

Oracle® CADView-3D

Studio User's Guide

Release 12

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Oracle CADView-3D Studio User's Guide, Release 12

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- Did you understand the context of the procedures?
- Did you find any errors in the information?
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- Do you need different information or graphics? If so, where, and in what format?
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Preface

Intended Audience

Welcome to Release 12 of the *Oracle CADView-3D Studio User's Guide*.

The purpose of this manual is to describe how to install and use CADView-3D Studio to optimize and publish 3D models to CADView-3D Servers. End users with the CADView-3D DeskTop Web browser plug-in can stream these 3D models for viewing and collaborating over the Internet.

This manual is intended for users and managers who work with 3D models. Basic Windows computer system knowledge is assumed.

Important: The license cost of CADView-3D includes only Translators for the VRML v2 and STL open-source formats. Translators for other formats and CAD systems may be available through Oracle partners or third-party independent software vendors.

See Related Information Sources on page viii for more Oracle Applications product information.

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Structure

- 1 CADView-3D Studio Overview and Installation**
- 2 Optimizing and Publishing Projects**
- 3 Persistent IDs and DeskTop Behavior**

Related Information Sources

This manual is intended to be used in conjunction with the other CADView-3D manuals. The following documents are also available for the CADView-3D product suite:

- *Oracle CADView-3D DeskTop User Guide*
Describes how to install the CADView-3D DeskTop web browser plug-in and use it to navigate streaming 3D models and collaborate with other users in real-time.
- *Oracle CADView-3D Translators User Guide*
Describes how to install CADView-3D Translators used to convert 3D models to CADView-3D format and optimize and publish 3D models via CADView-3D Studio to CADView-3D Servers.

Integration Repository

The Oracle Integration Repository is a compilation of information about the service endpoints exposed by the Oracle E-Business Suite of applications. It provides a

complete catalog of Oracle E-Business Suite's business service interfaces. The tool lets users easily discover and deploy the appropriate business service interface for integration with any system, application, or business partner.

The Oracle Integration Repository is shipped as part of the E-Business Suite. As your instance is patched, the repository is automatically updated with content appropriate for the precise revisions of interfaces in your environment.

Conventions

Convention	Meaning
<>	Angle brackets enclose user-defined data in filenames and paths as in C:\<orant>\CADView-3D\Studio\ where is the name of the Oracle Home directory defined on your system.
Boldface text	Boldface type in text indicates emphasis on a particular word or phrase.
Boldface Text With Initial Caps	Boldface type with initial capital letters indicates a menu item or text in title bar of user interface.

Do Not Use Database Tools to Modify Oracle Applications Data

Oracle **STRONGLY RECOMMENDS** that you never use SQL*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle Applications data unless otherwise instructed.

Oracle provides powerful tools you can use to create, store, change, retrieve, and maintain information in an Oracle database. But if you use Oracle tools such as SQL*Plus to modify Oracle Applications data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle Applications tables are interrelated, any change you make using an Oracle Applications form can update many tables at once. But when you modify Oracle Applications data using anything other than Oracle Applications, you may change a row in one table without making corresponding changes in related tables. If your tables get out of synchronization with each other, you risk retrieving erroneous information and you risk unpredictable results throughout Oracle Applications.

When you use Oracle Applications to modify your data, Oracle Applications automatically checks that your changes are valid. Oracle Applications also keeps track

of who changes information. If you enter information into database tables using database tools, you may store invalid information. You also lose the ability to track who has changed your information because SQL*Plus and other database tools do not keep a record of changes.

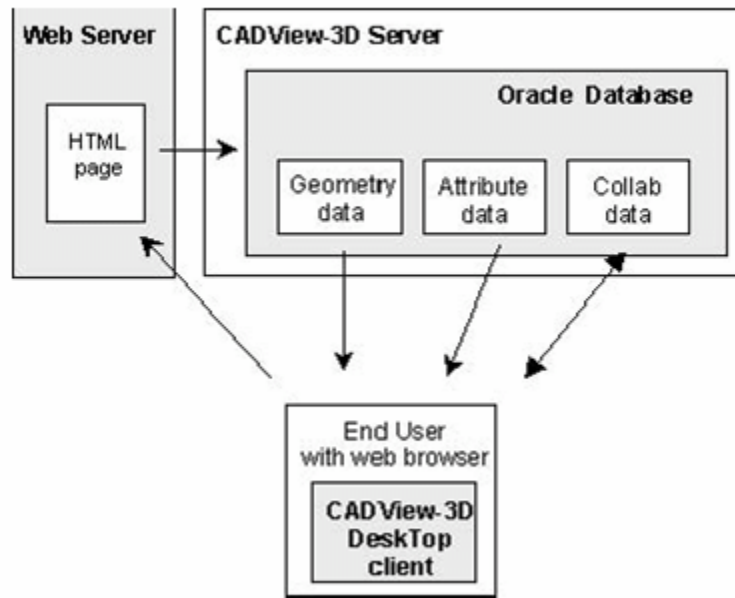
CADView-3D Studio Overview and Installation

This chapter covers the following topics:

- CADView-3D System Overview
- Installing CADView-3D Studio
- Installing CADView-3D DeskTop
- Studio Overview

CADView-3D System Overview

The following is a general diagram of how a user accesses CADView-3D content published to a stand-alone CADView-3D Server.



Note: If you are using an Oracle E-Business Suite application, it is recommended that you use a CADView-3D Translator (along with CADView-3D Studio running in background) to publish your model to E-Business Suite. Refer to the CADView-3D Translator documentation included on the product CD.

The CADView-3D Server manages three types of data for a given 3D model:

- Geometry data
- Attribute data
- Collaboration data

Using a Web browser, the end-user clicks a link on an HTML page created by Studio. The HTML page contains a link to the CADView-3D Server on which the model is published. The CADView-3D Desktop client is launched and receives geometry data and attribute data from the Oracle database associated with the CADView-3D Server. While viewing the model with Desktop, users can send collaboration data to the database and receive collaboration data stored by other users. A group of users viewing the model at the same time can perform realtime group meetings and create markups on a shared desktop.

- See: Publishing Workflow
- See: System Requirements

Publishing Workflow

To publish a 3D model using the Studio interface, follow this process:

Step	Description	Software Tools
1	Translate a native CAD model to a .3DX file. Use the "Generate 3DX File Only" setting.	CADView-3D Translator for specific CAD application
2	Set up projects containing .3DX files (or .WRL and .STL files) and optimize the project.	CADView-3D Studio
3	(optional) Customize or "author" the way in which the model is initially displayed.	CADView-3D DeskTop viewer launched from the Studio
4	Publish the output files for the 3D model to the respective servers.	CADView-3D Studio

System Requirements

The minimum and optimal hardware and software configuration is shown below.

Minimum System Requirements

- CPU: Pentium class 450MHz or equivalent
- RAM: 512Mb
- Hard Disk: ATA, SATA, SCSI or equivalent
- Operating System: Windows 2000 / XP / 2003 Server
- Network Card: 10 / 100 MIP
- Modem: N/A
- Video Card: N/A

Optimum System Requirements

- CPU: Multi-Pentium Class 3GHz or equivalent+
- RAM: 1Gb+
- Hard Disk: ATA, Ultra2 SCSI+ or equivalent
- Operating System: Windows 2000 / XP / 2003 Server
- Network Card: 100/GigaBit MIP
- Modem: N/A
- Video Card: N/A

Installing CADView-3D Studio

To install the CADView-3D Studio:

1. Double-click the setup.exe file to launch the Oracle installer.
2. In the **Welcome** screen click Next to continue.
3. Choose a default installation path. The installer defaults to the Oracle home directory found on your system. Click Next to continue.
4. In the **Available Products** screen choose the appropriate CADView-3D Translator and click Next to continue.
5. Review the **Summary** screen and click Install to continue.

The progress bar advances as the Translator and Studio are installed by default to the following destination folders:

```
\<Orant>\CADView-3D\Translators\<name of translator>  
\<Orant>\CADView-3D\Studio\
```

where <Orant> is the Oracle home directory found on your system.

6. In the **End of Installation** screen click Exit to close the installation program.

Note: You will also need to have CADView-3D Server software installed on the server system you are publishing to. Refer to the installation and configuration information in the readme.html file on your product CD.

Installing CADView-3D DeskTop

The CADView-3D DeskTop is used to view your model in a Web browser after publishing. It is provided in a separate Windows-based installer on your Oracle CADView-3D product CD. Alternatively, if you have been given "CADView-3D" responsibility in E-Business Suite, you can log in, choose "CADView-3D User" in Self-Service Apps, and navigate to the Install page to find a link to launch the installer.

Once you install the CADView-3D DeskTop client on your system, when you open a CADView-3D model and connect to a CADView-3D Server, it will determine whether there is an upgrade available. If so, it will launch the installer automatically and prompt you to install the upgrade.

Note: Netscape users installing the DeskTop plug-in for the first time or receiving an upgrade will need to click a "puzzle piece" in the Web browser to download the file to a local drive. They can then double-click this file to launch the installer for CADView-3D DeskTop.

In the Netscape version 7.0 Web browser, first disable the Netscape Plug-in Finder Service in order to download the CADView-3D DeskTop plug-in installer. Select Edit/ Preferences/ Navigator/ Helper Applications and uncheck "Always use the Netscape Plug-in Finder Service (PFS) to get plug-ins."

To install CADView-3D DeskTop:

1. Navigate to the folder in which the "CADView-3DDesktopSetup.exe" file is stored and double-click it.

Note: The DeskTop installer downloaded or launched from E-Business Suite is named "dddstin.exe."

2. In the **Welcome** screen, click Next to continue.
3. In the **Destination Folder** screen, accept the default directory or click Change to browse to a different location. Click Next to continue.
4. In the **Setup Type** screen, accept Default Complete or choose Custom and click Next to choose a specific module to install. Click Next to continue.
5. In the **Ready to Install Program** screen, click the Install button to begin installation or click Back to review or change settings.
6. In the **Installing CADView-3D DeskTop** screen, the progress bar advances as DeskTop is installed by default to the destination folder.

\Orant\CADView-3D\DeskTop\

where "Orant" is your Oracle Home directory.

7. In the **Setup Completed** screen, you can choose to view the "readme.txt" file and click Finish to exit setup. The readme.txt is stored in the installation directory.

Studio Overview

The CADView-3D Studio converts certain types of 3D model files (.3DX, .WRL, or .STL files) into a set of output files. These files are then published to the CADView-3D Server. The published model can then be streamed over a network or the Internet and viewed with the CADView-3D DeskTop viewer (a web browser plug-in and ActiveX control).

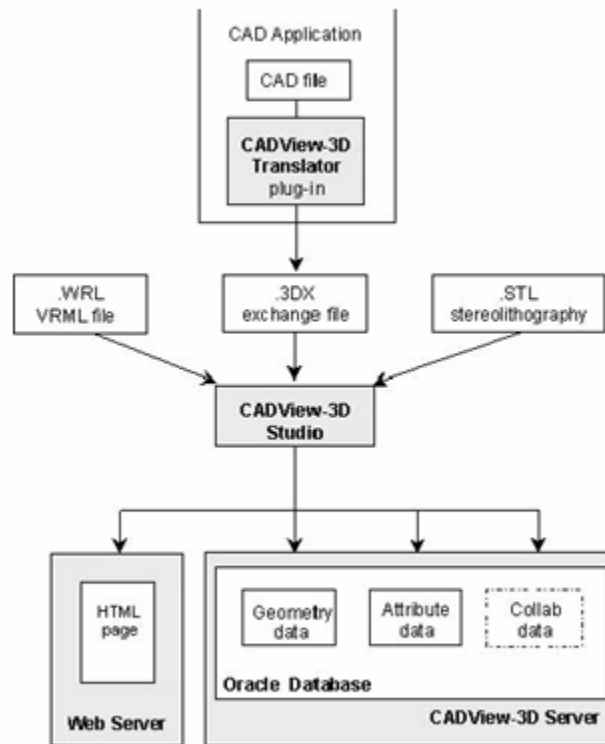
Studio takes geometry and attribute data from a hierarchy of parts and assemblies exported from the native CAD model and stores it in the Oracle database associated with the CADView-3D Server. This data can be queried dynamically in DeskTop using **Attribute** window or **Parts List** window.

Collaboration data is created by end users with various features in the CADView-3D DeskTop. This data is also stored in the Oracle database associated with the CADView-3D Server.

- See: Publishing From Studio
- See: Publishing From CADView-3D Translators via Studio
- See: Files Created During Publishing Process

Publishing From Studio

Studio has traditionally been used "stand-alone" in which you create an .A3P project file in the Studio interface and then add input files (e.g., .3DX, .WRL, .STL). Studio can run either stand-alone or as a background process while publishing from a CADView-3D Translator interface.



Each 3D project can contain a single input file or multiple related input files with the same global coordinates. One reason to use the stand-alone Studio interface is to create a single project with multiple input files in order to create a "multi-stream" model. This is not possible using CADView-3D Translators which only publish models from a single input file.

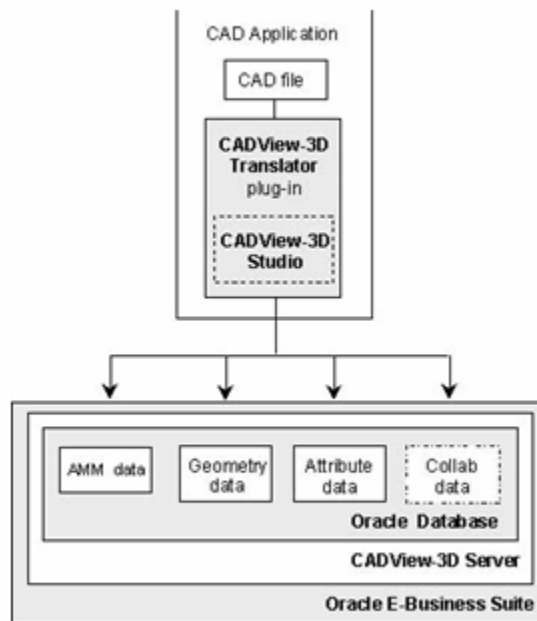
- See: Optimizing 3D Projects with Multiple Input Files
- See also: Authoring Stream Transformations

Note: To obtain 3DX input files for Studio, set the "Generate 3DX File Only" option in a CADView-3D Translator to save the 3DX file in the Translator's output directory without publishing it. Additionally, to retain the .A3P project file generated along with .3DX file and a log file, set the **Keep Intermediate Files** option in the Translator configuration settings before you publish to a CADView-3D Server.

Publishing From CADView-3D Translators via Studio

Using CADView-3D translators, you can translate, optimize, and publish your models from the Translator interface or command line without creating projects in CADView-3D Studio.

Instead, you set Studio options within the Translator. After translation, Studio is launched automatically and runs in the background to optimize and publish the model to the designated CADView-3D Server. During publishing, geometry data and attribute data for the model are stored in the Oracle database associated with the CADView-3D Server.



Note: You do not need to specify a Web server when you use CADView-3D Translators to publish to the Oracle E-Business Suite. Instead, the custom HTML data for your model is stored in the Oracle database and is transferred on the fly to the Web server when a user launches the model from a URL link in the Oracle application. Refer to the CADView-3D Translator documentation for more information.

Files Created During Publishing Process

The following is an outline of the optimization-publishing process using stand-alone Studio with .3DX files. You can publish VRML 2.0 (.WRL) and stereolithography (.STL)

files directly from Studio without being translated into CADView-3D (.3DX) format.

A single .EPF output archive file is created, in which the following files are packaged:

- .AMM - meta file containing location of the CADView-3D Server
- .3DI – geometry data
- .EAD - attribute data

The following files are stored outside of the .EPF file:

- .MAP - map file used for persistent IDs
- HTML file - points to AMM data that identifies the CADView-3D Server and the associated Oracle database.
- The input files (.3DX, .WRL, .STL) remain in their respective locations.
- The project file .A3P, workspace .VSW, .MAP, and .LOG project log file remain separate from the .EPF file in the project folder.

Result of Setting the Auto-Publish Server

If you set the **Auto-Publish to Server** option in the Content Publishing tab, the output files and data will be published (copied) to the designated CADView-3D Server and the associated Oracle database. In addition:

- A custom HTML file is created and stored locally along with the output files and also copied to the designated Web Server.
- A collaboration data record is created. If you are reoptimizing an existing model, any existing collaboration data is retained.
- An attribute data record is created and populated with data extracted from the .EAD file.

Instead, the former AM3 parameters are stored inside the custom HTML file that Studio now creates.

Inside the .A3P Project File

The .A3P project is an ASCII text file created by Studio that contains settings and other information used to optimize a model and publish it to a CADView-3D Server. These settings correspond to the settings entered using the Studio interface roughly grouped under the following prefixes:

- **"Project."** precedes general project information such as project name and Studio version number.

- **"Project.Settings."** precedes current optimization settings found in the 3D Project and Geometry tabs.
- **"Project.Publish.Settings."** precedes current publishing settings found in the Content Publishing tab.
- **"Project.Publish.Status."** precedes information about publishing status.
- **"Project.LastOptimization."** precedes optimization settings used during the last optimization.
- **"file.0"** precedes general input file information.
- **"file.0.Settings."** precedes current optimization settings found in the Geometry tab for the input file where "0" increments for each input (.3dx, .wrl, .stl) file in the project.
- **"file.0.LastOptimization.Settings"** precedes optimization settings found in the Geometry tab for the input file used during the last optimization.

