

# CADWorx

## Installation Guide



**Version 2016 (16.0)**

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**DICAS-PE-200010E**



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Intergraph Corporation  
305 Intergraph Way  
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# Preface for CADWorx Installation Guide

This document provides command reference information and procedural instructions for CADWorx.

For the latest support information for this product, comments or suggestions about this documentation, and documentation updates for supported software versions, please visit *Intergraph Smart Support* (<https://smartsupport.intergraph.com>).

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## Conventions

Before reviewing this guide, it is important to understand the terms and conventions used in the documentation.

Use the information below to identify the convention and the type of information.

Convention	Type of Information
[ <i>Product Folder</i> ]	The CADWorx installation folder on your computer, for example, C:\CADWorx. Substitute your installation folder anywhere this notation is used.
[ <i>AutoCAD Folder</i> ]	The AutoCAD installation folder on your computer, for example, C:\AutoCAD 2000i. Substitute your installation folder anywhere this notation is used.
[ <i>CD-DRIVE</i> ]	The CD-ROM drive on your computer. Substitute your CD-ROM drive letter anywhere this notation is used.
Command Line	Items that need to be typed in or appear at the AutoCAD command line.
<i>User Responses</i>	User responses to command prompts.
<b>Commands</b>	CADWorx and AutoCAD commands.
Options	Command line options.
CAPITALS	AutoCAD system variables or keywords.
Key + Key	Key combinations for which you must press and hold down one key and then press another, for example, CTRL+P or ALT+F4.

## Technical Support

For the latest information on CADWorx, visit *Intergraph CADWorx and Analysis Solutions* (<http://www.coade.com/>).

For current on-line support information, including knowledge base, technical tips, and downloads, visit *Intergraph Smart Support* (<https://smartsupport.intergraph.com/>).

You can contact Intergraph CAS Technical Support or Sales:

- *ICAS Dealer Support* (<http://www.coade.com/Support/Dealers.shtml>) or *ICAS General Support* (<http://support.intergraph.com/Default.asp>)
- **Technical Support E-mail:** ppmcrm@Intergraph.com
- **Phone:** 1-800-766-7701 (CADWorx Direct), 280-890-4566 (General)
- **Fax:** 281-890-3301
- **Sales E-mail:** sales.icas@intergraph.com

In order to provide technical support, Intergraph CAS needs to know what version of CADWorx, AutoCAD, and Windows you are using. To determine this information, follow the steps outlined for the product you are using:

CADWorx Product	Steps
Plant, P&ID, fieldPipe, or Steel	<ul style="list-style-type: none"> <li>▪ Run the <b>CADWORXABOUT</b> command. A dialog box opens and displays the version information.</li> <li>▪ Close the dialog box to send the required information to the AutoCAD command line.</li> <li>▪ Copy the information from the command line, and email it to Intergraph CAS.</li> </ul>
Equipment or PV Fabricator	<ul style="list-style-type: none"> <li>▪ Run the <b>EQUIPABOUT</b> command. A dialog box opens and displays the version information.</li> <li>▪ Close the dialog box to send the required information to the AutoCAD command line.</li> <li>▪ Copy the information from the command line, and email it to Intergraph CAS.</li> </ul>
Internet Publisher	Version information is displayed at the AutoCAD command line when you start the software.
Datasheets	Click <b>Help &gt; About</b> to display a dialog box that contains the required information.

In addition to the information above, the table below lists the additional files that are usually required to assist Intergraph CAS in resolving your technical issues:

CADWorx Product	Additional Files Required by Intergraph CAS Support
CADWorx Plant (Piping, Steel, HVAC)	<p>Email the AutoCAD model drawing (DWG) files.</p> <ul style="list-style-type: none"> <li>▪ If the model consists of several line numbers, indicate in the email which line numbers you are having issues with.</li> <li>▪ If the model consists of many drawing files with dependent reference drawings (XREFs), use the AutoCAD <b>ETRANSMIT</b> command to create a ZIP file of all the drawings used in the master model.</li> </ul>
CADWorx Plant (component data file creation)	Email information about the part's dimension from the manufacturer's catalog.
CADWorx Isogen	<p>Email the AutoCAD model drawing (DWG) files, any isometrics generated by Isogen, and the Isogen style files.</p> <ul style="list-style-type: none"> <li>▪ If the model consists of several line numbers, indicate in the email which line numbers you are having issues with.</li> <li>▪ The Isogen.FLS file located in the Isogen style folder lists all the files used (*.OPL, *.MLS, *.FLS, *.DDF, *.POS, *.ALT, *.DWG*.DXF, *.FDF, *.ATT). Email all files listed in the Isogen.FLS file, including the Isogen.FLS file.</li> </ul>
CADWorx Equipment	Email the AutoCAD model drawing (DWG) files.
CADWorx Equipment to PV Elite interface	Email the AutoCAD model drawing (DWG) file and PV Elite input file (*.PVI).
PV Fabricator	Email the AutoCAD model drawing (DWG) files and PV Elite input file (*.PVI).

<p>CADWorx P&amp;ID or CADWorx IP</p>	<p>Email the complete P&amp;ID project, which includes Project.CFG, Database.TBL, Map.TBL, and all the DWG, and MDB files. Usually, all of these files are located in one folder.</p> <ul style="list-style-type: none"> <li>▪ If the project has many P&amp;ID drawing files, indicate which P&amp;ID drawings and components you are having issues with.</li> <li>▪ If you are experiencing database errors, include the file <i>[Product Folder]\P&amp;ID\System\SqL_Error_Log.TXT</i>.</li> <li>▪ If you are emailing MDB files, use a compression utility such as WinZIP. Most email servers have restrictions on transmitting MDB attachments.</li> </ul>
<p>CADWorx Steel</p>	<p>Email the AutoCAD model drawing (DWG) files.</p> <ul style="list-style-type: none"> <li>▪ If the model consists of many components, indicate in the model which components or location you are having issues with.</li> </ul>
<p>CADWorx Datasheets</p>	<p>Email the datasheets MDB file and any datasheet file generated (XLS).</p> <ul style="list-style-type: none"> <li>▪ If emailing MDB / XLS files, use a compression utility such as WinZIP. Most email servers have restrictions on transmitting MDB / XLS attachments.</li> </ul>
<p>CADWorx Plant to CAESAR II interface</p>	<p>Email the AutoCAD model drawing (DWG) file and CAESAR II input file (*.A, *.C2).</p> <ul style="list-style-type: none"> <li>▪ Run the CADWorx <b>GETALLSPECDATAFILES</b> command to copy all specifications and data files used in the model into sub-folders under where the model drawing file is located.</li> <li>▪ Zip the contents of these folders and email the ZIP file to Intergraph CAS Support.</li> <li>▪ If the model consists of several line numbers, indicate in the email which line numbers you are having issues with.</li> </ul>

CADWorx Design Review	<p>Email the AutoCAD model drawing (DWG) files.</p> <ul style="list-style-type: none"> <li>▪ If the model consists of several line numbers, indicate in the email which line numbers you are having issues with.</li> <li>▪ If the model consists of many drawing files with dependent reference drawings (XREFs), use the AutoCAD <b>ETRANSMIT</b> command to create a ZIP file of all drawings used in the master model.</li> </ul>
CADWorx Design Viewer	<p>Email the AutoCAD model drawing (DWG) files and the *.CDR file.</p>

**NOTES**

- If you are attaching large or multiple files to your eCustomer log, use a compression utility such as WinZIP.
- If you cannot attach your drawing files, then try to duplicate the issue in a new drawing with as few components as possible. If the issue can be duplicated in a new drawing, attach the duplicate drawing to Intergraph CAS.
- For hardware lock issues, first verify that you have an Intergraph CAS hardware lock. CADWorx Plant Professional, CADWorx P&ID, CADWorx P&ID Professional, CADWorx Plant Ductile Iron, and CADWorx Plant Sanitary use the Intergraph CAS hardware lock for licensing. For more information, see *Licensing* in the *CADWorx Installation Users Guide*.

## What's New in CADWorx Installation

*Version 2016 (16.0)*

This document has been updated for this release.

### Items added and updated with CADWorx Installation 2016

- CADWorx installs and uninstalls through the WiX installer. This simplified installer makes installing CADWorx faster and more efficient. For more information, see *CADWorx Installation* (on page 14).
- You can install the Specification Editor with the WiX installer. For more information, see *CADWorx Installation* (on page 14).

## SECTION 1

# Welcome to CADWorx

Intergraph® CADWorx® Plant Design Suite is an integrated, complete AutoCAD®-based software series for plant design that provides intelligent drawing and database connectivity, advanced levels of automation, and easy-to-use drafting tools. The comprehensive series of design tools includes structural steel, equipment, process and instrument diagrams, and design review, plus automatic isometrics and bills of material.

CADWorx is quick and easy to set up and use, so you can start designing right away. The bi-directional links between CADWorx and analysis programs for pipes and vessels enable designers and engineers to easily share information while keeping the drawings, models, and related information continuously synchronized as changes are made. And, the fast processing and highly refined user-interface features in CADWorx empower users to work efficiently together, even on large models.

## SECTION 2

# CADWorx Software Recommendations

### Software Compatibility

CADWorx is compatible with the following AutoCAD versions:

- AutoCAD 2016 (64 bit)
- AutoCAD 2015 (64 bit)
- AutoCAD 2014 (64 bit)
- AutoCAD 2013 (64 bit)

CADWorx is compatible with the following Autodesk vertical products (2016-2013):

- AutoCAD Mechanical
- AutoCAD Electrical
- AutoCAD Architecture
- AutoCAD MEP
- AutoCAD Civil 3D
- AutoCAD Map 3D

CADWorx is **NOT** compatible with:

- AutoCAD LT
- Autodesk Inventor
- Autodesk Revit

The operating system compatibility is based on AutoCAD or the Autodesk vertical product used:

- AutoCAD 2016: Windows 7, Windows 8
- AutoCAD 2015: Windows 7, Windows 8
- AutoCAD 2014: Windows 7, Windows 8
- AutoCAD 2013: Windows 7, Windows 8

**NOTE** For the most up to date AutoCAD system requirements, check the Autodesk website. CADWorx fieldPipe does not support Windows 8.

## Requirements for fieldPipe

To run all aspects of fieldPipe, the following requirements are needed for each palette:

### Installation Requirements

The following items are needed to run the **CADWorx fieldPipe - CloudWorx Interface** palette in fieldPipe and must be installed in this order:

- AutoCAD 2013 to AutoCAD 2016.
- CADWorx fieldPipe supports Leica Cyclone 7.3 and above. To run the MS50 data, you must install Leica Cyclone 8.0 or later. The CADWorx installation DVD includes Leica Cyclone 9.0.2.
- CADWorx Plant 2016.

The installation for fieldPipe is contained within the CADWorx installation.

**NOTE** CADWorx fieldPipe does not support Windows 8.

**WARNING** You must uninstall Leica CloudWorx prior to installing CADWorx fieldPipe, or CADWorx fieldPipe may cease to function.

To prevent this issue do the following:

1. Uninstall Leica CloudWorx.
2. Reboot the computer.
3. Reinstall CADWorx fieldPipe.

### Hardware Requirements (Optional)

The following item is needed to run the **CADWorx fieldPipe - TPS Interface** palette in fieldPipe:

- Leica TPS scanner with GEoCOM enabled

**WARNING** If the battery needs to be changed due to the power running low or running out, do not change the battery while running a command. If you change the battery and the total station is still connected to the software, make sure to turn the total station on before running a command.

## SECTION 3

# Installation

Install CADWorx on the system hard drive using the setup.exe installation file located on the CADWorx product CD. The installation process is relatively simple. As you go through the installation process, the software prompts you for required information.

**NOTE** If **Autorun** is enabled, the setup procedure starts when you insert the CD into the CD-ROM drive. If the installation does not start automatically, double-click **setup.exe**

## Quick Start

1. Run the *SETUP.EXE*.
2. To start CADWorx, click the icon created during installation.
3. Follow the dialogs will carry the user through the rest of the installation.
4. First time run of the program will require certain startup parameters to be set. Most of the time, the defaults will be sufficient.

## CADWorx Installation

The installation is similar to most other Windows installations. The following information is required:

- What drive is used?
- Which version of AutoCAD does CADWorx use?
- Where will CADWorx be installed?

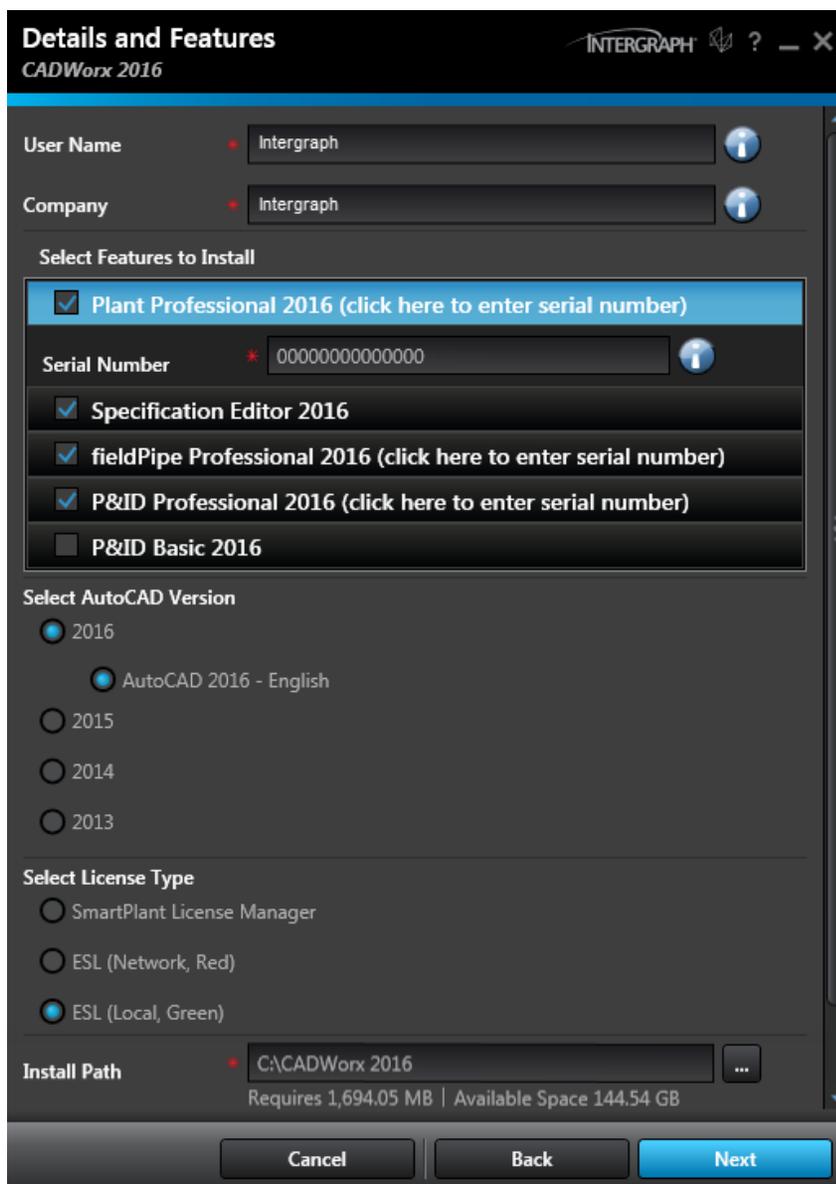
**NOTE** When installing a new version of CADWorx the AutoCAD profile settings are reset. When updating to a new version of CADWorx the AutoCAD profile settings are not reset.

You must have administrative level rights to run the installer launch. You must also have elevated privileges to run the silent install instructions.

