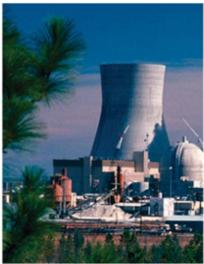
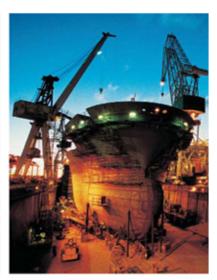
SmartPlant Engineering Manager *User's Guide*

Process, Power & Marine









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Preface

This document is the user's guide for SmartPlant® Engineering Manager. The content is the same as the online Help delivered inside the product.

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Introducing SmartPlant Engineering Manager

SmartPlant Engineering Manager provides all the tools you need to effectively set up and manage your work with SmartPlant applications. SmartPlant Engineering Manager takes advantage of a client/server design that greatly enhances performance and lowers the cost of ownership. Because it is built on few Microsoft dependencies and is not web-based, SmartPlant Engineering Manager requires no web server. The intuitive user interface design, with its streamlined layout, allows you to easily manage user access and to share plant data.

Supporting SmartPlant P&ID and SmartPlant Electrical, SmartPlant Engineering Manager manages the plant structures while the applications themselves are responsible for manipulating the actual data (including creating, deleting, modifying, launching, and so forth). SmartPlant Engineering Manager allows you to view not only the data related to the whole site but also data related to individual plants and projects. You can create and maintain SmartPlant Engineering sites, plant structures and projects, in addition to adding plant group types, modifying plant attributes, creating and modifying hierarchies, and associating SmartPlant applications.

SmartPlant Engineering Manager Program Group

The SmartPlant Engineering Manager program group provides several utilities for managing your plant data.



SmartPlant Engineering Manager allows you to create the SmartPlant site and plants. You can create plant structures, plant groups, hierarchy templates, as well as define the access to plant data on many levels.



Catalog Manager allows you to create and modify symbols and labels.



Data Dictionary Manager allows you to add properties to SmartPlant database tables, define external programs, view relationships, and create and modify select lists.



Data Dictionary Template Comparison Utility allows you to determine the differences between two data dictionary template files or between one data dictionary template file and the corresponding data dictionary/schema from a plant.



Filter Manager allows you to create and modify filters to discriminate on database data. Filters are used for displaying data in symbology, gapping, graphical views, reports, rules, and so forth.



Format Manager defines available formats for units of measure properties.



Refresh Site Roles Utility allows you to automatically refresh the roles in a site on a scheduled basis.



Reference Data Synchronization Manager provides tools for comparing, synchronizing, and managing reference data across multiple plants. Used in conjunction with the **Update Drawings** functionality in Drawing Manager, this application is especially useful when you need to maintain a central set of reference data for all plants across a site without having a network or database connection between plants.

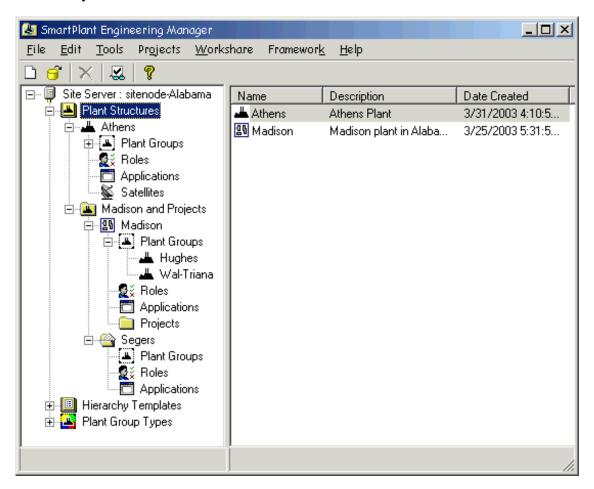


Upgrade Utility guides you through upgrading your SmartPlant Engineering data.

Understanding the Interface: An Overview

The SmartPlant Engineering Manager user interface consists of two main areas. The Tree view on the left displays the plant hierarchy in a tree format. The List view on the right displays property data for the nodes in the selected branch in the tree.

The commands in SmartPlant Engineering Manager are node-specific, meaning that the availability of a command depends on which node in the **Tree** view or item in the **List** view you select.



- Tree View, page 12
- List View, page 14

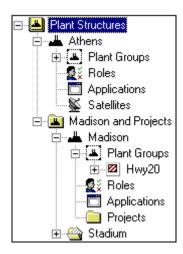
Tree View

The **Tree** view displays plant groups in their plant structures. You define both the plant structure and the plant group types. At the base of the tree is the **Site Server** root. The **Site Server** root was created when the site administrator completed the **Create Site Schema Wizard**.

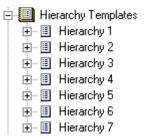
The three main root nodes are listed under the **Site Server** root:



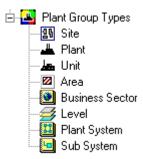
Plant Structures Root - Contains all of the plants created in the site. Each plant structure represents the physical hierarchy (plant breakdown structure) of your plant. A hierarchy is used as a template to create a plant structure, defining the available plant groups for that particular plant. The hierarchy is essentially a set of rules that the plant structure must follow. Under each plant structure are its related **Plant Groups**, **Roles**, **Applications**, **Projects** and **Satellites** nodes.



Hierarchy Templates Root - Displays the various hierarchy templates that can be used to generate the structure of a plant. A hierarchy is made up of a set of two or more plant group types (formerly called hierarchy items) that are arranged in a tree structure.



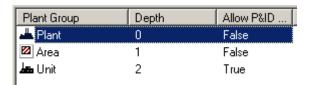
Plant Group Types Root - Displays the building blocks used to create plant breakdown structures (hierarchies). Eight plant group types are delivered by default. You can also create custom plant group types.



- Hierarchy Templates Root: An Overview, page 128
- Plant Group Types Root: An Overview, page 135
- Plant Structures Root: An Overview, page 62
- Site Server Root: An Overview, page 42

List View

The **List** view displays property data for the children of the selected node in the tree. The **List** view sorts by the column heading that you click. You can use the **Tools** > **Show Fields** command to control which properties appear in the **List** view and the order in which they appear.



Show Fields Command

☒ Tools > Show Fields

Allows you to specify which properties display in the **List** view and the order in which they appear. The **List** view columns are the properties of the items in the **Tree** view.

Notes

To enable the **Show Fields** command, select either the **Site Server** node or a plant or project node.

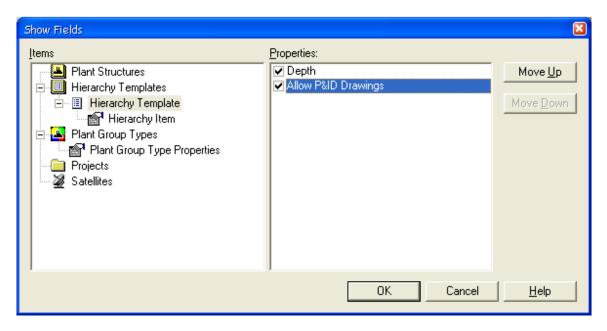
Show Fields settings for the site server are stored in the SiteShowFields.cfg file in the C:\Documents and Settings\user profile folder. This file contains all **Show Fields** settings except for the plant hierarchy information, which is stored in the plant schema.

Projects use the **Show Fields** definitions of the parent plant.

- Show Fields Dialog Box, page 15
- List View, page 14

Show Fields Dialog Box

Allows you to specify which properties display in the **List** view and the order in which they appear. The **List** view columns are the properties of the items in the **Tree** view.



Items - Lists the items available for display in the **List** view. Select an item from this list to display its properties in the **Properties** list.

Properties - Lists all available properties for the selected item. Properties that that are checked will display in the **List** view in SmartPlant Engineering Manager.

Move Up - Moves the selected property up in the list. The higher a property is in the list, the farther to the left the property appears in the **List** view.

Move Down - Moves the selected property down in the list. The lower a property is in the list, the farther to the right the property appears in the **List** view.

- Show Fields Command, page 14
- List View, page 14

New Command

\Box File > New

Allows you to create new sites, plant structures, plant groups, plant group types, hierarchy templates, roles, and satellite slots. The item selected in the **Tree** view determines the action taken by the **New** command. The **New** command is disabled when you have not selected an appropriate item in the **Tree** view.

To create a new	Select this object and click File > New	For more information, see
Site server	Site Server node	Creating a Site Server Wizard, page 43
Plant structure	Plant Structures node	Creating a Plant Structure Wizard, page 63
Plant group item	Plant Groups node	Create a New Item in a Plant Group, page 83
Role	Roles node	Create a New Role, page 91
Project	Projects node	Creating a Project: An Overview, page 209
Satellite slot	Satellites node	Create a New Satellite Slot, page 265
Hierarchy template	Hierarchy Templates node	Create a New Hierarchy Template, page 129
Plant group type	Plant Group Types node	Create a New Plant Group Type, page 136

Note

The following table lists the characters that cannot be used in certain names, paths, passwords, or file names throughout the SmartPlant Engineering Manager, SmartPlant P&ID, and SmartPlant Electrical products.

Object	Restricted Characters
File and Directory Names (Windows restriction)	\/:*?"<>
SmartPlant Engineering Manager Names (site, plant, project, satellite, and so forth)	<,>?\/';{}[]~`!%*() ":
Database User Names and Passwords	.<,>?\/';{}[]~`!%*()&\$@#"
Location Paths (directories, and so forth)	<,>?/';{}[]~`!%*(): "

Delete Command

X Edit > Delete

Allows you to delete the following items. You must have full control permissions in SmartPlant Engineering Manager to be able to use the **Delete** command.

Sites - Deleting a site removes the database users for the site schema and data dictionary, removes the smartplanty4.ini file, and closes the SmartPlant Engineering Manager application. All plants must be deleted before the site can be deleted. The **Delete** command is disabled if the site contains any plants.

Plants - Deleting a plant removes the database users for the plant schema and data dictionary. All drawings and in-use connected satellites must be removed from the plant structure before it can be deleted. You must use SmartPlant P&ID Drawing Manager to delete the drawings in a plant.

Projects - Before you can delete a project in SmartPlant Engineering Manager, that project must be marked as merged or canceled by an authoring tool (SmartPlant P&ID Drawing Manager or SmartPlant Electrical).

Satellites - The Delete command is not available for projects containing in-use satellite slots. All satellite slot connections must be disconnected before the project can be deleted.

Roles - Deleting a role removes the user names from database. However, if members of that role are working in the database (using an authoring tool) when you delete the role, they can continue to work until they exit the application. Once they exit the authoring tool, those users are not able to open that authoring tool again. While users continue to work in the application after you delete a role, they cannot launch another authoring tool. In other words, if the role in which you are a member is deleted while you are working in SmartPlant P&ID, you can continue to work in SmartPlant P&ID, but cannot launch SmartPlant Electrical. When you exit SmartPlant P&ID, you will not be able to restart it until you are granted access rights via another role.

Plant Group Levels - All drawings in a plant group level must be deleted before that level can be deleted. Furthermore, the **Delete** command is not available for a plant group level that is referenced by a drawing in another level.

- Delete a Plant Group, page 87
- Delete Plant Structure Dialog Box, page 80
- SmartPlant Engineering Manager Rights, page 155

Properties Command

Edit > Properties

Allows you to view the properties of a selected item in the Tree view or the List view.

To view the properties for	Select this object and then click Edit > Properties
Site server	Site Server node. For more information, see <i>Site Server Properties Dialog Box</i> , page 55.
Plant structure	Plant Structures node and then the plant in the List view. For more information, see <i>Plant Structure Properties Dialog Box</i> , page 74.
Plant group item	Plant group item under the Plant Groups node. For more information, see <i>Plant Group Item Properties Dialog Box</i> , page 85.
Role	Roles node and then the role in the List view. For more information, see <i>Role Properties Dialog Box</i> , page 97.
Applications	Applications node and then the application in the List view. For more information, see <i>Application Properties Dialog Box</i> , page 115.
Satellite slot	Satellites node and then the satellite in the List view. For more information, see <i>Satellite Slot Properties Dialog Box</i> , page 126.
Project	Projects node and then the specific project in the List view. For more information, see <i>Project Properties Dialog Box</i> , page 119.
Hierarchy template	Hierarchy Templates node and then the hierarchy in the List view. For more information, see <i>Hierarchy Template Properties Dialog Box</i> , page 131.

Note

The following table lists the characters that cannot be used in certain names, paths, passwords, or file names throughout the SmartPlant Engineering Manager, SmartPlant P&ID, and SmartPlant Electrical products.

Object	Restricted Characters
File and Directory Names (Windows restriction)	\/:*?"<>
SmartPlant Engineering Manager Names (site, plant, project, satellite, and so forth)	<,>?\/';{}[]~`!%*() ":
Database User Names and Passwords	.<,>?\/';{}[]~`!%*()&\$@#"
Location Paths (directories, and so forth)	<,>?/';{}[]~`!%*(): "

Help Command

? Help > SmartPlant Engineering Manager Help

Displays contents for the Help topics that include step-by-step instructions for using SmartPlant Engineering Manager.

Notes

- The **Contents** tab displays the **Table of Contents** for SmartPlant Engineering Manager Help.
- The **Index** tab contains keywords that describe and link to specific topics.
- The **Search** tab lists words that appear only within the Help topics. By using the **Search** tab, you can locate every topic that contains a particular word.
- The **Favorites** tab allows you to create a personalized list of favorite Help topics.

Printable Guides Command

Help > Printable Guides

Displays an HTML web page containing a list of the user's guides (in PDF format) delivered with SmartPlant Engineering Manager. Each PDF file and its related Help file contain the same content.

Notes

- To view these PDF documents, you need Adobe® Acrobat® Reader version 4.0 or higher.
- Intergraph gives you permission to print as many copies of the delivered PDF files that you need for non-commercial use at your company. You cannot print the PDF files for resale or redistribution outside your company.

About Command

Help > About SmartPlant Engineering Manager

Provides version, copyright, license, product ID, and anti-piracy information.

Exit Command

File > Exit

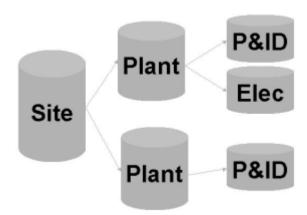
Closes the SmartPlant Engineering Manager application.

Working with Database Schemas: An Overview

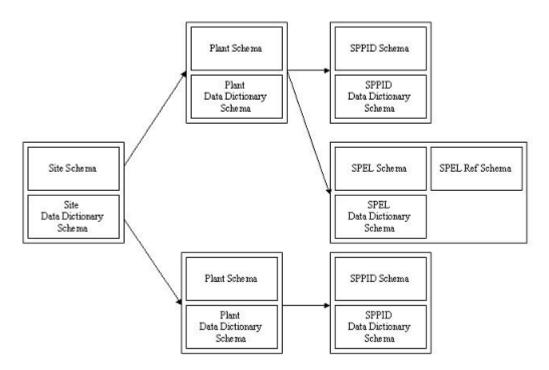
The SmartPlant schemas are configured to use separate data dictionaries for SmartPlant Engineering Manager and each engineering application. While each application sees only the reference data that applies to it, each application shares some common SmartPlant Engineering Manager data. This configuration supports the requirement for distributed management of the relational database, supports navigation across application tables for read-only access, and supports integration of data across applications.

A valid site with one plant consists of six database schemas when you use SmartPlant P&ID as your application, seven database schemas when you use SmartPlant Electrical, and nine database schemas if you use both applications concurrently. The plant structure schemas are shared between SmartPlant P&ID and SmartPlant Electrical.

For example, in the following figure, the site server contains two plants, one with both SmartPlant P&ID and SmartPlant Electrical associated to it and the other with only the SmartPlant P&ID application associated.



The figure below shows the schemas that would exist in the database for this configuration example, assuming that both applications are in the same database instance. On a given database server, we recommend putting all plants in one database instance.



The majority of database activity occurs in the application schemas (SPPID Schema, SPPID Data Dictionary Schema, SPEL Schema, SPEL Data Dictionary Schema, and SPEL Reference Schema) since this is where the application data is stored. The plant schema contains the smallest amount of data compared with the other schemas.

Understanding Default Database User Names

Oracle and SQL Server databases require user names and passwords for each of the schemas and data dictionaries created by the **New Site Server**, **New Plant Structure**, **New Project**, and **Associate Application** wizards.

SmartPlant Engineering Manager uses the formulas in the following table to generate default values for these user names.

Schema Type	Database User Name	Example
Site Schema	Name of the site	Site1
Site Data Dictionary	Site Schema user name + 'd'	Site1d
Plant Schema	Name of the plant	Plant1
Plant Data Dictionary Schema	Name of the plant + 'd'	Plant1d
P&ID Schema	Plant schema user name + 'pid'	Plant1pid
P&ID Data Dictionary Schema	Plant schema user name + 'pidd'	Plant1pidd
Electrical Schema	Plant schema user name + 'el'	Plant1el
Electrical Data Dictionary Schema	Plant schema user name + 'eld'	Plant1eld
Electrical Reference Schema	Electrical schema user name + 'ref'	Plant1elref
Satellite Plant Schema	Plant schema user name + 'sat' + satellite count	Plant1sat1
Satellite P&ID Schema	Satellite plant schema user name + 'pid'	Plant1sat1pid
Satellite Replication Schema	Satellite plant schema user name + 'rep'	Plant1sat1rep
Project Schema	Plant schema user name + 'p' + project count	Plant1p1
Project P&ID Schema	P&ID schema user name + 'p' + project count	Plant1pidp1
Project Electrical Schema	Electrical schema user name + 'p' + project count	Plant1elp1

Notes

• The software sets the related password defaults for each of the above user names automatically to <default user name> + '1'. In the case of SQL Server 2005 running on Windows Server 2003, if you are using SQL

- Server authentication, you can specify that SQL Server 2005 is to use the password validation rules that are used by Windows Server 2003.
- Oracle database user names are limited to 30 characters. Because plant names can be up to 64 characters long, the software uses only the first 12 characters of the plant name in creating the default database user names using the formulas above.
- The software removes all spaces or special characters in a plant name before using that name to create a default database user name.
- Database usernames and passwords cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

- Associate Applications Wizard, page 105
- Configuring a Satellite Site: An Overview, page 275
- Creating a Plant Structure Wizard, page 63
- Creating a Site Server Wizard, page 43
- Creating Satellite Slots: An Overview, page 265
- Loading the Plant Structure Wizard, page 139

Change Password Command

Edit > Change Password

Displays the **Change Password** dialog box, allowing you to change the schema and data dictionary passwords for the selected node in the **Tree** view. In other words, to change the site schema or site data dictionary passwords, select the site node before clicking **Edit** > **Change Password**.

To change a plant schema or data dictionary password, or any of the passwords for the applications associated with the plant, select that plant node in the **Tree** view, then click **Edit** > **Change Password**.

💡 Tip

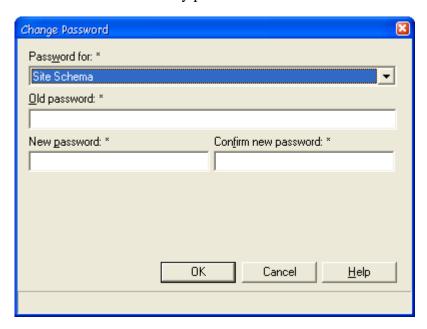
• The **Change Password** command is also available using the shortcut menu

Related Topics

- Change Password Dialog Box, page 26
- Change the Database Passwords for a Plant, page 86
- Change the Database Passwords for a Project, page 125
- Change the Database Passwords for an Application, page 118
- Change the Database Passwords for the Site, page 59

Change Password Dialog Box

Displays when you click **Edit** > **Change Password**, allowing you to change the schema and data dictionary passwords for the selected node in the **Tree** view.



Password for - Select the schema for which you want to change the password. The node you select in the **Tree** view determines the items available in this list. Select the site node to access the site-related password, select a plant node to access the plantrelated passwords, and so forth.

Old password - Type the old password that you are changing.

New password - Type a new password.

Confirm new password - Confirm the new password.

