

GE
Intelligent Platforms



Proficiency* Vision 6.1

GETTING STARTED GUIDE



Getting Started

Installation and Setup

Proficy* Vision

Release 6.1



All rights reserved. No part of this publication may be reproduced in any form or by any electronic or mechanical means, including photocopying and recording, without permission in writing from GE Intelligent Platforms, Inc.

Disclaimer of Warranties and Liability

The information contained in this manual is believed to be accurate and reliable. However, GE Intelligent Platforms, Inc. assumes no responsibilities for any errors, omissions or inaccuracies whatsoever. Without limiting the foregoing, GE Intelligent Platforms, Inc. disclaims any and all warranties, expressed or implied, including the warranty of merchantability and fitness for a particular purpose, with respect to the information contained in this manual and the equipment or software described herein. The entire risk as to the quality and performance of such information, equipment and software, is upon the buyer or user. GE Intelligent Platforms, Inc. shall not be liable for any damages, including special or consequential damages, arising out of the user of such information, equipment and software, even if GE Intelligent Platforms, Inc. has been advised in advance of the possibility of such damages. The user of the information contained in the manual and the software described herein is subject to the GE Intelligent Platforms, Inc. standard license agreement, which must be executed by the buyer or user before the use of such information, equipment or software.

Notices

©2012 GE Intelligent Platforms, Inc. All rights reserved. *Trademark of GE Intelligent Platforms, Inc.

Microsoft® is a registered trademark of Microsoft Corporation, in the United States and/or other countries.

All other brands or names are property of their respective holders.

We want to hear from you. If you have comments, questions, or suggestions about our documentation, send them to the following email address:

doc@ge.com

Table of Contents

Overview	1
What You Need Before You Can Get Started	1
Medium Configuration (for 26-300 Concurrent Clients)	1
Small System Configuration (for 1-25 Concurrent Clients)	2
Before You Get Started	3
Secure Configuration	3
Ports and Services Used for the Proficy Vision	3
More Information on Certificates	4
High Level Installation and Configuration Overview	6
Installing the Medium System Configuration	6
Prerequisite: Install Microsoft SQL Server	7
Enable TCP/IP in the SQL Server Configuration Manager	7
Create a Windows Firewall Rule for SQL Server	8
Install the Proficy Application Server	12
Prerequisite: Install Microsoft Silverlight 5 and Silverlight 4 SDK	12
Prerequisite: Install the .NET Framework Features	12
Run the Proficy Application Server Install	16
Install Proficy Licensing	23
Optional: Create a Windows Firewall Rule for Workflow	23
Install the Proficy Vision Web Server	27
Prerequisite: Add the Web Server (IIS) Role to Windows Server	28
Prerequisite: Configure IIS and HTTPS Binding	32
Prerequisite: Synchronize the Time on All Servers	33
Prerequisite: Install Microsoft Silverlight 5 and Silverlight 4 SDK	33
Prerequisite: Configure the .NET Framework Features on Windows Server	33
Install the Proficy Web Server	36
Post-Installation Steps	39
Configure Cross Domain Servers	39
Validating that Your Content Can Be Hosted in a Dashboard iFrame	40
Provision Your System	40
Create Your Equipment Model with Asset Hierarchy	41
Add Displays in Proficy Workflow	41
Confirm that You Can Create Dashboards and View Your Data	43
Define Users and Access Levels in Proficy Vision	44

Overview

Proficy Vision's installer is designed to allow the software to be deployed on a variety of server configurations. Your choice of the specific configuration to be used depends upon many factors including an existing topology (if any) of Proficy suite products, internal network and security constraints, and others. This guide is aligned with a 2 server configuration (SQL Server and Proficy Application Server on one computer and the Proficy Vision Web Server on the other computer). Other install configurations are possible. Vision is an enterprise distributed application. We recommend consulting with GE Intelligent Platforms Support and Services for guidance before implementing the system.

Be sure to consider your security requirements, expected number of client connections, and network latency when choosing your setup type, as well as your hardware. For more guidance on hardware, refer to the IPI (Important Product Information document) on your product DVD.

What You Need Before You Can Get Started

You will need the following servers before you can start to work with Proficy Vision:

- **Database Storage Server** – This is where your SQL Server resides. SQL Server Authentication must be turned on. TCP/IP must be enabled as a network protocol in the SQL Server Configuration Manager on this computer. And, for a SQL Server Standard setup, you will also need to start up the SQL Agent. It is recommended that minimally SQL Server 2008 R2, Standard, not Express, be running on this machine.
- **Existing Proficy Servers** – This is where other Proficy products such as Plant Applications reside.

Medium Configuration (for 26-300 Concurrent Clients)

This computer framework is the recommended setup for Proficy Vision. In this setup, there are 2 servers (which need to be installed in the following order):

1. **Application Server** – This is where Proficy Workflow resides or will reside. It is also where Microsoft SQL Server resides. You also need the Microsoft .NET 4.0 Framework and the Microsoft Silverlight 5 and Silverlight 4 SDK installed here. Make sure you have your Windows firewall configured properly on this computer. The Proficy Vision DVD will guide you through these prerequisites when selecting the Application Server option.
2. **Web Server** – This is where the Proficy Web Server and Services reside. You need the Microsoft .NET 4.0 Framework and Microsoft Silverlight 5 installed here. IIS roles and features need to be configured properly here as well.

IMPORTANT: It is recommended in Internet facing systems that these two computers are dedicated computers, with firewall security separating them from your equipment network.

For the Medium System configuration, it is important that you use the **Install Proficy Application Server** option on the first computer, and then the **Install Proficy Vision** web server option on the second computer. The following screen illustrates these options.



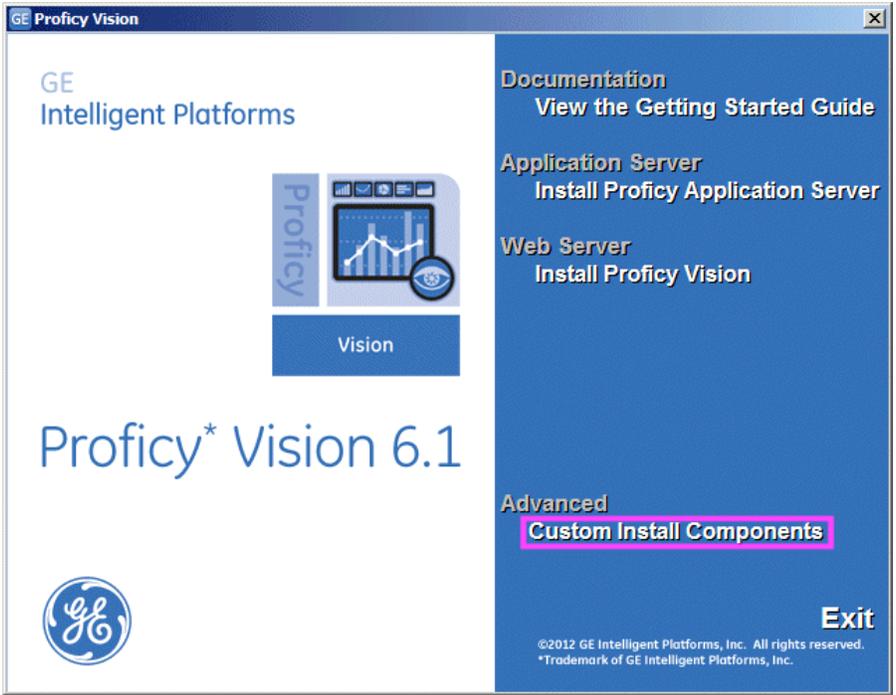
Small System Configuration (for 1-25 Concurrent Clients)

The Small System configuration is recommended for Demo and Staging environments. In this configuration, the Application Server is installed on the same computer as the Web Server.

You also need Microsoft .NET 4.0 Framework, Microsoft Silverlight 5, Silverlight 4 SDK on this computer.

IMPORTANT: It is recommended in Internet facing systems that this Server is a dedicated server, with firewall security separating it from your equipment network.

For the Small System configuration, it is important that you use the **Custom Install**. Do not use the separate installs. The following screen illustrates this option.



Before You Get Started...

Before you begin installing applications, you will need:

- The licensing keys you received when you purchased your Proficy product.
- The name of the SQL Server that you want to use in the install. The same SQL Server name should be used for the Proficy Application Server and Proficy Web Server installs. You also will need the name of an administrative user and the associated password.
- The name you want to give the Workflow Server, with an Administrator user name and password. If an existing Workflow Server exists, you will need the name of the server, the name of an administrative user and the associated password.
- The name of an Administrative user on the local PCs where you want to install Proficy Vision Application Server and the Proficy Vision Web Server.
- Your product DVD which includes the install links for everything you need to set up your Proficy Vision system.
- The security certificates you will use for your default Web Server and the Proficy Application Server. A self-signed certificate CANNOT be used on your Proficy Vision Web Server or Proficy Application Server. Use your company's existing certificate (per your existing security policy), or a purchase new certificate for use with Web Server. For details, refer to the "More Information on Certificates" section.

Secure Configuration

Before you install, you will also need to identify the ports that you want to expose in your security configuration. Typically, you will have security zones separating your web server from the Internet, and other zones separating your web server from your business and control zones where you application servers would reside.

Ports and Services Used for the Proficy Vision

Proficy Application Server (Workflow)

Proficy Workflow uses the following ports and services for Workflow Server to Client communication:

Port	Protocol	Run As...	Description
80	TCP	Local System	Proficy Workflow
443	TCP	Local System	Proficy Vision
8011	TCP	Local System	Legacy HTTP Port
8012	TCP	Local System	Proficy Workflow
8020	TCP	Local System	Main HTTP Port
8201	TCP	Local System	TCP Port
8202	TCP	Local System	HTTPS Port 1
8203	TCP	Local System	HTTPS Port 2
8204	TCP	Local System	P2P Configuration

Microsoft SQL Server

Microsoft SQL Server uses the following ports (which are configurable) and services for Proficy Vision to SQL Server communication:

Port	Protocol	Run As...	Description
1434	UDP	Local System	SQL Server Browser
1433	TCP	Local System	SQL Server default instance running over TCP

Proficy Vision Web Server

Proficy Web Server uses the following ports and services for Web Server to Proficy Vision communication:

Port	Protocol	Run As...	Description
443	TCP	Local System	Proficy Vision

More Information on Certificates

Proficy Vision uses the Secure Sockets Layer (SSL) as the protocol for encrypting information over the web. SSL is relatively simple to configure, but it is important to understand the security ramifications of improper configuration.

When configuring security and SSL, be aware that Proficy Vision needs several security certificates:

Component	Requirement	Example	Details
Vision Web Server	The IIS Web Site hosting the Vision Web Server must have an HTTPS (SSL) binding using a certificate issued to the host name your clients will be using to connect to Proficy Vision.	If your users connect to Vision at https://vision.example.com/GE.Web , you will need a certificate issued to vision.example.com .	This certificate should be issued by a Certificate Authority that is trusted by your client computers, such as a third-party commercial CA or an internal CA that your client machines trust. Using a self-signed certificate, a certificate issued to a different host name, or an otherwise un-trusted certificate will cause the browser to display certificate errors when trying to use Proficy Vision. Training your users to ignore the certificate warning is not recommended.
Proficy Application Server	The IIS Web Site hosting the Vision Application Server must have an HTTPS (SSL) binding using a certificate issued to the host name your Vision Web Server will be using to connect to the Vision Application Server.	If the SOA Web Service server is accessed at https://soa.example.com , you will need a certificate issued to soa.example.com .	This certificate must be issued by a Certificate Authority that is trusted by the Vision Web Server. This can be a third-party commercial CA or an internal CA that has had its CA certificate added to the Trusted Root Certificate Store of the Vision Web Server, and can be the same certificate authority used to create the certificates used by Proficy SOA. For a typical installation, the Proficy Workflow installer will have created a self-signed CA certificate named

Component	Requirement	Example	Details
			<p>"ProficySelfSignedCA". It also creates a host certificate for the Proficy Workflow host, issued to the machine name of that host. You can use this host certificate for the IIS site hosting the Proficy Vision Application Server components.</p> <p>The steps to configure this are as follows:</p> <ol style="list-style-type: none"> 1. Obtain a copy of the ProficySelfSignedCA public key. This can be obtained from the Certificates\Export directory of your Proficy Workflow installation directory (typically C:\Program Files (x86)\Proficy\Proficy Workflow). Copy the file named ProficySelfSignedCAPublicKey.cer to your Vision Web Server host. 2. Import the certificate into the Local Computer Trusted Root Certification Authorities store on the Vision Web Server host. 3. Use the host certificate when configuring the HTTPS binding in IIS for the Proficy Vision Application Server components. <p>Using a self-signed certificate, a certificate issued to a different host name, or an otherwise un-trusted certificate will prevent the Proficy Vision web server from communicating with the Proficy Vision application server.</p>
<p>Integrated Web Applications</p>	<p>The IIS Web Site hosting any application you want to embed within Proficy Vision should have an HTTPS (SSL) binding using a certificate issued to the hostname your</p>	<p>If you have a Plant Applications server running at https://pa.example.com, you will need a certificate issued to pa.example.com that is trusted by your end-users computers.</p>	<p>For other content integrated within Proficy Vision, using a self-signed certificate, a certificate issued to a different host name, or an otherwise un-trusted certificate will cause the browser to display certificate errors when trying to use these integrated applications in the Dashboard. You will still be able to use Vision, but again, training your users to ignore these certificate warnings is</p>

Component	Requirement	Example	Details
	clients will be using to connect to that application.		not recommended.
Proficy Workflow	Proficy Workflow needs a certificate for the Proficy Host as well as a signing certificate for the STS.		For full descriptions of certificate options, refer to the ‘Security Certificate’ section of the Workflow Getting Started guide.

High Level Installation and Configuration Overview

The overall steps to install and configure your system include:

1. Install your Proficy Vision on your selected configuration. Be sure to consider your security requirements, number of clients, and network latency when choosing your hardware.
2. Confirm that you can open the Proficy Vision application from a web browser.
3. Create your equipment model (with asset hierarchy) within Proficy Workflow on the Proficy Application Server, if one does not already exist. An example of an existing equipment model would be one you already created within Proficy Plant Applications 6.1.
4. Add displays in Proficy Workflow and associate them with parts of your equipment hierarchy. You will need the associated URLs that you want to use for your displays.
5. Confirm that you can create dashboards and view your data within Proficy Vision.
6. Define the users and access levels (user management) in Proficy Vision or Proficy Workflow Client.

Installing the Medium System Configuration

This section describes the steps, in order, of how to set up your Proficy Vision system in a Medium System configuration environment (SQL Server and Proficy Application Server on one computer and the Proficy Vision Web Server on the other computer). These steps include:

1. Set up your computer with SQL Server and Proficy Application Server:
 - a. Install and Configure SQL Server 2008 R2 Standard Edition. Enable TCP/IP in the SQL Server Configuration Manager after you install. Also, on the properties dialog box for TCP/IP, enter 1433 for the TCP Port setting, and be sure that TCP Dynamic Ports field is left blank (if you do not leave TCP Dynamic Ports field blank, you will have issues later). For SQL Server Standard, please go to services and start the “SQL Job Agent” service if not already started. Refer to the “*Prerequisite: Install Microsoft SQL Server*” section for details.

For instance, create a default instance or a named instance. On the Server Configuration screen, enter the administrator account name and the corresponding password (for a Standard Server select “Use the same account for all SQL Server services”). On the Database Engine Configuration page, select Mixed Mode. Enter the password for the administrator account.

- b. Next, create a Windows Firewall Rule for SQL Server for the sqlservr.exe application.
- c. Configure the .NET Framework Features for Windows Server by installing the Application Server role.
- d. Install Microsoft Silverlight 5 and Silverlight 4 SDK.

- e. Install Microsoft .NET 4.0 (the install will do this automatically for you if it is not already installed).
 - f. Install Proficy Workflow 2.0, and Workflow SIM4.
 - g. Install the Proficy Application Server.
 - h. Create a Windows Firewall Rule for Workflow for Incoming Workflow traffic on ports 8011, 8012, 8111, 8112, 8020, 8201, 8202, 8203, and 8204. You also need port 443 to enable communication between the Proficy Vision Web Server and the Proficy Application Server. If additional ports are displayed during installation, add them as well.
2. Set up your Proficy Vision Web Server computer:
- a. Add the Application Server and Web Server (IIS) Roles to Windows Server. This will configure the .NET Framework Features, as well as a role for ASP .NET. Be sure to disable Directory Browsing, and enable HTTP Redirection. For roles, in addition to the defaults under Application Development, make sure you select the ASP option, and under Security select the Basic Authentication, Windows Authentication, URL Authentication, and Request Filtering options.
 - b. Configure the .NET Framework Features for Windows Server.
 - c. Install Microsoft Silverlight 5.
 - d. Install Microsoft .NET 4.0 (the install will do this automatically for you if it is not already installed).
 - e. Install Proficy Web Server software.
 - f. Provision your system after the web server is installed. This includes provisioning equipment and displays in the Proficy Workflow Client.

The sections that follow describe how to install the Proficy Vision software and set up your system using these steps. The beginning of each section describes the prerequisites.

Prerequisite: Install Microsoft SQL Server

The supported version of SQL Server is Microsoft® SQL Server® 2008 R2 SP2. If you want to use an existing Microsoft SQL Server, you can use that instead of installing a new instance of SQL Server. However, be sure that you are running the supported version, and upgrade if necessary.

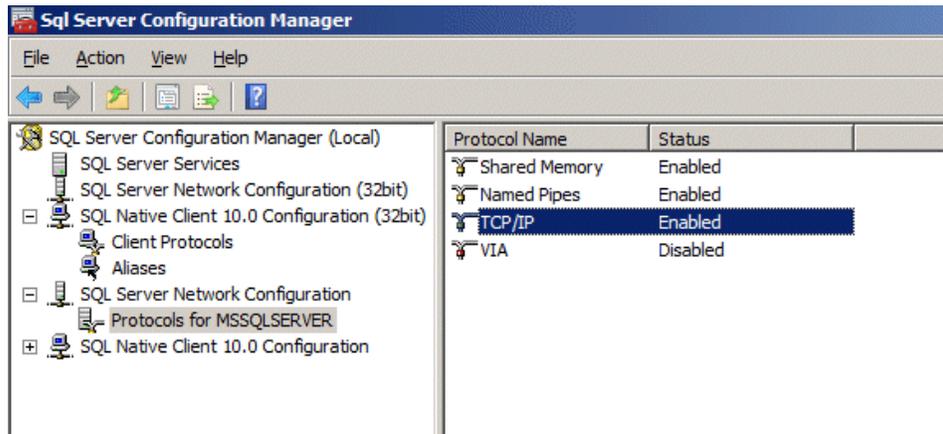
When using SQL Server, make sure that the SQL Server Agent is running. TCP/IP must be enabled on the SQL Server.

For steps to install SQL Server, refer to your Microsoft documentation. On the Database Engine Configuration page, be sure to select **Mixed Mode**. And, enter the password for the administrator account.

