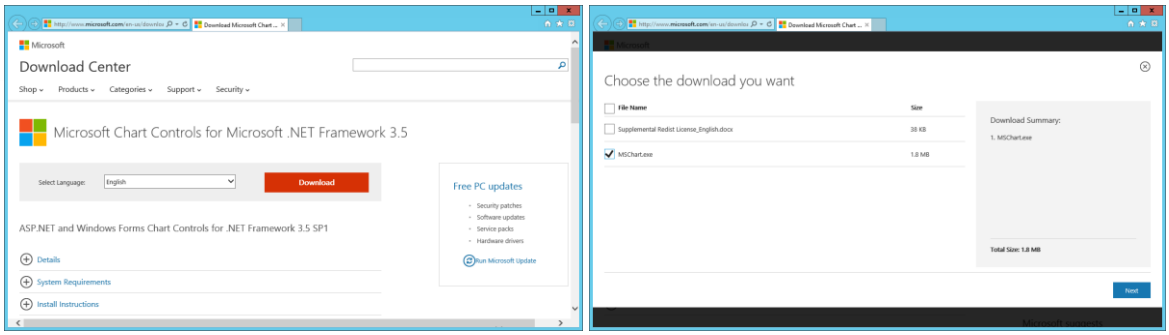


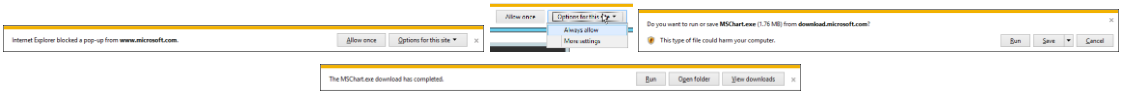
Validate Server components - Application Object Server

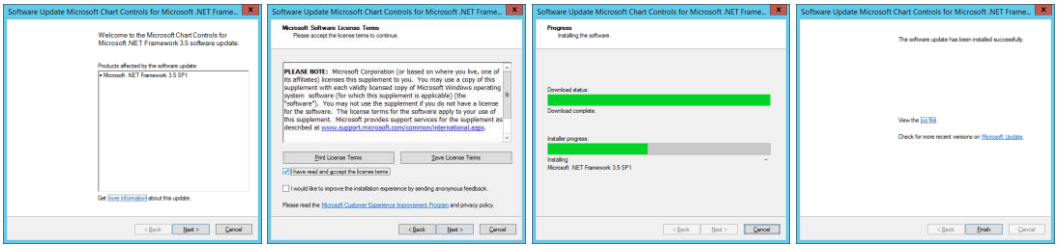
Check only the Application Object Server (AOS) and press Validate. Probably the following components are missing or not properly configured:

- Microsoft Chart Controls for Microsoft .NET Framework 3.5
    - Click on Link, download and install it

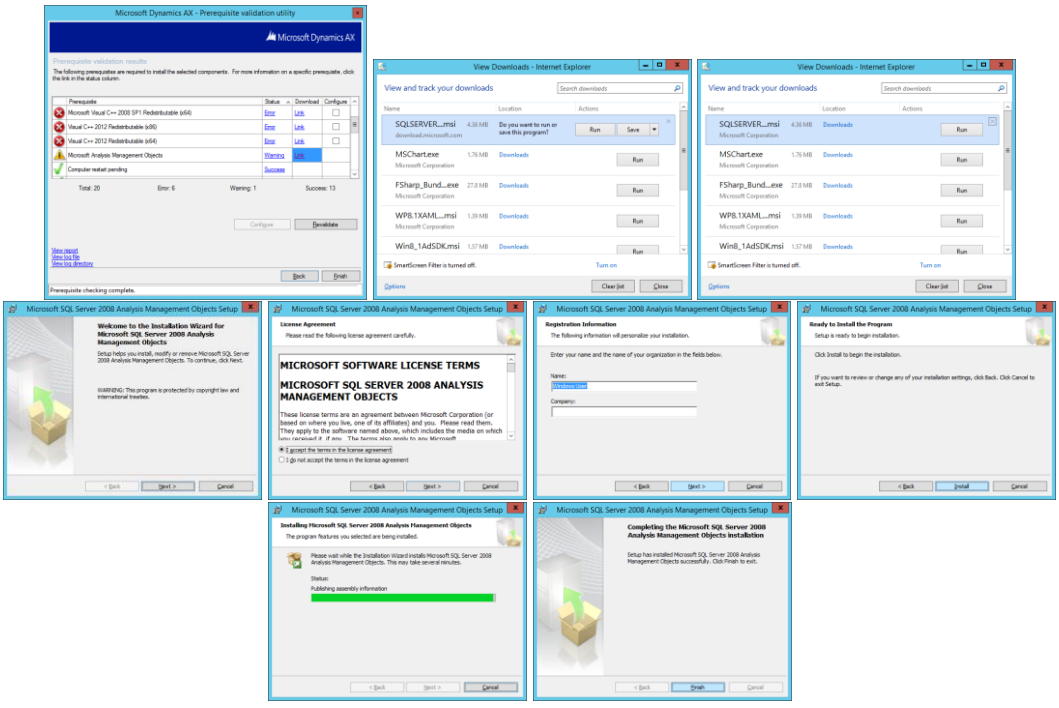






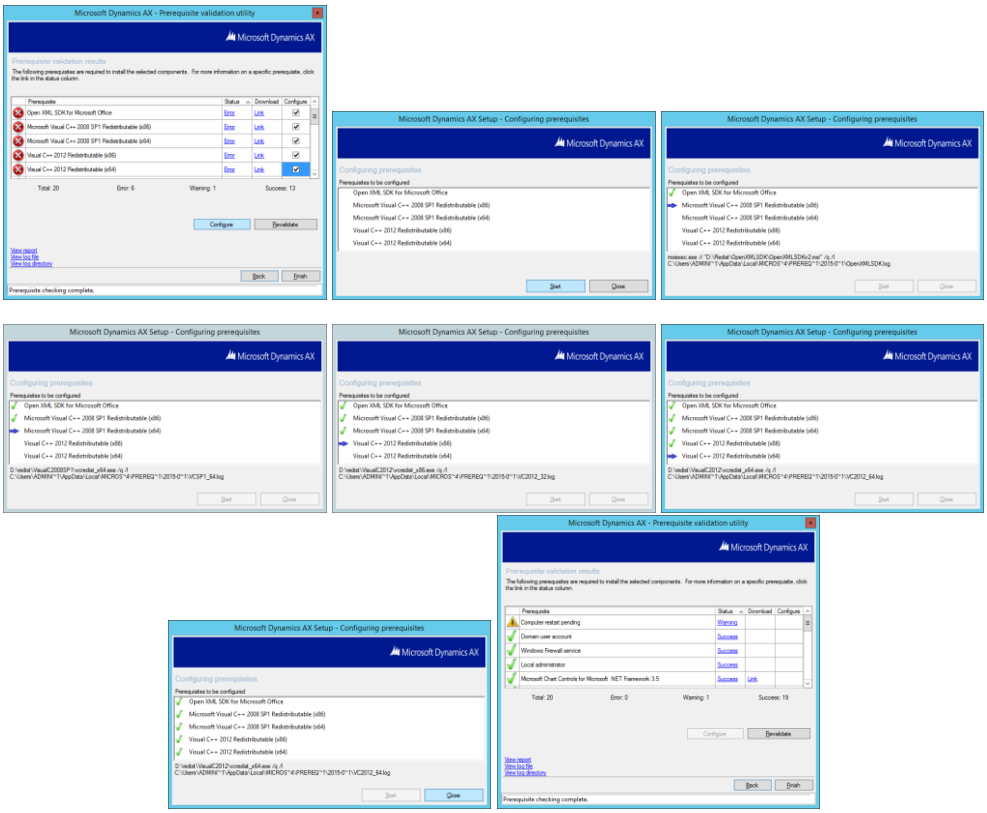


- Microsoft Analysis Management Objects
    - Click on Link, download and install it



- Open XML SDK for Microsoft Office – select Configure
- Microsoft Visual C++ 2008 SP1 Redistributable (x86) – select Configure
- Microsoft Visual C++ 2008 SP1 Redistributable (x64) – select Configure
- Visual C++ 2012 Redistributable (x86) – select Configure
- Visual C++ 2012 Redistributable (x64) – select Configure

Now press the Configure button. On the Configuring prerequisites dialog press the Start button. Wait until the configuration finishes and then press Close.



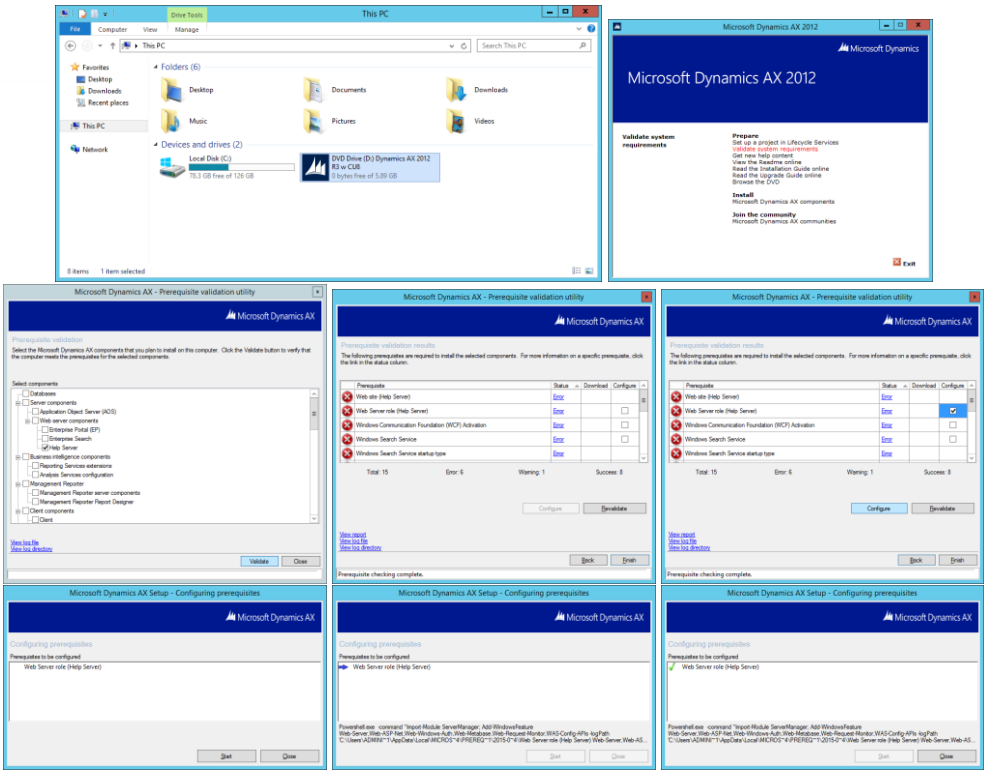
Press Finish. If you have a warning about Computer restart pending, restart the machine.

Validate Server components – Help Server

Launch the setup again from the installation location. Select again Validate system requirements, check only the Help Server and press Validate. Probably the following components are missing or not properly configured:

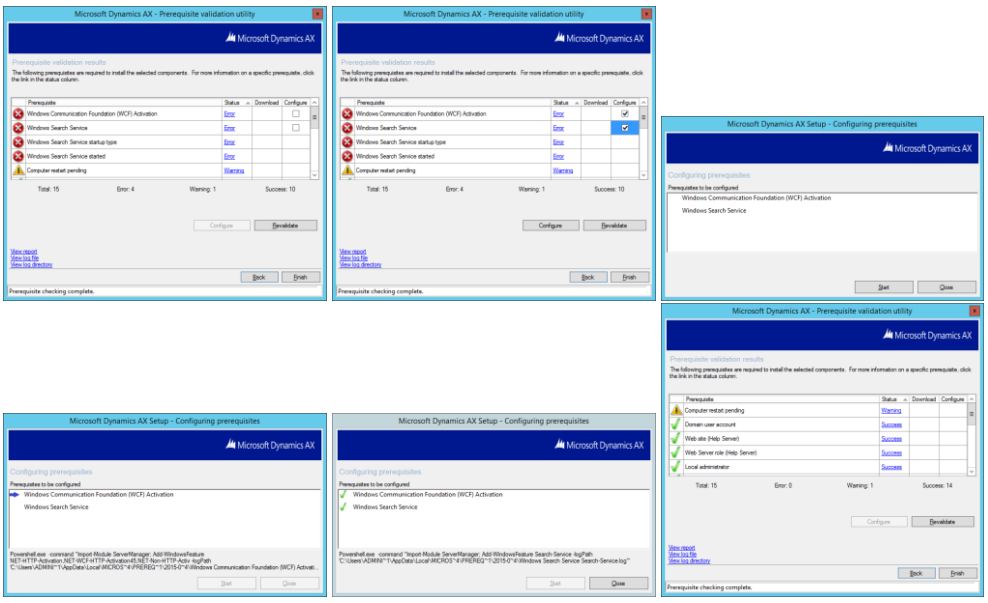
- Web Server role (Help Server) – select Configure

Now press the Configure button. On the Configuring prerequisites dialog press the Start button. Wait until the configuration finishes and then press Close.



- Windows Communication Foundation (WCF) Activation – select Configure
- Windows Search Service – select Configure

Now press the Configure button. On the Configuring prerequisites dialog press the Start button. Wait until the configuration finishes and then press Close.



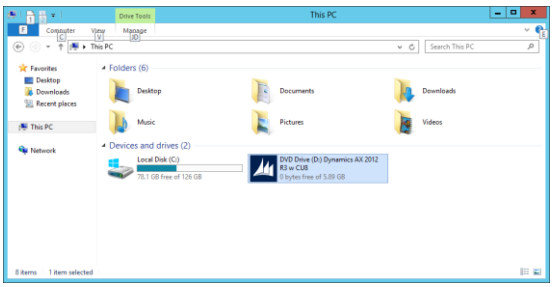
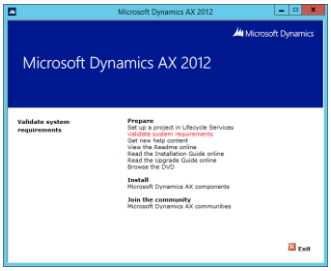
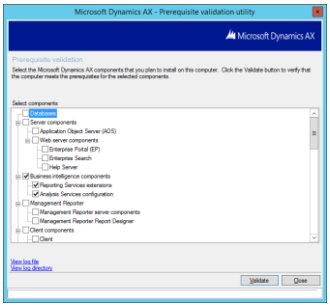
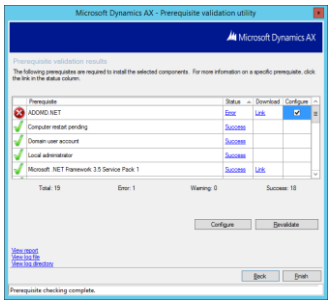
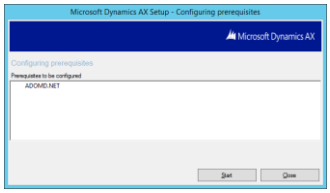
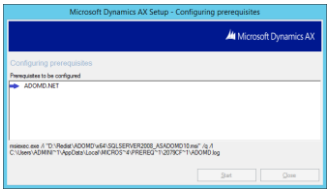
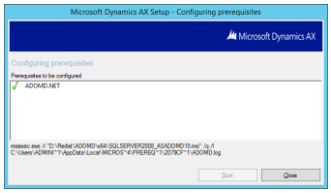
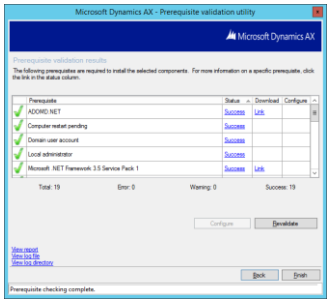
Press Finish. If you have a warning about Computer restart pending, restart the machine.

Validate Business intelligence components

Launch the setup again from the installation location. Select again Validate system requirements, check only the Business intelligence components and press Validate. Probably the following components are missing or not properly configured:

- ADOMD.NET – select Configure

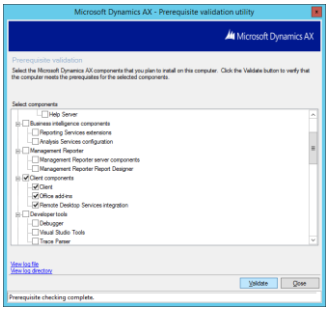
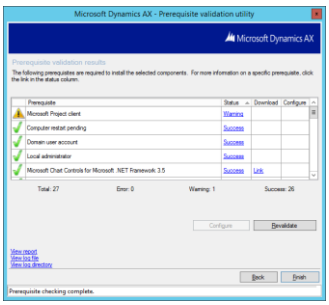
Now press the Configure button. On the Configuring prerequisites dialog press the Start button. Wait until the configuration finishes and then press Close.

Press Finish.

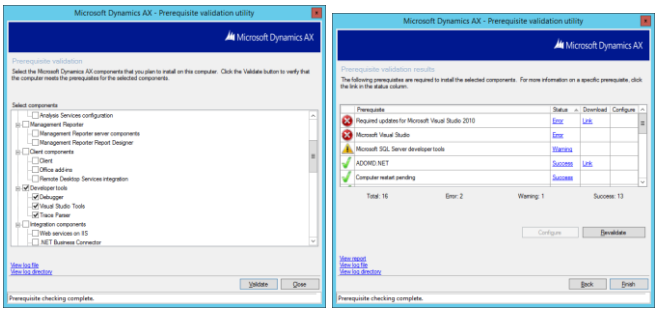
Validate Client components

Check only the Client components and press Validate. You can disregard the warning about Microsoft Project client. Press Finish.

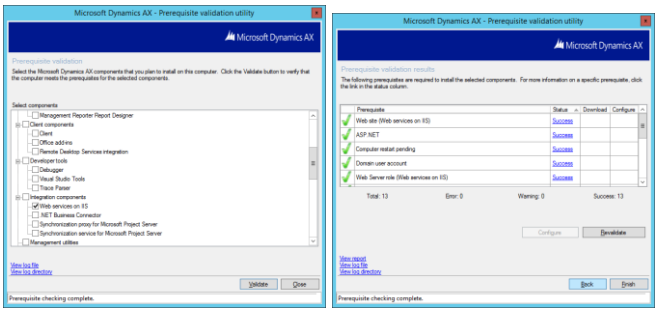
Validate Developer tools

Check only the Developer tools and press Validate. You can disregard the errors about Microsoft Visual Studio 2010 and Microsoft Visual Studio, and also the warning about Microsoft SQL Server developer tools. Press Finish.



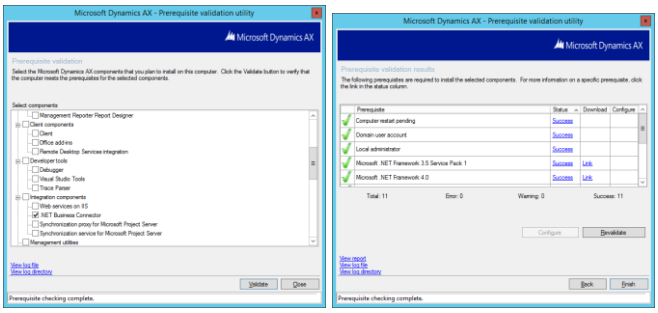
Validate Integration components – Web services on IIS

Check only the Web services on IIS and press Validate. Everything should validate without any warnings or errors. Press Finish.



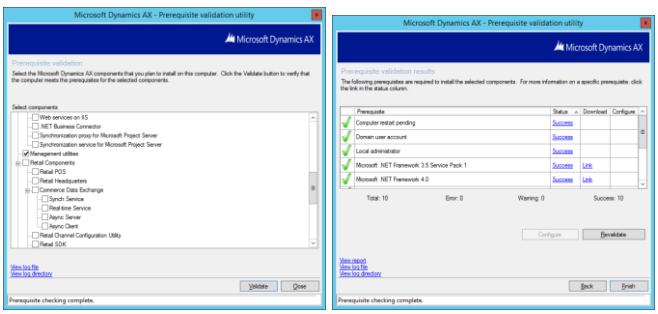
Validate Integration components - .NET Business Connector

Check only the .NET Business Connector and press Validate. Everything should validate without any warnings or errors. Press Finish.



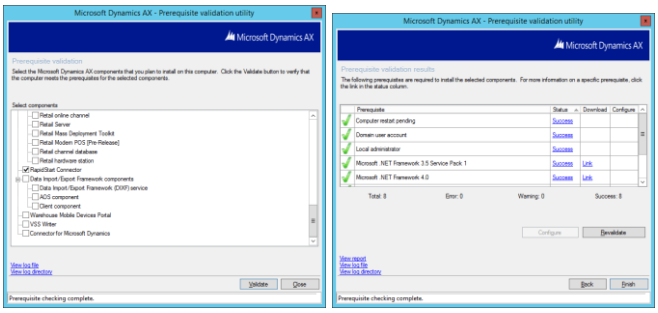
Validate Management utilities

Check only the Management utilities and press Validate. Everything should validate without any warnings or errors. Press Finish.



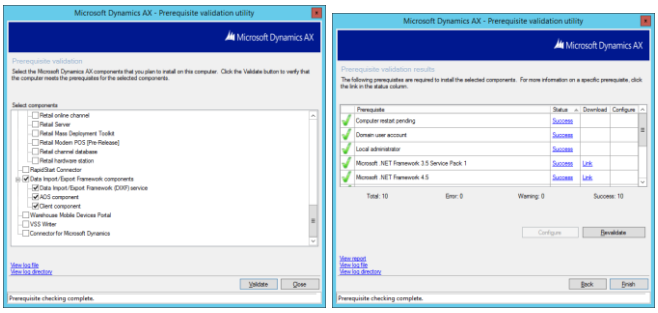
Validate RapidStart Connector

Check only the RapidStart Connector and press Validate. Everything should validate without any warnings or errors. Press Finish.



Validate Data Import/Export Framework components

Check only the Data Import/Export Framework components and press Validate. Everything should validate without any warnings or errors. Press Finish.

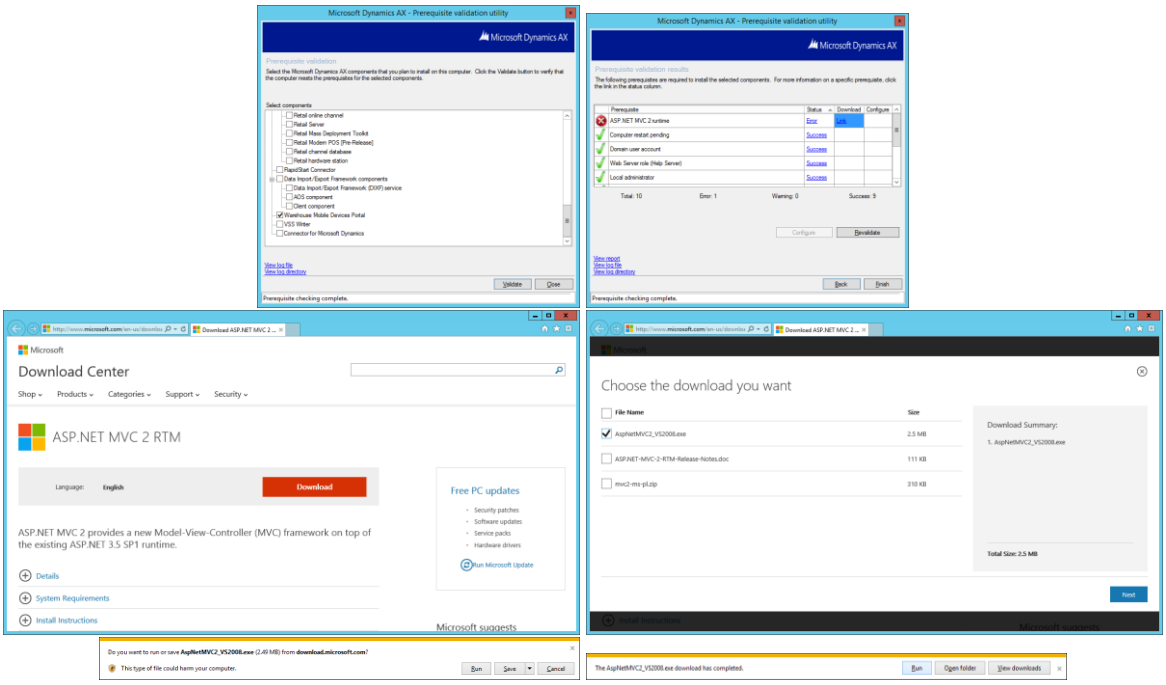


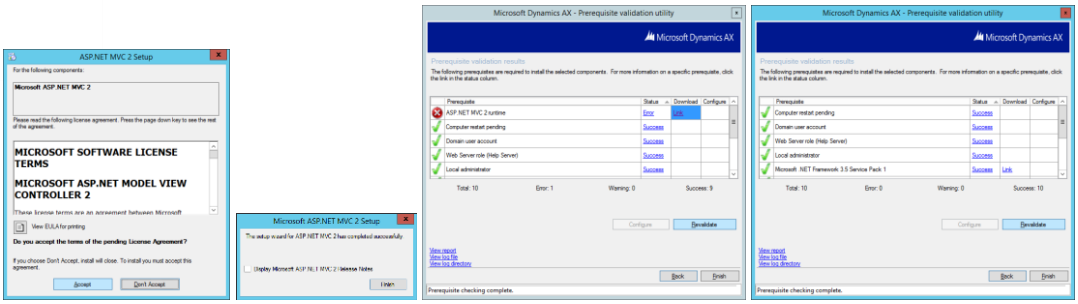
Validate Warehouse Mobile Devices Portal

Check only the Warehouse Mobile Devices Portal and press Validate. Probably the following components are missing or not properly configured:

- ASP.NET MVC 2 runtime
    - Click on Link, download and install it then press Revalidate

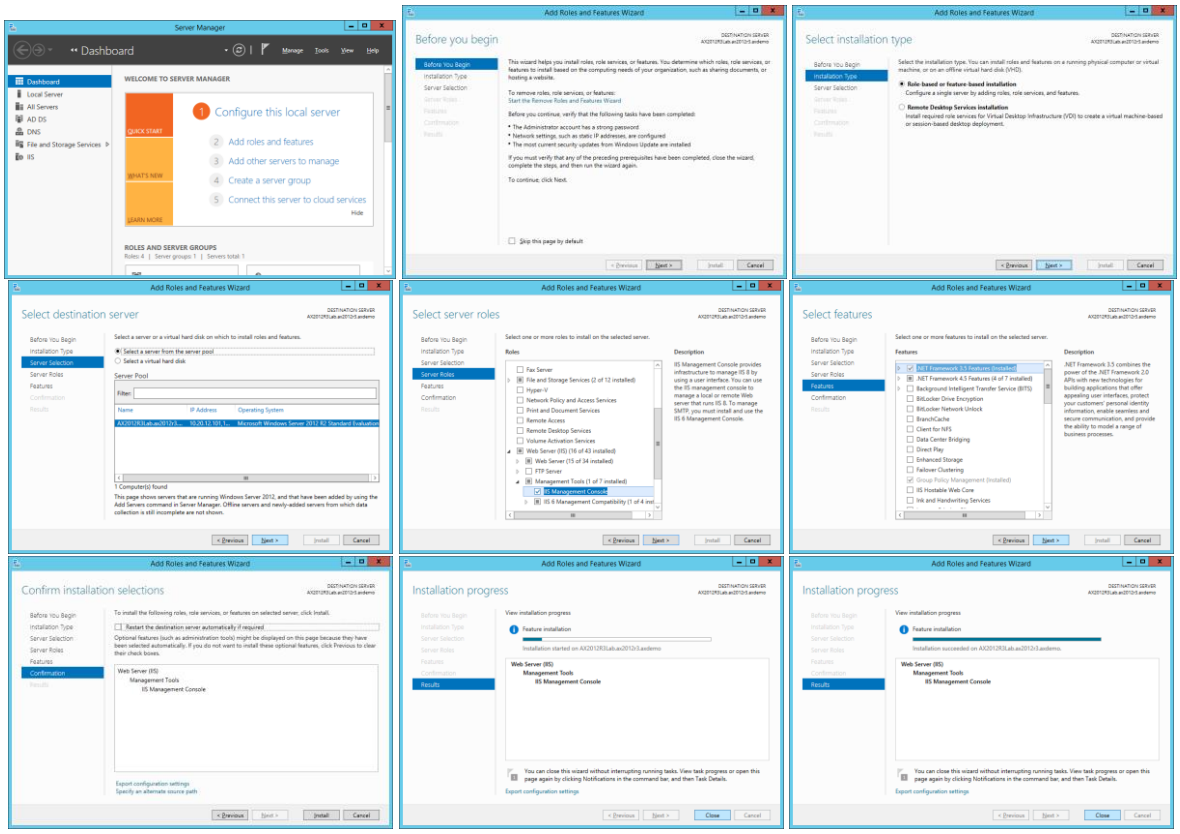
Everything should validate without any warnings or errors. Press Finish.