- Change Password Command, page 26
- Change the Database Passwords for a Plant, page 86
- Change the Database Passwords for a Project, page 125
- Change the Database Passwords for an Application, page 118
- Change the Database Passwords for the Site, page 59

Working with Data Dictionaries: An Overview

SmartPlant Engineering Manager allows you to add or edit attributes in plant and application data dictionaries and then create data dictionary templates from the modified plant or application data dictionaries. You can then move the template to a new site and use it to populate a new plant or application schema. For example, you can make your plant customizations one time, create a template of that data dictionary, and then use that template in other sites, much like copying a plant from site to site, rather than having to perform the same modification steps at each site.

Data dictionary templates are not database-specific. In other words, a given data dictionary template can be used in both Oracle and SQL Server environments.

Caution

- The data dictionary template file is a collection of all filters, plant group types, Options Manager settings, and other database-related items (anything that's not stored in external files, like Rules or Symbols). When using a data dictionary template to create a plant in another site, you must have the proper rules file (which relies on filters) to go with that template. Rules, insulation specification, symbols, and other file-based reference data are not included in data dictionary templates.
- In a Workshare collaboration, you cannot create a plant or application data dictionary template at a satellite site. You must create the templates at the host site.
- Data dictionary templates are not upgradeable. However, you can use the
 Data Dictionary Template Comparison Utility to compare your existing
 template with the default template delivered with the latest version of
 SmartPlant Engineering Manager. For more information, see SmartPlant
 Data Dictionary Template Comparison Utility User's Guide.

Related Topics

- Data Dictionary Manager Command, page 28
- New Data Dictionary Template Command, page 29
- New Data Dictionary Template Dialog Box, page 30

Data Dictionary Manager Command

Tools > Data Dictionary Manager

Starts Data Dictionary Manager, allowing you to add and edit attributes in the plant data dictionaries within the site.

To add attributes to a plant group type in an active plant structure, select the plant structure and click **Tools > Data Dictionary Manager**.

To add, modify, or delete attributes for the plant group type attributes, select the Plant Group Types node and then click Tools > Data Dictionary Manager. Attributes added to a plant group type using this method are not automatically included in the attributes for active plant group structures that use that plant group type.

• Important

- To access the site data dictionary, start Data Dictionary Manager outside SmartPlant Engineering Manager. When started from within SmartPlant Engineering Manager, Data Dictionary Manager can access only the plant data dictionaries. You cannot swap between data dictionaries once Data Dictionary Manager is running.
- After accessing Data Dictionary Manager from within SmartPlant Engineering Manager and making changes, you must either exit and restart SmartPlant Engineering Manager or reopen the site to see the changes from within SmartPlant Engineering Manager.
- Do not use Oracle reserved words (for example, "address") as attribute names.

Related Topics

- New Data Dictionary Template Command, page 29
- New Data Dictionary Template Dialog Box, page 30

New Data Dictionary Template Command

Tools > New Data Dictionary Template

Generates a template .ddt file based on the selected plant or application schema. Use this command to create a data dictionary template from a data dictionary that you have modified via the **Tools > Data Dictionary Manager** command.

A plant data dictionary template file contains all the information in the plant schema. The application data dictionary temple contains all filters, plant group types, Options Manager settings and symbology, and other database-related items (anything that's not stored in external files, like rules or symbols).

Caution (

- Data dictionary templates are not upgradeable. You cannot use a template created using an older version of SmartPlant Engineering Manager to create a plant or application schema.
- Data dictionary templates are not database-specific. In other words, a given data dictionary template can be used in both Oracle and SQL Server environments.

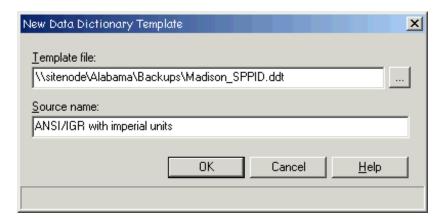
• When using a data dictionary template to create a plant in another site, you must have the proper rules file (which relies on filters) to go with that template. Rules, insulation specification, symbols, and other file-based reference data are not included in data dictionary templates.

Related Topics

- Data Dictionary Manager Command, page 28
- New Data Dictionary Template Dialog Box, page 30

New Data Dictionary Template Dialog Box

Allows you to generate a template from an existing plant or application data dictionary.



Template file - Allows you to specify the path and file name for the new template.

Source name - Available only when creating an application template, this field displays the internal name of the source data dictionary template used to create the existing application data dictionary. You can type a new name to be used in place of Imperial or Metric in the **Plant Settings** table in the plant schema.

- Data Dictionary Manager Command, page 28
- New Data Dictionary Template Command, page 29

Create a Data Dictionary Template

1. Select the plant or application from which you can to create the template and click **Tools > New Data Dictionary Template**.

? Tips

- To create a plant data dictionary template, select the **Plant** node in the **Tree** view.
- To create an application data dictionary template, select the Applications node in the Tree view and then select the application in the List view.
- 2. In the **Template file** box, browse to the path where you want the template file saved and then type a file name for the template file.
- 3. If you are creating an application template, type the **Source name** for the application data dictionary template. By default, this field displays the name of the source data dictionary template used to create the existing application data dictionary.

Caution

- Data dictionary templates are not upgradeable. You cannot use a template created using an older version of SmartPlant Engineering Manager to create a plant or application schema.
- Data dictionary templates are not database-specific. In other words, a
 given data dictionary template can be used in both Oracle and SQL Server
 environments.
- When using a data dictionary template to create a plant in another site, you must have the proper rules file (which relies on filters) to go with that template. Rules, insulation specification, symbols, and other file-based reference data are not included in data dictionary templates.

- Data Dictionary Manager Command, page 28
- Data Dictionary Source (Associate Applications Wizard), page 108
- New Data Dictionary Template Command, page 29

Using Oracle Analyze Scripts: An Overview

The Oracle performance tuning documentation recommends analyzing the database objects after a large number of records have been added. These analyze scripts collect statistics and store them internally in the database to determine potential execution paths so that the one with the lowest cost can be selected for use. We recommend adding these scripts to your nightly backups.

To generate these scripts, use the **Tools > Generate Oracle Analyze Scripts** command for each site or plant. The default file name is Analyze_name.sql. For example, for the Madison plant in the Alabama site, the script name is Analyze_Madison.sql.

Before you can use the CBO, you must add the following Oracle initialization parameter to the Oracle initialization file:

optimizer mode=choose

For Oracle 8i, this parameter is included in the init SIDname.ora file. For version 9i, it is included in the init.ora file. For more information, see the Oracle performance tuning documentation at http://crmweb.intergraph.com.

The process of gathering statistics internally can be resource-intensive; therefore, the best time to perform the analysis is while no other users are using the database.

Related Topics

- Generate Oracle Analyze Scripts Command, page 32
- Generate Oracle Analyze Scripts, page 33

Generate Oracle Analyze Scripts Command

Tools > Generate Oracle Analyze Scripts

Generates an Oracle script for analyzing the database schemas against the database constraints required by the software. This command is available only if you select the Site node or a plant node.

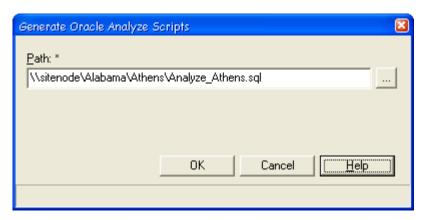
The type of script generated and its name depends on whether a site or a plant is selected in the **Tree** view. The default file name is Analyze_name.sql. For example, for the Madison plant in the Alabama site, the script name is Analyze_Madison.sql.

Related Topics

• Generate Oracle Analyze Scripts, page 33

Generate Oracle Analyze Scripts Dialog Box

Allows you to specify the path where you want the generated script saved.



Path - Type or browse to the path where you want the script saved.

Related Topics

- Generate Oracle Analyze Scripts Command, page 32
- Using Oracle Analyze Scripts: An Overview, page 32

Generate Oracle Analyze Scripts

- 1. In the **Tree** view, select the site or plant node for which you want to generate a script.
- 2. Click Tools > Generate Oracle Analyze Scripts.
- 3. Specify the path where you want the script saved.
- 4. Use the script with your Oracle tools to analyze your database.

- Generate Oracle Analyze Scripts Command, page 32
- Generate Oracle Analyze Scripts Dialog Box, page 33
- Using Oracle Analyze Scripts: An Overview, page 32

Using Default Settings: An Overview

SmartPlant Engineering Manager allows you to predefine values for creating sites, plant structures, projects, and associating application. Using these default settings simplifies the creation process and allows you to use the same settings across sites and plants.

! Important

 The values specified on the **Default Settings** dialog box are used by default only if you turn on the **Tools** > **Use Default Settings** command.

Related Topics

- Default Settings Command, page 34
- Default Settings Dialog Box, page 34
- Use Default Settings Command, page 41

Default Settings Command

Tools > Default Settings

Displays the **Default Settings** dialog box, which allows you to predefine settings for populating the corresponding values in the **New Site Server**, **New Plant Structure**, and **Associate Applications** wizards. The values specified on this dialog box are used by these wizards only if you turn on the **Tools** > **Use Default Settings** command.

Related Topics

- Default Settings Dialog Box, page 34
- Use Default Settings Command, page 41
- Using Default Settings: An Overview, page 34

Default Settings Dialog Box

Allows you to predefine values for populating the corresponding values in the **New Site Server**, **New Plant Structure**, and **Associate Applications** wizards.

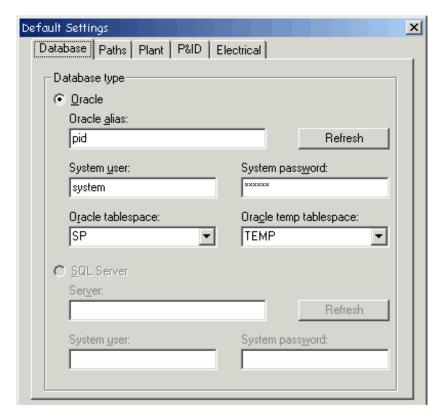
Important

 The default settings values are used by default only if you turn on the Tools > Use Default Settings command.

- Default Settings Command, page 34
- Use Default Settings Command, page 41

Database Tab (Default Settings Dialog Box)

Displays the database settings you can predefine for populating the corresponding values in the **New Site Server** and **New Plant Structure** wizards. Initially, the values specified during site creation populate this tab. You can modify these values for subsequent site or plant creations.



Oracle - Select this option if you are using an Oracle database. This information is carried forward from the site properties, but you can modify it for subsequent plant creations.

Oracle alias - Type the name of the Oracle net service alias used by the site in which the plant will be created.

Refresh - Click this button to update the entries in the tablespace lists if you have changed the system user name or password entries.

System user - Type a database system user name. This name does not have to be the database administrator user name, but this user must have system privileges.

System password - Type the system password.

Oracle tablespace - Select a default Oracle tablespace name for your plant database.

! Important

• We recommend that you do not use SYSTEM for the default tablespace, because Oracle uses this tablespace for its own use.

Oracle temp tablespace - Select a default Oracle temporary tablespace name for your plant database. If this list is empty, contact your database administrator.

SQL Server - Select this option if you are using a SQL Server database. This information is carried forward from the site properties, but you can modify it for subsequent plant creations.

Server - Type the node name of the server on which the SQL Server database resides.

Refresh - Click this button to update the database information if you have changed the system user name or password entries.

System user - Type a database system user name. This name does not have to be the database administrator user name, but this user must have system privileges.

System password - Type the system password.

Note

Database usernames and passwords cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

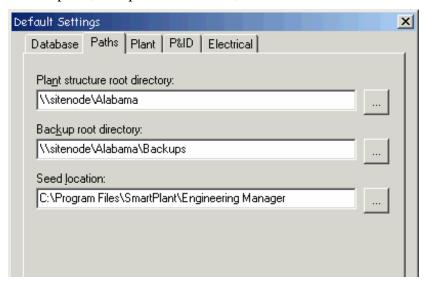
- Default Settings Command, page 34
- New Plant Structure Wizard Database Information, page 68
- New Plant Structure Wizard Plant Schema, page 69
- Use Default Settings Command, page 41

Paths Tab (Default Settings Dialog Box)

Displays the path settings you can predefine for populating the corresponding values in the **New Site Server**, **New Plant Structure**, and **Associate Applications** wizards.

! Important

• All paths, except **Seed location**, must be in UNC format.



Plant structure root directory - Specify the path to the storage location for the plant data and the drawing files. Folders for individual plant structures are automatically appended to this path as they are created.

! Important

• You must create the plant structure root directory and share it out before using these default settings during plant creation.

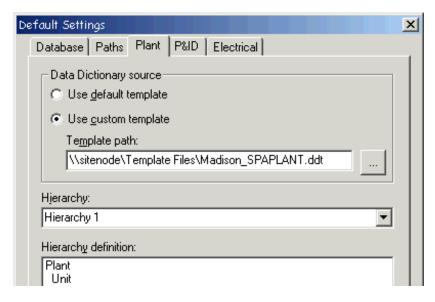
Backup root directory - Specify the path to the shared storage folder for backing up the plant files. Folders for individual plant structures are automatically appended to this path as they are created.

Seed location - Specifies the folder where all the templates are stored. The site administrator sets this path during installation.

- Default Settings Command, page 34
- New Plant Structure Wizard Paths, page 67
- Use Default Settings Command, page 41

Plant Tab (Default Settings Dialog Box)

Displays the plant settings you can predefine for populating the **New Plant Structure** wizard.



Data Dictionary source - Select the default source for the new plant data dictionary.

Use default template - Select this option to create the plant data dictionary using the delivered template.

Use custom template - Select this option to create the plant data dictionary using a custom template.

Template path - Specify the path where the custom template file is located. This field is enabled only if the **Use custom template** option is selected. This path is limited to 255 characters and must be in UNC format. The software verifies that the specified template is of the proper template type.

Note

• Data dictionary templates are not database-specific. In other words, a given data dictionary template can be used in both Oracle and SQL Server environments. For more information about using data dictionary templates, see *Working with Data Dictionaries: An Overview*, page 28.

Hierarchy - Select the default hierarchy that you want to use for new plants. All currently defined hierarchies display in this list.

• Important

• If you want to use a custom hierarchy, you must create it before using these default settings to create a plant structure. Hierarchies cannot be modified during plant structure creation.

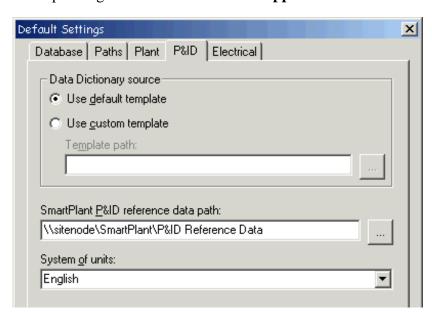
Hierarchy definition - Displays the plant breakdown structure items in the currently selected hierarchy.

Related Topics

- Default Settings Command, page 34
- New Plant Structure Wizard Data Dictionary Source, page 64
- New Plant Structure Wizard Hierarchy, page 65
- New Plant Structure Wizard Plant Data Dictionary, page 71
- Plant Data Dictionary Load Plant Structure Wizard, page 144
- Use Default Settings Command, page 41

SmartPlant P&ID Tab (Default Settings Dialog Box)

Displays the SmartPlant P&ID settings you can predefine for populating the corresponding values in the **Associate Applications** wizard.



Data Dictionary source - Select the default source for the SmartPlant P&ID data dictionary.

Use default template - Select this option to create the SmartPlant P&ID data dictionary using the delivered template.

Use custom template - Select this option to create the SmartPlant P&ID data dictionary using a custom template.

Template path - Specify the path where the custom template file is located. This field is enabled only if the **Use custom template** option is selected. This path is limited to 255 characters and must be in UNC format. The software verifies that the specified template is of the proper template type.

Note

• Data dictionary templates are not database-specific. In other words, a given data dictionary template can be used in both Oracle and SQL Server environments. For more information about using data dictionary templates, see *Working with Data Dictionaries: An Overview*, page 28.

SmartPlant P&ID reference data path - Type or browse to the SmartPlant P&ID reference data path. This path is limited to 255 characters and must be in UNC format.

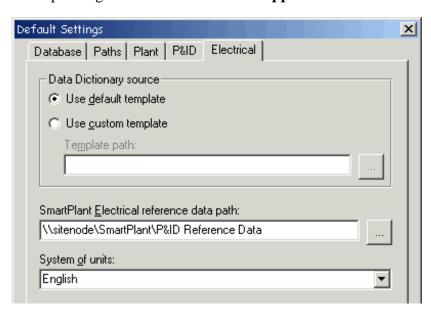
System of units - Select the system used for displaying units in SmartPlant P&ID.

Related Topics

- Data Dictionary Source (Associate Applications Wizard), page 108
- Default Settings Command, page 34
- Select Application (Associate Applications Wizard), page 107
- Use Default Settings Command, page 41

SmartPlant Electrical Tab (Default Settings Dialog Box)

Displays the SmartPlant Electrical settings you can predefine for populating the corresponding values in the **Associate Applications** wizard.



Data Dictionary source - Select the default source for the SmartPlant Electrical data dictionary.

Use default template - Select this option to create the SmartPlant Electrical data dictionary using the delivered template.

Use custom template - Select this option to create the SmartPlant Electrical data dictionary using a custom template.

Template path - Specify the path where the custom template file is located. This field is enabled only if the **Use custom template** option is selected. This path is limited to 255 characters and must be in UNC format. The software verifies that the specified template is of the proper template type.

Note

• Data dictionary templates are not database-specific. In other words, a given data dictionary template can be used in both Oracle and SQL Server environments. For more information about using data dictionary templates, see *Working with Data Dictionaries: An Overview*, page 28.

SmartPlant Electrical reference data path - Type or browse to the SmartPlant Electrical reference data path. This path is limited to 255 characters and must be in UNC format.

System of units - Select the system used for displaying units in SmartPlant Electrical.

Related Topics

- Data Dictionary Source (Associate Applications Wizard), page 108
- Default Settings Command, page 34
- Select Application (Associate Applications Wizard), page 107
- Use Default Settings Command, page 41

Use Default Settings Command

Tools > Use Default Settings

Allows you to toggle on and off using the predefined settings for populating the corresponding values in the **New Site Server**, **New Plant Structure**, and **Associate Applications** wizards.

- Default Settings Command, page 34
- Default Settings Dialog Box, page 34
- Using Default Settings: An Overview, page 34

Site Server Root: An Overview

The **Site Server** node is the root directory for each site when opened in SmartPlant Engineering Manager. A site is a logical unit of data that is normally used to model a collection of physical plants. Every plant within a site has a unique identity.

In SmartPlant, you access a site by opening the smartplantv4.ini file, which contains the database type, connection alias, and the schema information for the site and the site data dictionary. The site schema basically keeps track of the plants in the site. You can place this .ini file in any location on any workstation and share it out to other users. Therefore, a site server or site is simply any workstation where the SmartPlantV4.ini file is stored.

For each plant structure, the **Site Server** node contains a **Plant Structure** node that contains its related Plant Groups, Roles, Applications, Satellites, and Projects nodes.



The Site Server root also contains the Hierarchy Templates and Plant Group **Types** nodes, for use by members of the Site Administrators user access group.

! Important

While you can connect to only one site at a time, you can have more than one site on any given computer.

- Creating a Site Server Wizard, page 43
- Hierarchy Templates Root: An Overview, page 128
- Plant Group Types Root: An Overview, page 135
- Plant Structures Root: An Overview, page 62

Creating a Site Server Wizard

The **New Site Server** wizard steps you through creating a site schema and site data dictionary to hold the database connection information for your site.

To start the New Site Server wizard, select Create a new site from the Site Server **Options** dialog box that appears when you run SmartPlant Engineering Manager for the first time. You must provide the following information as you step through the wizard.

Data Dictionary Source - Specifies whether the data dictionary for the new site will be built from the default template or a custom template. You must specify the path to the location of the seed files. Data dictionary templates are not database-specific. In other words, a given data dictionary template can be used in both Oracle and SQL Server environments. For more information about using data dictionary templates, see Working with Data Dictionaries: An Overview, page 28.

Paths - Consists of naming the new site and specifying Universal Naming Convention (UNC) paths to the site server, backup shares, and template locations.

Database Connection Information - Allows you to specify the alias or database node and system password for the database containing the site data.