See also: Manually Editing the A3P Project File

The following is an example of an A3P project file after optimizing and publishing a CADView-3D model:

```
"Project.Publish.Status.State"="4"
"Project.Publish.Status.PackagedContentCRC"="-1104876072"
"Project.Publish.Status.PublishedContentCRC"="-1104876072"
"Project.Publish.Status.SettingCRC"="1883242353"
"Project.Publish.Status.PublishedMediaServer"="cadviewserver"
"Project.Publish.Status.PublishedMediaPath"="*default"
"Project.Publish.Settings.AutoPublish"="1"
"Project.Publish.Settings.ForceRepublishing"="0"
"Project.Publish.Settings.MediaServer"="cadviewserver"
"Project.Publish.Settings.MediaPath"="*default"
"Project.Publish.Settings.WebPath"="D:\ \Program
Files\ \Orant\ \CADView-3D\ \Web directory"
"Project.Publish.Settings.MediaServerUsePassword"="0"
"Project.Publish.Settings.HTMLEnable"="0"
"Project.Publish.Settings.HTMLTemplateIndex"="0"
"Project.Publish.Settings.CollabDBServerPath"="DSN=cadview"
```

"Project.Publish.Settings.AttribDBServerPath"="DSN=cadview"
"Project.Version"="6.00"
"Project.Name"="081302"
"Project.GUID"="{F7FBA28D-E834-4EA7-A918-B7831DFCEB7E}"
"Project.WroteAM3File"="1"
"Project.Finished"="1"
"Project.Settings.CollabDBID"="0"
"Project.Settings.SpeedQuality"="0.5"
"Project.Settings.Incremental"="1"
"Project.Settings.Incremental"="1""Project.Settings.Keep3DX"="1"
"Project.Settings.CreaseAngle"="35.0"
"Project.Settings.ZAxisUp"="1"
"Project.Settings.QuantizeCoordinates"="1"
"Project.Settings.TriangleReduction"="99.0"
"Project.Settings.MaximumError"="10.0"
"Project.Settings.TessellationAccuracy"="1.0"
"Project.Settings.UseImportedSO"="0"
"Project.Settings.VrmlOneGroupForPasce"="1"
"Project.Settings.DiscardPoints"="0"
"Project.Settings.DiscardCurves"="0"
"Project.Settings.AssemblyStructure"="1"
"Project.Settings.CollabDBUseAccess"="1"
"Project.Settings.CollabDBName"="081302_CDB"
"Project.Settings.AttribDBUseAccess"="1"
"Project.Settings.AttribDBName"="081302_ADB"
"Project.LastOptimization.Settings.SpeedQuality"="0.5"
"Project.LastOptimization.Settings.Incremental"="1"
"Project.LastOptimization.Settings.Keep3DX"="1"
"Project.LastOptimization.Settings.CreaseAngle"="35.0"
"Project.LastOptimization.Settings.ZAxisUp"="1"
"Project.LastOptimization.Settings.QuantizeCoordinates"="1"
"Project.LastOptimization.Settings.TriangleReduction"="99.0"

```

"Project.LastOptimization.Settings.MaximumError"="10.0"
"Project.LastOptimization.Settings.TessellationAccuracy"="1.0"
"Project.LastOptimization.Settings.UseImportedSO"="0"
"Project.LastOptimization.Settings.VrmlOneGroupForPasce"="1"
"Project.LastOptimization.Settings.DiscardPoints"="0"
"Project.LastOptimization.Settings.DiscardCurves"="0"
"Project.LastOptimization.Settings.AssemblyStructure"="1"
"Project.LastOptimization.Settings.CollabDBUseAccess"="1"
"Project.LastOptimization.Settings.CollabDBName"="081302_CDB"
"Project.LastOptimization.Settings.AttribDBUseAccess"="1"
"Project.LastOptimization.Settings.AttribDBName"="081302_ADB"
"Project.file.count"="1"
"Project.file.0"="file.0"
"file.0.FileName"="D:\ \ Program
Files\ \ Orant\ \ CADView-3D\ \ Studio\ \ InputFiles\ \ 3DX\ \ stream_1.3dx"
"file.0.Name"="stream_1"
"file.0.FileType"="0"
"file.0.LastModified"="01bcca31:b6495a00"
"file.0.Optimized"="1"
"file.0.PreviouslyEnabled"="1"
"file.0.Settings.Enabled"="1"
"file.0.Settings.CreaseAngle"="35.0"
"file.0.Settings.ZAxisUp"="0"
"file.0.Settings.QuantizeCoordinates"="1"
"file.0.Settings.TriangleReduction"="99.0"
"file.0.Settings.MaximumError"="10.0"
"file.0.Settings.AttribDBUseAccess"="1"
"file.0.Settings.AttribDBName"="stream_1_ADB"
"file.0.LastOptimization.Settings.CreaseAngle"="35.0"
"file.0.LastOptimization.Settings.ZAxisUp"="0"
"file.0.LastOptimization.Settings.QuantizeCoordinates"="1"
"file.0.LastOptimization.Settings.TriangleReduction"="99.0"

```

```
"file.0.LastOptimization.Settings.MaximumError"="10.0"
```

```
"file.0.LastOptimization.Settings.AttribDBUseAccess"="1"
```

```
"file.0.LastOptimization.Settings.AttribDBName"="stream_1_ADB"
```

Manually Editing the A3P Project File

If you want to publish a model from a Studio project to Oracle E-Business Suite or to a CADView-3D Server behind a firewall, you must manually edit the project file.

Enter the URL to the HTTP Tunnelling servlet:

```
"Project.Publish.Settings.HTTPProxy"="<http://servername/servlet/http tunnelling?>"
```

And install and configure the CADView-3D HTTP Tunnelling software on a Web server on the same side of the firewall as the CADView-3D Server.

You can also enter the following setting to automatically launch CADView-3D Desktop in a Web browser with the model loaded immediately after publishing:

```
"Project.LaunchDesktop"="1"
```

See also: Republishing a Model Without an Existing .A3P Project File

Optimizing and Publishing Projects

This chapter covers the following topics:

- Using CADView-3D Studio
- Working with Projects in a Workspace
- Opening an Existing Project
- Using the Wizard to Create a Project
- Default Settings and Studio Preferences
- 3D Project Settings
- Defining Group Project Settings
- Input File Settings
- Geometry Settings
- VRML Settings
- Defining Group Input File Settings
- Optimizing and Publishing 3D Projects
- Merged Optimization Procedure
- Reoptimizing a Project with Multiple Input Files
- Using the Command Line to Publish Models
- CAD Publishing
- How to Publish Native CAD Models Using CAD Publishing
- Batch Processing All Projects in a Workspace
- Viewing Optimized 3D Models
- Viewing 3D Models on Local Drive
- Features Not Available When Viewing Locally
- Viewing Published 3D Models on Server

- Authoring Published 3D Models
- Authoring Stream Transformations
- Republishing Models
- Republishing a Model Without an Existing .A3P Project File

Using CADView-3D Studio

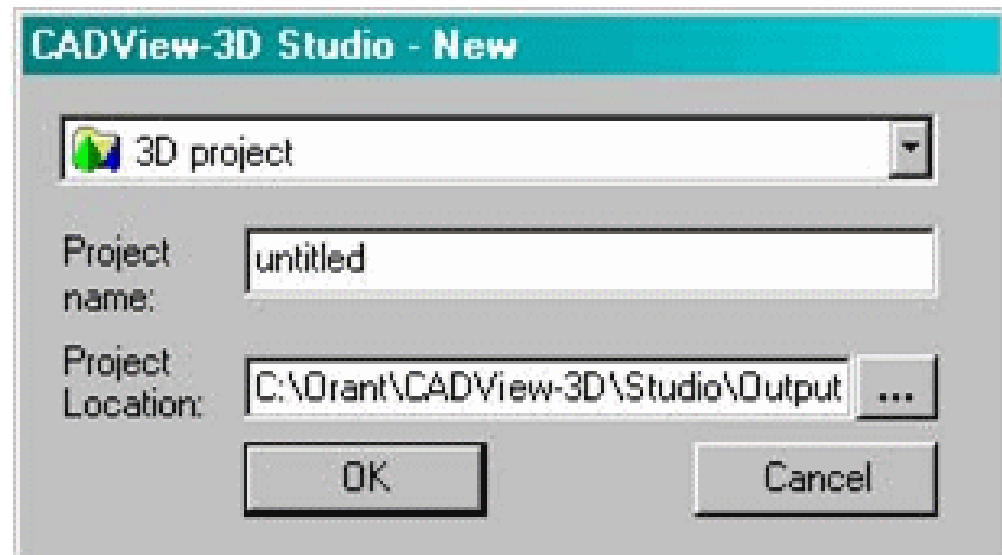
The following topics describe how to use Studio to optimize and publish CADView-3D models to the CADView-3D Server.

- See: Creating a 3D Project
- See: Opening an Existing Project
- See: Using the Wizard to Create a Project
- See also: Default Settings
- See also: Project Settings
- See also: Input File Settings
- See: Optimizing and Publishing 3D Projects
- See: Optimizing 3D Projects with Multiple Input Files
- See: Using the Command Line to Publish Models
- See also: Viewing Optimized 3D Models
- See also: Authoring Published 3D Models
- See also: Setting Default DeskTop Behavior with Overrides

Note: If you want use the stand-alone Studio interface to publish to a CADView-3D Server connected to the Oracle E-Business Suite, you will need to manually edit the .A3P project file to add several parameters. Alternatively, you can publish a model first via the CADView-3D Translator interface with the "Keep Intermediate Files" option set and then open the resulting .A3P project in Studio if necessary. However, all parameters required to publish to E-Business Suite can now be created using CADView-3D Translators.

To create a 3D project in Studio:

1. From the Start menu, choose Programs > CADView-3D > Studio. The CADView-3D Studio application opens.
2. Choose **New** from the **File** menu or click the New button. The New dialog box appears.
3. Accept the default "3D project" for type of project file .
4. Enter a project name to be used for the .A3P project file and resulting CADView-3D model name.
5. Enter a location in which to store the project folder and output files. By default, the output path defined in Preferences is the directory in which Studio is installed:



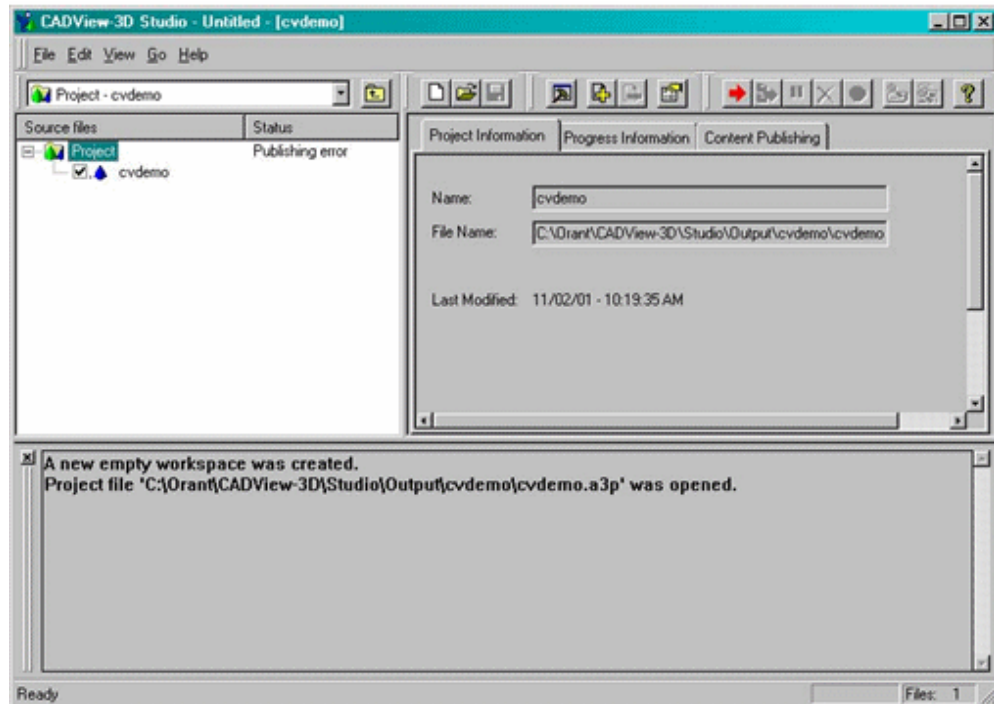
\<Orant>\CADView-3D\Studio\Output\

where <Orant> is your Oracle home directory.

6. Click OK. A new project folder is created in the designated location with the .A3P project file in it. The project appears below the workspace in the Studio tree hierarchy.

Note: If you are publishing your model to E-Business Suite, be aware that Studio cannot currently detect whether a model of the same name has already been published there. If you create a project name that creates a model name that is already published to the database, that model will be overwritten. The project name must be

unique so it doesn't conflict with other published model names in your organization.



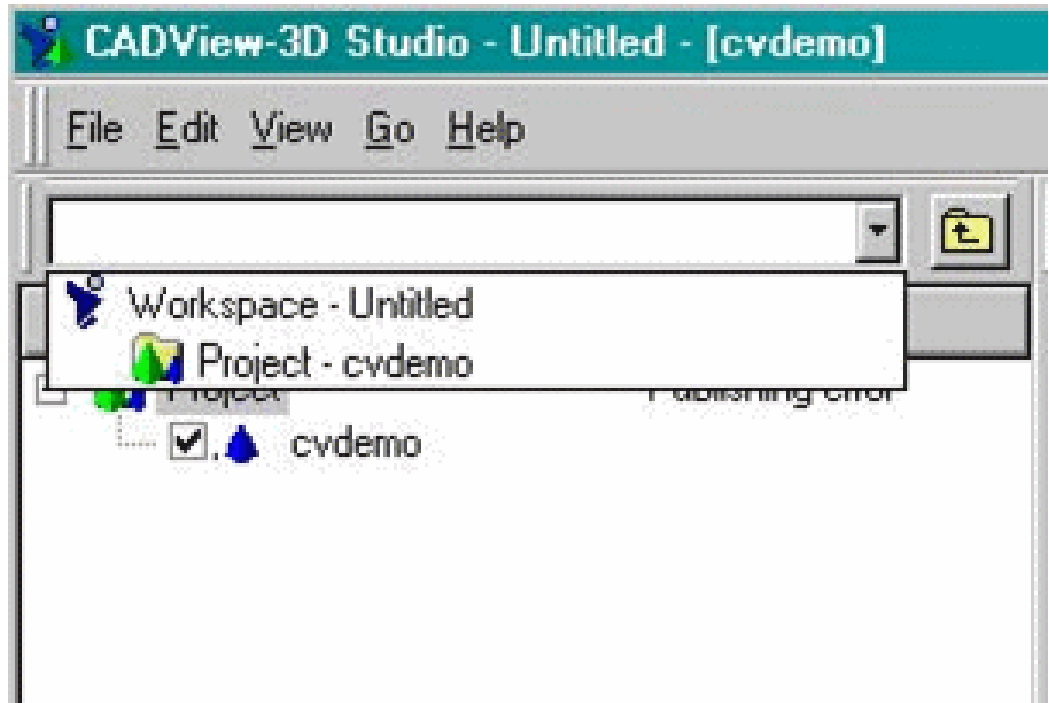
Note: When naming your .A3P project file, be aware that the resulting output files should not have spaces in the basenames. For example, "project_1" (with an underscore) is a valid base name but "project 1" (with a space) is not valid. When an HTML file is opened by the CADView-3D DeskTop, the Netscape Web browser doesn't recognize the space and replaces it with "%20".

- See: Working with Projects in a Workspace
- See: Inserting Files in a Project
- See: Inserting Files from Folder
- See also: Project Settings
- See also: Input File Settings
- See also Saving Projects

Working with Projects in a Workspace

A workspace can contain a single project or a group of related projects.

You can use the drop-down menu to select a workspace and view all projects contained in that workspace or to select a specific project to focus on, thereby hiding the others from view in the tree hierarchy.

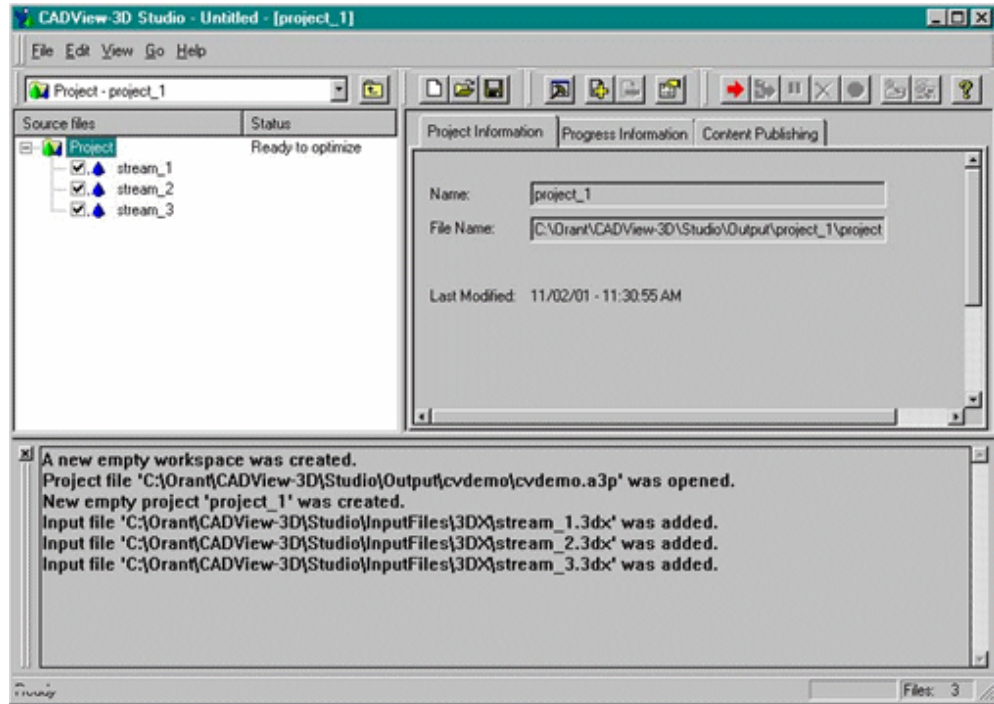


To insert files in a project :

1. Select (highlight) a project in the workspace.

Note: If you select the Workspace itself and insert an input file, a new project of the same basename is created for it automatically. If you select multiple input files, the basename of the first file is used as the project name.