Add server role: Web Server (IIS)

To be able to verify and check the published web services and sites you need to install the IIS Management Console. For this from Server Manager select Add roles and features, press Next, Next, Next. Expand the Web Server (IIS) option, then expand the Management Tools option and check the IIS Management Console option, then press Next, Next, Install. Wait for the installation to finish. After the installation finishes press Close.



Remark: You should do a full Windows Update (Control Panel > System and Security > Windows Update > Check for updates) and install all updates.

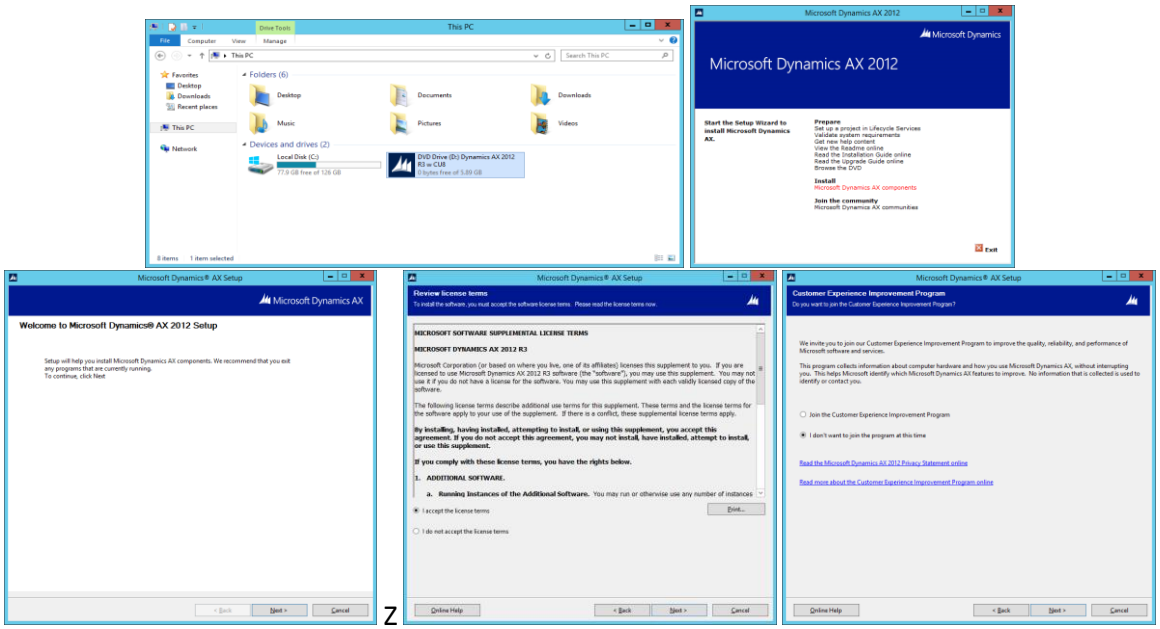
Install Microsoft Dynamics AX components

In the following steps we will install the AX components, one by one.

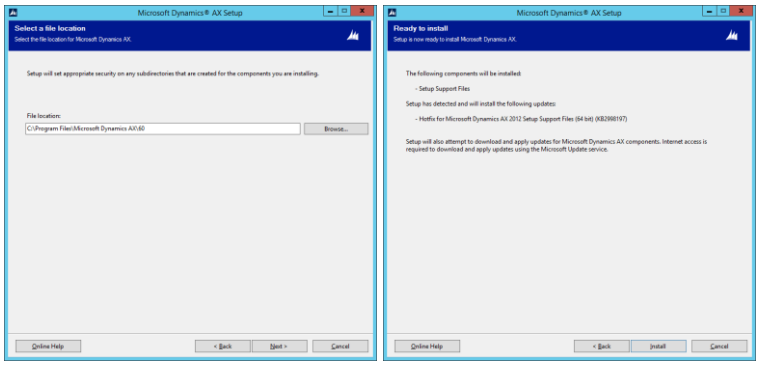
Install Databases

Launch the setup again from the installation location. Now select Install > Microsoft Dynamics AX components. On the Welcome screen press Next. On the Review license terms screen select I accept the license terms and press Next. On the Review supplemental license terms select I accept the

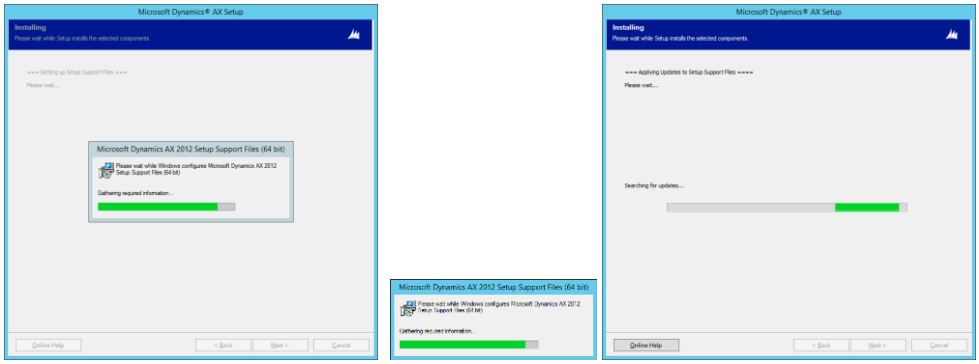
license terms and press Next. On the Customer Experience Improvement Program screen select one option and press Next.



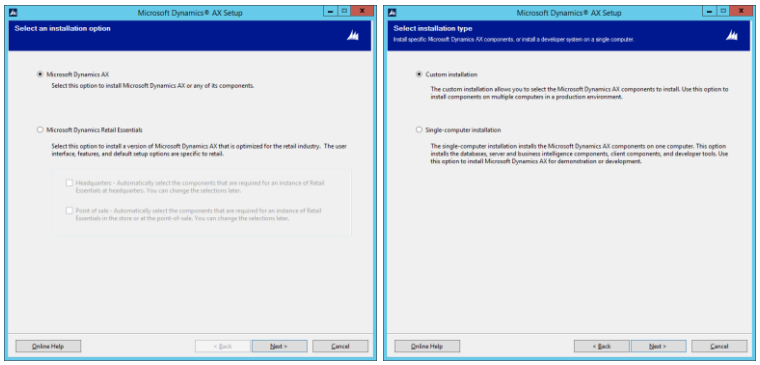
On the Select a file location screen leave the default location and press Next. On the Ready to install screen press Install.



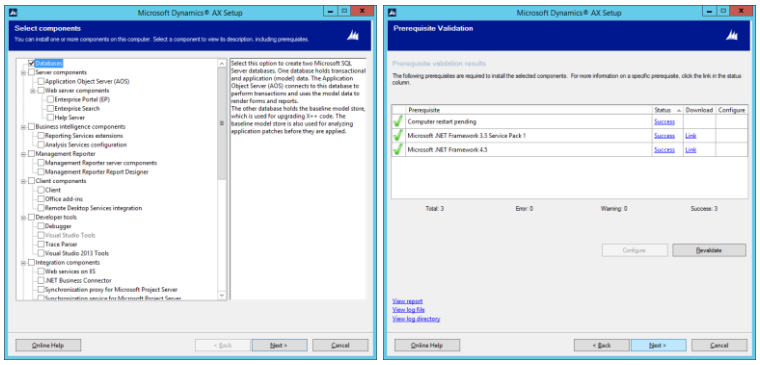
Wait for the installation of the Setup support files and the CU8 hotfix to finish.



On the Select an installation option screen select Microsoft Dynamics AX and press Next. For installation type select Custom installation and press Next.



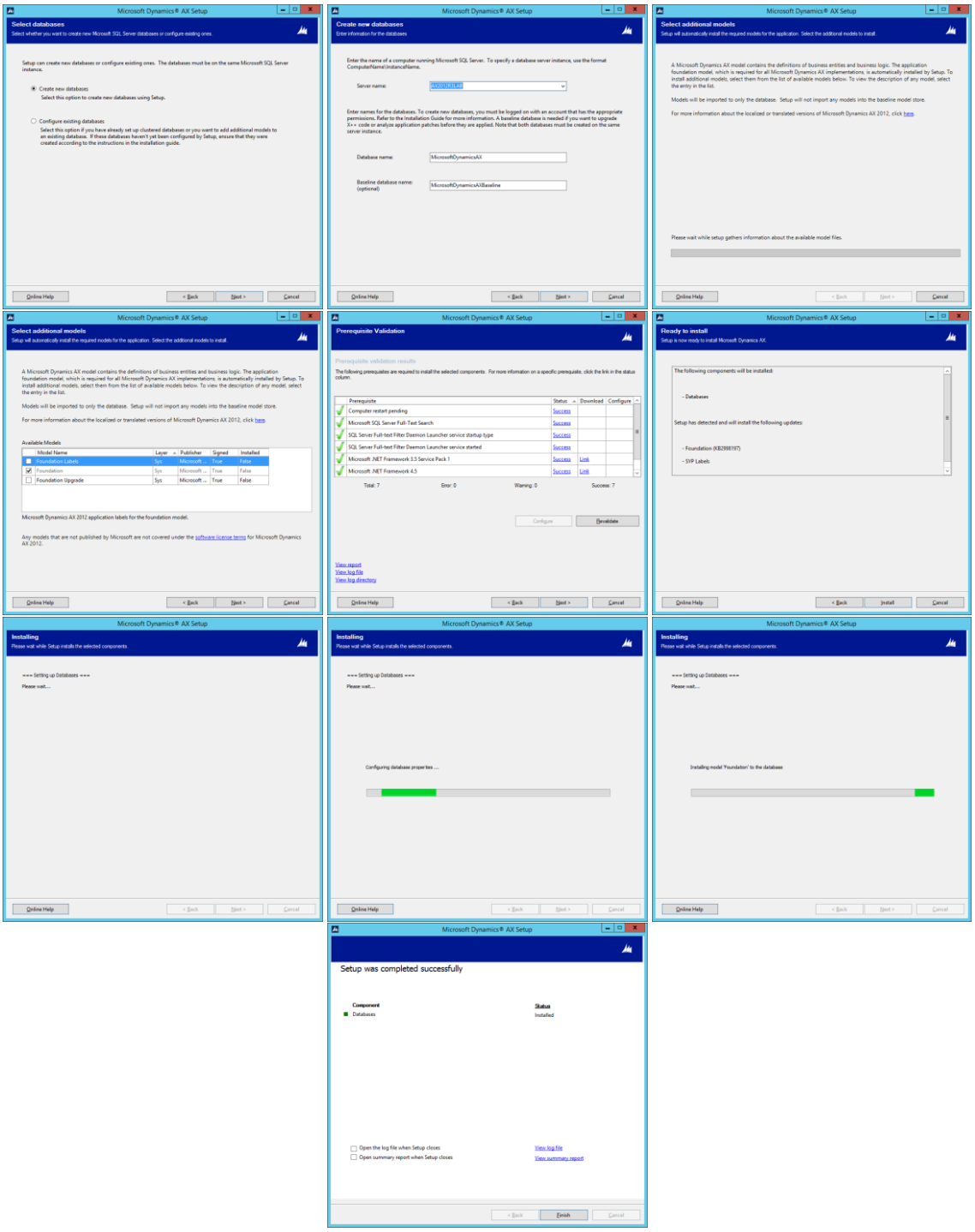
On the select components screen check only the Databases and press Next. If the prerequisites validate without errors, press Next, otherwise correct the errors and try again.



On the Select databases screen choose Create new databases and press Next. Leave the default server name, database name and baseline database name, press Next.

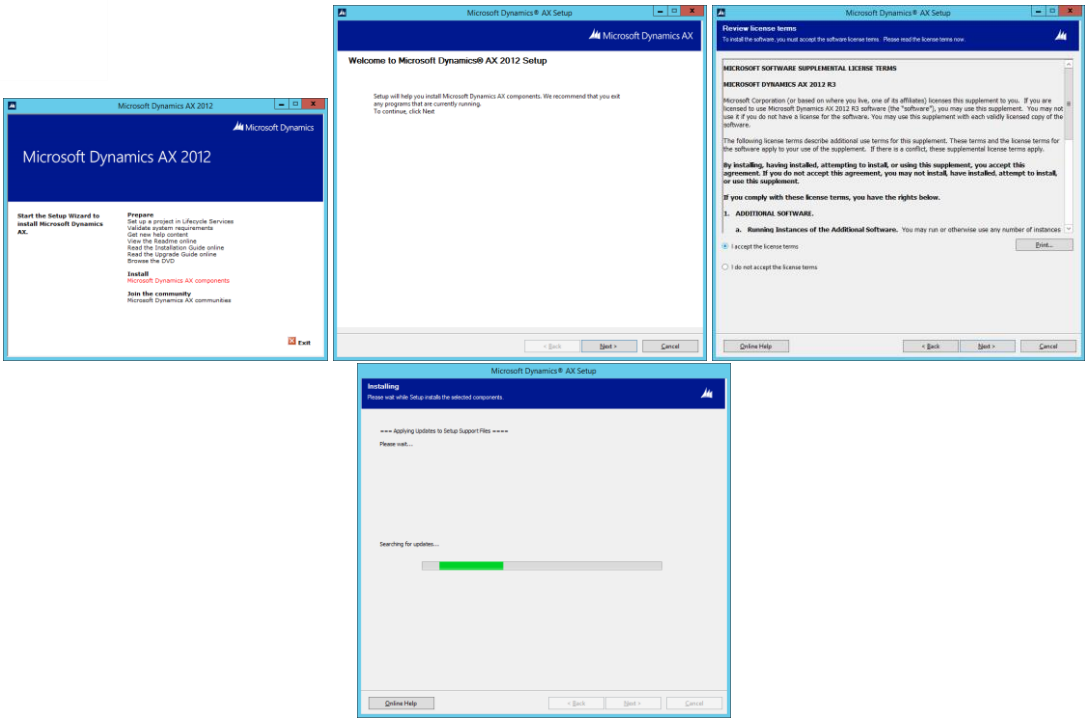
On the Select additional models screen leave checked **ONLY** the **Foundation** model. **Do not check the Foundation Labels and neither the Foundation Upgrade option. If you check other options, your installation will take a very long time and your database will grow very large, so the space needed will be a lot more than what was specified at the beginning of this document**.

If the prerequisites validate without errors, press Next, otherwise correct the errors and try again. On the Ready to install screen press Install and wait until the installation finishes. You should get a successful installation message, uncheck the open log and report options and press Finish.

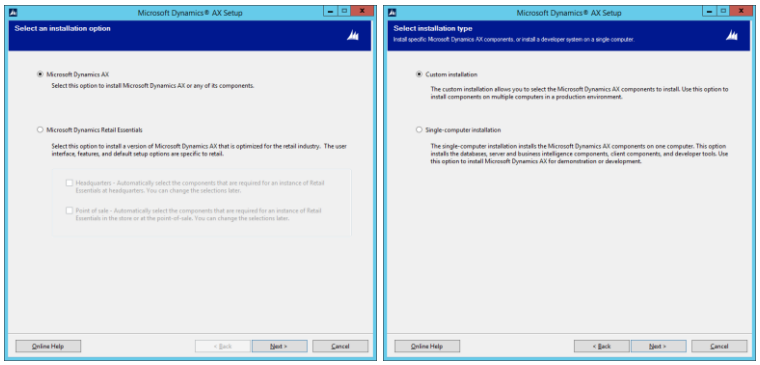


Install Application Object Server

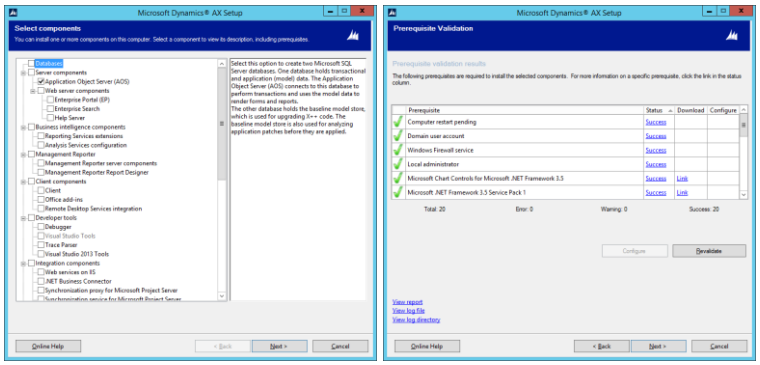
Launch the setup again from the installation location. Select Install > Microsoft Dynamics AX components. On the Welcome screen press Next. On the Review supplemental license terms select I accept the license terms and press Next. Wait until the setup support files are checking for updates.



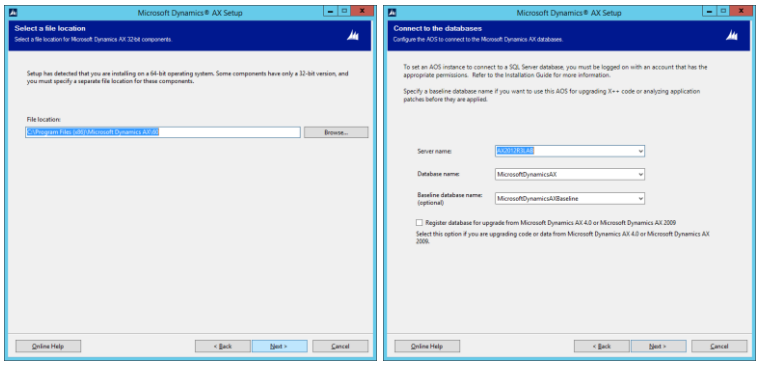
On the Select an installation type screen choose Microsoft Dynamics AX, press Next. . For installation type select Custom installation and press Next.



On the select components screen check only the Application Object Server (AOS) and press Next. If the prerequisites validate without errors, press Next, otherwise correct the errors and try again.



On the Select a file location screen leave the default location and press Next. On the Connect to the database, leave the default values and press Next.



On the Configure an Application Object Server (AOS) instance, make sure that the values are:

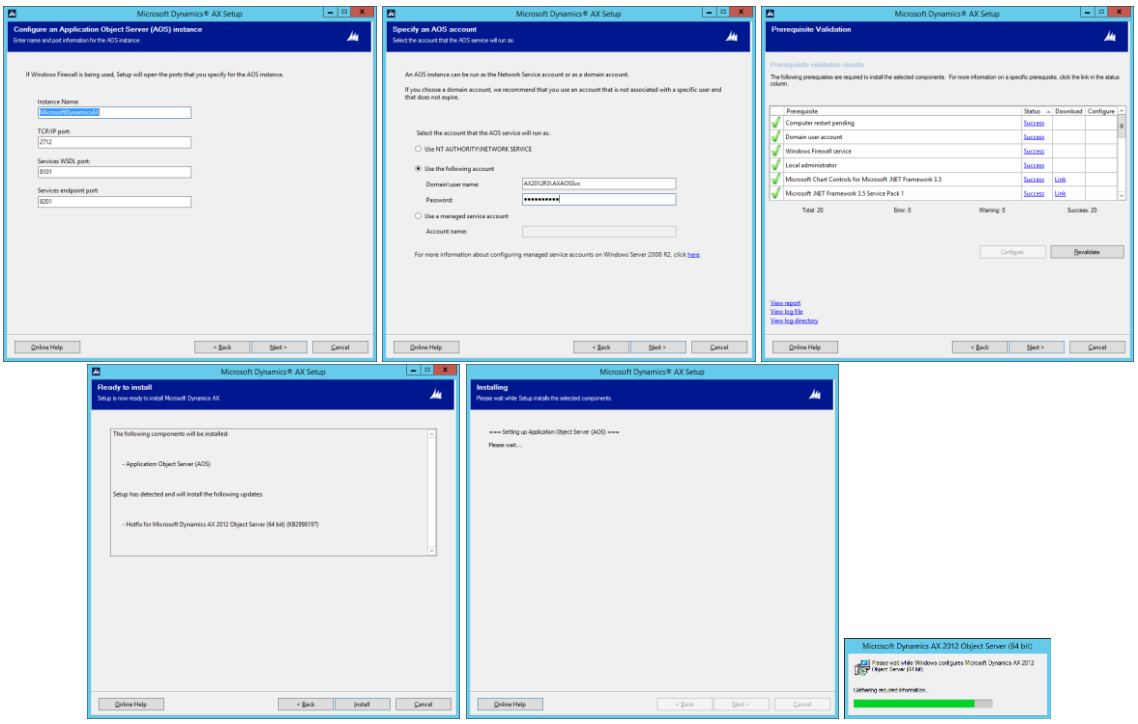
- Instance Name: **MicrosoftDynamicsAX**
- TCP/IP port: **2712**
- Services WSDL port: **8101**
- Services endpoint port: **8201**

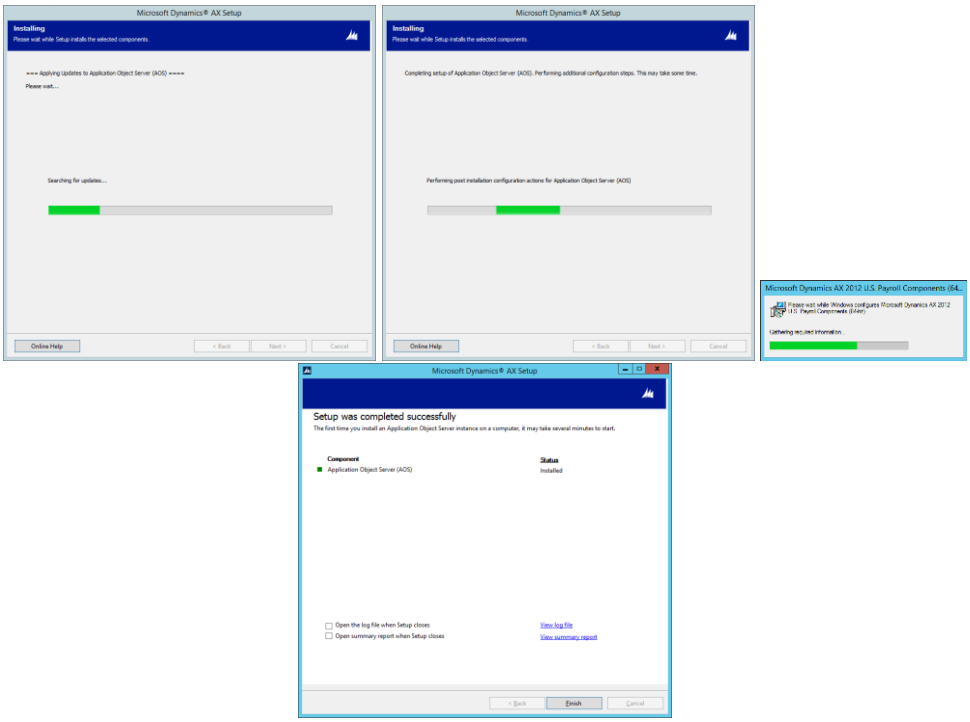
and press Next.