Site Administrator Privileges - Specify the local user group that can be assigned site administrator privileges. Use the user access controls provided with your operating system to create a group or to verify a group exists that can be used for these purposes. After you have created the site, you can change the user group that is assigned site administrator privileges using the Site Server Properties dialog box. You can also add or remove users from that user group using the user access controls provided with your operating system. For more information, see *Roles Node: An* Overview, page 89.

Site Schema and Site Data Dictionary Schema Information - Allows you to specify user names and passwords for both schemas. All data needed to maintain the site is written into the site's schema.

• Important

- You cannot create a new site unless you log in using a domain account that has administrator privileges on the computer where you are running SmartPlant Engineering Manager.
- Before you can create a site using an Oracle database, you must create a database instance in Oracle and the database must be started. Click **Start** > **Settings > Control Panel > Services** to verify that the database is running.

• The **Site Server Options** dialog box appears during future sessions only if SmartPlant Engineering Manager cannot find the site SmartPlantV4.ini file.

Related Topics

- New Data Dictionary Template Command, page 29
- Roles Node: An Overview, page 89
- Site Server Options Dialog Box, page 44

Site Server Options Dialog Box

Appears when you run SmartPlant Engineering Manager for the first time and reappears during future sessions only when SmartPlant Engineering Manager cannot find an active site or when the site connection information in the SmartPlantV4.ini is invalid.



Create a new site - Starts the **New Site Server** wizard, which steps you through creating the site.

Connect to an existing site - Allows you to browse to the location of an existing SmartPlantV4.ini file.

Restore site from backup - Starts the **Restore Site Server** wizard.

Important

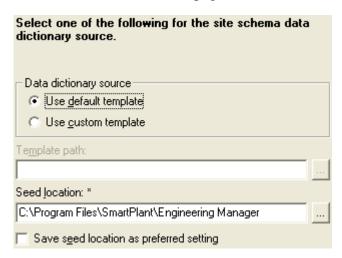
- You cannot create a new site unless you log in using a domain account that has administrator privileges on the computer where you are running SmartPlant Engineering Manager.
- Before you can create a site using an Oracle database, you must create a
 database instance in Oracle and the database must be started. Click Start >
 Settings > Control Panel > Services to verify that the database is
 running.

Related Topics

• Creating a Site Server Wizard, page 43

New Site Server Wizard - Data Dictionary Source

Allows you to select the data dictionary template information for the new site. Data dictionary templates are not database-specific. In other words, a given data dictionary template can be used in both Oracle and SQL Server environments. For more information about using data dictionary templates, see Working with Data Dictionaries: An Overview, page 28.



Data dictionary source - Select the source for the new site's data dictionary.

- Use default template Select this option to create the data dictionary using the delivered template.
- **Use custom template** Select this option to create the data dictionary using a custom template.

Template path - Type, or browse to, the path where the template files are located. The default templates are delivered to the C:\Program Files\SmartPlant\Engineering Manager\Templates folder during product installation. This field is enabled only if the **Use custom template** option is selected and is limited to 255 characters.

Seed location - Type, or browse to, the path where the resources, scripts, and templates are located. These files can be installed on a share that is common to all. By default, these files are delivered in folders under the SmartPlant\Engineering Manager folder and are used by SmartPlant Engineering Manager to populate the data dictionaries. This field is limited to 255 characters.

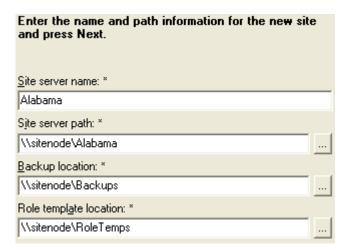
Save seed location as preferred setting - Saves a pointer to the seed file location specified above.

Related Topics

New Data Dictionary Template Command, page 29

New Site Server Wizard - Paths

Allows you to specify the computer that will serve as the site server location and to define the related storage paths information. An asterisk (*) at the end of an item name indicates a value is required for that item.



Site server name - Type a name for the site. This name can be anything you want it to be and does not have to be the name of the computer node on which you are creating the site. This name cannot start with a numeric digit and cannot contain any of the following characters: $<,>?\/';\{\}[]\sim`!\%*()|"$:

Site server path - Type the path to the location where you want the SmartPlantV4.ini file stored. If the site folder does not exist, the software creates it. You can move this file from this location after the site is created, but can have only one SmartPlantV4.ini file per site. This field is limited to 255 characters and cannot contain any of the following characters: <, >?/'; $\{$ $\}$ [] \sim $^{^{\circ}}$! % *():|".

Backup location - Specify the storage location share path for backing up the site files. You must create this share before running this wizard. This field is limited to 255 characters and cannot contain any of the following characters: <, >? / '; { } [] ~ `! % * () : | ".

We recommend selecting a backup location that has plenty of available space because the Restore process generates a temporary folder in this backup location while the site data is being restored. This folder is removed when the process finishes.

If the backup location for your SQL Server site is located on a separate computer from your database, you must change the login information for the SQL Server services using the following procedure.

- 1. Click Start > Settings > Control Panel, then open Administrative Tools.
- 2. Double-click the **Services** icon.
- 3. In the **Services** list, double-click **MSSQLServer** to open the **MSSQLSERVER Properties** dialog box.

- 4. Select **This account**, and type the user name and password for the domain user who will be starting the MSSQLSERVER service.
- 5. Save your changes.
- 6. If the user specified in **This account** does not already have permissions to the share where backups are stored, grant the user read/write permissions to that share.

Role template location - Type or browse to the storage location path for the role template files.

Notes

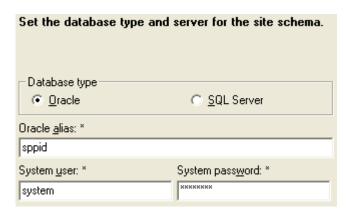
- You can have multiple sites (SmartPlantV4.ini files) on the same computer.
- Any role template files stored in a location other than the one specified above will not appear in the **Template** list on the **New Roles** dialog box.
 You can modify this path later using the **Site Properties** dialog box.

Related Topics

- Backing Up and Restoring Your Data: An Overview, page 177
- Creating a Site Server Wizard, page 43
- Database Tab (Site Server Properties Dialog Box), page 56
- Role Templates: An Overview, page 102
- Site Server Properties Dialog Box, page 55

New Site Server Wizard - Database Information

Allows you to select the database type and enter the related connection information. An asterisk (*) at the end of an item name indicates a value is required for that item.



Database type - Select the database type you want to use for this site. The database type chosen determines which fields appear on this and subsequent dialog boxes.

Oracle alias - Type the name of the Oracle net service name as defined by your database administrator. This option appears only if Oracle is selected as the database type.

Database node - Type the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is selected as the database type. This node name <u>cannot</u> contain any spaces.

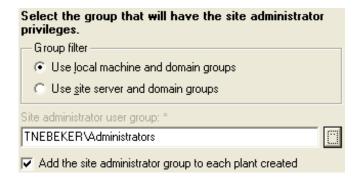
System password - Type the database system password.



The site schema and the site data dictionary are created in the same database type.

New Site Server Wizard - Site Administrator Group

Allows you to specify the user group whose members will have site administrator privileges. For more information about the privileges granted to site administrators, see SmartPlant Engineering Manager Rights, page 155.



Use local machine and domain groups - Use this filter option when you want to choose an existing user group or domain that is accessible from your machine.

Use site server and domain groups - Use this filter option when you want to choose a user group or domain that is accessible from the site server machine.

Site administrator user group - Click the **Browse** button to display the **Select Groups** dialog box, which allows you to select the Windows or Novell user group you want to assign to this new role. The name of the SmartPlant role will be the same as the name of the selected user group.

Add the site administrator group to each plant created - Check this option if you want the site administrator group specified above to be assigned as a role with full control in each plant created in the site. Doing this saves you the step of creating a new role to grant these users access to the new plant.

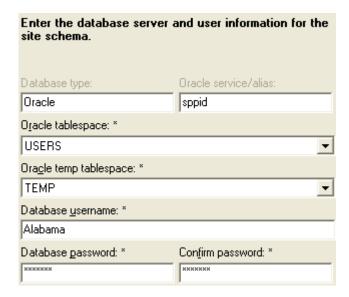
? Tips

- If you do not already have a user access group created that you can use for site administration purposes, you can leave the wizard running while you use your operating system user access controls to create a group. For more information, see the installation guide.
- You can change the user group assigned as the site administrator group after site creation. For more information, see Change the Site Administrator User Group, page 57.
- When you create plants in the site with the Add the site administrator group to each plant created option checked and then later change the **Site administrator group**, the roles automatically created in the existing plants are not changed.
- You can also add users to or remove users from this group using your user access controls provided by your operating system, and then click **Tools** > **Refresh Users** to update the user access for the site.
- To automatically assign this site administrator user group as a role in each plant created in this site, after creating the site, go to the **Site Properties** > General tab and check the Add the site administrator group to each plant created option. Doing this saves you the step of creating a new role to grant these users access to the new plant. For more information, see General Tab (Site Server Properties Dialog Box), page 55.

- Refresh Users Command, page 100
- Role Templates: An Overview, page 102
- Roles Node: An Overview, page 89
- SmartPlant Engineering Manager Rights, page 155

New Site Server Wizard - Site Schema

Allows you to enter all of the data related to the database service or server, including a password that will allow the creation of users and grant to users privileges. An asterisk (*) at the end of an item name indicates a value is required for that item.



Database type - Specifies the database type used for this site. This value is carried forward from the previous page.

Oracle service/alias - Specifies the Oracle net service alias as defined by your database administrator. This value is carried forward from the previous page. This option appears only if Oracle is selected as the database type.

Database server - Specify the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is selected as the database type.

Database name - Specify the name of the SQL Server database where the site schemas will be located. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default Oracle tablespace name for your site database. These tablespaces were defined when the database administrator created the default database instance. This option appears only if Oracle is selected as the database type.

Oracle temp tablespace - Select the default Oracle temporary tablespace name for your site database. The temporary tablespace was defined when the database administrator created the temporary database instance using Oracle Database Assistant. If this list is empty, contact your database administrator. This option appears only if Oracle is selected as the database type. The site schema and the site data dictionary can be in different tablespaces.

! Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking **Next** to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the site database user. This value, which must be unique in the database, defaults to the site name that you specified earlier. For more information about default database user names, see *Understanding Default Database User Names*, page 24.

Database password - Type the password for the site database user. We recommend using the site database user name as this password.

Confirm password - Re-type the password.



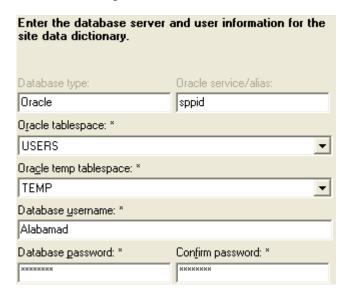
Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: $.<,>? \ / '; \{ \} [] \sim `! \%$ *()&\$@#"

- Change the Database Passwords for the Site, page 59
- Creating a Site Server Wizard, page 43
- New Site Server Wizard Paths, page 46
- Understanding Default Database User Names, page 24

New Site Server Wizard - Data Dictionary

Allows you to specify the user name and password for the site data dictionary. The data dictionary contains database tables, database table attributes, item types, select list definitions, and select list entries.

The site schema and site data dictionary schema reside in the same (Oracle) service or (SQL) server. However, the site schema and the site data dictionary can be in different tablespaces.



Database type - Specifies the database type used for this site. This value is carried forward from the previous page.

Oracle service/alias - Specifies the Oracle net service alias as defined by your database administrator. This value is carried forward from the previous page. This option appears only if Oracle is selected as the database type.

Database server - Specify the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is selected as the database type.

Database name - Specify the name of the SQL Server database defined by your database administrator. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default Oracle tablespace name for your site database. These tablespaces were defined when the database administrator created the default database instance. This option appears only if Oracle is selected as the database type on the previous page.

Oracle temp tablespace - Select the default Oracle temporary tablespace name for your site database. The temporary tablespace was defined when the database administrator created the temporary database instance using Oracle Database Assistant. If this list is empty, contact your database administrator. This option appears only if Oracle is selected as the database type on the previous page.

! Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking **Next** to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the site data dictionary user. This value, which must be unique in the database, defaults to the site name that you specified earlier, with the letter "d" appended. For more information about default database user names, see *Understanding Default Database User Names*, page 24.

Database password - Type the password for the site data dictionary user. We recommend using this database user name as this password.

Confirm password - Re-type the password.

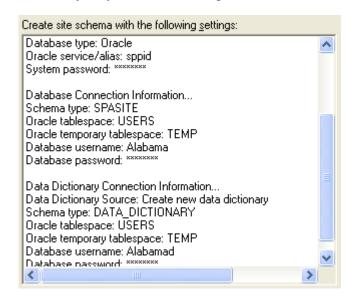
Note

Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: $.<,>? \ / '; \{ \} [] \sim `! \%$ *()&\$@#"

- Change the Database Passwords for the Site, page 59
- Creating a Site Server Wizard, page 43
- New Site Server Wizard Paths, page 46
- Understanding Default Database User Names, page 24

New Site Server Wizard - Finish

Displays the settings you have specified for your site. Carefully review these settings. If the settings are correct, click **Finish** to create the site schema and site data dictionary. If you need to change one or more of these settings, click **Back**.



Upon completion, the **New Site Server** wizard has accomplished the following tasks:

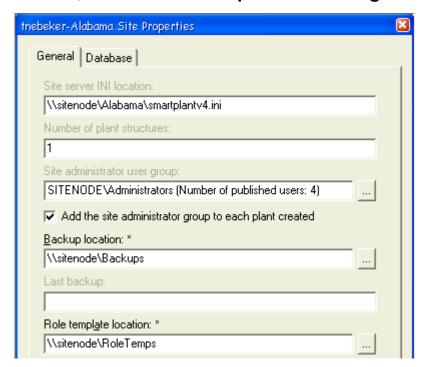
- Created the SmartPlantV4.ini file and placed it in the site server path you specified.
- Created the site schema and the site data dictionary schema in the database you specified.

- Creating a Site Server Wizard, page 43
- New Site Server Wizard Paths, page 46

Site Server Properties Dialog Box

Displays the following tabs, allowing you to view and/or the properties associated with the selected site.

General Tab (Site Server Properties Dialog Box)



Site server INI path - Displays the path to where the SmartPlantV4.ini file is stored.

Number of plant structures - Displays the number of plant structures defined in the site.

Site administrator user group - Indicates which user group is currently assigned site administrator privileges. Click the **Browse** button to select another user group for these purposes.

Add the site administrator group to each plant created - Check this option if you want the site administrator group specified above to be assigned as a role with full control in each plant created in the site. Doing this saves you the step of creating a new role to grant these users access to the new plant.

Note

• When you create plants in the site with the **Add the site administrator group to each plant created** option checked and then later change the **Site administrator group**, the roles automatically created in the existing plants are <u>not</u> changed.

Backup location - Displays the path to the share where backups are stored. If no path is specified, type a path or browse to the backup location.

Last backup - Displays the date of the last backup performed on the site.

Role template location - Displays the path to the share where the role templates are stored. If no path is specified, type a path or browse to the role templates location.

Related Topics

- Backing Up and Restoring Your Data: An Overview, page 177
- Creating a Site Server Wizard, page 43
- New Site Server Wizard Paths, page 46
- Role Templates: An Overview, page 102
- SmartPlant Engineering Manager Rights, page 155

Database Tab (Site Server Properties Dialog Box)



Database type - Displays the database type used for the site.

Oracle service/alias - Displays the name of the Oracle net service, or alias, used by the site. This option appears only if Oracle is selected as the database type.

Database server - Displays the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is selected as the database type.

Database name - Displays the name of the SQL Server database where the site schemas are located. This option appears only if SQL Server is selected as the database type.

Site schema username - Displays the schema user name defined for the site.

Site data dictionary username - Displays the data dictionary user name defined for the site.

System user - Displays the database system user name specified during site creation. You can change this value as needed. This name does not have to be the database administrator user name, but this user must have system privileges.

System password - Displays the system user password. You can change this value as needed.

Related Topics

- Creating a Site Server Wizard, page 43
- New Site Server Wizard Data Dictionary, page 52
- New Site Server Wizard Database Information, page 47

Change the Site Administrator User Group

- 1. Select the site node in the **Tree** view.
- 2. Right-click and select **Properties**.
- 3. On the **General** tab on the **Site Properties** dialog box, click the **Browse** button next to the **Site administrator user group** box.

General Tab (Site Server Properties Dialog Box), page 55

- 4. On the **New Site Administrator** dialog box, define the following properties:
 - Use local machine and domain groups Select this option to choose an existing user group or domain that is accessible from your machine.
 - Use site server and domain groups Select this option to choose a user group or domain that is accessible from the site server machine.
 - Role name Click the Browse button ____, and select the user group to which you want to assign site administrator privileges.
 - **Role description** (Optional) Type a descriptive note about the user group you selected, such as noting that this group is assigned site administrator privileges. If a description was defined when the group was created, it appears by default.

- 5. Click **OK** on the **New Site Administrator Group** dialog box.
- 6. Click **OK** on the **Site Properties** dialog box to complete the change.

Notes

- You must have Site Administrator privileges to change the Site Administrator User Group. You (or the person who changes the Site Administrator User Group) retain Site Administrator privileges until you either select a new site or you restart the software. However, if you are also a member of the user group now assigned Site Administrator privileges, you will retain your Site Administrator privileges.
- When the Site Properties dialog box is dismissed, the software checks to see if the Site Administrator User Group has changed and, if so, replaces the group in the T_Roles table and the users in the T_RoleUsers group. If any error occurs or the same group is selected, no changes occur.

Related Topics

- General Tab (Site Server Properties Dialog Box), page 55
- New Site Administrator Group Dialog Box, page 58

New Site Administrator Group Dialog Box

Displays when you click the **Browse** button beside the **Site administrator user** group box on the Site Properties > General tab, allowing you to change the user group assigned administrator privileges for the site.



Use local machine and domain groups - Use this option when you want to choose an existing user group or domain that is accessible from your machine.

Use site server and domain groups - Use this option when you want to choose a user group or domain that is accessible from the site server machine.

Role name - Type the name of or select the Windows or Novell user group you want to assign to this new role. The name of the SmartPlant role will be the same as the name of the selected user group. To quickly find the user group in your domain, you can type a partial name into this field and click **Check Name**.

Check Name - Displays the Microsoft **Select** dialog box, which allows you to select the Windows or Novell user group you want to assign to this new role. The name of the SmartPlant role will be the same as the name of the selected user group.

Role description - Type a descriptive note about the role that you are creating. You can make notes that indicate the privileges assigned to the group. If a description was defined when the group was created, it appears by default.

Related Topics

- Change the Site Administrator User Group, page 57
- General Tab (New Role Dialog Box), page 93
- SmartPlant Engineering Manager Rights, page 155

Change the Database Passwords for the Site

- 1. Select the site server node in the **Tree** view.
- 2. Right-click and select **Change Password**.
- 3. On the Change Password dialog box, select Site Schema from the Password for list.
- 4. Type the old site schema password.
- 5. Type the new site schema password.
- 6. Confirm the new password by typing it again.
- 7. Select **Site Data Dictionary** from the **Password for** list.
- 8. Type the old site data dictionary password.
- 9. Type the new site data dictionary password.
- 10. Confirm the new password by typing it again.
- 11. Click **OK**.

Note

You must have Site Administrator privileges to change the site passwords. For more information, see SmartPlant Engineering Manager Rights.

Related Topics

Change Password Command, page 26

Open Command

⁶ File > Open

Allows you to open, or connect to, another site. Because SmartPlant Engineering Manager remembers the site you connected to last, this command displays the **Open Site Server** dialog box, allowing you to easily switch between sites.

Tip

• The last sites you opened appear in the **File > Most Recently Used** list. Select a site from this list to quickly re-open the site.

Related Topics

- *Create Another Site Server*, page 60
- Creating a Site Server Wizard, page 43
- *Open Another Site Server*, page 60

Open Another Site Server

1. Click **File > Open**.



- The last sites you opened appear in the File > Most Recently Used list. Select a site from this list to quickly re-open the site.
- 2. On the **Open Site Server** dialog box, browse to the site SmartPlantV4.ini file.
- 3. Click **OK**.

Related Topics

• Open Command, page 60

Create Another Site Server

- 1. Select the **Site Server** node.
- 2. Click **File > New**. The **New Site Server** wizard starts and steps you through creating a new site.