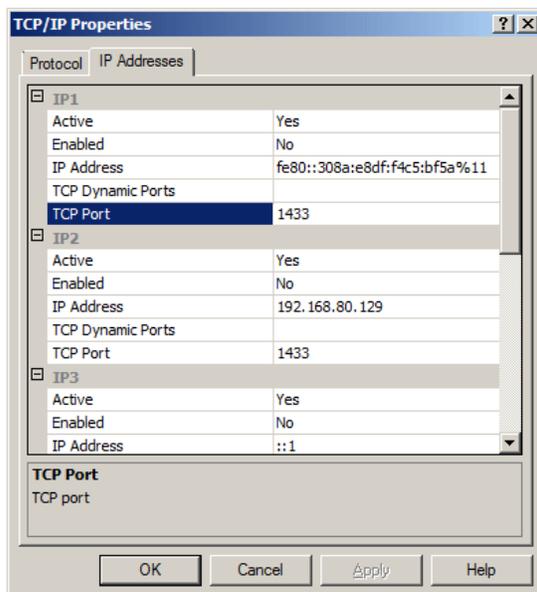
For steps on how to enable TCP/IP or create a firewall rule after you have SQL Server installed and want to work with Proficy Vision, refer to the following sections.

Enable TCP/IP in the SQL Server Configuration Manager

1. After SQL Server is installed, open the SQL Server Configuration Manager (SSCM).
2. Under SQL Server Network Configuration, enable TCP/IP as shown in the following figure:



- Open the Properties dialog box for TCP/IP, click the IP Addresses tab, enter 1433 for the TCP Port setting, and be sure that TCP Dynamic Ports field is left blank (if you do not leave TCP Dynamic Ports field blank, you will have issues).



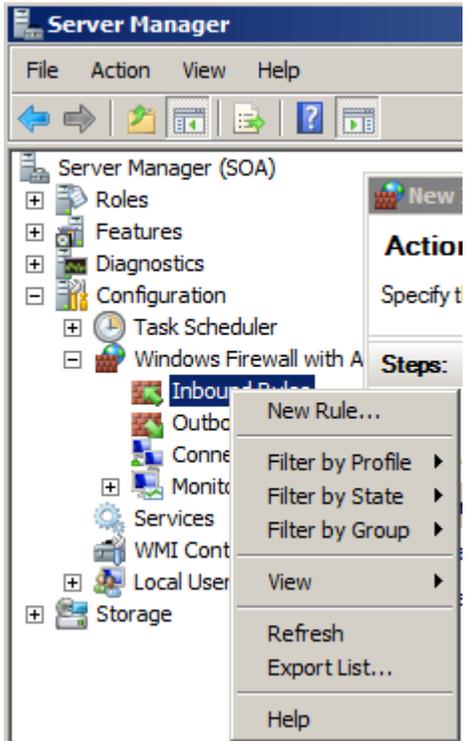
- Restart the SQL Server Service.
- Start the "SQL Job Agent" service if it is not already started (applies to SQL Server Standard only).

Take Note of: Your SQL Server Administrator user name and password. You will need this in subsequent steps.

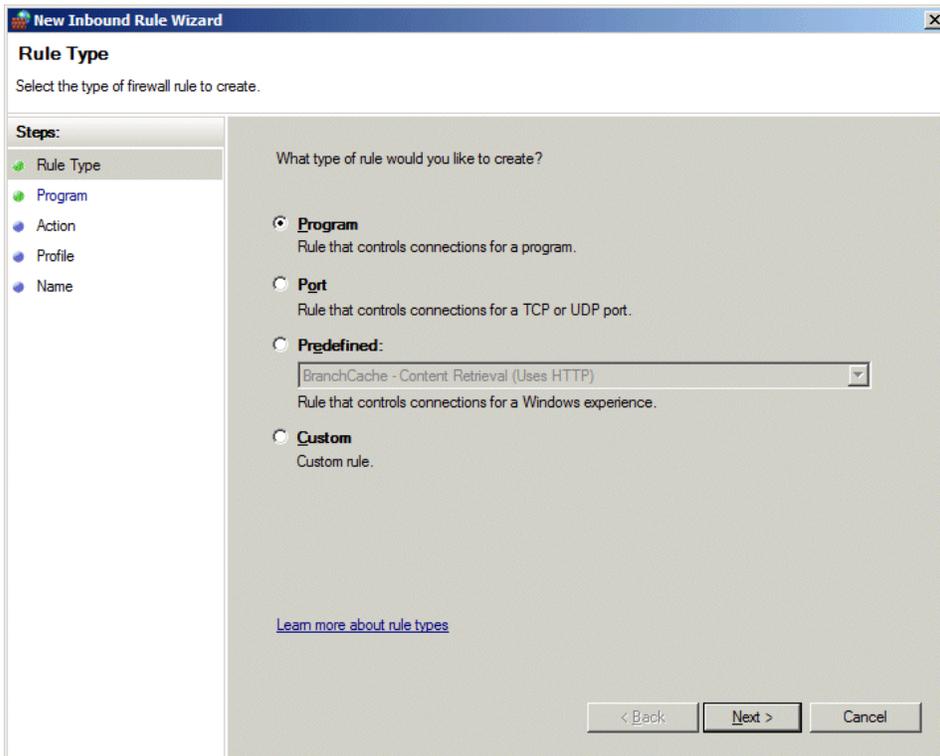
Create a Windows Firewall Rule for SQL Server

In order for SQL Server to communicate with the Proficy Vision, when a firewall is enabled, you need to add the SQL Server service sqlservr.exe to run from the Windows Firewall. Follow the instructions in this section to enable the service to run.

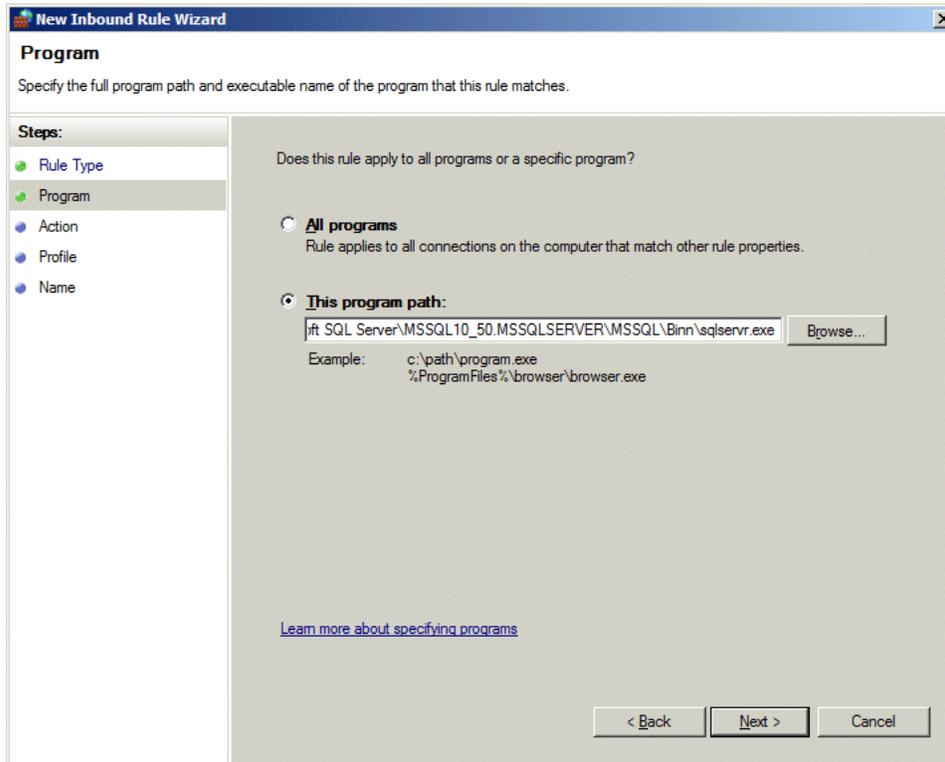
- Start the Windows Server Manager. In the Server Manager, first expand the Configuration item, and then expand Windows Firewall. Right click Inbound Rules and select New Rule...



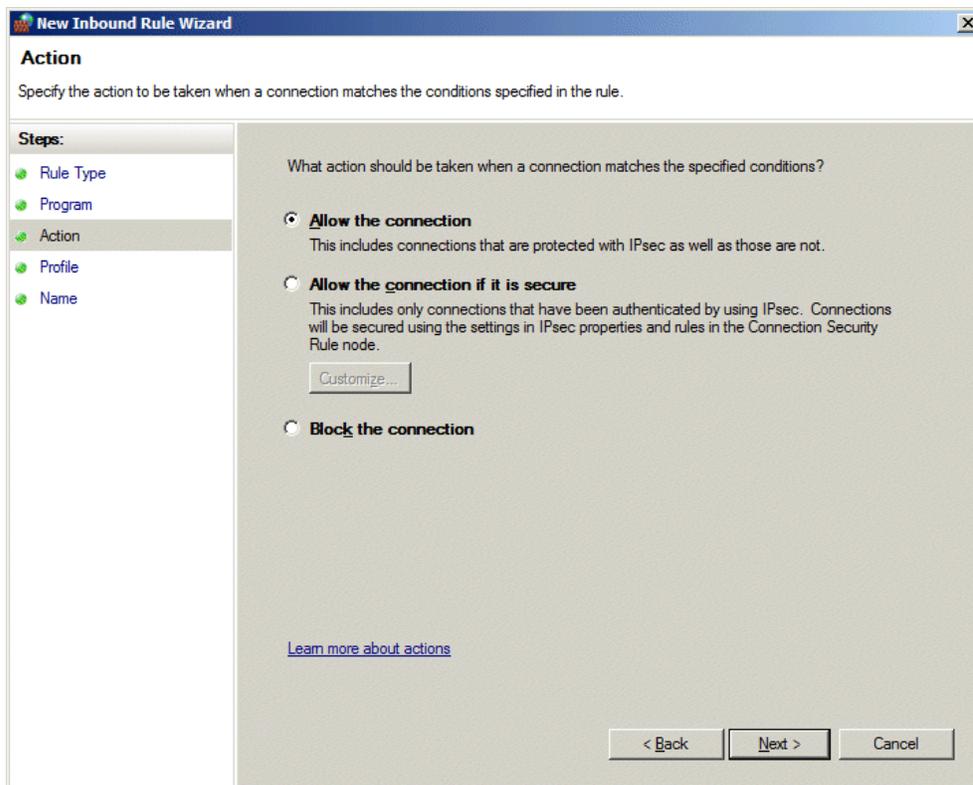
2. Create a new Program Rule as shown in the following figure:



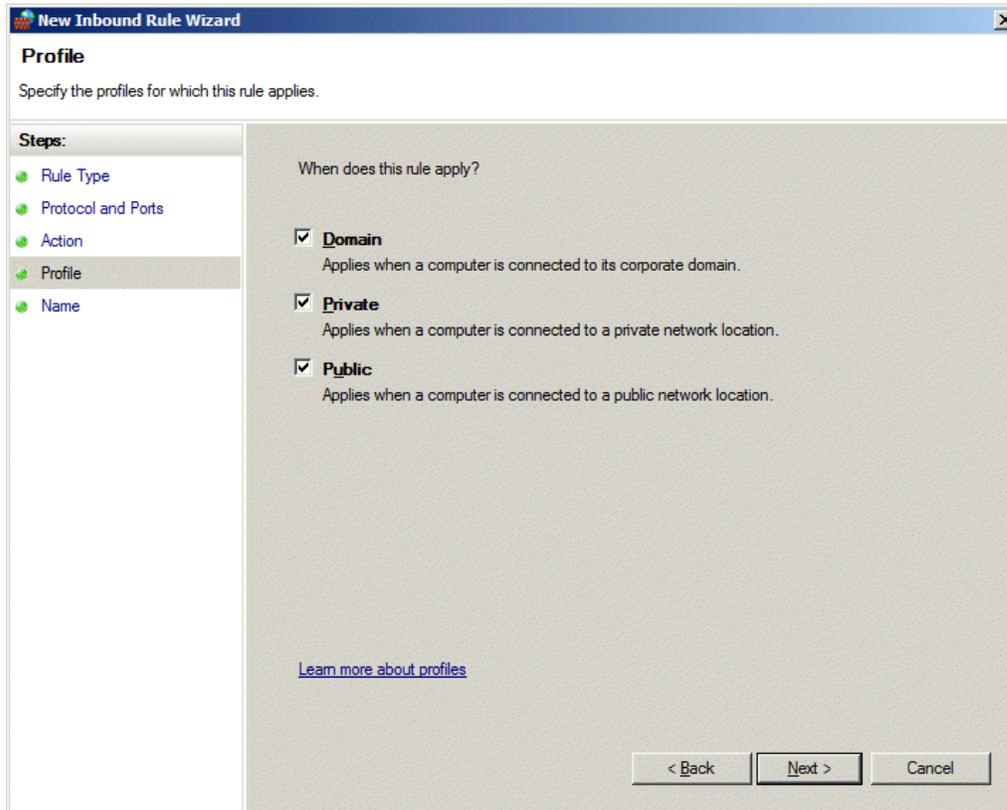
3. Select Program and click Next.



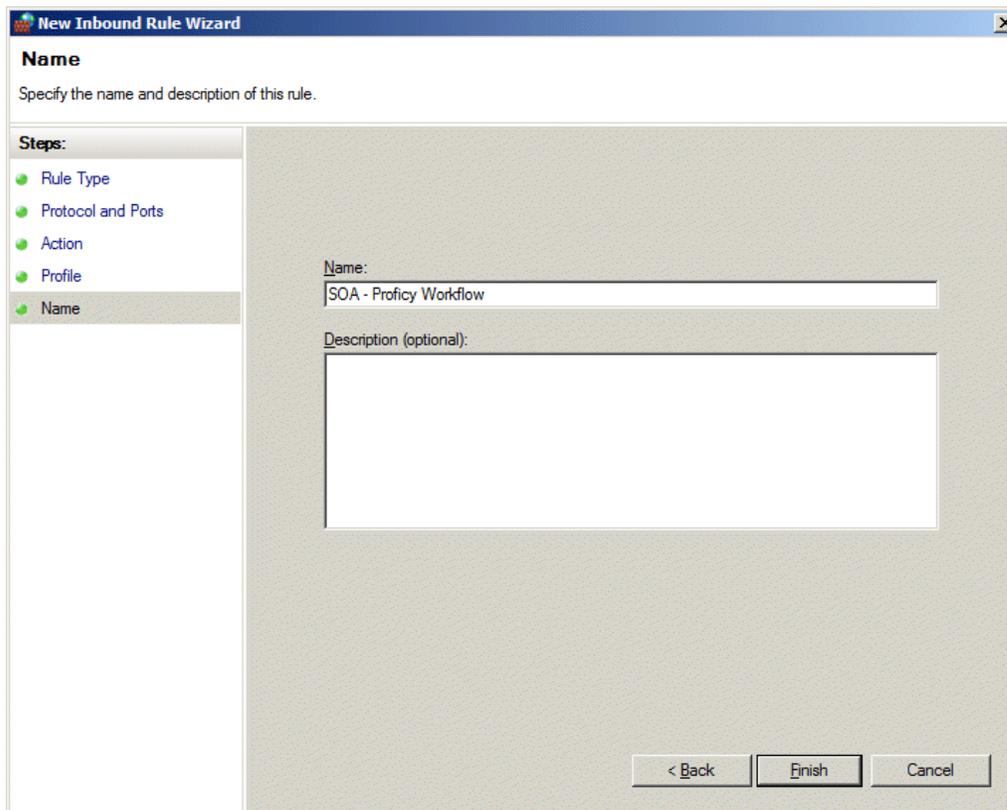
4. Select "This program path" and enter or browse to the path of the sqlservr.exe application. Typically this path is something like:
C:\Program Files\Microsoft SQL Server\MSSQL10_50.MSSQLSERVER\MSSQL\Binn\sqlservr.exe
Click Next to continue.



5. For the action, select Allow the connection, and click Next. The profile Rule page appears.



6. Select all the boxes to make the rule apply in all cases. The Name screen appears.



7. Give the rule a name, as shown in the previous figure.
8. Click Finish.

Install the Proficy Application Server

Prerequisites:

- Microsoft® .NET Framework 4.0
- Microsoft® Silverlight™ 5
- Microsoft® Silverlight™ 4 SDK
- SQL Server administrator user name and password

Prerequisite: Install Microsoft Silverlight 5 and Silverlight 4 SDK

The Proficy Vision requires the Microsoft® Silverlight™ 5 environment and the Silverlight 4 SDK to be installed on your Proficy Application Server. Microsoft Silverlight must be downloaded directly from the Microsoft Web site. The Proficy Vision has been tested with the Silverlight 5 and Silverlight 4 SDK. For Windows Server 2008, be aware that you must have the proper security privileges to download and install Silverlight from the Internet.

The main download page for the Microsoft Silverlight 5 is as follows:

<http://www.microsoft.com/Silverlight/>

NOTE: PLEASE ENSURE YOU DOWNLOAD SILVERLIGHT 4.0 SDK (the PREVIOUS VERSION of Silverlight).

The main download page for the Microsoft Silverlight 4 SDK is as follows:

<http://www.microsoft.com/en-us/download/details.aspx?id=7335>

Silverlight 4 SDK is needed before you can run the Workflow installer. Follow the steps on your screen, and perform a **Full** Install.

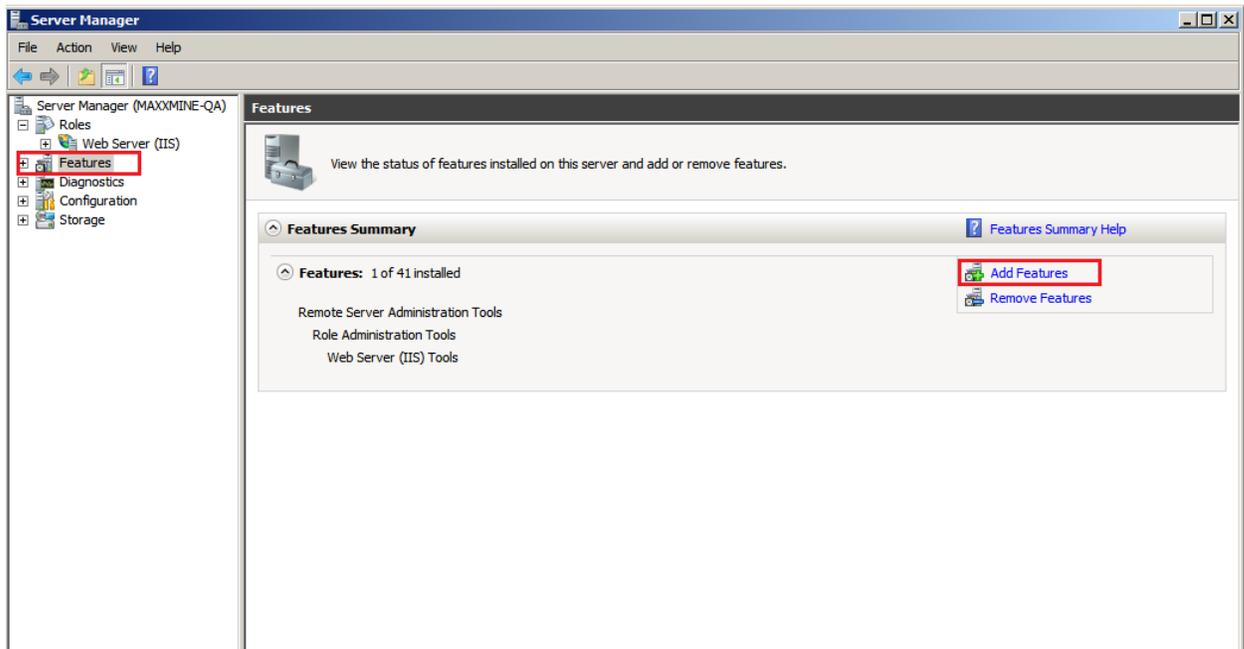
When you run the Proficy Vision install, it will check for Silverlight. If it is not installed, a message will prompt you to install it.