On the Specify an AOS account screen, select Use the following account:

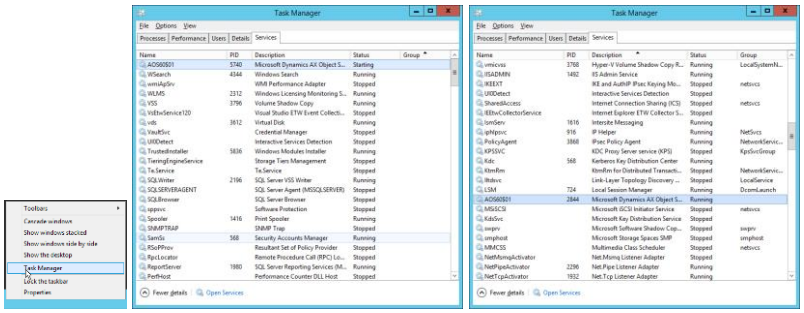
- Domain\user name: **AX2012R3\AXAOSSvc**
- Password: **pass@word1**

If the prerequisites validate without errors, press Next, otherwise correct the errors and try again. On the Ready to install screen press Install and wait until the installation finishes. You should get a successful installation message, uncheck the open log and report options and press Finish.



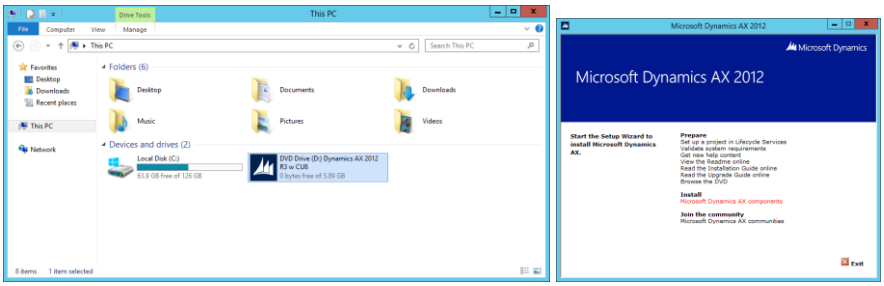


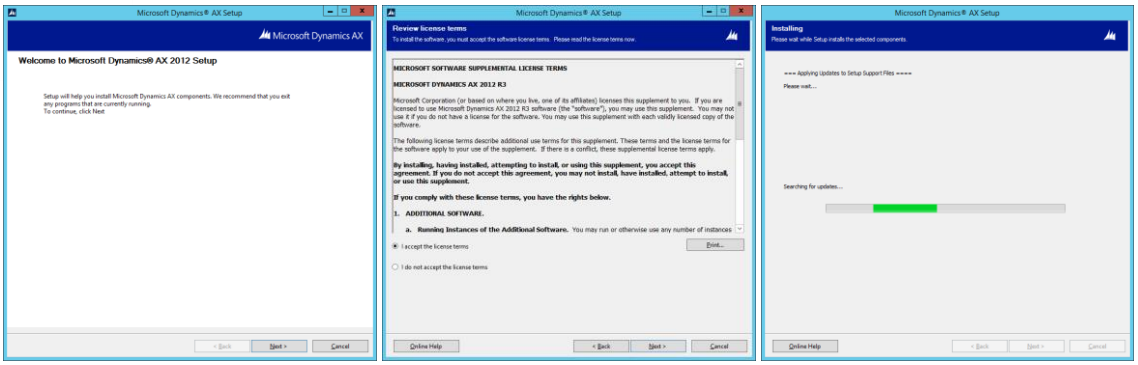
Now you should check if the AOS service is running or not. If not you could try to restart it from the Services tab of Task Manager (right-click on task bar, select Task Manager, then select the Services tab, here you should search for the **AOS60$01** service). If you cannot restart it, then restart your machine.



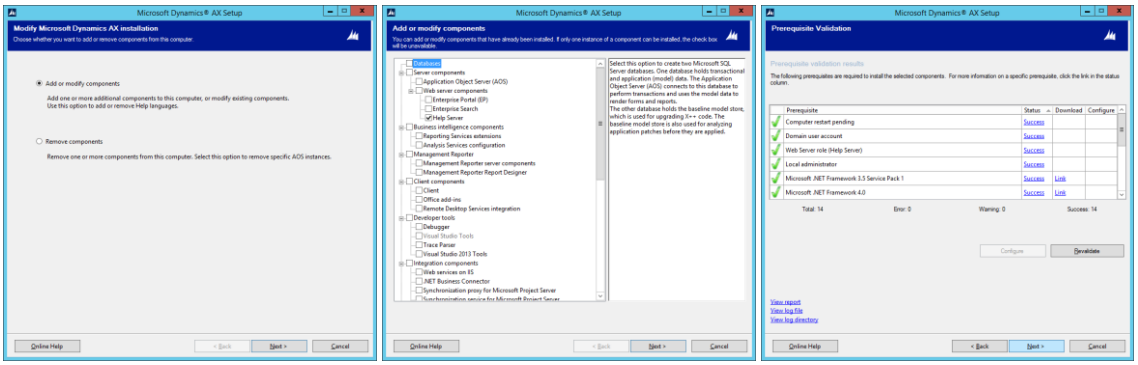
Install Help Server

Launch the setup again from the installation location. Select Install > Microsoft Dynamics AX components. On the Welcome screen press Next. On the Review supplemental license terms select I accept the license terms and press Next. Wait until the setup support files are checking for updates.





On the Modify Microsoft Dynamics AX installation, choose Add or modify components and press Next. On the Add or modify components screen check only Help Server and press Next. If the prerequisites validate without errors, press Next, otherwise correct the errors and try again.

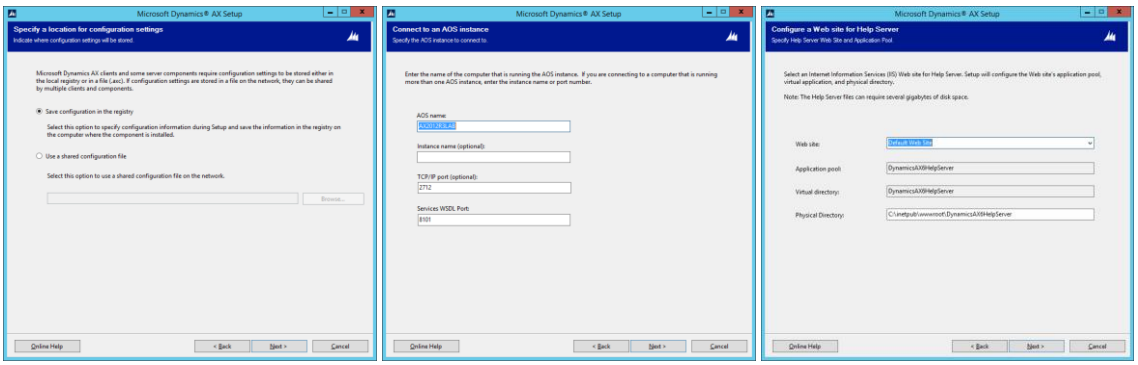


On the Specify a location for configuration settings screen leave the default selection (Save configuration in the registry) and press Next. On the Connect to an AOS instance make sure you have the following parameters:

- AOS name: **AX2012R3LAB**
- Instance name (optional): <empty>
- TCP/IP port (optional): **2712**
- Service WSDL Port: **8101**

Press Next.

On the Configure a Web site for Help Server screen, leave the default settings and press Next.

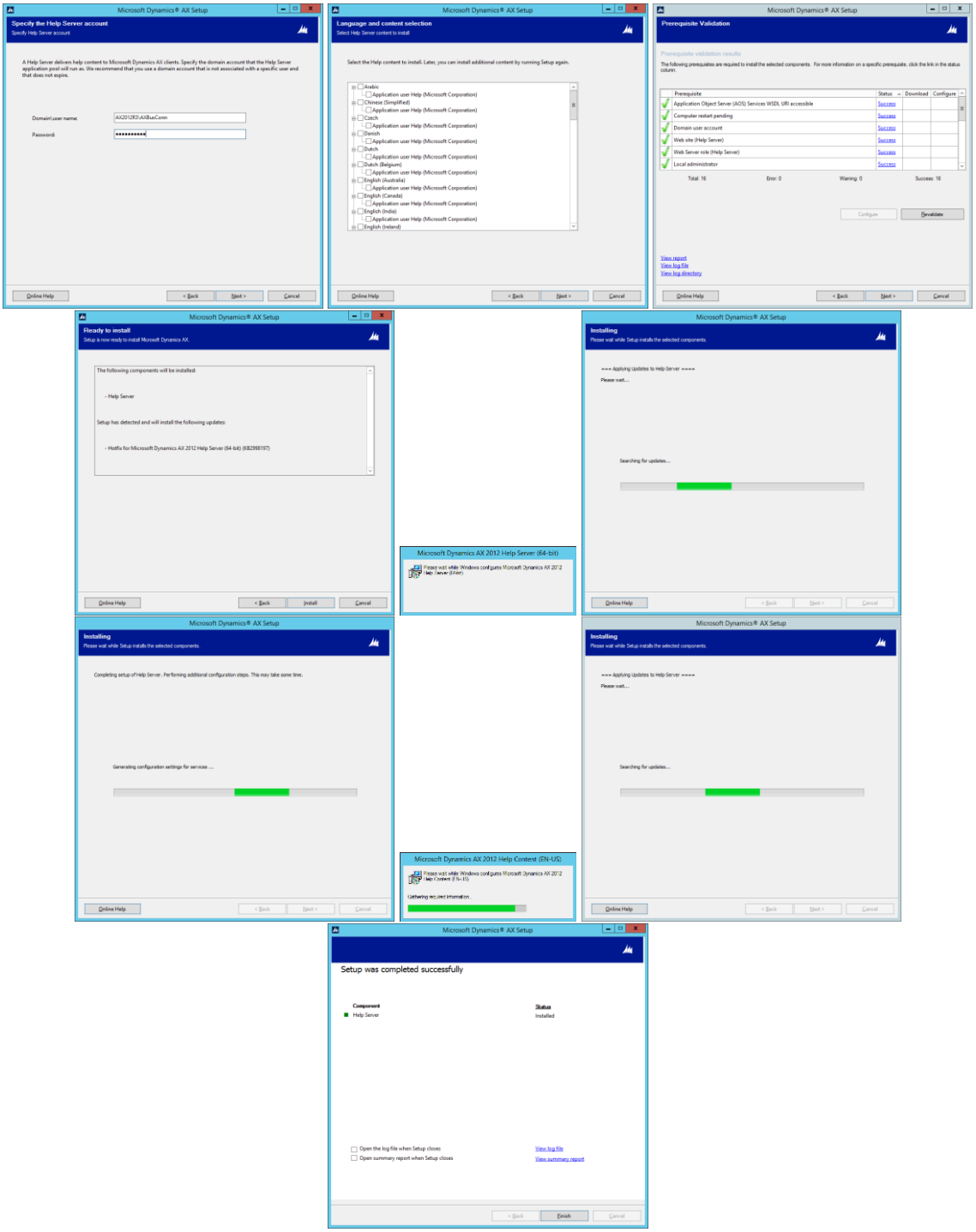


On the Specify the Help Server account screen specify the following:

- Domain\user name: **AX2012R3\AXBusConn**
- Password: **pass@word1**

Press Next. On the Language and content selection press Next. If the prerequisites validate without errors, press Next, otherwise correct the errors and try again.

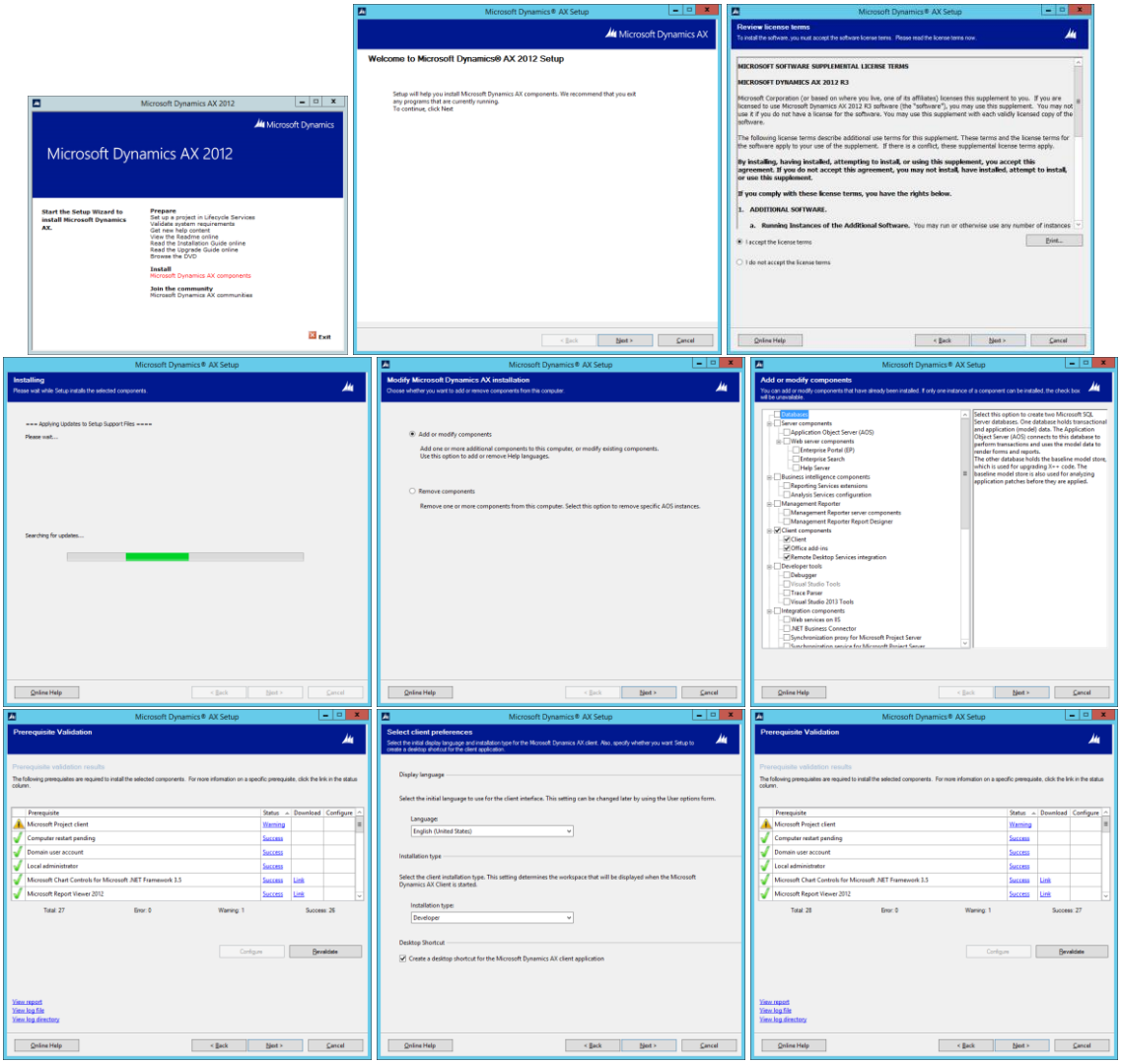
On the Ready to install screen press Install and wait until the installation finishes. You should get a successful installation message, uncheck the open log and report options and press Finish.



Install Client components

Launch the setup again from the installation location. Select Install > Microsoft Dynamics AX components. On the Welcome screen press Next. On the Review supplemental license terms select I accept the license terms and press Next. Wait until the setup support files are checking for updates.

On the Modify Microsoft Dynamics AX installation, choose Add or modify components and press Next. On the Add or modify components screen check only **Client components** and press Next. If the prerequisites validate without errors (ignore the Microsoft Project client related warning), press Next, otherwise correct the errors and try again.



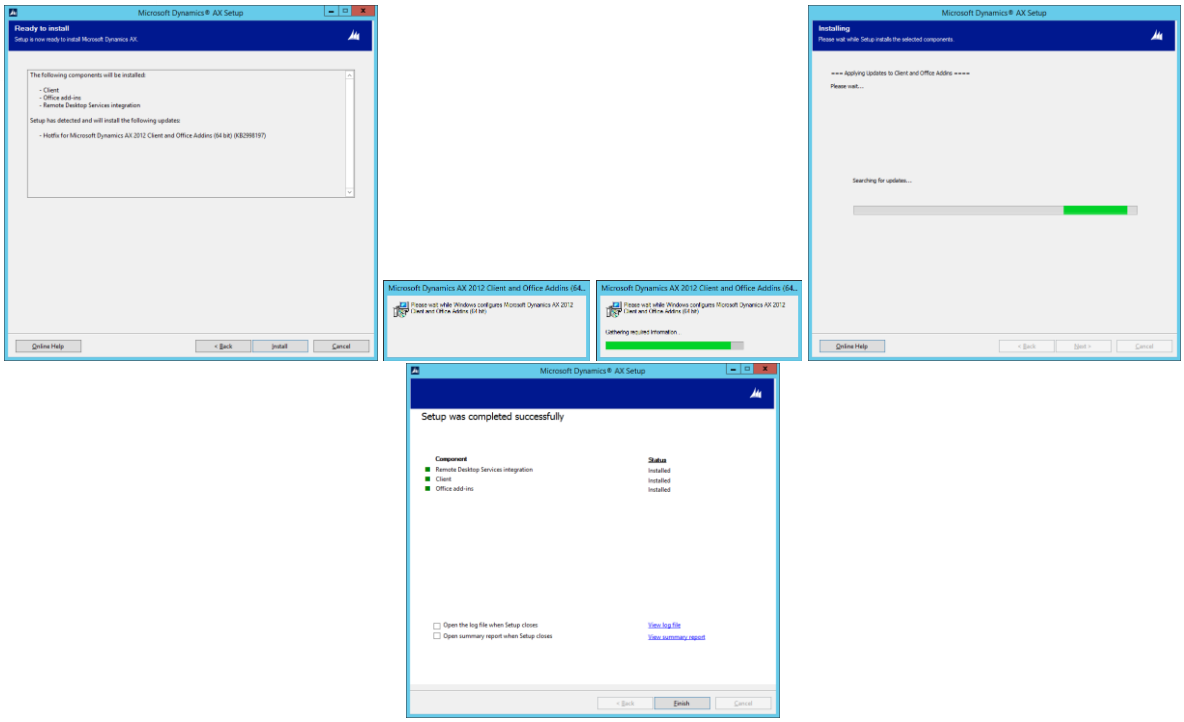
On the Select client preferences screen set the following parameters:

- Display language: select English (United States)
- Installation type: select Developer
- Check Create a desktop shortcut for the Microsoft Dynamics AX client application

Press Next.

If the prerequisites validate without errors (ignore the Microsoft Project client related warning), press Next, otherwise correct the errors and try again.

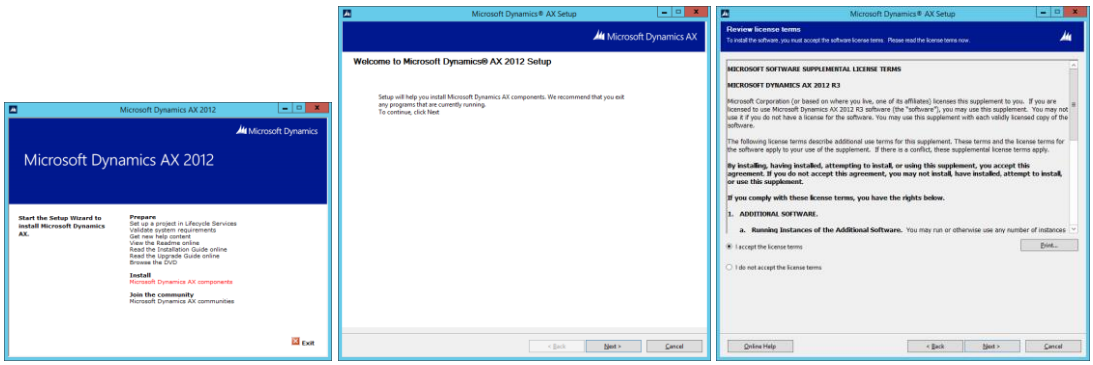
On the Ready to install screen press Install and wait until the installation finishes. You should get a successful installation message, uncheck the open log and report options and press Finish.

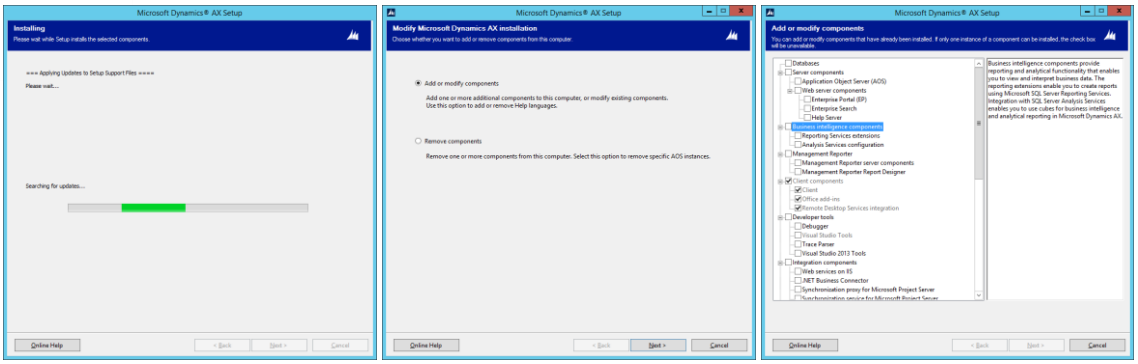


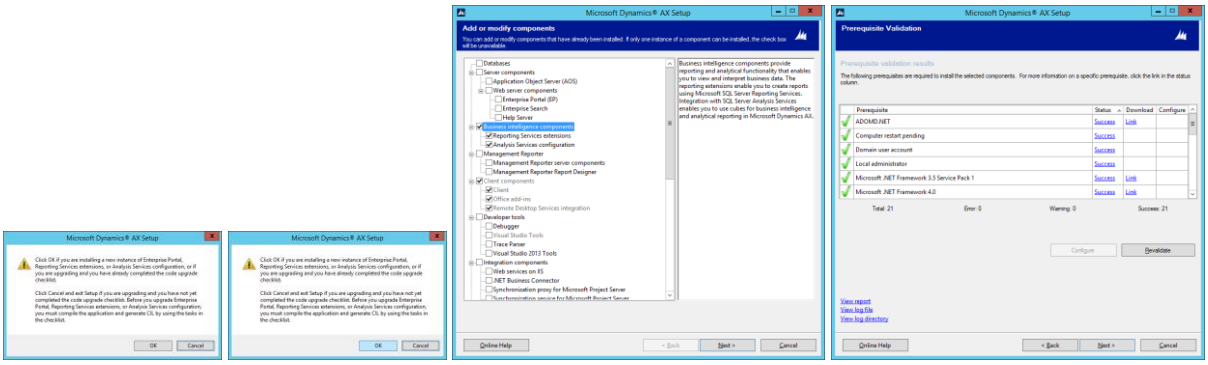
Install Business intelligence components

Launch the setup again from the installation location. Select Install > Microsoft Dynamics AX components. On the Welcome screen press Next. On the Review supplemental license terms select I accept the license terms and press Next. Wait until the setup support files are checking for updates.

On the Modify Microsoft Dynamics AX installation, choose Add or modify components and press Next. On the Add or modify components screen check only **Business intelligence components**. You will get two popup dialogs one after the other. Click OK on both of them, as you are installing a new instance. Now press Next. If the prerequisites validate without errors (ignore the Microsoft Project client related warning), press Next, otherwise correct the errors and try again.