2. Click the **Insert Files** button or choose Insert Files from the Edit menu.
3. In the Open dialog, browse to the input file, highlight it, and click Open. Hold the Shift key to select multiple files in the folder. The selected file(s) appear under the project in the hierarchy.



Note: You can choose several input files of the same type or a combination of file types (.3DX, .STL, VRML) to be optimized together. The way in which the Studio creates the output files, however, differs based on the Enable Incremental Optimization setting in the 3D Project tab (See Optimizing 3D Projects with Multiple Input Files).

Inserting Files from Folder

For projects that will contain a large amount of input files, you can first store all input files to a single folder and then select that folder from the Edit menu in Studio.

4. Select (highlight) a project in the workspace.
5. Choose Edit/Insert Folder and use the **Browse for Folder** dialog to locate the folder containing your input files.
6. Click OK. The files found in that folder appear under the Project in the hierarchy.

Note: All valid input file types (.3DX, .WRL, .STL) for the selected project are added, and all other file types found in the folder are ignored.

To save projects:

1. You can highlight a project or entire workspace and choose **Save** from the **File** menu at any time during the session.
2. Upon closing the Studio application, you are prompted to save projects in the workspace that have changed since the last save.

The following five options are present in the dialog:

- **Yes** - saves the named project
- **Yes All** - saves all projects in the workspace
- **No** - skips the named project and goes to next unsaved project
- **No All** - skips all projects and closes workspace without saving changes.
- **Cancel** -cancels the Save and returns to open workspace.

If the Workspace itself is new (untitled) you are prompted to name it and browse to a location in which to save it.

3. To open a project previously created using Studio, choose Open from the File menu and browse to the location of the 3D project (.A3P) file. By default, project files are located in a folder of the same project name in Studio's default output directory:

```
\<Orant>\CADView-3D\Studio\Output\<project>\<project>.a3p
```

where <Orant> is your Oracle home directory.

You can also click File/Recent Files and choose from a list of projects opened in Studio recently.

If you are opening a project created by running the CADView-3D Translator which in turn calls Studio, by default both project and 3DX files are located in this directory:

```
\<Orant>\CADView-3D\Translators\<Translator Name>\
```

where <Orant> is your Oracle home directory.

Opening an Existing Project

To open a project previously created using Studio, choose Open from the File menu and browse to the location of the 3D project (.A3P) file. By default, project files are located in a folder of the same project name in Studio's default output directory:

```
\<orant>\CADView-3D\Studio\Output\<project>.a3p
```

where <orant> is your Oracle home directory. You can also click File/Recent Files and

choose from a list of projects opened in Studio recently. Note: All valid input file types (.3DX, .WRL, .STL) for the selected project are added, and all other file types found in the folder are ignored.

If you are opening a project created by running the CADView-3D Translator which in turn calls Studio, by default both project and 3DX files are located in this directory:

```
\<orant>\CADView-3D\Translators\<Translator Name>\
```

where <orant> is your Oracle home directory.

Converting Legacy Projects

You can open an earlier version .A3P project file (e.g., version 6.2.1) in Studio; however, you will need to specify a new CADView-3D Server version in the Content Publishing tab.

When you first republish a project, geometry and attribute data are stored in the new database schema of the Oracle database associated with the CADView-3D Server. Collaboration data is not retained and a new empty collaboration record is created. As a result, a new model is created that doesn't overwrite the existing model.

Alternatively, if you want to migrate existing 6.2.1 models containing collaboration data to the new database schema, use the CADView-3D Migration Tool provided on the product CD. Once the data is migrated, you can open the corresponding .A3P project file and republish the model as needed to the new server location.

Using the Wizard to Create a Project

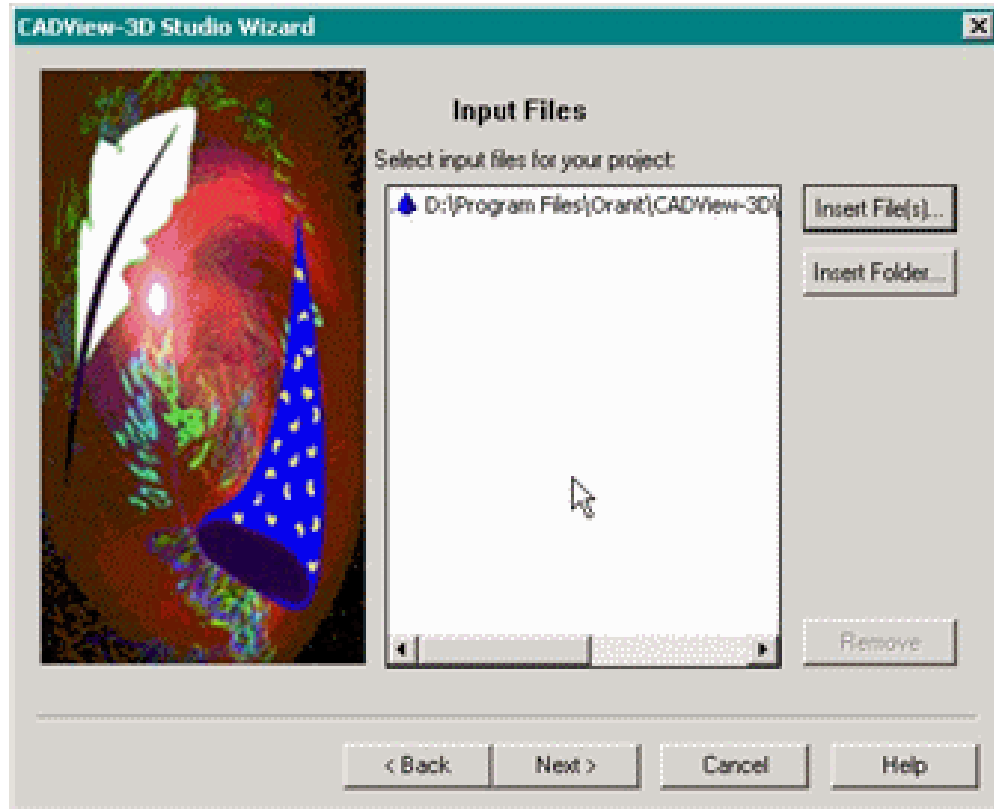
The Wizard opens automatically when you open Studio. If you want to disable it, check both "No" and "Do Not Open Wizard Again" and close the dialog. If you want to reset it to open when you open Studio, do so in Studio Preferences.

To use the Wizard to create a project:

1. Choose **Wizard** from the **Edit** menu or click the **Wizard** button on the toolbar. The CADView-3D Studio Wizard dialog appears. Click Next to continue.



2. In the Input Files screen, click either **Insert Files** or **Insert Folder** and browse to a location in which to select input files.



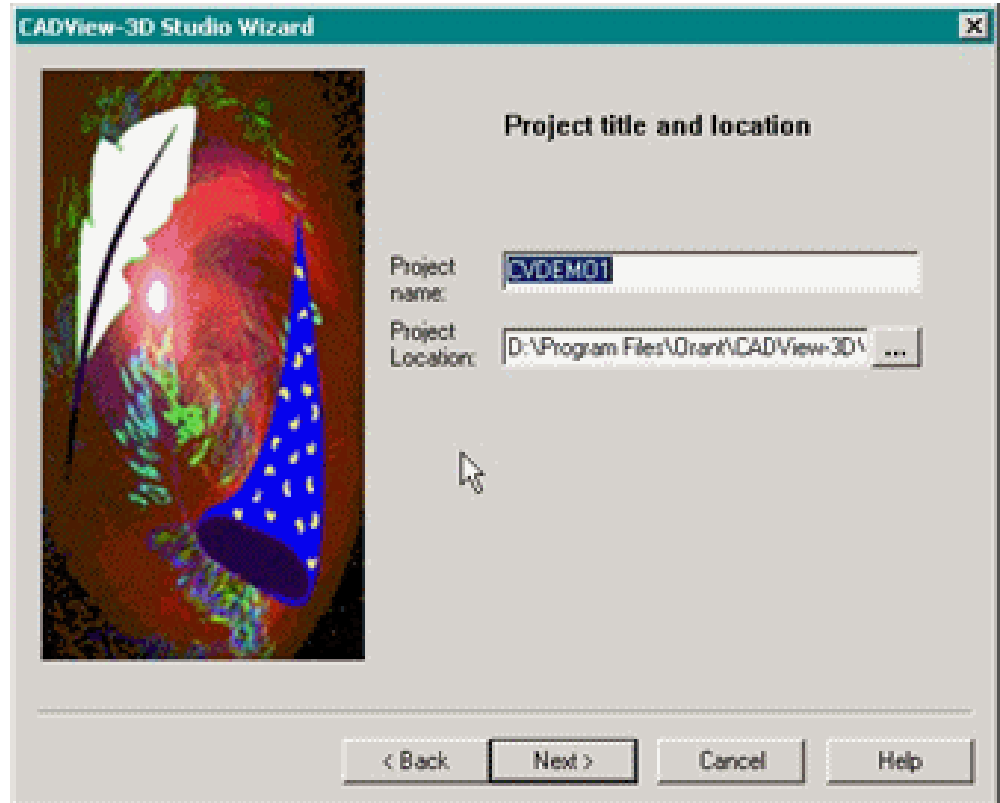
If you want to insert multiple input files residing in different fold-ers to a single project, repeat steps 2 and 3 to add multiple files individu-ally.

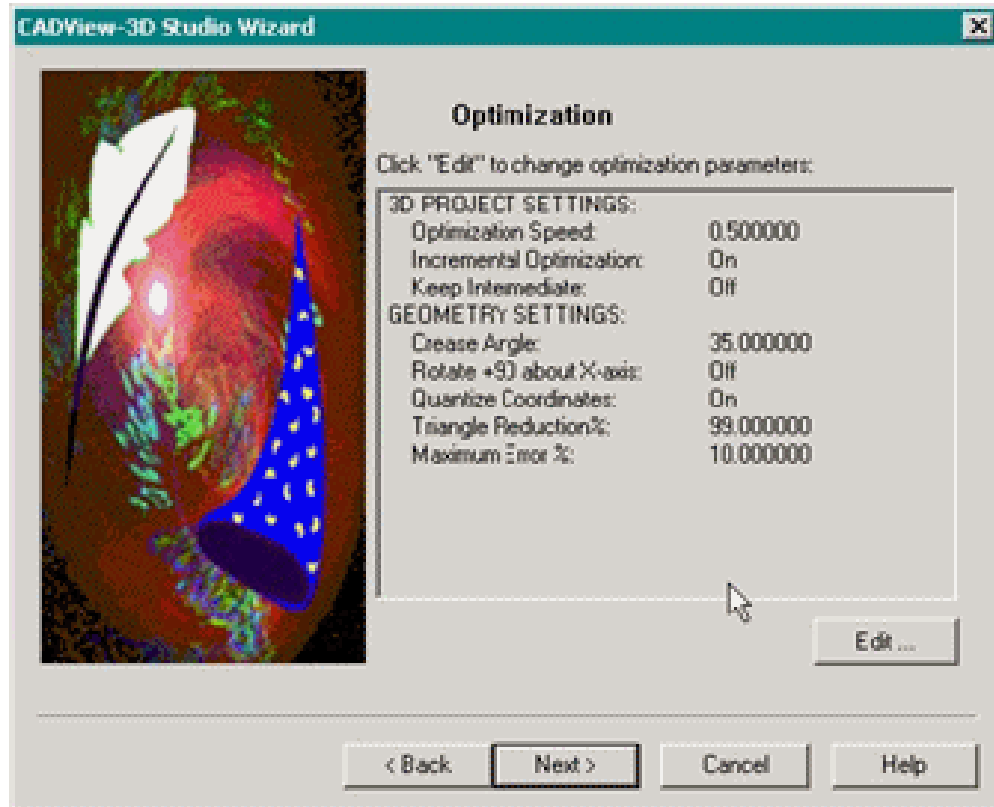
3. If you chose Insert Files, select a single file or shift-click to add multiple files from the same folder. If you chose Insert Folder, browse to the folder itself and press Enter.

The specified files appear in the Input Files dialog.

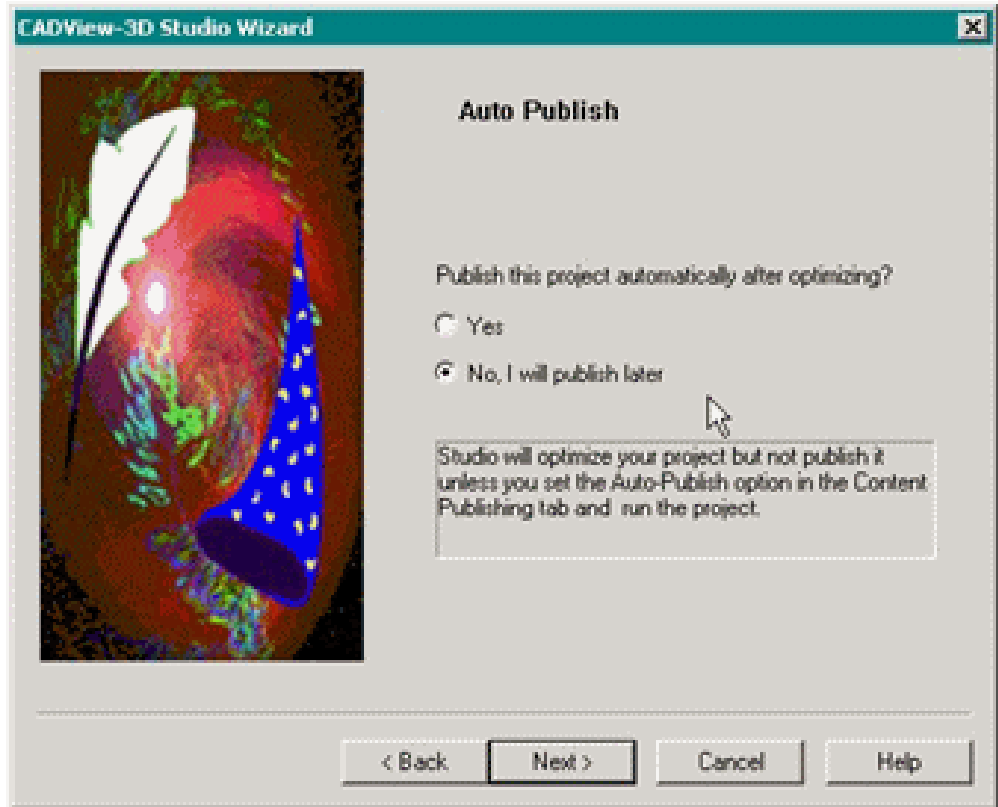
For a 3D project, you are allowed to insert more than one input file into a single project if you want to create either a merged or Multi-Stream model. See [Optimizing 3D Projects with Multiple Input Files](#).

4. Click Next to continue.
5. Enter a name for your project or accept the default based on the name of the first input in the list.
6. View the default settings in the **Optimization** screen. Click Edit to modify the 3D Project and Geometry settings, if desired. Click Next to continue.

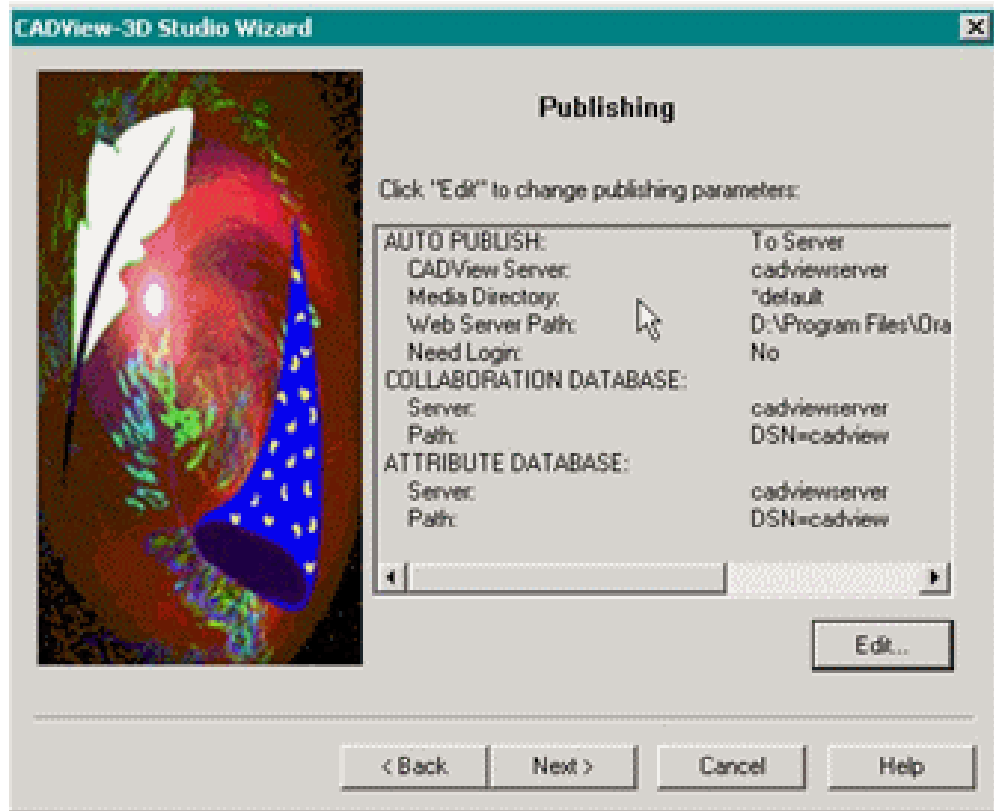




7. In the **Auto-Publish** screen, choose Yes to enter settings to automatically publish after optimization or No to wait to enter publishing settings later. Click Next to continue.