To install CADWorx

1. Insert the CD-ROM in the drive.
2. Click **Start**.
3. Select **Run**, or type the information below in the **Search programs and files** box.
4. In the command line type **<CD-DRIVE>:\CADWorxSetup.exe**, Alternatively, click **Browse** to locate CADWorxSetup.exe on the CD ROM drive.
5. Click **Start Setup**.
6. Type the user name in the **User Name** box.
7. Type the company name in the **Company Name** box.
8. Select the software required for installation.

9. Click each product name, except for **Specification Editor**, to expand each software selection, and then type the serial number provided by Intergraph.  
**NOTE** **P&ID Basic** does not require a serial number. You can only install either **P&ID Professional** or **P&ID Basic**.
10. Select the version of AutoCAD with which to run CADWorx.
11. Specify the license type. Select **ESL (Network, Red)**, **ESL (Local, Green)**, or **SmartPlant License Manager (SPLM)** in accordance with your company purchase. If you select **SPLM**, the software prompts you with a dialog box asking if an SPLM-based license machine is set up. Click **Yes**. The default license is **SPLM**.
12. Type the location drive and folder in **Install Path**, or click **Browse** to navigate to a folder. To use the default, click **Next**.



13. Select the **I agree to the license agreement and conditions** check box, and then click **Install**.

14. If the **User Account Control** dialog box displays, click **Yes**.

*During the installation process, a progress bar displays along with the status of the installation process.*

**NOTE** To view the readme, select the **View Readme** check box. The readme file displays after you click **Finish**.

15. Click **Finish**.

**NOTE** If you need to modify the license type after installation, you can re-run the installation process. Then, select **Repair/Modify**, choose **Add or Remove Features**, select the **License Type**, and then click **Update**. During the installation process, a progress bar displays along with the status of the installation process.

## Install in Silent Mode

To perform a silent installation of the software, type the required command instructions on the command line.

**IMPORTANT** You must have administrative level rights to run the installer in silent mode. You must select **Run as Administrator** from the right-click menu.

Example:

```
[Root Directory]\CADWorxSetup.exe /install /silent /log
"C:\SetupLog.log" USERNAME="IntergraphUser" COMPANYNAME="Intergraph"
TARGETDIR="C:\CADWorx 2016" SLAACCEPT="YES"
LICENSE_TYPE_CHOSEN="ESLGreen" ACAD_VERTICAL_VERSION="ACAD|2016"
ADDLOCAL="CORE_FEATURE,PLANT_FEATURE,PIDPRO_FEATURE"
PLANT_SERIALNUM="00000000000000" PIDPRO_SERIALNUM="00000000000000"
```

Ensure you are in the directory of the CADWorxSetup.exe file.

All values must be typed with quotations.

Command Line Option	Description	Available Options
<b>/install</b>	Runs the installer.	\install
<b>/silent</b>	Specifies that you are running a silent installation. With the silent installation, the installer dialog boxes do not display, and the installation process runs in the background.	\silent
<b>USERNAME</b>	Specifies your user name.	Any user name in your network. Ex: USERNAME="IntergraphUser"
<b>COMPANYNAME</b>	Specifies your company name.	Any company name in your network. Ex: COMPANYNAME="Intergraph"

<b>TARGETDIR</b>	Specifies the location folder for the CADWorx install.	Any available location on your machine. Ex. "C:\CADWorx 2016"
<b>/log</b>	Enables you to view details of the silent install.	\log
<b>SLAACCEPT</b>	Specifies that you accept or do not accept the license agreement. If you type "NO" the installation process does not complete. You must accept the license agreement for the installation to complete.	<ul style="list-style-type: none"> <li>▪ "YES"</li> <li>▪ "NO"</li> </ul>
<b>LICENSE_TYPE_CHOSEN</b>	Specifies the license type in accordance with your company purchase.	<ul style="list-style-type: none"> <li>▪ "SPLM"</li> <li>▪ "ESLRed Local"</li> <li>▪ "ESLRed Remote"</li> <li>▪ "ESLGreen"</li> </ul>
<b>ACAD_VERTICAL_VERSION</b>	Specifies the version type and year of the AutoCAD you are using. For example "ACAD 2016" specifies that you are using AutoCAD 2016. For the latest AutoCAD compatibility, see <i>CADWorx Software Recommendations</i> (on page 12).	<ul style="list-style-type: none"> <li>▪ "Civil3D"</li> <li>▪ "ACAD"</li> <li>▪ "Map"</li> <li>▪ "ADT"</li> <li>▪ "ACADM"</li> <li>▪ "MEP"</li> <li>▪ "ACADE"</li> <li>▪ "2013"</li> <li>▪ "2014"</li> <li>▪ "2015"</li> <li>▪ "2016"</li> </ul>
<b>ADDLOCAL</b>	Specifies the CADWorx products to install. You can only install fieldPipe when you install PLANT_FEATURE. You can either install PIDPRO_FEATURE or PIDBASIC_FEATURE. <b>CAUTION</b> Separate each option only with a comma. Do not place spaces before or after a feature option.	<ul style="list-style-type: none"> <li>▪ "PLANT_FEATURE"</li> <li>▪ "PIDPRO_FEATURE"</li> <li>▪ "FIELDPIPE_FEATURE"</li> <li>▪ "SPECEDITOR_FEATURE"</li> <li>▪ "PIDBASIC_FEATURE"</li> <li>▪ "CORE_FEATURE"</li> </ul>

<b>RUN_REDISTRIBUTE</b>	Runs the redistributable executables (VC2008Redistribute.exe, VC2010Redistribute, and VC2013Redistribute). The default setting is "YES".	<ul style="list-style-type: none"> <li>▪ "YES"</li> <li>▪ "NO"</li> </ul>
<b>PIDPRO_SERIALNUM</b>	Specifies the P&ID Profession serial number provided by Intergraph. You only need to type this option if you are installing PIDPRO_FEATURE.	See Example above.
<b>PLANT_SERIALNUM</b>	Specifies the Plant Professional serial number provided by Intergraph. You only need to type this option if you are installing PLANT_FEATURE.	See Example above.
<b>FIELDPIPE_SERIALNUM</b>	Specifies the fieldPipe serial number provided by Intergraph. You only need to type this option if you are installing FIELDPIPE_FEATURE.	See Example above.

## Repair in Silent Mode

To perform a repair of the installation, you need to run the command prompt as an Administrator, and then type the pertinent command instructions on the command line.

Example:

```
[Root Directory]\CADWorxSetup.exe /repair /silent /log
"C:\SetupLog.log"
```

Ensure you are in the directory of the CADWorxSetup.exe file.

### **/repair**

Runs the repair of the installer.

### **/silent**

Specifies that you are running a silent repair to the installation. With the silent repair to the installation, the installer dialog boxes do not display, and the repair runs in the background.

**NOTE** The repair functionality only repairs products or features that were already installed.

---

## Setup Profile

Enables you to start CADWorx in different versions of AutoCAD. You need to run the Setup\_Profile utility with Administrator privileges.

### Select CADWorx

Enables you to select the version and product you want to run.

- **CADWorx Version**  
Specifies the version of CADWorx you want to run.
- **CADWorx Product Location**  
Specifies the location of the CADWorx installation for the product you select from the **Product List**.
- **Product List**  
Specifies the product you want to run, such as Plant or P&ID.

### Select AutoCAD

Enables you to select the version of AutoCAD you want to run for the CADWorx version.

- **AutoCAD Product Location**  
Specifies the location of the AutoCAD version selected in the **AutoCAD Version List**.
- **AutoCAD Version List**  
Specifies the version of AutoCAD you want to run. Lists only available and supported versions of AutoCAD.

### Launch CADWorx in a different version of AutoCAD

1. In your [**Product Folder**], right-click **CADWorx\_Setup\_Profile.exe**, and then select **Run as administrator**.
2. Click **CADWorx Version**, and then select a version from the list.  
*The installed CADWorx products display in the **Product List**.*
3. Select one or more products from the **Product List**.  
**NOTE** When you select a CADWorx product, the **Current AutoCAD** for that product displays below the **Product List**.
4. Select the AutoCAD version you want to run from the **AutoCAD Version List**.  
**NOTE** The software only lists supported versions of AutoCAD.
5. Click **OK**.  
*The **CADWorx [Product] [Version] Profile Created** message box displays.*
6. Click **Yes**.  
*The CADWorx product launches in the selected version of AutoCAD.*

---

## Software Installation on Network Drive

**NOTE** Administrator rights are required on the computer to install the software. After installation is complete, administrator rights can be revoked. Administrator rights are not required to run CADWorx.

Installing the software on a network drive is no different than installing it on a local hard drive-- specify the target installation drive and folder, and the software is installed accordingly. Some networks protect installation folders from subsequent modification. As such, CADWorx requires setting the access rights to the installation folder to write, read and modify in specific folders.

Because CADWorx uses data files specific to the installation that you may need to modify, these files cannot be located in the protected installation folder. Instead, these data files are located in a sub-folded named **[Product Folder]\Plant\System** and **[Product Folder]\Plant\Support**. Give users all access rights to both folders.

**NOTE** Although the actual name of the software installation folder can be user-specified, the \System and \Support folder names are fixed and created automatically during the installation process. Renaming either of these sub-folders causes the software to generate errors and fail. Renaming the sub-folders causes the software to generate errors and fail.

If users are allowed to modify the specifications and/or component data files, these default folders must also allow full access. Specification files are found in the **[Product Folder]\Spec** folder. Data files are contained in the .prj file but are found in \Steel\_I, and \Steel\_M folders for steel. After the software is installed, you can use the configuration facilities within the Pipe and Steel **Setup** functions to move these folders to a user-specified location. For more information, see Setup in the *CADWorx Plant User's Guide*.

When the software is installed on a network drive, each client computer must contain the command line directives in the icon to properly locate and run the software. The easiest way to create the icon is to run the CADWorx Plant **Setup Profile** on the client computer.

CADWorx can be run on a network or on stand-alone computers. Three different network installation configurations are possible.

1. Software is installed on a network drive. A green local hardware lock is attached to all client computers.
2. Software is installed on a network drive or on individual client computers. A red lock is attached on a network system, and subsequently accessed by multiple users.
3. Software is installed on a network drive. Local hardware locks and a network hardware locks are used.

## CADWorx Design Review Installation

CADWorx Design Review is included with your CADWorx package but must be installed separately. The installation process is detailed in the steps below:

1. Insert the CD ROM in the drive.
2. Click **Start**.
3. Select **Run**, or type the information below in the **Search programs and files** box.
4. In the command line type **<CD-DRIVE>:\cdr**, (or click **Browse** to locate **cdr** on the CD ROM drive).
5. Click **OK** to start the installation.

**NOTE** If the location for setup is already defined but access is denied that location, then CADWorx Design Review asks you to specify a new location. If this happens select the new location, and click **OK**.

6. In **CADWorx Design Review Setup**, click **Next**.
7. Click **I accept the terms in the license agreement**, and click **Next**.
8. Check the destination folder to make sure it is correct, and click **Next**.
9. In **Ready to Install**, click **Install**.
10. In **User Account Control**, click **Yes**.
11. Click **Finish**.

## SECTION 4

# Licensing

CADWorx supports three types of licensing:

- **Local External Software Lock (ESL)**

Hardware-based licensing using a green USB dongle. A local ESL can be moved between computers (such as between desktops and laptops).

- **Network External Software Lock (ESL)**

Hardware-based licensing using a red USB dongle. A network ESL is installed on a computer that is network accessible from the computer, or multiple computers, running CADWorx.

- **License Manager**

Software-based licensing using SmartPlant License Manager (SPLM). For more information, see *SmartPlant License Manager Installation* (on page 26). Refer to the SmartPlant License Manager documentation for complete installation and configuration instructions.

### *External Software Lock (ESL) Keys*

The External Software Lock (ESL) is the security protection method used by Intergraph CAS, Inc. The software cannot execute unless an appropriate ESL (green or red USB key) is connected locally to the computer, or to another computer in the network (red USB key).

The ESL contains the CADWorx licensing data, and other client-specific information. This information includes the client company name and user ID number. Additional data may be stored on the ESL depending on the specific program and the specific client.

There are two different ESL types, *local* and *network*. Both types of ESLs are intended to be attached to the USB ports of the applicable computers. The appropriate ESL(s) are shipped with your product according to the licensing type purchase.

- Local ESLs provide the maximum flexibility in using the software in that they can be moved between computers (for example, between desktops and laptops).
- Network ESLs must be attached to a computer on the network, either a computer or the server. In order for the network to respond to software requests for the ESL, the NetHASP License Manager utility must also be running on the computer where the network ESL is attached.

The HASP drivers for ESL usage can be found in the sub-directory, **ASSIDRV**, beneath the analysis products program directory. However, for CADWorx the HASP drivers for ESL usage can be found in the sub-directory, **Utilities**. The documentation files in this sub-directory contain instructions for a variety of networks and operating systems. Note that there are periodic updates to these ESL drivers and they can be downloaded from the *Intergraph Smart Support* (<https://smartsupport.intergraph.com>) website.

**NOTE** Do not connect two locks to the same computer. The software finds the first lock and returns its code. For example, you have a lock for CAESAR II and CADWorx and plug both into the same computer. You start CAESAR II, but the software might find the CADWorx lock first

and return an error. If the same computer is going to run more than one Intergraph CAS, Inc. product, then contact Intergraph CAS by sending an email to [icaslicenserequests@intergraph.com](mailto:icaslicenserequests@intergraph.com) to request that both products be licensed from the same lock.

## ESL Installation

The following topics explain how to install the different hardware locks supported by CADWorx.

### What do you want to do?

- *Install a local lock* (on page 23)
- *Install a network lock* (on page 23)

## Install a local lock

1. Open Windows Explorer.
2. If you are installing CAESAR II, PV Elite, or TANK, navigate to `c:\Program Files\Intergraph CAS\ProductAssidrv` and double-click **HASPUserSetup.exe**.  
-OR-  
If you are installing CADWorx, navigate to `C:\CADWorx Version\Utilities` and double-click **HaspHLDriverSetup.exe**
3. Follow the on-screen instructions to install the driver.

## Install a network lock

The following list details general information about red network ESLs.

- The red network ESL should be set up by a Network Administrator or someone familiar with Windows-based networks. If you are not familiar with concepts such as network protocols, broadcast, IP addresses, TCP, UDP, and Windows Services, please do not attempt to setup the red network ESL.
- The red network ESL does not have to be attached to the network server. We recommend attaching the red network ESL to a computer that is always up and running, can be re-booted without impact to users, and is not the primary computer for any user on the network.
- If you install an Intergraph CAS product on a network drive for multiple users to access, assign read/write privileges for all users to the `[Product Folder]\System` folder. Intergraph CAS applications write temporary files to the `[Product Folder]\System` folder that pertains to the installation. The `[Product Folder]\System` folder also needs to have read/write privileges for all users.
- If you are using other network protocols, such as NetBIOS or IPX, check the SafeNet web site for instructions. The only protocol tested with Intergraph CAS products is TCP/IP.
- The information provided in the analysis products Help file is a supplement to the *NetHasp User's Guide*, which is delivered as a PDF(`_NETHASP.pdf`) in Assidrv folder. CADWorx delivers this `_NETHASP.pdf` in the Utilities folder. Review the PDF file for any issues not addressed in the Help file.

## Notes on Network ESLs

A network ESL has advantages and disadvantages. One big advantage is that many client computers can access the software from a single server. Additional points for consideration are listed below.