Notes

- You can have more than one SmartPlantV4.ini file on any computer.
- If you are using Workshare, the host and the satellite cannot be in the same site.

Related Topics

• Creating a Site Server Wizard, page 43

Upgrade Site Command

Tools > Upgrade Site

When you open a Version 4.x site using SmartPlant Engineering Manager 2007, you are prompted to upgrade the site to Version 2007.

Use the **Upgrade Site** command to upgrade your Version 4.x site to Version 2007. This process removes the restriction in which projects with the same name cannot reside in the same plant and then updates the site data dictionary version number to 2007.

Note

Upgrading a P&ID site is only possible when the source and target have the same character set.

(SmartPlant Menu)CommandCommand

SmartPlant > Upgrade Schema

SmartPlant > Upgrade Schema

Upgrades the existing SmartPlant schema associated with the active plant to a newer version.

The software upgrades the SPELMapSPEMDataMapSPPIDDataMap.xml file, including user customizations, with the latest version data from the files in the <SmartPlant Electrical Engineering Manager P&ID workstation home</p> folder>\Program folder path and registers the schema version at the beginning of the .xml file.

Delete a Site

- 1. Select the site you want to delete in the **Tree** view.
- 2. Right-click and select the **Delete** command.

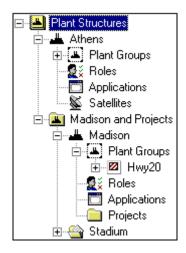
! Important

- Deleting a site removes the database users for the site schema and data dictionary, removes the smartplantv4.ini file, and closes the SmartPlant Engineering Manager application.
- The **Delete** command is disabled if the site contains any plants. All plants must be deleted before the site can be deleted.
- Deleting a site cannot be undone. If you have backed up your site, you can use the **Restore** command to retrieve the backed up version of the site.

Plant Structures Root: An Overview

The **Plant Structures** root contains all of the data related to each of the plant structures defined in the **Site Server** node. Each plant structure is displayed as a node in the **Plant Structures** root. The icon denotes a plant that is enabled for or contains projects.

The following nodes display inside each plant in the **Plant Structures** root:



- Plant Groups Displays the plant breakdown structure (physical hierarchy) of the plant.
- **Roles** Displays the user access roles defined for the plant.
- ☐ **Applications** Displays the applications associated with the plant.
- **Projects** Displays the projects associated with the plant. This node appears only when the plant is enabled for projects. The ➡ project structures themselves are displayed at the plant structure level under the ➡ Plant.
- **Satellites** Displays the satellite slots created in the plant. This node appears only when the plant is enabled for Workshare.

! Important

• Version 2007 of SmartPlant Engineering Manager can display sites and plants created in versions 4.2 and later (SmartPlant P&ID 4.1 and later and SmartPlant Electrical 2.0 and later). Plants that have not been upgraded will appear in the **Tree** view with a special symbol , and none of the data below the plant will be available. Attempting to work in a non-upgraded plant results in a message stating that the plant must be upgraded first.

Creating a Plant Structure Wizard

The **New Plant Structure** wizard steps you through creating a plant structure. To start this wizard, select the **Plant Structures** root in the **Tree** view and then click **File** > New. You must provide the following information as you step through the wizard.

Data Dictionary Source - Specifies whether the data dictionary for the new plant will be built from a default template or a custom template. You must specify the path to the location of the seed files. Data dictionary templates are not database-specific. In other words, a given data dictionary template can be used in both Oracle and SQL Server environments. For more information about using data dictionary templates, see Working with Data Dictionaries: An Overview, page 28.

Hierarchy - Indicates the template for the plant breakdown structure of the plant. You can define your own hierarchy that you can then use in creating plant structures or you can use one of the several delivered hierarchies.

Root Item Attributes - Specifies the plant structure root item and the name that will appear in the **Plant Structures** node in the software.

Paths - Consists of UNC paths for the plant structure storage location and a backup storage location.

Database Connection Information - Allows you to specify the alias and system password for the database instance that contains the plant data.

Plant Schema and Data Dictionary Schema Information - Allows you to specify user names and passwords for both schemas. All data needed to maintain the plant structure is written into the plant schema.

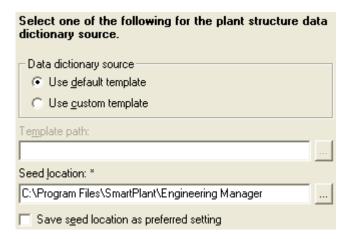
Notes

- You can use the **Default Settings** commands on the **Tools** menu to specify default values to simplify the plant creation process. For more information, see *Using Default Settings: An Overview*, page 34.
- After creating your new plant structure, be sure to associate applications with your plant and to assign user access for the new plant structure.

- Associate Applications Wizard, page 105
- Roles Node: An Overview, page 89
- User Access: An Overview, page 154

New Plant Structure Wizard - Data Dictionary Source

Allows you to specify the source for the plant data dictionary. Data dictionary templates are not database-specific. In other words, a given data dictionary template can be used in both Oracle and SQL Server environments. For more information about using data dictionary templates, see *Working with Data Dictionaries: An Overview*, page 28.



Data dictionary source - Select the source for the new plant's data dictionary.

- Use default template Select this option to create the data dictionary using the delivered template.
- Use custom template Select this option to create the data dictionary using a custom template. By creating a template from an existing plant structure, you can use this option to "copy" the existing plant structure.

Template path - Specify the path where the template files are located. The default templates are delivered to the C:\Program Files\SmartPlant\Engineering Manager\Templates folder during product installation. This field is enabled only if the **Use custom template** option is selected and is limited to 255 characters.

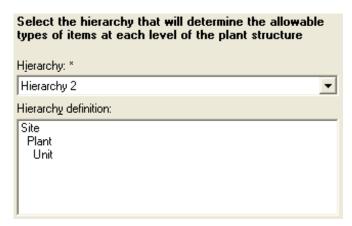
Seed location - Specify the path where the resources, scripts, and templates are located. These files can be installed on a share that is common to all. By default, these files are delivered in folders under the C:\Program Files\SmartPlant\Engineering Manager folder and are used by SmartPlant Engineering Manager to populate the data dictionaries. This field is limited to 255 characters.

Save seed location as preferred setting - Saves a pointer to the seed file location specified above.

- Create a Data Dictionary Template, page 31
- Default Settings Command, page 34
- New Data Dictionary Template Command, page 29

New Plant Structure Wizard - Hierarchy

Allows you to select the hierarchy you want to use. Hierarchies determine the item types allowed at each level in the plant structure.



Hierarchy - Specifies the hierarchy that you want to use for the plant. All currently defined hierarchies appear in this list.

Hierarchy definition - Displays the plant breakdown structure items in the currently selected hierarchy.

• Important

- If you want to use a custom hierarchy, you must create it before creating the plant structure. Hierarchies cannot be modified during plant structure creation.
- If you plan to register this plant for integration, the plant hierarchy must contain a minimum of three levels. These levels do not have to match the SmartPlant hierarchy. For more information, see *Using Custom* Hierarchies, page 300.

Additionally, the names of hierarchy items cannot be changed after they are created and the hierarchy structure cannot be modified after you create the project that you are registering. For more information, see SmartPlant Installation and Configuration Guide.

You cannot create a plant structure with a hierarchy containing only one level.

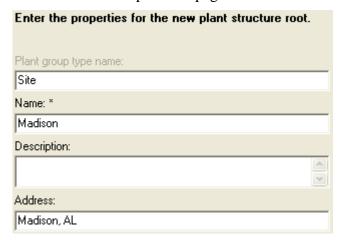
- Default Settings Command, page 34
- Hierarchy Templates Root: An Overview, page 128
- New Hierarchy Template Dialog Box, page 130
- Use Default Settings Command, page 41

New Plant Structure Wizard - Plant Name

Defines the attributes for the plant root item. This root item is the first item in the hierarchy that you selected on the previous page. An asterisk (*) at the end of an item name indicates a value is required for that item.

Note

• The options that display on this page depend on the hierarchy root item selected on the previous page.



Plant group type name - Displays the root item in the hierarchy you chose for the plant.

Name - Type a name for the plant, which is displayed by the $\stackrel{\bot}{=}$ icon under the **Plant Structures** node in the **Tree** view. This name is limited to 80 characters and cannot contain any of the following characters: < , > ? \ / '; { } [] ~ `! % * () | ":

Description - Type a description for the plant. The description is limited to 240 characters.

Address - Type an address identification for the plant. This option appears only if the plant structure uses Hierarchy 2: Site/Plant/Unit or uses a hierarchy with the Site plant group type as the root item.

- *Default Settings Command*, page 34
- Hierarchy Templates Root: An Overview, page 128
- New Hierarchy Template Dialog Box, page 130
- Plant Structures Root: An Overview, page 62
- Use Default Settings Command, page 41

New Plant Structure Wizard - Paths

Defines the paths to the storage locations relevant for storing plant data and drawings. An asterisk (*) at the end of an item name indicates a value is required for that item.

Note

All paths must use the Universal Naming Convention (UNC) format and cannot exceed 255 characters.



Plant structure path - Specify the path to the storage location for the plant data and the drawing files. You must create the plant structure share before running this wizard, using the form \\siteserver\sitename\plantname. The wizard will create the plantname folder if it does not already exist.

Backup location - Specify the path to the shared storage folder for backing up the plant files.

! Important

- Select a backup location outside the **Plant structure path** to avoid recursive backups being stored in a single backup file. For example, if the **Plant structure path** is \\siteserver\sitename\plantname, do not set the backup location for plantname to \\siteserver\sitename\plantname\backups.
- Be sure the backup location has plenty of available space because the Restore process generates a temporary folder in this backup location while the plant data is being restored. This folder is removed when the process finishes.

Note

• Location paths cannot contain any of the following characters: < , > ? / '; { }[]~`!%*():|

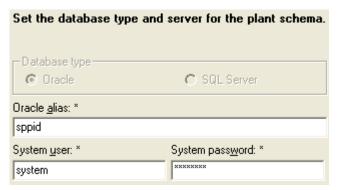
- Backing Up and Restoring Your Data: An Overview, page 177
- Default Settings Command, page 34
- Use Default Settings Command, page 41

New Plant Structure Wizard - Database Information

Defines the database that your new plant structure is to use. An asterisk (*) at the end of an item name indicates that a value is required for that item.

! Important

- Plant structures must be created in a separate SQL Server database from the site database.
- Plant structures can be, but do not have to be, created in different Oracle instances from the site database.



Database type - Displays the database type used by the site in which the plant will be created.

Oracle alias - Type the name of the Oracle net service name as defined by your database administrator. This option appears only if Oracle is selected as the database type.

Database node - Type the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is selected as the database type. This node name <u>cannot</u> contain any spaces.

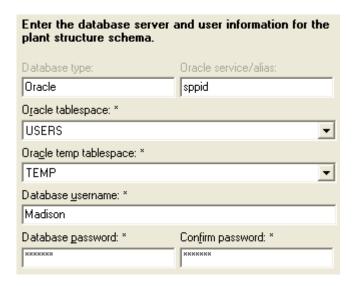
System user - Type a database system user name. This name does not have to be the database administrator user name, but this user must have system privileges.

System password - Type the system password.

- Default Settings Command, page 34
- New Site Server Wizard Database Information, page 47
- Use Default Settings Command, page 41

New Plant Structure Wizard - Plant Schema

Defines the database for the plant schema for your new plant structure. An asterisk (*) at the end of an item name indicates a value is required for that item.



Database type - Displays the database type used by the site in which the plant will be created.

Oracle service/alias - Displays the Oracle net service alias used by the site in which the plant will be created. This option appears only if Oracle is selected as the database type.

Database server - Displays the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is selected as the database type.

Database name - Displays the name of the SQL Server database used by the site in which the plant will be created. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default Oracle tablespace name for your plant database. These tablespaces were defined when the database administrator created the default database instance using Oracle Database Assistant. This option appears only if Oracle is selected as the database type.

Oracle temp tablespace - Select the default Oracle temporary tablespace name for your plant database. If this list is empty, contact your database administrator. This option appears only if Oracle is selected as the database type on the previous page.

! Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the plant user. This value, which must be unique in the database, defaults to the plant name. For more information about default database user names, see *Understanding Default Database User Names*, page 24.

Database password - Type the password for the database user. We recommend using the plant database user name as this password.

Confirm password - Re-type the password for the database user.

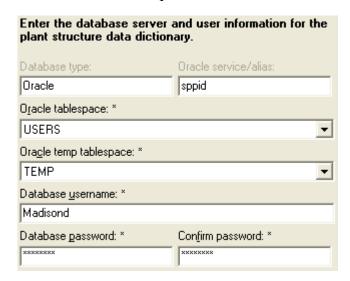
Note

Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

- Change the Database Passwords for a Plant, page 86
- Default Settings Command, page 34
- Understanding Default Database User Names, page 24
- Use Default Settings Command, page 41
- Working with Database Schemas: An Overview, page 22

New Plant Structure Wizard - Plant Data Dictionary

Allows you to specify the tablespace and user name for the plant data dictionary. The data dictionary contains database tables, database table attributes, item types, select list definitions, and select list entries. An asterisk (*) at the end of an item name indicates a value is required for that item.



Database type - Displays the database type used by the site in which the plant will be created.

Oracle service/alias - Displays the Oracle net service alias used by the site in which the plant will be created. This option appears only if Oracle is selected as the database type.

Database server - Displays the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is selected as the database type.

Database name - Displays the name of the SQL Server database in which the plant will be created. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default Oracle tablespace name for your plant database. These tablespaces were defined when the database administrator created the default database instance using Oracle Database Assistant. This option appears only if Oracle is selected as the database type.

Oracle temp tablespace - Select the default Oracle temporary tablespace name for your plant database. If this list is empty, contact your database administrator. This option appears only if Oracle is selected as the database type on the previous page.

! Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the plant data dictionary user. This value, which must be unique in the database, defaults to the site name that you specified earlier, with the letter "d" appended. For more information about default database user names, see *Understanding Default Database User Names*, page 24.

Database password - Type the password for the plant data dictionary user. We recommend using the database user name specified above as this password.

Confirm password - Re-type the password for the plant data dictionary user.

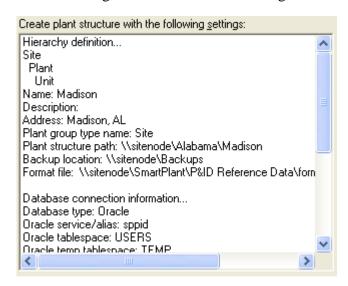


Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

- Change the Database Passwords for a Plant, page 86
- Default Settings Command, page 34
- New Plant Structure Wizard Finish, page 73
- Understanding Default Database User Names, page 24
- Use Default Settings Command, page 41

New Plant Structure Wizard - Finish

Displays all the settings you defined to create the new plant structure. Review these settings carefully. If you are satisfied with the settings, click **Finish**. Otherwise, click **Back** to change one or more of the settings.



! Important

After creating the new plant structure, be sure to associate applications with your plant and to assign user access rights.

Related Topics

- Associate Applications Wizard, page 105
- Create a New Role, page 91

Copy a Plant within a Site

- 1. Create a data dictionary template from the existing plant.
- 2. Create a new plant structure using this template.
- 3. Use the **Import Drawings** command in SmartPlant P&ID Drawing Manager to copy the drawings from the existing plant to the new plant.

- Create a Data Dictionary Template, page 31
- Creating a Plant Structure Wizard, page 63
- Loading the Plant Structure Wizard, page 139

Plant Structure Properties Dialog Box

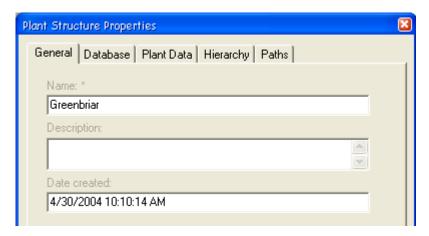
Allows you to view the properties pertaining to the selected plant structure. You can modify some of these properties using the following tabs on this dialog box.

Related Topics

- Database Tab (Plant Structure Properties Dialog Box), page 75
- General Tab (Plant Structure Properties Dialog Box), page 74

General Tab (Plant Structure Properties Dialog Box)

Displays the attribute information for the plant structure.



Name - Displays the name of the plant structure. You cannot change the plant structure name of an existing plant structure.

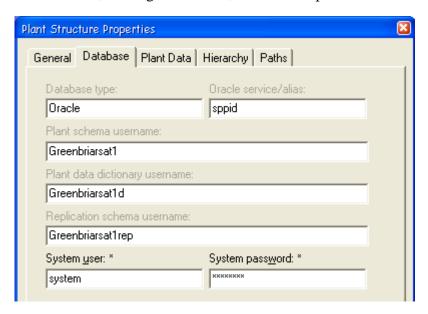
Description - Displays the current description of the plant structure.

Date created - Displays the date on which the plant was created.

- New Plant Structure Wizard Hierarchy, page 65
- New Plant Structure Wizard Plant Name, page 66

Database Tab (Plant Structure Properties Dialog Box)

Displays the database information for the plant structure. Different options display on this tab depending on the **Database type** you selected when you created the plant structure and, if using Workshare, whether the plant is a host or satellite.



Database type - Displays the database used by this plant structure.

Oracle service/alias - Displays the name of the Oracle net service alias that you are using for this plant structure. This option appears only if Oracle is selected as the database type.

Database server - Displays the node name of the server on which the SQL Server database used by the plant resides. This option appears only if SQL Server is selected as the database type.

Database name - Displays the name of the SQL Server database where the plant schemas are located. This option appears only if SQL Server is selected as the database type.

Plant schema username - Displays the plant schema user name.

Plant data dictionary username - Displays the data dictionary user name used by the plant structure.

Replication schema username - Displays only for plant structures at a connected satellite site.

System user - Displays the database system user name specified during plant creation. You can change this value as needed. This name does not have to be the database administrator user name, but this user must have system privileges.

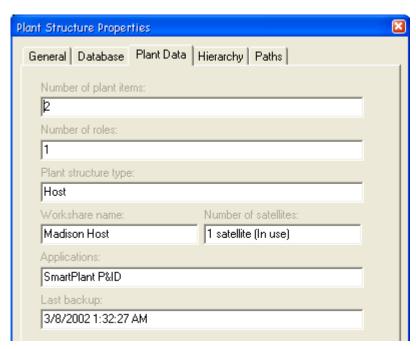
System password - Displays the system user password. You can change this value as needed.

Related Topics

• New Plant Structure Wizard - Database Information, page 68

Plant Data Tab (Plant Structure Properties Dialog Box)

Displays a summary of information about the plant structure.



Number of plant items - Displays the number of plant items in the plant structure.

Number of roles - Displays the number of roles defined for this plant structure.

Plant structure type - Displays the current function of the plant.

Workshare name - Displays the role of the plant in a Workshare collaboration (host or satellite). This option appears only if the plant is configured for Workshare.

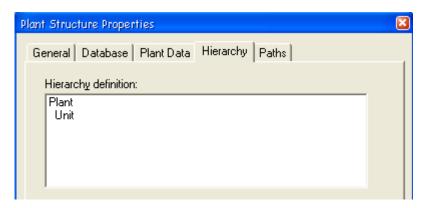
Number of satellites - Displays the number of satellites currently connected to the plant. This option appears only if the plant is configured as the host in a Workshare collaboration.

Applications - Displays the engineering applications associated with the plant structure.

Last backup - Displays the time of the last backup of the plant structure.

Hierarchy Tab (Plant Structure Properties Dialog Box)

Displays the hierarchy definition for the plant structure.



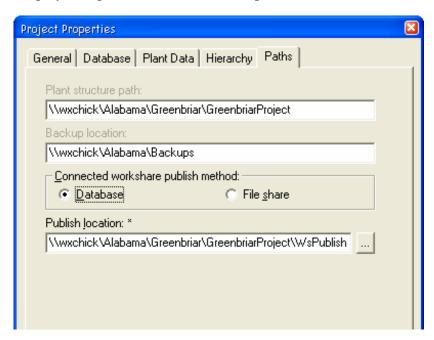
Hierarchy definition - Displays the plant breakdown structure and hierarchy items used to create the plant.