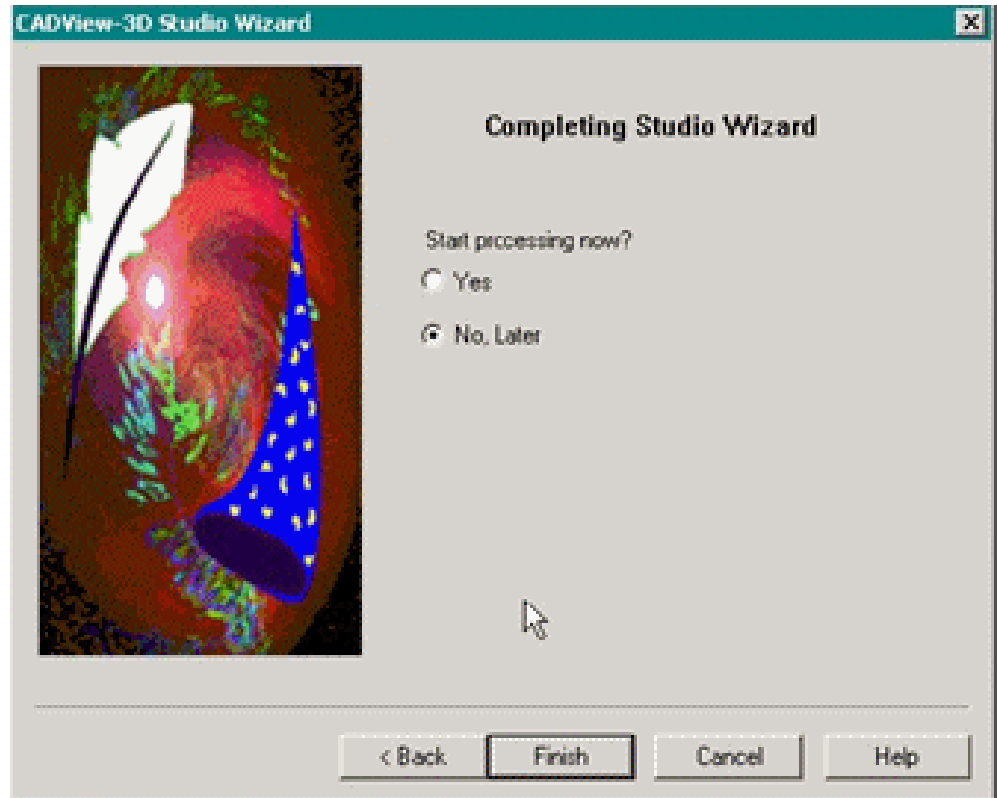


8. If you choose Yes, review the Publishing settings and click Edit to modify them. Click Next to continue.



Note: You must enter a location for the CADView-3D Server before exiting this step.

9. In the final screen you can choose to start the optimization, if desired. Click Finish to complete project setup, close the Wizard, and return to the Studio main screen.

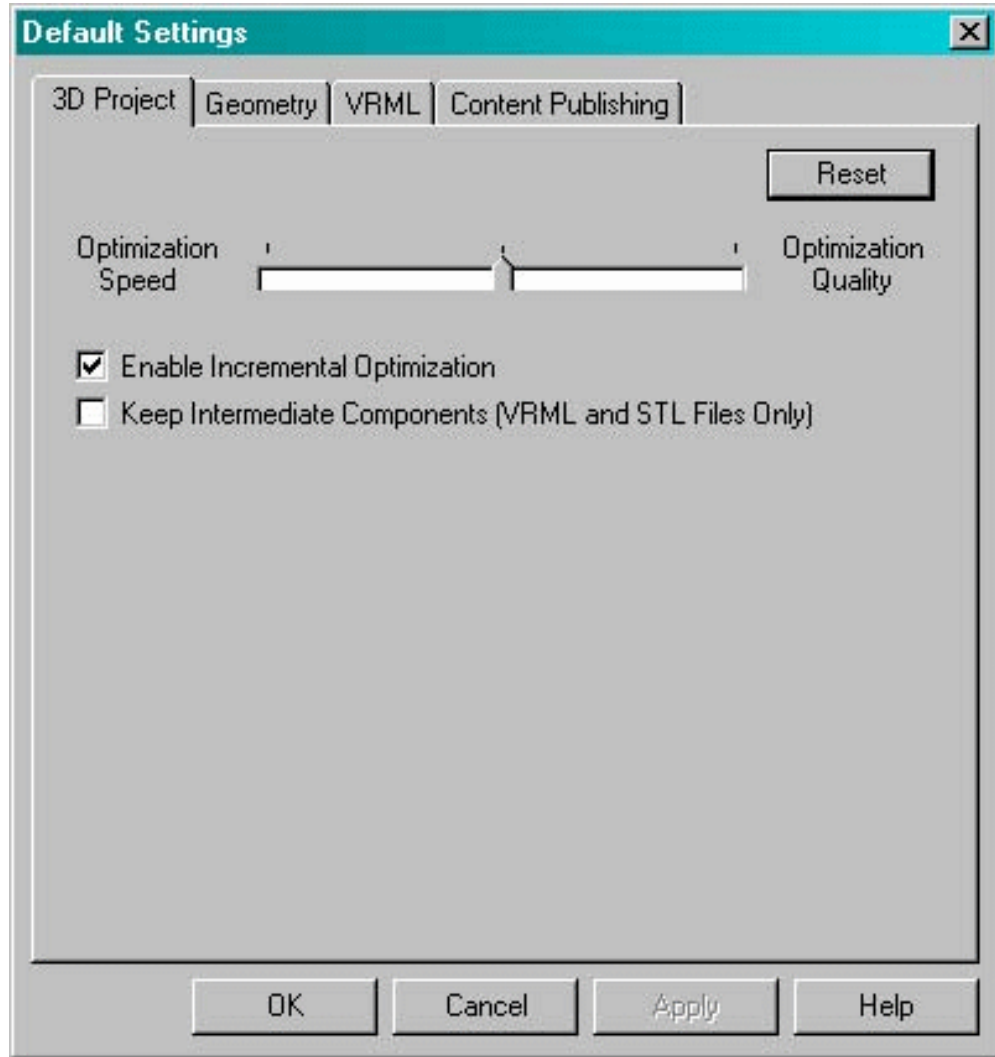


Default Settings and Studio Preferences

The Studio initially contains a group of factory-set options. These settings are stored in the Windows registry and can be viewed or changed by the user in Studio's **Default Settings** and **Preferences** dialogs. The current Default Settings and Preferences are copied to each new project when it is created.

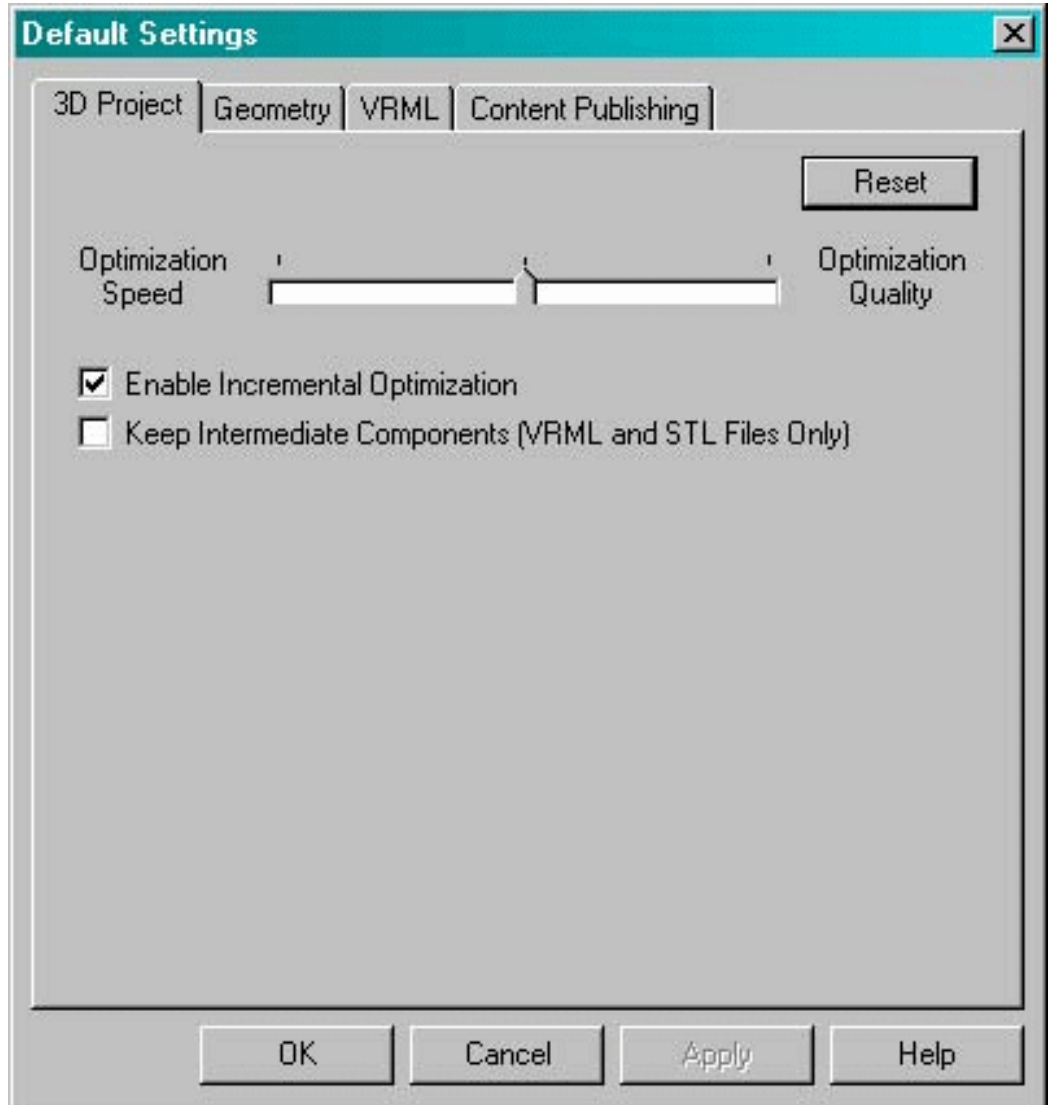
Default Settings are found in the following tabs:

- 3D Project
- Geometry
- VRML
- Content Publishing
- See also: Editing Default Settings
- See also: Studio Prefereverts that tab's settings back to original factory settings stored in the Windows registry during Studio installation.



Note: If you change a default setting and want to copy it to an existing project, click the Default button in the corresponding tab in project settings.

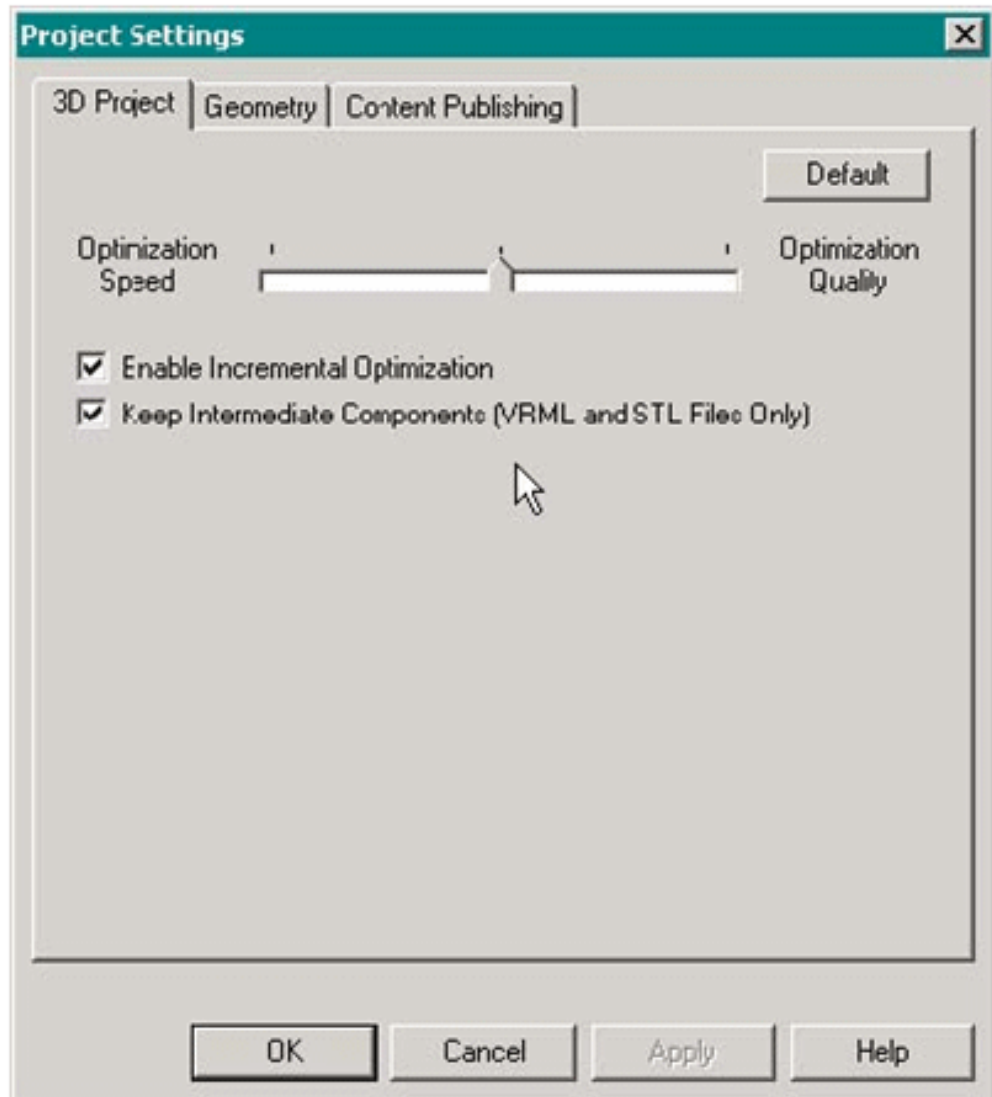
Use the Edit/Preferences dialog to set the default output path in which all new projects are created. This location will appear in the File/New Project dialog when you first set up a project. You can edit the location there as well. However, once a project is created with the name and location you specify, it cannot be moved or renamed.



You can set the following Preferences:

To enter or edit customized settings for selected project(s):

1. Select (highlight) the desired project in the hierarchy.
2. Choose Edit/Project Settings or click the **Edit Settings** button to open the Project Settings dialog.
3. In each tab, set the required options and click Apply. Refer to the option descriptions in the table that follows.
4. Click OK to close the Project Settings dialog.

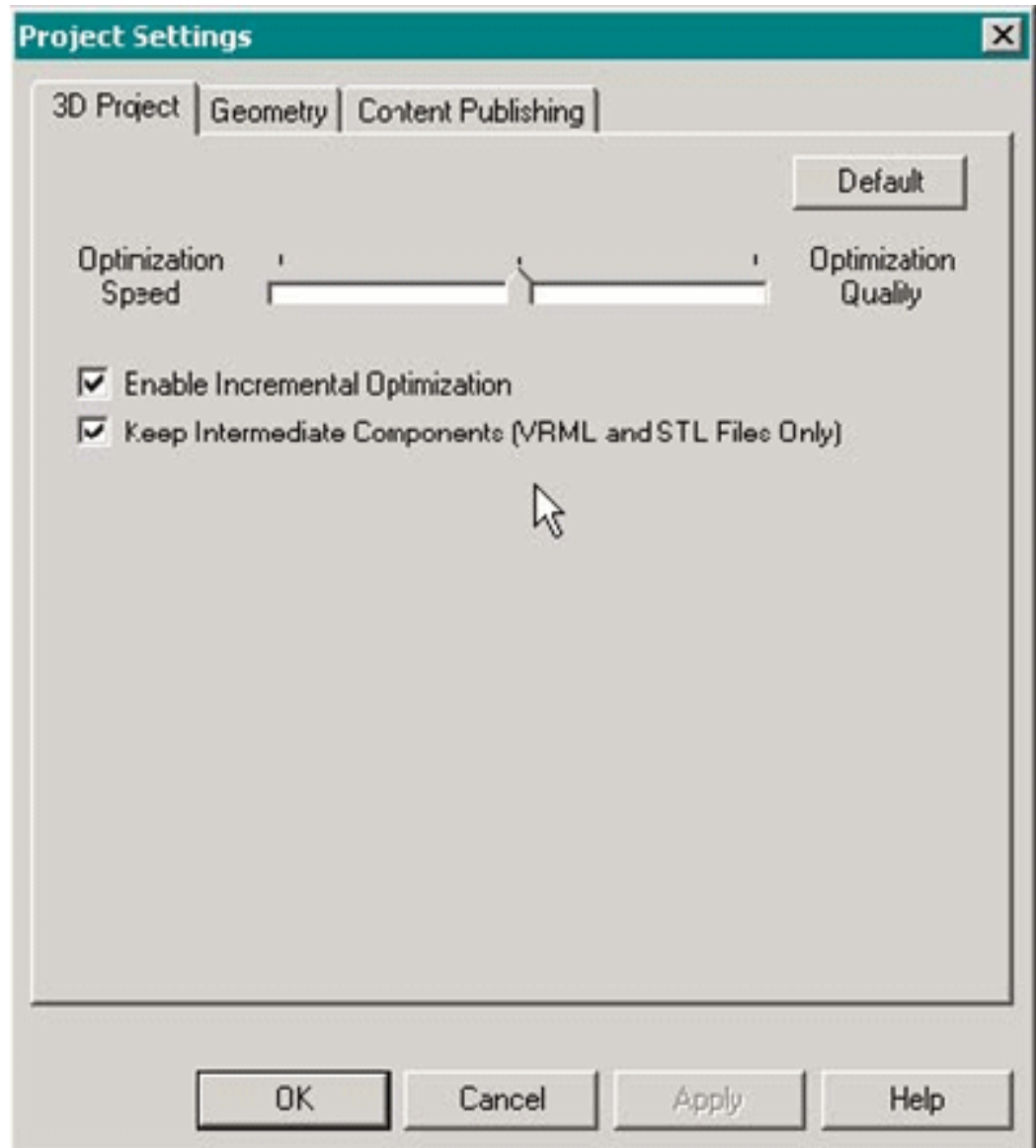


Note: In each settings tab, there is a "Default" button that copies over the current Default settings for that tab.