- Depending on the number of licenses allowed by the network ESL, some users may receive error messages when attempting to access the software. For example, if the ESL has been configured to allow four simultaneous users, an error message stating that no licenses are available when the fifth user attempts to access the software. Consequently, the fifth user is not able to access the software until one of the first four users exits the software and releases a license.
- Because of the communication procedures between the client computer and the file server, memory access to the network ESL is much slower than to a local ESL. This access time delay only occurs when the software is first started after installation.
- Because there is no network specific version of the software, the software looks first for a local ESL, and then for a network ESL. This allows both a network ESL and several local ESLs to be used on the same system. This transparent ESL access procedure allows a single version of the software to be used on the network and on remote computers.
- We recommend that only 70 to 80 percent of the required licenses be assigned to a network ESL, with the remaining 20 to 30 percent assigned to local ESLs. This enables the local ESL to be moved between computers. If all of the licenses are on the network ESL, a user must be logged into the network to access the software. As such, a few local ESLs provide much greater operating flexibility.

## NetHASP License Manager / NETHASP.INI Instructions

**IMPORTANT** You must have Administrator privileges to perform the following procedure.

1. Attach the red network hardware lock to the parallel port or USB port of the computer.
2. On the computer where the hardware lock is attached, navigate to the analysis products' Assidrv folder, and then double-click **Lmsetup.exe**. For CADWorx, navigate to the *[Product Folder]\Utilities* to access **LMsetup.exe**. Follow the on-screen instructions to install the NetHASP License Manager as a service.
3. The NetHASP License Manager starts automatically each time you re-boot the computer. This occurs because the NetHASP License Manager is set up as a start up service inside Windows 7/8. To verify that the service is running, click **Start > Control Manager > Administrative Services**, and then double-click **Services**. In the **Services** dialog box, locate **HASP Loader** in the **Name** list. The HASP Loader Service starts even if no one logs into the computer.
4. Determine what protocols the NetHASP License Manager is listening to. The NetHASP License Manager displays a message similar to those list below:

```
Server is listening to IPX : Loaded
```

```
Server is listening to TCP/IP : Loaded
```

```
Server is listening to NetBIOS : Loaded
```

**NOTE** Loaded means that this protocol is active on the computer.

5. Open the **Activity Log** menu. This displays the activity log that confirms which protocols are loaded. Do not be alarmed if the activity log reports that the NHSRV.ini file is not found.

6. Use the box in the top-left corner of the activity log to display only the information specific to each protocol. Open the activity log for the protocol you want to use, and verify that it contains no error messages.
7. For TCP/IP protocol, the activity log should report something similar to the following:  
Server IP address: 111.111.111.111  
Server Host Name: PDC\_NT01
8. To speed up response time to the network key, use the **Remove** menu to unload any protocols that you are not planning to use with the NetHasp License Manager.

### Modify NetHASP.ini for TCP/IP Protocol

**IMPORTANT** If you still cannot access the network ESL you need to configure this NetHASP.ini file. You must know the IP address of the computer where the red network hardware lock is attached. All lines with a semi-colon at the start are considered not used.

1. Modify the NetHASP.ini file, located in the analysis products' Assidrv folder and in CADWorx's Utilities folder under [NH\_COMMON], as follows:

- a. NH\_TCPIP = Enabled  
AND under [NH\_TCPIP]
- b. NH\_SERVER\_ADDR = 111.111.111.111
- c. NH\_USE\_BROADCAST = Disabled

**NOTE** You may also have to modify other entries in the [NH\_TCPIP] section depending on your network setup. The most common entry to modify is **NH\_TCPIP\_METHOD**.

2. Copy the NetHASP.ini file to the AutoCAD folder.  
Example: C:\Program Files\AutoCAD  
Example: C:\Program Files\Autodesk\AutoCAD
3. For CADWorx Design Review, copy the NetHASP.ini file to the [Product Folder]\Intergraph CAS\CADWorx Design Review folder.
4. Start CADWorx Plant.

### Troubleshooting Network Locks

1. Verify that the NetHasp License Manager is running on the computer where the red network ESL is attached.
2. Verify the protocols that NetHasp License Manager is broadcasting. Make sure that these protocols are installed on the client computers.
3. Install and run the Monitor Utility. You can find the NetHASPMonitorSetup.exe located in the analysis products' Assidrv folder. For CADWorx, you can find the NetHASPMonitorSetup.exe in the [Product Folder]\Utilities. If NetHASP Monitor cannot find the red network ESL, then CADWorx cannot find the red network ESL.

---

## SmartPlant License Manager Installation

Before beginning the product installation, refer to the delivered SmartPlant License Manager readme file for the latest product installation updates. The readme file is delivered in the top level product folder of the product media. Be sure you have the latest version of the SmartPlant License Manager software before beginning the installation. If you do not have the latest version of the software, you can download it from *Intergraph Smart Support Online* (<https://smartsupport.intergraph.com>).

**NOTE** SmartPlant License Manager 2010 (v11) can be upgraded to SmartPlant License Manager 2012 (v12). Any existing license key will be invalidated after the upgrade to SmartPlant License Manager 2012 (v12). You will need to generate a new machine ID and request a new key.

### Quick Installation Workflow

Use this workflow for all products that require SmartPlant License Manager licensing. The System Administrator completes or gives guidance about most of these steps. Administrator rights are required to install and set up SmartPlant License Manager. If you need more information, follow the detailed procedures in the other sections. For more information, refer to Functions of SmartPlant License Manager: License Machine and Appendix G: Error Messages and Troubleshooting.

**NOTE** Please refer to the delivered SmartPlant License Manager Readme for all the latest product installation updates.

1. Designate a computer as the SmartPlant License Manager license machine. This computer must be on the network and have a name with no spaces and a static IP address.
2. Install SmartPlant License Manager using the **License Machine** option on the license machine and generate a machine ID.
3. Request a license key from the Intergraph Order Desk or generate a license key using *eLicense* (<https://ppmapps.intergraph.com/elicensev3>).
4. Click **Start > Programs > Intergraph SmartPlant License Manager > SmartPlant License Manager**.
5. Click **Install and Remove** and **Install License Key** commands.
6. Enter the license key you received. If the license key installs correctly, the SmartPlant License Manager software automatically closes.
7. Next, install SmartPlant License Manager using the **License Client** option on each client computer.
8. Click **Start > Programs > Intergraph SmartPlant License Manager > SmartPlant License Manager**.
9. Click **Configure and Test** and **Select License Machine for Client**.
10. Enter the SmartPlant License Manager license machine name. Exit SmartPlant License Manager.
11. Install the software that requires licensing, for example, SmartPlant Review, PDS, or SmartPlant P&ID. Use that product's installation and configuration guides to install each product.

12. Use the **Test Seat Reservation** and **Test Seat Release** commands to ensure that communication is working between the license machine and the client. Successful messages show appropriate communication.
13. Click **Test Seat Reservation**. Select the license machine name and **Batch** or **Interactive** mode. Note the seat number in the **SmartPlant License Manager Information** dialog box to enter.
14. Click **Test Seat Release** and enter the seat designated in the **SmartPlant License Manager Information** dialog box.
15. Start the software product that requires SmartPlant License Manager licensing.
16. For information about firewalls, please refer to Appendix E: Microsoft Windows Firewall and SmartPlant License Manager.

## Frequently Asked Questions (FAQ)

For the most current questions and answers about SmartPlant License Manager, see *Intergraph Smart Support Online* (<https://smartsupport.intergraph.com>). Type your question in the **Search Answers** page, and click **Search**.

### ***Purchasing Licenses FAQ***

**Q: Do I have to request a software upgrade from my local office before requesting a license?**

**A:** No, you can request licenses without upgrading the software. If you are upgrading software, you must request the upgrade before you request licenses. A license request does not include a software upgrade and a software upgrade does not include a license request.

**Q: Is there a form to use for requesting licenses?**

**A:** Yes, there is a PDF form and the same content in an Excel spreadsheet. All products except INtools 6.0 and earlier use the same form, which is found on the following web page: <http://www.intergraph.com/ppm/products.aspx>. Click **SPLM Request Form** on the right side of the page. This form is also located on Intergraph Smart Support Online.

INtools 6.0 and earlier uses its own form, found on the **SmartPlant Instrumentation > Additional Information** web page.

**Q: How do I purchase licenses?**

**A:** Contact your local sales account manager to request an upgrade of the lease profile to include purchase licenses. See <https://ppmapps.intergraph.com/elicense>.

### **See Also**

*General Topics FAQ* (on page 27)

### ***General Topics FAQ***

**Q: What product licenses are managed with SmartPlant License Manager 2012?**

**A:** SmartPlant License Manager supports the following products and license types:

- CAESAR II
- CADWorx
- FrameWorks® Plus
- ISOGEN™ (Batch ISOGEN and Interactive ISOGEN)

- 
- PDS®: PDS 3D, PDS 2D, PDS IDM, PDS 2D PID
  - PV Elite
  - PV Fabricator
  - SDNF Import
  - Smart 3D to PDMS Exporter
  - SmartMarine® 3D
  - SmartMarine 3D Hull
  - SmartMarine 3D Layout
  - SmartMarine 3D Outfitting
  - SmartMarine 3D Tribon
  - SmartPlant Construction
  - SmartPlant® Electrical Basic (formally SmartPlant Electrical)
  - SmartPlant Electrical Detailed Engineering (formally sigraph.CAE)
  - SmartPlant Instrumentation (formerly INtools®)
  - SmartPlant Isometrics (formerly I-Sketch)
  - SmartPlant Materials
  - SmartPlant Materials Material Life Cycle Library
  - SmartPlant Materials Engineering and Procurement Integration Module
  - SmartPlant Materials Material Supply Chain Management Module
  - SmartPlant Materials Site Management Module
  - SmartPlant Materials Integrator Module
  - SmartPlant Materials Supplier Module
  - SmartPlant P&ID
  - SmartPlant P&ID Design Validation Tool
  - SmartPlant P&ID Engineering
  - SmartPlant Plant Engineering Solution Bundle
  - SmartPlant 3D
  - SmartPlant 3D Bundle (Support bundle licensing in SmartPlant 3D, SmartMarine 3D, and SmartPlant 3D Materials Handling Edition)
  - SmartPlant 3D Import commands
  - SmartPlant 3D Materials Handling Edition
  - SmartPlant Layout
  - SmartPlant Reference Data
  - SmartPlant Review
  - SmartPlant Review Publisher
  - SmartPlant Spoolgen® (formerly SPOOLGEN)
  - SmartSketch®
  - SmartSketch Drawing Editor
  - SupportModeler™ for PDS
  - SupportManager™ for PDS
  - TANK

**Q: What new features were added in SmartPlant License Manager 2012?**

**A:** We added a new counted type seat for the license key. We also added new options in the SmartPlant License Manager interface and improved some existing functions.

**Q: Where can I find SmartPlant License Manager and other products to download?**

**A:** SmartPlant License Manager is available from *Intergraph Smart Support Online* (<https://smartsupport.intergraph.com>).

Select **View Downloads > SmartPlant License Manager**.

You do not need a serial number to install SmartPlant License Manager.

**Q: What do I need to do to receive a License Key?**

**A:** You need to generate a Machine ID from your license machine and submit it to Intergraph to request a license key. After installing SPLM 2012 v12, you can find the Generate Machine ID utility on your **Start** menu (**Programs > Intergraph SmartPlant License Manager**).

To prevent a loss in production, you can pre-request a new SPLM 2012 license key before upgrading your SPLM 2010 or previous version to SPLM 2012. You can download the utility (splmGenMachineID.exe) from *Intergraph Smart Support Online* (<https://smartsupport.intergraph.com>). For more information, please check our document "Important Upgrade Info for SPLM 2012.pdf" on the eLicense and Smart Support sites (**View Downloads > SmartPlant License Manager > Technical Notes and Whitepapers > SmartPlant License Manager 2012 (v12)**).

**Q: What is a license machine?**

**A:** The license machine is the computer where the license key is loaded; it can be a standard computer or a server. The license key tells the license machine how many licenses it can issue. Clients of a license machine are computers where SmartPlant License Manager is installed and pointing to the license machine. The computer where you start the software (for example, PDS or SmartPlant P&ID) asks the license machine for a license. If a license is available, the license machine provides it. If all licenses are in use, the client is not granted a license.

**Q: What is the Machine ID?**

**A:** The Machine ID is a collection of hardware and software identifiers that together allow a machine to be uniquely identified. The Machine ID is used to manage licenses. The information is used to generate the license key and is not useful to other software programs.

**Q: Do I need to have SmartPlant License Manager installed in order to generate the Machine ID?**

**A:** No. The utility used to generate the machine identifier is included in the SmartPlant License Manager installation but can be downloaded separately without installing SmartPlant License Manager. The utility is used to generate the Machine ID, which is used to produce keys for the license machine. SmartPlant License Manager and the new licenses may be installed at the same time, minimizing disruption and down time.

**Q: Will providing the Machine ID make my computer less secure?**

**A:** No. The Machine ID allows the license manager to uniquely identify your computer from a collection of hardware and software identifiers without explicitly publishing your computer's TCP/IP address. Because the computer identifier cannot be used like a TCP/IP address, it is actually more secure than publishing your computer's TCP/IP address.

**Q: Is my existing key still running if I regenerate the Machine ID?**

**A:** Yes, but you will not be able to reinstall the old key. You will need to request a new key for the new machine identifier.

**Q: I currently have SPLM v11 installed. Can I install SPLM v12 on top of this version? What will happen with my current license key?**

**A:** Yes, you can over-install SPLM 2012 v12 on your current SPLM 2010 v11 license machine or client, but you will need to generate a new machine ID, and request and install a new key after you upgrade to SPLM 2012 on your license machine.

**Q: Can I pre-request a SPLM v12 license key to prevent production down time? I currently have SPLM v11 installed.**

**A:** Yes, you can pre-request a SPLM v11 license key prior to upgrading to SPLM v12 on your license machine. You need to download the Generate Machine ID executable for SPLM 2012 (splmGenMachineID.exe) first to get a v12 machine ID and then request a SPLM v12 license key.

Detailed instructions can be found in "Important Upgrade Info for SPLM 2012.pdf." Be sure to read this document first before upgrading your license machine.

Both the upgrade instructions and the Generate Machine ID executable for SPLM 2012 (splmGenMachineID.exe) can be downloaded from *Intergraph Smart Support Online* (<https://smartsupport.intergraph.com>) or from *eLicense* (<https://ppmapps.intergraph.com/elicensev3>).

**Q: How can I tell what version of SPLM was used in the Machine ID or license key file?**

**A:** Please check the starting number or letter in your Machine ID or license key. See the table below.

Version	Machine ID starts with	License key starts with
2012 (12.00.82.00)	M	K
2012 (12.00.16.00)	A	4
2012 (12.00.05.00)	5	3
2010 (v11)	6	2
2008 (v10)	7	1

**Q: How can I find the version of SmartPlant License Manager that I have installed?**

**A:** You can find that information in the readme.txt or readme.html located in the product directory (by default, C:\win32app\INGR\SPLM), or you can select **Help > About SmartPlant License Manager** located in the top right corner of the SmartPlant License Manager user interface.

**Q: What happens if I install the new license key prior to expiration of the old license key?**

**A:** The new license will overwrite the existing key independent of the expiration date.

**Q: Do I have to have one license machine for each LAN?**

**A:** No, your configuration is entirely up to you. A persistent network connection is required if you want to connect to a license machine that belongs to a different LAN.

---

**Q: Can I divide the licenses for one LAN into several license machines for the purpose of managing project access, for example, or as coverage in the event that my license machine goes down?**

A: Yes, you can divide the licenses.

**Q: How do I remove SmartPlant License Manager?**

A: Select Start > Control Panel > Programs and Features > Uninstall SPLM from the list

**NOTE** If you need to set up your license machine again after you remove SPLM, you will need to re-install SPLM, generate a new Machine ID, and request a new key.