Prerequisite: Install the .NET Framework Features

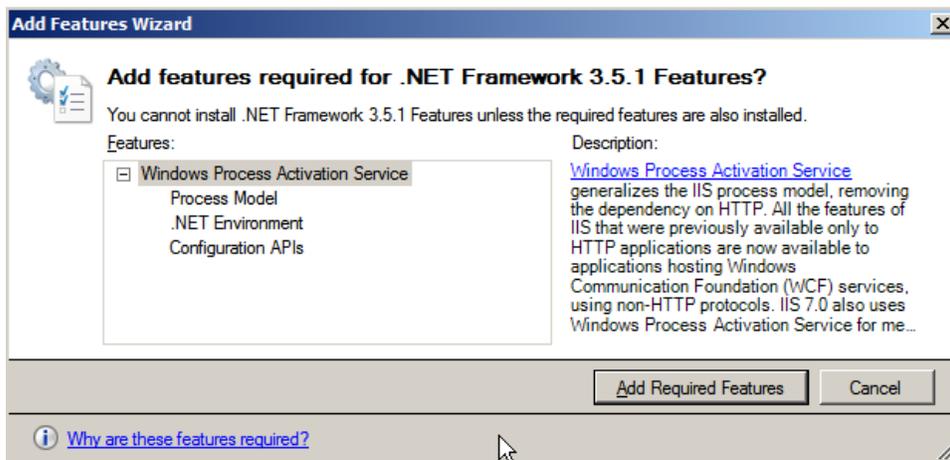
It is important to perform these steps before you install the Proficy Vision Application Server. If you do not already have .NET Framework installed, the Proficy Vision install will prompt you to install it, and lead you through the following steps.

To install the .NET Framework Features in Windows Server:

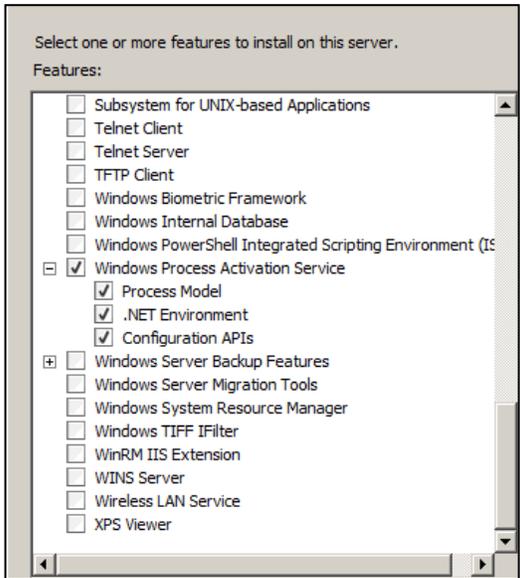
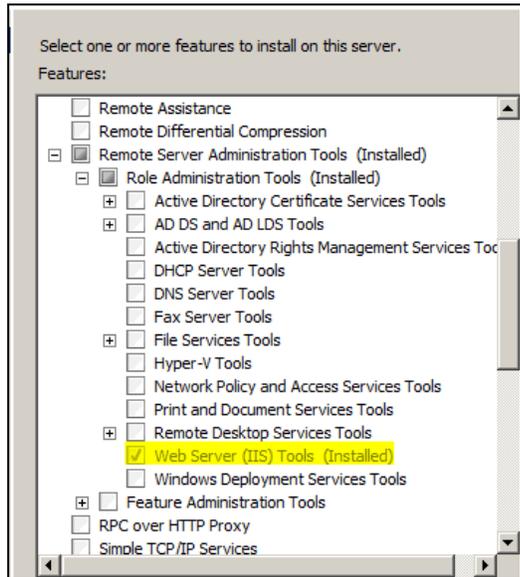
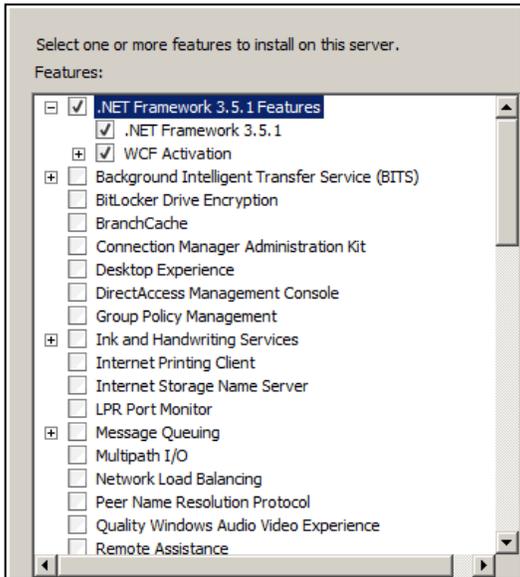
1. From the Server Manager dialog box in Windows Server, select Features and click on Add Features as follows:



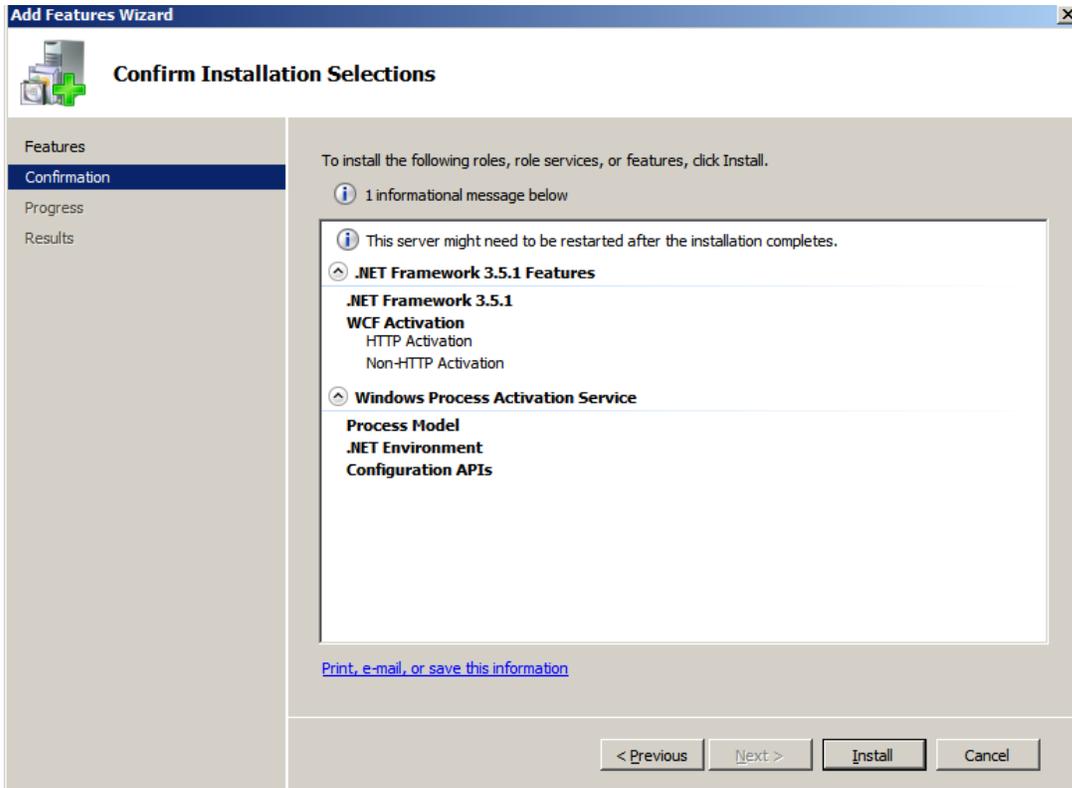
2. Select .NET Framework 3.5.1 Features and the following dialog box appears.



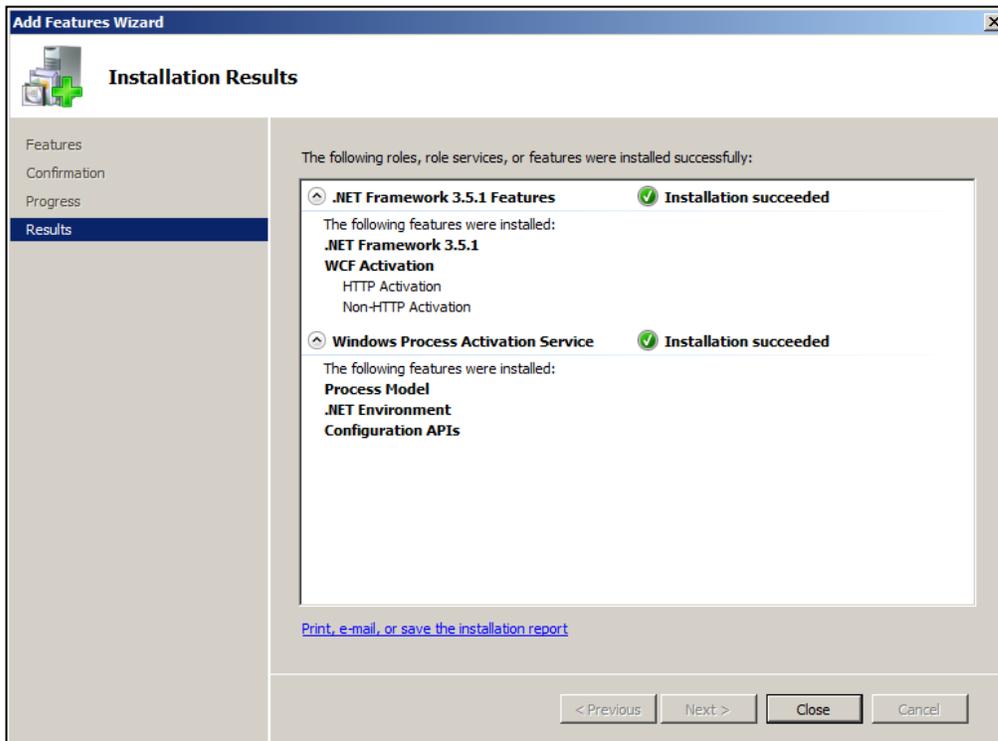
3. Click the Add Required Features button.
4. Select the .NET Framework Features option. The following figures show this setting along with all the others that are selected by default and okay to leave as is.



5. Click Next. The following dialog appears:



6. Click Install. The following Installation Results dialog appears when the installation is finished:



7. Click Close to exit the Installation Results dialog and the Server Manager.

Run the Proficy Application Server Install

Prerequisites:

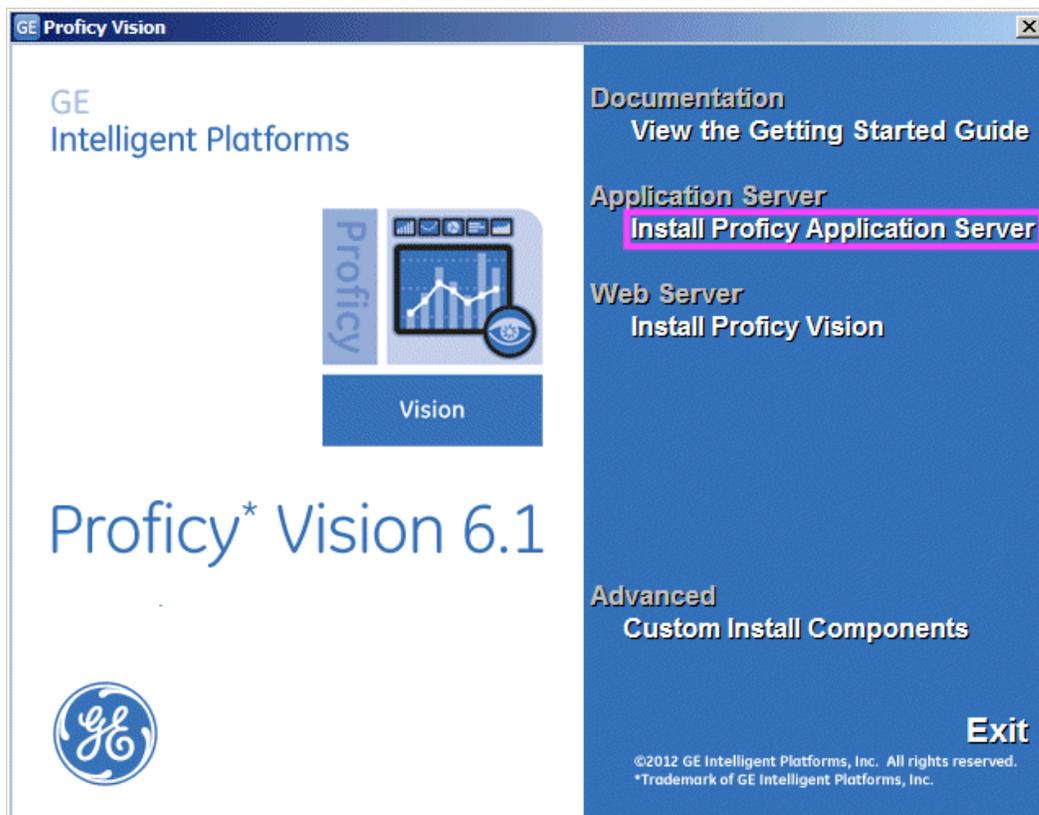
- Microsoft® .NET Framework 4.0
- Microsoft® Silverlight™ 5
- Microsoft® Silverlight™ 4 SDK
- SQL Server Administrator user name and password

If you don't already have a Proficy Vision (Workflow Server) installed, run both of the Proficy Application Core and Proficy Application Services install options, and open the applicable ports for the Proficy Vision.

NOTE: If you have Workflow 2.0 SIM4 already installed, you do not have to reinstall on a new server. You can use your existing Workflow server.

To install the Application Server:

1. Log in to the Windows Server as Administrator. Run the InstallLauncher.exe to open the install screen.
2. In the Application Server area, click **Install Proficy Application Server**.



NOTE: This install will automatically launch the install for Proficy Workflow 2.0, Workflow SIM4, and then the Proficy Application Server. It does NOT install the Proficy Vision Web Server. The Web Server must be installed separately (unless you are doing a custom install.)

The Proficy Workflow Setup Screen appears, if it is not already installed.

3. Select **Proficy Server** for the full server installation. The Proficy Server Installation Type screen appears.
4. Select **Single Server Installation** (the default), and click Next to continue. The License Agreement screen appears.

5. To proceed, click I Agree. The Choose Install Location screen appears.
6. Leave the default location and click Next to continue. The Configure SQL Server screen appears.
7. On the Configure SQL Server screen, clear the check box for the “Use a local SQL database ...” option.
8. Select SQL Server Authentication. Enter the SQL Server name, as well as the Administrator user name and password.

The screenshot shows the 'Configure SQL Server' dialog box in the Proficy Workflow v2.0.0 Setup application. The window title is 'Proficy Workflow v2.0.0 Setup'. The main heading is 'Configure SQL Server'. Below the heading, there is a prompt: 'Please specify the SQL Server settings for this installation.' There are two unchecked checkboxes: 'Backup existing database.' and 'Use a local SQL database with Windows Authentication.' Below these is a section titled 'SQL Server' containing several input fields: 'Server' (text box with 'MYCOMPUTER'), 'Database' (text box with 'SOADB'), 'Authentication' (dropdown menu with 'SQL Server Authentication' selected), 'User Name' (text box with 'admin'), and 'Password' (text box with '*****'). At the bottom right, there are three buttons: '<Back', 'Next>', and 'Cancel'.

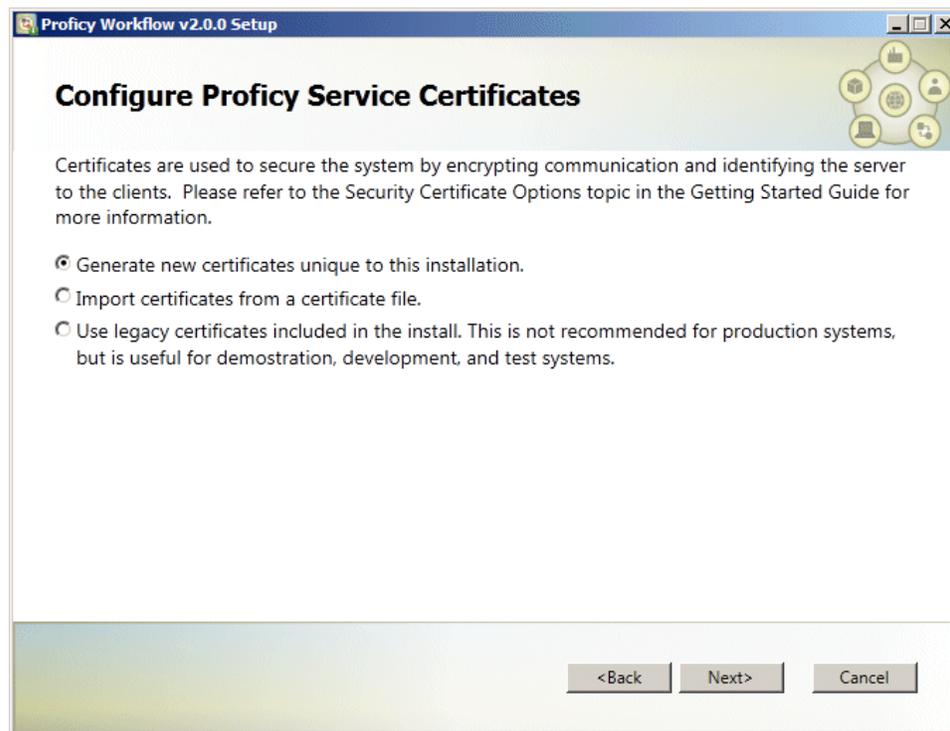
NOTE: It is recommended that you select SQL Server Authentication in this dialog box. If the Proficy Workflow is installed using Windows Authentication, and then later followed by installing the Proficy Application Server, the installation of the Proficy Application Server may fail prematurely. If you want to go back and change this setting to SQL Server Authentication after the install, the workaround is to run “Configure database” on the Proficy Application Core machine (Proficy > ProficyWorkflow > Configuration > ConfigureDatabase). Reconfigure the database to use SQL Authentication, and then re-run the Proficy Application Services install.

9. Click Next. The Configure Security screen appears.
10. On the “Configure Security” screen, enter the Administrator Credentials as shown in the following figure.