- See: 3D Project Settings
- See: Content Publishing Settings
- See: Input File Settings
- See also: Defining Group Project Settings

3D Project Settings

In the **3D Project** tab you can set the following options:



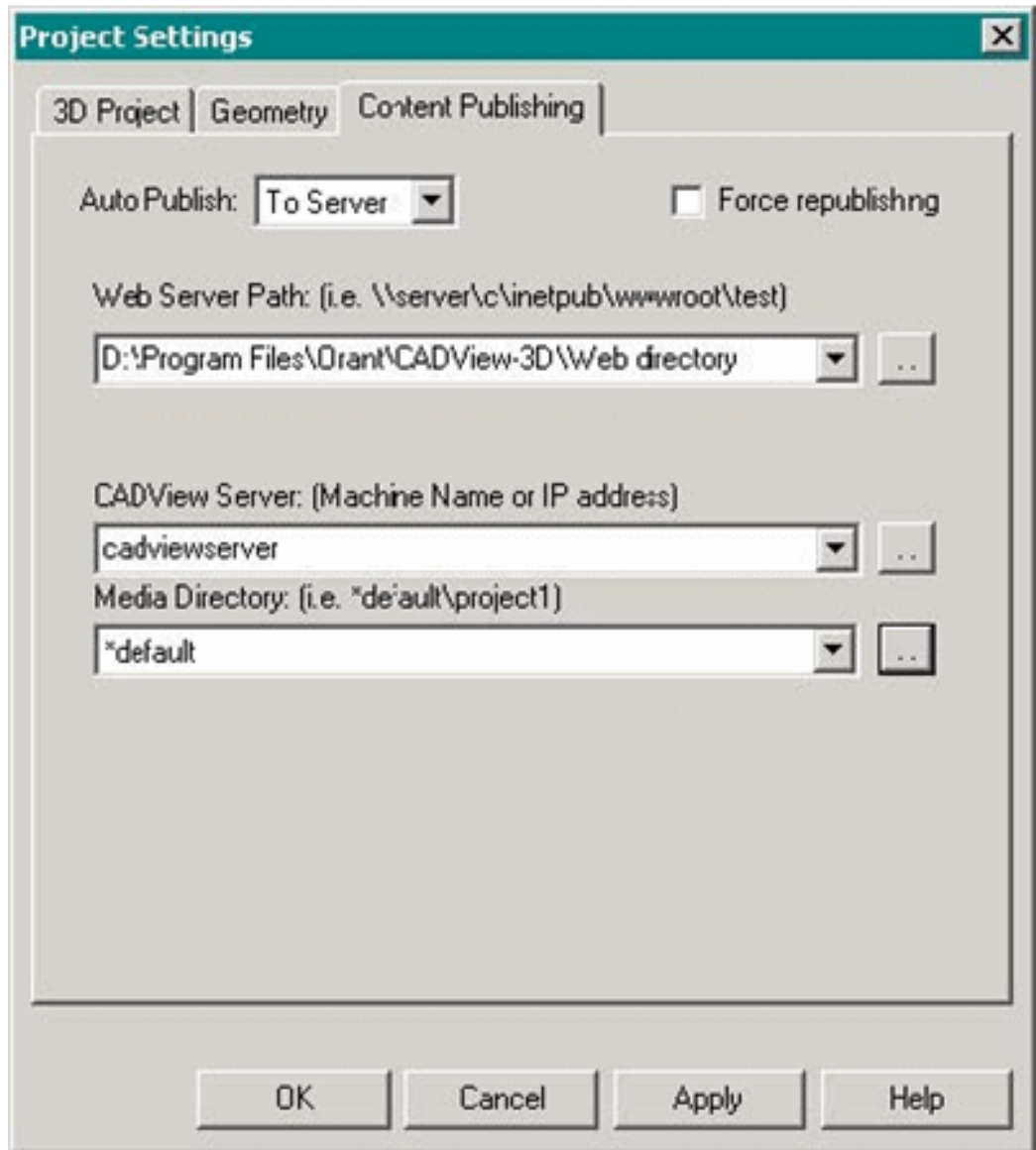
Content Publishing Settings

Use the Content Publishing tab to specify the location of the CADView-3D Server. You also use this screen to specify the path on the Web server on which the HTML file is stored.

When publishing to the CADView-3D Server, all data is stored in the Oracle database by default. However, users have the option to store the geometry in a file system.

Attribute and collaboration data are stored by default in the in the Oracle database associated with the CADView-3D Server.

Note: The default destination for geometry content is set as either "filesystem" or "database" in CADView-3D Server configuration.



When a CAD source file is modified and retranslated and you republish your project, the HTML file is overwritten. The existing geometry and attribute data are overwritten with the most recent data from the CAD source model. However, any existing collaboration data will remain intact, such as annotations, views, paths, and URLs.

Note: If you want to keep an existing model as-is and publish a new model based on the same CAD source file, create an .A3P project with a new name and add the .3DX input file(s) to it. An additional model will be published with a new name and an empty collaboration database.

Field Setting

Auto-Publish If **Auto-Publish** is [off], when you optimize, the output files are written to the .EPF package file in the default output directory. Attribute data is written to the package file as well but is not written into a database and is not available when viewing a model locally. The collaboration database is not created.

See also: Features Not Available When Viewing Locally

If **Auto-Publish** is set [to Server], after optimization, the output files are saved as usual in an .EPF package file in the project directory. During publishing, the data is unpacked and copied to the CADView-3D Server.

Geometry content is stored in the filesystem by default. Attribute and collaboration data are stored by default in the in the Oracle database associated with the CADView-3D Server.

If this is the first time publishing, an empty record for collaboration data is created. If this is a subsequent publishing of the same project in the same location, the existing collaboration data is retained and a link to it is written in the HTML file for the model.

Media Directory Accept the directory "*default" or browse to another media directory that has been previously set up on the CADView-3D Server. This directory is used to store the .3DI geometry file if the location for content is set to "filesystem" in CADView-3D Server configuration (default).

Note: You can rename and create additional media directories using the CADView-3D Server Administrator tool logged in to the CADView-3D Server.

Note: See the "Readme.html" file on the Oracle product CD to learn how to configure settings for the CADView-3D Server. The setting "contentmedia" controls whether the geometry data is stored in the Oracle database (contentmedia=database) or as a 3DI file in the file system (contentmedia=filesystem).

See also: Custom HTML File for the Model

Custom HTML File for the Model

CADView-3D Studio creates a custom HTML file and publishes it to the designated Web server. It now contains additional data for launching the model formerly contained in a separate AM3 file.

The following is an example HTML file (Cellphone4.html) published by Studio for the project "Cellphone4.A3P." The <EMBED> tag used by Netscape web browsers is contained within the <OBJECT> tag for Internet Explorer (ActiveX) web browsers.

```

<HTML>
<BODY MARGINWIDTH="1" MARGINHEIGHT="1" LEFTMARGIN="1"
RIGHTMARGIN="0" TOPMARGIN="0" BOTTOMMARGIN="0" scroll="no">
<layer top="0" left="0" right="0" bottom="0" height="100%
"width="100%">
<OBJECT ID="AM3DViewer
"CLASSID="CLSID:69EC3DBD-771A-11D1-9FEA-00C04FC4F039"
WIDTH="100%" HEIGHT="100%">
<PARAM NAME="ModelName" VALUE="CellPhone4" >
<PARAM NAME="ModelDescription"
VALUE="\\AP5384PC;D:\Oracle\Ora81\CADView-3D\Studio\Output\Cel
lPhone4\CellPhone4.a3p" >
<PARAM NAME="ModelGUID"
VALUE="{80E27257-7CC1-4AC8-878A-14E96D3993A9}" >
<PARAM NAME="CollaborationDBAssID" VALUE="2540" >
<PARAM NAME="ThreeDURL"
VALUE="amt://ap5380pc/*default/cellphone4.amm" >
<PARAM NAME="ForceHTTP" VALUE="0">
<PARAM NAME="AutoEnable" VALUE="1">
<EMBED TYPE="media/x-am3" WIDTH="100%" HEIGHT="100%"
ThreeDURL="amt://ap5380pc/*default/cellphone4.amm"
ModelName="CellPhone4"
ModelDescription="\\AP5384PC;D:\Oracle\Ora81\CADView-3D\Studio
\Output\CellPhone4\CellPhone4.a3p"
ModelGUID="{80E27257-7CC1-4AC8-878A-14E96D3993A9}"
CollaborationDBAssID="2540"
ForceHTTP="0"

```

```
AutoEnable="1">
</EMBED>
</OBJECT>
</LAYER>
</BODY>
</HTML>
```

Note: See also Setting Default DeskTop Behavior with Overrides to learn how to enter user-defined parameters to customize the way in which the DeskTop viewer initially displays the model.

Defining Group Project Settings

This feature allows you to enter specific settings in a single tabbed dialog box and have the changes applied to a group of selected projects.

To define settings for a group of projects:

1. Control-click multiple to select projects in the tree hierarchy view.
2. Choose Edit/Project Settings (Group) or click the Edit Settings button. The Project Settings dialog appears.
3. Make the the desired changes in the tabbed dialogs.

Note: Common settings appear in bold, and settings that differ between projects appear dim.

4. Click OK to save the changed settings to each project selected.

Input File Settings

When incremental optimization is set in the 3D Project settings tab, you must define different Geometry settings for each input file since each file is optimized independently for a Multi-Stream project.

See also: Optimizing 3D Projects with Multiple Input Files

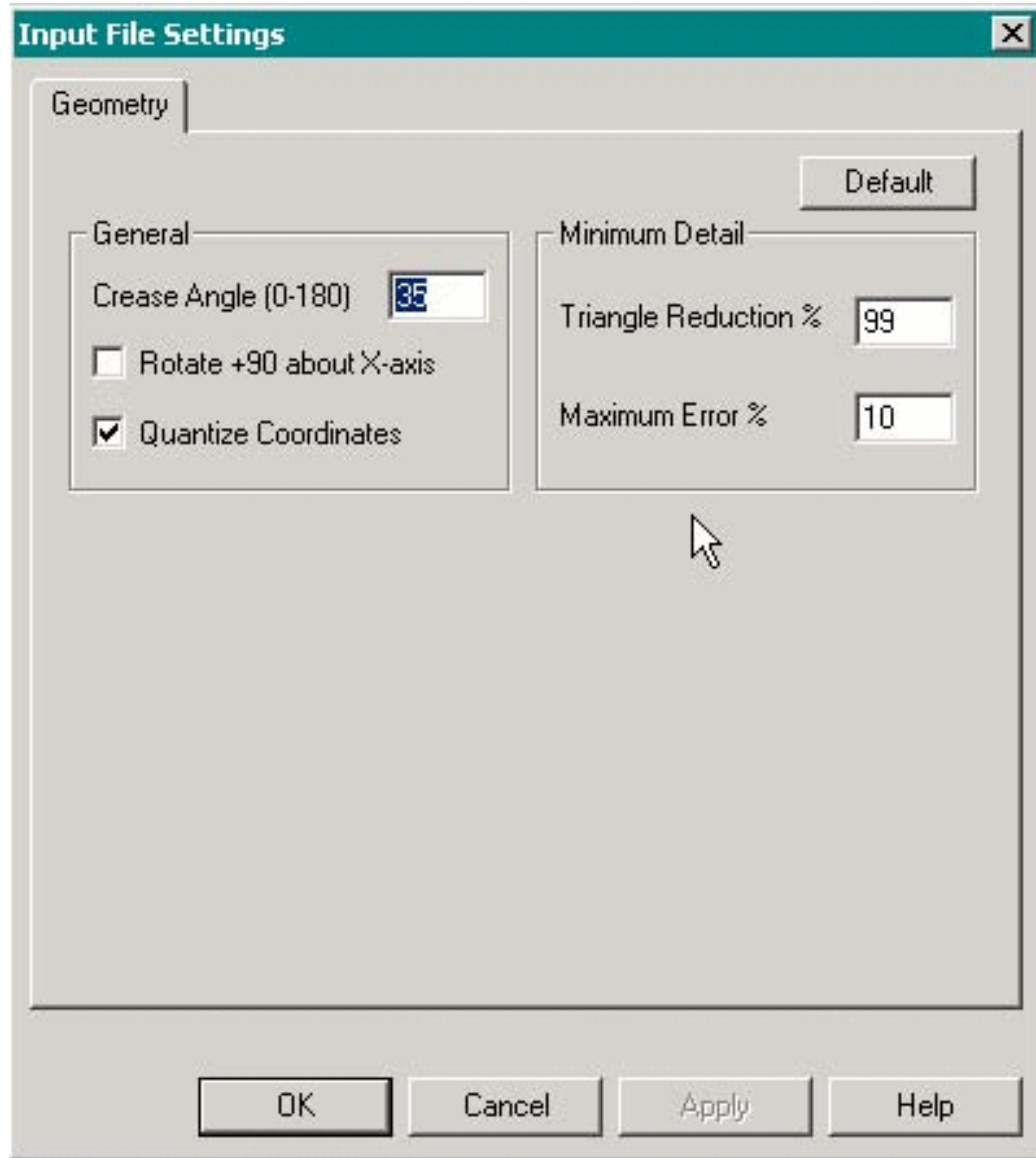
To enter input file settings:

1. Select (highlight) the input file in the hierarchy.
2. Choose Edit/Input File Settings from the menu or click the Edit Settings button. The Input File Settings dialog appears.

3. Make the desired changes in the Geometry (or VRML) tab.
4. Click OK to save the changed settings to the selected input file.
 - See: Geometry Settings
 - See: VRML Settings
 - See also: Defining Group Input File Settings

Geometry Settings

The Geometry tab contains fields to set minimum level of detail and other values affecting the appearance of model. The DeskTop viewer will display each object with at least as much detail as specified. If a field is left blank, Studio ignores it when determining the model's minimum level of detail.

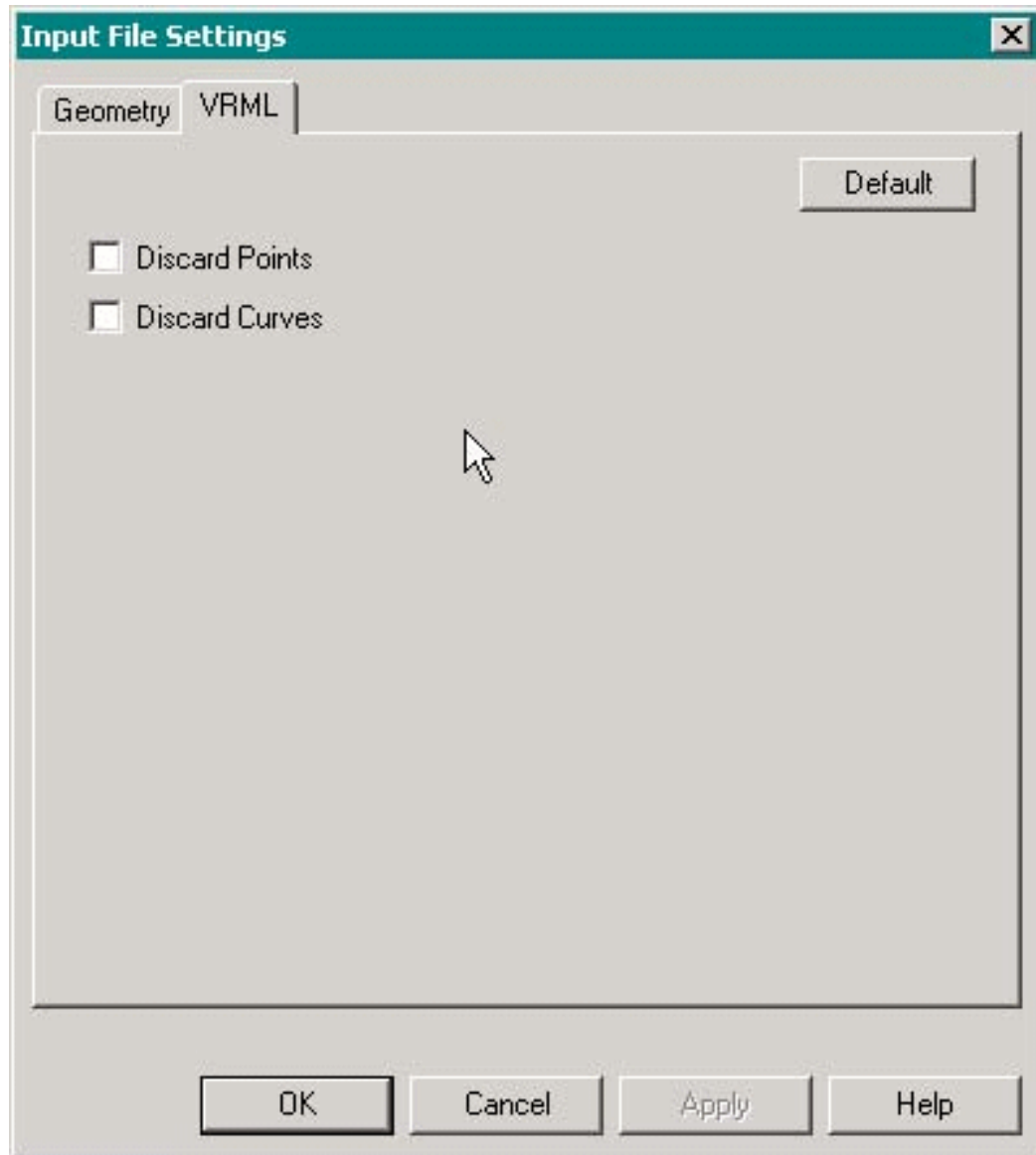


Option	Description
--------	-------------

Crease Angle	Sets the minimum external angle at which edges on the surface of an object are retained (default = 35). Some objects include surface discontinuities (such as creases, edges, corners) that need to be retained for rendering and not smoothed. For example, if you set the Crease Angle to 30, all external angles lower than 30 degrees would be smoothed while all external angles equal to or greater than 30 degrees would be rendered as discontinuities. If an object's edges are sharp in the original model but smoothed in the optimized model, lower the value for this option and reoptimize. Conversely, if you notice that unnecessary edges or creases are created, raise the value and reoptimize the file.
Quantize Coordinates	Quantizes object coordinates (truncates the single-precision floating point values) when it converts input model files. This results in faster performance with an accompanying minor degradation of display quality when the 3D model is viewed in the CADView-3D DeskTop viewer. Leave this option set unless you need to view very precise dimensions in the model you are converting.
Rotate +90 about X-axis	Rotates your model +90 degrees about the X axis. Set this option if your model appears "on its side" when viewed in DeskTop. If you have an STL (stereolithography) file exported from a CAD source with Z axis up (e.g. AutoCAD, CATIA, MicroStation, SDRC) you must set this option.
Triangle Reduction %	Sets the minimum number of triangles used to render an object at its lowest level of detail by a percentage reduction. For example, with a setting of 90%, an object normally composed of 200 triangles would be converted to render with a minimum of 20 triangles.
Maximum Error %	Sets a maximum percentage of error relative to a given object for its lowest level of detail. Default setting is 10%. A lower setting will result in a higher quality rendering.