On the Specify Business Connector proxy account information screen input the following:

- Domain\user name: **AX2012R3\AXBusConn**
- Password: **pass@word1**

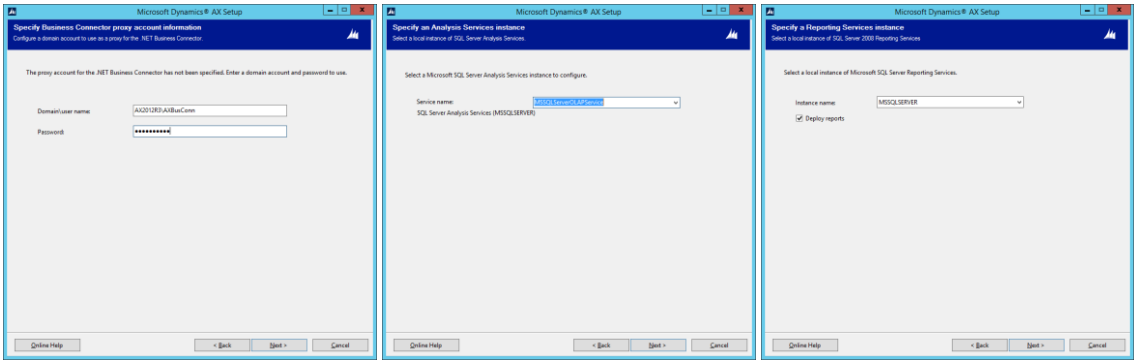
Press Next. On the Specify an Analysis Services instance screen input the following:

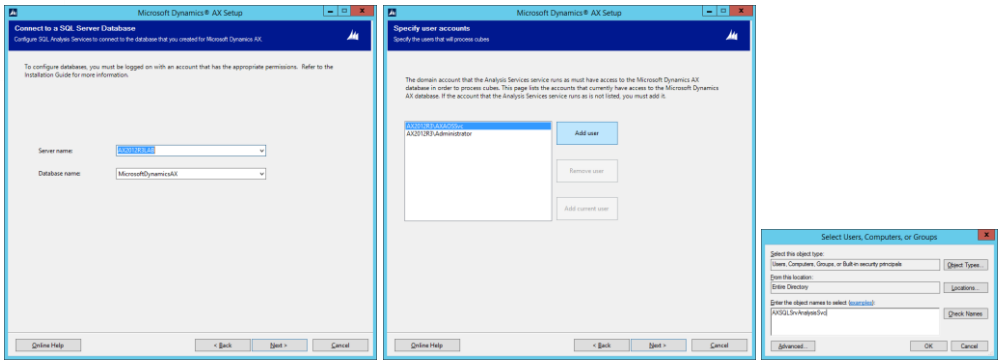
- Service name: **MSSQLServerOLAPService**

Press Next. On Specify a Reporting Services instance screen choose the **MSSQLSERVER** and **check** the **Deploy reports** box. Press Next. On the Connect to a SQL Server Database screen provide the following parameters:

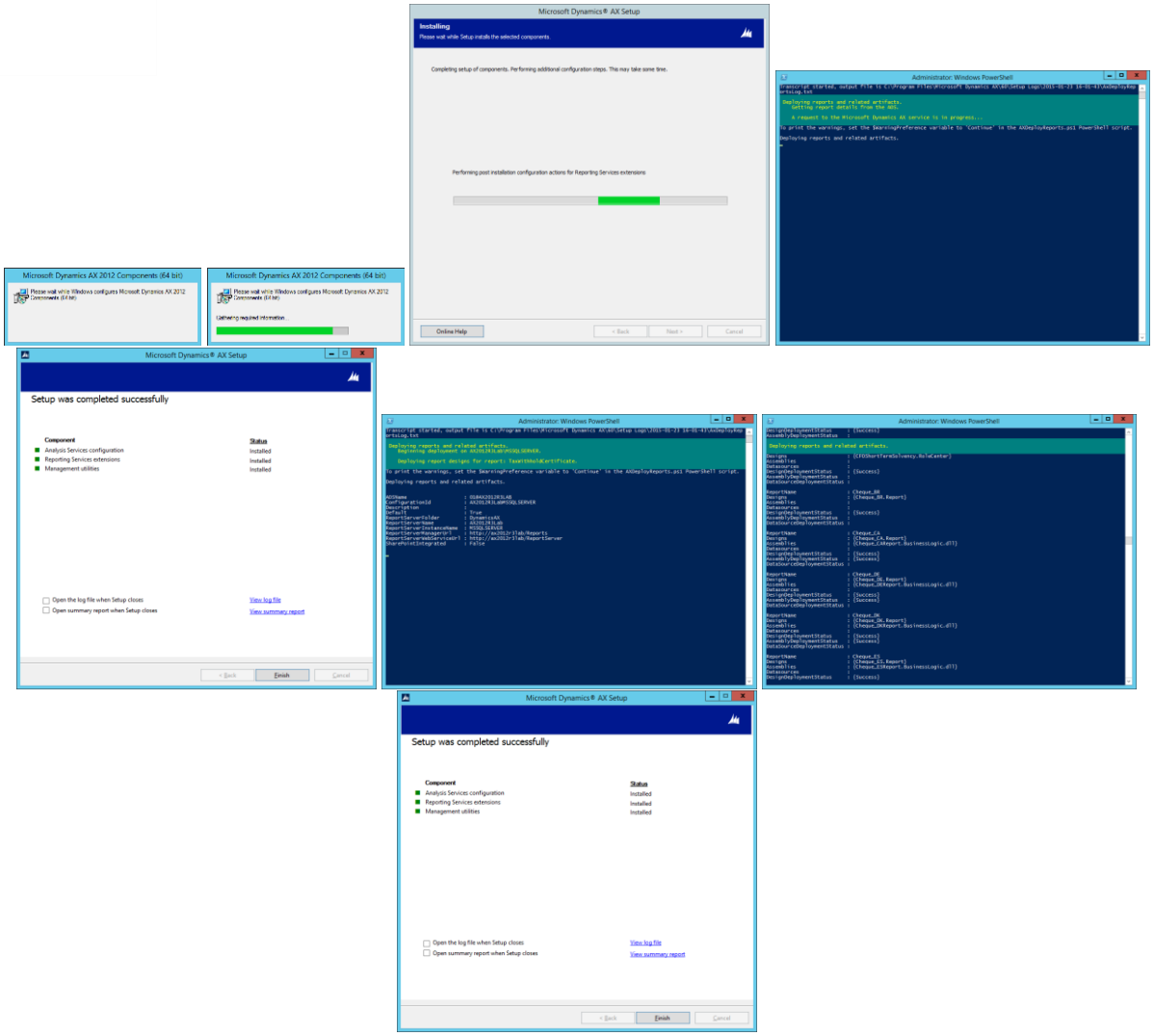
- Server name: **AX2012R3Lab**
- Database name: **MicrosoftDynamicsAX**

Press Next. On the Specify user accounts screen click on the Add user and add the user **AXSQLSrvAnalysisSvc** to the list of users that have access to the AX database, then press Next. If the prerequisites validate without errors, press Next, otherwise correct the errors and try again.



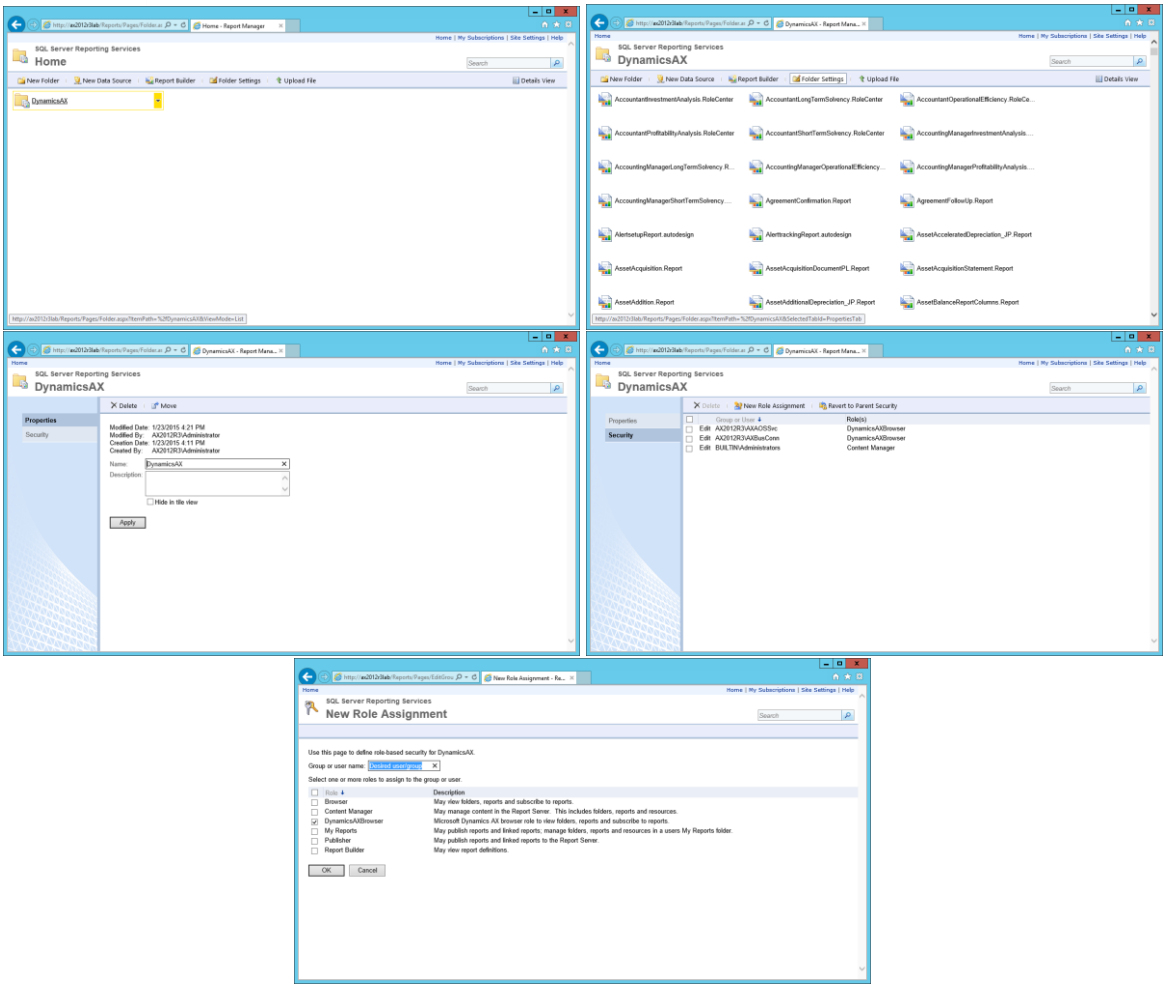


On the Ready to install screen press Install and wait until the installation finishes and the reports are dep0loyed. In the background you should see a PowerShell window where the reports are deployed. The deployment should finish without any errors or warnings. You should get a successful installation message, uncheck the open log and report options and press Finish (you will probably get this message before the deployment is done, don't worry, this is normal).



Grant users access to reports

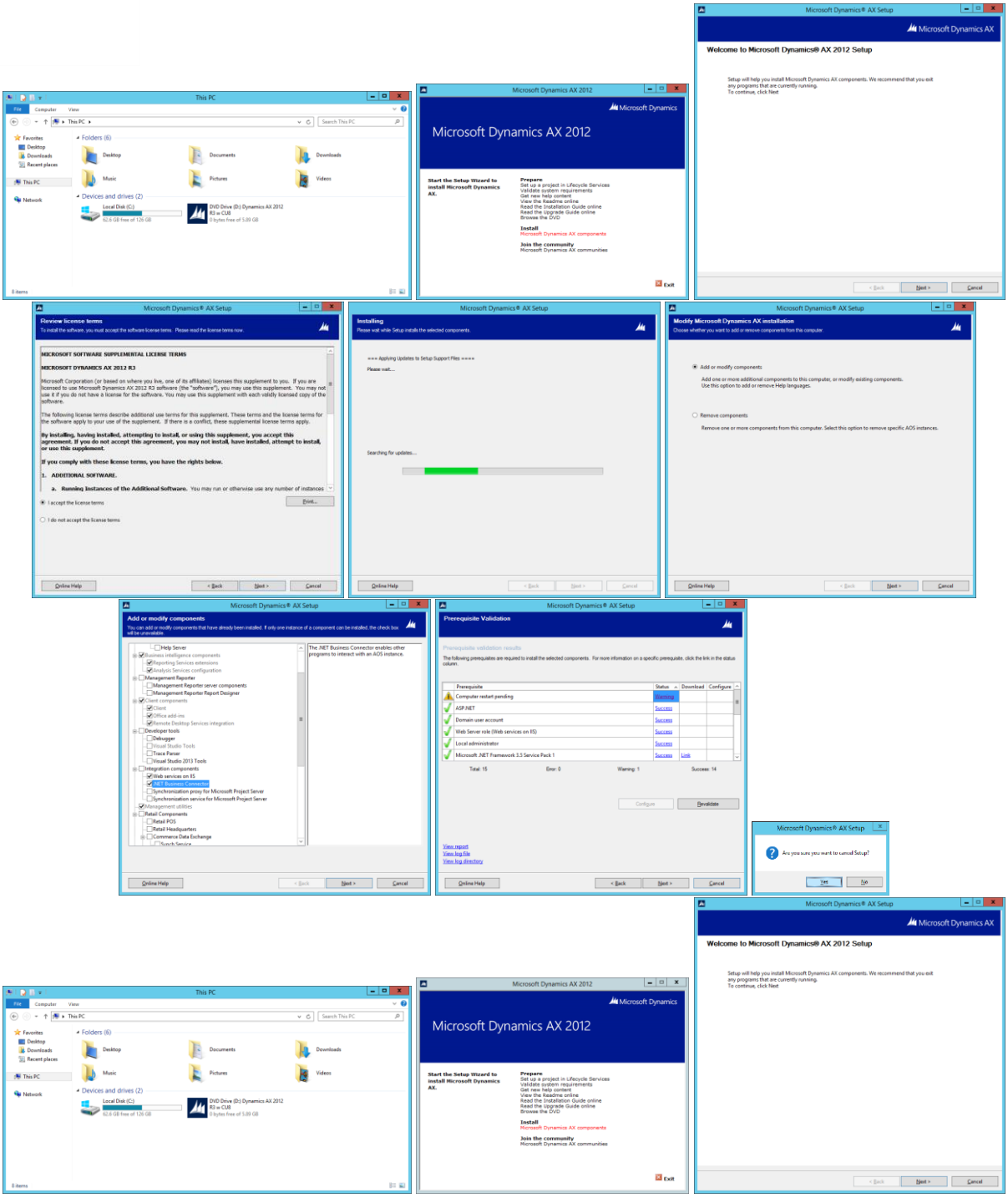
If you will need to grant access to additional users, then you can follow the next steps. First of all open a browser and navigate to the following address: http://AX2012R3Lab:80/Reports. Click the **DynamicsAX** folder, click Folder Settings, click Security, click **New Role Assignment**, enter the Active Directory user name or group to assign to the **DynamicsAXBrowser** role and select the **DynamicsAXBrowser** role. Click OK.

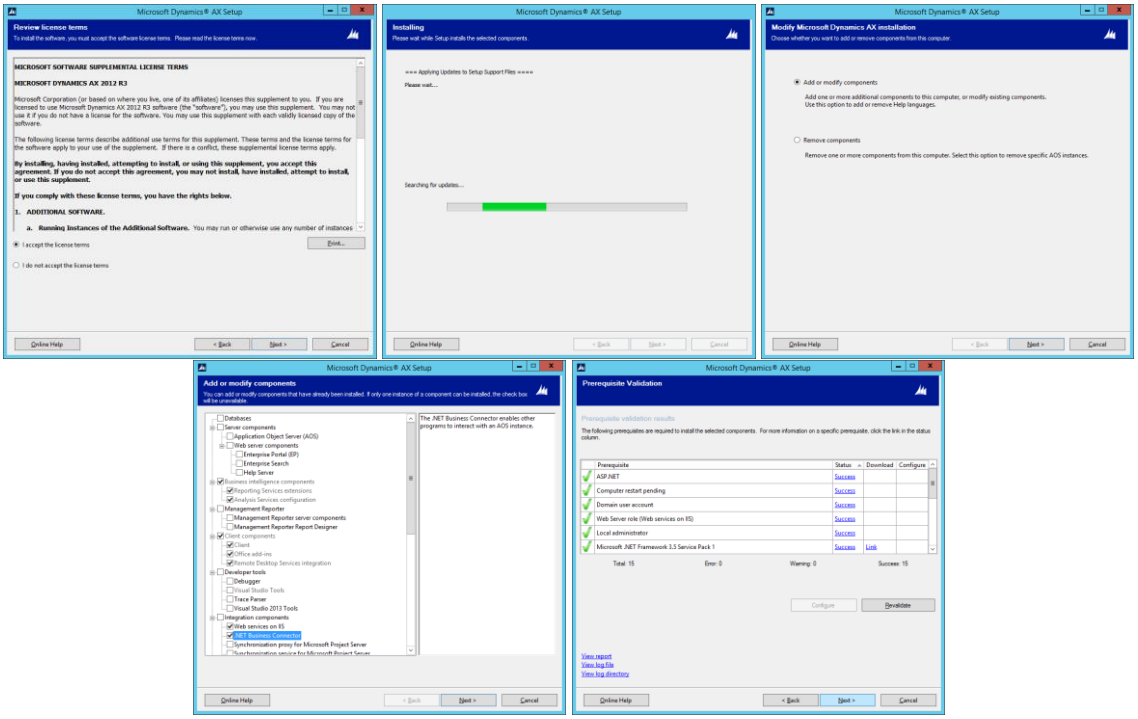


Install Integration components

Launch the setup again from the installation location. Select Install > Microsoft Dynamics AX components. On the Welcome screen press Next. On the Review supplemental license terms select I accept the license terms and press Next. Wait until the setup support files are checking for updates.

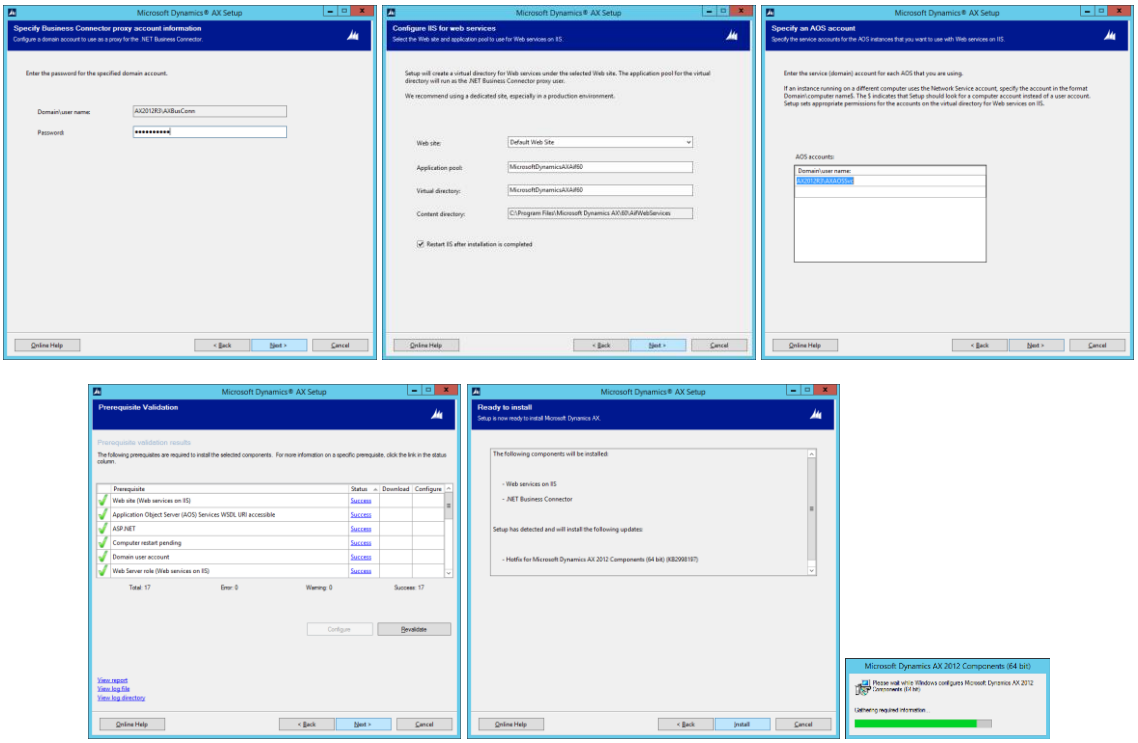
On the Modify Microsoft Dynamics AX installation, choose Add or modify components and press Next. On the Add or modify components screen check only **Web services on IIS** AND **.NET Business Connector** (from the Integration components branch), press Next. Now probably you will get a warning about a Computer restart pending. If this is the case, then restart your machine and follow the steps again until you get the prerequisites validate without errors or computer restart warnings then press Next, otherwise correct the errors and try again.

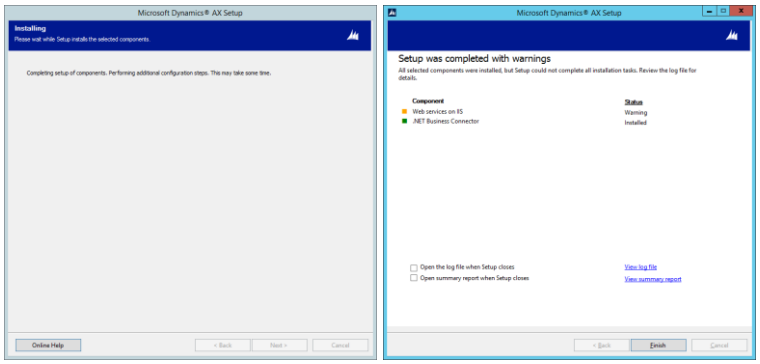

This PC
Microsoft Dynamics AX 2012
Microsoft Dynamics AX Setup
Welcome to Microsoft Dynamics® AX 2012 Setup
Review license terms
MICROSOFT SOFTWARE SUPPLEMENTAL LICENSE TERMS
MICROSOFT DYNAMICS AX 2012 R3
Installing
Modify Microsoft Dynamics AX installation
Add or modify components
Prerequisite Validation
Are you sure you want to cancel Setup?



On the Specify Business Connector proxy account information screen input the password for the already filled in (**AX2012R3\AXBusConn**) and read only/disabled account (**pass@word1**) and press Next. On the Configure IIS for web services screen leave the default values and press Next. On the Specify an AOS account screen press Next. If the prerequisites validate without errors, press Next, otherwise correct the errors and try again.

On the Ready to install screen press Install and wait until the installation finishes. You should get a successful installation message (maybe with a warning for the Web services on IIS – you can disregard these), uncheck the open log and report options and press Finish.

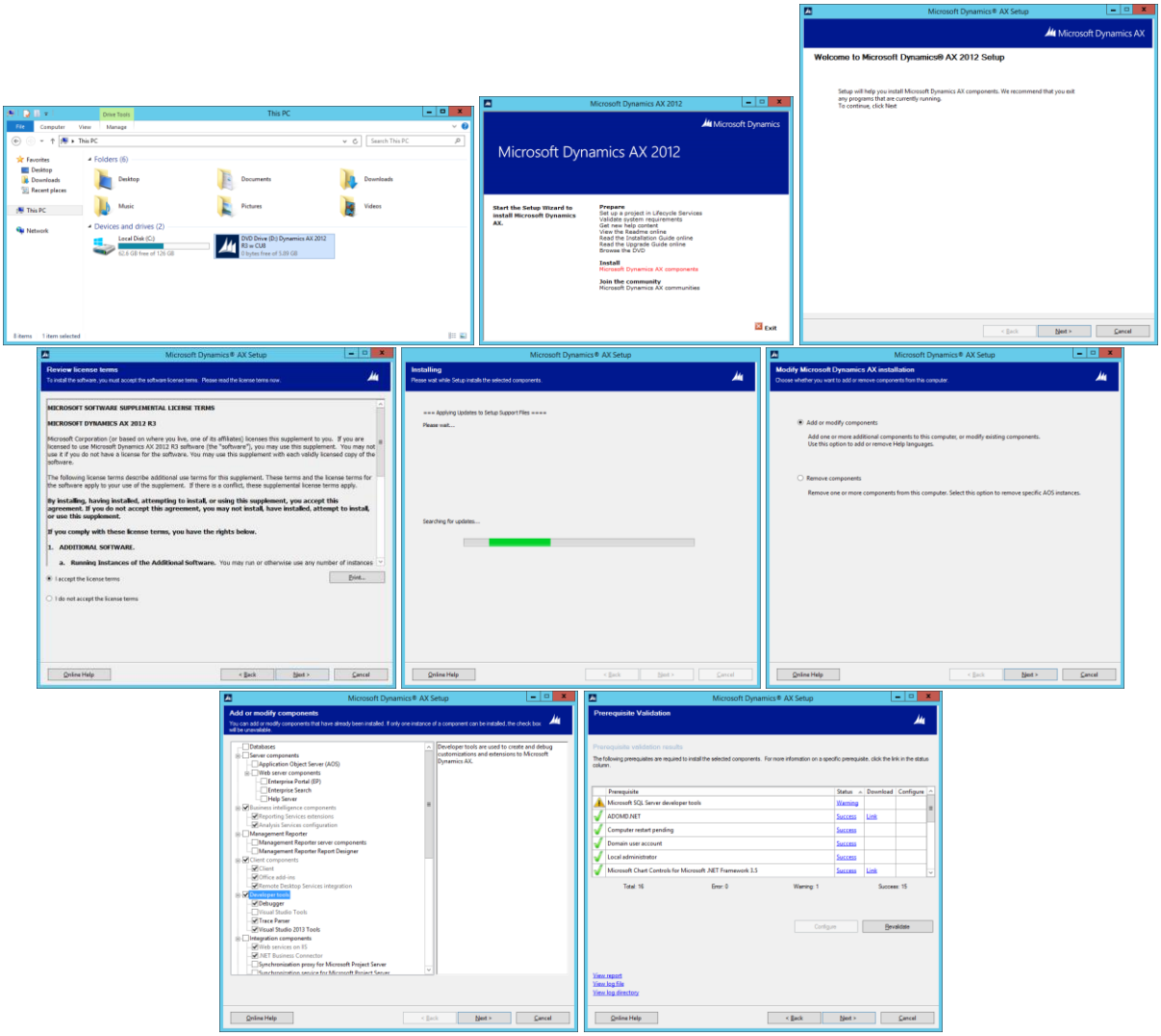




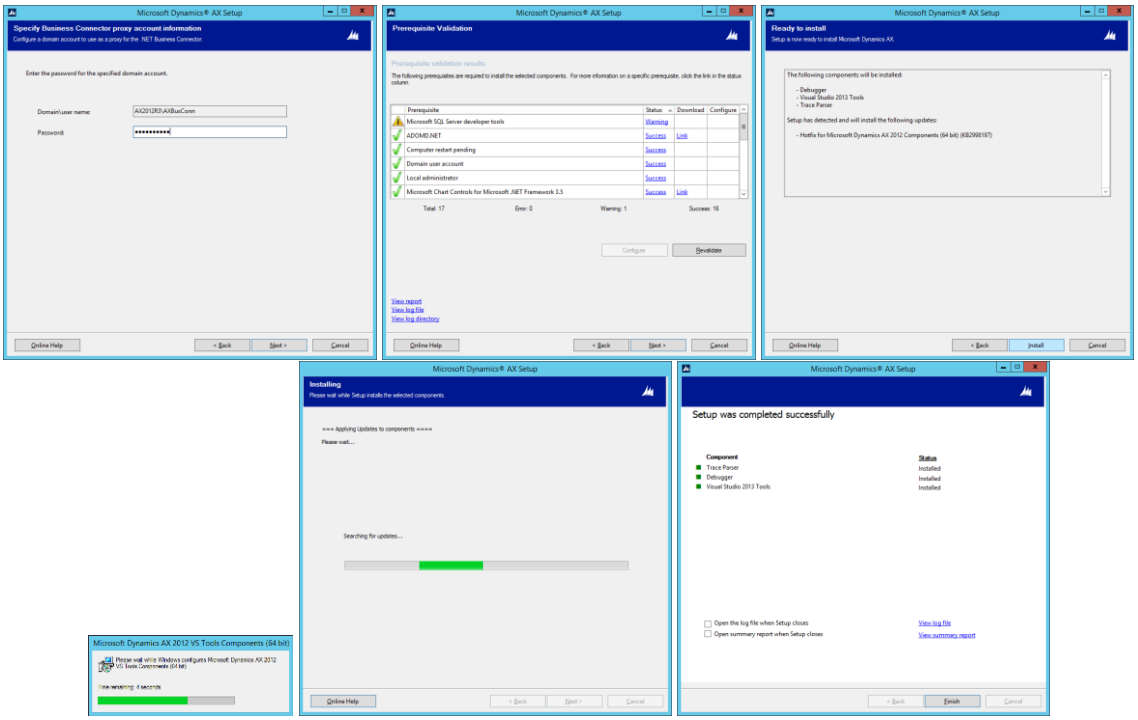
Install Developer tools

Launch the setup again from the installation location. Select Install > Microsoft Dynamics AX components. On the Welcome screen press Next. On the Review supplemental license terms select I accept the license terms and press Next. Wait until the setup support files are checking for updates.