Related Topics

- Create a New Hierarchy Template, page 129
- New Plant Structure Wizard Hierarchy, page 65

Paths Tab (Plant Structure Properties Dialog Box)

Displays the path information for the plant structure.



Plant structure path - Displays the path to the share where the actual, physical plant structure files reside. You cannot change this path after the plant is created.

Backup location - Displays the path to the share where the plant structure files are backed up. You can change this path to point to a new backup location unless the plant is a project. This field is limited to 255 characters.

Connected Workshare publish method - Displays the type of publishing used for Workshare. This information appears only if the plant is participating as a host in a connected Workshare collaboration.

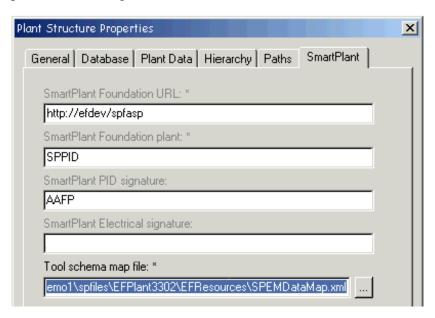
Publish location - Displays the current path where published files are placed during the publishing process. This field appears only if the plant is participating in a Workshare collaboration.

Related Topics

• New Plant Structure Wizard - Paths, page 67

SmartPlant Tab (Plant Structure Properties Dialog Box)

Displays SmartPlant information for the plant structure. This tab appears only if the plant has been registered.



SmartPlant Foundation URL - Displays the URL retrieved from SmartPlant Foundation during plant registration.

SmartPlant Foundation plant - Displays the four character unique identifier for SmartPlant Foundation.

SmartPlant P&ID signature - Displays the four character unique identifier assigned to SmartPlant P&ID during plant registration. If this application has not been registered, for example, if it was not associated with the plant when the plant was registered, no identifier is displayed.

SmartPlant Electrical signature - Displays the four character unique identifier assigned to SmartPlant Electrical during plant registration. If this application has not been registered, for example, if it was not associated with the plant when the plant was registered, no identifier is displayed.

Tool schema map file - Displays the path and file name of the SmartPlant Foundation project to which you have registered your plant.

- Register Command, page 301
- SmartPlant Integration: An Overview, page 298

Deleting Plant Structures: An Overview

SmartPlant Engineering Manager allows you to manage your plant structures in your site by providing complete delete functionality for removing unnecessary plant structures from the site. Deleting a plant structure removes the database tables and the associated user names for the various plant and application schemas generated when the plant was created.

Before you can delete a plant structure, you must have full control permissions in SmartPlant Engineering Manger and the plant structure cannot contain any projects or in-use connected satellites.

! Important

 We recommend that you double-check the contents of your Backup folder (if it is in your plant structure folder) and that you move to another location any backup zip files that you may wish to keep before selecting the Recursively delete files in plant structure path option on the Delete dialog box. Checking this option deletes everything in the plant folder.

Related Topics

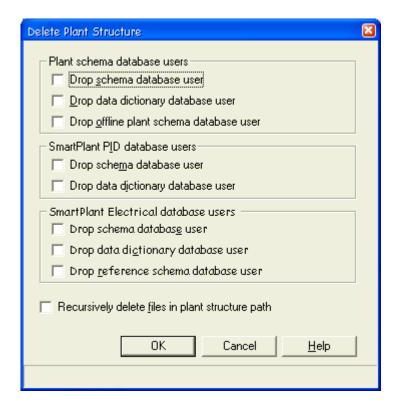
- Back Up a Plant Wizard, page 184
- Delete a Plant Structure, page 82
- Delete Command, page 17
- Delete Plant Structure Dialog Box, page 80
- SmartPlant Engineering Manager Rights, page 155

Delete Plant Structure Dialog Box

Allows you to specify options for deleting a plant structure. The delete process removes the database schemas you defined when creating the plant structure and associating applications. The site schema is also updated to remove the plant structure entries.

! Important

- Prior to deleting the plant structure, all users must be logged out of all software components that use the plant structure schemas. SmartPlant Engineering Manager checks for open sessions of all database users before deleting the plant structure.
- The **Delete** command is disabled if the plant structure contains projects or an in-use satellite slot.
- Once you have deleted a plant structure, it cannot be undone. If you have backed up your plant structure, you can use the **Restore** command to retrieve the backed up version of the plant structure.



Plant schema database users

- **Drop schema database user** Deletes the plant schema database user and its respective tables from the plant schema database.
- **Drop data dictionary database user** Deletes the plant data dictionary database user and its respective tables from the plant data dictionary database.
- **Drop offline plant schema database users** Deletes the connected Workshare proxy users from the plant schema database. This option appears only if the plant structure has been enabled for connected Workshare.

SmartPlant P&ID database users

- **Drop schema database user** Deletes the SmartPlant P&ID schema database user and its respective tables from the SmartPlant P&ID schema database.
- Drop data dictionary database user Deletes the SmartPlant P&ID data dictionary database user and its respective tables from the SmartPlant P&ID data dictionary database.

SmartPlant Electrical database users

Drop schema database user - Deletes the SmartPlant Electrical schema database user and its respective tables from the SmartPlant Electrical schema database.

- **Drop data dictionary database user** Deletes the SmartPlant Electrical data dictionary database user and its respective tables from the SmartPlant Electrical data dictionary database.
- **Drop reference schema database user** Deletes the SmartPlant Electrical reference schema database user and its respective tables from the SmartPlant Electrical reference schema database.

Recursively delete files in plant structure path - Deletes the plant structure's actual storage folders (including their contents).

Note

- The individual application options appear only if that application has been associated with the plant structure you are deleting.
- We recommend that you double-check the contents of your **Backup** folder (if it is in your plant structure folder) and that you move to another location any backup zip files that you may wish to keep before selecting the **Recursively delete files in plant structure path** option on the **Delete** dialog box. Checking this option deletes everything in the plant folder.

Related Topics

• Delete Command, page 17

Delete a Plant Structure

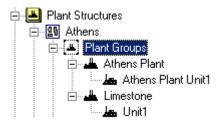
- 1. Select the plant you want to delete in the **Tree** view.
- 2. Right-click and select the **Delete** command.
- 3. Specify the options on the **Delete Plant Structure** dialog box for deleting the database users.

• Important

- We recommend that you double-check the contents of your **Backup** folder (if it is in your plant structure folder) and that you move to another location any backup zip files that you may wish to keep before selecting the **Recursively delete files in plant structure path** option on the **Delete** dialog box. Checking this option deletes everything in the plant folder.
- Prior to deleting the plant structure, all users must be logged out of all software components that use the plant structure schemas.
- The **Delete** command is disabled if the plant structure contains projects or an in-use connected satellite slot.
- Deleting a plant structure cannot be undone. If you have backed up your plant structure, you can use the **Restore** command to retrieve the backed up version of the plant structure.

Plant Groups Node: An Overview

The **Plant Groups** node displays the actual physical components of the plant structure itself. This node shows each item created in the plant structure and displays its attributes in the **List** view.



Related Topics

Create a New Item in a Plant Group, page 83

Create a New Item in a Plant Group

1. Select the **Plant Groups** node.



2. Right-click the **Plant Groups** node, and select the **New** command. The actual command name changes based on the hierarchy defined for your plant.



3. Provide the information requested on the **New** dialog box.

Notes

- The **Name** and **Description** fields are limited to 240 characters each. The **Name** field cannot contain any of the following characters: $\langle , \rangle ? \setminus / '; \{ \}$ []~`!%*()|":
- If you are adding a unit, the **Unit Code** field is limited to 40 characters. This limit is 3 characters if you plan to use the Piping Data Transfer to PDS 3D process.
- The **Path** field is limited to 255 characters. This field cannot contain any spaces if you plan to use the Piping Data Transfer to PDS 3D process.

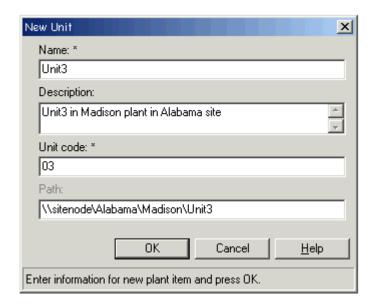
 In a Workshare collaboration, new plant groups cannot be created by standalone satellite sites or by satellites hosted by a project.

Related Topics

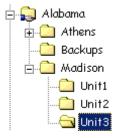
- New Plant Group Item Dialog Box, page 84
- Plant Group Item Properties Dialog Box, page 85

New Plant Group Item Dialog Box

Displays the **New** dialog box. The title of this dialog box and the fields displayed change based on the hierarchy defined for your plant and the level at which you are adding the plant group item. For example, the **New Unit** dialog box, shown below, displays when you add a new unit to a plant built on Hierarchy 1: Plant/Unit. An asterisk (*) at the end of an item name indicates a value is required for that item.



Name - Type a name for the plant group as you want it to appear in the **Tree** view. This field is limited to 240 characters and cannot contain any of the following characters: $<,>? \/'; \{ \} [] \sim `! \% * () | " :. A folder with this name cannot already exist in the plant structure folder.$



Description - Type a description. The length of the description is limited to 240 characters.

Unit code - Type the unit code, which is used as an alpha-numeric identification field in all tags in all drawings created in the unit. The length of the unit code is limited to 40 characters. This limit is 3 characters if you plan to use the Piping Data Transfer to PDS 3D process. This code cannot be changed after the new unit is created.

Path - Displays the location where files in this plant group are stored. The software automatically appends the value in the Name box to this path and creates a folder using this name in your plant storage location. This field is limited to 255 characters.

! Important

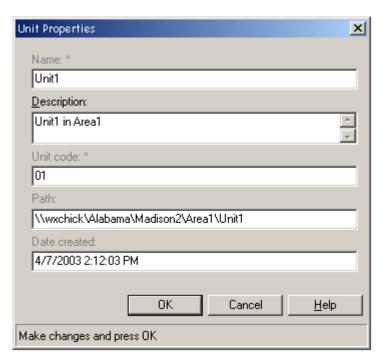
- The **Path** field cannot contain any spaces if you plan to use the **Piping** Data Transfer to PDS 3D process.
- In a Workshare collaboration, new plant groups cannot be created by standalone satellite sites or by the satellite sites in a project.

Related Topics

Create a New Item in a Plant Group, page 83

Plant Group Item Properties Dialog Box

Displays the properties for the selected plant group item in the plant. The title of this dialog box and the fields displayed change based on the hierarchy defined for your plant and the level at which you are viewing the properties.



Name - Displays the name of the plant group.

Description - Displays the plant group description. Type a new description if needed. The length of the description is limited to 240 characters.

Unit code - Displays the unit code, which is used in each tag in all drawings created in this unit. This field is not visible if the plant group item is not a Unit.

Path - Displays the location where files in this plant group are stored.

Date created - Displays the date and time when the plant group item was created.

Related Topics

• Create a New Item in a Plant Group, page 83

Change the Database Passwords for a Plant

- 1. Select the plant node in the **Tree** view.
- 2. Right-click and select Change Password.
- 3. On the **Change Password** dialog box, select **Plant Schema** from the **Password** for list.
- 4. Type the old plant schema password.
- 5. Type the new plant schema password.
- 6. Confirm the new password by typing it again.
- 7. Select **Plant Data Dictionary** from the **Password for** list.
- 8. Type the old plant data dictionary password.
- 9. Type the new plant data dictionary password.
- 10. Confirm the new password by typing it again.



 Before closing the Change Password dialog box, you can also change the passwords for the associated application schemas and application data dictionaries.

11. Click **OK**.

Related Topics

• Change Password Command, page 26

Delete a Plant Group

- 1. In the **Tree** view, select the plant group you want to delete.
- 2. Right-click and select the **Delete** command.

• Important

- You must remove all drawings (whether fetched, checked out, or residing in the project) from the plant group before you can delete the plant group.
- If the plant group you want to delete resides in the Plant and is shared with a project, you must delete the plant group from the project before you can delete it from the Plant.
- If, after deleting the drawings in the plant group, you still cannot delete the plant group, check the plant stockpile for items still related to or associated with the plant group. You must use SmartPlant P&ID to delete these items or remove their association with the plant group before you can delete the plant group.
- Deleting a plant group cannot be undone. If you have backed up your plant structure, you can use the **Restore** command to retrieve the backed up version of the plant structure.

- Delete Command, page 17
- Delete Plant Structure Dialog Box, page 80

Change Area or Unit Names in the Plant Group: An Overview

SmartPlant Engineering Manager allows you to change the existing Plant Group Hierarchy area and unit names, but not the plant name itself, of projects already in progress. These changes are then propagated to the item type names of the project, based on the naming conventions as defined in SmartPlant Options Manager, using SmartPlant Electrical.

Related Topics

• Change Plant Group Hierarchy Names, page 88

Change Plant Group Hierarchy Names

- 1. Expand the **Plant Structures** hierarchy, and locate the plant structure whose area or unit names you want to change.
- 2. Expand the plant structure and select the area or unit name you want to change.
- 3. Do one of the following:
 - Click **Edit** > **Properties**.
 - Right-click, and on the shortcut menu select **Properties**.
- 4. On the **Properties** dialog box, in the **Name** field, make the changes to the name as required. Note that the software changes the path name automatically.
- 5. In the **Unit Code** field change the unique identifier if required. Note that the **Unit Code** field is only available in the **Unit Properties** dialog box.
- 6. Click OK.

Notes

- To propagate the changes of the Plant Group Names to the Item tags you must run **Apply Naming Conventions** in SmartPlant Electrical.
- You can not change the name of the plant.

Related Topics

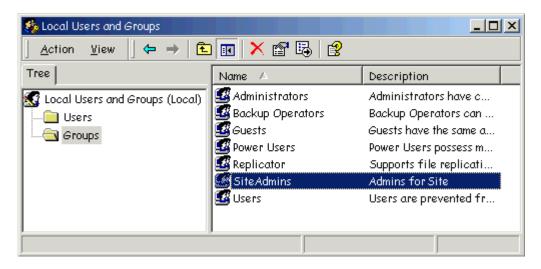
• Plant Groups Node: An Overview, page 83

Roles Node: An Overview

SmartPlant Engineering Manager uses roles to define and maintain user privileges and rights at the plant structure level. The Roles node displays the roles defined for the plant structure.



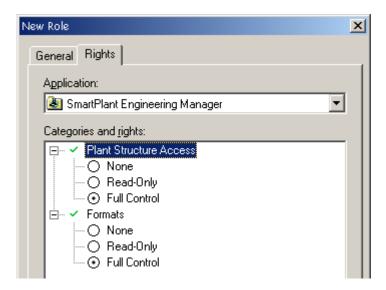
Each role is tied directly to a Windows or Novell user group and has exactly one group associated with it. The name and description of the role is the name and description of the group. Individual users cannot be added to a role, but are instead added to a user group, and then that group is added as a role in SmartPlant Engineering Manager. For example, the SiteAdmins role, shown above, is tied to the SiteAdmins group defined using the Users and Passwords utility in the Windows 2000 Control Panel.



The individual members of the example SiteAdmins group were added using the user group tools provided in the Control Panel.



Each application, including SmartPlant Engineering Manager, has its own categories and rights. The SmartPlant Engineering Manager rights pertain to plant structure and format access in general.



Important

• During site creation, you specified the group that you wanted to have site administrator privileges. Members of this group now possess a set of unique rights that cannot be granted to any other role. These rights include creating plant structures, creating and modifying hierarchies, creating and modifying plant group types, enabling projects, and so forth. Site administrators can see all plant structures in the site and have full access to them. Site administrator privileges do not extend to the engineering products. That is, a member of the group granted site administrator privileges does not automatically have full control privileges in SmartPlant P&ID or SmartPlant Electrical.

Notes

- To increase performance and usability as well as ensure better data protection and security, user access data is stored in the site schema instead of in a separate database.
- For more information about creating Windows or Novell user groups, see the SmartPlant P&ID Installation and Upgrade Guide or the SmartPlant *Electrical Installation and Upgrade Guide.*

Related Topics

- Create a New Role, page 91
- SmartPlant Electrical User Access Rights, page 165
- SmartPlant Engineering Manager Rights, page 155
- SmartPlant P&ID User Access Rights, page 157

Create a New Role

- 1. Select the **Roles** node under the plant structure or project to which you want to add the new role.
- 2. Right-click and select **New Role**.
- 3. On the **General** tab, define the following properties:
 - Use local machine and domain groups Use this option when you want to choose an existing user group or domain that is accessible from your machine.
 - Use site server and domain groups Use this option when you want to choose a user group or domain that is accessible from the site server machine.
 - Role name Select the Browse button to display the Select Groups dialog box, which allows you to select the Windows or Novell user group you want to assign to this new role. The name of the SmartPlant role will be the same as the name of the selected user group.
 - **Role description** Type a descriptive note about the role that you are creating. You can make notes that indicate the privileges assigned to the group. If a description was defined when the group was created, it appears by default.
 - **Template** Select a pre-defined role template. If you do not want to use a template, select None.
- 4. On the **Rights** tab, specify the access privileges for this group of users. This step is optional if you selected a template on the General tab. You can still modify individual access rights after applying a role template.

• Important

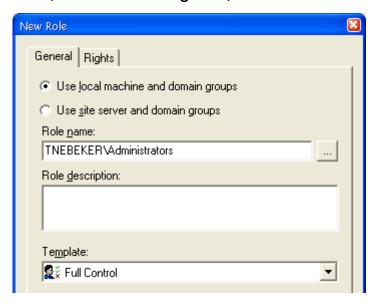
- If users experience access problems after you create a role for the group to which the user is assigned, check with your Information Technology group to see if that user was created on a Windows NT domain that has been upgraded to Windows 2000 or Windows XP. Microsoft provides a method for adding users to the built-in **Pre-Windows 2000 Compatible** Access Group to handle this backward-compatibility issue. For more information, see the Microsoft Knowledge Base article number 303973 at http://support.microsoft.com.
- The new role will not be created if you do not select any rights.
- When setting the rights for the new role, be sure to not only set the rights for the applications, but also set the access permissions available under the SmartPlant Engineering Manager rights.
- You can automatically include the site administrators group in each plant you create by selecting the Add the site administrator group to each plant created option on the Site Properties > General tab. Doing this saves you the step of creating a new role to grant these users access to the new plant. For more information, see General Tab (Site Server Properties Dialog Box), page 55.

- General Tab (New Role Dialog Box), page 93
- Rights Tab (New Role Dialog Box), page 95
- SmartPlant Electrical User Access Rights, page 165
- SmartPlant Engineering Manager Rights, page 155
- SmartPlant P&ID User Access Rights, page 157

New Role Dialog Box

Allows you to create user access roles, specify the rights associated with those roles, and to create role templates.

General Tab (New Role Dialog Box)



Use local machine and domain groups - Use this option when you want to choose an existing user group or domain that is accessible from your machine.

Use site server and domain groups - Use this option when you want to choose a user group or domain that is accessible from the site server machine.

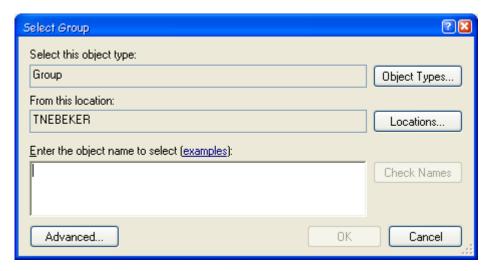
Role name - Select the **Browse** button to display the Microsoft **Select** dialog box, which allows you to select the Windows or Novell user group you want to assign to this new role. The name of the SmartPlant role will be the same as the name of the selected user group.

Role description - Type a descriptive note about the role that you are creating. You can make notes that indicate the privileges assigned to the group. If a description was defined when the group was created, it appears by default.

Template - Select a pre-defined role template. If you do not want to use a template, select None. Two role templates are delivered by default: Read-Only and Full **Control.** The **Read-Only** template grants read-only rights to all of rights for the associated applications. The **Full Control** template grants full control to all of the rights for the associated applications. You can edit individual rights after applying a role template.

Select Group Dialog Box

Displays when you click the **Browse** button on the **New Role > General Tab** dialog box, allowing you to specify which user group you want to assign to the new role.



Select this object type - Displays the types of objects selected. You can select only groups, not individual users.

Object Types - Click to choose the types of objects you want to select. You must leave **Group** as the object type.