VRML Settings

The VRML tab allows you to enter VRML settings on individual .WRL (VRML version 2.0) input files when you set "incremental optimization" in 3D Project tab.



Note: VRML 1.0 format is not supported. It is recommended that you export your model from the native CAD format directly to VRML 2.0. If that is not possible, use a VRML 1.0 to VRML 2.0 conversion utility.

Option	Description
Discard Points	Set to discard any points present in the 3D model. By default, points are not discarded.
Discard Lines	Set to discard any lines present in the 3D model. By default, lines are not discarded.

Defining Group Input File Settings

In a single tabbed dialog, you can enter Geometry (or VRML) settings for a selected group of input files from one or more projects. This feature is typically used if you want to synchronize specific settings for a project with many input files.

Note: When you turn off **Enable Incremental Optimization** in the 3D Project tab, input file settings are not available. Instead the Geometry and VRML tabs become available for editing at the Project level and will apply to all input files in the project.

To define Geometry (or VRML) settings for a group of input files:

1. Shift-click or Control-click multiple input files in the tree hierarchy.
2. Choose Edit/Input File (Group) or click the Edit Settings button. The Input Settings dialog appears.
3. Make the desired changes in the Geometry tab (and VRML tab if present).

Note: Common settings appear bold and settings that differ between input files appear dim.

4. Click OK to save the changed settings to each input file selected.

Optimizing and Publishing 3D Projects

Once you have created your project, added input files, and set the options, you are ready to run the optimization. You can also publish to a CADView-3D Server automatically after optimization.

Note: The Studio requires approximately four times (4x) as much disk space as does the set of input files it is optimizing. Additionally, the Studio requires two times (2x) the virtual memory size of all VRML files in the project.

- See: Optimizing 3D Projects
- See: Publishing 3D Projects
- See also: Files in Project Output Folder
- See also: Pausing and Resuming Optimization
- See also: Stopping and Skipping Optimization

Optimizing 3D Projects

You can tell Studio to optimize all projects in a given workspace or select certain projects to optimize.

- To tell Studio to optimize only **certain projects** in the Workspace, select (highlight) the project or control-click several projects.
- Choose Go, Run Selected Projects or click the **Run Selected** button.
- To tell Studio to optimize **all projects** in the Workspace, any of the projects can be highlighted. Choose Go/Run All Projects or click the **Run All** button.

Studio begins processing each project in the workspace in alphabetical order. Percentage complete for the optimizing and publishing phases appear in the Progress Information tab for each project. The overall progress appears at the bottom of the window in the status bar. Information written to the log file is also displayed in the Output window above the status bar.



Note: Studio detects when the input file's geometry has been changed and re-exported (using a timestamp) and when project or input file settings have changed. Only then will status become "Ready to Optimize"; otherwise, status is "Optimization Complete" and the message "no changes to optimize" appears in the output window.

Publishing 3D Projects

Publishing takes place automatically following optimization if you have set the "Auto-Publish to Server" option in the Content Publishing settings tab before clicking

the Run button.

If **Auto-Publish** is **[off]** (default), all of the output files created during optimization are saved together in the project directory.

If **Auto-Publish** is set **[to Server]**, after optimization, the output files are saved as usual to the project directory, but are also published to the CADView-3D Server.

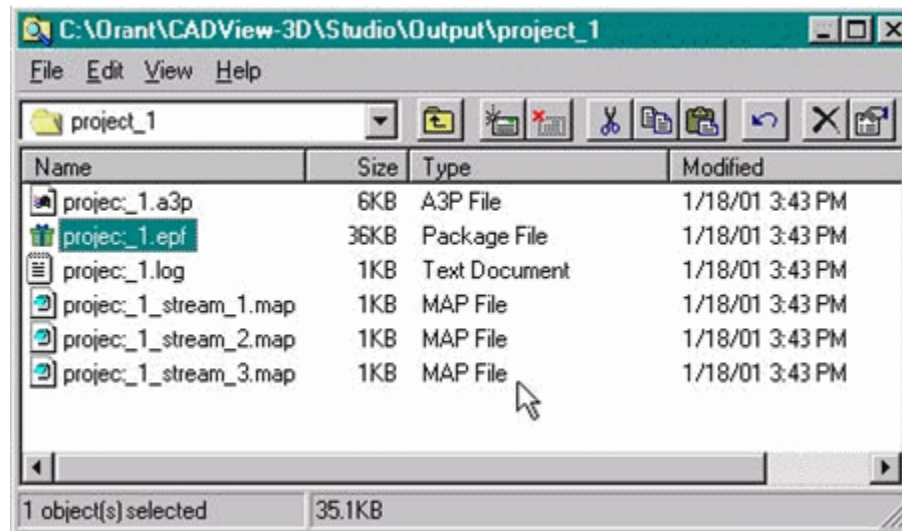
Geometry content is stored in the filesystem by default. Attribute and collaboration data are stored by default in the in the Oracle database associated with the CADView-3D Server.

If this is the first time publishing, an empty record for collaboration data is created. If this is a subsequent publishing of the same project in the same location, the existing collaboration data is retained.

- See: Files in Project Output Folder
- See also: Package File (.EPF)
- See also: Deleting Optimized Output Files

Files in Project Output Folder

When you optimize a project, a set of output files is created and stored in the project's folder in Studio's Output directory. To view the contents of the project folder use Windows Explorer.



The following files remain outside the .EPF package file:

- The project file <project>.A3P is created when you create and save your project.
- The project log file <project>.log contains information and error messages created

during optimization.

- The <project>_<input file>.MAP file which is used to identify and maintain persistent object IDs across reoptimizations for CAD models that support persistent IDs.

Package File (.EPF)

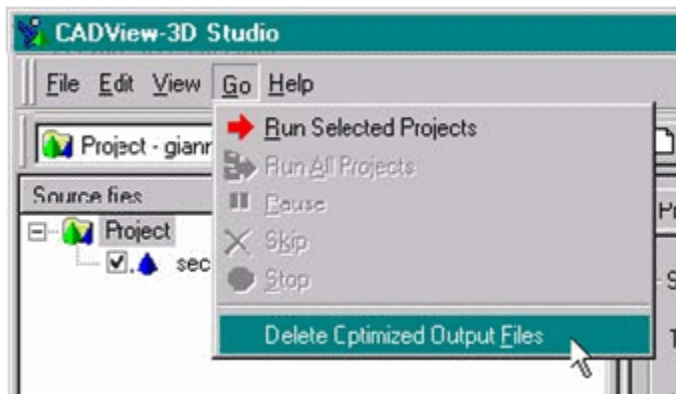
Starting in version 6, the set of optimized output files for each project are packaged in an .EPF package file after optimization prior to publishing. The following output files are included inside the package file:

- <project>.AMM (contains CADView-3D server location)
- <inputfile>.3DI (contains geometry data)
- <inputfile>.EAD (contains attribute data)

When you publish your project, this data is extracted and stored in the database associated with the CADView-3D Server.

Deleting Optimized Output Files

You can delete optimized output in the local project folder for selected project(s). Choose **Delete Optimized Output Files** in the **Go** menu.



The .EPF package file for a selected project is deleted from the project directory.

The project file (.A3P), workspace file (.VSW), .MAP file(s), log files (<project>.LOG and StudioLog.LOG), and any input files (.3DX, .WRL, .STL) for the project are not deleted and remain in their respective folders.

Pausing and Resuming Optimization

If the Studio encounters a problem in a file during optimization, it pauses and displays

an error message including the line number in the file where the error occurred. This information is also saved in the log file. You can choose to stop the process or continue optimizing, in which case the geometry node producing the error line is discarded.

To manually pause a process, click the Pause button or choose Pause from the Go menu.



Choose the Run button or click Run from the Go menu to resume processing.

Stopping and Skipping Optimization

Choose **Stop** from the **Go** menu or click the **Stop** button to stop optimizing the workspace at the current project. The optimization for that project is halted at a checkpoint. In a subsequent session, the project will resume from the checkpoint and continue on until completed.

To skip the current project being optimized and start the next project (alphabetically) in the workspace choose **Skip** from the **Go** menu or click the **Skip** button. The current project is checkpointed and the process is halted. The next project (alphabetically) in the workspace will then begin optimizing.

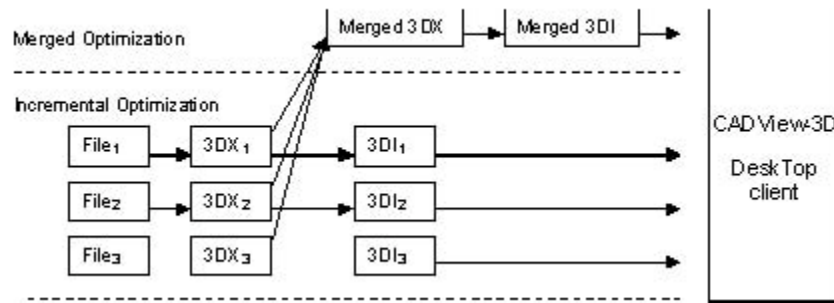
Optimizing 3D Projects with Multiple Input Files

You can add multiple input model files to a single project. The input files can be any number of .3DX, .WRL, or .STL files. The Studio does not distinguish between .3DX files from different CAD sources; however, when using multiple input files, all source files must use the same global coordinate system.

The Studio can then use one of two methods to create the output files.

Prior to version 5.0, multiple input files were merged into a single .3DI geometry file and single attribute database, and the output was rendered in DeskTop as a single integrated model.

In version 5.0, the Multi-Stream feature was added. It became possible to independently optimize several input model files in a project to create separate sets of output .3DI files and attribute data for each input model. The process is called "incremental optimization"; it is used to convert multiple input files into multiple sets of output files known as "streams" in the DeskTop viewer.



When optimized and published using incremental optimization, these models are stored on the same server and can be viewed from a single client. However, each model "stream" has its own attribute data and collaboration data as opposed to the merged or integrated model sharing data for all streams.

Performance is enhanced in the Studio because input files that have not changed since the last optimization will be ignored (not be re-optimized) when the multi-file project is processed. This is useful when running a batch command at the command line. Additionally, optimization time is decreased because the intermediate "merged" state is bypassed.

Performance is enhanced in the DeskTop viewer because the attribute and collaboration data for each stream can be queried separately and the display of constituent parts can be turned on and off in the **Structure** window to decrease the rendering time.

Merged Optimization Procedure

Specifying incremental or merged optimization is done by setting or clearing the "Enable Incremental Optimization" option in the 3D Project settings tab.

- See: Merged Optimization Procedure
- See: Incremental Optimization Procedure
- See: Reoptimizing a Project with Multiple Input Files

To perform an optimized merge:

1. Using a CADView-3D Translator, convert desired CAD model files into 3DX format. Use the "Generate 3DX File Only" setting in the Translator.
2. Move the 3DX output file from the Translator's output directory to a directory in Studio if desired.
3. In Studio, create and name a new Project.

4. Using the Add button, add the individual .3DX files to the project.

Note: You can also add .WRL and .STL files to the project, provided all input files have the same global coordinates.

5. In the 3D Project settings, **uncheck** the **Enable Incremental Optimization** option.
6. Start Optimization. A temporary merged .3DX file is made, and a single set of output .3DI (geometry) and .EAD (attribute) files are created using the same project base name. Only one .AMM file and one HTML file are created per project.

When viewed in the CADView-3D DeskTop client, the individual input files will be displayed as one integrated 3D model, and you will not be able to turn off streams as nodes in the **Structure** window.

To perform incremental optimization

7. Using a CADView-3D Translator, convert desired CAD model files into 3DX format. Use the "Generate 3DX File Only" setting in the Translator.
8. Move the 3DX output file from the Translator's output directory to a directory in Studio if desired.

9. In Studio, create and name a new Project for the new integrated model.

10. Using the Add button, add the individual .3DX files to be merged into the single integrated model.

You can also add .WRL and .STL files to the project provided all input files have the same global coordinate.

11. In the 3D Project settings, check the **Enable Incremental Optimization** option.
12. Start Optimization. Individual sets of output .3DI (geometry) and .EAD (attribute) files are created for each input file using the input file's base name. Only one .AMM file and one HTML file are created per project.

Individual model files for the project can be displayed independently in the CADView-3D DeskTop client by turning off other streams in the **Structure** window. Attribute data and collaboration data for each constituent stream can be queried independently.

Reoptimizing a Project with Multiple Input Files

In a project with Enable Incremental Optimization set, only input files that have changed since their last optimization will be detected (using timestamp) and reoptimized.

For example, if you have your project workflow set up to export and optimize in batch mode at the end of the day, only files that changed in the CAD source will be optimized after exporting.

However, if you open a project in Studio and manually delete a .3DX file, for example, and add then it back to the project, the file will be re-optimized, even if the content was not changed.

Using the Command Line to Publish Models

You can optimize and publish models from the command line using the MS-DOS command prompt without opening Studio. You can use a text editor to create a batch (.bat) file containing the command and options you want to use and then execute the batch file at the command line.

You will either need to enter settings in an existing .a3p project or specify Default settings and Preferences to set parameters to process input 3D model files (.3dx, .wrl, .stl). To publish to a CADView-3D server, set the **Auto-Publish to Server** option and enter server locations in the Content Publishing tab.

Note: However, the recommended method to publish by command line is to use the CADView-3D Translator version 11.5.9 or higher that calls Studio to do the publishing after translation is complete. There are now additional Studio-specific command line options available for the Translator command line. See the CADView-3D Translator documentation for more information.

The Studio command line has the following options:

For all batch processes, log file information is appended to a global Studio log file (StudioLog.log) located by default in the "Output" directory.

\<Orant>\CADView-3D\Studio\Output\StudioLog.log

Note: This location for global log file can be edited in Studio Preferences.

Additionally, project log files are still saved (overwritten by default) in the respective project folders.

Note: If you are going to publish via Studio to a CADView-3D Server connected to the Oracle E-Business Suite, you will need to manually edit the .a3p project file to add several parameters. Alternatively, you can publish your model first via the CADView-3D Translator interface with the "Keep Intermediate Files" option set and then open the resulting .a3p project in Studio if necessary.

- See also: Batch Processing All Projects in a Workspace
- See also: Batch Processing Selected Projects

CAD Publishing

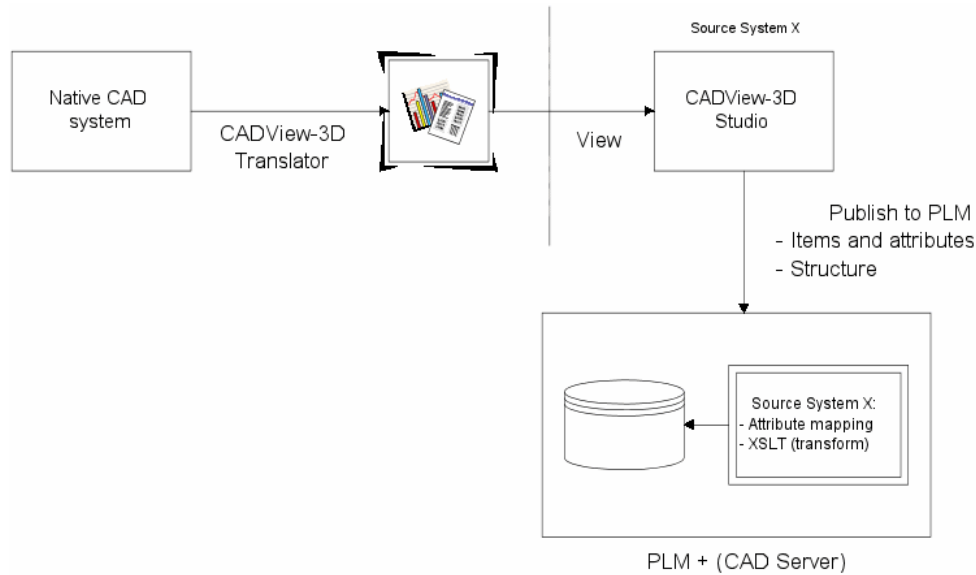
In the Design phase of product development, CAD models are used to not only represent the physical layout and appearance of a product, but are also used to define the product structure, items, and item attributes. CAD publishing enables you to publish item definition information from external CAD systems into the Oracle Item Master, through the CADView-3D Studio application.

Important: CADView-3D includes only translators for the VRML v2 and STL open-source formats. Translators for other formats and CAD systems may be available through Oracle partners or third party independent software vendors.