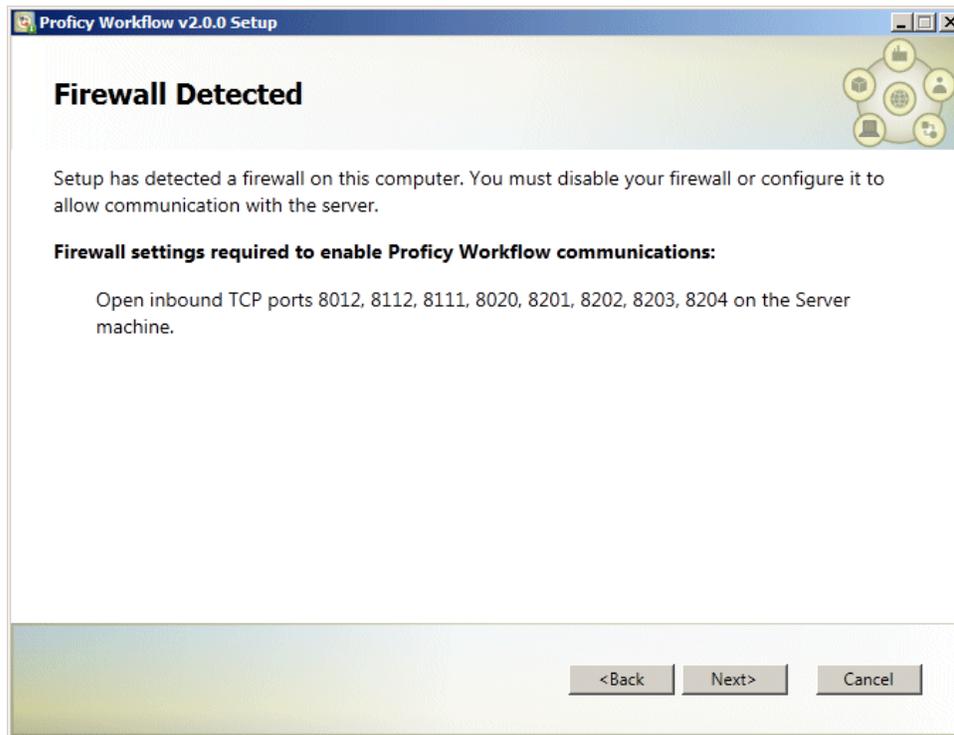
NOTE: Make a note of this credential; it will be required to login to the Proficy Client.



11. Leave the rest of the defaults and click Next to continue. The Configure Proficy Certificates screen appears.
12. Select the appropriate certificate option. For full descriptions of certificate options, refer to the 'Security Certificate' section of the Workflow Getting Started guide. The following example shows a server with the "Generate new certificates unique to this installation" option selected.



13. Click Next to continue.
14. Optionally, if the Windows Firewall is enabled, then you will receive the following message. Make a note of the port numbers and open the inbound TCP ports under Windows Firewall.



15. When the Ready to Install screen appears, click Install.

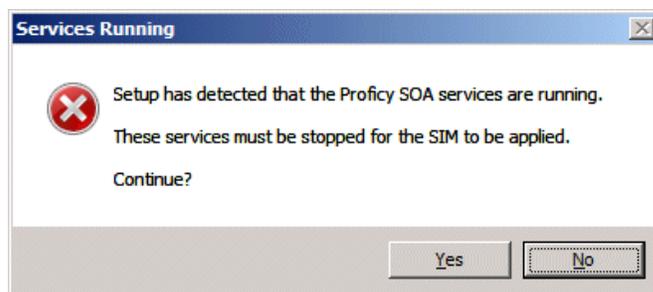
Take Note of: The Administrator user name and password for your Workflow Server. You will need these items in subsequent steps.

16. When the Install completes appears, click Exit. The Proficy Workflow SIM4 install launches.

After the Proficy Workflow is installed, the Proficy Workflow SIM4 install automatically begins.

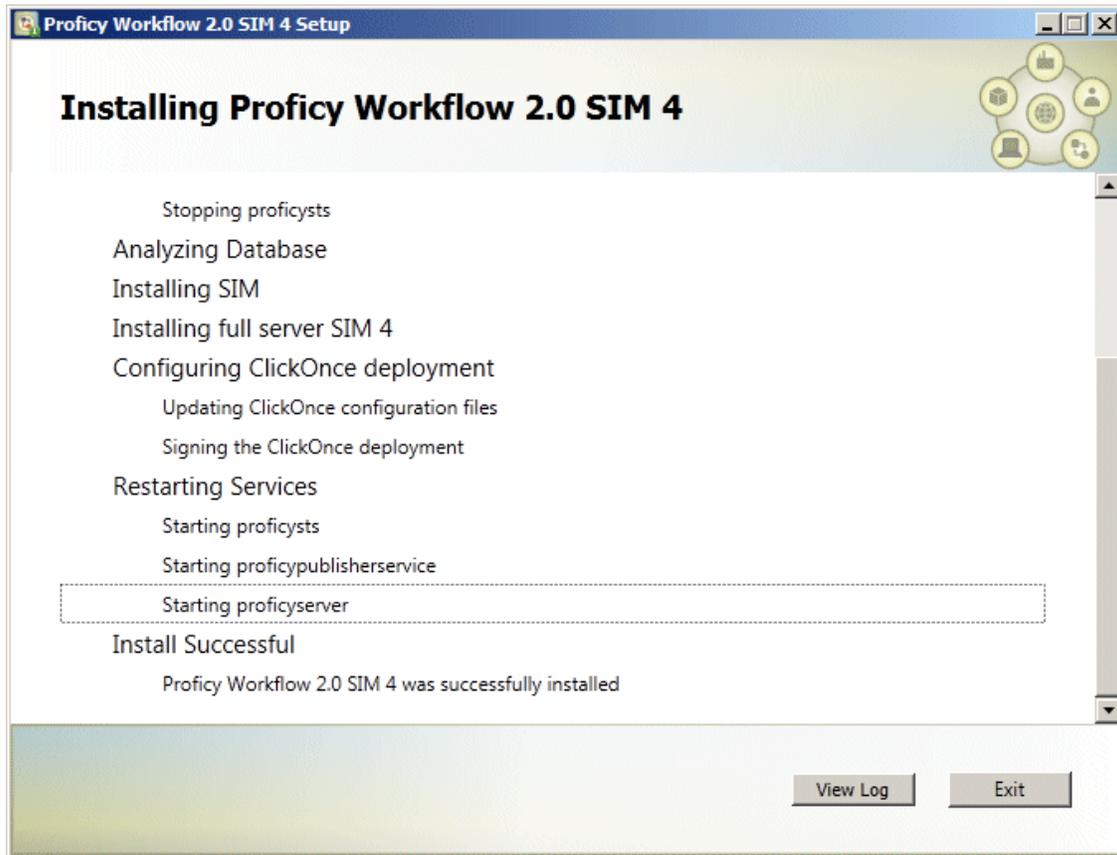
To install the Proficy Workflow SIM4:

1. If a message appears indicating that Proficy Workflow Services are running, click Yes to stop them and continue.



The Workflow SIM installer appears.

2. Install the SIM and wait for it to complete.



3. Click Exit to complete the install.

After the Proficy Workflow SIM 4 is installed, the Proficy Application Server install automatically begins.

To install the Proficy Application Server:

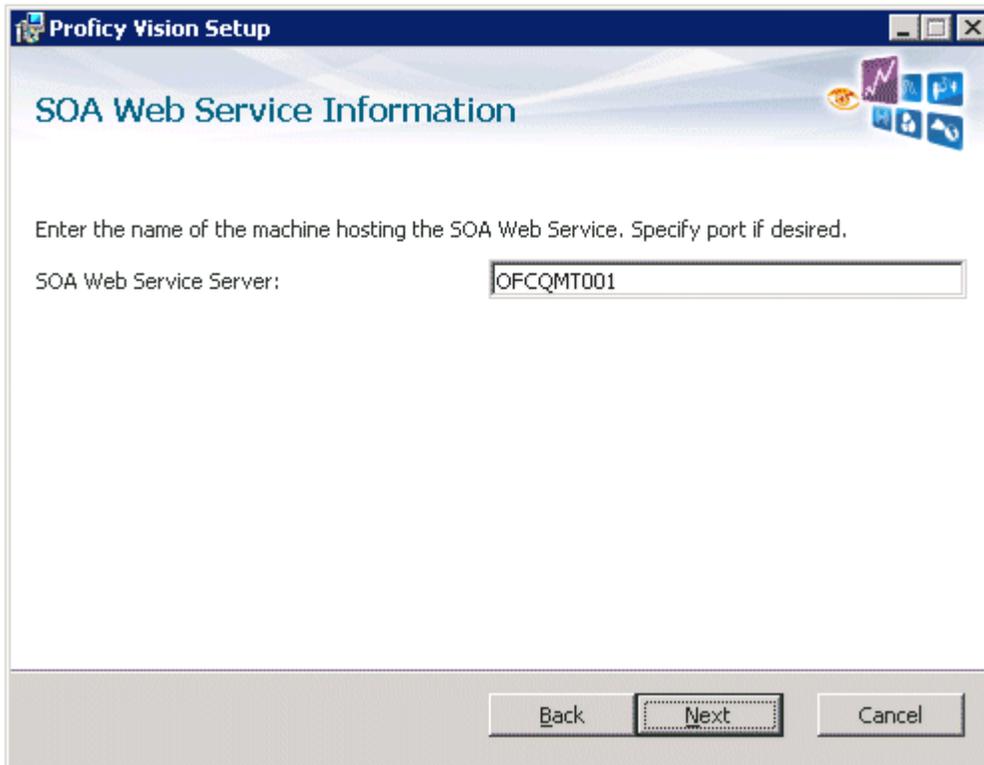
1. When Proficy Vision Installation screen appears, click Next to continue. The End User License Agreement appears.
2. To accept the terms, click "I accept the terms of this License Agreement," and click Next to continue. The SQL Server Information screen appears.

The screenshot shows the 'SQL Server Information' window in Proficy Vision Setup. The window title is 'Proficy Vision Setup'. The main heading is 'SQL Server Information'. There are five input fields: 'SQL Server name:' with a dropdown menu showing 'JLESTER'; 'Authentication Type:' with a dropdown menu showing 'SQL Server Authentication'; 'User Name:' with a text box containing 'sa'; 'Password:' with a masked password field of 12 dots; and 'Port:' with a text box containing '1433'. A 'Test SQL Connection' button is located below the password field. At the bottom of the window are three buttons: 'Back', 'Next', and 'Cancel'.

3. Enter a SQL Server name, an authentication type, and a user name and password, as shown in the previous figure.
4. Click **Test SQL Connection** to confirm that you can connect to the SQL Server, and once confirmed, click Next to continue. The SOA Server Information screen appears.

The screenshot shows the 'SOA Server Information' window in Proficy Vision Setup. The window title is 'Proficy Vision Setup'. The main heading is 'SOA Server Information'. Below the heading is the instruction: 'Enter the name of the SOA Server machine and the SOA administrator account user name and password.' There are three input fields: 'SOA Server Name:' with a text box containing 'OFCQMT001'; 'User name:' with a text box containing 'admin'; and 'Password:' with a masked password field of 12 dots. At the bottom of the window are three buttons: 'Back', 'Next', and 'Cancel'.

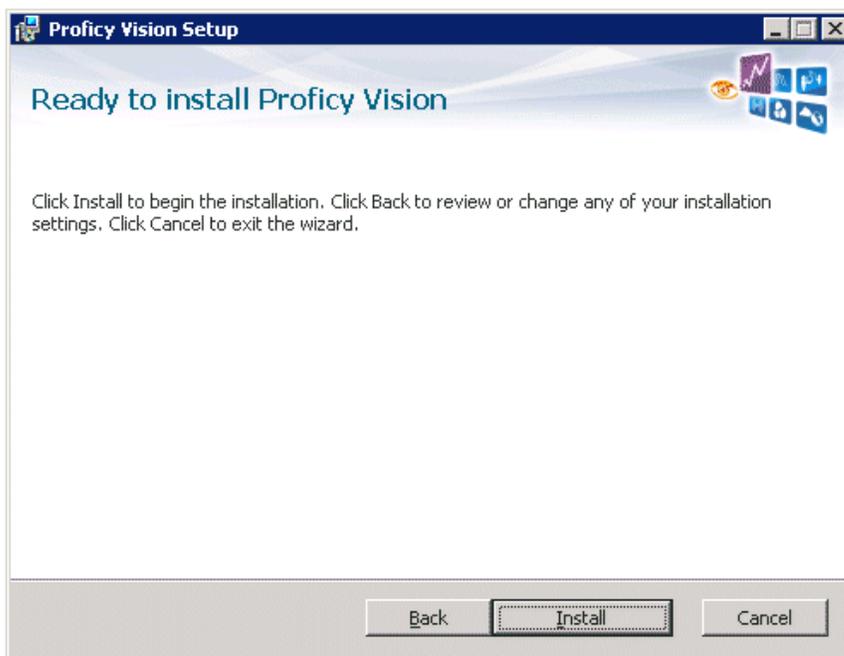
5. Enter your Workflow Server name, and an Administrator user name and password, and click Next to continue. The SOA Web Service screen appears.



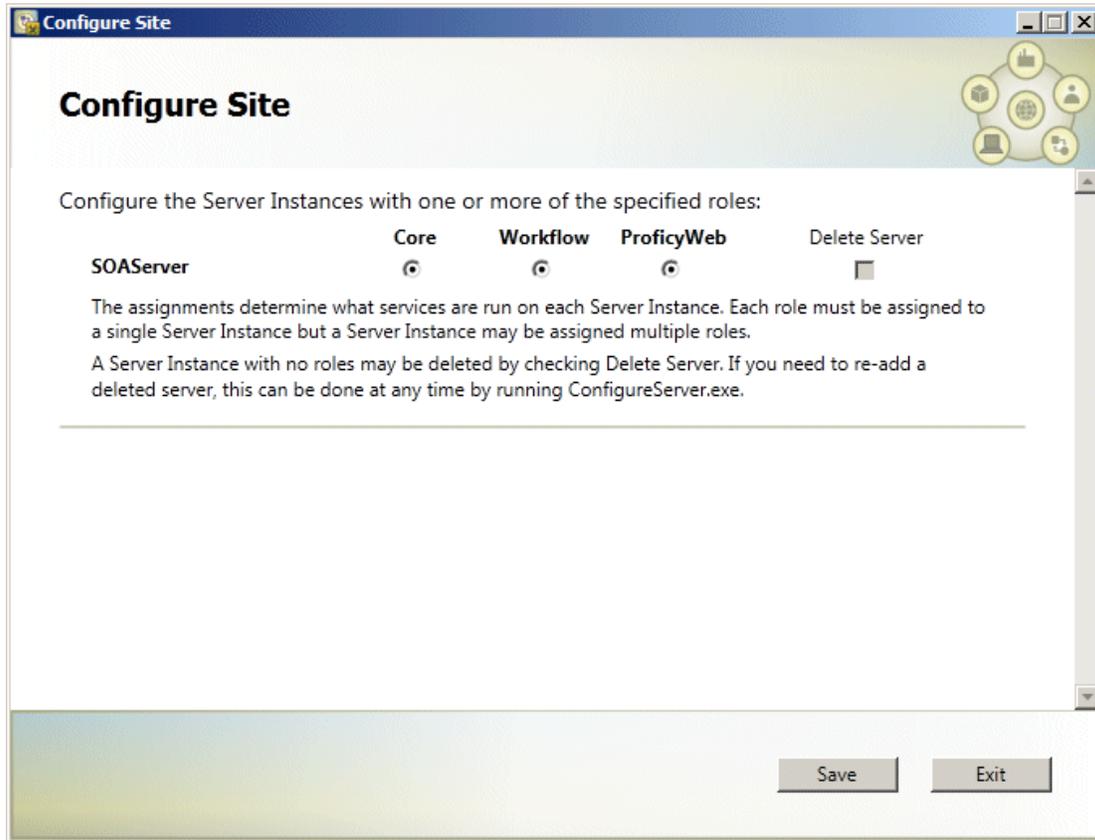
6. Enter the name of your Workflow Web Server and click Next to continue. If a non-default https port was assigned to the SOA Web Service Server Site, add a port number after the server name (for example: MYSERVER:8080). The Internal Database User Creation screen appears.
7. Enter a password to be used for the internal database account to be used by the Proficy Application Server, and then click Next to continue.

IMPORTANT: Be sure to take note of this password. If for any reason you need to you reinstall Proficy Vision in the future, you will need to use this SQL password when you reinstall.

8. The Ready to Install screen appears.



9. Click Install. The Configure Site screen appears during the installation process.



10. Select Core, Workflow, and ProficyWeb options and click Save. The final screen appears.
11. Click Finish.
12. Restart your computer. This may take several minutes.

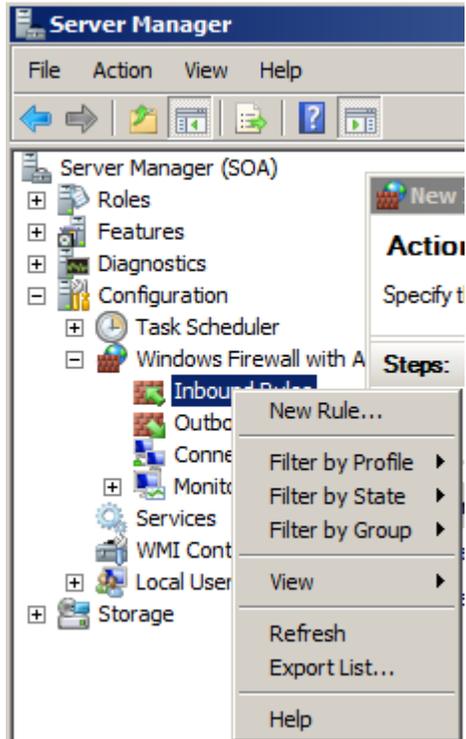
Install Proficy Licensing

The Proficy Vision Licensing install will be automatically launched after installing the Proficy Application Server if necessary.

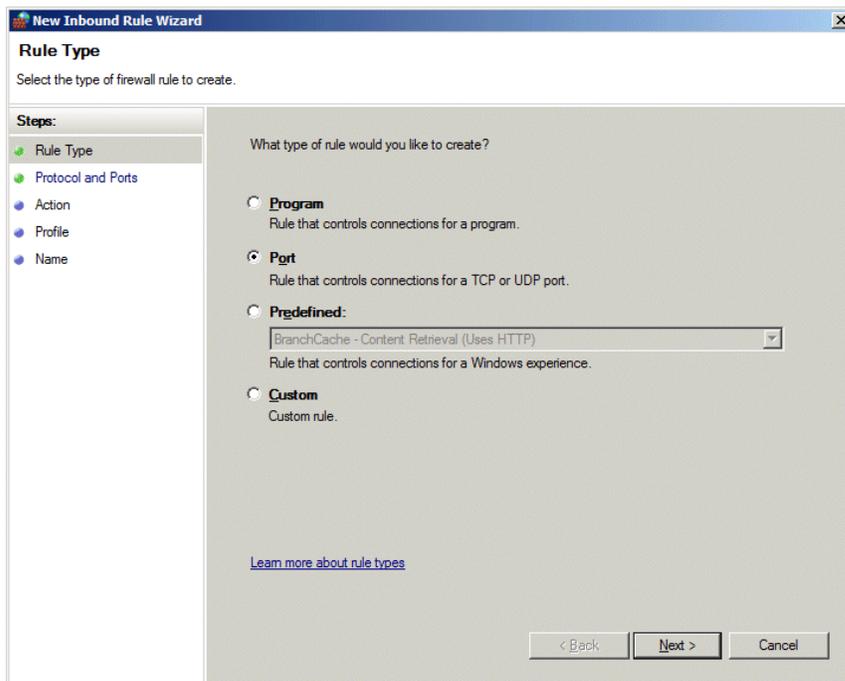
Optional: Create a Windows Firewall Rule for Workflow

In order for the Proficy Vision Application Server to form connections with the other Proficy services, several ports need to be opened in the Windows Firewall. Follow the instructions in this section to open the required ports.