On the Modify Microsoft Dynamics AX installation, choose Add or modify components and press Next. On the Add or modify components screen check only **Developer tools (Debugger, Trace Parser, Visual Studio 2013 Tools)**, press Next. Now on the prerequisite validation screen you probably will get a warning about Microsoft SQL Server developer tools, ignore it and press Next, otherwise correct the errors and try again.



On the Specify Business Connector proxy account information screen input the password for the already filled in (**AX2012R3\AXBusConn**) and read only/disabled account (**pass@word1**) and press Next. Now on the prerequisite validation screen you probably will get a warning about Microsoft SQL Server developer tools, ignore it and press Next, otherwise correct the errors and try again.

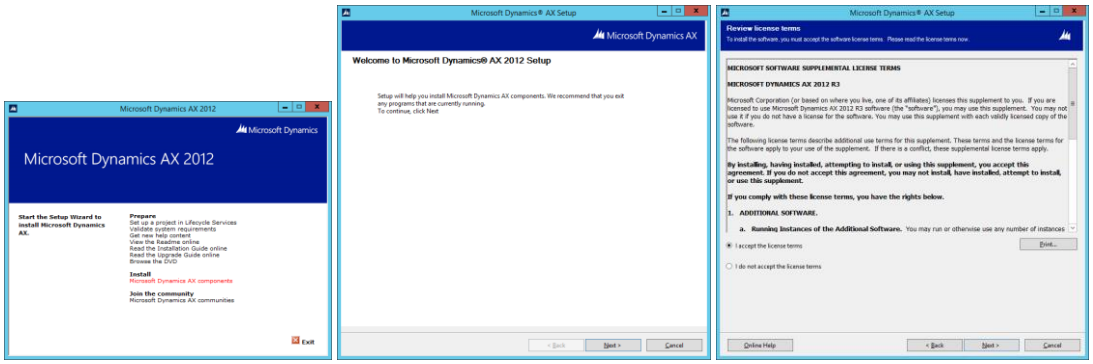


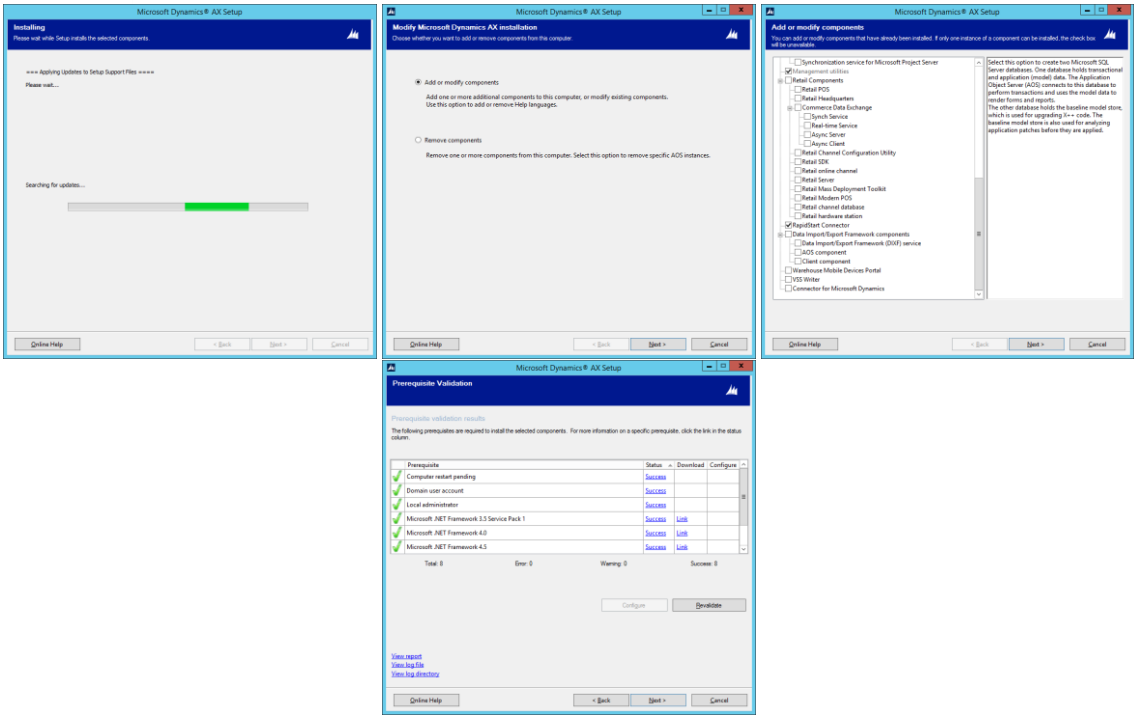
On the Ready to install screen press Install and wait until the installation finishes. You should get a successful installation message, uncheck the open log and report options and press Finish.

Install RapidStart Connector

Launch the setup again from the installation location. Select Install > Microsoft Dynamics AX components. On the Welcome screen press Next. On the Review supplemental license terms select I accept the license terms and press Next. Wait until the setup support files are checking for updates.

On the Modify Microsoft Dynamics AX installation, choose Add or modify components and press Next. On the Add or modify components screen check only **RapidStart Connector**, press Next. If the prerequisites validate without errors, press Next, otherwise correct the errors and try again.

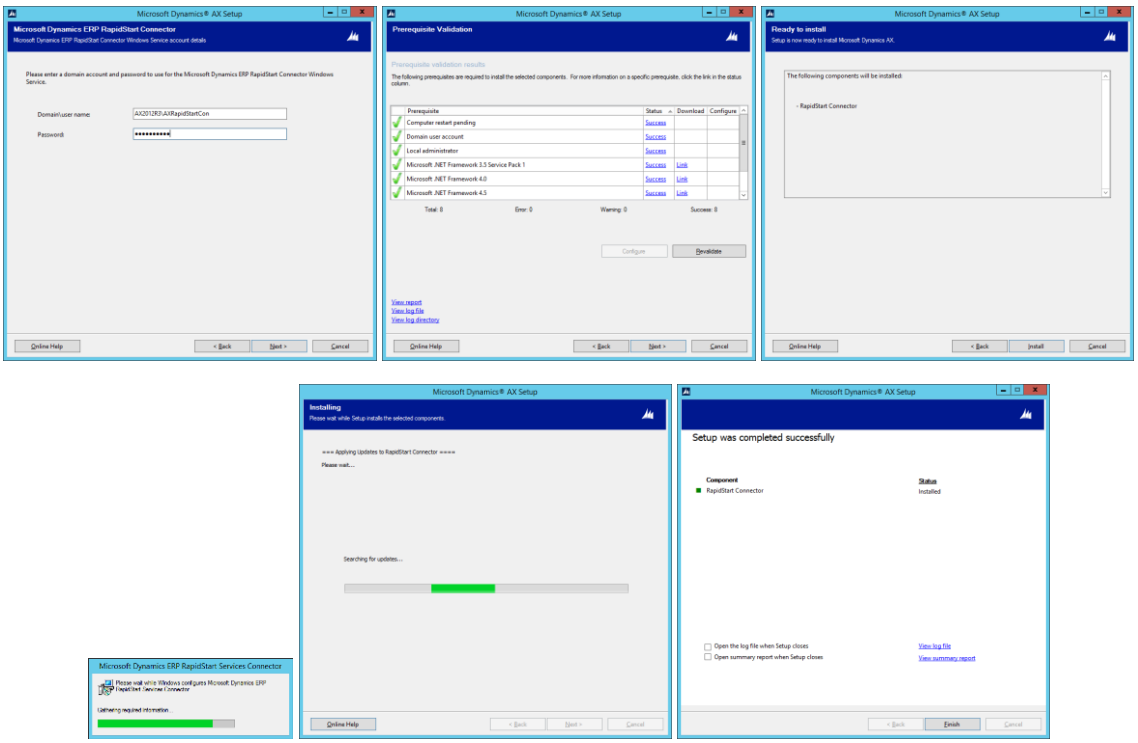




On the Microsoft Dynamics ERP RapidStart Connector service account screen input the following:

- Domain\user name: **AX2012R3\AXRapidStartCon**
- Password: **pass@word1**

Press Next. If the prerequisites validate without errors, press Next, otherwise correct the errors and try again.

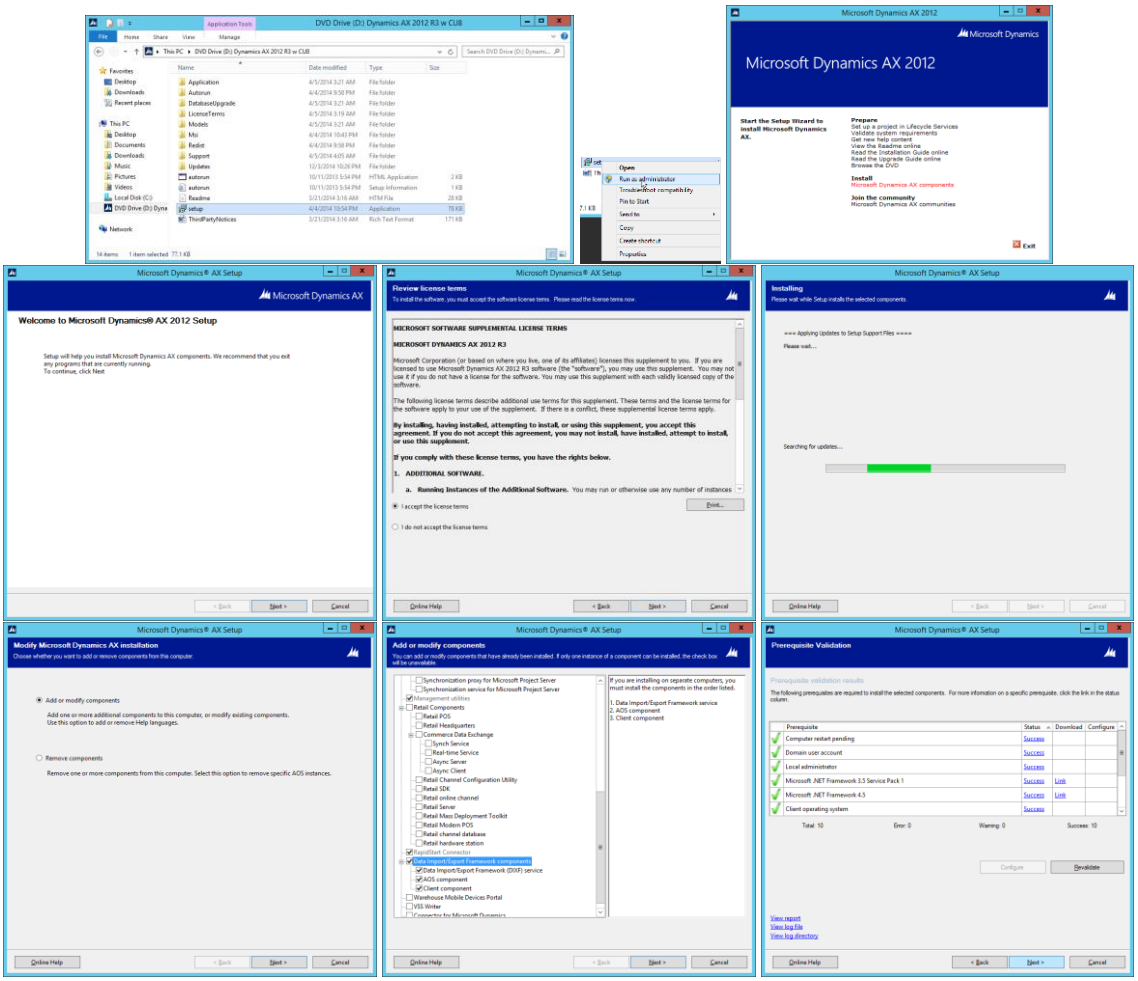


On the Ready to install screen press Install and wait until the installation finishes. You should get a successful installation message, uncheck the open log and report options and press Finish.

Install Data Import/Export Framework components

Launch the setup again from the installation location BUT this time launch it as Administrator. Select Install > Microsoft Dynamics AX components. On the Welcome screen press Next. On the Review supplemental license terms select I accept the license terms and press Next. Wait until the setup support files are checking for updates.

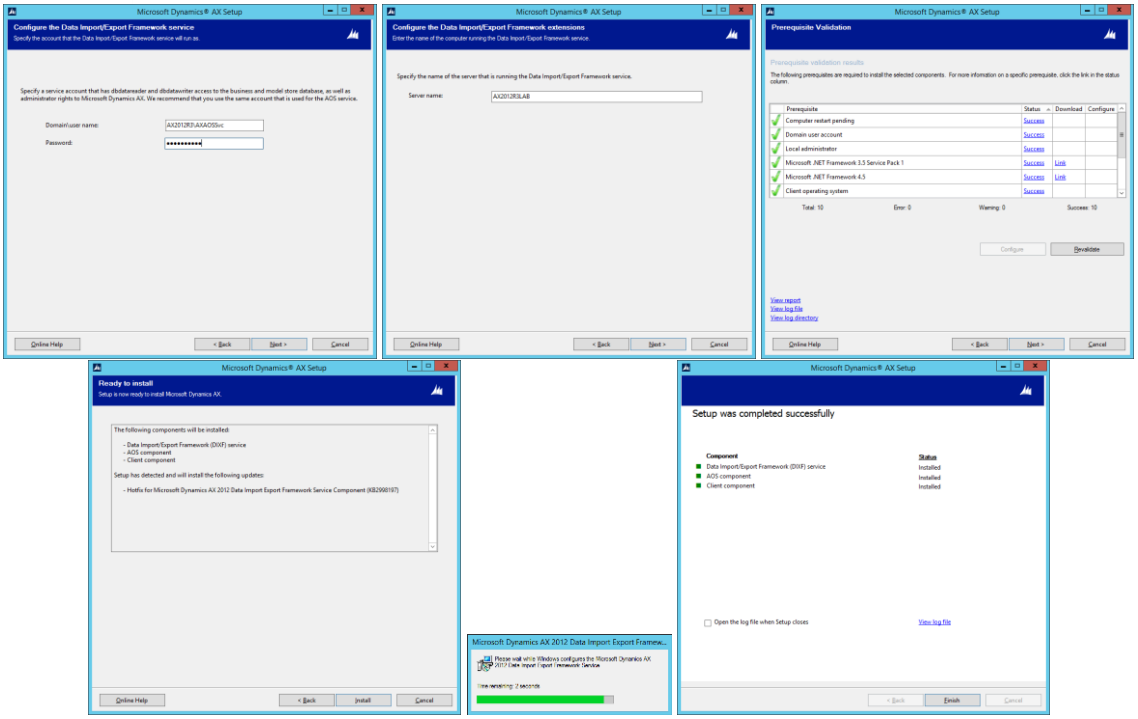
On the Modify Microsoft Dynamics AX installation, choose Add or modify components and press Next. On the Add or modify components screen check only **Data Import/Export Framework components**, press Next. If the prerequisites validate without errors, press Next, otherwise correct the errors and try again.



On the Configure the Data Import/Export Framework service screen input the following:

- Domain\user name: **AX2012R3\AXAOSSvc**
- Password: **pass@word1**

Press Next. On the Configure the Data Import/Export Framework extensions screen input the Server name: **AX2012R3LAB** and press Next. If the prerequisites validate without errors, press Next, otherwise correct the errors and try again.

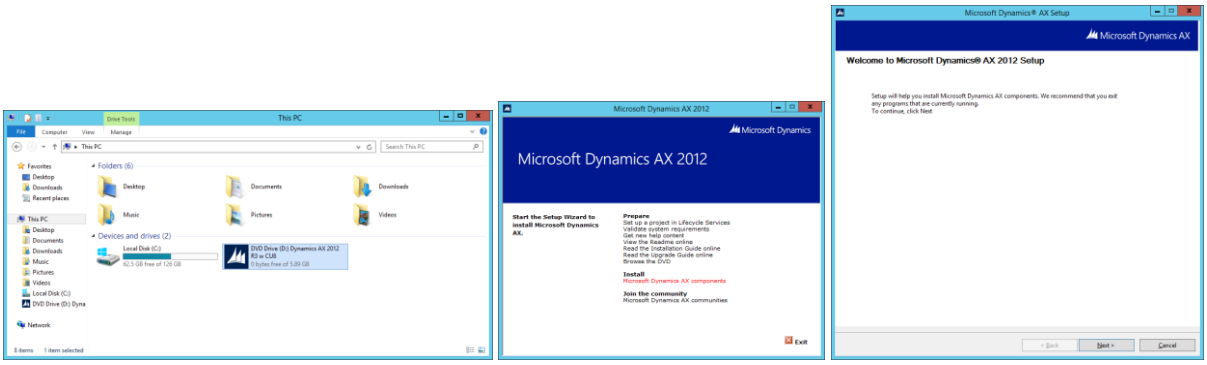


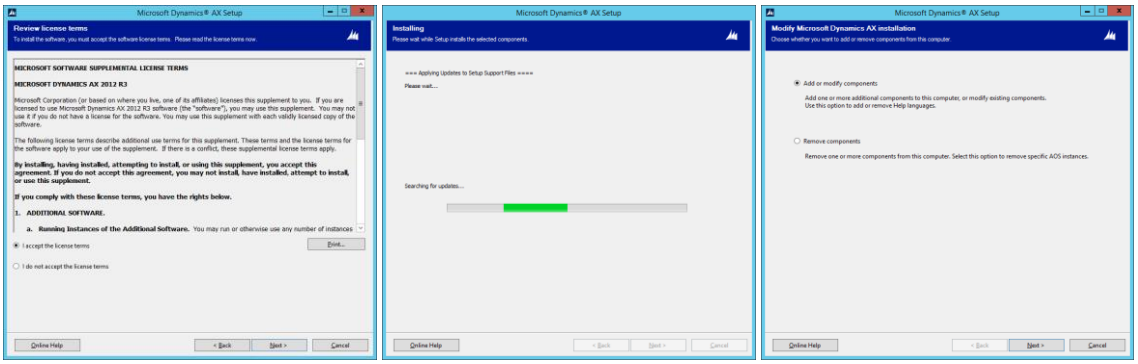
On the Ready to install screen press Install and wait until the installation finishes. You should get a successful installation message, uncheck the open log and report options and press Finish.

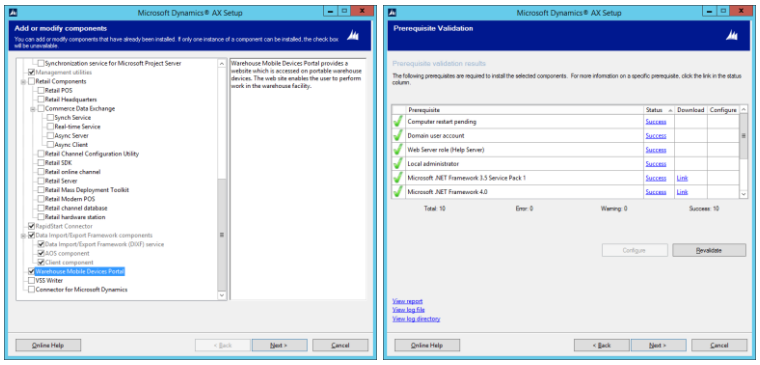
Install Warehouse Mobile Devices Portal

Launch the setup again from the installation location. Select Install > Microsoft Dynamics AX components. On the Welcome screen press Next. On the Review supplemental license terms select I accept the license terms and press Next. Wait until the setup support files are checking for updates.

On the Modify Microsoft Dynamics AX installation, choose Add or modify components and press Next. On the Add or modify components screen check only **Warehouse Mobile Devices Portal**, press Next. If the prerequisites validate without errors, press Next, otherwise correct the errors and try again.



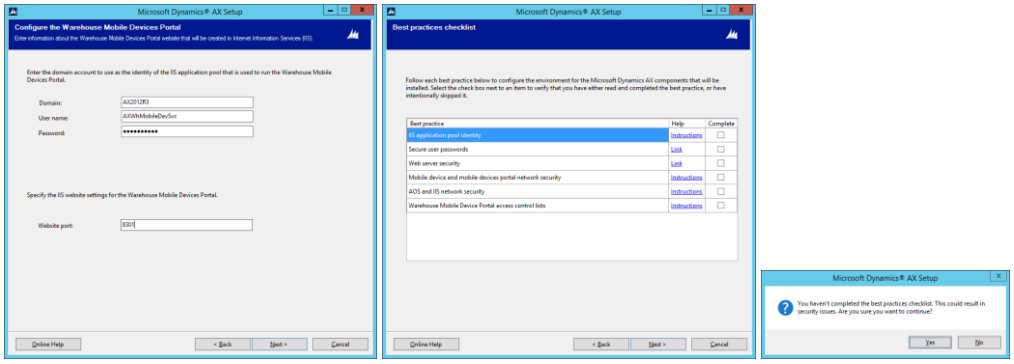


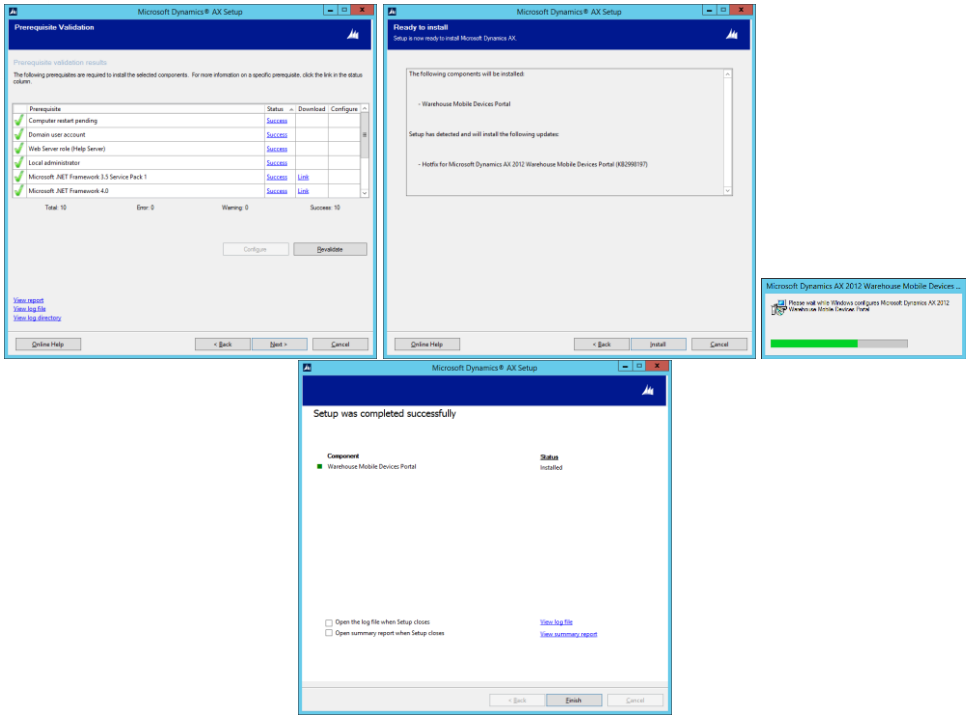


On the Configure the Warehouse Mobile Devices Portal screen specify the following details:

- Domain: **AX2012R3**
- User name: **AXWhMobileDevSvc**
- Password: **pass@word1**
- Website port: **8301** (choose one free port if this one is not available or you want another one)

Press Next. On the Best practices checklist screen you could optionally read through the links, check the Complete boxes and press Next. If you didn't check all the Complete boxes then you will get a message box asking you if you are sure that you want to continue. Press Yes. If the prerequisites validate without errors, press Next, otherwise correct the errors and try again.



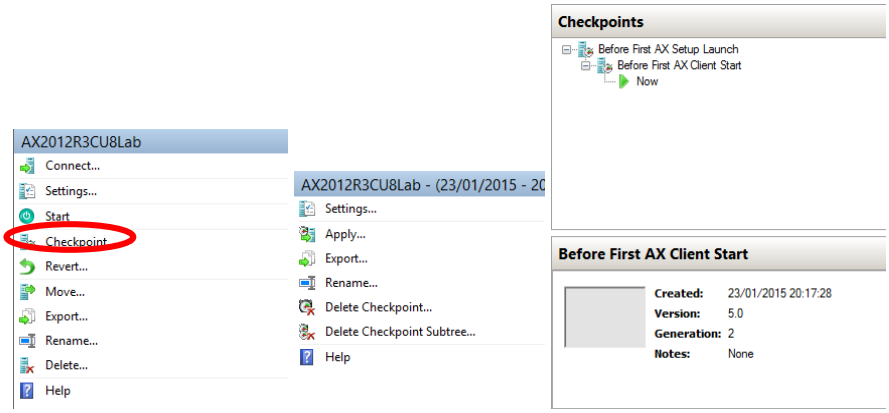


On the Ready to install screen press Install and wait until the installation finishes. You should get a successful installation message, uncheck the open log and report options and press Finish.