**Q: Can I set up the SmartPlant License Manager license machine in a Virtual Machine?**

A: Yes, you can set up the SmartPlant License Manager license machine in a virtual machine. However, only limited testing had been done and there is a high potential of failure. We do not recommend setting up a license machine in a virtual environment. We can only provide very limited support for SPLM licensing machine running in any virtual configurations.

If you are experiencing problems with your SPLM machine configured in a virtual environment you will ask you to configure a non virtualized environment. Only after the problem is known to be reproducible in a non virtualized environment will Intergraph react to the problem. To troubleshoot your virtual configuration problems may require a consulting services agreement and might not be covered under your regular maintenance agreement.

**Q: Is the SmartPlant License Manager User's Guide delivered with the software products?**

A: Yes. The *SmartPlant License Manager Installation and User's Guide* is included with all products that require SmartPlant License Manager. The document is also available with the product documentation on *Intergraph Smart Support Online* (<https://smartsupport.intergraph.com>).

This document explains the new features, client and license machine installations and functions, upgrade instructions, license control, error messages, and troubleshooting.

**Q: What is license stacking?**

A: License stacking gives an administrator the ability to input two license keys (this month's and next month's), each with its own quantity of licenses for each of the next two months. This gives system administrators much more freedom and helps ensure there is no down time.

**Q: Do I need to remove the existing key in order to input two license keys for two months?**

A: No. You schedule next month's licenses this month. Get a new key, create the bat file, and submit it to install. Once the installation date/time has passed, the new key will be the one installed.

```
pdlice -a keyvaluehere >>outputfilehere
```

Submit the bat file to either the AT services or a batch queue to run at a specified time.

**Q: How are the number of licenses for a given license machine determined?**

**A:** The number of licenses covered by a license key equals the total number of licenses that you have purchased or are leasing for each LAN ID listed for that license server. Intergraph records determine the correct number of licenses for the key.

To change the number of licenses for a LAN, use the License Key Request Form found on the following web page:

<http://www.intergraph.com/ppm/products.aspx>

Sending this form does not change your number of licenses; it notifies Intergraph that you want to do so. A valid purchase order is required to increase the number of licenses for your LAN.

**Q: How do I check the number of licenses in a license key?**

**A:** On your licensing machine, click **Show Key Status** on the **Display Options** dialog box to show the status of your keys.

**Q: How can I tell who is using a license?**

**A:** Click **Display Status of Reserved License** on the **Display Options** dialog box.

**Q: Does the installation date have to be precise?**

**A:** The key can be installed any time during the 72-hour period that begins with the installation date you provide. For example, if you request 01-July-2008 as the installation date, the key can be installed on 01-July, 02-July, or 03-July.

**Q: Can I make an educated guess at my installation date?**

**A:** Yes. Intergraph will provide a key within 48 hours of receipt of your request (via mail or phone). Please ensure that the date you request is the actual date that you will install the key, making sure that all necessary software is available and loaded before that date. We request that you notify us as early as possible.

**Q: What happens if my licensing machine goes down?**

**A:** You will be unable to check out licenses from this machine until it is back in use. Processes that already have licenses checked out are not affected by the fact that the license computer is unavailable.

It is possible in critical situations to request emergency licenses from Intergraph. They are installed on the client computer rather than a licensing machine. Contact Intergraph Support at 1-800-766-7701 or your local Intergraph office for more information.

**Q: What happens if the license machine is rebooted in the middle of my design session?**

**A:** Nothing. Licensing does not depend on maintaining a continuous communication link to the license machine.

**Q: What happens if my local computer goes down after I've obtained a license?**

**A:** If the scavenger cannot contact the client computer during scavenging, the license is marked for a 16-hour hold before it is released. The scavenger periodically advances this 16-hour timer for each license. It is important to schedule the scavenger to run regularly, at least every hour or two. If the client is in contact sooner, the hold is voided and normal scavenging takes over.

---

**Q: I am running out of licenses earlier than I believe I should be. How can I troubleshoot to understand what is happening?**

**A:** The Admin user can run **Scavenge for Keys** on the **Scavenge Options** dialog box or you can type `pdlice -n` in a Command Prompt window on the license machine.

If you think that client nodes are improperly holding onto licenses, examine the results of the `pdlice -M` command. This shows you which client nodes have licenses checked out. If a client computer has no plant design-related activity and it is still holding licenses, rebooting that client and then scavenging from the licensing machine may free some licenses.

If possible, find out what was processing when the job stopped. This information can help you and/or Intergraph determine the underlying cause of the termination. Save the output of any scavenging process that returns a license. This information will provide the reasons why the license was returned. The output of the scavenger includes the following information: nodename, product tag, batch mode (Yes/No), process ID, and checkout time.

**Q: Can SmartPlant License Manager be installed on a laptop computer?**

**A:** Yes, SmartPlant License Manager can be installed on a laptop and a laptop can be used as a SmartPlant License Manager client or licensing machine.

1. Download the latest SmartPlant License Manager software from Intergraph Smart Support Online and install the software.
2. Prepare the laptop for machine ID generation: Disable all the network connections except the loopback adapter before generating the Machine ID. Do not attempt to generate the Machine ID more than once. (Please refer to the corresponding section in the *SmartPlant License Manager Installation and User's Guide* about how to set up the loopback adapter.). Also, make sure the loopback adapter is the first on your network connection list (**Control Panel > Network Connections > Advanced Settings**).
3. Select **Generate Machine ID** from the Intergraph SmartPlant License Manager program group.
4. Send the Machine ID output to Intergraph to request a license key. If all the previous steps described in this section were performed correctly, SmartPlant License Manager should work if the laptop is connected to the network or not. No extra step is required when the laptop is connected back to the network.

**Q: Is there a limit for the number of seats that can be generated per key?**

**A:** The limit is 32766 seats per license key.

**Q: Can I run the executable of SmartPlant License Manager or SmartPlant products in XP compatible mode?**

**A:** No, you should not set SmartPlant License Manager or SmartPlant products in XP compatible mode. If you do, your SmartPlant products may return the following error:

```
SPLM Failed [Creating/Stating] The parameter is incorrect.  
SOFTWARE\Intergraph\Pdlice_etc
```

**Q: When an application is on a machine that is disconnected from the network without exiting the product, how long is the license held?**

**A:** 16 hours.

**Q: Which products can have daily licenses?**

**A:** Currently PDS and S3D support daily licenses.

**Q: How long would a daily license last?**

**A:** A daily license expires after 12 hours.

**Q: We installed a key for three licenses, but we can operate only two licenses at the same time. Why?**

**A:** There can be several reasons.

Click **Display Status of Reserved License** on the **Display Options** dialog box to determine the number of licenses that your key contains.

Click **Scavenge for Keys** on the **Scavenge Options** dialog box to scavenge for the third license that you are unable to use.

Verify that clients and servers can ping to each other. Look for anomalies such as two nodes on the network with the same name or the reuse of an old name for a new computer, but with some traces of the old computer still existing in files on the network.

**Q: What is the difference between the Select License Machine for Client command and the Select License Machine for Client (Current User) command?**

**A:** The **Select License Machine for Client** command updates the HKEY\_LOCAL\_MACHINE (HKLM) list of license machines so that all users will have the same list of license servers. This command requires administrator privileges.

The **Select License Machine for Client (Current User)** command updates the HKEY\_CURRENT\_USER (HKCU) list of license servers for a specific user. This command runs with non-administrator/standard user privileges. There can be a different list of license servers for each user on a machine.

**NOTE** HKCU takes precedence over HKLM. In other words, if HKCU is set, SmartPlant License Manager does not use the license machines in HKLM.

**Q: How does the PDLICE\_WAIT variable work?**

**A:** For interactive jobs, the jobs do not wait for licenses if none are available. You are notified immediately that the jobs did not start. You can retry.

For batch jobs, the variable PDLICE\_WAIT can be used to change the wait time. By default, a batch job will wait for up to 12 hours for a license to become available. You can change the wait time by setting the environment variable on the client computer from which the license was attempted to be obtained.

## SECTION 5

# Uninstall

Uninstall instructions for CADWorx and CADWorx Design Review are as follows.

## Uninstall CADWorx

1. Click **Start > Control Panel**.
2. Under **Programs**, click **Uninstall a program**.
3. On the **Uninstall or change a program** list, double-click **CADWorx (version)**. Alternatively, click **CADWorx (version)**, and then click **Change**.
4. Click **Modify**.
5. Select **Uninstall**.
6. If you receive the **User Account Control** dialog box, click **Yes**.  
*CADWorx removes.*
7. Click **Finish**.  
*The uninstall closes.*

## Uninstall in Silent Mode

To perform a silent uninstall, you need to type the command instructions on the command line.

Example:

```
[Root Directory]\CADWorxSetup.exe /Uninstall /silent
```

Ensure you are in the directory of the CADWorxSetup.exe file.

### **/Uninstall**

Runs the uninstall.

### **/silent**

Specifies that you are running a silent uninstall. With the silent uninstall, the uninstall dialog boxes do not display, and the uninstall runs in the background.

## Uninstall CADWorx Design Review

You can access **Uninstall a program** through the **Control Panel**.

Remove the Software Through Control Panel > Uninstall a program.

1. Click **Start > Control Panel**.
2. Under **Program**, click **Uninstall a program**.
3. On the **Uninstall or change a program** list, double-click **CADWorx Design Review (version)**.

4. In the **Programs and Features** box, click **Yes**.

**NOTE** A check box can be clicked here to turn this message off.

5. In the **User Account Control**, click **Yes**.
6. In the **Uninstall CADWorx (version)** box, click **Yes**.

*CADWorx Design Review removes and the uninstall closes.*

## SECTION 6

# Database Setup

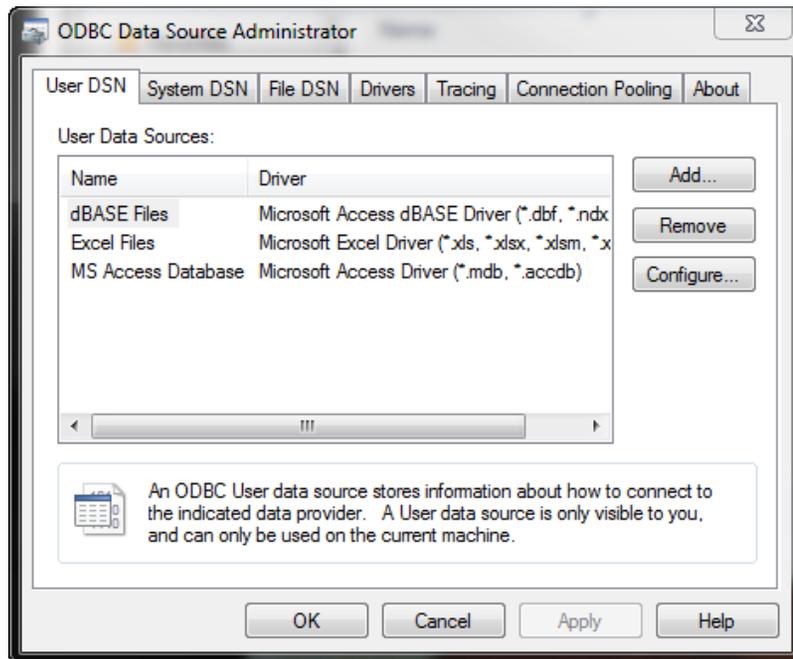
Database setup is optional for CADWorx. This section is provided for those clients who choose to use a Database with CADWorx.

## ODBC Drivers

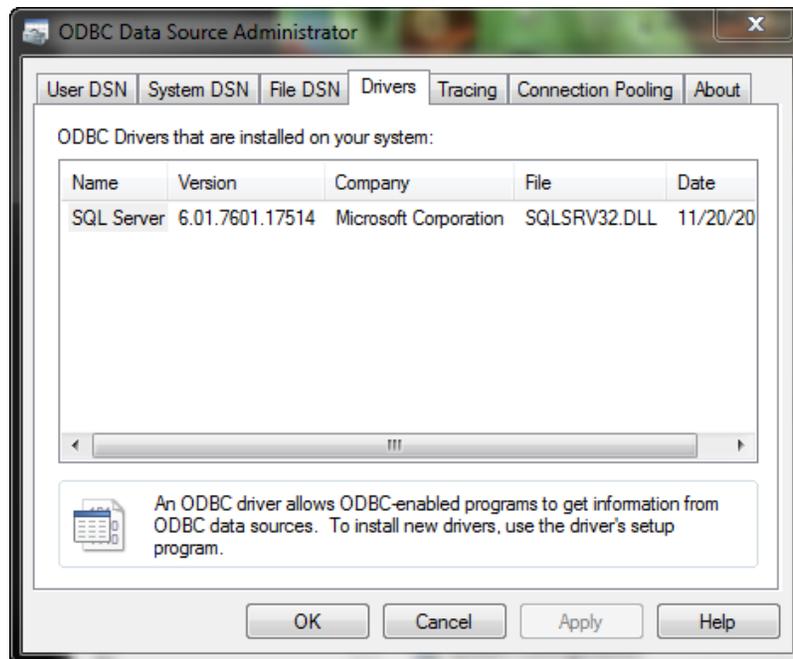
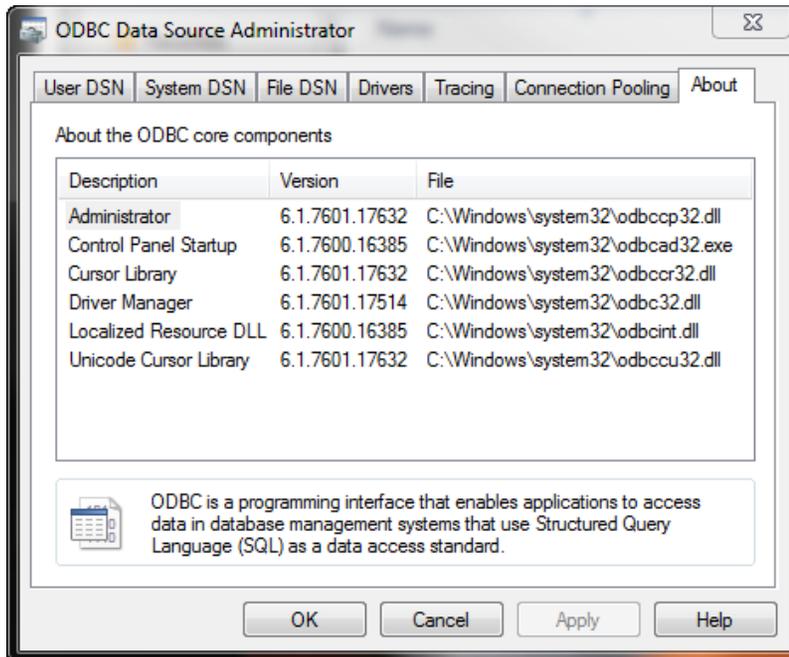
All databases associated with CADWorx use ODBC (Open DataBase Connectivity). Your computer must have the latest version of the ODBC drivers. To determine the ODBC driver versions:

1. Click **Start > Control Panel > Administrative Tools**.
2. Double-click **Data Sources (ODBC)**.  
*The **ODBC Data Source Administrator** dialog box appears.*
3. On the **About** tab, view the value for **Version** for each ODBC core components. The versions installed must be 3.50 or greater.
4. If the files on the computer are older, download and install the latest drivers from the Microsoft website.
5. Install CADWorx.