Overview of the CAD Publishing Process

An overview of the publishing process is illustrated in the following diagram. Information from a native CAD system is imported into the Oracle Product Information Management Data Librarian (PIM DL) Import Workbench. Using the CADView-3D Translator, item attributes, units of measure, and structure information are extracted from the native or external CAD model.

The Studio application then transfers the data to the PIM DL's Import Workbench. From the Import Workbench, you can then map attributes, set up structures, and so on. After you map the data, it can be published into interface tables from which the data can be imported into the Item Master.



You can use the CAD publishing option to create a unified item definition system, which can help to reduce or eliminate multiple silos of information. CAD publishing also enables you to manage multiple structures, attributes, and processes associated with a product's configuration.

CAD publishing also eliminates manual data re-entry from system to system. This publishing process also provides a way for Engineering to more directly communicate product information within the product's lifecycle and with manufacturing.

CAD Publishing Implementation Considerations

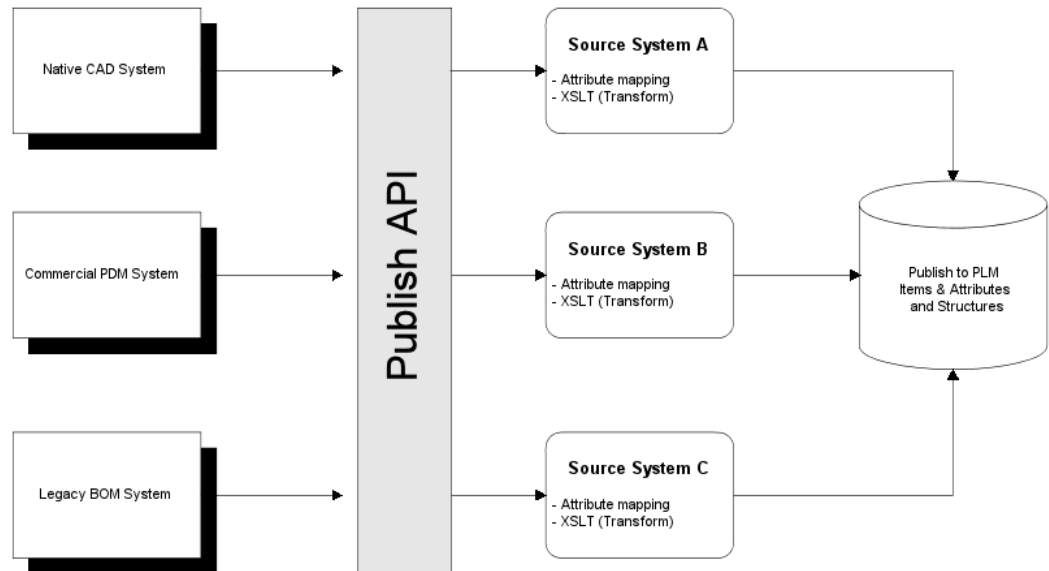
Before setting up CAD Publishing, note the following implementation considerations:

- The name of the publish API is: Publish
- The signature is: CADBOMPublishAMImpl.publish
- The file definition includes one number and two strings: (Number SourceSystemID, String cadXML, String cadXSLT)

The following diagram illustrates the standard CAD publish process. After items, attributes, and structure information are extracted from the CAD system, they are mapped to the Oracle Item Master schema. A source system for each native CAD system also needs to be defined in PIM DL. Source system definition ensures that the extracted information will map correctly to the Oracle schema.

Note: The CAD publishing process should be implemented only by users who are familiar with both their native CAD system, as well as

the PIM DL and the Oracle Item Master schema.



Before using the API, you must do the following:

- Integrate with the Oracle E-Business Suite through customized code.
- Obtain an instance of `CADBOMPublishAMImpl`, and then call the Publish API from that instance, which accepts:
 - The source system ID to which they want to publish the CAD data
 - The cadXML that contains the import data
 - The CadXSLT that converts the CAD XML into XML that can then be read by the Import Workbench.

How to Publish Native CAD Models Using CAD Publishing

Before you begin CAD publishing, make sure that the CADView-3D server is up and running. You can verify the server status by selecting the CADView-3D Server Status option under the Development Manager responsibility.

To Publish a Native CAD Model Using CAD Publishing:

1. Navigate to the Import Workbench.
2. In the PIM DL's Import Workbench, define the source system.

ORACLE Item Import Management
Organization: Vision Operations (V1) Home Logout F

Import | Source System Setup
Source System Setup >

Define Source System
* Indicates required field

* Name Code
 Type

Description

☒ Enable For Items

Note: The source system specifies the native CAD system. From this system, CAD data will be imported into the Item Master.

3. Map attributes from the native CAD model to the Item Master.

Data Load Options | Import Options | **Mapping**

Mapping Process: Define in PDH

☐ External Attribute

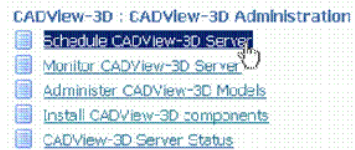
Attribute Mapping Schema
 Source System Attribute Mapping XML

☐ Attributes

Select Attribute

Select Attribute Group	Attribute	Type	Default UOM	Source System
<input type="radio"/> Spring Characteristics	<input type="text" value="SpringIndex"/>	Number		<input type="text" value="Spring Part"/>
<input type="radio"/> Primary	<input type="text" value="Item"/>	Char		<input type="text" value="Part Name"/>
<input type="radio"/> Primary	<input type="text" value="Item Catalog Category"/>	Char		<input type="text" value="Part CC"/>

4. Confirm that the CADView-3D server is running, and confirm the port and IP address of the CADView server.



5. On the Schedule Requests: Request page, specify when you want the concurrent request to run.

6. On the Schedule Requests: Notifications page, select who should be notified when the concurrent request finishes.

[Name](#)
[Parameters](#)
[Schedule](#)
[Layout](#)
[Notifications](#)
[Review](#)

Schedule Request: Notifications

Program Name **CADView-3D Server Concurrent Program**

Request Name

Select Recipients:

[Select All](#) | [Select None](#)

Select Recipients		Normal	Warning	Error
<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

- Submit the concurrent request.

[Previous](#)
[Notifications](#)
[Review](#)

Schedule Request: Review

Step 6 of 6


Name
 Concurrent Program Name **CADView-3D Server Concurrent Program**
 Request Name
 Operating Unit

ORACLE CADView-3D

Information
 Your request for CADView-3D Server Concurrent Program has been scheduled. The Request ID is 5539310

Requests

View

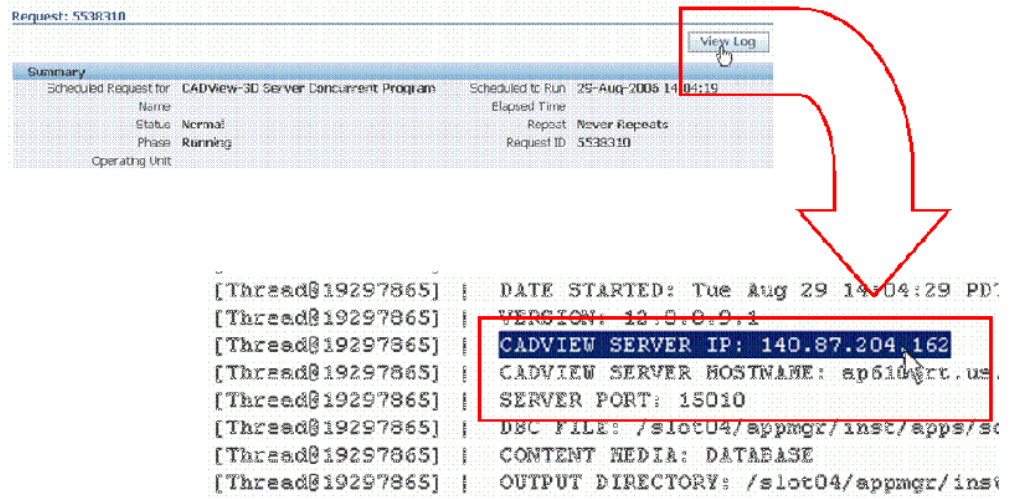
Status	Name	Phase	Scheduled Date	Details
✓	CADView-3D Server Concurrent Program	Running	29-Aug-2006 14:04:19	

- After you submit the request, note the concurrent request ID.

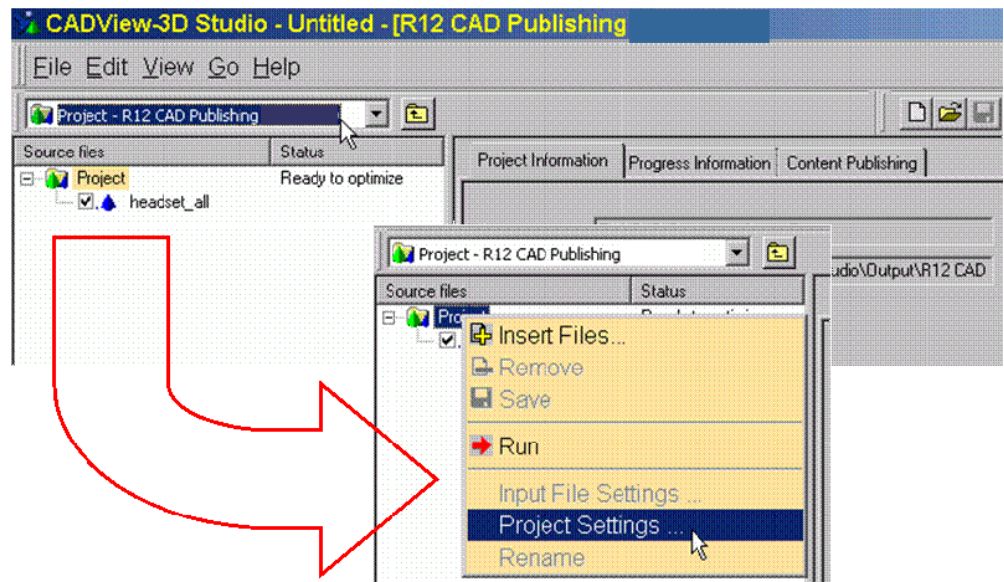
Note: You can view the details and status of your concurrent request, by selecting the Details icon in the Requests page.

To Set Up Project Settings in CADView-3D Studio:

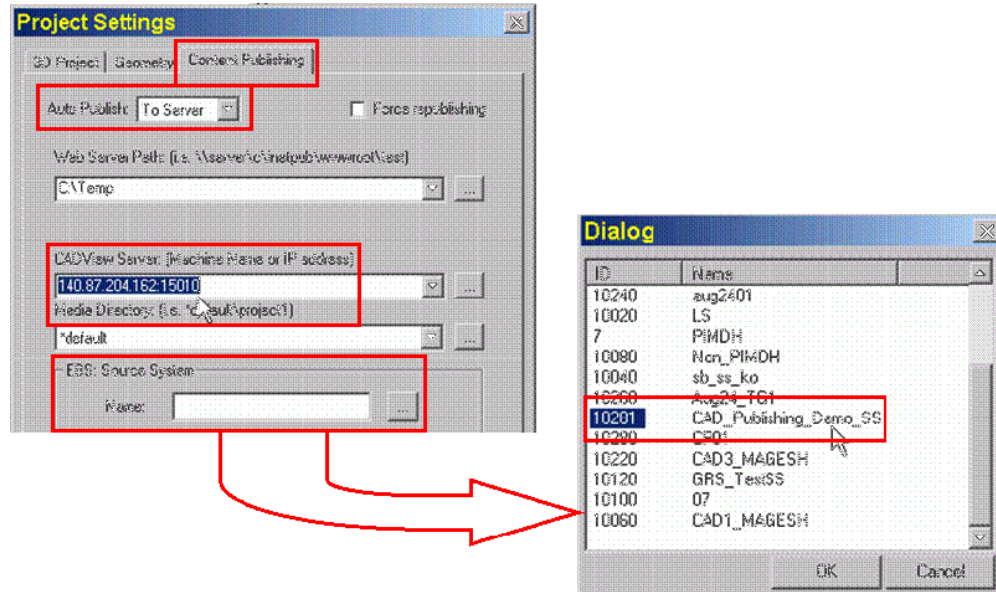
- After your concurrent request begins running, view the log details to retrieve the CADView-3D's server ID and port numbers.



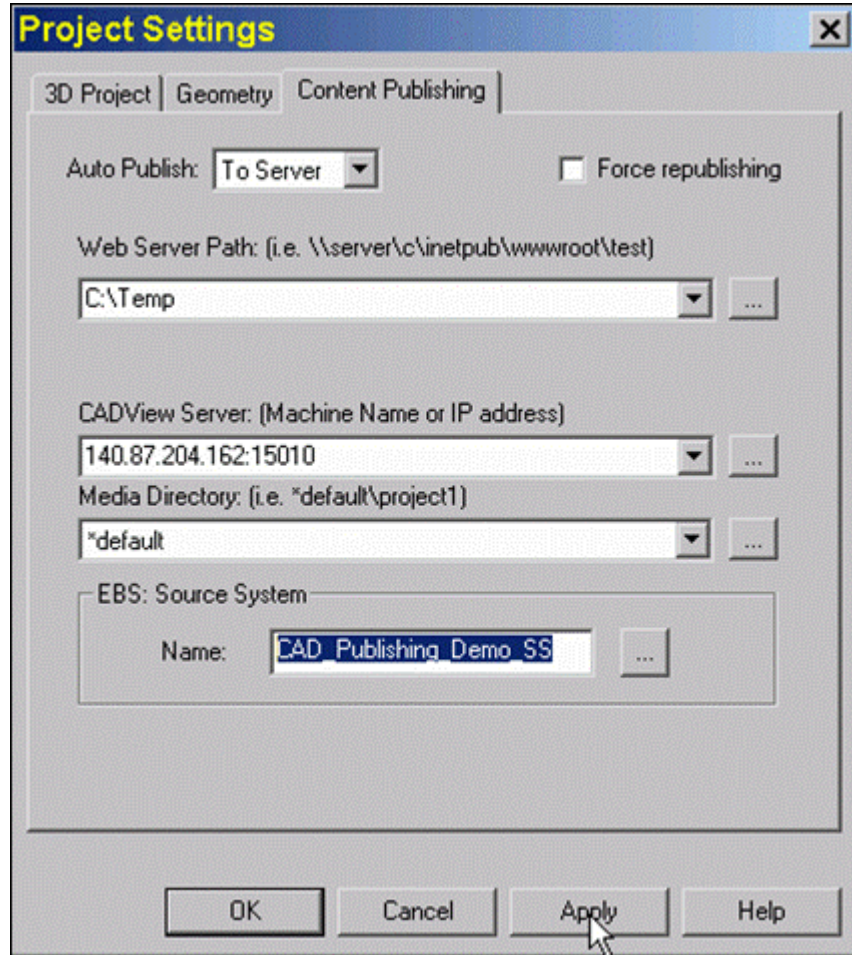
2. Launch the CADView-3D Studio application.
3. Open an existing project or create a new one, and right click the project to navigate to the project settings.



4. In the Project Settings window, select the Content Publishing tab.



5. Verify the following settings:
 - Auto Publish option is set to Server
 - Confirm that the CADView Server IP address matches and port number have been correctly identified.
6. In the EBS Source System field, click the button next to the Name field to bring up a list of the defined Source Systems.
7. Select the appropriate Source System that you previously defined.
8. Click the Apply button to save your selections.



After you select the Source System and apply your selection, CADView-3D Studio extracts the metadata, where you can review it in the Import Workbench. From the Import Workbench, you can continue the process, by confirming the import results, before the data is imported into the Item Master.

Batch Processing All Projects in a Workspace

Using the Studio dialog, create and save project (.a3p) files in a workspace (.vsw), specifying the necessary project settings.

To optimize **all** projects contained in an existing workspace, change directory (cd) to the Studio directory and enter the following at the command line, for example:

Studio /b workspace.vsw

Note: It is only possible to process one workspace (.VSW) file per command line.

Individual project log files are saved (overwritten by default) in each project folder. Collective log information is appended to a global Studio log file (StudioLog.log) located by default in the Studio "Output" directory.

Batch Processing Selected Projects

In the Studio window interface, create and save the project (.a3p) with input files and specify any necessary project settings (such as Auto-Publish and server locations).

To optimize and publish specific projects, change directory (cd) to the Studio directory and enter a command such as the following:

```
Studio.exe /b Project.a3p
```

or

```
Studio.exe /b Project1.a3p; Project2.a3p; Project3.a3p
```

You can name up to six project files per command line. The projects need not all be in one workspace. Studio will optimize each project according to the settings you save in each project.

Project log files will be created (overwritten by default) and saved in each project folder. Collective log information is appended to a global Studio log file, StudioLog.log, located by default in the "Output" directory.

Viewing Optimized 3D Models

You can view your model after optimization using the CADView-3D DeskTop viewer (installed separately) launched from Studio. Similarly, you can view optimized models that have been published to a CADView-3D Server. When you view a published model, you can see part attribute data, and you can customize or author features stored as collaboration data. Your authored features are available to other users when they first open the model.

- See: Viewing 3D Models on Local Drive
- See: Viewing Published 3D Models on Server
- See: Authoring Published 3D Models

Viewing 3D Models on Local Drive

After you have optimized a project on your local drive, you can use the DeskTop viewer to visually check the quality of the optimized model. By comparing it to the original CAD model, you can see if there are any differences in geometry, color, etc. You can then change conversion parameters and test your model locally before publishing to the CADView-3D Server.

To view 3D models on a local drive:

1. Turn off the "Auto-Publish" setting in the Content Publishing tab in Project settings.
2. Choose Go/Run Selected Projects or click the **Run** button to optimize your model.
3. Select (highlight) the project in the tree hierarchy.
4. Choose View, 3D Model, From Local Disk or click the **View From Local** button.

The output .EPF package file is unpacked on the local drive. The HTML file for the selected project is opened in the default web browser to display the 3D model.