Checkpoint Before First AX Client Start

Remark: You should do a full Windows Update (Control Panel > System and Security > Windows Update > Check for updates) and install all updates.

Remark: If you are running a virtual machine, shutdown the machine and then create a checkpoint. Name it for example: Before First AX Client Start.



Microsoft AX Client initialization

Compile X++ by using AXBuild

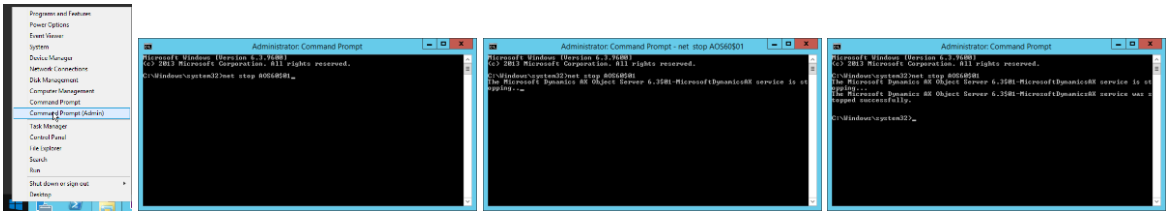
Remark: Now for this step, if you are using a virtual machine, you should give it as much resources as you can. Recommended to set the memory to at least 8GB, preferably more, and allocate as many cores/processors as possible. If you don't have these resources, than the compile time will be very long, risking in some conditions to even run out of resources.

After restarting the machine, and before starting the AX client for the first time, we should compile the X++ code using an external utility (AXBuild) that will perform the compilation steps much quicker than through the AX client.

Launch the Command Prompt as Administrator – right click on the start button, and choose Command Prompt (Admin). Next stop the AOS service, by issuing the following command:

net stop AOS60$01

wait until the service stops.



Using the admin command prompt, change directory to:

C:\Program Files\Microsoft Dynamics AX\60\Server\MicrosoftDynamicsAX\bin

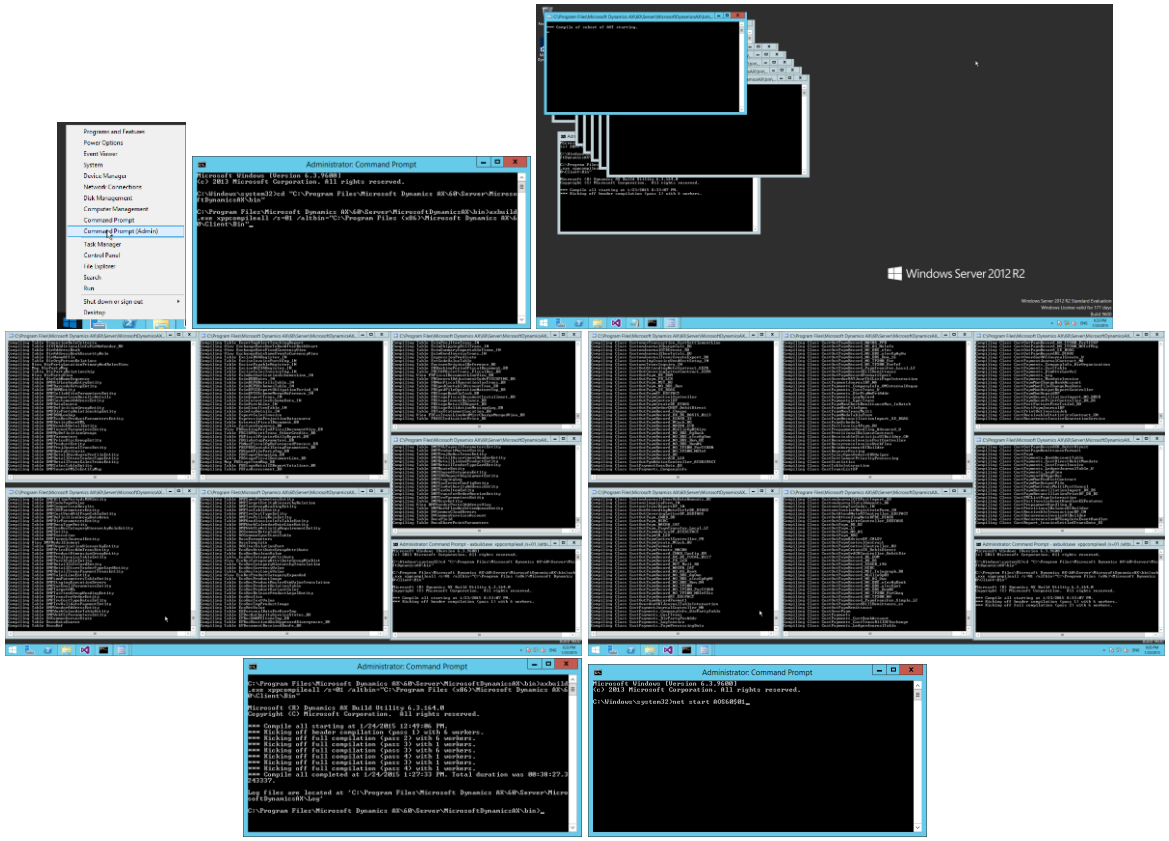
Here you should issue the following command:

AXBuild xppcompileall /s=01 /altbin=”C:\Program Files (x86)\Microsoft Dynamics AX\60\Client\Bin”

This will take a while. Wait until it is done. Now start the AOS service (or restart the machine):

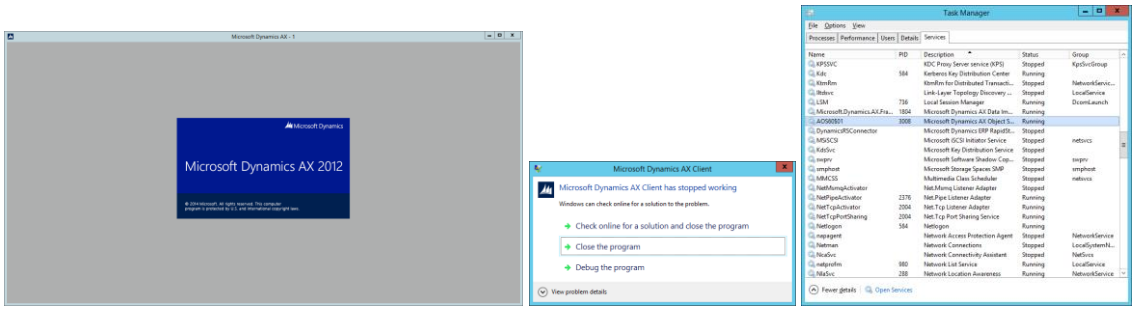
net start AOS60$01

You can close the command prompt.

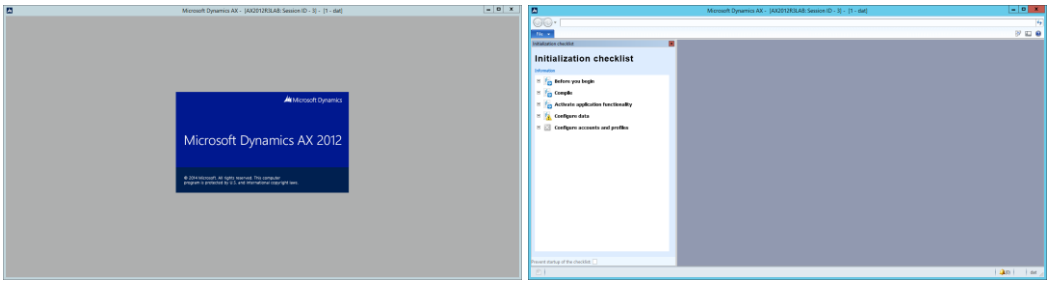


Start the AX Client for the first time

Start the AX client. If you encounter an error (like Microsoft Dynamics AX Client has stopped working), close the client and check the AOS service and make sure that is running.

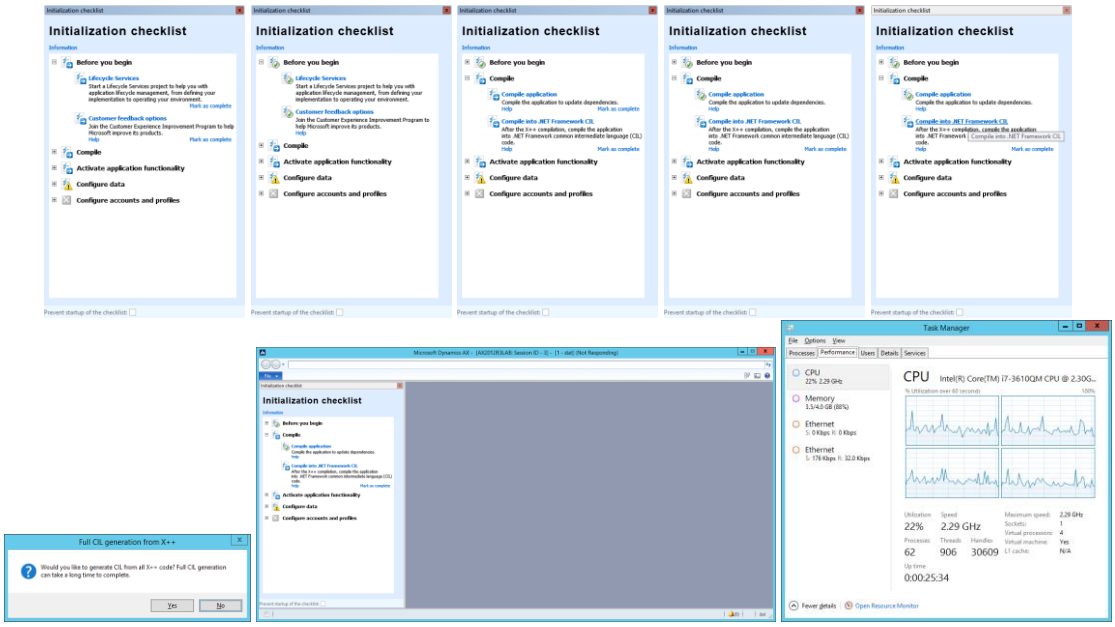


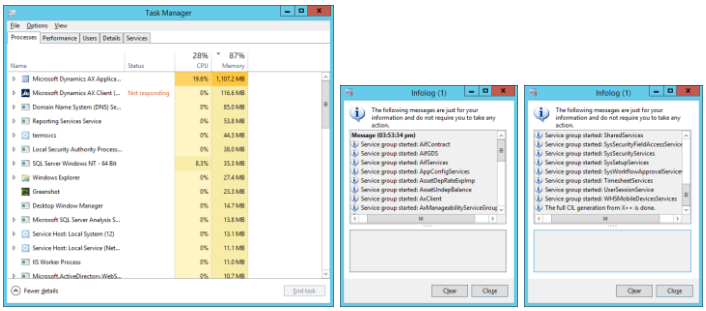
Start the AX client – now it should start correctly and it should display the Initialization checklist.



Expand the Before you begin and Mark as complete the two sub-steps: Lifecycle Services and Customer feedback options.

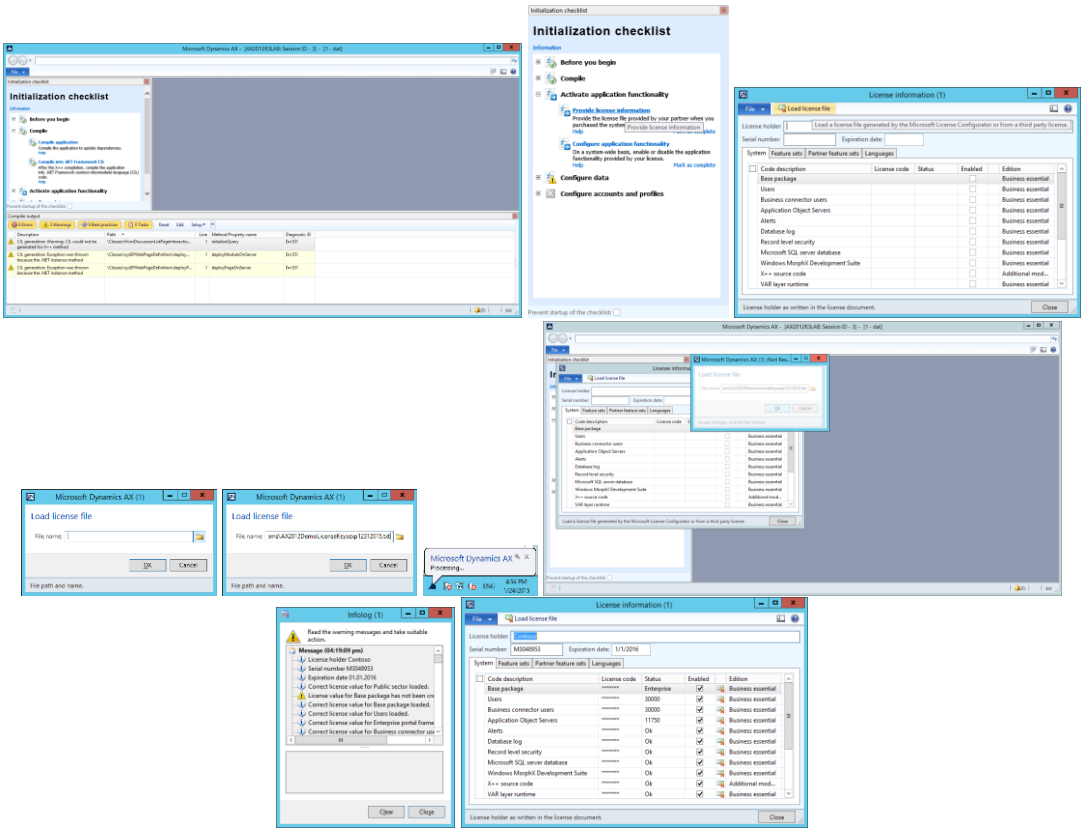
Next expand the Compile step. Mark as complete the Compile application sub-step. Then click on Compile into .NET Framework CIL. Choose Yes on the question dialog. Probably the main window will display (Not Responding). You can check the Task Manager's Performance tab for the activity. Wait until this sub-step is done (this will take a while).



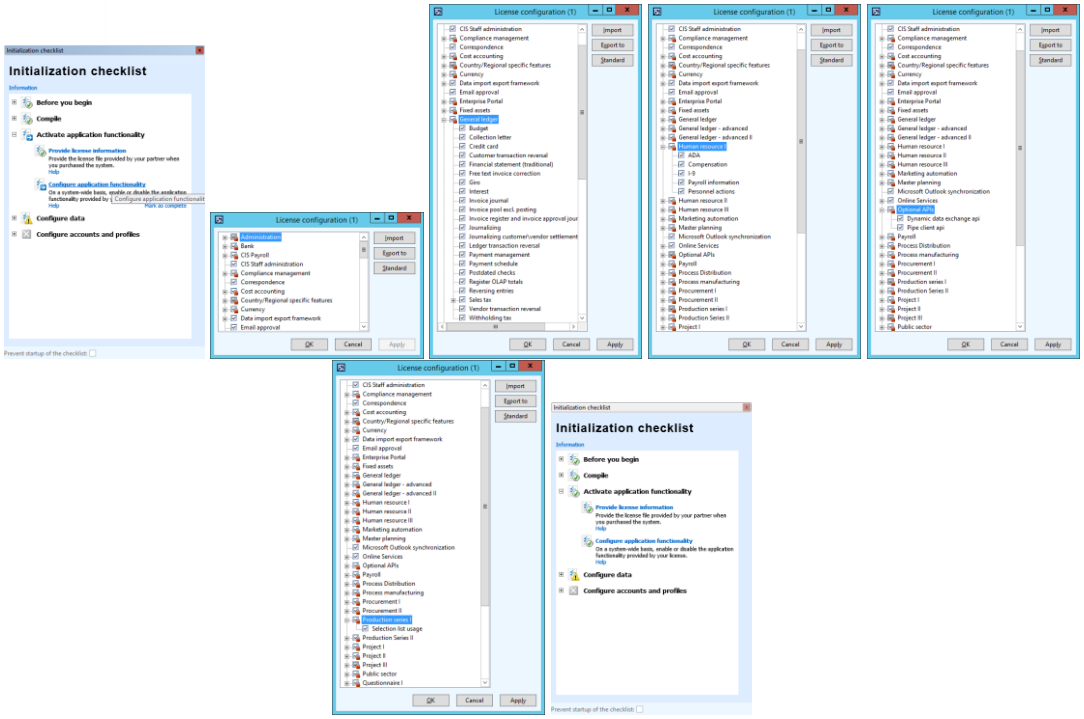


At the end of this sub-step the AX client will display an Infolog with the information messages, the last one should be “The full CIL generation from X++ is done.” You can disregard the few warnings that are generated.

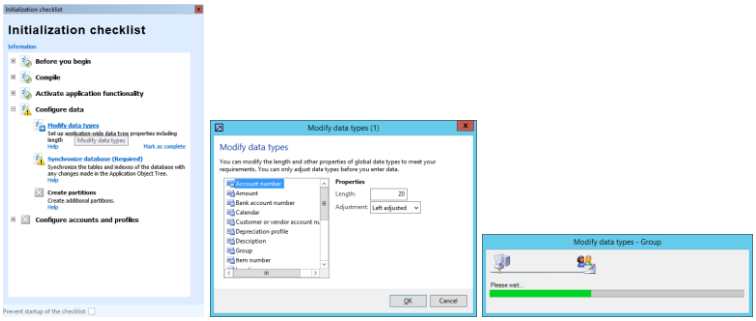
Next you should expand the Activate application functionality and click on Provide license information. On the License information page, click on the Load license file button, then select the correct license file and click OK. You should see a popup balloon in the lower right part of the task bar with a Processing… message. At the end of license file processing the AX client will display an Infolog window with the summary of the loaded licenses.



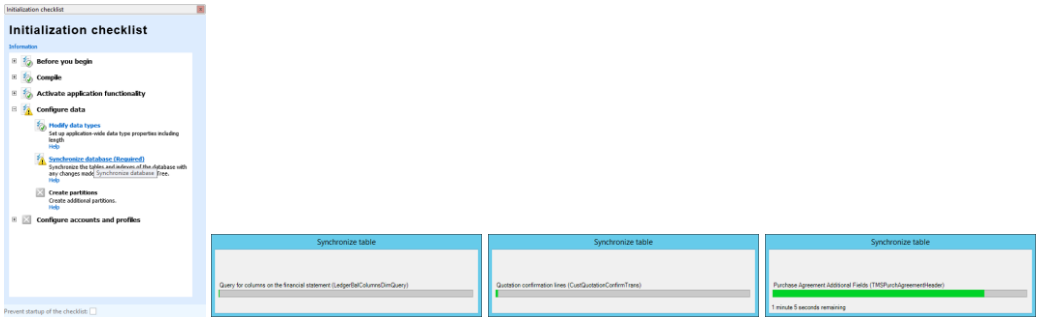
The next step is to Configure application functionality. Here you should select all the options from General ledger, Human resource I, Optional APIs and Production series I.



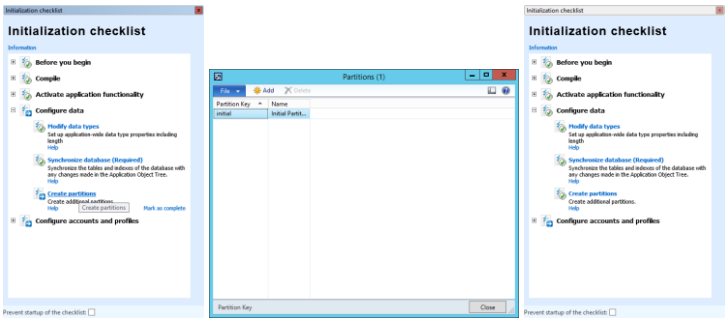
The next step is to Configure data, for this expand this section and click on Modify data types. If you really need to change some values, you can, but for this lab machine, the default values should be fine. Click on OK. Wait until the modifications are done.



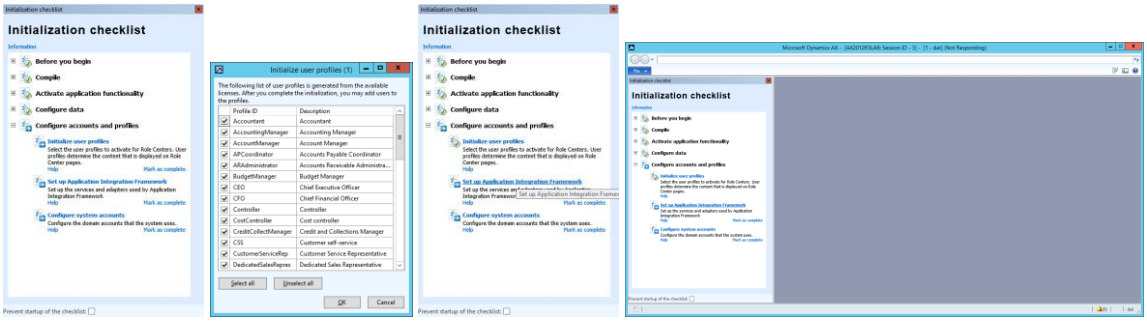
Next click on Synchronize database – this is a required step. Wait until the synchronization is complete.



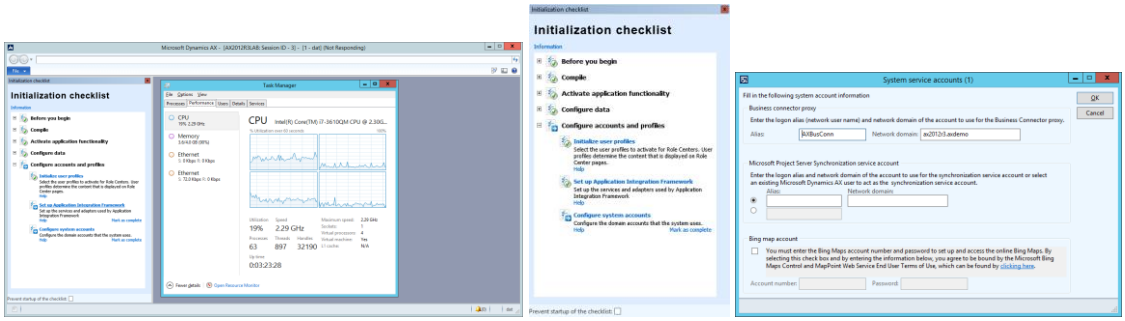
The next step is to Create partitions. At this moment you do not need any other partitions, so click on Close.



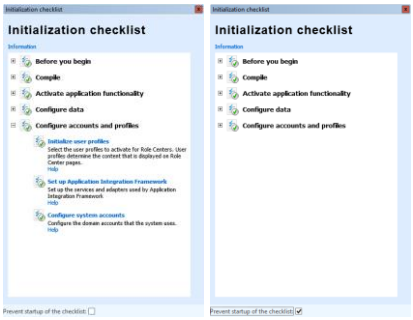
The next step is to Configure accounts and profiles, so expand this section, then click on Initialize user profiles. Click Select all and then OK. Next click on Set up Application Integration Framework.



The AX client probably will display a (Not Responding) title. You can check the Task Manager's Performance tab to see the processing. After the configuration is done, click on Configure system accounts. Here you just have to check the correct user details and press OK.



Now the Initialization checklist is completed. You can check the Prevent startup of the checklist checkbox, so that this list will not be displayed next time when the AX client is started.

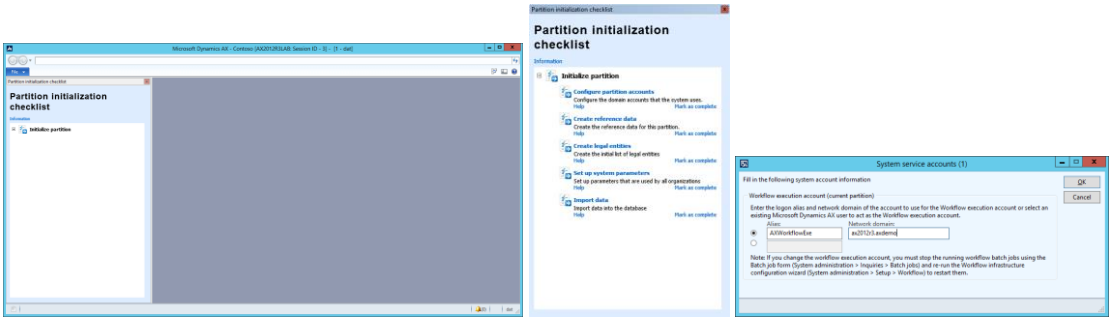


Close the Initialization checklist and exit the AX client.