From this location - Displays the name of the machine or domain in which this search will look for user groups.

Locations - Click to define the root location from which to start your search.

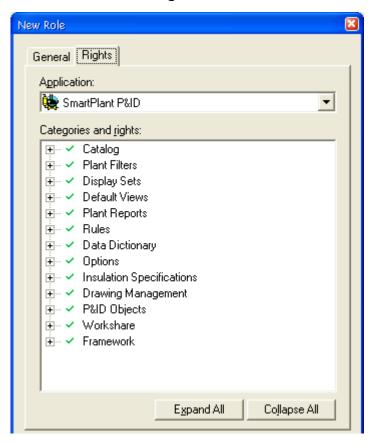
Enter the object name to select - Provides a space for you to type the object names that you want to find. You can search for multiple objects by separating each name with a semicolon. Use one of the following syntax examples:

- DisplayName (example: FirstName LastName)
- ObjectName (example: Computer1)
- UserName (example: User1)
- ObjectName@DomainName (example: User1@Domain1)
- DomainName\ObjectName (example: Domain1\User1)

Check Names - Locates all matching or similar object names listed in the text box using the selected object types and directory location. This feature is not available on Windows NT domains.

Advanced - Expands the **Select Group** dialog box, allowing you to create more detailed object searches.

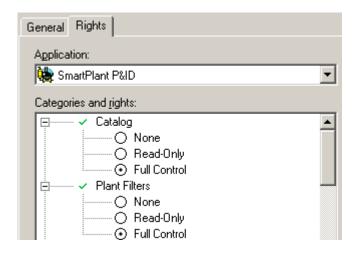
Rights Tab (New Role Dialog Box)



Application - Displays a list of applications available for user access assignments.

Categories and rights - Displays the user rights categories available for the selected application. Expand these categories to view their associated access rights levels. Set the access level for the category by clicking the radio button or check box beside the right. When more than one level of access can be defined for a user group, you can select multiple access rights by clicking more than one check box.

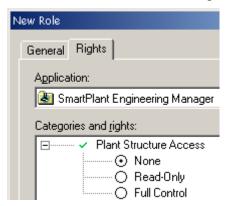
Expand All - Opens the entire **Categories and rights** list, as shown below, allowing you to quickly view all rights options.



Collapse All - Collapses the entire Categories and rights list.

Notes

- To access the plant structure through SmartPlant Engineering Manager, the user must belong to a role that has at least read-only access to the plant structure.
- The **Plant Structure Access** rights available to the **Site Administrator** users can be set to the following values.



None - The user will not be allowed to see any part of the plant structure, including the plant structure root.

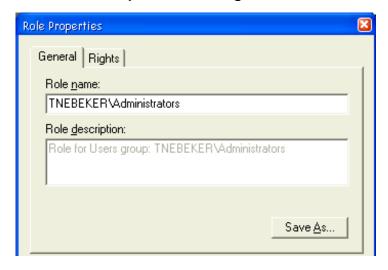
Read-Only - The plant structure is visible, but the user cannot create, modify, or delete any data within the plant structure.

Full Control - The user can create plant groups, add applications and roles, enable Workshare, and create satellites, but cannot see the hierarchies or the plant group types. This right is valid only within the SmartPlant Engineering Manager product.

Role Properties Dialog Box

Allows you to view the properties for the selected user access role, modify the rights associated with the role, and to create a role template based on the selected role.

General Tab (Role Properties Dialog Box)



Role name - Displays the name of the Windows or Novell user group chosen for the role. The SmartPlant role is the same as the name of the user group. You cannot change this name.

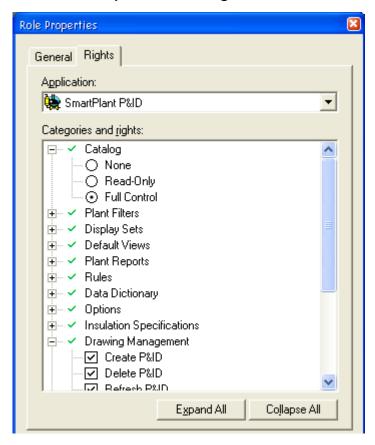
Role description - Displays the description for the role. You cannot make changes to this description.

Save As - Displays the **Save as Template** dialog box, illustrated below, which allows you to save the current role settings as a role template for use in creating other user roles.

Related Topics

• Role Templates: An Overview, page 102

Rights Tab (Role Properties Dialog Box)



Application - Displays a list of applications available for user access assignments.

Categories and rights - Displays the user rights categories available for the selected application. Expand these categories to view their associated access rights levels. Set the access level for the category by clicking the radio button or check box beside the right. When more than one level of access can be defined for a user group, you can select multiple access rights by clicking more than one check box.

Expand All - Opens the entire **Categories and rights** list, allowing you to quickly view all rights options.

Collapse All - Collapses the entire **Categories and rights** list.

- SmartPlant Electrical User Access Rights, page 165
- SmartPlant Engineering Manager Rights, page 155
- SmartPlant P&ID User Access Rights, page 157

Creating Roles from the Command Line

You can create new roles from the command line using the CreateSpemRole.exe program, which is delivered to the \Program Files\SmartPlant\Engineering Manager\Program folder during installation.

Argume nt	Description
-d [0-3]	(Optional) Debug level. Defaults to 0 if you do not specify a debug level (0-3). If used, this argument must be the first argument in the command line call.
-S	(Optional) Site .ini file (string). This path can be in either UNC or Windows format.
-p	Root item name (string)
-g	Group (string)
-t	Rule template name (string)

Examples

```
CreateSpemRole.exe -d -s \\srv\share\mysite.ini -p MyPlant -g
GrpName -t GrpNameTemplate
CreateSpemRole.exe -d 3 -s C:\share\mysite.ini -p MyPlant -g GrpName
-t GrpNameTemplate
```

Modify a Role

- 1. Expand the **Roles** node under the plant structure containing the role you want to modify.
- 2. Right-click the **Role** in the **List** view, and select the **Properties** command.
- 3. Modify the properties on the **General** and **Rights** tabs as necessary.

Related Topics

Create a New Role, page 91

Delete a Role

- 1. Expand the **Roles** node under the plant structure.
- 2. Right-click the **Role** in the **List** view, and select the **Delete** command.

Note

• When you delete a role, the users are removed from database. However, if those users are running an application when you delete the role, they are still able to run that application until they exit the application. Once they have exited that application, they will not be able to run it again. Also, while they are in the one application, they will not be able to get into another one if their user names have been removed.

Related Topics

- Create a New Role, page 91
- *Modify a Role*, page 99

Refresh Users Command

Tools > Refresh Users

Allows you to update the site administrator group and the plant structure roles to reflect changes made to the Microsoft® or Novell® user groups upon which the group or role is based.

Roles control the access rights that a user has within a plant and a site. These roles use Microsoft or Novell groups as their basis. When a role is created, the members of the selected Microsoft or Novell groups are added to the site schema to help speed up the determination of a user's rights. Because these group members are stored in the schema, changes to these groups must be refreshed using this command so that the changes will appear in the site schema.

Automatically Refreshing Roles

To automatically refresh the roles on a scheduled basis, use the **Refresh Site Roles** utility to update the roles in a site. This utility is available on the **Start** menu and is delivered by default to C:\Program Files\SmartPlant\Engineering Manager\Program\PublishSiteRoles.exe. For more information, see *Refresh Site Roles*, page 101.

- Refresh Site Roles, page 101
- Roles Node: An Overview, page 89
- SmartPlant Engineering Manager Rights, page 155

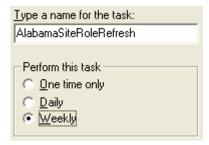
Refresh Site Roles

- 1. Click Refresh Site Roles Utility on the Start > Programs > Intergraph SmartPlant Engineering Manager menu.
- 2. On the **Open Site Server** dialog box, select the site .ini file and click **Open**.
- 3. On the **Refresh Site Roles** dialog box, click **Yes** to open the task scheduler.



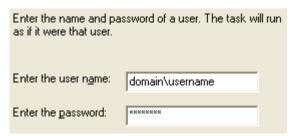
? Tips

- Click **No** to bypass the scheduler and to immediately update the roles in the selected site.
- You can also use the **Tools** > **Refresh Users** command to immediately update the roles in the selected site. For more information, see *Refresh Users Command*, page 100.
- 4. In the **Schedule Task Wizard**, specify a name for the task and select the frequency at which you want the task to run.



💡 Tip

- The frequency option you select determines the options that appear on the following pages in the wizard.
- 5. Specify the time and date when you want the task to run.
- 6. Specify a user name and password for a user who has the appropriate user access rights to publish the roles, such as a system administrator.



7. Click Finish.



 You can also access the Refresh Site Roles utility from the Windows Scheduled Tasks utility.

Role Templates: An Overview

SmartPlant Engineering Manager provides role templates to help you easily create new roles. Because the most labor-intensive part of a role creation is setting the values for the rights, you can now create templates for specific roles and then use the templates multiple times. This feature is useful for defining a role template in one site and then reusing that same role template throughout all of your sites.

SmartPlant Engineering Manager delivers three role templates by default:

None - Sets all access rights to None.

Read-Only - Sets all access rights for the role to **Read-Only**.

Full Control - Sets all access rights for the role to Full Control.

When you create a role template, the software creates an .rts file. The name of the template is the name you give this .rts file at creation. All role templates are stored in the folder specified during site creation. For more information, see *New Site Server Wizard - Paths*, page 46.

! Important

- Site backups include role templates if the templates are stored in the **Role** template location specified on the **Site Properties** dialog box.

SmartPlant Engineering Manager does not allow you to interactively view the rights specified in a role template file. The only way to see the settings stored in a template is to create a role using that template and then examine the rights using the **Role Properties** dialog box.

When creating a role, the software does not remember the specific role template used to create the role. Thus, after you create a role using a specific template, you will not find that template listed in the role properties. Furthermore, if you create a role using a role template and then modify the rights settings in that role, the template remains unchanged. In other words, the modifications you make to the rights are not automatically updated in the role template. You can, however, overwrite the existing role template with the modified rights settings by saving the current role as a template and specify the original role template file name.

For satellites and projects, values for certain rights are restricted. If a chosen template for a role has a higher value than what is allowed, the value will be changed to the highest available level.

All templates are forward-compatible. If a right is no longer in the list of rights, this right is ignored. All rights that are added will be set to **None** by default, with the exception of the default templates.

Related Topics

- Create a Role Template, page 103
- General Tab (Site Server Properties Dialog Box), page 55
- New Site Server Wizard Paths, page 46
- Rights Tab (Role Properties Dialog Box), page 98

Create a Role Template

- 1. Select the **Roles** node under the plant structure containing the role on which you want to base the template.
- 2. Right-click the role in the **List** view, and select the **Save As Template** command.
- 3. Specify a path and name for the template file. This name will appear in the **Templates** list on the **New Role** dialog box.

! Important

• Any role template files stored in a location other than the one specified during site creation will not appear in the **Template** list on the **New Roles** dialog box. You can modify the role template storage path using the **Site Properties** dialog box. To use a role template at another site, you can copy the .rts file to the role template location for that site. Another way to easily reuse role templates is to have each site point to the same folder for all templates. This way any template created in one site would be available at the other sites.

- Create a New Role, page 91
- General Tab (Site Server Properties Dialog Box), page 55
- *Modify a Role Template*, page 104
- New Site Server Wizard Paths, page 46

Delete a Role Template

- 1. Use your operating system tools to browse to the role template file location.
- 2. Delete the .rts file for the role template you want to delete.

! Important

- Deleting a role template is permanent unless you restore your site from backup before the next backup runs. Site backups include role templates if the templates are stored in the Role template location specified on the Site Properties dialog box.
- Role templates are easily re-created by simply saving a current role as a role template.

Related Topics

- Create a New Role, page 91
- Create a Role Template, page 103
- General Tab (Site Server Properties Dialog Box), page 55
- New Site Server Wizard Paths, page 46

Modify a Role Template

- 1. Select the **Roles** node under the plant structure containing the role created using the template you want to modify.
- 2. Right-click the role in the **List** view and select the **Properties** command.
- 3. Modify the rights as necessary.
- 4. Click **Save As** on the **Role Properties > General** dialog box.
- 5. Select the name of the existing template on the **Save As Template** dialog box.

Important

• Any role template files stored in a location other than the one specified during site creation will not appear in the **Template** list on the **New Roles** dialog box. You can modify the role template storage path using the **Site Properties** dialog box. To use a role template at another site, you can copy the .rts file to the role template location for that site. Another way to easily reuse role templates is to have each site point to the same folder for all templates. This way any template created in one site would be available at the other sites.

- Create a New Role, page 91
- Create a Role Template, page 103
- General Tab (Site Server Properties Dialog Box), page 55
- New Site Server Wizard Paths, page 46

Applications Node: An Overview

The **Applications** node displays the engineering applications that are currently associated with your plant structure. Before you can use an application with your data, you must associate that application with the plant structure.

Related Topics

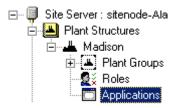
- Associate Applications Command, page 105
- Associate Applications Wizard, page 105

Associate Applications Command

Tools > Associate Applications

Starts the **Associate Applications** wizard, which allows you to associate an engineering application to the plant structure.

You can access this command only after selecting the **Applications** node in your plant's node in the **Tree** view.



Related Topics

- Associate Applications Wizard, page 105
- Select Application (Associate Applications Wizard), page 107

Associate Applications Wizard

Engineering applications (such as SmartPlant P&ID or SmartPlant Electrical) are used to access data within your plant structure. Before you can use an application with your data, you must associate that application with the plant structure.

To associate an application with your plant structure, use the **Tools > Associate Applications** command to open the **Associate Applications** wizard that helps you step through creating the application schema and data dictionary.

When associating an application, you must provide the following information as you step through the wizard.

Data Dictionary Source - Specifies whether the data dictionary for the associated application will be built from a default template or a custom template. You must specify the path to the location of the seed files. Data dictionary templates are not database-specific. In other words, a given data dictionary template can be used in both Oracle and SQL Server environments. For more information about using data dictionary templates, see *Working with Data Dictionaries: An Overview*, page 28.

Application Schema and Application Data Dictionary Schema Information - Allows you to specify user names and passwords for both schemas. All data needed to maintain the application association is written into the application schema.

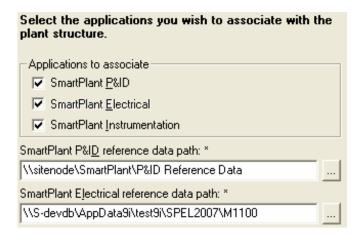
Notes

- When associating SmartPlant P&ID or SmartPlant Electrical, you can use the **Default Settings** commands on the **Tools** menu to specify default values to simplify the application association process. For more information, see *Using Default Settings: An Overview*, page 34.
- In an integrated environment, if only one application is associated with the plant at the time it is registered, only that application is registered. If another application is later associated with the plant, the **Register** command is enabled so that you can register the new application with the plant. For more information, see *Register Command*, page 301.

- Associate Applications Command, page 105
- SmartPlant Electrical Properties Dialog Box, page 116
- SmartPlant P&ID Properties Dialog Box, page 117

Select Application (Associate Applications Wizard)

Allows you to select the applications you want to associate with the selected plant structure. Any combination can be made, that is, one or both applications can be selected. This selection determines the order in which the software opens the wizard pages. The wizard pages and the options displayed in the pages are application-specific and depend on the order in which you select the applications.



Applications to associate - Select the application that you want to associate with the plant structure.

SmartPlant P&ID reference data path - Type or browse to the reference data path (in UNC format) for the application options. This field is enabled only if **SmartPlant P&ID** is selected in the **Applications to associate** options above. This field is limited to 255 characters.

SmartPlant Electrical reference data path - Type or browse to the reference data path (in UNC format) for the application options. This field is enabled only if **SmartPlant Electrical** is selected in the **Applications to associate** options above. This field is limited to 255 characters.

Notes

- If you want associate SmartPlant Instrumentation, you must first configure the SmartPlant Instrumentation database for the site server. For details, see Configuring the SmartPlant Instrumentation Database: An Overview.
- If you already have two application associated with your plant structure, this page is not shown when you start the wizard to associate the third application. If the remaining application is SmartPlant P&ID, the software opens the **Data Dictionary Source** page. If the remaining application is SmartPlant Electrical, the software opens the **Data Dictionary** page. If the remaining application is SmartPlant Instrumentation, the software opens the **Domain Definitions** page.

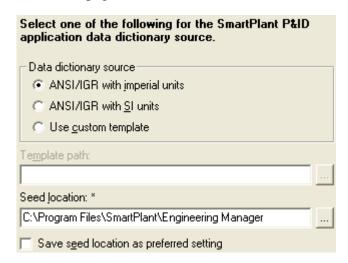
• For SmartPlant Electrical or SmartPlant P&ID, the reference data path replaces entries originally set to *node\share*... in the T_OptionSettings table.

Related Topics

- Application Schema (Associate Applications Wizard), page 109
- Default Settings Command, page 34
- Use Default Settings Command, page 41

Data Dictionary Source (Associate Applications Wizard)

Allows you to choose whether you want to use a default data dictionary or use a custom data dictionary template to create the application database. Data dictionary templates are not database-specific. In other words, a given data dictionary template can be used in both Oracle and SQL Server environments. For more information about using data dictionary templates, see *Working with Data Dictionaries: An Overview*, page 28.



Data dictionary source - Select the source for the application data dictionary.

- **ANSI/IGR with imperial units** Select this option to create the data dictionary using the default data dictionary template with imperial units.
- **ANSI/IGR with SI units** Select this option to create the data dictionary using the default data dictionary template with SI units.
- **Use custom template** Select this option to create the data dictionary using a custom template.

Template path - Type, or browse to, the path where the template files are located. The default templates are delivered to the C:\Program Files\SmartPlant\Engineering Manager\Templates folder during product installation. This field is enabled only if the **Use custom template** option is selected and is limited to 255 characters.

Seed location - Type, or browse to, the path where the resource, script, and template files are located. These files can be installed on a share that is common to all. By default, these files are delivered in folders under the C:\Program Files\SmartPlant\Engineering Manager folder and are used by SmartPlant Engineering Manager to populate the data dictionaries. This field is limited to 255 characters.

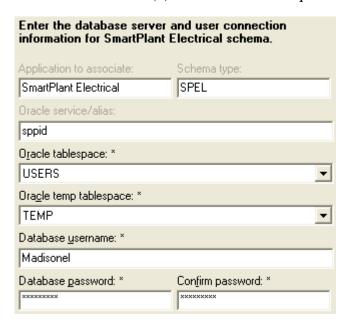
Save seed location as preferred setting - Saves a pointer to the seed file location specified above.

Related Topics

- Default Settings Command, page 34
- New Data Dictionary Template Command, page 29
- Use Default Settings Command, page 41

Application Schema (Associate Applications Wizard)

This page allows you to enter all of the database information for the application schema. The tablespaces and other database information displayed in the drop-down lists are based on the database net service name or alias used in the plant structure creation. An asterisk (*) means a value is required for that box.



Application to associate - Displays the application being associated. This value is carried forward from the previous page.

Schema type - Displays the application schema type. This value is carried forward from the previous page.

Oracle service/alias - Specifies the Oracle net service name as defined by your database administrator. This value is carried forward from the plant structure definition and appears only if using Oracle.

Database server - Displays the node name of the server on which the SQL Server database resides. This option appears only if using SQL Server.

Database name - Displays the name of the SQL Server database used by the plant to which the application is being associated. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default tablespace name for your application schema. These tablespaces are defined when the database administrator created the default database instance using Oracle Database Assistant.

Oracle temp tablespace - Select the default temporary tablespace name for your application schema. The temporary tablespace was defined when the database administrator created the temporary database instance using Oracle Database Assistant. If this list is empty, contact your database administrator.

! Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use. This option appears only if using Oracle.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the application user. This value must be unique in the database. For more information about default database user names, see *Understanding Default Database User Names*, page 24.

Database password - Type the password for the application database user. We recommend using the application database user name defined above as this password.

Confirm password - Re-type the password for the database user.

Default reference data path - Type or browse to the reference data path (in UNC format with a maximum of 255 characters) for the application options. Because the Select Application page is not shown when you start the wizard to associate another application, this field displays on this page only if you already have an application associated with your plant structure.