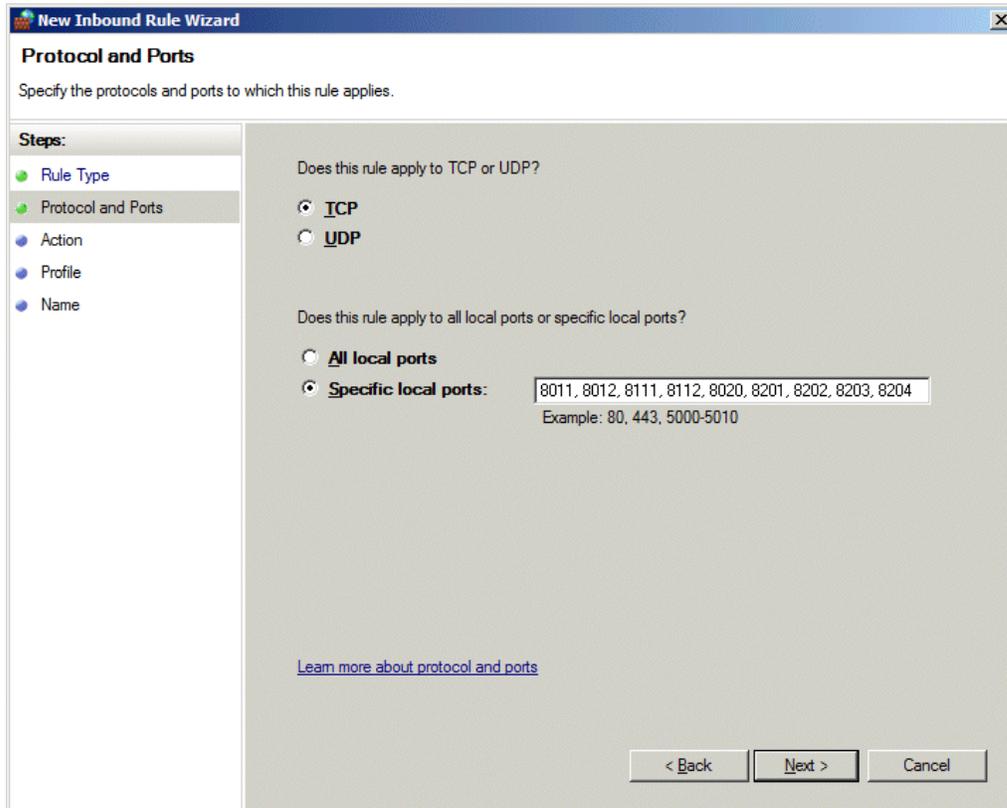
1. Start the Windows Server Manager. In the Server Manager, first expand the Configuration item, and then expand Windows Firewall. Right click Inbound Rules and select New Rule...



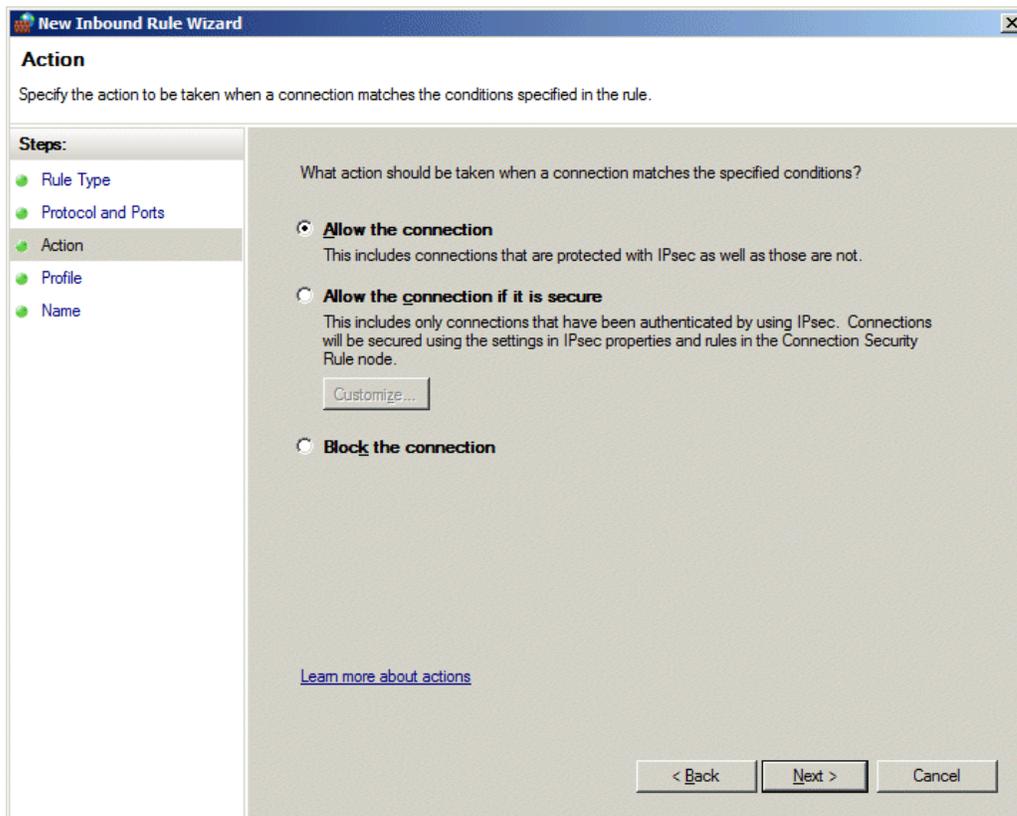
2. Create a new Port Rule as shown in the following figure:



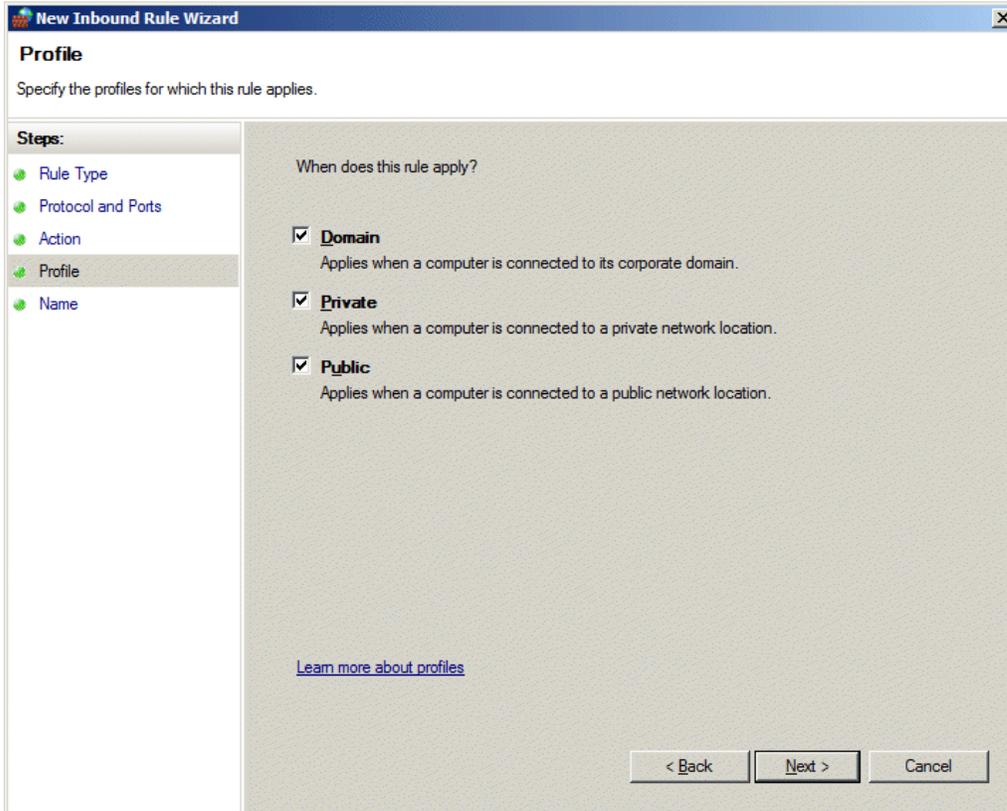
3. Select TCP, then specific local ports. Add ports 8011, 8012, 8111, 8112, 8020, 8201, 8202, 8203, and 8204 as shown below. You also need port 443 to enable communication between the Proficy Vision Web Server and the Proficy Application Server. If additional ports are displayed during installation, add them as well.



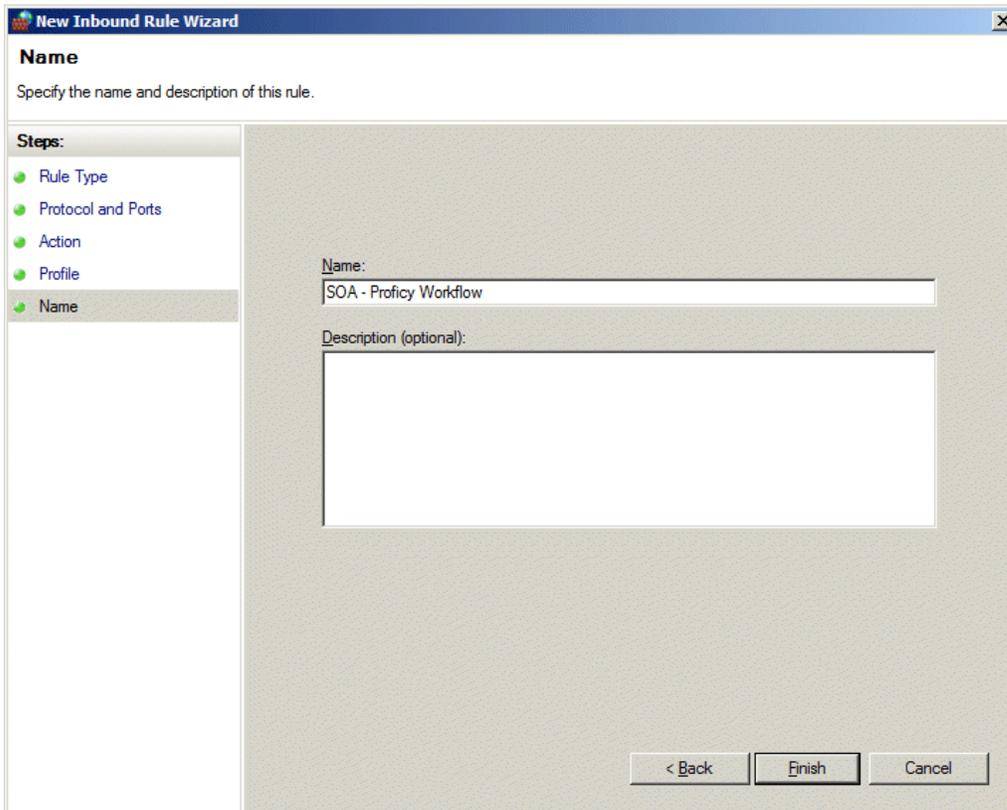
4. For the action, select Allow the connection.



5. Select all the boxes to make the rule apply in all cases.

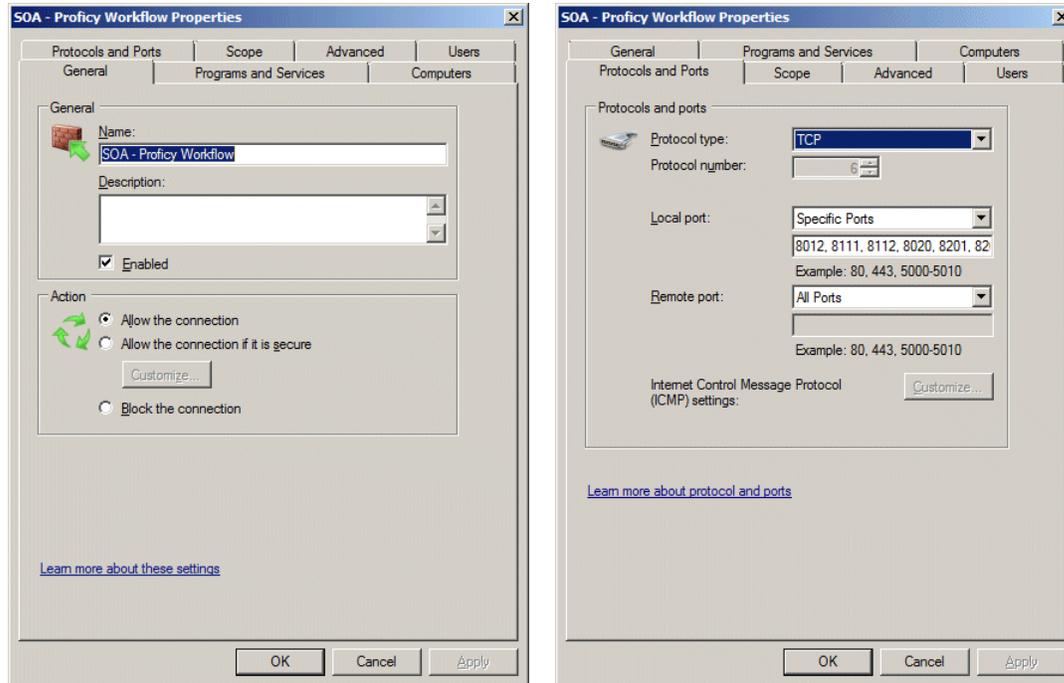


9. Give the rule a name, as shown in the following figure.



10. Click Finish.

11. Right-click the rule in the list, and select Properties. Confirm that the General tab lists the correct Actions and that the Protocols and Ports tab lists the correct ports, as shown in the following figures.



7. Restart your computer. Be aware that the restart may take a few minutes.

Install the Proficy Vision Web Server

Prerequisites:

- Microsoft® .NET Framework 4.0
- Microsoft® Silverlight™ 5
- Microsoft® Internet Information Services (IIS) 7.5
- Signed SSL Security Certificate for your Web Server (self-signed certificates are NOT supported)
- Server names with associated Administrator user account and password for the Workflow Server
- Fully qualified domain or machine name where the Web Server SSL Certificate is registered

Before you run the Proficy Web Server install, you will need to add the IIS role in Windows, and run the Silverlight install. You also need to make sure that you have SQL Server installed, as well as the Vision Proficy Application Server on other computers.

The Proficy Web Server Install includes the following:

- Microsoft® .NET Framework 4.0 (if not already installed)
- Proficy Web Server

IMPORTANT: Be sure that your SQL Server and Proficy Workflow are running when you perform the Proficy Vision Web Server install.

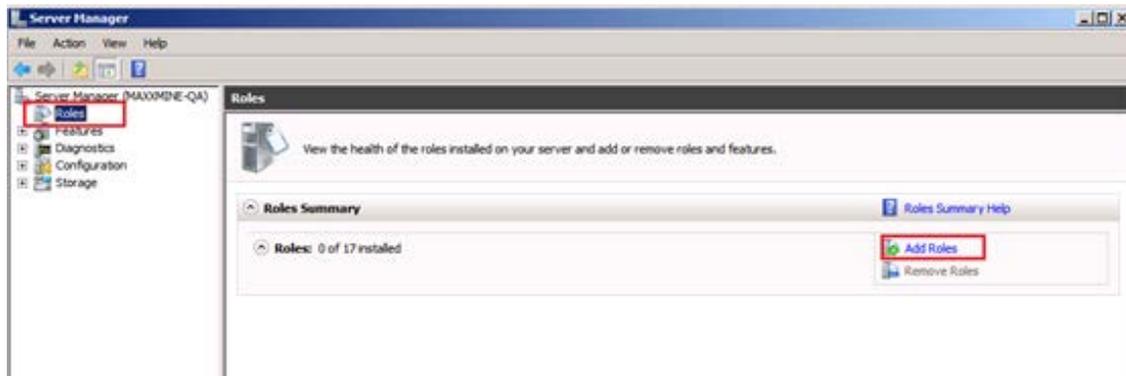
Prerequisite: Add the Web Server (IIS) Role to Windows Server

This section provides instructions for installing the Web Server Role (IIS 7.5) to Windows Server.

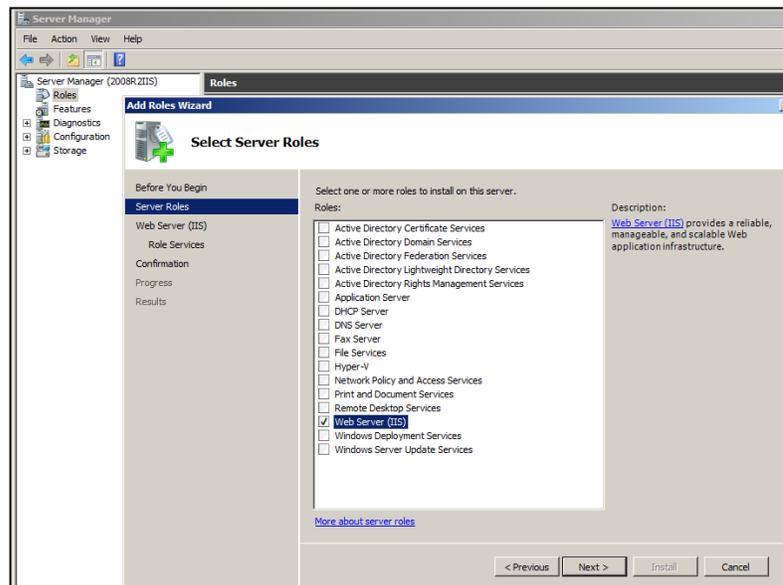
NOTE: The Proficy Vision requires the ASP.NET application hosting environment and ASP.