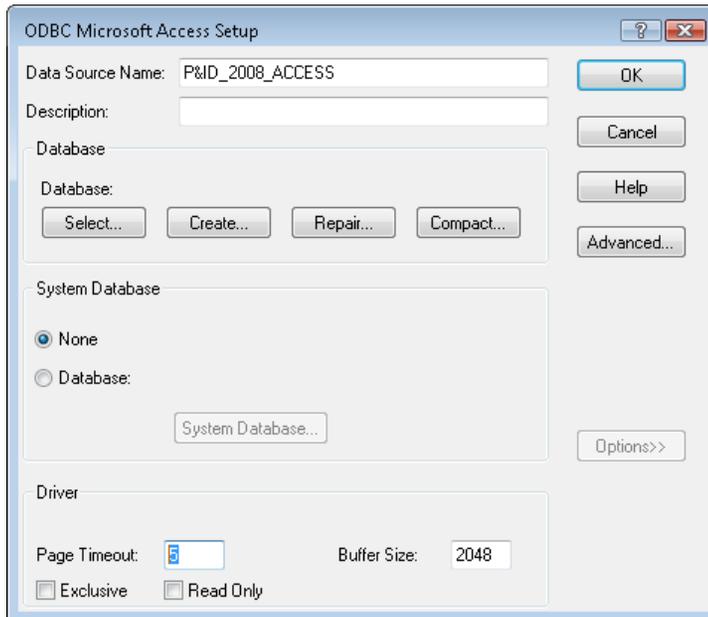
After you install the software, the CADWorx **User Data Sources** list appears:



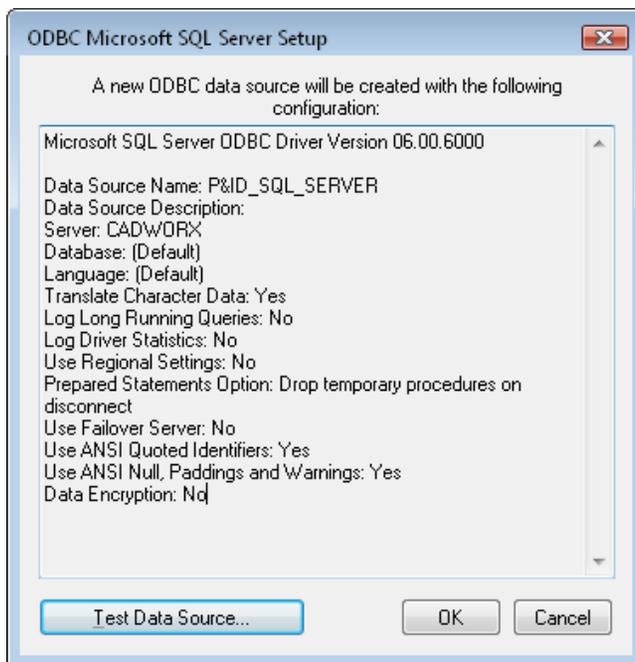
ODBC drivers that are configured correctly ensure that CADWorx performs correctly. The following figures show the ODBC driver information.



The Access data source is shown in the next figure.



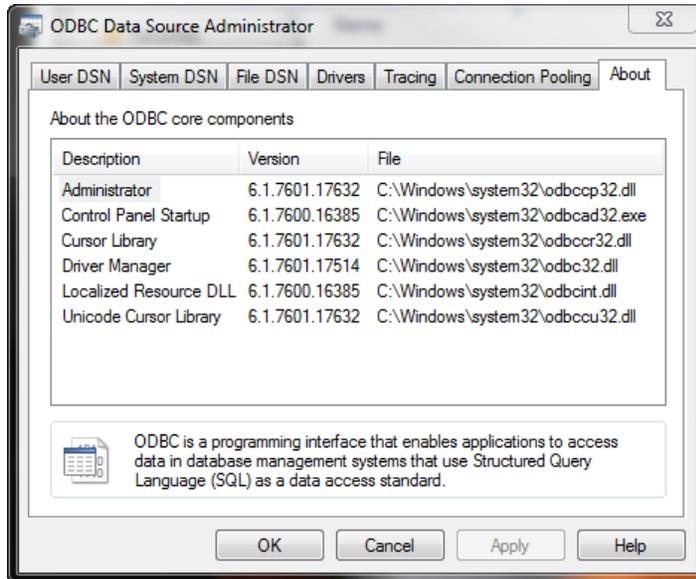
To set up an SQL Server data source name, review the instructions in the *[Product Folder]\System\SQLServer.txt* file. The following figure shows the SQL Server data source.



## Oracle ODBC Driver Setup

The following instructions and screen captures describe how to setup the data source name (DSN) for Oracle databases.

1. Start the ODBC Administrator from the Control Panel to setup the Oracle ODBC Driver. Please make certain you are running the latest version of the ODBC Administrator and ODBC Drivers. To check the version, go to the About Tab. The latest version of ODBC can be found on the Microsoft Web Site.



2. Hit the Add button, and select Oracle ODBC Driver. The name "Oracle in OraDb11g\_home1" may be different on your system.
3. In the next dialog, type in the following:
  - For CADWorx P&ID:  
 Data Source Name: P&ID\_ORACLE  
 Service Name: CWORA11g  
 The Data Source Name must be P&ID\_ORACLE. The service name can be whatever you selected for the database name.
  - For CADWorx Plant:  
 Data Source Name: PLANT\_ORACLE  
 Service Name: CWORA11g  
 The Data Source Name has to be PLANT\_ORACLE. The service name can be whatever you selected for the database name.
  - For CADWorx Steel:  
 Data Source Name: STEEL\_ORACLE  
 Service Name: CWORA11g  
 The Data Source Name has to be STEEL\_ORACLE. The service name can be whatever you selected for the database name.
  - For CADWorx IP:  
 Data Source Name: IP\_ORACLE  
 Service Name: CWORA11g  
 The Data Source Name has to be IP\_ORACLE. The service name can be whatever you selected for the database name.
4. After the DSN is created, test the DSN by pressing the "Test Connection" button.

## Installing and Configuring Microsoft SQL Server 2012

Because system configurations, database software, and individual company standards vary, use this section as a checklist instead of step-by-step instructions for Microsoft SQL Server 2012 SP2 (64-bit) running on a Windows Server 2008 R2 operating system. Please contact Intergraph Customer Support for specific configuration questions.

If you are using a Global Workshare Configuration, you need to install the Enterprise Edition of Microsoft SQL Server for your Host and Satellite locations.

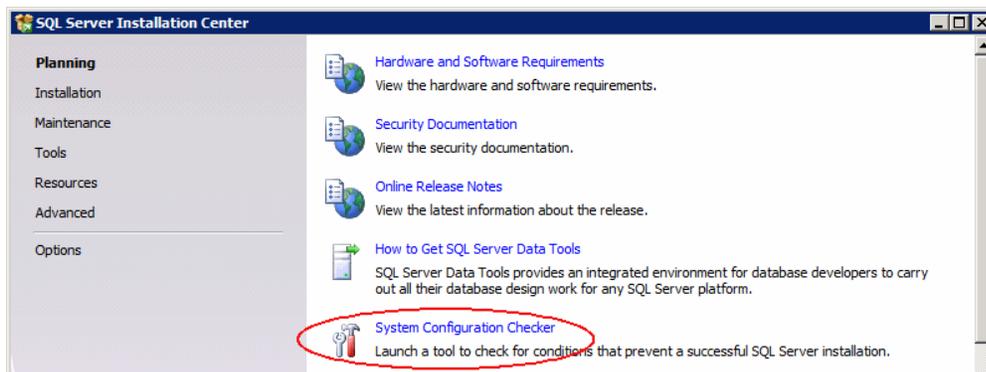
**IMPORTANT** There are internationalization considerations concerning the SQL Server collation settings you specify that relate to reference data, using SmartPlant Enterprise integrated systems, Global Workshare Configuration, multiple locales, backup/restore, reports, and upgrading to future releases. Please contact Intergraph Customer Support for specific configuration questions.

### Topics

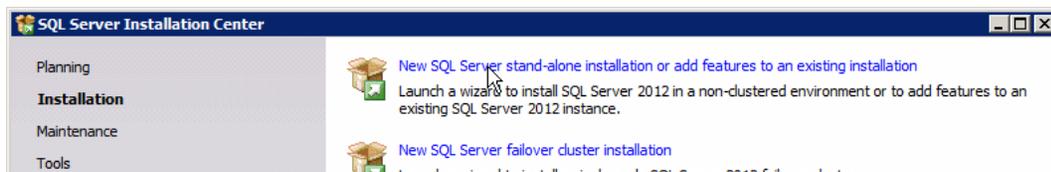
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## Install Microsoft SQL Server 2012

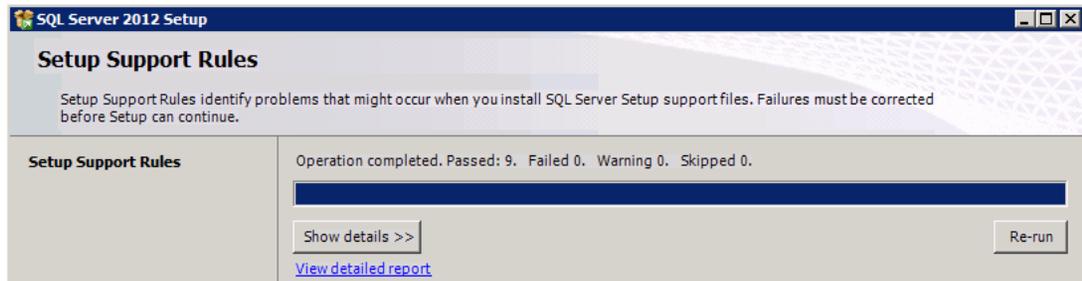
1. Insert your Microsoft SQL Server DVD, and start the setup program.
2. From the **Planning** page, select **System Configuration Checker** to check for pre-requisite applications and identify potential installation problems. You might have to restart your computer if any pre-requisite applications were installed.



3. Click **Installation**, and then select the **New SQL Server stand-alone installation or add features to an existing installation** option.

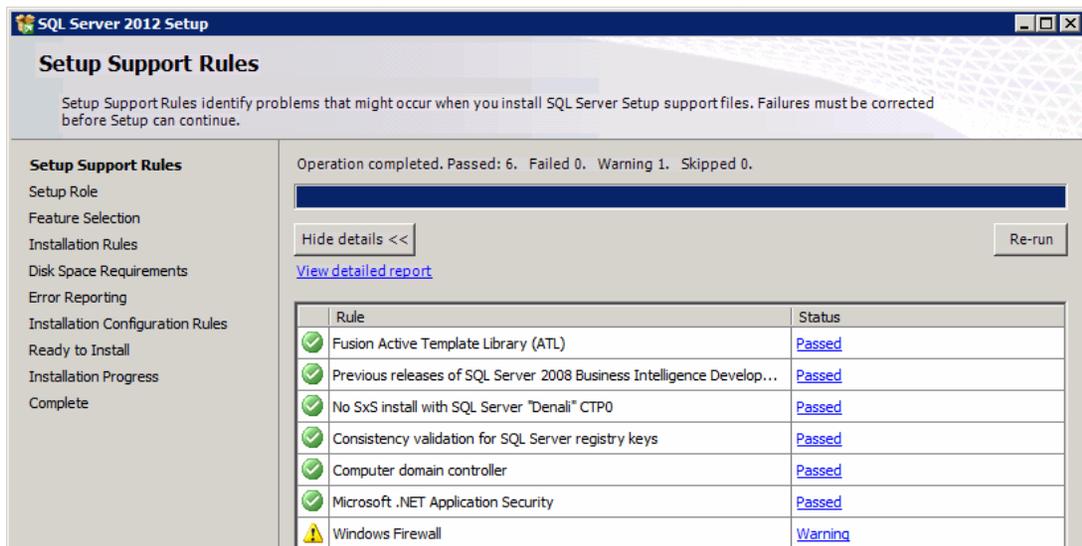


- As you go through the installation process, make sure you install the **Setup Support Files** and review any Setup Support Rules that identify potential problems.

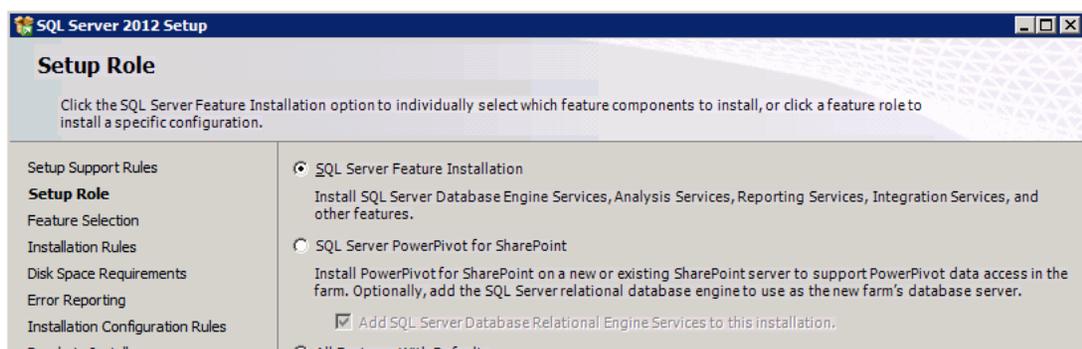


- Enter your SQL Server 2012 product key provided by Microsoft, and click **Next**.
- Accept the license terms, and click **Next**.

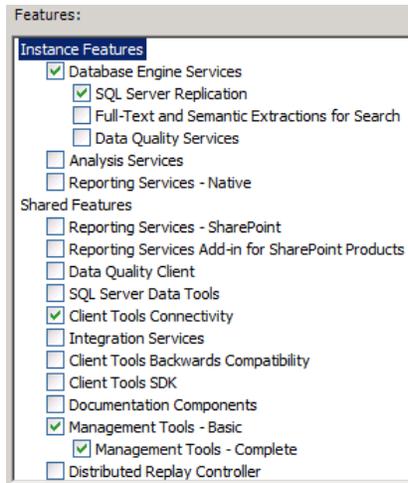
*Wait while the SQL Server Setup files are installed on the computer.*



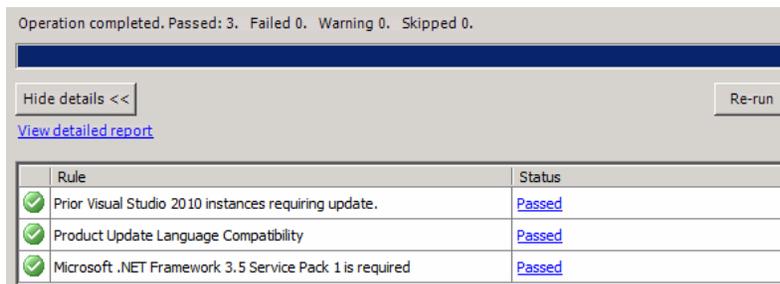
- Click **Next**.
- Select **SQL Server Feature Installation**, and click **Next**.



9. When you get to **Feature Selection**, select the features below.
  - **Database Engine Services**
  - **SQL Server Replication** (required if the SQL server instance is set up for the Global Workshare configuration)
  - **Client Tools Connectivity**
  - **Management Tools - Basic**
  - **Management Tools - Complete**



10. Click **Next**.
11. Verify that all the installation rules pass, and click **Next**.

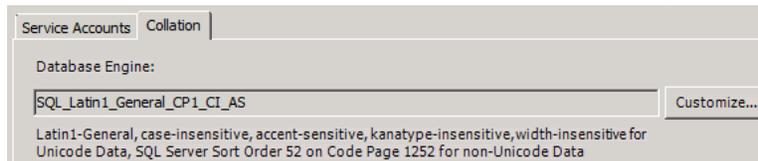


12. Define your instance name and the instance root directory. Click **Next**.
13. Verify the disk space requirements, and then click **Next**.
14. On the **Server Configuration** page, specify a domain account name with administrative privileges on the system to be used. Also, set **Automatic** as the **Startup Type** and continue.