Note

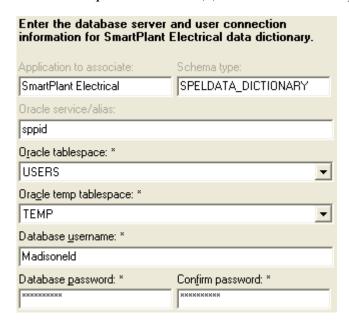
Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

Related Topics

- Change the Database Passwords for an Application, page 118
- Default Settings Command, page 34
- Select Application (Associate Applications Wizard), page 107
- Understanding Default Database User Names, page 24
- Use Default Settings Command, page 41

Data Dictionary (Associate Applications Wizard)

Allows you to enter all of the database information for the application data dictionary. The tablespaces and other database information displayed in the drop-down lists are based on the database used in the plant structure creation. The database user name must be unique. An asterisk (*) means a value is required for that box.



Application to associate - Displays the application being associated. This value is carried forward from the previous page.

Schema type - Displays the application schema type. This value is carried forward from the previous page.

Oracle service/alias - Specifies the Oracle net service name as defined by your database administrator. This value is carried forward from the plant structure definition and appears only if using Oracle.

Database server - Displays the node name of the server on which the SQL Server database resides. This option appears only if using SQL Server.

Database name - Displays the name of the SQL Server database used by the plant to which the application is being associated. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default tablespace name for your application database. These tablespaces are defined when the database administrator created the default database instance using Oracle Database Assistant.

Oracle temp tablespace - Select the default temporary tablespace name for your application database. The temporary tablespace was defined when the database administrator created the temporary database instance using Oracle Database Assistant. If this list is empty, contact your database administrator. This option appears only if using Oracle.

• Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use. This option appears only if using Oracle.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

System of units - Specifies the system used for displaying units in the application.

Database username - Type the user name you want to use for the application data dictionary user. This value must be unique in the database. For more information about default database user names, see *Understanding Default Database User Names*, page 24.

Database password - Type the password for the application data dictionary user. We recommend using the application data dictionary user name defined in the field above as this password.

Confirm password - Re-type the password for the database user.



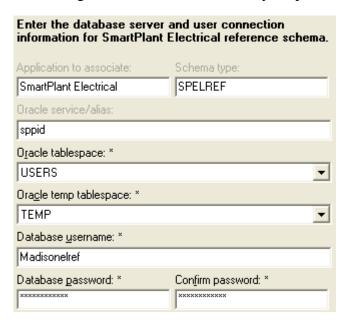
Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

Related Topics

- Change the Database Passwords for an Application, page 118
- Default Settings Command, page 34
- Understanding Default Database User Names, page 24
- Use Default Settings Command, page 41

Reference Schema (Associate Applications Wizard)

Allows you to enter the reference schema information for SmartPlant Electrical. An asterisk (*) means a value is required for that box. This page appears only if you are associating SmartPlant Electrical with your plant.



Application to associate - Displays the application being associated. This value is carried forward from the previous page.

Schema type - Displays the application schema type. This value is carried forward from the previous page.

Oracle service/alias - Specifies the Oracle net service name as defined by your database administrator. This value is carried forward from the plant structure definition and appears only if using Oracle.

Database server - Displays the node name of the server on which the SQL Server database resides. This option appears only if using SQL Server.

Database name - Displays the name of the SQL Server database used by the plant to which the application is being associated. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default tablespace name for your application database. These tablespaces are defined when the database administrator created the default database instance using Oracle Database Assistant.

Oracle temp tablespace - Select the default temporary tablespace name for your application database. The temporary tablespace was defined when the database administrator created the temporary database instance using Oracle Database Assistant. If this list is empty, contact your database administrator. This option appears only if using Oracle.

! Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use. This option appears only if using Oracle.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the application reference schema database user. This value must be unique in the database. For more information about default database user names, see *Understanding Default Database User Names*, page 24.

Database password - Type the password for the application reference schema database user. We recommend using the application reference database user name defined in the above field as this password.

Confirm password - Re-type the password for the database user.

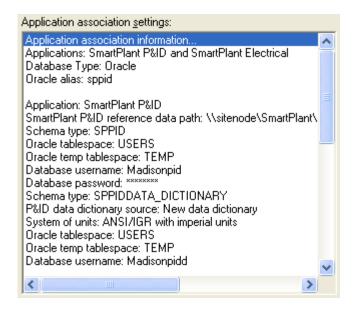
Note

Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

- Change the Database Passwords for an Application, page 118
- Default Settings Command, page 34
- Select Application (Associate Applications Wizard), page 107
- Understanding Default Database User Names, page 24

Association Settings Summary (Associate Applications Wizard)

Displays the settings you defined for associating an application with your plant structure. Review these settings carefully. If you are satisfied with the settings, click **Finish**. Otherwise, click **Back** to change one or more of the settings.

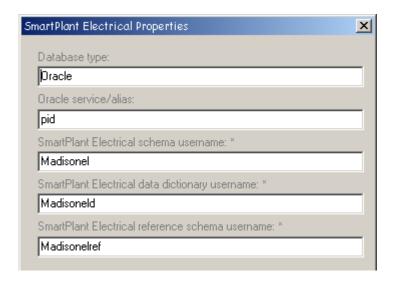


Application Properties Dialog Box

Displays the properties for the selected application that is associated with your plant. The information appearing on this dialog box depends on which application is selected and what database type is used by the plant.

SmartPlant Electrical Properties Dialog Box

Displays the properties for the associated SmartPlant Electrical application. You cannot change any of these values after the application is associated with a plant structure.



Database type - Displays the database type used for the SmartPlant Electrical application schema.

Oracle service/alias - Displays the Oracle net service alias used for the SmartPlant Electrical application schema. This field appears only if using Oracle.

Database server - Displays the node name of the server on which the SQL Server database used for the SmartPlant Electrical application schema resides. This field appears only if using SQL Server.

Database name - Displays the name of the SQL Server database used for the SmartPlant Electrical application schema. This field appears only if SQL Server is selected as the database type.

SmartPlant Electrical schema username - Displays the user name specified for the SmartPlant Electrical application schema.

SmartPlant Electrical data dictionary username - Displays the user name specified for the SmartPlant Electrical application data dictionary.

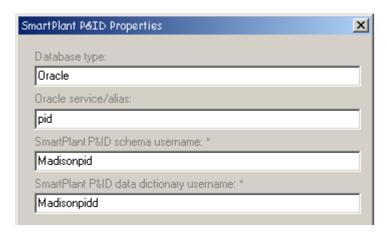
SmartPlant Electrical reference schema username - Displays the user name specified for the SmartPlant Electrical application reference schema.

Related Topics

• Associate Applications Command, page 105

SmartPlant P&ID Properties Dialog Box

Displays the properties for the associated SmartPlant P&ID application. You cannot change any of these values after the application is associated with a plant structure.



Database type - Displays the database type used for the SmartPlant P&ID application schema.

Oracle service/alias - Displays the Oracle net service alias used for the SmartPlant P&ID application schema. This field appears only if using Oracle.

Database server - Displays the node name of the server on which the SQL Server database used for the SmartPlant P&ID application schema resides. This field appears only if using SQL Server.

Database name - Displays the name of the SQL Server database used for the SmartPlant P&ID application schema. This field appears only if SQL Server is selected as the database type.

SmartPlant P&ID schema username - Displays the user name specified for the SmartPlant P&ID application schema.

SmartPlant P&ID data dictionary username - Displays the user name specified for the SmartPlant P&ID application data dictionary.

Related Topics

• Associate Applications Command, page 105

Change the Database Passwords for an Application

- 1. Select the **Applications** node under the plant's node in the **Tree** view.
- 2. Right-click and select **Change Password**.
- 3. On the **Change Password** dialog box, select **<Application> Schema** from the **Password for** list.
- 4. Type the old application schema password.
- 5. Type the new application schema password.
- 6. Confirm the new password by typing it again.
- 7. On the **Change Password** dialog box, select **Application> Data Dictionary** from the **Password for** list.
- 8. Type the old application data dictionary password.
- 9. Type the new application data dictionary password.
- 10. Confirm the new password by typing it again.



• If you are changing the passwords for the SmartPlant Electrical application, be sure to change the password for the **Electrical Reference Schema** as well.

11. Click **OK**.

Related Topics

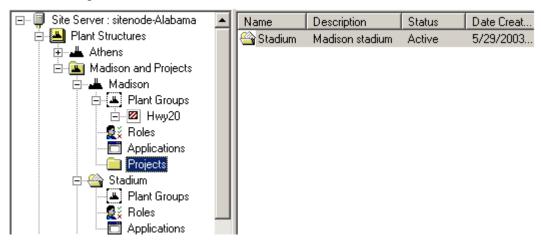
• Change Password Command, page 26

Projects Node: An Overview

The **Projects** node displays only after projects are enabled for the plant. When projects are enabled, the plant structure becomes the Plant, which is often referred to as the Master or As-Built plant. This node shows the active projects in the Plant and displays their attributes in the **List** view.

Note

Project names must be unique within a plant and cannot contain any of the following characters: < , > ? \ / '; { } [] ~ - `! % * () | " :



Related Topics

• Enable Projects, page 208

Project Properties Dialog Box

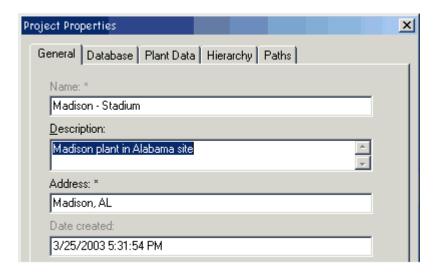
Allows you to view the properties pertaining to the selected project. You can modify some of these properties using the tabs on this dialog box.

= "helponly">General TabDatabase TabPlant Data TabHierarchy TabPaths TabData Access Tab

SmartPlant Tab

General Tab (Project Properties Dialog Box)

Displays the attribute information for the project. Items that cannot be modified are unavailable.



Name - Displays the name of the project. You cannot change the project name after the project has been created.

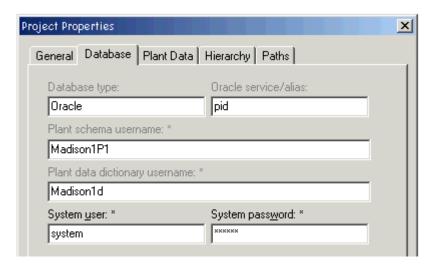
Description - Displays the current description of the project. You can type a new description.

Address - Displays the address for the project root item. This option appears only if the project uses Hierarchy 2: Site/Plant/Unit or uses a hierarchy with the Site plant group type as the root item. You can edit this value.

Date created - Displays the date on which the project was created. You cannot change this value.

Database Tab (Project Properties Dialog Box)

Displays the database information for the project. Depending on the **Database type** you selected when you created the Plant, different options display on this tab. An asterisk (*) at the end of an item name indicates a value is required for that item.



Database type - Displays the database type used by this project.

Oracle service/alias - Displays the name of the Oracle net service alias that you are using for the Plant. This option appears only if Oracle is selected as the database type.

Database server - Displays the node name of the server on which the SQL Server database used by the Plant resides. This option appears only if SQL Server is selected as the database type.

Database name - Displays the name of the SQL Server database where the Plant schemas are located. This option appears only if SQL Server is selected as the database type.

Plant schema username - Displays the Plant schema user name.

Plant data dictionary username - Displays the data dictionary user name used by the Plant.

System user - Displays the database system user name specified during plant creation. You can change this value as needed. This name does not have to be the database administrator user name, but this user must have system privileges.

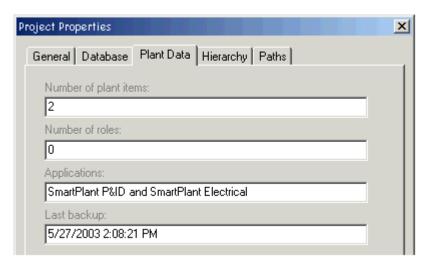
System password - Displays the system user password. You can change this value as needed.

Related Topics

• Understanding Default Database User Names, page 24

Plant Data Tab (Project Properties Dialog Box)

Displays a summary of information about the project.



Number of plant items - Displays the number of plant items in the project.

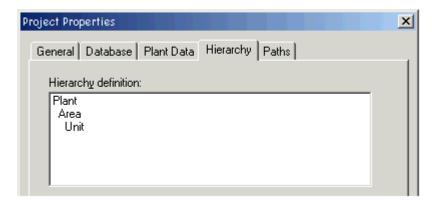
Number of roles - Displays the number of roles defined for this project.

Applications - Displays the engineering applications associated with the project.

Last backup - Displays the time of the last backup of the project.

Hierarchy Tab (Project Properties Dialog Box)

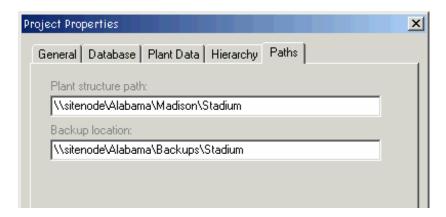
Displays the hierarchy definition for the project.



Hierarchy definition - Displays the plant breakdown structure and hierarchy items of the plant on which the project is based.

Paths Tab (Project Properties Dialog Box)

Displays the path information for the project. Items that cannot be modified are unavailable.

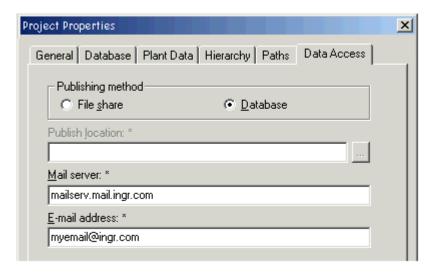


Plant structure path - Displays the path to the share where the actual, physical plant structure files reside. You cannot change this path after the project is created.

Backup location - Displays the path to the share where the project files are backed up. You can change this path to point to a new backup location. This field is limited to 255 characters.

Data Access Tab (Project Properties Dialog Box)

Displays the Workshare data access information for the project. This tab appears only when the project is enabled for Workshare collaboration.



Publishing method - Displays the publishing method used to share project data in a Workshare collaboration.

Publish location - Displays the UNC path to the shared location on the host site where the shared data is stored. This field is limited to 255 characters and is available only when using the file share publishing method.

Mail server - Displays the SMTP server address to which the administrative e-mail address (below) has access.

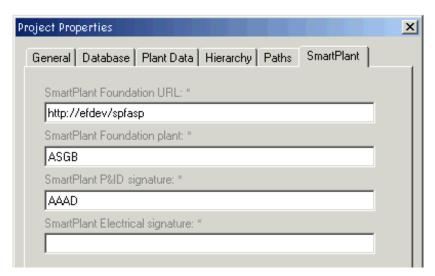
E-mail address - Displays the e-mail address for the satellite site administrator. This address must be a valid account known to the satellite **Mail server** defined above. The satellite site uses this address to send a message to both the satellite and host administrators, notifying them when the database link has been down for an extended period of time.

Related Topics

- Breaking the Database Link: The Significance, page 259
- Enable Workshare Dialog Box, page 264

SmartPlant Tab (Project Properties Dialog Box)

Displays SmartPlant information for the project. This tab appears only if the Plant, in which the project resides, has been registered.



SmartPlant Foundation URL - Displays the URL retrieved from SmartPlant Foundation during plant registration.

SmartPlant Foundation plant - Displays the four-character unique identifier for SmartPlant Foundation.

SmartPlant P&ID signature - Displays the four-character unique identifier assigned to SmartPlant P&ID during registration. No identifier appears if this application has not been registered, for example, if it was not associated with the Plant when the Plant was registered.

SmartPlant Electrical signature - Displays the four-character unique identifier assigned to SmartPlant Electrical during registration. No identifier appears if this application has not been registered, for example, if it was not associated with the Plant when the Plant was registered.

Related Topics

- Register Command, page 301
- SmartPlant Integration: An Overview, page 298

Change the Database Passwords for a Project

- 1. Select the project's node in the **Tree** view.
- 2. Right-click and select the **Change Password** command.
- 3. On the **Change Password** dialog box, select **Plant Schema** from the **Password** for list.
- 4. Type the old plant schema password.
- 5. Type the new plant schema password.
- 6. Confirm the new password by typing it again.
- 7. On the **Change Password** dialog box, select **<Application> Schema** from the **Password for** list.
- 8. Type the old application schema password.
- 9. Type the new application schema password.
- 10. Confirm the new password by typing it again.
- 11. Click **OK**.

Note

 A project cannot change the plant data dictionary or application data dictionary passwords because projects cannot change the Plant's reference data.

Related Topics

• Change Password Command, page 26

Satellites Node: An Overview

The **Satellites** node displays only after Workshare is enabled for the plant. This node contains each satellite slot created in the plant structure and displays their attributes in the **List** view. The **Users** column in the **List** view shows the number of users defined for each satellite slot.

Related Topics

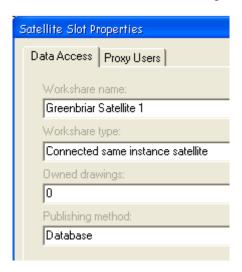
- Create a New Satellite Slot, page 265
- Enable Workshare, page 265

Satellite Slot Properties Dialog Box

Allows you to view the properties for the selected satellite slot. The tabs, and the options on those tabs, displayed differ depending on the Workshare mode and use status for each satellite slot.

Data Access Tab (Satellite Slot Properties Dialog Box)

Displays the data access information for the satellite slot. This tab displays only when a connected satellite site is using the slot.



Workshare name - Displays the name of the satellite slot. You cannot change the satellite slot name after the satellite slot has been created.

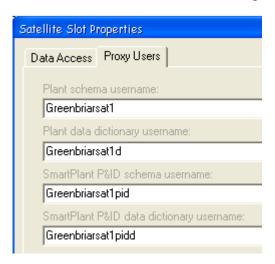
Workshare type - Displays the type of Workshare mode for the satellite slot.

Owned drawings - Displays the number of drawings currently owned by the satellite connected to this slot.

Publishing method - Displays the type of publishing used for the satellite slot.

Proxy Users Tab (Satellite Slot Properties Dialog Box)

Displays the user names defined for the satellite proxy users. This tab displays only when a connected satellite site is using the slot.



Plant schema username - Displays the user name defined for access to the plant schema.

Plant data dictionary username - Displays the user name defined for access to the plant data dictionary.

SmartPlant P&ID schema username - Displays the user name defined for access to the SmartPlant P&ID schema.

SmartPlant P&ID data dictionary username - Displays the user name defined for access to the SmartPlant P&ID data dictionary.

- New Satellite Slot Wizard, page 266
- Recreate Proxy Users, page 297
- Recreating Proxy Users: An Overview, page 296

Hierarchy Templates Root: An Overview

The **Hierarchy Templates Root** shows the various hierarchy templates that can be used to generate the structure of a plant. A hierarchy is made up of a set of two or more plant group types (formerly called hierarchy items) that are arranged in a tree structure. Examples of plant group types are plants, units, areas, sites, and drawings.



A hierarchy (also referred to as a work breakdown structure) is used as a template to create a plant structure and defines the available plant group items for a certain level of the tree. The hierarchy is essentially a set of rules that the plant structure must follow. For example, a plant structure using Hierarchy 1: Plant/Unit with the **Allow P&ID Drawings** option set on the Unit level allows you to create drawings only under a unit in that plant. Using this hierarchy, you can create a plant structure containing only one plant, then multiple units, and then multiple drawings under each unit.

! Important

- Drawings are not allowed in the top-most root item in a hierarchy.

 Therefore, **Allow P&ID Drawings** is not available at the root item level in a hierarchy.
- If you use a hierarchy in which **Allow P&ID Drawings** is not turned on for at least one level, the plant cannot be used in SmartPlant P&ID, but can be used in SmartPlant Electrical.

The plant structure hierarchy does not reference the hierarchy template after the plant structure is created. SmartPlant Engineering Manager writes a copy of the hierarchy template to the plant database when the new plant is created. This reduces the dependency on the site for the hierarchy definition and allows you to modify the hierarchy template independent of whether any plant structures used it during their creation. You cannot modify a plant structure hierarchy after the plant structure has been created.