To Install the Windows 2008 R2 Web Server Role:

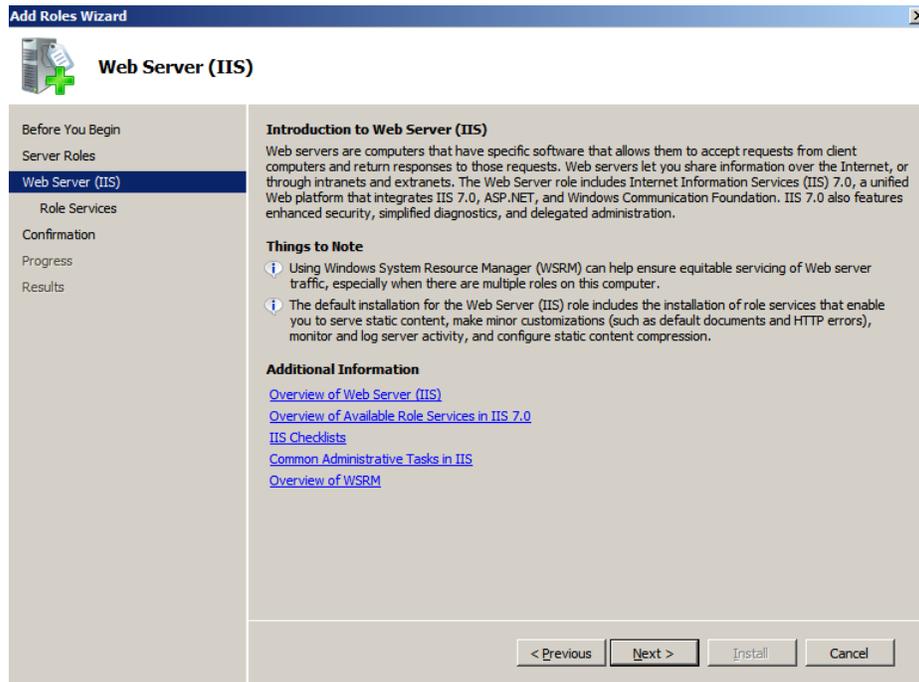
1. Launch the Server Manager in Windows Server.
2. Click Roles from the left tree and select Add Roles, as shown in the following screen:



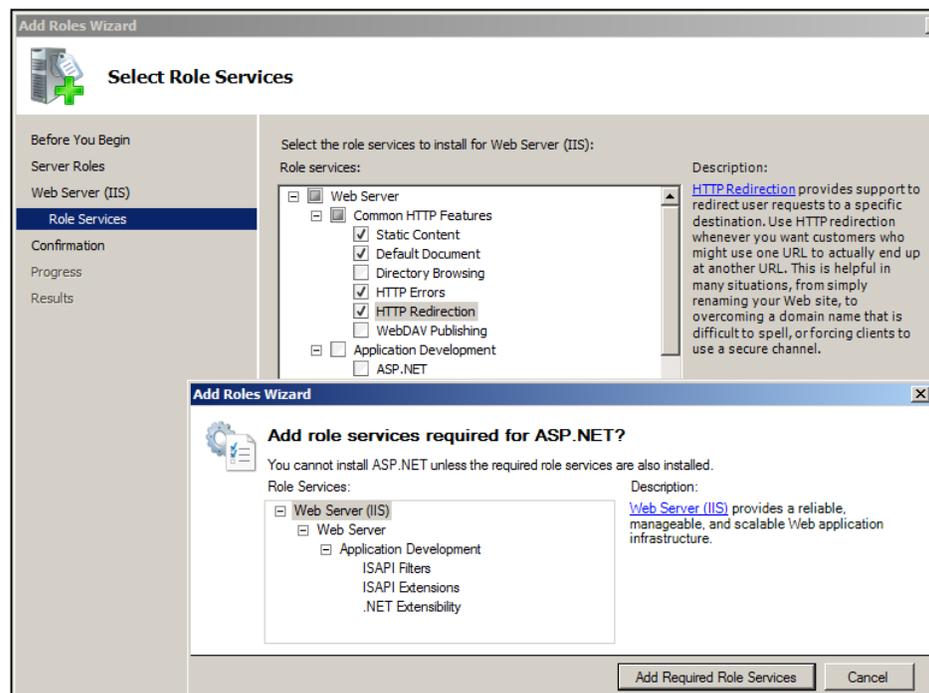
3. If the Before You Begin wizard page appears, click Next.
4. Select **Web Server (IIS)** and click Next.



5. When the Web Server (IIS) introduction page appears, as shown in the following figure, click Next.

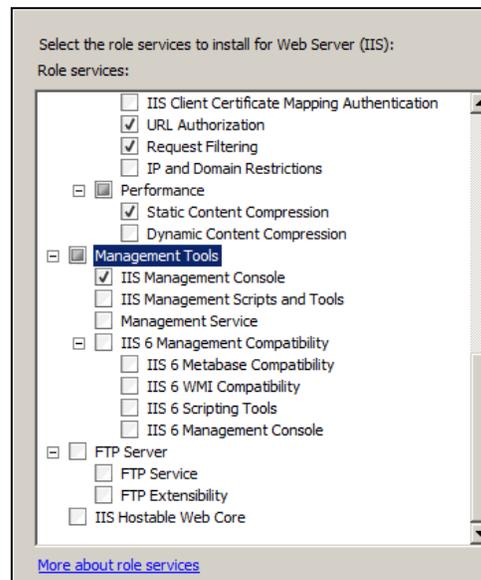
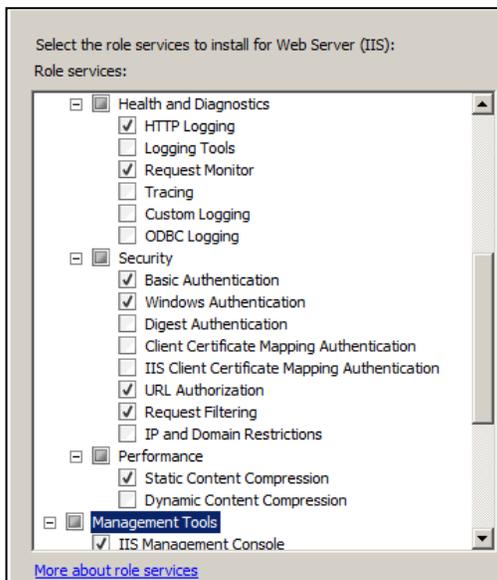
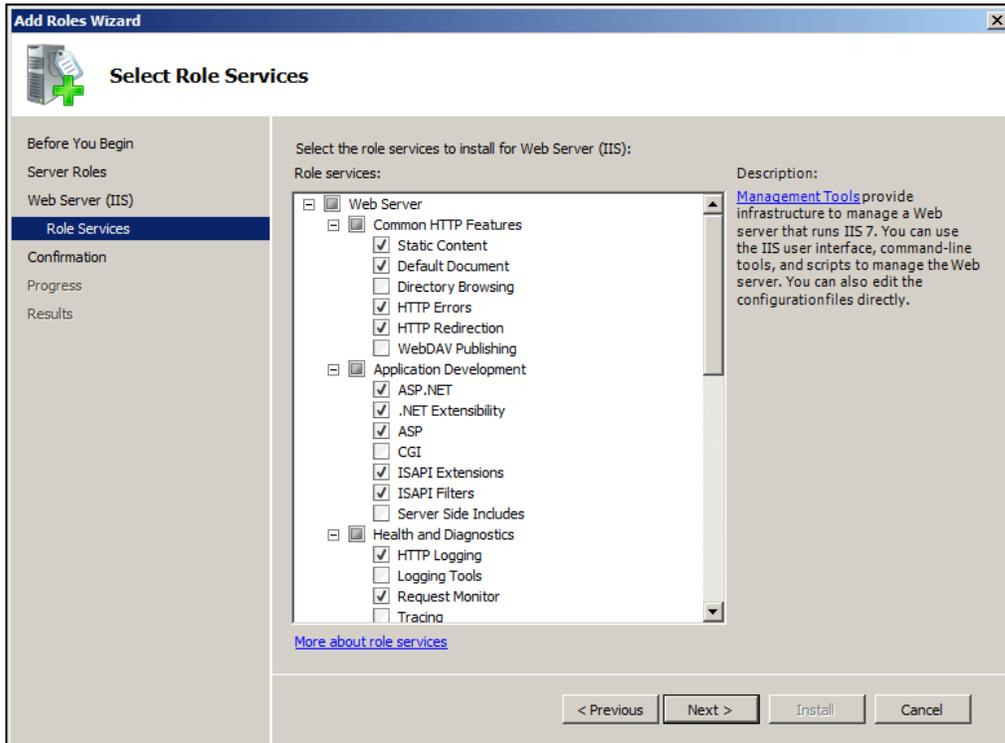


6. For Role Services, first expand Web Server, and then expand Common HTTP features. Clear the Directory Browsing check box (to remove it).
7. Select HTTP Redirection (to enable it).
8. Expand Application Development. Select **ASP.NET**. The following Add Roles Wizard dialog box appears:



9. Click the Add Required Role Services button.
10. Select and clear the additional role services as shown in the following figures.

For roles, in addition to the defaults, under Application Development be sure to select the ASP option, and under Security select the Basic Authentication, Windows Authentication, URL Authentication, and Request Filtering options.



11. Click Next. The Confirm Installation Selections dialog appears. Select Install.
12. Click Close on the Installation Results dialog box as shown in the following figure.

Add Roles Wizard [X]

 **Installation Results**

Before You Begin
Server Roles
Web Server (IIS)
 Role Services
Confirmation
Progress
Results

The following roles, role services, or features were installed successfully:

Web Server (IIS) ✔ Installation succeeded

The following role services were installed:

Web Server

- Common HTTP Features
 - Static Content
 - Default Document
 - HTTP Errors
 - HTTP Redirection
- Application Development
 - ASP.NET
 - .NET Extensibility
 - ASP
 - ISAPI Extensions
 - ISAPI Filters
- Health and Diagnostics
 - HTTP Logging
 - Request Monitor
- Security
 - Basic Authentication
 - Windows Authentication

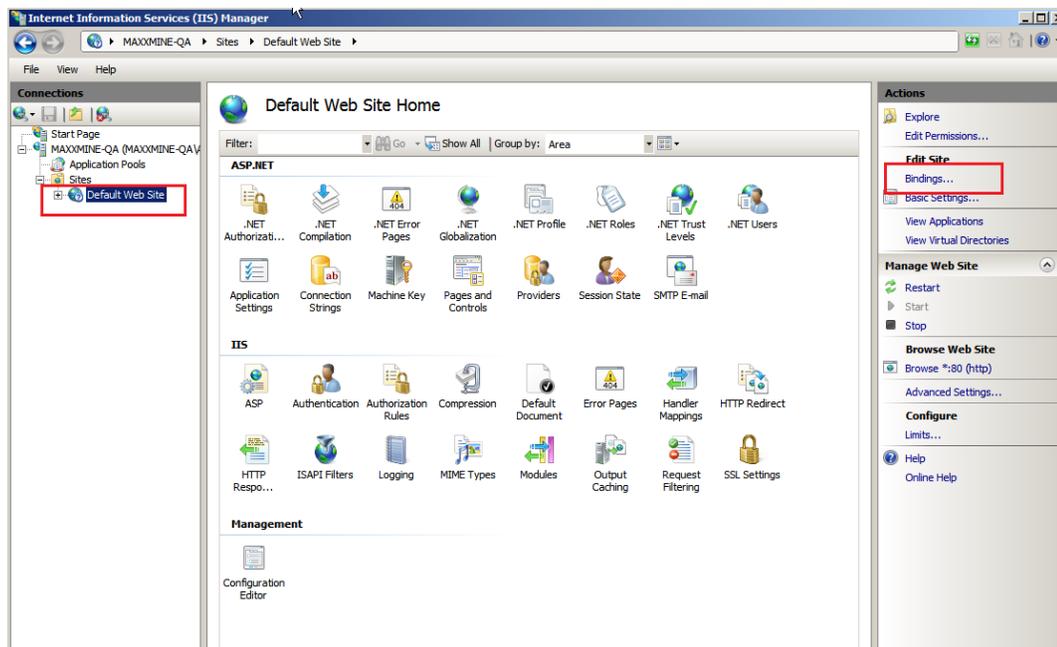
[Print, e-mail, or save the installation report](#)

< Previous Next > **Close** Cancel

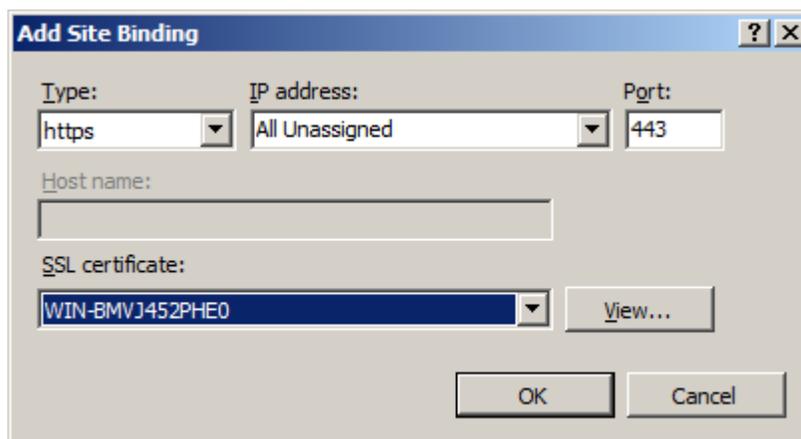
Prerequisite: Configure IIS and HTTPS Binding

Configure Internet Information Services by assigning a certificate that your company procured for certificate binding to a secure socket server. Self-signed certificates are not supported.

1. Create HTTPS binding:
 - a. In IIS, drill-down to and select Default Web Site in the left pane.
 - b. In the right pane, select Bindings.



2. In the Site Bindings dialog box, click the Add button.
3. In the Add Site Binding dialog box, for Type, select https from the drop-down list.
4. Leave the IP address as All Unassigned and Port as 443.
5. For SSL certificate, enter your company's SSL certificate assigned to this site (typically, this is set to the fully qualified domain name of your computer where the web server resides).



6. Click OK. (Note that https will appear in the Site Bindings dialog box now.)
7. Close the Site Bindings dialog box.
8. Close the IIS Manager application.

Prerequisite: Synchronize the Time on All Servers

Be sure that the time is synchronized on all computers in your network and that UTC time is being used. Refer to your Microsoft Help for more details on setting the computer time.

Prerequisite: Install Microsoft Silverlight 5 and Silverlight 4 SDK

The Proficy Vision Web Server requires the Microsoft® Silverlight™ 5 environment to be installed on your Web Server. Microsoft Silverlight must be downloaded directly from the Microsoft Web site. The Proficy Web Server has been tested with the Silverlight 5 Runtime. For Windows Server 2008, be aware that you must have the proper security privileges to download and install Silverlight from the Internet.

The main download page for the Microsoft Silverlight 5 is as follows:

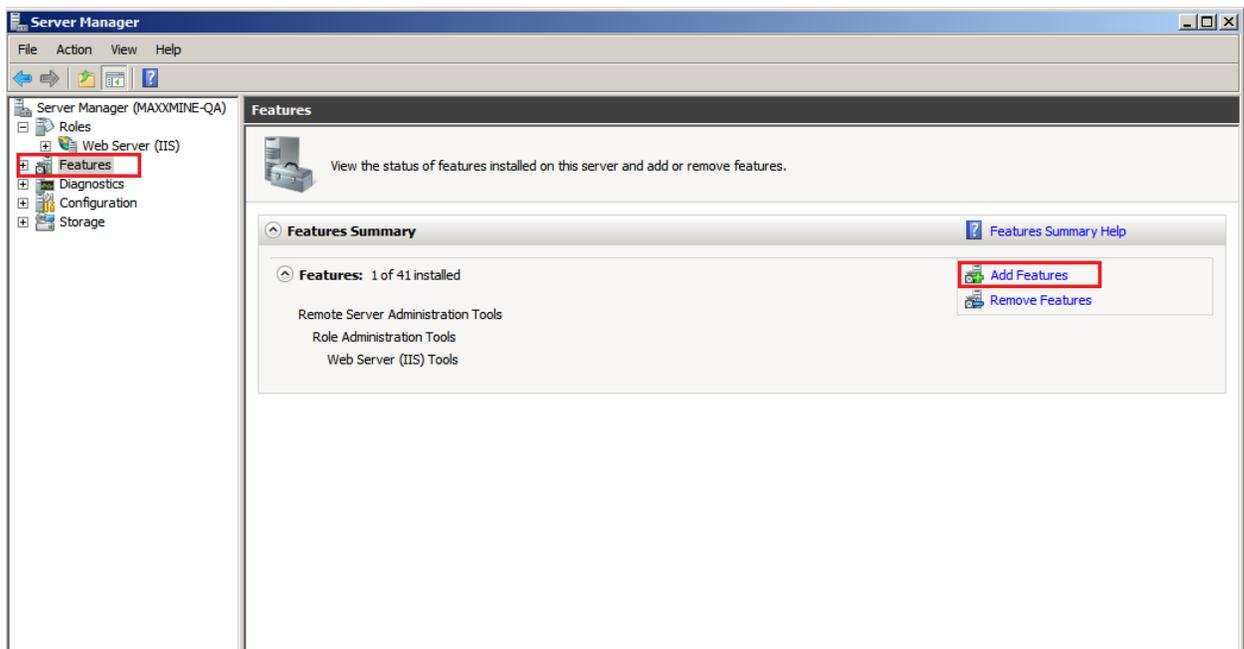
<http://www.microsoft.com/Silverlight/>

Prerequisite: Configure the .NET Framework Features on Windows Server

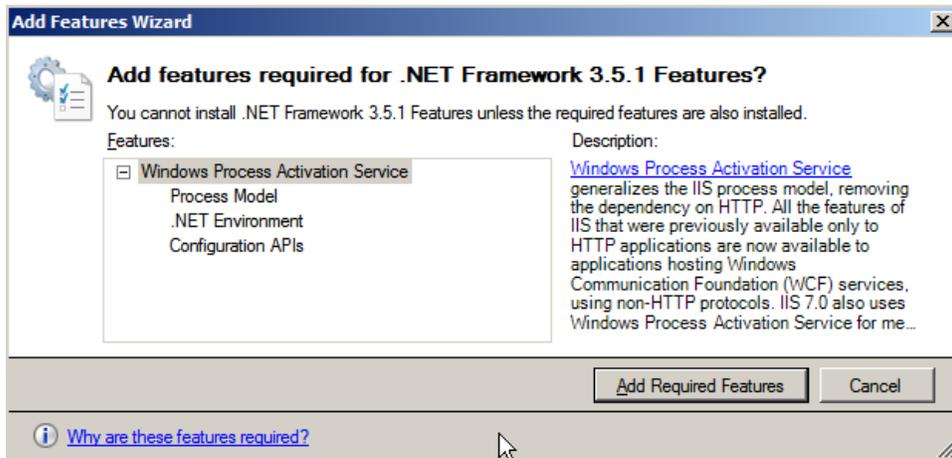
It is important to perform these steps before you install Proficy Vision. If you do not already have .NET Framework installed, the Proficy Vision install will prompt you to install it, and lead you through the following steps.