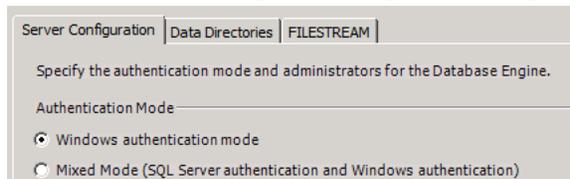
**TIPS**

- If you are not sure, you can use **NT AUTHORITY\NETWORK SERVICE** or **NT AUTHORITY\SYSTEM** and change the login later on the service.
- A domain user account offers more flexibility and is typically used because many server-to-server activities can be performed only with a domain user account, including remote procedure calls, replication, and backing up network drives.

15. Select the **Collation** tab. Use locale-specific collation. These collation settings include the character set, sort order, and other locale-specific settings.



16. Click **Next**.
17. On the **Database Engine Configuration** page, select **Windows authentication mode**.



18. Specify at least one SQL Server Administrator. You will need this administrator login later to open SQL Server Management Studio.
19. Click **Next**, and complete the installation as prompted.

If any errors occur during installation, refer to the **Summary Log** for more information and contact Intergraph Support for further assistance.

## Install any Required SQL Server 2012 Upgrades

You might require an upgrade or service pack of Microsoft SQL Server 2012. See CADWorx Database Server Recommendations for version information. If you do need to upgrade, go to the Microsoft website and follow instructions provided in the Microsoft Download Center.

## Verify Automatic Startup of Microsoft SQL Server 2012 Services

1. Open **Control Panel > Administrative Tools**, and then double-click **Services**.
2. Verify that the **Status** field is set to **Started** and the **Startup Type** field is set to **Automatic**, for SQL Server (MSSQLSERVER).

SPP Notification Service	Provides S...	Manual
SQL Server (MSSQLSERVER)	Provides s...	Started Automatic
SQL Server Agent (MSSQLSERVER)	Executes j...	Manual
SQL Server Browser	Provides S...	Disabled
SQL Server VSS Writer	Provides th...	Started Automatic
SSPD Discovery	Discovers	Disabled

**TIP** The MSSQL service is appended with the named instance you specified when you installed Microsoft SQL Server. For example, if you installed SQL Server as an instance named **Instance1**, the service displays as **MSSQL\$Instance1**.

3. To change the **Status** or **Startup Type** fields, right-click the service name, and select **Properties** from the shortcut menu.
  - a. On the **General** tab, select **Automatic** from the **Startup type** list.
  - b. In the **Service status** section, click **Start**.
  - c. Click **OK**.

## Register the Microsoft SQL Server

You must register the database server instance in SQL Server Management Studio on the database server computer and on each client computer that you plan to use for:

- Administration tasks such as Project Management and creating or upgrading databases
- Running the Interference Checking Service

**NOTE** Verify that **Authentication** is set to **Windows Authentication**.

1. Open Microsoft SQL Server Management Studio.
2. Connect to your instance using the administrator login that you created during setup.
3. Select **View > Registered Servers**.
4. Under **Database Engine**, right-click **Local Server Groups** and select **New Server Registration**.

*The system displays the **New Server Registration** dialog box.*

5. On the **General** tab, enter the name of the server instance that you want to register.  
or  
Select a server from the **Server name** drop-down list.
6. Click **Save**.

**NOTE** Before exiting Microsoft SQL Server Management Studio, perform the steps in Assign System Administrator Privileges for SQL Server 2008.

## Assign System Administrator Privileges for SQL Server 2012

Perform the following steps on the CADWorx database server.

1. Open **Microsoft SQL Server Management Studio**, and expand the listing for your database server in the left tree view.
2. In the tree view, expand the listing under **Security**, right-click **Logins**, and select **New Login**.

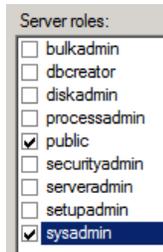
*The **Login - New** dialog box displays.*

3. Type the user account to be assigned administrative privileges in the **Login name** text box. For example, type **AdminUser1**.

The screenshot shows the 'Login - New' dialog box with the following details:

- Login name:** AdminUser1
- Authentication:** Windows authentication (selected)
- Password:** [Empty field]
- Confirm password:** [Empty field]
- Specify old password:** [Unchecked checkbox]
- Old password:** [Empty field]
- Options:**
  - Enforce password policy
  - Enforce password expiration
  - User must change password at next login

4. Select **Server Roles** under the **Select a page** heading to display the **Server Roles** list.
5. In the **Server Roles** list, select the **sysadmin** check box.



**NOTE** Standard users need db\_owner and public database role membership mapping to each one of the CADWorx databases. Administrators need only the *sysadmin* role.

6. Click **OK**.

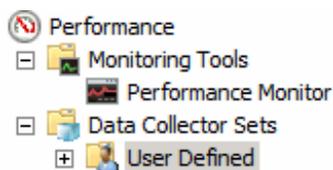
## Create a SQL Server Database Alert

When the CADWorx database server is running low on disk space, the software begins to display error messages because data can no longer be persisted or logged. Microsoft SQL Server, however, does not issue any particular alerts for the workstation computers when the disk is full or becoming limited.

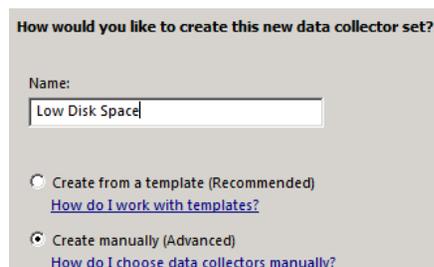
Using the Performance Monitor, the CADWorx administrator can create a Data Collector Set that contains an alert to be issued when a threshold value for a System Monitor has been reached. In response to the alert, System Monitor can launch an application to handle the alert condition.

You must perform the following procedure on the database server computer.

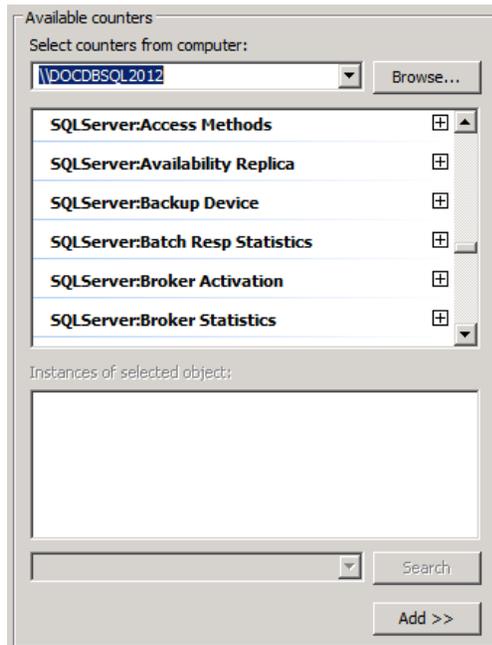
1. Open **Control Panel > Administrative Tools > Performance Monitor**.
2. Expand **Monitoring Tools** in the **Performance** tree view and start the **Performance Monitor**.
3. Expand **Data Collector Sets** in the tree view and right-click on **User Defined**.



4. Select **New > Data Collector Set** from the shortcut menu.
5. Type the name you want to use for the data collector set, click **Create manually (Advanced)**, and then click **Next**.



6. Select **Performance Counter Alert**, and click **Next**.
7. Click **Add** to open the **Add Counter** dialog box.
8. Set the database server name in the **Select counters from computer** field.
9. Select the Microsoft SQL Server object in the **Available counters** section.



10. Select a counter in the **Select counters from list** list, select a counter, and the click **Add**.  
*The new counter displays in the **Added counters** list.*

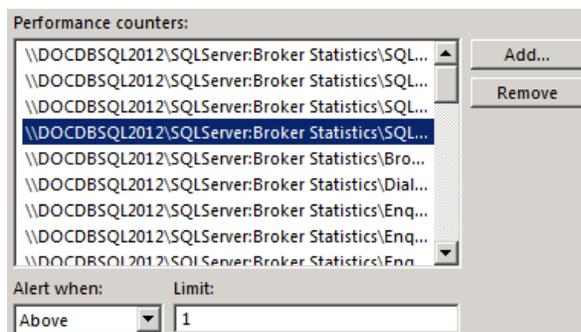
**TIP** Use CTRL+ or SHIFT+ to select multiple objects.

11. After all counters have been added, click **OK** to close the **Add Counters** dialog box.

**NOTE** To add local counters from a remote computer, you must have one of the following permissions on the computer:

- Local administrator privilege
- Be a member of the Performance Monitor Users local group.

12. Under the **Performance counters** list, select either **Above** or **Below** for the **Alert when** value.



13. In the **Limit** box, enter a threshold value. Depending on the object you selected, the alert will be generated when the value for the counter is more than or less than the threshold value. Click **Next** to continue.

14. Click **Finish**.

*Your new data collector set displays in the **User Defined** page.*

15. To configure the alerts, double-click on your data collector set name and then right-click the data collector. Select **Properties** from the shortcut menu.

16. On the **Alerts** tab, you can set additional alerts and define the unit of time for the duration of the sample interval.



17. Set options in the **Alert Action** and **Alert Task** tabs to specify the actions to occur each time the alert is triggered.

18. Click **OK** to close the **Properties** dialog box and activate the alert settings.

**NOTE** For more information about using System Monitor and setting up SQL Server alerts, see the documentation delivered with Microsoft SQL Server and Windows Server.

## SQL Server Port Assignments

The Microsoft SQL Server database uses the following port assignments.

**NOTE** This assignment might not be required if Microsoft SQL Server is not used as a database within your SmartPlant Enterprise implementation.

Port Number	TCP/UDP	Communication	Comments
1433	TCP	From workstation to server; from server to workstation	SQL Server Instance
1434	UDP	From workstation to server; from server to workstation	SQL Browser

# Appendix: Install and Configure Oracle Software

## Install and Configure Oracle Server Software

During installation of the database components, setup displays various dialog boxes that prompt you for information. We recommend that you refer to your Oracle documentation for specific instructions concerning the dialog boxes and wizard pages.

**IMPORTANT** All domain verified user names and passwords must use ASCII7/English characters. Oracle does not support non-ASCII / English characters in domain user names or passwords and will not work. This limitation applies only to Oracle, not Intergraph.

### Topics

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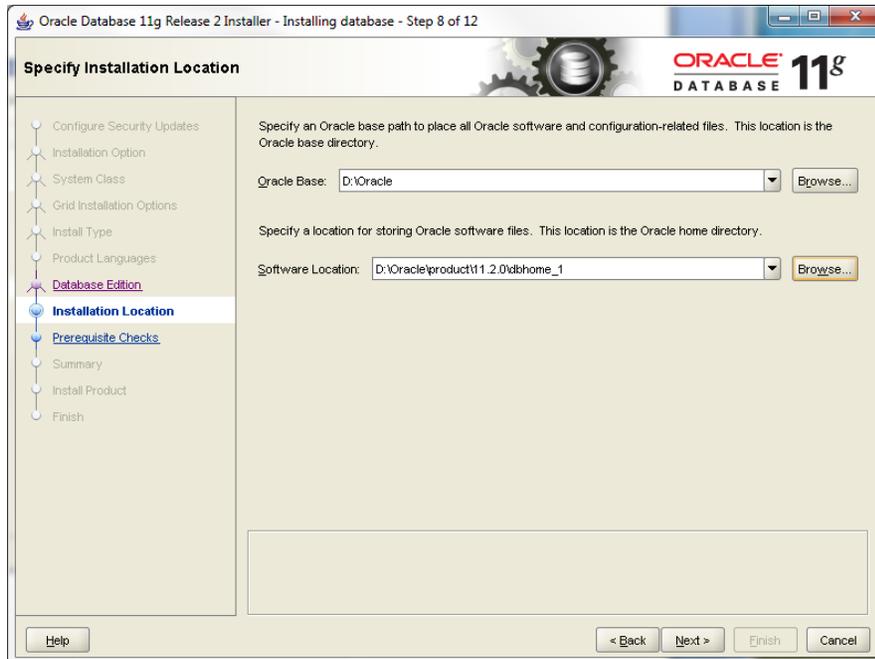
## Oracle Server Configuration

1. Log in as a user with administrator access to the server.
2. Turn off **Windows Firewall**. If this is not an option, please refer to the *Oracle Installation Guide* for information on the exceptions that must be put into place prior to installing Oracle on Windows 7.
3. In the **Folder Options** of Windows Explorer, clear the **Simple File Sharing** option.
  - a. Open **Windows Explorer**.
  - b. Press **ALT** and select **Tools**.
  - c. Select **Folder Options**.
  - d. Select the **View** tab.
  - e. Scroll to the bottom and clear the **Use Sharing Wizard (Recommended)** option.
4. Click **OK**.

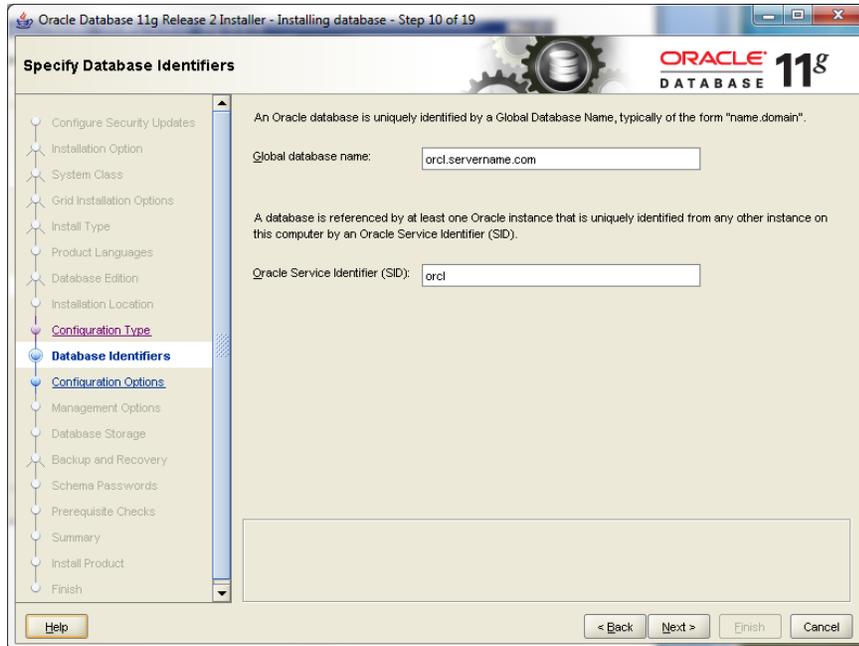
## Install Oracle Database 11g Release 2 Server Software (11.2.0.2)

This section will guide you through the installation process for Oracle 11g R2 (11.2.0.2) server software with Patch 22.