5. Compare the geometry of the optimized model rendered in the DeskTop viewer to the original model in its native format. Open the original file in the CAD or design application and compare the two rendered models side by side.

Note: The attribute data and collaboration data are not available when viewing the model on your local machine. You need to publish to a CADView-3D Server and associated Oracle database for that.

See also: Features Not Available When Viewing Locally

Features Not Available When Viewing Locally

When you use the CADView-3D DeskTop viewer to display a 3D model that has been optimized by Studio on a local drive but is not yet published to a CADView-3D Server, the collaboration and attribute database are not created.

You can navigate and view the model, but you cannot see object attributes or use the following features: **Animation** tool, **URL** window, **Meeting** window, **Attribute** window, or **Attachment** window. You can, however, use the **Markup** window with dimensioning tools to make markups and save them as image files on your local drive. You can use the **Viewpoint** tool and **Path** tool to save .VIEW and .PATH files locally. And, since nothing is published to a CADView-3D Server, group meeting is not available.

Note: You must publish to a CADView-3D Server with an Oracle database to view and attribute data and create collaboration data.

Viewing Published 3D Models on Server

After optimizing and publishing your project to a CADView-3D Server, you can use the DeskTop viewer to view the model along with attribute data. You can also author

special features in the model stored as collaboration data.

To view published 3D models on the server:

1. Select (highlight) the project in the tree hierarchy.
2. Choose View/ 3D Model/ From Server or click the **View From Server** button.
3. The HTML file for the published project is opened in the default Web browser displaying the 3D model.
4. If you want to customize features found in DeskTop, see Authoring Published 3D Models.

Authoring Published 3D Models

Using CADView-3D DeskTop launched from the Studio application, you can customize or "author" features in your model right after it is published. You may want to do this to set up viewpoints, paths, URLs, or animations in advance for users without putting them in "MyViews" which would show up under your login name in DeskTop.

You can only perform authoring after publishing is complete and only from an open project in CADView-3D Studio. Authored features are stored with the model's collaboration data and can be accessed by any user from an "Authored" node in the respective DeskTop window.

For detailed information about creating Viewpoints, Paths, URLs, and Animations, refer to the corresponding topics in CADView-3D DeskTop documentation.

However, to create an "authored" viewpoint, you must first select the Authored node in the **Viewpoint** window. If you do not select the Authored node, the viewpoint will be created under My Views. (graphic: Cadv_st2_10)

See: Authoring Stream Transformations

Authoring Stream Transformations

You can use Studio to create Multi-Stream models in which multiple input files in a single project are optimized independently (see "Optimizing 3D Projects with Multiple Input Files").

At times it may be necessary to bring separate streams into registration to produce a "whole" model of constituent streams with a common center. The Author Transformation dialog enables you to make adjustments to each stream's position by applying transformations (translation, rotation, scale). Since a native CAD model may already have a transformation, all other transformations you apply are cumulative.

Note: Stream transformation can only be performed in Studio's DeskTop viewer from an open .A3P file of a published model. Therefore, only persons with access to the .A3P project file and Studio can author stream transformations. The dialog is otherwise not available in the CADView-3D DeskTop.

To author stream transformations:

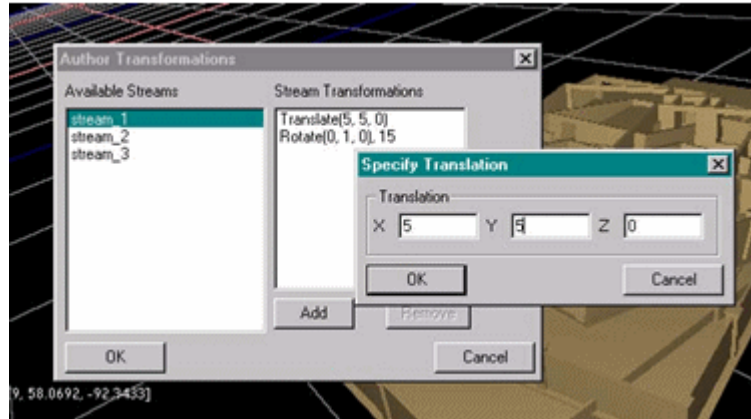
1. Once the Multi-Stream model has been optimized and published, open the project .A3P file in Studio.
2. Select (highlight) the project in the tree hierarchy.
3. Choose View, 3D Model, From Server to open the published model in the DeskTop viewer.
4. Right-click the viewing window and choose Author Transformations from the pop-up menu.

Note: This menu item appears only when the DeskTop viewers is launched in this manner from Studio.



5. Select a stream in the Available Streams list.

Note: Stream transformation is typically used to bring multiple streams into registration, but you can also use it to reposition a model composed of a single stream.



6. Click the Add button and select a type of transformation (Translate, Rotate, Scale, Center About Stream).
7. In the dialog box enter value(s) to apply with the transformation.
8. Click OK. The transformation/values appear in the list at right associated with the selected stream.

Note: If you use Center About Stream, a pair of entries will appear such as Center (x, y, z) and Center (-x, y, -z). If you later want to remove the Center About Stream transformation you must remove *both* entries from the list.

9. Select another stream and repeat the above steps.
10. Click OK to save the transformations in the HTML file of the open project.
11. Save and close your project in Studio.

When the model is opened in the normal manner (outside Studio) by the CADView-3D DeskTop, the constituent model streams are found in their new positions. They cannot be "moved" by other users (except by using the **Animation** tool to animate parts).

Note: If your model contains streams from CAD files with different file formats (e.g., inch/feet and m/mm), the resulting model will be measured in meters.

Republishing Models

When you modify your CAD source file and want to publish it again through

CADView-3D Studio, you can get one of two outcomes depending on whether or not you create a new project for it.

When you republish your model over time from the **same** project:

- Existing geometry data is **overwritten with new data**
- Existing attribute data is **overwritten with new data**
- Existing collaboration data is **retained**
- The **same model** is accessed from the existing link and model name

Use this method if you want to launch the model from the same link and have the model change dynamically over time as the CAD model changes. All of the collaboration data is cumulatively retained in one model.

If you create a **new** project (with a new name) for a newly translated 3DX file and republish it:

- **New** geometry data is created
- **New** attribute data is created
- **Empty** collaboration data record is created
- A **new version** of the model is created with a new link and model name

Use this default method if you want to keep a record of the model at various stages of development and begin collaborating with an empty collaboration database each time a new version is created.

Note: If you are publishing your model to E-Business Suite, be aware that Studio cannot currently detect whether a model of the same name has already been published there. If you create a project name that in turn creates a model name that is already published to the database, that model will be overwritten. The project name must be unique so it does not conflict with other published model names in your organization.

See also: Republishing a Model Without an Existing .A3P Project File

Republishing a Model Without an Existing .A3P Project File

If you published your model from a CADView-3D Translator, you must explicitly set the "Keep Intermediate Files" option to retain the 3DX and A3P files, otherwise, they are deleted after publishing. These files can subsequently be used in Studio to publish merged or multi-stream models.

To republish a model from Studio for which there is no longer an .A3P project file:

1. Create a new project .A3P file in Studio giving it exactly the same project name or CADView-3D Model Name originating in the Translator.

Note: Look for it in the **Server/Model Information** window in the published model in DeskTop or in the top node of the **Structure** window hierarchy.

2. Add the existing 3DX file and any other necessary input files to the project.
3. Set the required project settings to match those used in the Translator when the model was last published.

Note: Make sure to set "Auto-Publish to Server" and "Force Republishing" in the Content Publishing tab.

4. Save the project A3P file and open it in a text editor such as Notepad.

Edit the A3p file manually to add the following flag which tells Studio to ignore the GUID (global unique identifier) when republishing a model of the same name to that location.

"Project.Publish.Settings.IgnoreGUID"="1"

If you are publishing to E-Business Suite or to a CAD-View-3D Server behind a firewall, see: Manually Editing the A3P Project File.

5. Open the project again in Studio and select Run Selected Projects from the Go menu to republish your model.

Persistent IDs and DeskTop Behavior

This chapter covers the following topics:

- Understanding Persistent Object IDs
- Setting Default DeskTop Behavior with Overrides
- Creating a URL Template
- Linking URLs to Parts Using Variables

Understanding Persistent Object IDs

CADView-3D contains several features that use persistent object IDs. In the DeskTop viewer, the **Animation** window and **URL** window expect persistent ID's to be in the published model.

Some CAD source files, such as those originating in CATIA, do not support persistent object ID's in their native format. If the geometry in the source file is modified and re-exported and the project is reoptimized and published to the same location, users viewing the model in the DeskTop viewer may encounter unexpected behavior such as objects that switch places in animations.

However, CADView-3D will detect a model that does not have persistent IDs and display a message when you first attempt to create something with an object ID relationship (in **Animation** window and **URL** window). You can continue, but you are made aware that your source model does not support this feature after reoptimization.

If the model is reoptimized and a user attempts to play an animation or view a URL created prior to reoptimization, a message is displayed stating it is possible that an object may not be correct because the model has been reoptimized.

The user can always relink the URL or reapply the animation to the correct object in the DeskTop viewer if necessary.

Setting Default DeskTop Behavior with Overrides

You can specify default viewing behavior in the DeskTop by manually entering "override" parameters in the custom HTML file pointing to the model. These parameters then produce the corresponding settings in DeskTop. This allows you to customize the initial way the model appears when users initially open the model.

Note: This optional feature is used only with the "stand-alone" CADView-3D product suite. You cannot use it if you are publishing to CADView-3D integrated with the Oracle E-Business Suite because the HTML data is stored in the Oracle database.

Since a new HTML file is created each time a model is published, you may want to wait until after your model is stable and no further reoptimization is required before you add the HTML overrides.

In the HTML file created by Studio within the ActiveX <OBJECT> </OBJECT> tag, enter the override parameter in the following format:

<PARAM NAME="**wireframe**" VALUE="1"> In the same HTML file , enter the same override parameter in the following format inside the Netscape <EMBED> </EMBED> tag:

wireframe="1"

The following parameters and values (**not** case-sensitive) can be set in HTML overrides:

Option	Description
"viewname"="name" "pathname"="name" "viewpoint"="x y z r p r" (select only one of the three).	Sets either a view name, path name, or viewpoint to be active when the 3D model is opened Viewname is the name of a viewpoint stored in the collaboration database. Pathname is the name of a path stored in the collaboration database. Viewpoint is defined by a set of six numbers: position on the x, y, z axes along with heading, pitch, roll. For example: "5.0 5.0 -2.0 45.0 -10.0 0.0"

Option	Description
"CreateUser"="username "	Specifies a user name to be used in conjunction with the "viewname" and "pathname" settings to specify its owner to insure its uniqueness. Each user can create a number of uniquely named views or paths. However, identically named views or paths can exist in the collaboration database associated with a different users. If this setting is omitted, the matching "viewname" or "pathname" from the current user viewing the model is loaded. If DeskTop is launched from Studio to perform authoring, then the matching "authored" view or path of that name is loaded.
"fullscreen"= "1/0"	1 = the model is displayed in full-screen mode when opened, without the browser interface. 0 = the model is displayed with the browser interface (default). Note: Novice DeskTop users who initially view the model will need the browser interface displayed.
"BackFaceCull"= "1/0"	1 = the model is displayed with Backface Culling on when opened (default). 0 = the model is displayed with Backface Culling off when opened.
"Wireframe"= "1/0"	1 = the model is displayed with all objects in wireframe mode when opened. 0 = the model is displayed with all objects shaded when opened.
"ShowTopView"= "1/0"	1 = a Top View window appears immediately when the model is opened. 0 = a Top View window is not displayed with the model (default).
"showFrontView"= "1/0"	1 = a Front View window appears immediately when the model is opened. 0 = a Front View window is not displayed with the model (default).

Option	Description
"speed"="number"	Specify a specific speed value used for navigation between 0.001 (slowest) to 1000 (fastest).
"nearClip"="number"	Displays the 3D model with a specific Near Clip Plane setting (value between .001 and 5.0). Used with farClipMode setting.
"farClip"="number"	Displays the 3D model with a specific Far Clip Plane setting (value between 0.1 and 15). Used with farClipMode setting.
"farClipMode"= "absolute" or "relative"	Used in conjunction with "nearClip" or "farClip" setting. "If "absolute," the farClip value is interpreted as an absolute value, independent of the scene extents. If "relative," the farClip value is interpreted as a multiplier to the scene extents.
"backgroundImage URL"="URL string"	"Specifies the URL of an image to be used as the background texture. The dimensions of the image must be powers of 2 and the image must have 24-bit color depth. Any one of the following types can be used: JPEG, TIFF, PCX, TARGA or BMP. For example: "http://cadview/pattern.bmp" Once set, use "Graphics" Preference tab in DeskTop to show/hide image.
"queryAttributeName"= "attribute" "queryAttributeValue"= "value"	Specifies the attribute name and value with which to query the attribute database. If both are specified, the DeskTop client queries the database for the specified attribute and value and isolates the resulting objects. For example: queryAttributeName = "color" queryAttributeValue = "red"
"UserAlias"="UserName "	Enters the login name of a given user in the "Meeting Alias" field in the General Preference tab. After which, the field becomes grayed out preventing further editing.

Option	Description
"UserName"="UserAlias "	Specifies a single name to be used for all DeskTop connections to the CADView-3D Server. This name overrides the DeskTop default which uses login name for each user. The "Meeting Alias" field in the General Preference tab becomes grayed out preventing further editing.
"AssemblyNode"= "/htmlfilename/stream name/node1/node2"	Isolates the specified node(s) when DeskTop is launched. The names in the path must match those shown in the Structure window.
URLFrame="frame name"	Specifies the name of the HTML frame into which URLs are launched for the URL Template feature. The HTML page must also have a frame defined with this name. If the frame is not found, the URL is launched in a separate window. See Creating a URL Frame for a URL Template. Note: Use this option to launch related documents and not related models. Other CADView-3D models should be launched by default in a separate browser window.
URLTemplate= "URL string"	Specifies the URL for a related document or model. It can also be used to tie object attribute values to URLs. The name of the attribute is specified inside HTML comment syntax. If a picked object has this attribute and the user launches the URL, the value of the attribute is substituted in the URL before it is launched. See Creating a URL Template.

See: Creating a URL Template, page 3-5

Creating a URL Template

Using the "URLTemplate" override you can link a URL globally to a model or link a URL to a part in the model using one of the object's attributes. This feature allows you to do the latter without making an entry in the model's collaboration database. In essence it extracts one attribute of the part you pick and inserts it on the fly into a URL as it is launched by the DeskTop. The URL can be used to launch a related document or another CADView-3D model.

Note: You can also use the **URLs** window in CADView-3D DeskTop to link URLs to the model. Unlike URLs linked through HTML overrides, URLs added in the **URLs** window are stored with collaboration data and persist after the model is republished, assuming conditions in the model are met for persistent object IDs (see also Understanding Persistent Object IDs).

Like other HTML overrides, you need to manually enter a line in the HTML file after it is published to the Web server. To do so, use Notepad or another text editor.



- See: Linking URLs to a Model
- See: Creating an Alias for a URLTemplate
- See: Creating a URL Frame for a URL Template
- See: Linking Multiple URLs to a Model
- See: Linking URLs to Parts Using Variables
- See: Linking URLs to Parts Using Variables with a PDMS System

Linking URLs to a Model

You can associate URLs with the overall model so regardless of what you have selected you will have access to them. You may want to use this feature to link to the URL of a related model or to a specific HTML page or PDF document with information about the model.

For example, if the following parameter is found in the HTML file,

`<PARAM NAME=`

`"URLTemplate"="http://www.oracle.com/cadview-3d/headset.html">`

The URLs option in the pop-up menu will have the following sub-menu item displayed:

`http://www.oracle.com/cadview-3d/headset.html`

Then, when you launch the model and choose **URLs** in the **View** menu, you can choose

a URL under **Model URLs** to launch the URL in another web browser window.

Creating an Alias for a URL Template

You can also define an "alias" or common name in the URL Template that will appear in place of the URL in the sub-menu.

Enter the alias as follows inside the quotes, just before the URL (no space):

```
<PARAM NAME="URLTemplate"="<!--Related Model-->
```

```
http://www.oracle.com/cadview-3d/headset.html">
```

Linking Multiple URLs to a Model

Only one URL Template line is allowed in a given HTML file. Multiple URLs can be added, however, provided they are space separated and there are no line breaks (carriage returns).

```
<PARAM NAME="URLTemplate"="<!--Related Model-->
```

```
http://www.oracle.com/cadview-3d/headset.html(space) <!--Related Document  
-->http://www.oracle.com/cadview-3d/headset.PDF"
```

The URL aliases appear as separate items under **URLs** in the **View** menu.

Note: If the URL contains a space internally, replace it with a non-breaking space entity ().

Linking URLs to Parts Using Variables

Two virtual attributes (AM_OBJECT_ID, AM_OBJECT_NAME) exist for each part in the model. They are available at run-time in the DeskTop client for all parts including those originating from VRML 2.0 and STL files. These attributes exist even when there is no attribute data from the source CAD model. However, you can choose any other attribute that was exported from the CAD source file as well.

With the appropriate "URLTemplate" entry in the HTML file, when you pick a part in the model and then right-click it, the value of that attribute is substituted in the URL and an entry for it appears in the pop-up menu.

You can also create a "frame" for it in the HTML page containing the HTML file link and specify a "URLFrame" override in the HTML file (see Creating a URL Frame for a URL Template).

If you have a collection of documents residing on the server that you have intentionally named according to corresponding parts in the model, you could create a URL Template that appends ".doc" or ".pdf" to the object name which is substituted as a variable:

```
<PARAM
```

```
NAME="URLTemplate"="http://www.oracle.com/cadview-3d/
```

Also, enter a line in the HTML file with the same frame name:

```
URLFrame="frame"
```

The browser window for the example above would appear with the specified document in a frame below the frame containing "headset.html" in the DeskTop browser window.

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