To configure the .NET Framework Features in Windows Server:

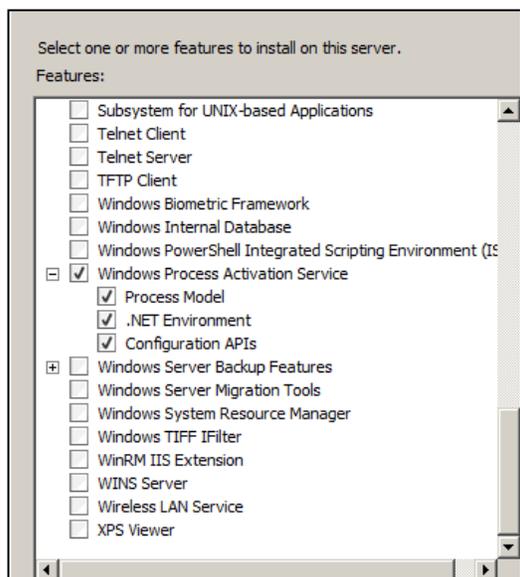
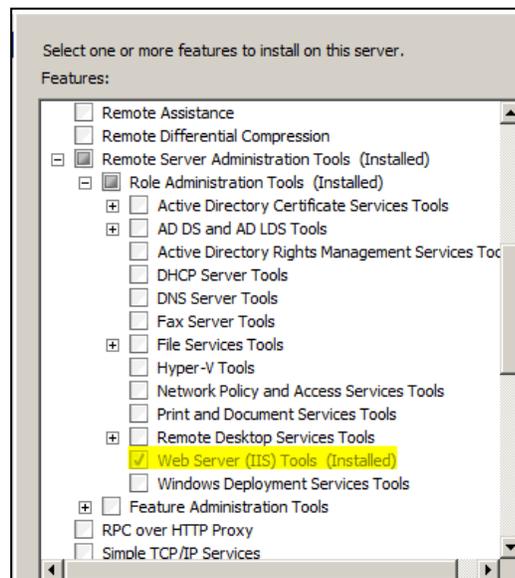
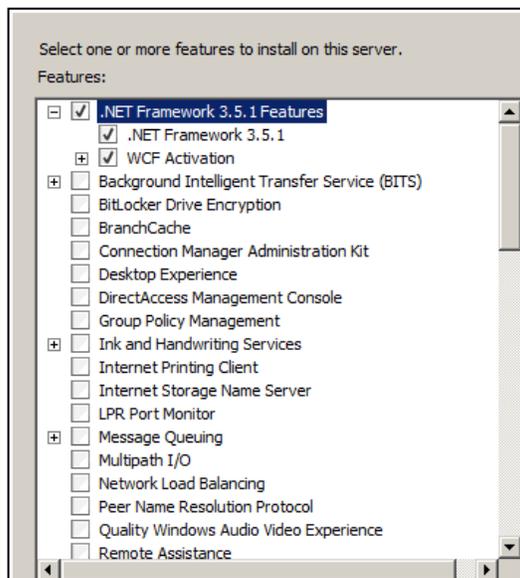
1. From the Server Manager dialog box in Windows Server, select Features and click on Add Features as follows:



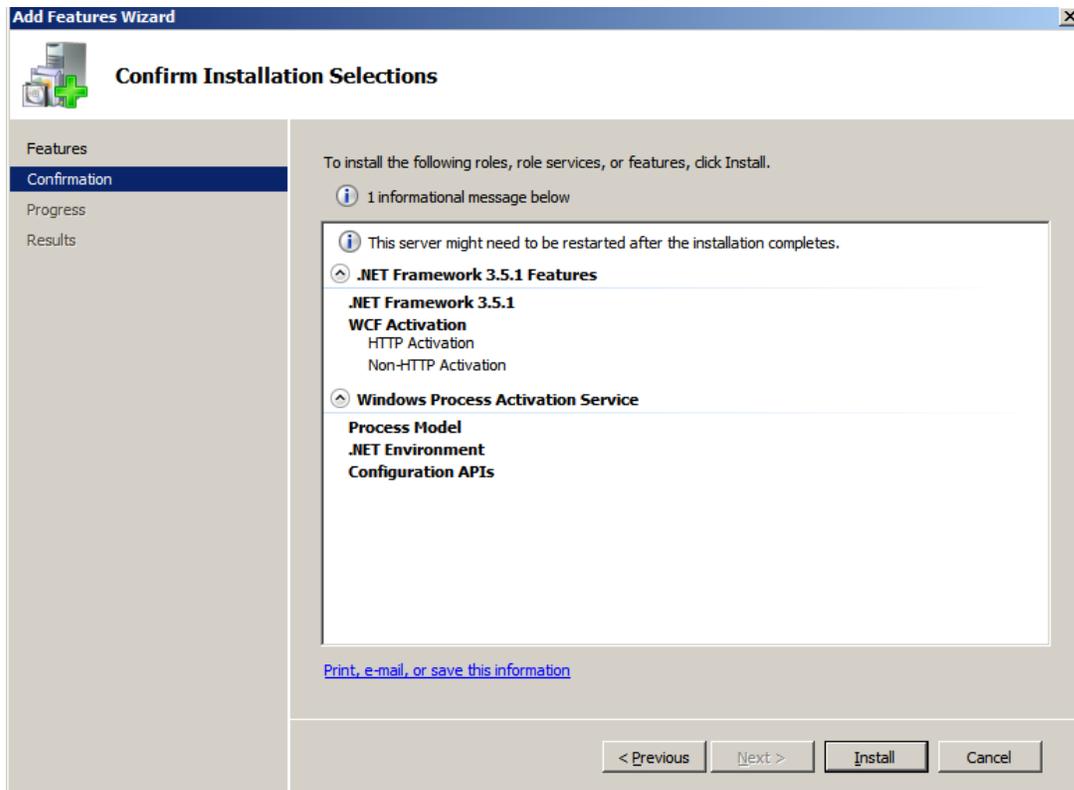
2. Select .NET Framework 3.5.1 Features and the following dialog box appears.



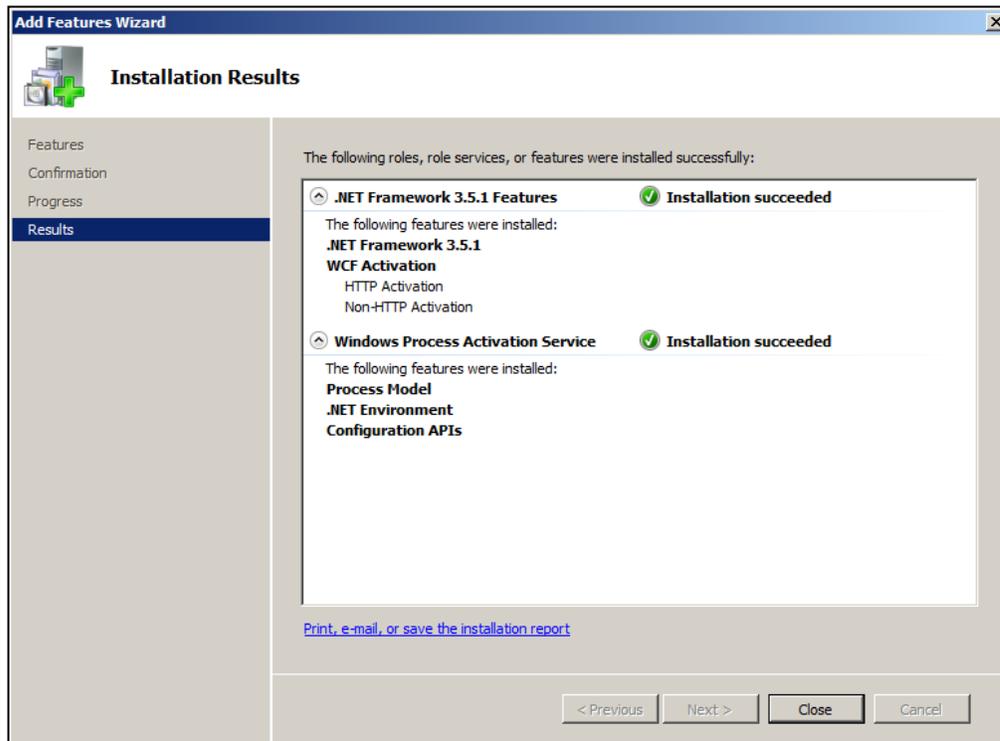
3. Click the Add Required Features button.
4. Select the .NET Framework Features option. The following figures show this setting along with all the others that are selected by default and okay to leave as is.



5. Click Next. The following dialog appears:



6. Click Install. The following Installation Results dialog appears when the installation is finished:



7. Click Close to exit the Installation Results dialog and the Server Manager.

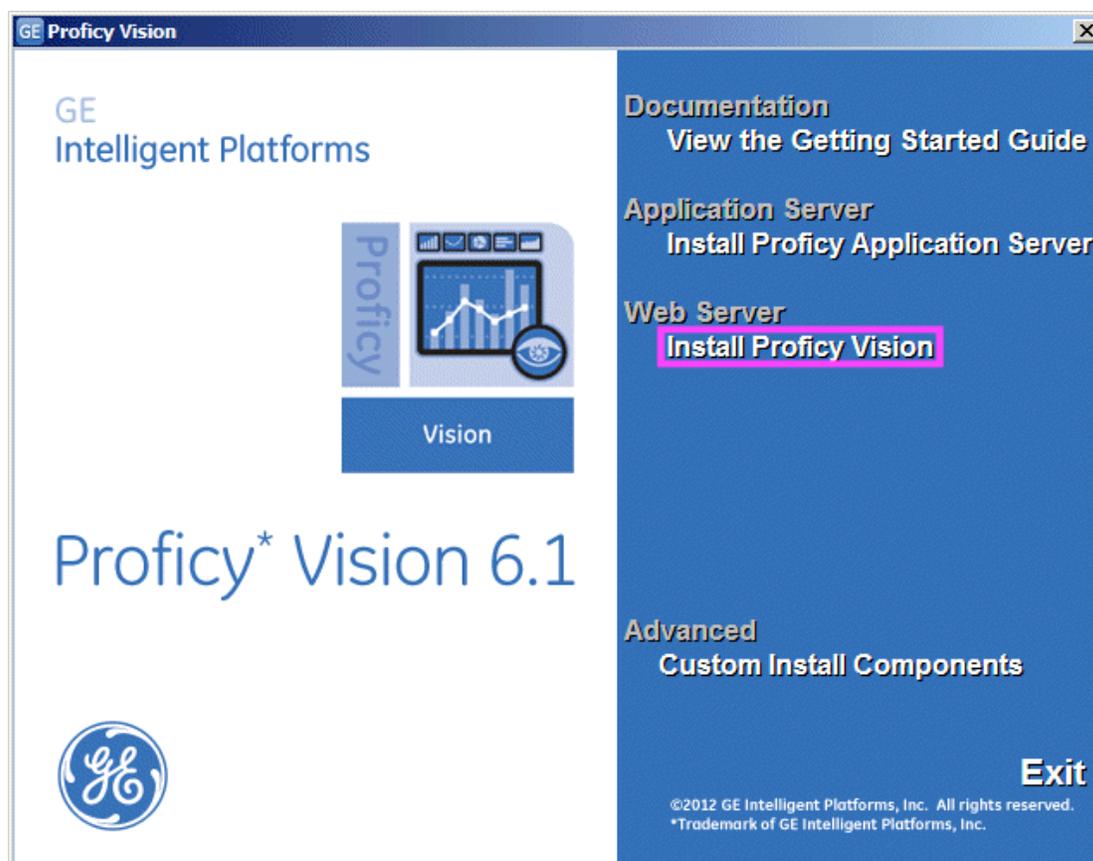
Install the Proficy Web Server

Prerequisites:

- Microsoft® .NET Framework 4.0
- Microsoft® Silverlight™ 5
- Microsoft® Internet Information Services (IIS) 7.5
- Signed SSL Security Certificate for your Web Server (self-signed certificates are NOT supported)
- Server names with associated Administrator user accounts and passwords for: the Workflow Server and Time Series or Historian Server
- Fully qualified domain name where the Web Server where the SSL Certificate is registered
- Security configured to disable web site browsing in the web.config file on the Web Server

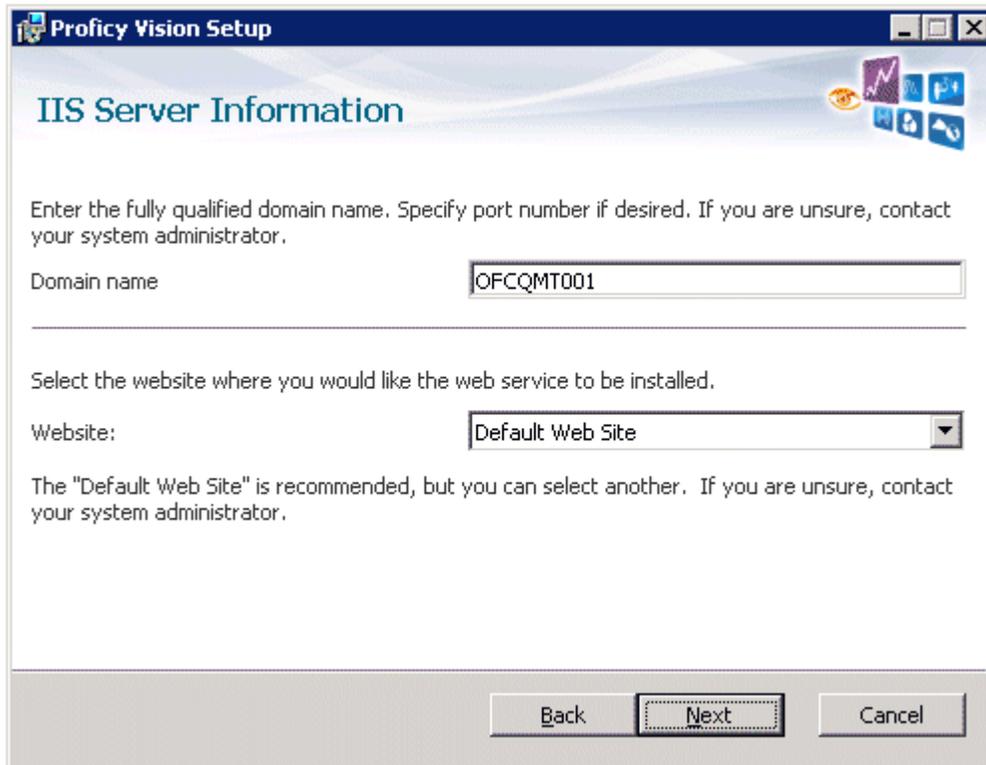
To install Proficy Web Services:

1. Confirm that your SQL Server, SQL Agent, and Proficy Workflow are running before starting the install.
2. Log in to the Windows Server as Administrator. Run the InstallLauncher.exe to open the install screen.
3. In the Web Server area, click **Install Proficy Vision**.

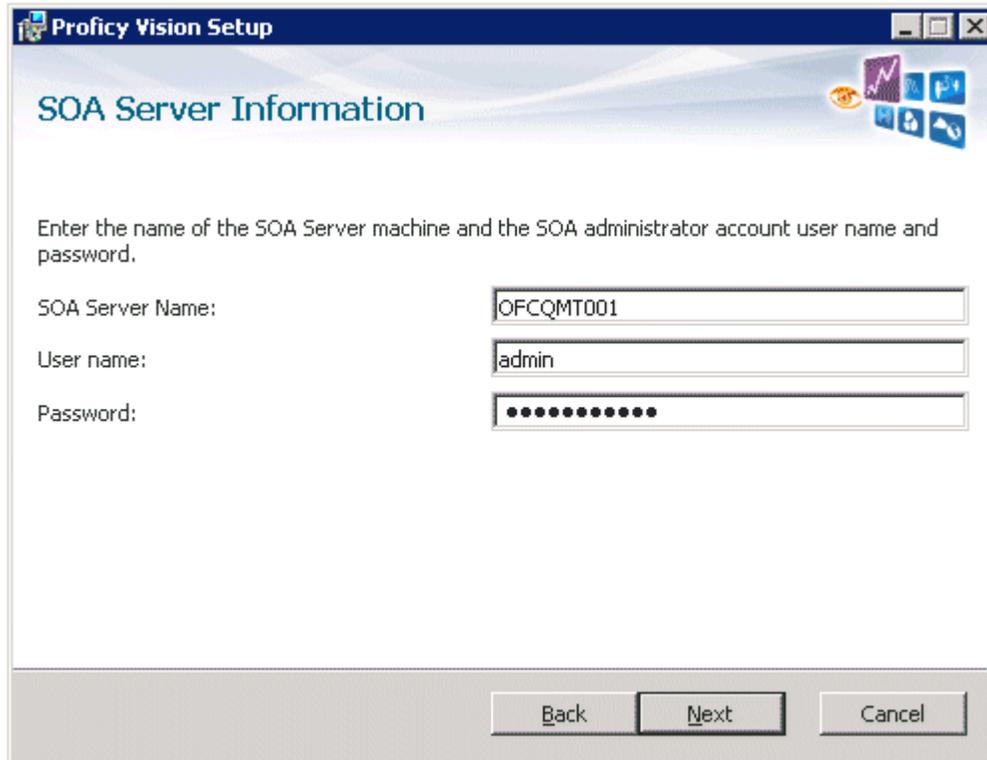


The Welcome screen appears.

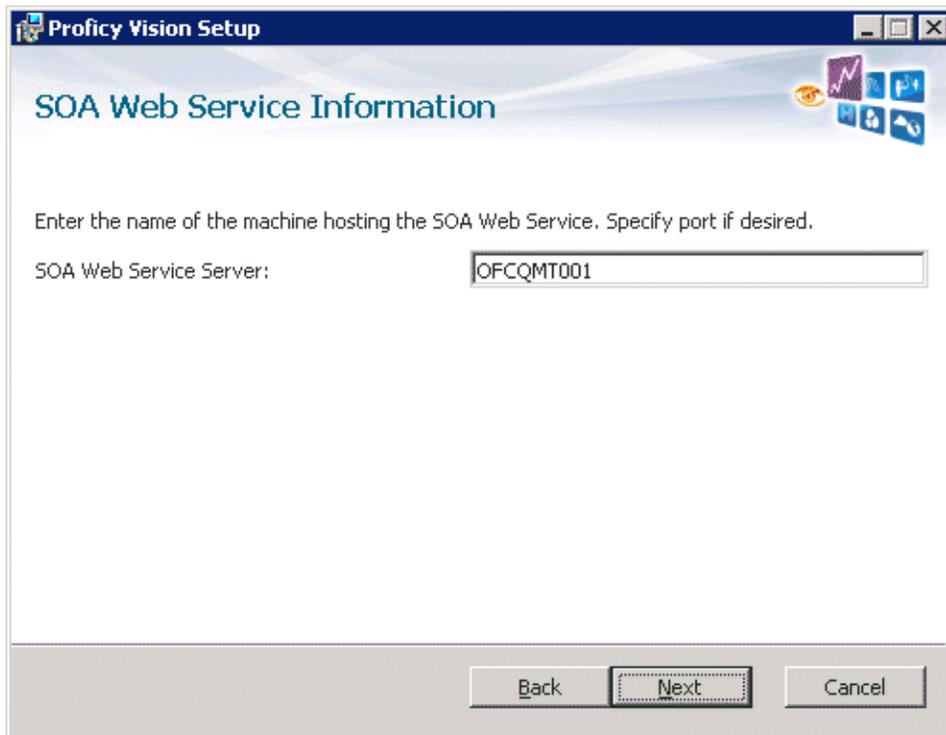
4. Click Next to continue. The License screen appears.
5. To proceed, accept the terms of the license and click Next. The IIS Server Information screen appears.



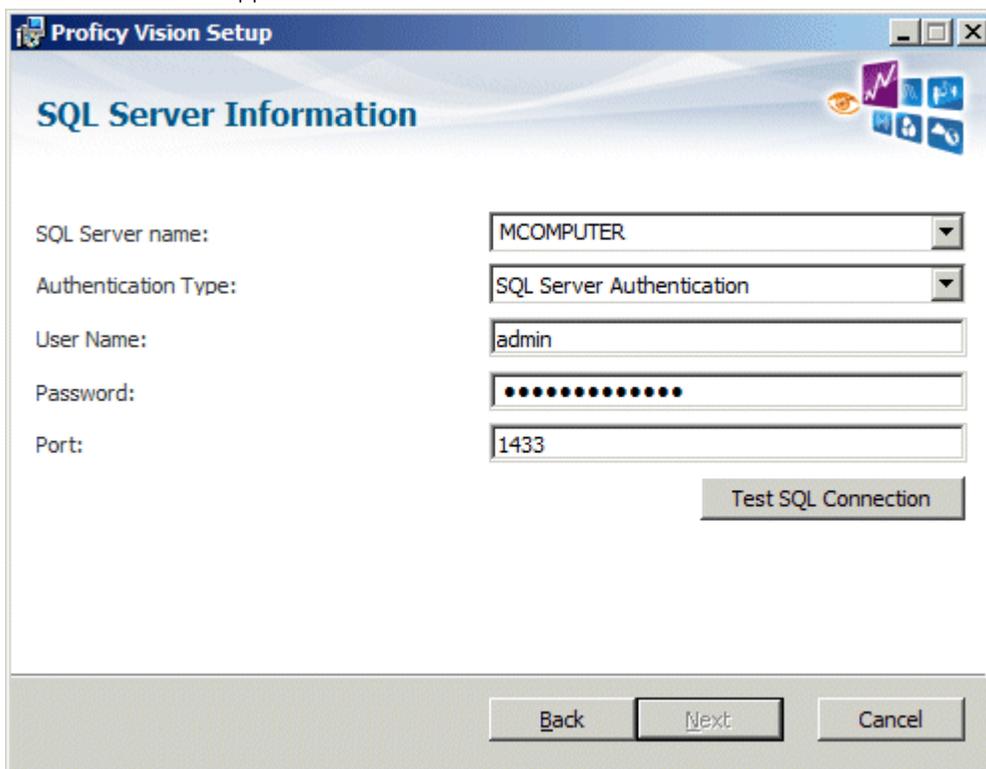
6. In the Domain Name field, enter your computer with the domain name. Be sure to enter the fully qualified domain name, as it appears on your security certificate (for example: MYSERVER.NAME.COM). Click Next to continue. The SOA Server Information screen appears.