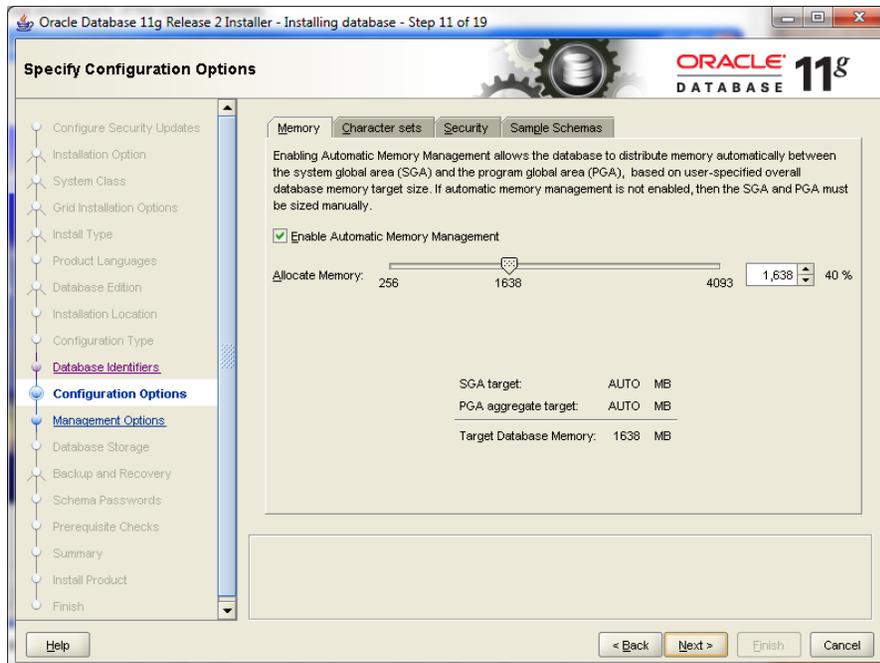
1. Open the hosts file and enter the IPv4 address and server host name. The hosts file is located in C:\windows\system32\drivers\etc\hosts.
2. Add the environment variable **ORACLE\_HOSTNAME=<server name>** in the System Environment Variables.
3. Run **setup.exe** from the install disk or folder while logged in as a local administrator.
4. Enter your security update information in the **Configure Security Updates** screen, and click **Next**.
5. Select **Skip software updates**, and click **Next**.
6. Select **Create and configure a database** in the **Select Installation Option** screen, and click **Next**.
7. Select **Server Class** in the **System Class** screen, and click **Next**.
8. Select **Single instance database installation** in the **Grid Installation Options** screen, and click **Next**.
9. Select **Advanced install** in the **Select Install Type** screen, and click **Next**.
10. Select the installation language in the **Select Product Languages** screen, and click **Next**.
11. Select **Enterprise Edition** or **Standard Edition** in the **Select Database Edition** screen, and click **Next**.
12. Specify the **Oracle Base** location for the base folder and the **Software Location** for the home folder by browsing to the location, and click **Next**.



13. Select **General Purpose / Transaction Processing** in the **Select Configuration Type** screen, and click **Next**.
14. Specify the **Global database name** and **Oracle Service Identifier (SID)** values in the **Specify Database Identifiers** screen, and click **Next**.



15. Select the **Memory** tab on the **Specify Configuration Options** screen, and select the **Enable Automatic Memory Management** option. The percentage of memory allowed for an instance of Oracle should not exceed 40%. If you have more than one Oracle instance on this server, the allocated memory should not exceed 40% of the system memory.



16. Select the **Character sets** tab on the **Specify Configuration Options** screen and select the **Use Unicode (AL32UTF8)** option.

**NOTES**

- All products in SmartPlant Enterprise that participate in integration should set their encodings to **Use Unicode (AL32UTF8)** for the **Database Character Set** option, and to **AL16UTF16 - Unicode UTF-16 Universal character set** for the **National Character Set** option.
  - For more information about the **Character sets** option, see your Oracle installation documentation.
17. Select the **Security** tab on the **Specify Configuration Options** screen, and choose your security settings option.
  18. Select the **Sample Schemas** tab on the **Specify Configuration Options** screen, and select the **Create database with sample schemas** option. Click **Next**.
  19. Select the **Use Database Control for database management** option on the **Specify Management Options** screen. You can also enable notifications through email with this option.
  20. Select **File System** in the **Specify Database Storage Options** screen and specify a database file location. Click **Next**.
  21. Specify your recovery options in the **Specify Recovery Options** screen, and click **Next**.

**IMPORTANT** Do not enable Automated backups.

22. Specify your schema passwords in the **Specify Schema Passwords** screen, and click **Next**. You must choose either the **Use different passwords for these accounts** or **Use the same password for all accounts** option.  
*The software checks that all prerequisite software is installed on the computer.*
23. Click **Finish** in the **Summary** screen.
24. Click **Close** after the installation process is finished.

**See Also**

*Delete the Default Oracle Database* (on page 52)  
*Install and Configure Oracle Server Software* (on page 49)

## Delete the Default Oracle Database

The default database created earlier in this workflow must now be deleted. The following steps will guide you through this process.

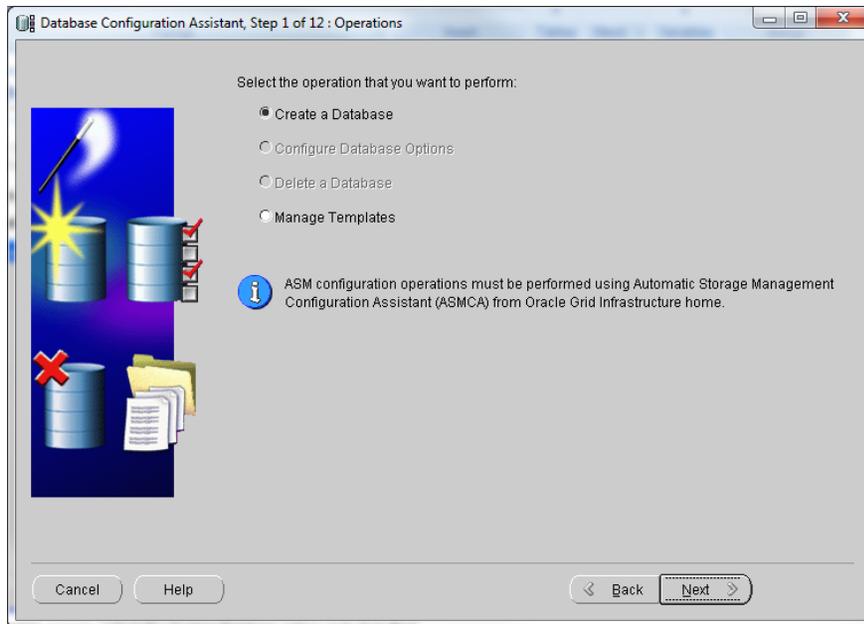
1. From the **Start** menu, select **All Programs > Oracle > Configuration and Migration Tools > Database Configuration Assistant**.
2. Click **Next** on the **Welcome** screen.
3. Select **Delete a Database**, and click **Next**.
4. Select the default database that was created, and click **Finish**.
5. Click **Yes** when asked if you want to proceed.
6. The **Database Configuration Assistant** asks if you want to perform another operation. Click **No**.

**TIP** Because no databases exist yet, this is a convenient time to load Oracle patches on the server. Oracle patch 22 needs to be installed before creating the Oracle database.

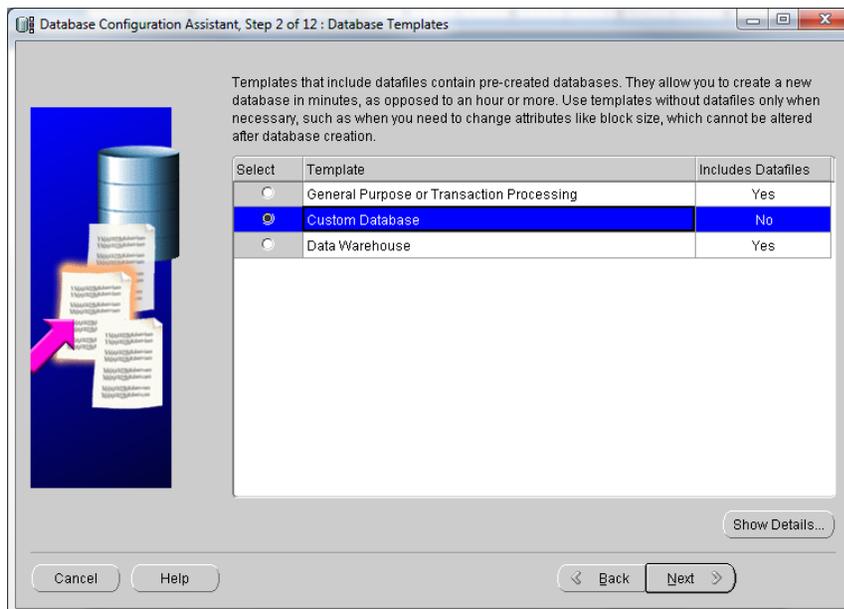
## Create the CADWorx Oracle 11g Database

These steps guide you through the database creation process. You must login to the server as a local administrator to create the Oracle database.

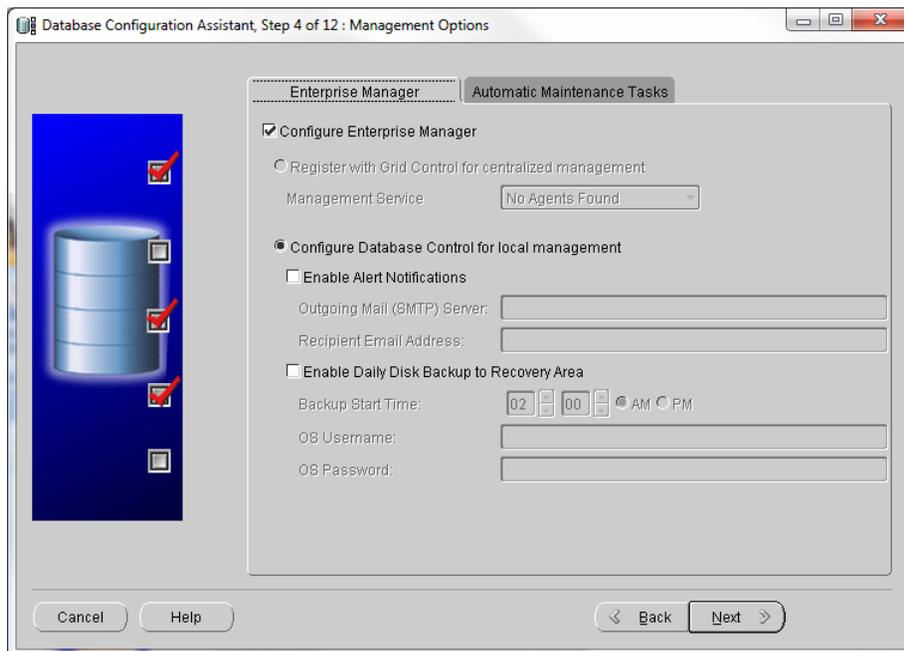
1. From the **Start** menu, select **All Programs > Oracle > Configuration and Migration Tools > Database Configuration Assistant**.
2. In the **Database Configuration Assistant** screen, select **Create a Database**, and click **Next**.



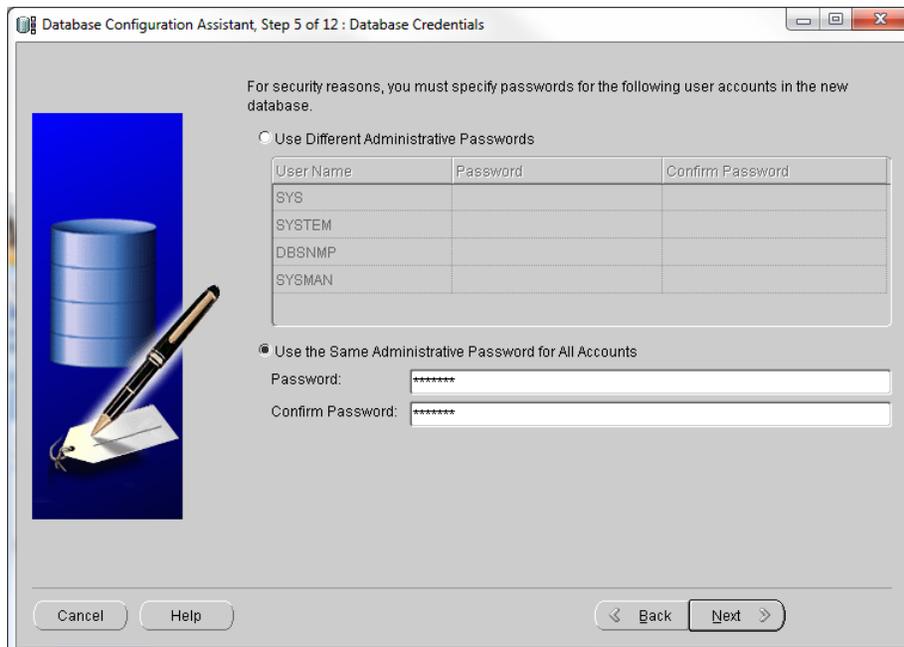
3. In the **Database Template** screen, select the **Custom Database** option, and click **Next**.



4. Enter the name of the new database in the **Database Identification** screen. Generally, the **Global Database Name** and the **SID** are identical. These names can be no longer than eight characters.
5. In the **Management Options** screen, click **Next** without changing the default selections. **Configure Enterprise Manager** and **Configure Database Control for local management** are the default options.

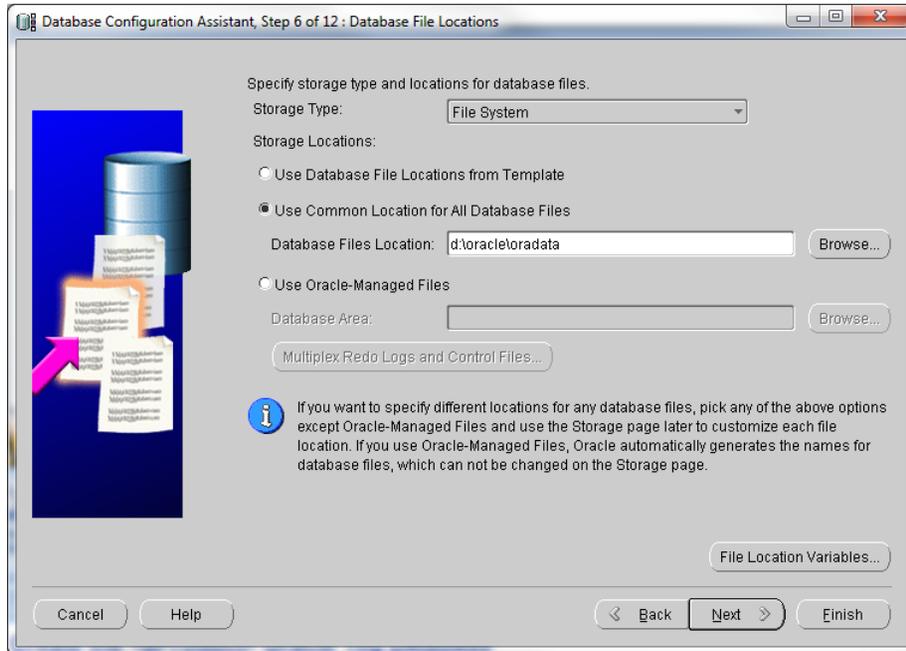


6. In the **Database Credentials** screen, select a security option and provide the appropriate information. Click **Next**.



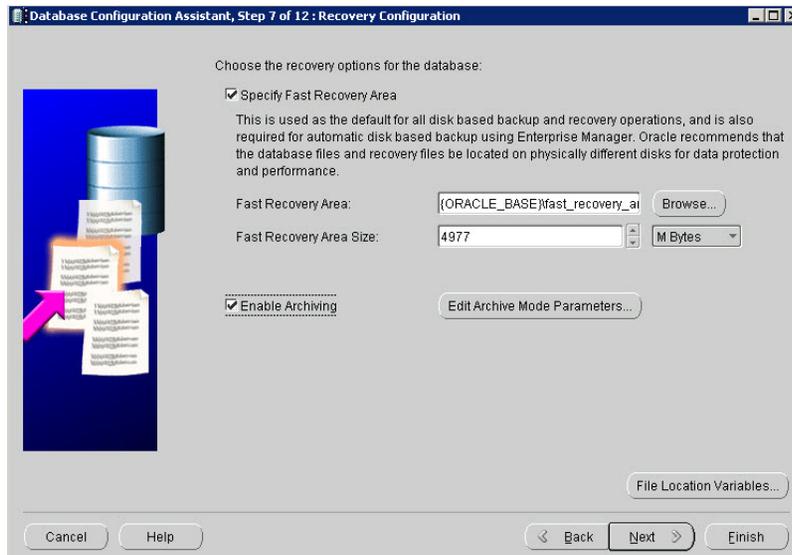
- On the **Database File Locations** screen, select **File System** and **Use Common Location for All Database Files**. Browse to the appropriate files location, and click **OK**.