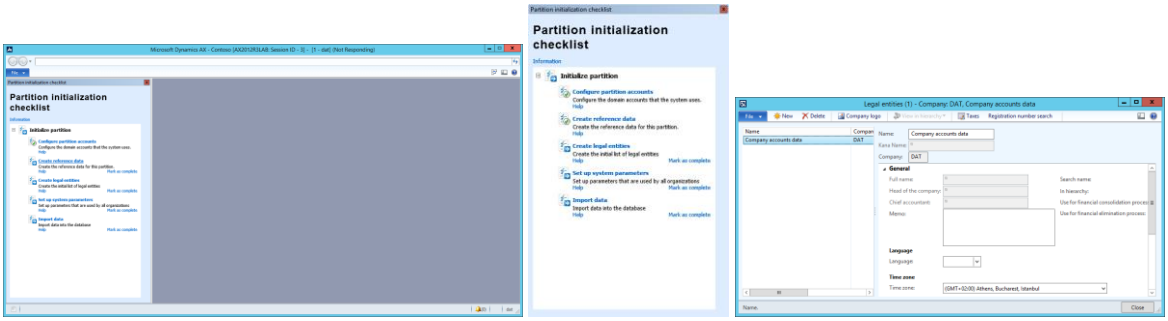
Continue with the AX Client initialization

Start the AX client. The Partition initialization checklist will be displayed. Expand the Initialize partition section, then click on Configure partition accounts. Here you can specify the user that will

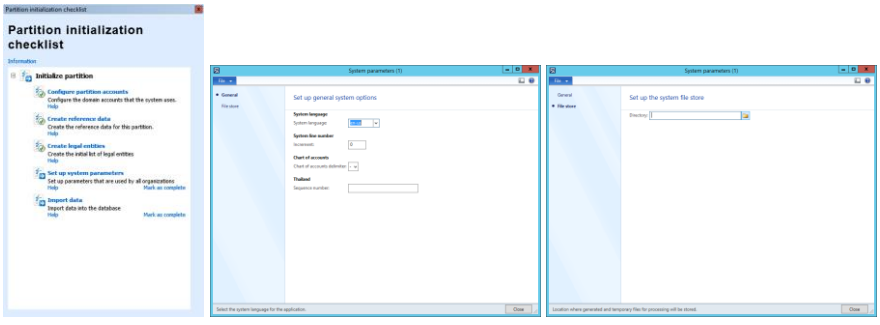
act as the Workflow execution account. For the purpose of this lab machine you can use the alias **AXWorkflowExe** and for network domain **ax2012r3.axdemo**. Click OK.

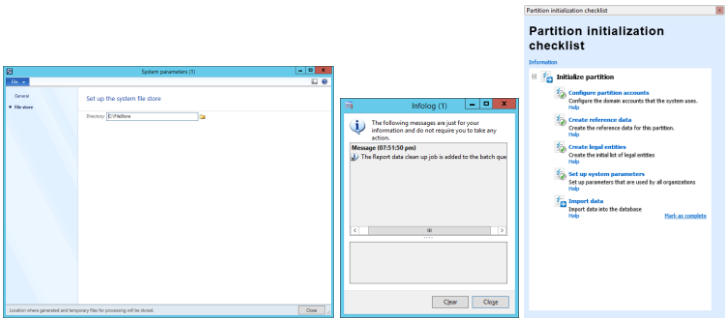


The next step is to Create reference data, so click on the corresponding link. This should finish immediately. Next click on Create legal entities. Because we will not create any new entities at the moment, on the Legal entities form you can click on Close (we will import demo data later).



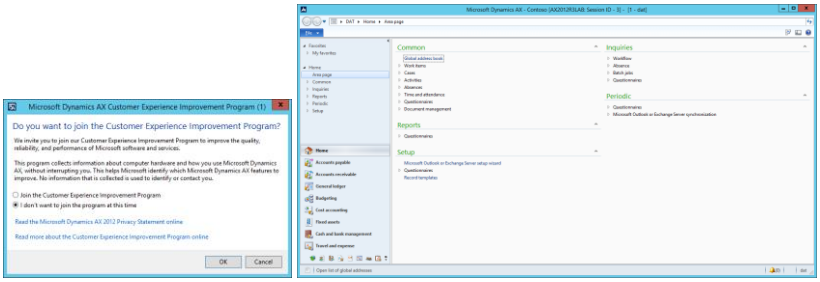
The next step is to Set up system parameters, so click on that link. On the System parameters form select the **General** section (probably is already selected) and for **System language** select **en-us**. Next select the File store section and for **Directory** specify an existing directory (or you can create a new one), like **C:\FileStore**, this directory will be used by the system for generated and temporary files for processing. When you Close this form you will get an Infolog window with a message that a Report data clean up job was added to the batch queue. Because at the moment we will not import any data, please **Mark complete** the **Import data** step and close the Partition initialization checklist. Close the AX Client.





Start the AX client again. This time all the initialization checklists were completed, so you are greeted with a dialog asking if you would like to participate in the customer experience improvement program – you can choose which option you want and then click OK.

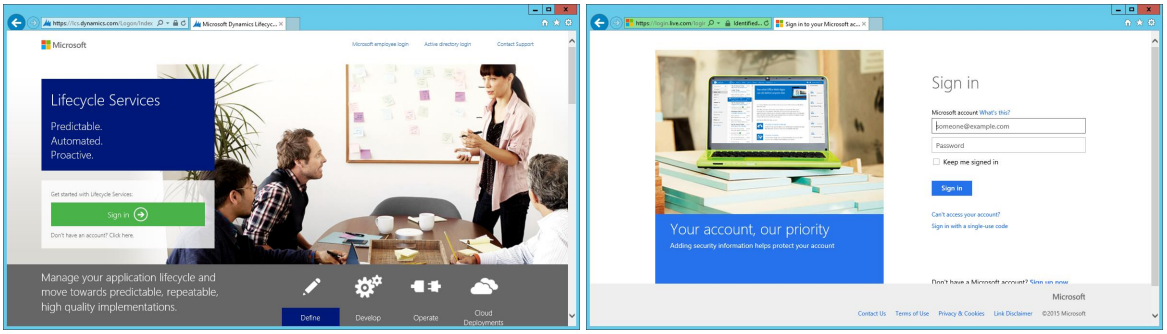
Finally you have a freshly installed and configured EMPTY AX 2012 R3 with CU8 machine.



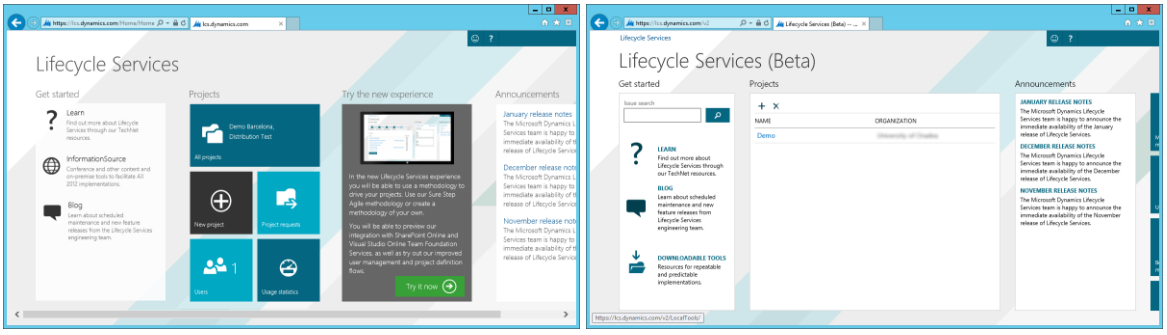
Exit the AX client.

Install the AX2012TestDataTransferTool

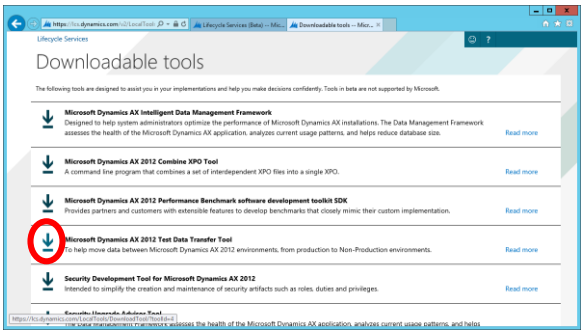
For this you need to access Microsoft Life Cycle Services through the following link: https://lcs.dynamics.com



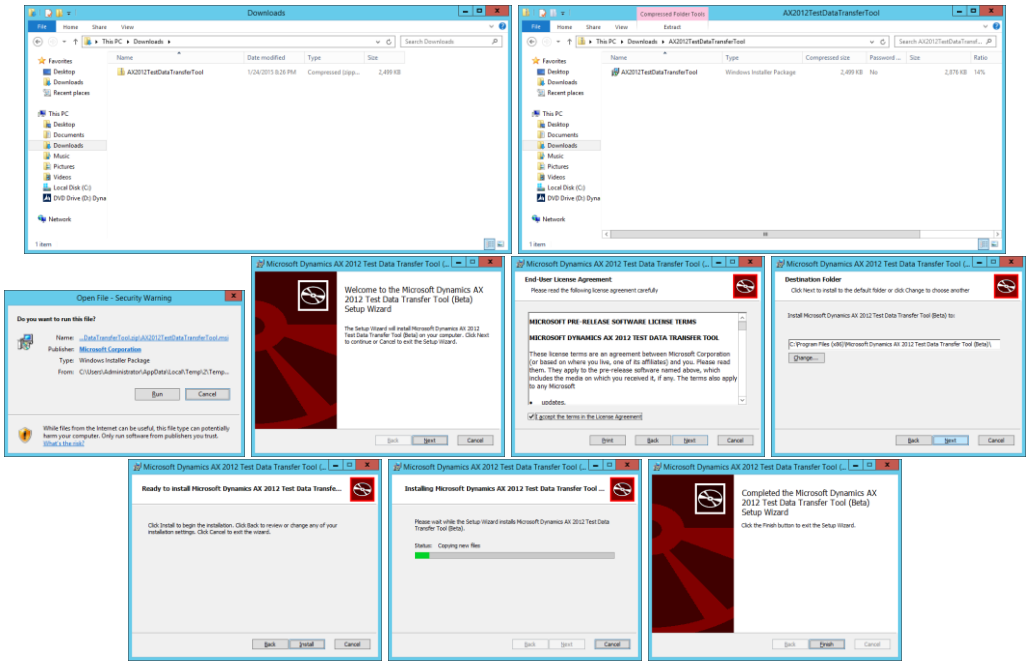
Click on Sign In and provide your login details and password. After you are logged in, if you are not using the new version, then you should click on Try it now. Choose the project you selected when you downloaded CU8. Then you should click on the **DOWNLOADABLE TOOLS** link.



From here you should click on the Microsoft Dynamics AX 2012 Test Data Transfer Tool download icon, to download the tool. Then click Save and after the download finished click Open folder.

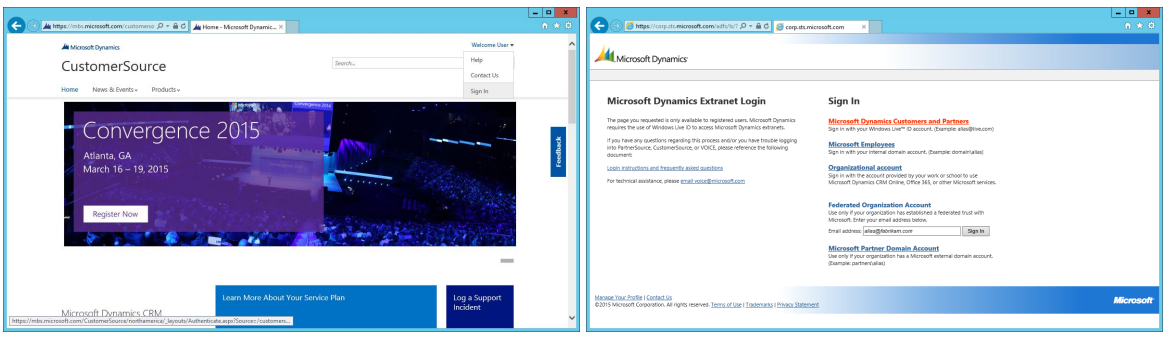


Double click on the archive and then run the **AX2012TestDataTransferTool**. This will install the transfer tool on your machine. Follow the default settings until you finish the installation.

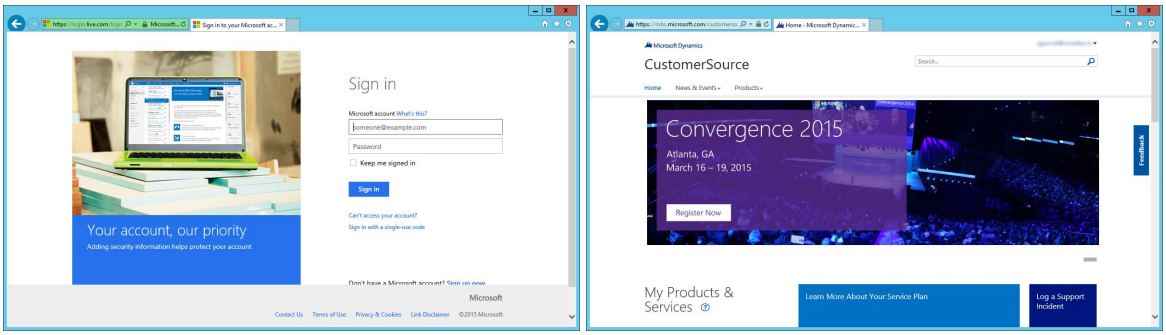


Install MicrosoftDynamicsAXR3CU8DemoData

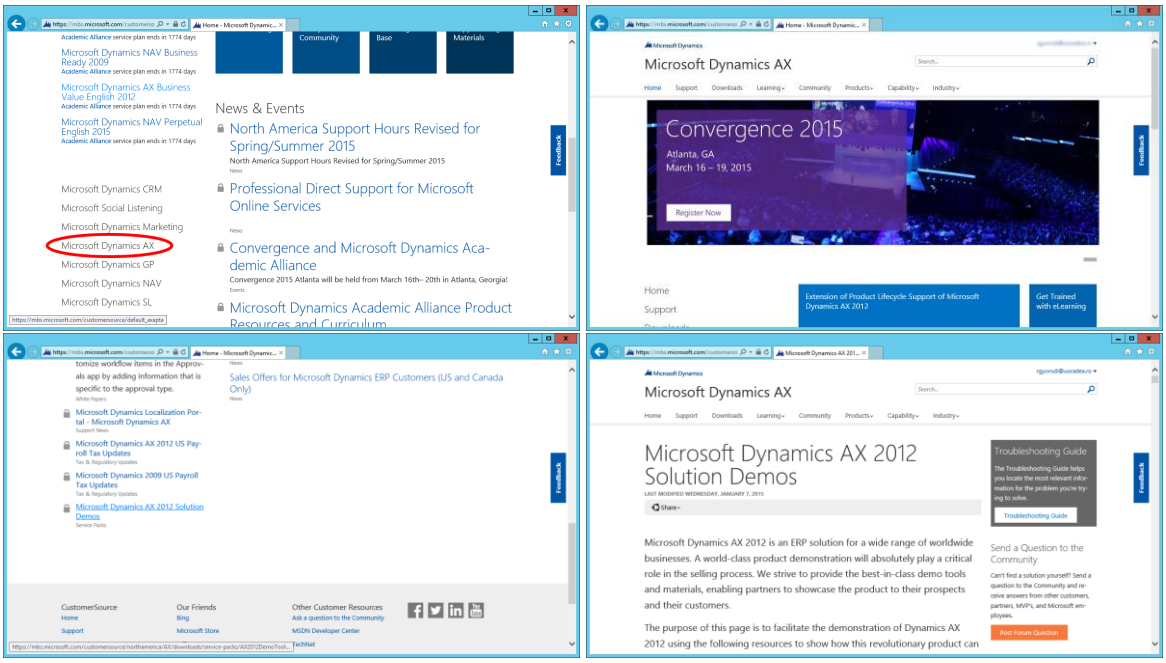
To download the demo data for CU8 you have to access CustomerSource at the following link: https://mbs.microsoft.com/customersource. Here click on the Welcome User menu and choose Sign In. On the next page choose Microsoft Dynamics Customers and Partners.



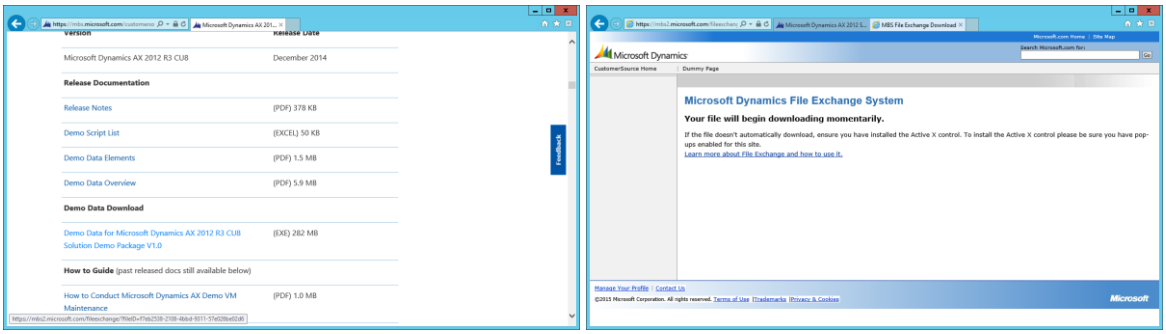
Provide your login details and password.



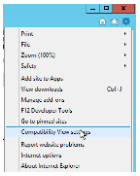
From the main page you should click on the Microsoft Dynamics AX link, then find and click on Microsoft Dynamics AX 2012 Solution Demo link.



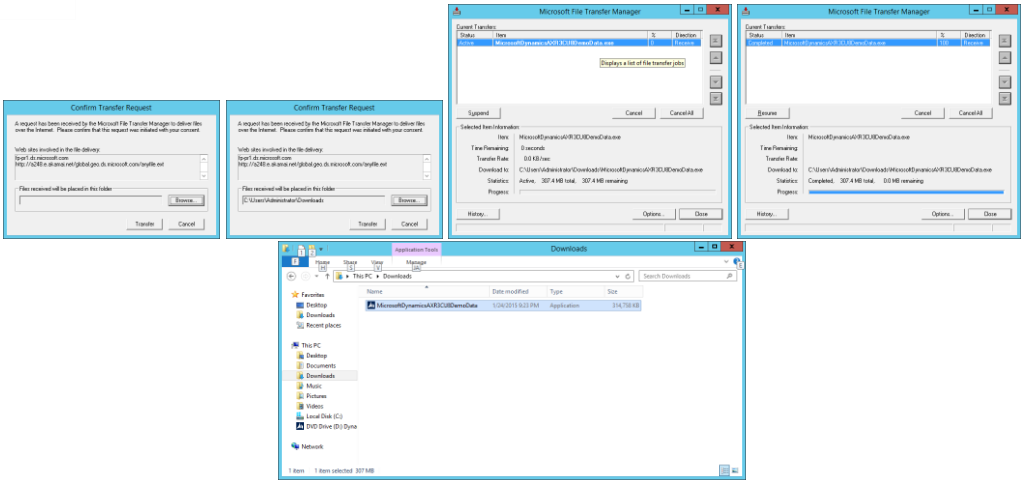
Next, scroll down until you find the link to Demo Data for Microsoft Dynamics AX 2012 R3 CU8 Solution Demo Package V1.0 and click on it.



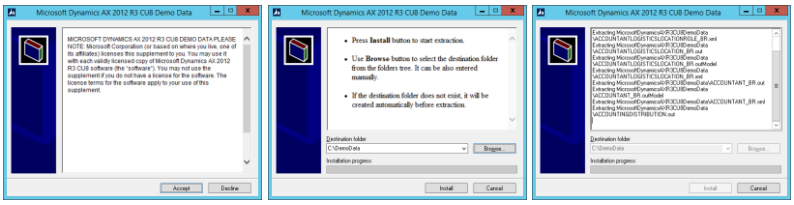
If you have problems in starting the download tool, then check your Compatibility View Settings, at this moment CustomerSource should be added in the compatibility list.



Wait until the download completes and then launch the executable archive.



Click on Accept for accepting the licensing terms, then specify a destination folder like: **C:\DemoData**, then click Install. Wait until the data is extracted, then close the tool.

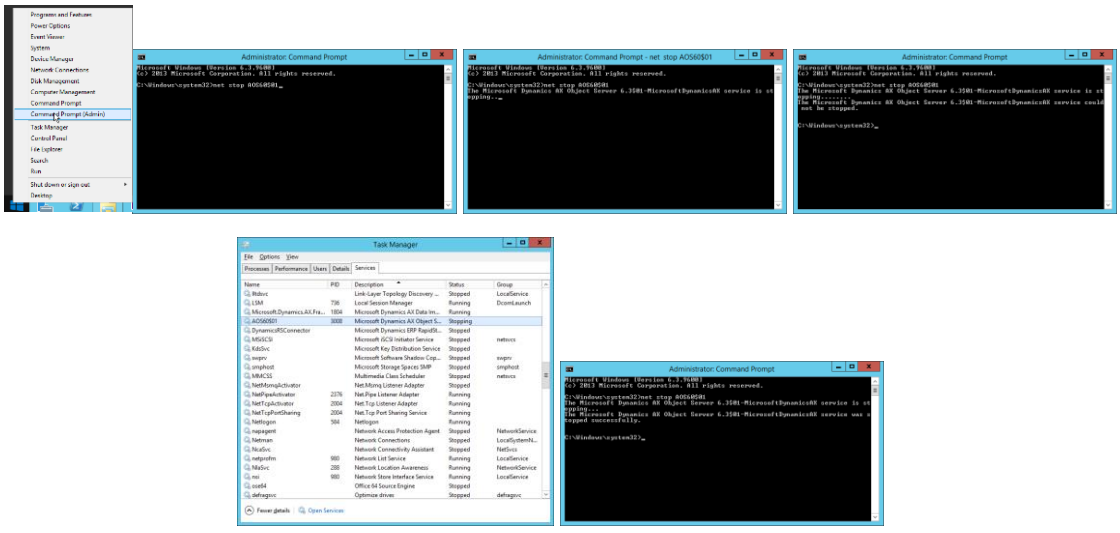


Run the Test Data Transfer Tool (beta) for Microsoft Dynamics AX

Start Command Prompt with Administrator privileges. Stop the AOS service by issuing the following command:

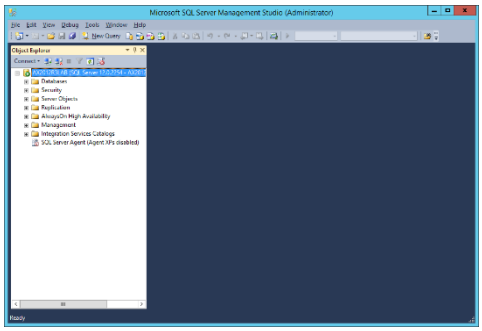
net stop AOS60$01

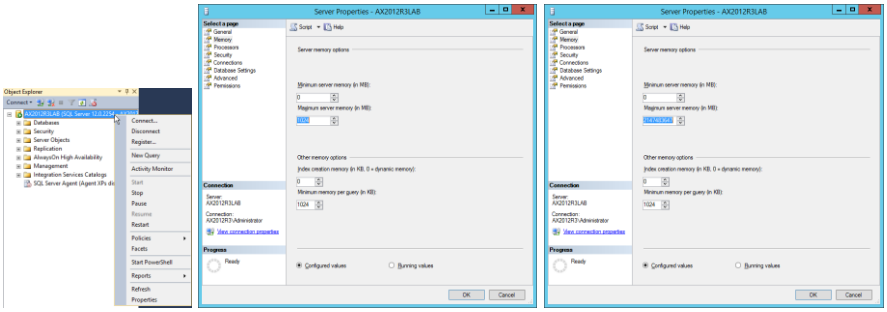
wait until the service stops. If it gives an error or it is not stopping, then restart the machine and try again after it starts.



Remove the limits from max server memory for SQL Server. For this start SQL Server Management Studio and Connect to AX2012R3LAB. Next right click on server, select Properties, then select the

Memory page. Here replace the value for Maximum server memory (in MB) with the default one: **2147483647**.





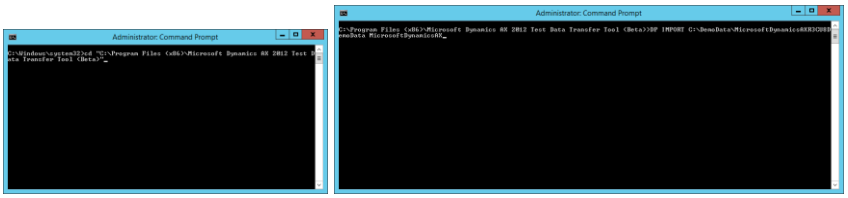
Now we will start the data transfer tool. For this on the command prompt change the directory to the tools directory:

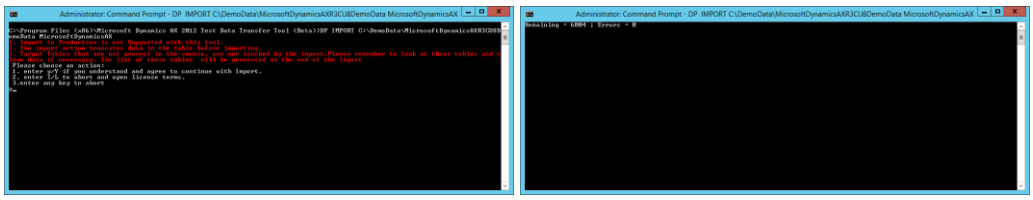
cd "C:\Program Files (x86)\Microsoft Dynamics AX 2012 Test Data Transfer Tool (Beta)"

Now you can start the tool by issuing the following command:

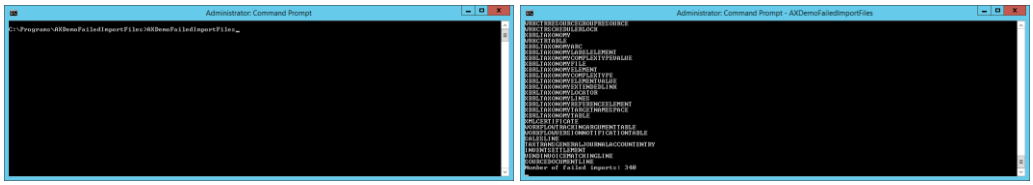
DP IMPORT C:\DemoData\MicrosoftDynamicsAXR3CU8DemoData MicrosoftDynamicsAX

here you should replace C:\DemoData\MicrosoftDynamicsAXR3CU8DemoData with the path were the demo data was installed (extracted) in the previous step. You can check in Task Manager's Performance tab the processing.