7. In the Server Name field, enter the Proficy Workflow (Proficy Application Server) computer name. In the User Name and Password fields, enter the Administrator user name and password you created when you installed Proficy Application Server (Workflow). The SOA Web Service Information screen appears.



8. Enter your computer name of the Proficy Application Server. If a non-default https port was assigned to the SOA Web Service Server Site, add a port number after the server name (for example: MYSERVER:8080). The SQL Server Information screen appears.



9. For the SQL Server Name, select or enter the name of your SQL Server computer name. Select an Authentication type, and enter an Administrator user name and password. If using Windows Authentication, you must be logged in as a Windows Domain account that has been given System Administrator privileges on the SQL Server.
10. Select the Test SQL Connection to verify a good connection and enable the next button.
11. **Click Next to continue. The Ready to Install screen appears.**
12. Click Install to continue.
13. Wait for the install to complete. At the end of the install the following screen appears.



14. At this point you can click View Log, Launch Application, or Finish.

Post-Installation Steps

Configure Cross Domain Servers

Proficy Vision's Single Login feature allows you to access Proficy content in a dashboard without logging in. It uses SAML standard security tokens to securely transfer your login information to other Proficy products hosted in the dashboard, for example Plant Applications Web Reports. For cases where your content is hosted on a different domain, than the Proficy Vision web server, you may need to edit the configuration defaults to achieve Single Login Functionality across these domains.

You need to create (or edit an existing) `crossdomain.xml` file on the Vision Web Server in the `inetpub/wwwroot` directory. For example, the following file `crossdomain.xml` should be edited to allow the communication of the Proficy Workflow Server:

```
<?xml version="1.0" ?>
<cross-domain-policy>
  <allow-access-from domain="soaservername" />
</cross-domain-policy>
```

```
</cross-domain-policy>
```

For a Plant Applications Server, you would need to add another line to the crossdomain.xml file:

```
<?xml version="1.0" ?>  
<cross-domain-policy>  
  <allow-access-from domain="soaservername" />  
  <allow-access-from domain="plantappsservername" />  
</cross-domain-policy>
```

Validating that Your Content Can Be Hosted in a Dashboard iFrame

Before you begin building displays for use in Proficy Vision, confirm if your content is compatible with iFrames. Proficy Vision uses iFrames to display components in the dashboard view.

If your web site is incompatible with frames, a message will appear within Vision when you try to view your dashboard that your browser cannot be hosted in the frame, or you will notice a frame breaker where content takes over entire Proficy Vision application.

To see if your content can be hosted within frames, use this sample HTML text to test your URL before you start your configuration for Proficy Vision. Be sure to replace www.ge.com with the URL you want to test.

```
<html>  
<div>*****IF YOU SEE THIS TEXT, YOUR CONTENT WORKS IN PROFICY  
VISION!*****</div>  
<body>  
<!--REPLACE WWW.GE.COM WITH YOUR URL-->  
<iframe src="http://www.ge.com" height=500 width=500>  
</body>  
</html>
```

Provision Your System

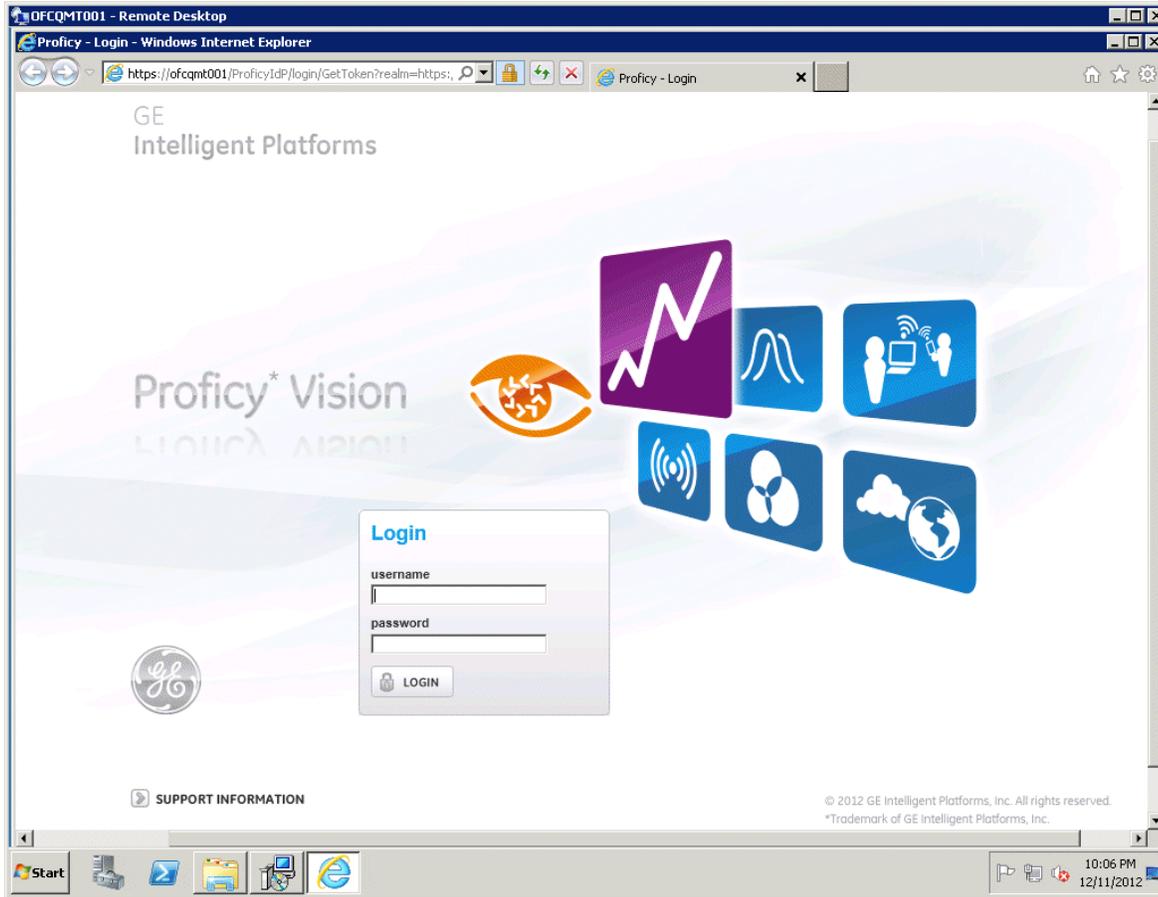
Before you can provision your system you should confirm that you can view the Proficy Vision Web application from Microsoft Internet Explorer.

To log in for the first time you want to use the following format, where Myserver.domain.com is the web server where you installed the Proficy Web Server:

<https://Myserver.domain.com/GE.web>

If using a different https port than the standard one, add the port to URL. For example:

<https://Myserver.domain.com:PORT/GE.Web>



The first time you login, you use the Administrator user name and password combination from the Proficy Workflow application you used when you installed the Application Server install (or if using an existing Workflow install).

Create Your Equipment Model with Asset Hierarchy

Within Proficy Workflow (on the Proficy Application Server), create your equipment hierarchy, if one does not already exist. An example of an existing equipment model would be one you already created within Plant Applications 6.1.

Refer to the Proficy Workflow electronic books for detailed instructions on how to add assets and equipment.

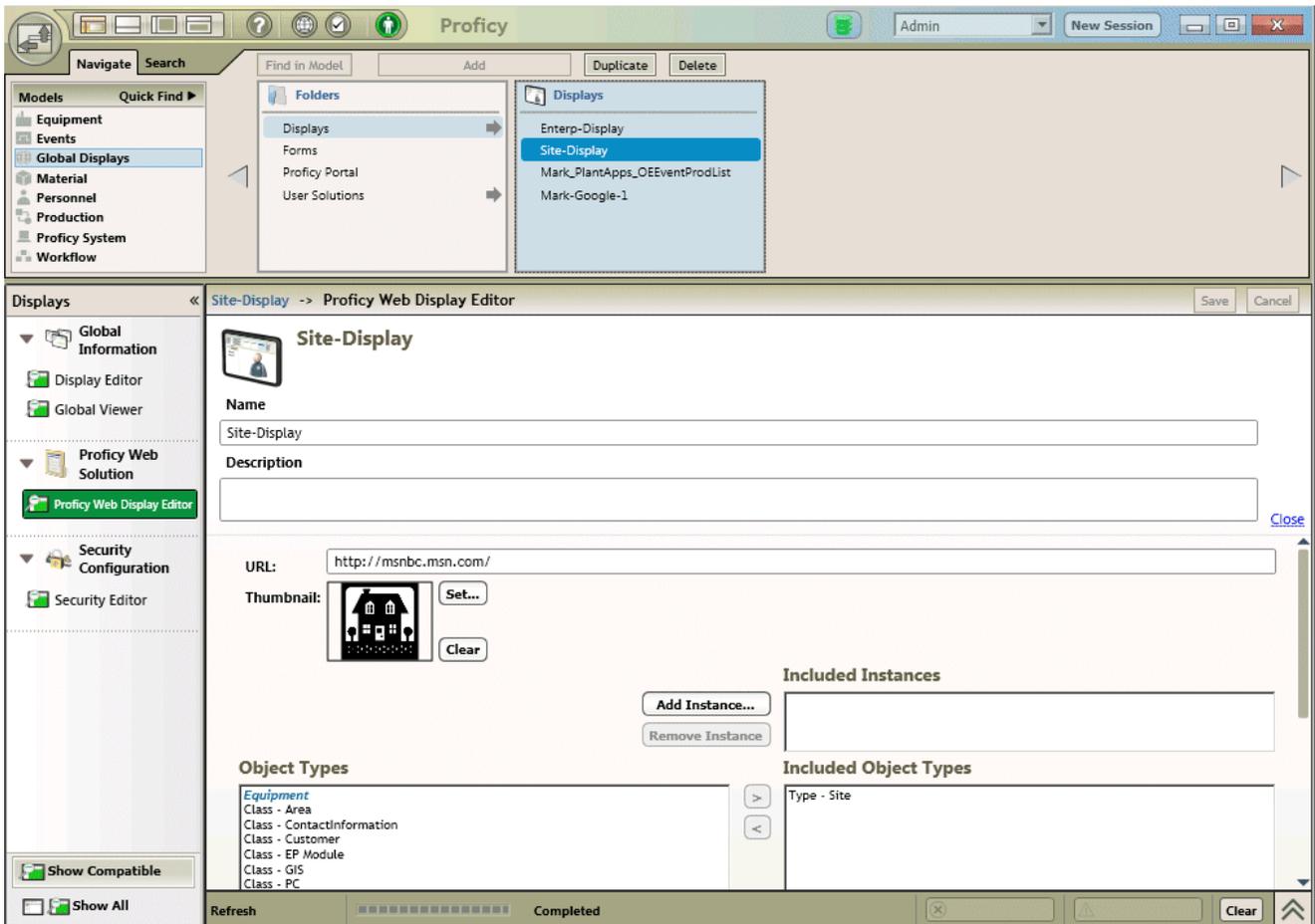
Add Displays in Proficy Workflow

To add a display in Proficy Workflow, use the Workflow Client. After you add a display, associate them with parts of your equipment hierarchy. You will need the associated URLs that you want to use for your displays (refer to the "Validating that Your Content Can Be Hosted in a Dashboard iFrame" section for more information on URLs).

To configure your displays within Proficy Workflow:

1. On the Application Server, open the Proficy Workflow Client.
2. From the Navigate panel, select Global Displays.
3. From the Navigator, select Displays.
4. Click the Add Display Button.

5. Enter a display name and optional description and click Save.
6. Upon clicking Save, from your Available Display navigator in the bottom left portion of your screen, select the Proficy Web Display Editor.
7. Select Convert to Web Display button.
8. Enter the URL for the display.
9. Optionally give the display a thumbnail by clicking the Set button.
10. Browse for an appropriate image file (jpg or png).
11. Select the types of associations to your equipment hierarchy you wish for this display. There are two types of associations you can select, Instance and Type. **Included Instances** allows you to select the specific instance(s) in the hierarchy in which this display is relevant for (for example: "Acme Water Authority" or "Pump1"). Making an inclusion of an instance here will mean when someone navigates to this equipment instance in the Vision dashboard, it will show as a relevant display and be available to use in a dashboard. **Included Object Types** allows you to select the specific classifications OR S95 Equipment Types in which this display is relevant for (for example: Mixer Class OR Enterprises). Making an inclusion of a type here will mean when someone navigates to any instance which is a member of this type or classification, it will show as a relevant display and be available to use in a dashboard.
12. Click Save after making your edits for this display.
13. Once you have saved, the display will be visible in the Proficy Vision client as shown in the following figure.



This is what displays look like from Proficy Vision:

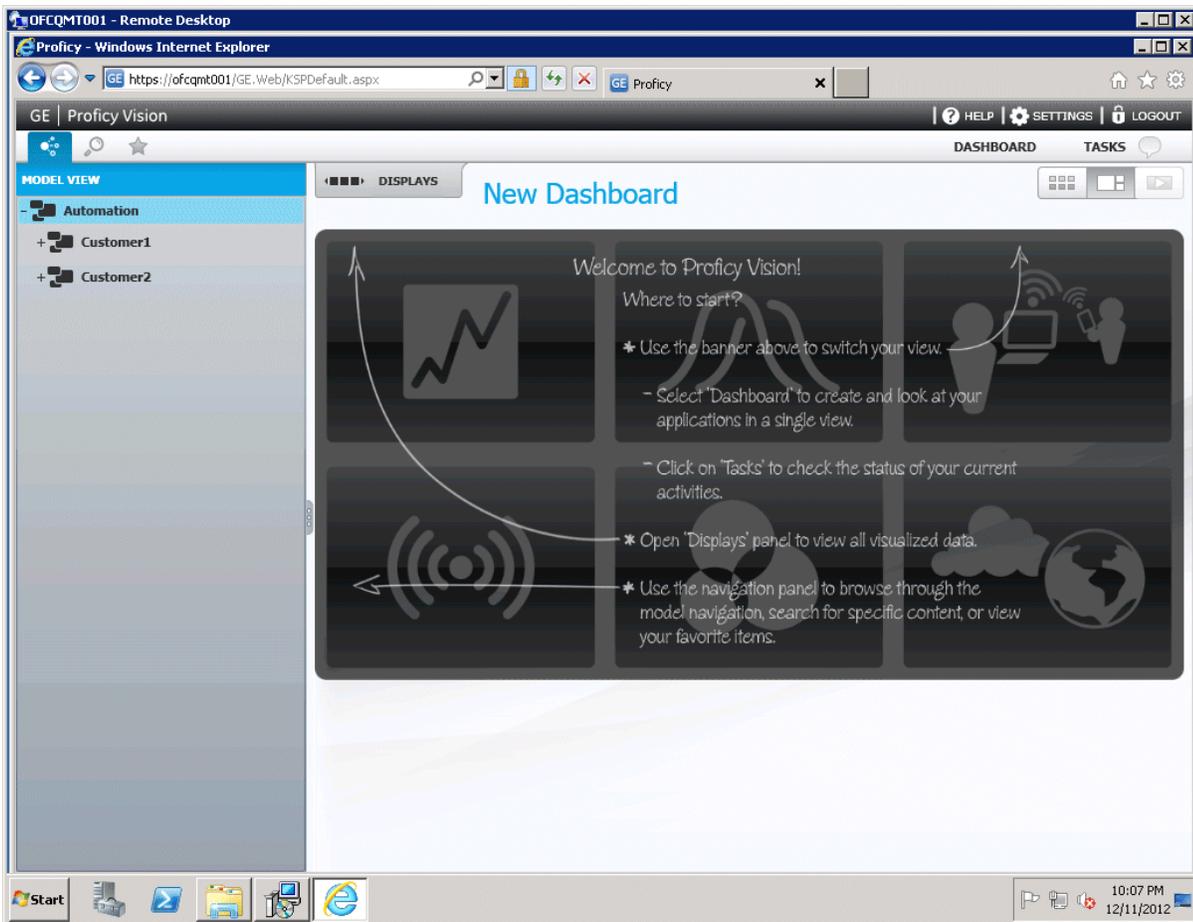


Confirm that You Can Create Dashboards and View Your Data

Log in to the web server where you installed the Proficy Web Server:

<https://Myserver.domain.com/GE.web>

And, confirm that you can view assets in the Model View. Create a few dashboards to verify it works as expected.



Define Users and Access Levels in Proficiency Vision

NOTE: Workflow users who have never logged in to Proficiency Vision will be added to the system when logging in for the first time. Be aware however, that you may need to edit the User Type and Assigned To fields for the user.

To add or edit your application users, you click the Settings menu to display the Manage Users screen.

Click the **New User** button to add a new user:

The following user types are available:

Role	Equipment Visibility	System Capability	User Administration
System Administrator	All Assets.	Has full capability to Create, Read, Update, and Delete across all system functionality and can manage all user accounts, view and use the Workflow Task List, manage shared favorites, and so on. Has visibility across all assets for accessing relevant displays	Yes

Role	Equipment Visibility	System Capability	User Administration
		and using within Dashboards.	
Node Administrator	Partial (for all assets across a single Node and it's sub-nodes) or Full (for all assets across All Nodes).	<p>Has full capability to Create, Read, Update, and Delete for system functionality, but the span of authority is only for the Node(s) this role has rights to.</p> <p>For example, a Node Administrator can create users accounts – but only for the Nodes he or she is the admin for). (If the Node Administrator has <All nodes> span, then he or she is effectively another “System Admin”.)</p>	Yes
Node Operator	Partial (for all assets across a single Node and it's sub-nodes) or Full (for all assets across All Nodes).	<p>Has access to all assets in his or her span of authorization (the operator's node) to use and build dashboards from.</p> <p>Can create personal favorites but not shared favorites.</p>	No
Node Observer	Partial (for all assets across a single Node and it's sub-nodes) or Full (for all assets across All Nodes).	<p>Has access to all assets in his or her span of authorization (the observer's node) to use and build dashboards from.</p> <p>Can create personal favorites but not shared favorites.</p>	No.

If you are creating a System Administrator, a Login Name, User Type, and Email is required.

If you are creating a Node Administrator, Node Operator, or Node Observer, a Login Name, User Type, Email, and Equipment Type is required.

For more information on creating users, refer to the Proficy Vision online help.