*A subfolder is created in the folder you choose and is named with the SID you provided earlier in step 4.*

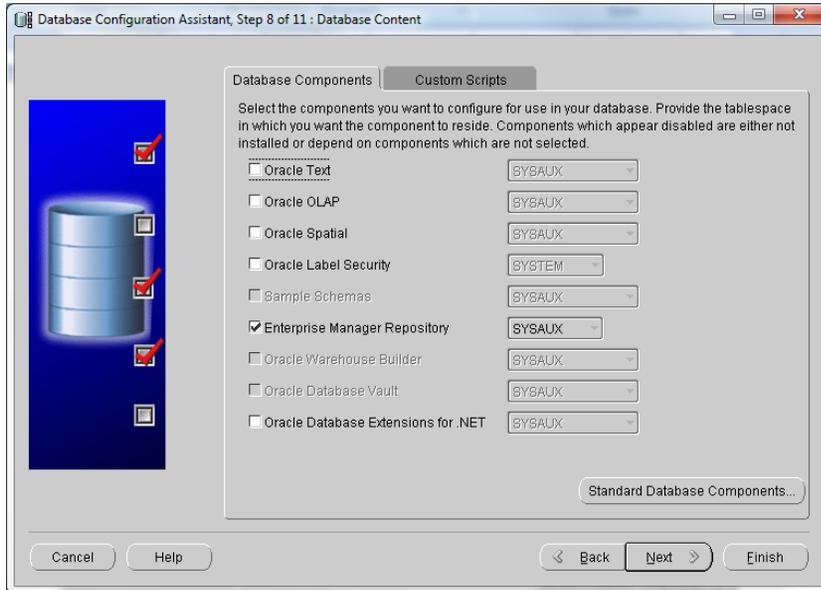


- Click **Next**.
- If the database will not be used in a Global Workshare Configuration, select **Specify Flash Recovery Area** in the **Recovery Configuration** screen, and click **Next**.

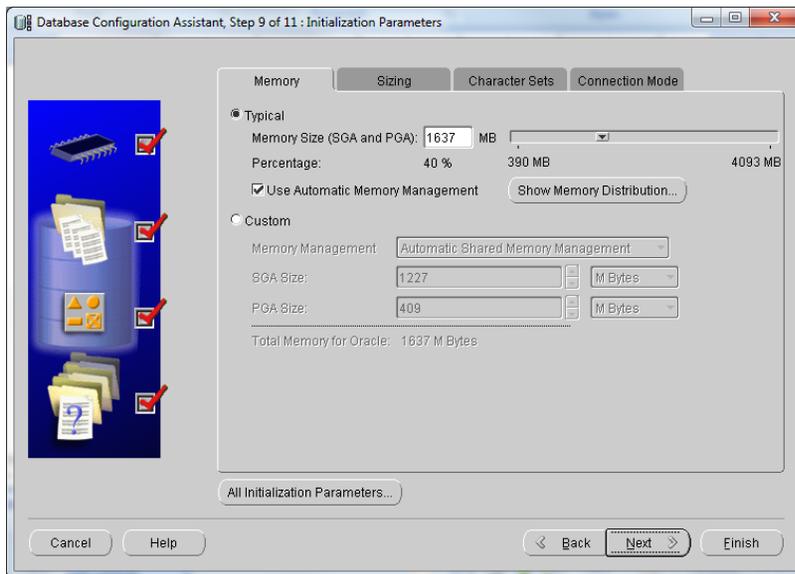
If the database will be used in a Global Workshare Configuration, select **Enable Archiving** and click **Edit Archive Mode Parameters**. Select **Automatic Archiving** to specify the location of the archive log files.



10. In the **Database Content** screen, select the **Enterprise Manager Repository** option and click **Next**.



11. Select the **Memory** tab on the **Initialization Parameters** screen and select the **Typical** option. The percentage of memory allowed for an instance of Oracle should not exceed 40%. If you have more than one Oracle instance on this server, the allocated memory should not exceed 40% of the system memory.



12. On the **Sizing** tab, configure the **Processes** option based on this formula.

$$\text{Processes} \approx (\text{Maximum Number of Users} * 10) + (\text{Number of Oracle System Processes})$$

**NOTE** The number of Oracle system processes can vary based on the number of background processes that are running. This number is a high estimate. Overestimate the number to ensure it will only use the number of processes that the instance needs.

13. Select the **Character Sets** tab, and select the **Use Unicode (AL32UTF8)** option.

**NOTES**

- All products in SmartPlant Enterprise that participate in integration should set their encodings to **Use Unicode (AL32UTF8)** for the **Database Character Set** option, and to **AL16UTF16 - Unicode UTF-16 Universal character set** for the **National Character Set** option.
- For more information about the Character Set options, see your Oracle installation documentation.

14. Select the **Connection Mode** tab, and select **Dedicated Server Mode**.

15. In the **Connection Mode** tab, select **All Initialization Parameters**.

16. Click **Show Advanced Parameters**.

The parameters required by CADWorx in are listed below:

Name	Value
db_files	1000
distributed_lock_timeout	180
open_cursors	3000
os_authent_prefix	""
processes	200
undo_retention	3600

17. Click **Close** after the changes have been made, and click **Next** on the **Database Configuration** dialog box.

**NOTE** The control files should be divided among multiple physical hard drives. This file is needed by the database to start.

18. Verify that the path in the **Tablespaces** folder is correct for **SYSAUX**, **SYSTEM**, **TEMP**, **UNDOTBS1**, and **USERS**.

**NOTE** The information in the **Datafiles** and **Redo Log Groups** folders can retain the default settings as long as the folder path does not need updating.

19. Create an additional Redo log file, and set the Redo log file size for each group to 512000 K.

20. Click **Next**.

**NOTE** The **Creation Options** screen allows you to save your database configuration as a template file, and also allows you to generate database creation scripts.

**IMPORTANT** Not every setting is preserved in the template file. If you re-use template files, check the parameters carefully to verify the settings are correct.

21. When you have finished configuring the database, click **Finish**.

**NOTE** The first 15% of the creation process validates the configuration settings. After the first 15% of the process has successfully passed, the database creation succeeds without any errors.

22. After the **Database Configuration Assistant** completes the database creation, click **Exit**.

**See Also**

*Oracle Post-Installation Requirements* (on page 58)

*Install and Configure Oracle Server Software* (on page 49)

*Appendix: Install and Configure Oracle Software* (on page 49)

## Oracle Post-Installation Requirements

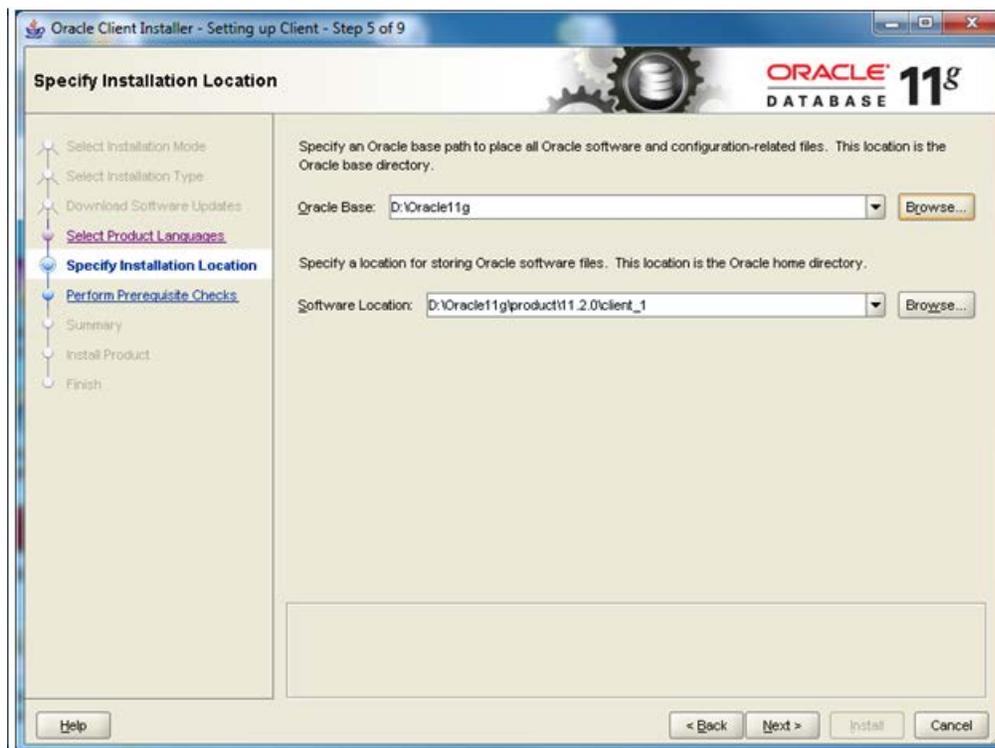
1. Create an administrator user (local or domain).
2. Add this administrator to the ORA\_DBA group.
 

**NOTE** There is no need to have both Oracle Server and Oracle Client on the same computer.
3. Make sure the Administrators, System, and Users Windows groups have full access to the SharedContent folder on the reference data computer.
4. Make sure the Administrators and System account have full permissions to the Database Templates folder.

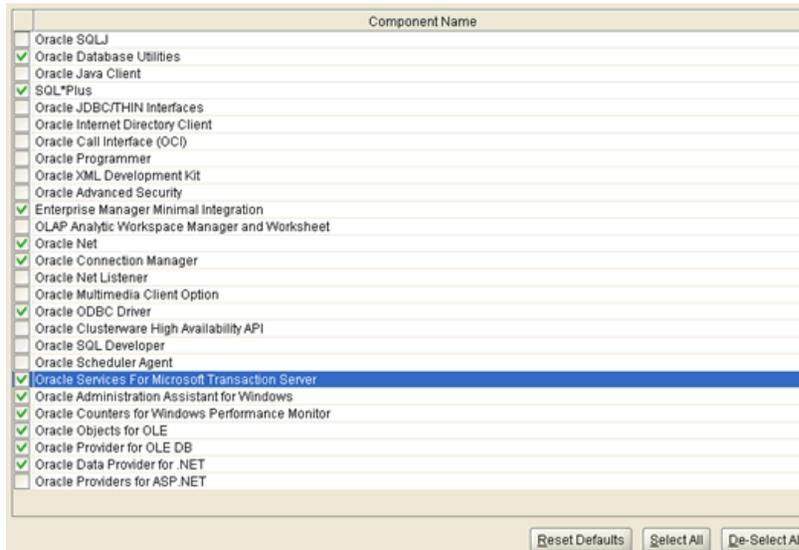
## Oracle 11g Release 2 32-bit Client Installation

This section guides you through the installation process for Oracle 11g R2 (11.2.0.2 and 11.2.0.4) 32-bit client.

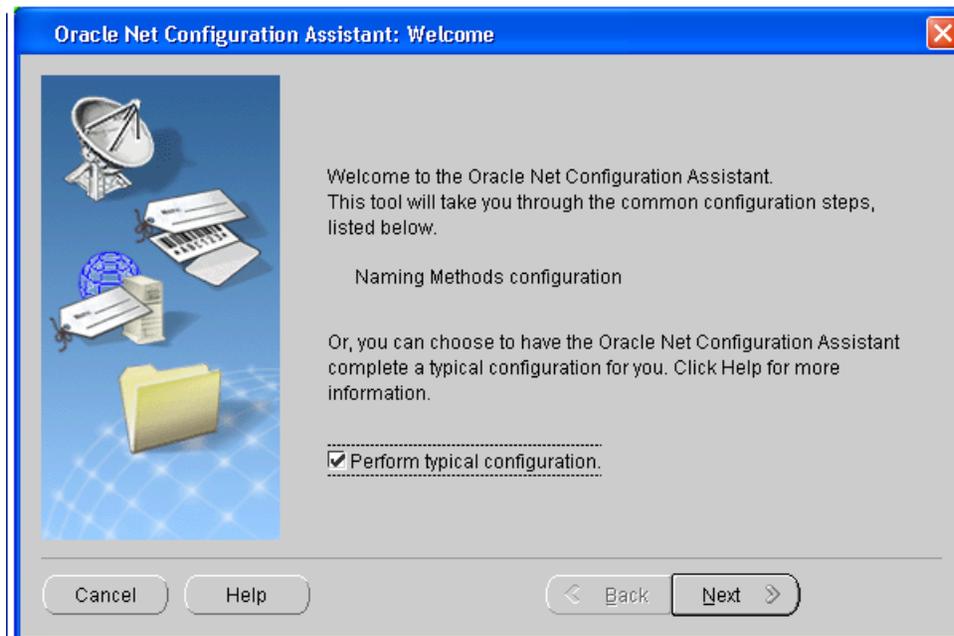
1. Run **setup.exe** from the installation disk or folder as an administrator.
2. Select **Custom** in the **Select Installation Type** screen, and click **Next**.
3. Select **Skip software updates** in the **Download Software Updates** screen, and click **Next**.
4. Select the installation language in the **Select Product Languages** screen, and click **Next**.
5. Specify the **Oracle Base** location for the base folder and the **Software Location** for the home folder by browsing to the location, and click **Next**.



6. Select the product components to install in the **Available Product Components** screen, and click **Next**.



7. Wait while the software performs the prerequisite checks, and click **Next**.
8. Click **Install** in the **Summary** screen and wait while Oracle client installs. *The **Oracle Net Configuration Assistant** displays.*
9. Select **Perform typical configuration** in the **Welcome** screen, click **Next**.



10. In the **Welcome to the Oracle Net Configuration Assistant** screen, click **Next**.



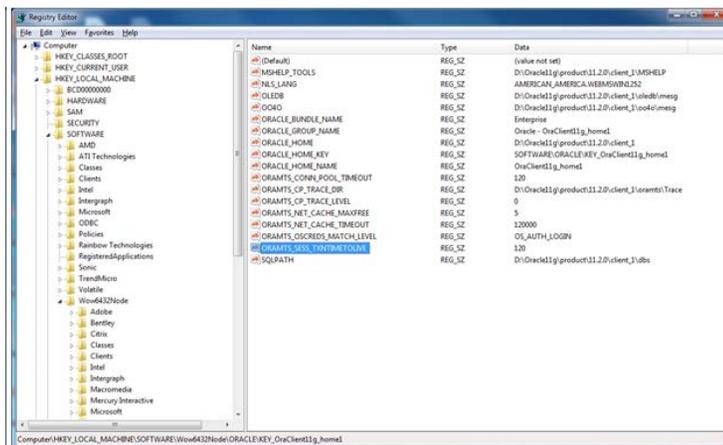
11. Click **Finish**.

12. Click **Close** after the installation process is finished.

**NOTE** In MSDTC, the session timeout is implemented by the registry setting `ORAMTS_SESS_TXNTIMETOLIVE`. The general rule for setting timeouts are:

MSDTC timeout (default 60) (IIS Setting) < `ORAMTS_SESS_TXNTIMETOLIVE` (set to 120) < `distributed_lock_timeout` (set to 180)

Use `regedit` to verify the setting as shown:



**IMPORTANT**

- For Oracle 11.2.0.2 32-bit client you must install Patch 22 now. Stop the service OracleMTRcoveryService if it exists and disable the service DistributedTransactionCoordinator *BEFORE* you install Patch 22.
- For Oracle 11.2.0.4 32-bit client there is no patch installation requirement.

**See Also**

*Delete the Default Oracle Database (on page 52)*  
*Install and Configure Oracle Server Software (on page 49)*

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