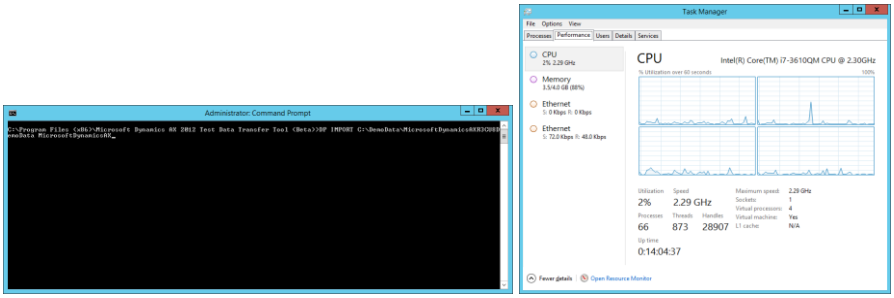


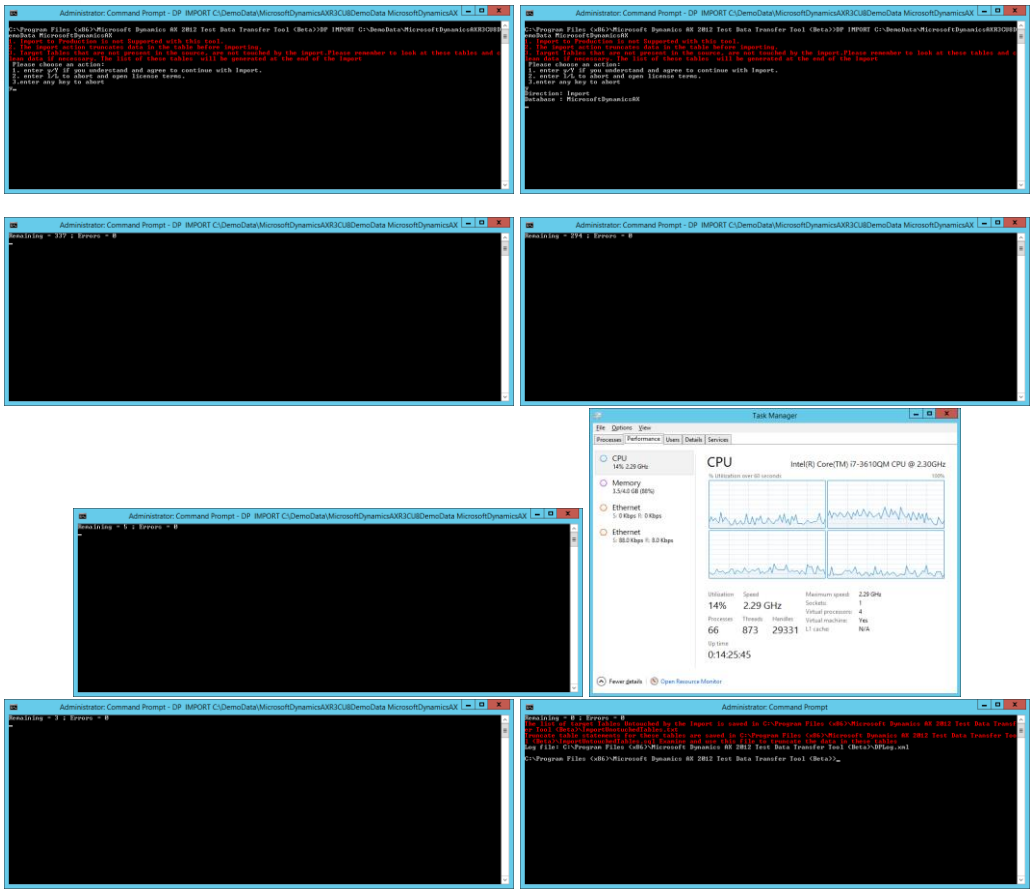


At the end, if you encounter any issues during the import, you can open the log file DPLog.xml, which will be created in the folder where you ran the Test Data Transfer Tool (beta). You should rerun the tool for the files that gave errors, until there are no more errors.

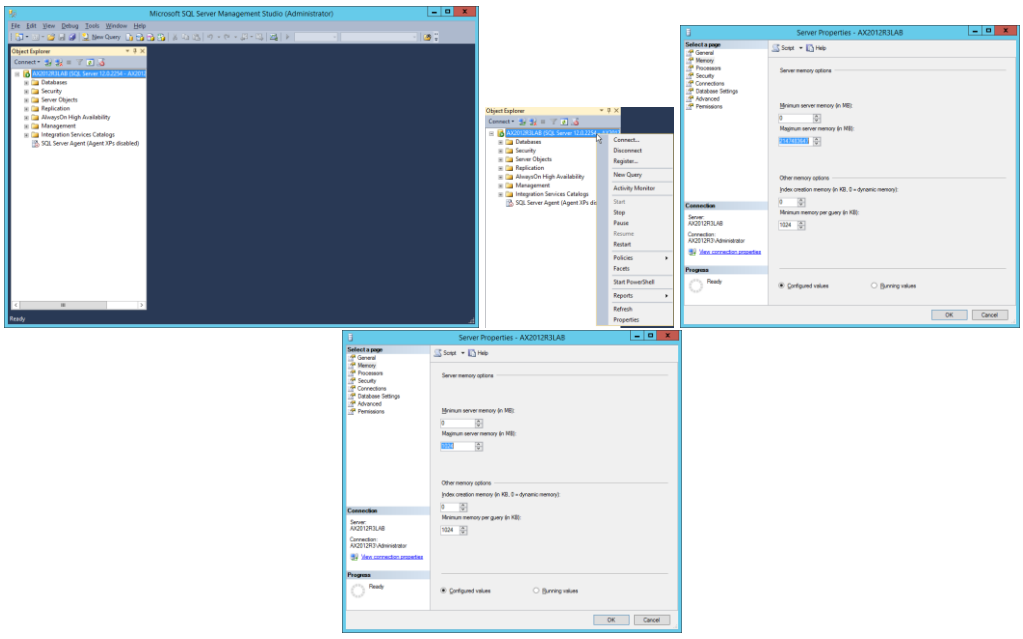


TODO: Include the C# code for the program that automatically moves the files that were correctly imported and leave just those files that gave errors.





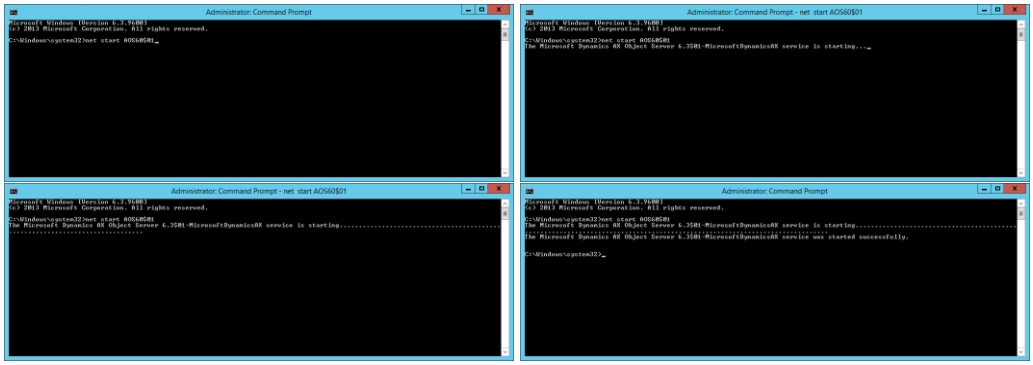
After the import finished, we can reset the limits for the SQL server. For this start SQL Server Management Studio and Connect to AX2012R3LAB. Next right click on server, select Properties, then select the Memory page. Here replace the value for Maximum server memory (in MB) with the following one: **1024**.



Next start the AOS instance with the following command issued from the command prompt:

net start AOS60$01

Wait until the service starts – just to check that everything is ok. Then shutdown the machine.



Finalizing the demo virtual machine installation

If you are using a virtual machine then restore the limited resources (4 GB RAM, 4 cores).

If everything is working then you can delete the Checkpoints to save disk space and do a clean-up/compact from the virtualization tool.

If you are using Hyper-V then this can be accomplished from the Hyper-V Manager, select the machine and then click on Edit disk and choose Compact.

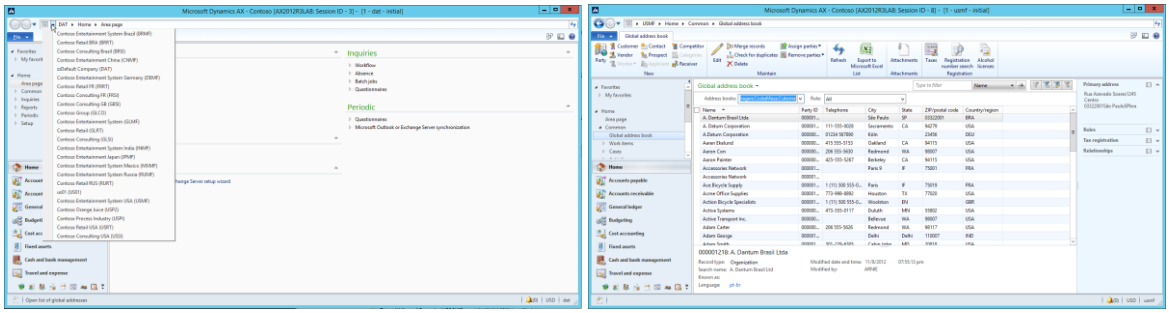
If you are using VMWare Workstation, then you can do a Disk clean up. For this choose the VM menu, then select Manage and then Clean Up Disks.

After these steps you should have a virtual machine that requires reasonable resources and that allows you to work out all the activities/exercises that are not connected to the Enterprise Portal functionality.

Starting AX with the demo data for the first time

Start the machine. Check and wait for the AOS service to start. You can verify the status of the AOS service in Task Manager's Services tab.

Start the AX client and check the existence of the demo data.

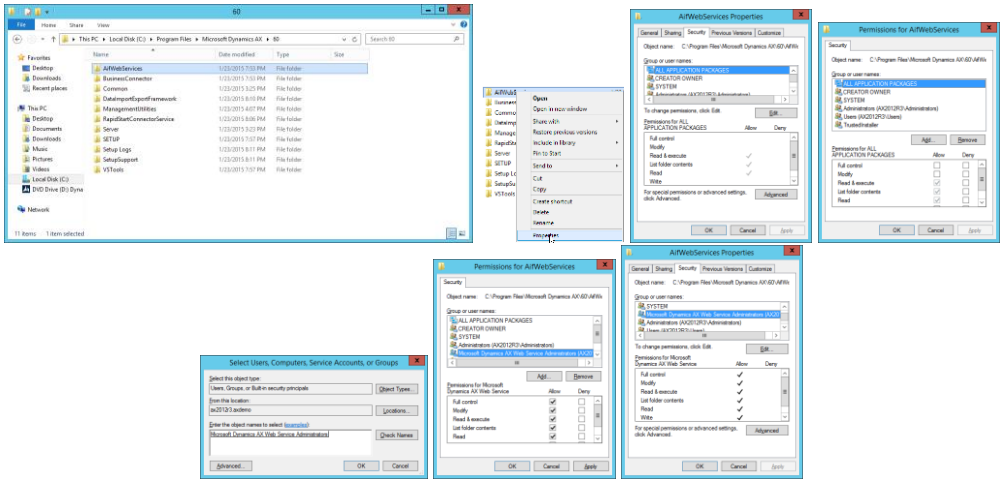


Congratulations you have a freshly installed and configured AX system with DEMO data up and running!!!

Check the security rights on the AifWebServices folder

To be able to publish or alter web services, you need to have the proper security rights on the AifWebServices folder. To check this, start a File Explorer and navigate to the following folder: C:\Program Files\Microsoft Dynamics AX\60\AifWebServices.

Right click on the folder and select Properties. Select the Security tab. If the group "Microsoft Dynamics AX Web Service Administrators" is not in the list, add it with Full control. For this click on the Edit button and then on the Permissions dialog click Add. Enter the name: **Microsoft Dynamics AX Web Service Administrators**, and press OK. On the Permissions dialog check Allow Full control for this group and click Apply and then OK.



Now you will be able to Configure/Add/Activate/Deactivate/Remove Web Services from AX.

Running directly from a VHD(X)

To be able to run directly from a VHD(X) you can follow at least two approaches. The first one is to create a virtual machine as described for Hyper-V and then use the VHD(X) from that virtual machine as the boot disk. The second approach is to create an empty VHD(X), deploy Windows on it and use that as a boot.

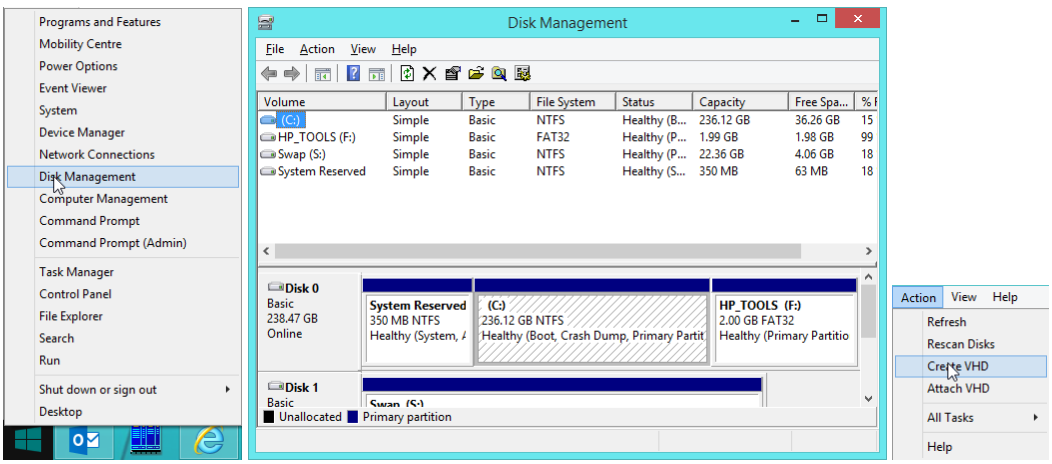
Using an existing VHD(X)

For the first approach, when we have the VHD from a Hyper-V virtual machine, we need to bring it online by using the Disk Management tool or simply double-clicking on it from Explorer.

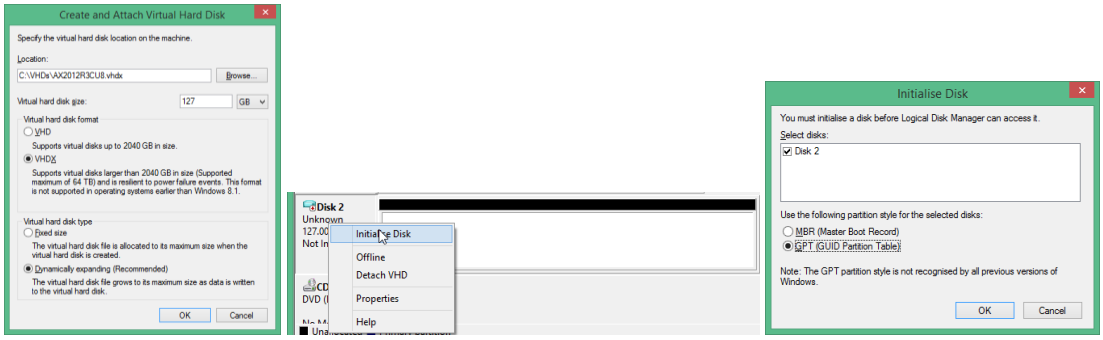
In the following we will assume that the disk letter assigned to the new disk is **E**.

Creating a new VHD(X)

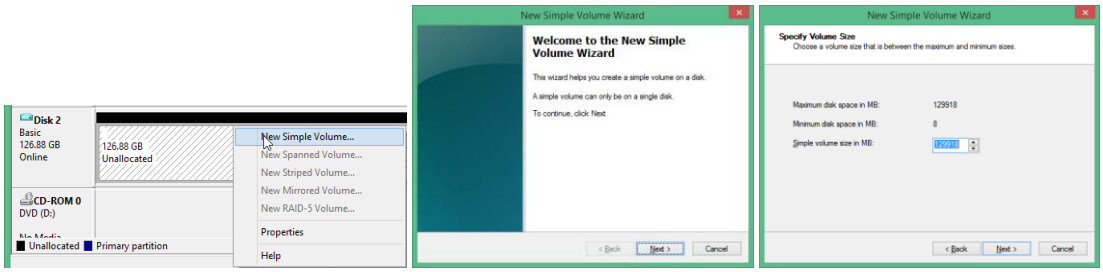
For the second approach you need to create first the VHD(X) file. For this you need to access the Disk Management tool from Control Panel, or from the Start menu (right-click on the lower left corner of the Desktop).



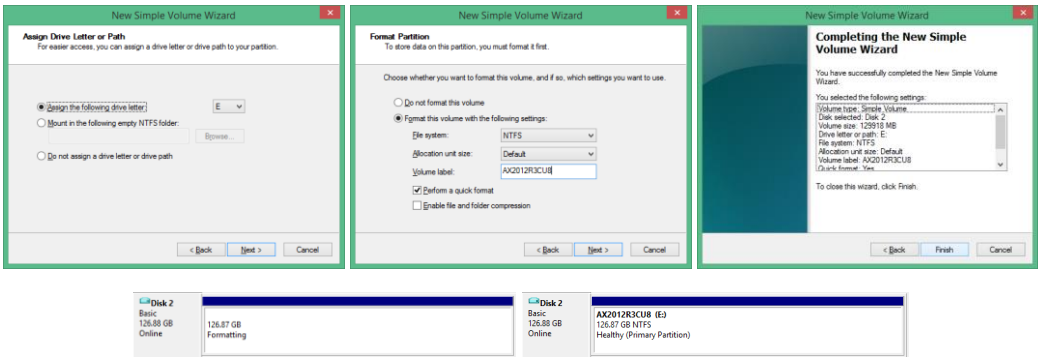
From the Action menu choose Create VHD. First choose the VHDX format with dynamically expanding type and specify at least 127GB for its size. Now choose a location for the new virtual hard disk and press OK.



After you created the new virtual hard disk you need to initialize it. For this right-click on the new disk in the list, and select Initialize Disk. Choose GPT and press OK.

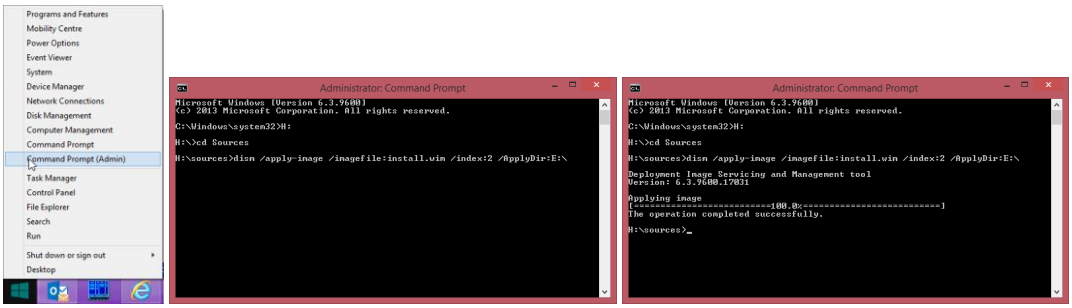


After the disk is initialized you need to format it. Right-click on the unallocated part of the disk from the list, and choose New Simple Volume, and press Next until you Finish the wizard.



In the following we will assume that the disk letter assigned to the new disk is **E**.

After you have the VHD, you need to deploy the Windows image to the newly created disk. This can be done by using the DISM tool. First you need to mount the installation Windows ISO into a disk. If you have a physical media, please insert it into the DVD drive, if you have just the ISO you can mount it directly in Windows by double-clicking on it (or if you have another program associated with ISO files, then right-click on it and choose Open with > Windows Explorer or File Explorer – this should mount it as a new DVD disk). Suppose the disk with the installation media is in drive H.



Open an elevated command prompt (as administrator) change the disk to **H** by issuing the command: **H:**, then change the directory to sources with **CD Sources**. From here you should issue the following command:

dism /apply-image /imagefile:install.wim /index:2 /ApplyDir:E:

where **E** is the drive letter you assigned to the new virtual hard drive.

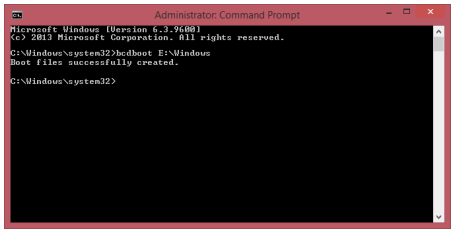
Caution!!! Please start your computer from the Windows installation media and look up the correct index for your image. In the evaluation DVD the first index is for the Core version. So if this is the case, choose index 2, or which one you prefer. The Core versions are not supported for AX deployment.

Making the VHD(X) bootable

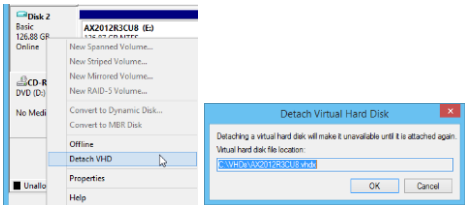
After the deployment finishes or we have an existing VHD from a Hyper-V virtual machine, we need to make the new drive to be recognized by the bootloader.

For this we need to issue the following command:

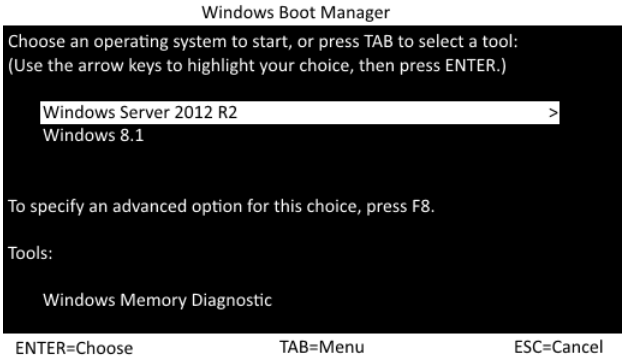
bcdboot E:\Windows

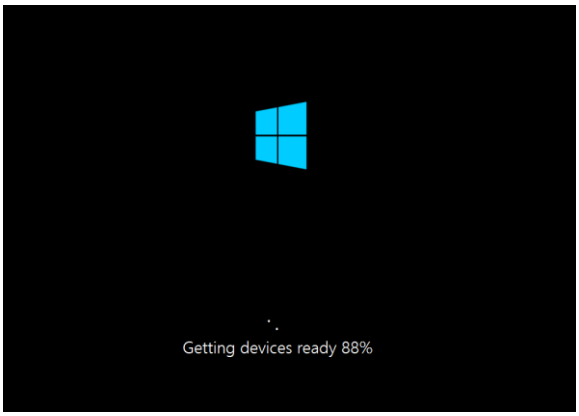


After this we can detach the virtual hard disk.

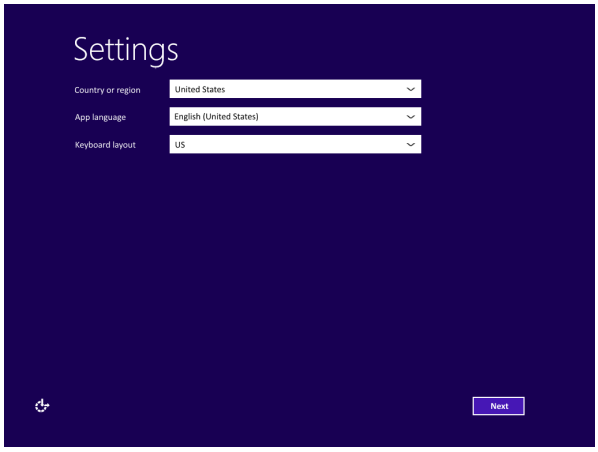


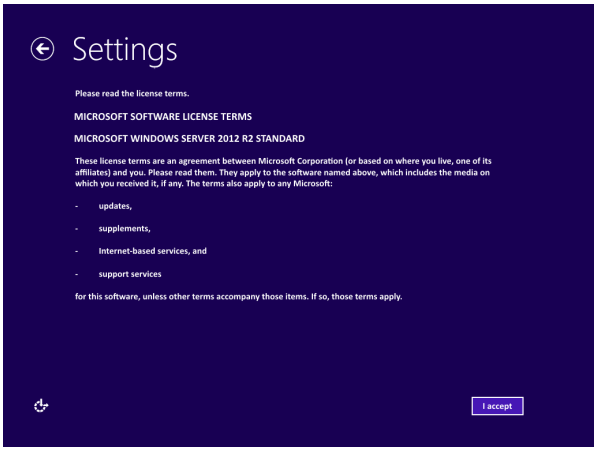
Now we can restart our computer and from the bootloader choose the new boot entry, and follow the installation steps as if it were a new computer that boots up the first time.





If you have a new Windows deployment, then the following screens will show up.





From here on you can continue with the steps described in section Windows Server 2012 R2 configuration.

If you used a VHD(X) from a Hyper-V virtual machine that was already configured, then you should be prompted by the login screen.

Remark: For both approaches you have to consider that you will need to install the specific drivers for the hardware components you have in your computer.

Now you probably noticed that you do no longer have the graphical boot menu … it was replaced by a text based one. If you would like to regain the graphical boot menu, just choose your original OS when booting and log into your computer. Start a command prompt as administrator and issue the following command (assuming that your system boots from the C drive):

bcdboot C:\Windows

this will restore the bootloader to the previous version, preserving also the entries you already had.