During plant structure creation, you can choose to use one of the default hierarchy templates or use a custom hierarchy that you have previously defined. You cannot modify the selected hierarchy template during plant structure creation.

- Add a New Level to Your Hierarchy, page 132
- Create a New Hierarchy Template, page 129
- Delete a Plant Group Type from a Hierarchy, page 134

Create a New Hierarchy Template

1. Select the **Hierarchy Templates** node.



2. Right-click the **Hierarchy Templates** node and select the **New Hierarchy Template** command.



- 3. Type a name for the hierarchy.
- 4. Type a description for the hierarchy.
- 5. Select a plant group type from the **Root item plant group type** list.
- 6. Add more levels to the hierarchy template by right-clicking the last plant group type added and selecting **New Level**.



Notes

- The hierarchy name length is limited to 80 characters. You can use a space character in the name, but no other special characters.
- The first plant group type added to the hierarchy is the root of the tree. The software allows only one root for each tree.
- Drawings are not allowed in the top-most root item in a hierarchy. Therefore, **Allow P&ID Drawings** is not available at the root item level in a hierarchy.
- If you use a hierarchy in which **Allow P&ID Drawings** is not turned on for at least one level, the plant cannot be used in SmartPlant P&ID, but can be used in SmartPlant Electrical.
- You can create as many hierarchical levels in a hierarchy template as you have total plant group types. For example, if you have 15 plant group types defined in the **Plant Group Types** node in your site, then a custom hierarchy in your site can have no more than 15 levels. Additionally, multiple plant group types at any one level is not supported.

Attributes for plant group types cannot be added through SmartPlant
Engineering Manager. Use Data Dictionary Manager (available by rightclicking the Plant Group Types node) to change attribute display names
and to add attributes.

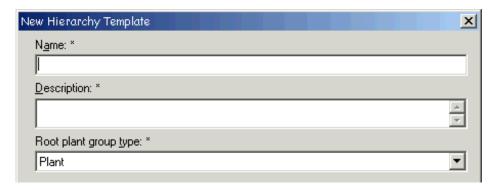


Related Topics

- Hierarchy Templates Root: An Overview, page 128
- New Hierarchy Template Dialog Box, page 130

New Hierarchy Template Dialog Box

Allows you to create a new hierarchy under the **Hierarchy Templates** node. To display this dialog box, select the **Hierarchy Templates** node and click **File > New**.



Name - Type the name for the hierarchy that you are creating. The hierarchy name length is limited to 80 characters. You can use a space character in the hierarchy name but no other special characters.

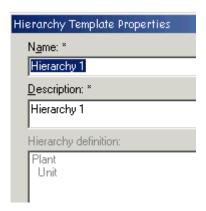
Description - Type a description for the hierarchy.

Root item plant group type - Select the plant group type that will be the root item for your new hierarchy.

- Create a New Hierarchy Template, page 129
- Hierarchy Templates Root: An Overview, page 128

Hierarchy Template Properties Dialog Box

Allows you to modify the name and description for an existing hierarchy. To display this dialog box, select the **Hierarchy Templates** node and click **Edit** > **Properties**.



Name - Type the name for the hierarchy that you are creating. The hierarchy name length is limited to 80 characters. You can use a space character in the hierarchy name but no other special characters.

Description - Type a description for the hierarchy.

Hierarchy definition - Displays how the hierarchy items are currently defined in the hierarchy. You cannot modify this definition.

Add a New Level to Your Hierarchy

1. Select the lowest node in the hierarchy, then right-click and select the **New Level** command.



- 2. On the **New Level** dialog box, select a plant group type for the new node in the hierarchy.
- 3. Click **Allow P&ID drawings** if you want to allow the creation of P&ID drawings at this level in your plant.
- 4. Click **OK**.

Notes

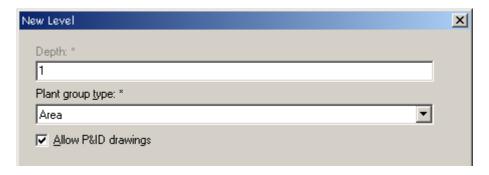
- Drawings are not allowed in the top-most root item in a hierarchy.
 Therefore, Allow P&ID Drawings is not available at the root item level in a hierarchy.
- If you use a hierarchy in which **Allow P&ID Drawings** is not turned on for at least one level, the plant cannot be used in SmartPlant P&ID, but can be used in SmartPlant Electrical.
- The **Plant group type** list displays all available plant group types not already used in the hierarchy.
- Attributes for plant group types cannot be added through SmartPlant
 Engineering Manager. Use Data Dictionary Manager (available by rightclicking the Plant Group Types node) to change attribute display names
 and to add attributes.



- Hierarchy Templates Root: An Overview, page 128
- New Level Dialog Box, page 133

New Level Dialog Box

Allows you to add plant group types to your hierarchy. To display this dialog box, select the root item (or lowest level) in your hierarchy and click **File > New Level**. This command is not available if there are already items at lower levels in the hierarchy.



Depth - Specifies the level in the hierarchy to place this new plant group type. This number is assigned automatically and is based on the plant group type in the hierarchy that you selected before you clicked **File > New**.

Plant group type - Select a plant group type for this node in your hierarchy. This list displays all of the plant group types that have not already been used in the hierarchy.

Allow P&ID drawings - Check this option if you want to allow the creation of P&ID drawings at this level in your plant. You can allow P&ID drawings at any level in your hierarchy except at the root level.

! Important

- Drawings are not allowed in the top-most root item in a hierarchy.
 Therefore, Allow P&ID Drawings is not available at the root item level in a hierarchy.
- If you use a hierarchy in which **Allow P&ID Drawings** is not turned on for at least one level, the plant cannot be used in SmartPlant P&ID, but can be used in SmartPlant Electrical.

- Add a New Level to Your Hierarchy, page 132
- Hierarchy Templates Root: An Overview, page 128

Delete a Plant Group Type from a Hierarchy

- 1. Select plant group type in your custom hierarchy.
- 2. Click **Edit** > **Delete**.

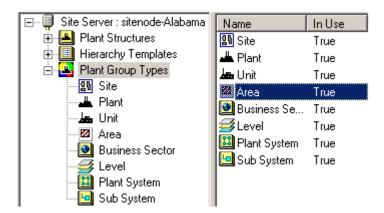
Notes

- When you click the **Delete** command, the selected plant group type and all items below it are removed from the hierarchy.
- If you select the hierarchy template root node of your custom hierarchy and then click the **Delete** command, the entire custom hierarchy is removed. This action does not affect any existing plant structures.
- You cannot delete any of the delivered hierarchy plant group types (area, business sector, drawing, level, plant, site, sub system, system, and unit).

Plant Group Types Root: An Overview

The **Plant Group Types** root contains the building blocks that make up plant structures. Formerly known as hierarchy items, you use these plant group types to construct hierarchy templates that are in turn used to create your plant structures. The plant group types are stored in the site schema.

Eight plant group types are delivered by default and are displayed in the **Plant Group Types** root in the **Tree** view. When this root is selected, the list of all plant group types is displayed in the **List** view, along with an additional column indicating which plant group types are currently being used by a hierarchy template.



Site administrators can add new or modify existing plant group types. New plant group types are added to the data dictionary for the site and are available for use in editing hierarchy templates. You can view the attributes associated with a plant group type by using the **Properties** command.

Notes

- When selecting attribute names, be sure not to use any of the Oracle reserved keywords. For example, address is a reserved keyword in Oracle. Also, attributes beginning with numbers or special characters are not supported by Oracle.
- Use Data Dictionary Manager to add, delete and modify plant group type attributes.



Create a New Plant Group Type

- 1. Select the **Plant Group Type** root.
- 2. Right-click the **Plant Group Type** root and select the **New Type** command.
- 3. Type a **Name** and **Display Name** for the new plant group type.

New Plant Group Type Dialog Box

Allows you to create a new plant group type.



Name - Specifies the name of the plant group type as it will appear in the Tree view.

Display Name - Specifies the name as it will appear in the data dictionary database tables.

Modify a Plant Group Type

- 1. In the **Tree** view, select the **Plant Group Type** root.
- 2. Right-click the **Plant Group Type** root and select the **Properties** command.

Delete a Plant Group Type

- 1. Select the **Plant Group Type** root.
- 2. Right-click the **Plant Group Type** root and select the **Delete** command.



• You cannot delete a plant group type that is being used in a hierarchy template.

Copy a Plant Structure: An Overview

The copy plant structure procedure allows you to make a copy of an existing plant structure and use this copy as a template to create new plant structures in your site. The procedure has two stages;

- Save Plant Structure You use this command to save the plant structure you want to copy.
- **Load Plant Structure** This wizard guides you through the process of loading and renaming the plant structure that you want to copy.

Note

• Projects of an As-Built plant are not copied when using the copy plant structure procedure.

Related Topics

- Associate Applications Wizard, page 105
- Roles Node: An Overview, page 89
- Save a Plant Structure, page 137
- User Access: An Overview, page 154

Save a Plant Structure

- 1. In SmartPlant Engineering Manager, in the tree view, right click the plant structure you want to **Save**, and from the shortcut menu, select **Save Plant Structure**.
- 2. On the **Save Plant Structure** dialog box, next to the **Export plant to location** field, click to browse to where you want to save the plant structure.
- 3. Click **OK**.

Related Topics

• Copy a Plant Structure: An Overview, page 137

Save Plant Structure Dialog Box

This dialog box allows you to save a plant structure to a designated location. You can include the settings of the applications associated with the desired plant structure.

Plant Structure - Type the plant structure name.

Save to file - Specify the path and name in which you desire to save the plant structure.

Include applications

Select a check box to include the application settings in the save. The following options are available:

- SmartPlant P&ID
- SmartPlant Electrical
- SmartPlant Instrumentation

Loading the Plant Structure Wizard

The **Load Plant Structure** wizard steps you through loading a plant structure. To start this wizard, right-click the **Plant Structures** root in the **Tree** view and then click **Load Plant Structure**. You must provide the following information as you step through the wizard.

Data Dictionary Source - Specifies whether the data dictionary for the loaded plant will be built from a default template or a custom template. You must specify the path to the location of the seed files. Data dictionary templates are not database-specific. In other words, a given data dictionary template can be used in both Oracle and SQL Server environments. For more information about using data dictionary templates, see *Working with Data Dictionaries: An Overview*, page 28.

Hierarchy - Indicates the template for the breakdown structure of the plant. You can define your own hierarchy that you can then use in creating plant structures or you can use one of the several delivered hierarchies.

Root Item Attributes - Specifies the plant structure root item and the name that will appear in the **Plant Structures** node in the software.

Paths - Consists of UNC paths for the plant structure storage location and a backup storage location.

Database Connection Information - Allows you to specify the alias and system password for the database instance that contains the plant data.

Plant Schema and Data Dictionary Schema Information - Allows you to specify user names and passwords for both schemas. All data needed to maintain the plant structure is written into the plant schema.

Notes

- You can use the **Default Settings** commands on the **Tools** menu to specify default values to simplify the plant creation process. For more information, see *Using Default Settings: An Overview*, page 34.
- After loading a plant structure, be sure to **associate applications** with your plant and to **assign user access** for the loaded plant structure.

- Associate Applications Wizard, page 105
- Roles Node: An Overview, page 89
- User Access: An Overview, page 154

Source Path - Load Plant Structure Wizard

This page allows you to specify the path to the folder containing the plant structure that you want to load.

Note

• All paths must use the Universal Naming Convention (UNC) format and cannot exceed 255 characters.

ZIP file of plant - Specify the path to the location of the plant structure you wish to load.

Related Topics

- Backing Up and Restoring Your Data: An Overview, page 177
- Default Settings Command, page 34
- Use Default Settings Command, page 41

Plant Name - Load Plant Structure Wizard

Defines the attributes for the plant root item.

Notes

- The options that display on this page depend on the hierarchy root item selected on the previous page.
- An asterisk (*) at the end of an item name indicates a value is required for that item.

Enter the properties for the plant structure root

Displays the root item in the hierarchy you chose for the plant.

Plant group type - Displays the plant group type.

Name - Type a name for the plant, which is displayed by the $\stackrel{\bot}{=}$ icon under the **Plant Structures** node in the **Tree** view. This name is limited to 80 characters and cannot contain any of the following characters: $<,>?\/';\{\}[]\sim`!\%*()|":$

Description - Type a description for the plant. The description is limited to 240 characters.

Address - Type an address identification for the plant. This option appears only if the plant structure uses Hierarchy 2: Site/Plant/Unit or uses a hierarchy with the Site plant group type as the root item.

- Default Settings Command, page 34
- Hierarchy Templates Root: An Overview, page 128

Associate Applications - Load Plant Structure Wizard

Allows you to select the applications you want to associate with the selected plant structure. Any combination can be made, that is, one, two, or all three applications can be selected. This selection determines the order in which the software opens the wizard pages. The wizard pages and the options displayed in the pages are application-specific and depend on the order in which you select the applications.

Applications to associate - Select the application that you want to associate with the plant structure, the options are: **SmartPlant P&ID**, **SmartPlant Electrical**, and **SmartPlant Instrumentation**.

Notes

- If you want to associate SmartPlant Instrumentation, you must first configure the SmartPlant Instrumentation database for the site server.
- If you already have two application associated with your plant structure, this page is not shown when you start the wizard to associate the third application. If the remaining application is SmartPlant P&ID, the software opens the **Data Dictionary Source** page. If the remaining application is SmartPlant Electrical, the software opens the **Data Dictionary** page. If the remaining application is SmartPlant Instrumentation, the software opens the **Domain Definitions** page.
- For SmartPlant Electrical or SmartPlant P&ID, the reference data path replaces entries originally set to *node\share*... in the T_OptionSettings table.

Related Topics

- Application Schema (Associate Applications Wizard), page 109
- Default Settings Command, page 34
- *Use Default Settings Command*, page 41

Target Paths - Load Plant Structure Wizard

Defines the paths to the storage locations relevant for storing plant data and drawings.

Notes

- All paths must use the Universal Naming Convention (UNC) format and cannot exceed 255 characters.
- An asterisk (*) at the end of an item name indicates a value is required for that item.

Plant structure path - Specify the path to the storage location for the plant data and the drawing files. You must create the plant structure share before running this wizard, using the form \\siteserver\sitename\plantname. The wizard will create the plantname folder if it does not already exist.

Backup location - Specify the path to the shared storage folder for backing up the plant files.

Seed location - Specify the location of your plant templates.

Save seed location as the preferred setting - Select to make the current seed location your default setting.

! Important

- Select a backup location <u>outside</u> the **Plant structure path** to avoid recursive backups being stored in a single backup file. For example, if the **Plant structure path** is \\siteserver\sitename\plantname, do <u>not</u> set the backup location for plantname to \\siteserver\sitename\plantname\backups.
- Be sure the backup location has plenty of available space because the restore process generates a temporary folder in this backup location while the plant data is being restored. This folder is removed when the process finishes.

Note

Location paths cannot contain any of the following characters: < , > ? / ';
 { } [] ~ `! % * () : |

Related Topics

- Backing Up and Restoring Your Data: An Overview, page 177
- Default Settings Command, page 34
- Use Default Settings Command, page 41

Database Information - Load Plant Structure Wizard

Define the database for your plant structure. An asterisk (*) at the end of an item name indicates that a value is required for that item.

• Important

- Plant structures must be created in a separate SQL Server database from the site database.
- Plant structures can be, but do not have to be, created in different Oracle instances from the site database.

Database type - Displays the database type used by the site in which the plant will be created.

Oracle alias - Type the name of the Oracle net service name as defined by your database administrator. This option appears only if Oracle is selected as the database type.

Database node - Type the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is selected as the database type. This node name cannot contain any spaces.

System user - Type a database system user name. This name does not have to be the database administrator user name, but this user must have system privileges.

System password - Type the system password.

Related Topics

- *Default Settings Command*, page 34
- New Site Server Wizard Database Information, page 47
- Use Default Settings Command, page 41

Plant Schema - Load Plant Structure Wizard

Allows you to specify the tablespace and user name for the plant schema. The schema contains database tables, database table attributes, item types, select list definitions, and select list entries. An asterisk (*) at the end of an item name indicates a value is required for that item.

Database type - Displays the database type used by the site in which the plant will be created.

Oracle service/alias - Displays the Oracle net service alias used by the site in which the plant will be created. This option appears only if Oracle is selected as the database type.

Database server - Displays the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is selected as the database type.

Database name - Displays the name of the SQL Server database in which the plant will be created. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default Oracle tablespace name for your plant database. These tablespaces were defined when the database administrator created the default database instance using Oracle Database Assistant. This option appears only if Oracle is selected as the database type.

Oracle temp tablespace - Select the default Oracle temporary tablespace name for your plant database. If this list is empty, contact your database administrator. This option appears only if Oracle is selected as the database type on the previous page.

! Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the plant schema user. This value, which must be unique in the database, defaults to the site name that you specified earlier, with the letter "d" appended. For more information about default database user names, see *Understanding Default Database User Names*, page 24.

Database password - Type the password for the plant schema user. We recommend using the database user name specified above as this password.

Confirm password - Re-type the password for the plant schema user.

Note

Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

Related Topics

- Change the Database Passwords for a Plant, page 86
- Default Settings Command, page 34
- New Plant Structure Wizard Finish, page 73
- Understanding Default Database User Names, page 24
- Use Default Settings Command, page 41

Plant Data Dictionary - Load Plant Structure Wizard

Allows you to specify the tablespace and user name for the plant data dictionary. The data dictionary contains database tables, database table attributes, item types, select list definitions, and select list entries. An asterisk (*) at the end of an item name indicates a value is required for that item.

Database type - Displays the database type used by the site in which the plant will be created.

Oracle service/alias - Displays the Oracle net service alias used by the site in which the plant will be created. This option appears only if Oracle is selected as the database type.

Database server - Displays the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is selected as the database type.

Database name - Displays the name of the SQL Server database in which the plant will be created. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default Oracle tablespace name for your plant database. These tablespaces were defined when the database administrator created the default database instance using Oracle Database Assistant. This option appears only if Oracle is selected as the database type.

Oracle temp tablespace - Select the default Oracle temporary tablespace name for your plant database. If this list is empty, contact your database administrator. This option appears only if Oracle is selected as the database type on the previous page.

! Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the plant data dictionary user. This value, which must be unique in the database, defaults to the site name that you specified earlier, with the letter "d" appended. For more information about default database user names, see *Understanding Default Database User Names*, page 24.

Database password - Type the password for the plant data dictionary user. We recommend using the database user name specified above as this password.

Confirm password - Re-type the password for the plant data dictionary user.

Note

Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

Related Topics

- Change the Database Passwords for a Plant, page 86
- Default Settings Command, page 34
- New Plant Structure Wizard Finish, page 73
- Understanding Default Database User Names, page 24
- Use Default Settings Command, page 41

SmartPlant Electrical Schema - Load Plant Structure Wizard

Defines the plant schema database information for your SmartPlant Electrical plant structure.

! Important

- This screen is only displayed if an application was associated to the plant structure selected previously in the Applications to associate screen, of the wizard.
- An asterisk (*) at the end of an item name indicates a value is required for that item.

Oracle service/alias - Displays the Oracle net service alias used by the site in which the plant will be created. This option appears only if Oracle is selected as the database type.

Database node - Type the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is selected as the database type.

Database name - Displays the name of the SQL Server database used by the satellite site in which the satellite plant will be created. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default Oracle tablespace name for your plant database. These tablespaces were defined when the database administrator created the default database instance using Oracle Database Assistant. This option appears only if Oracle is selected as the database type.

Oracle temp tablespace - Select the default Oracle temporary tablespace name for your plant database. If this list is empty, contact your database administrator. This option appears only if Oracle is selected as the database type on the previous page.

Database username - Displays the default database user name, as set by the database software. You can change the user name, by typing the name you want to use for the SmartPlant Electrical database in the **Database username** field. This name must be unique in the database.

Database password - Displays the default database password, as set by the database software. You can change the password for the SmartPlant Electrical database user by typing a new password in the **Database password** field. We recommend using the default SmartPlant Electrical user name defined above as this password.

Confirm password - Re-type the password for the database user.

SmartPlant Electrical reference data path - Taken from the Plant Structure Path as set previously in the Target Paths screen of the wizard. To select a different path, click to browse to the reference data path for the application options. This field is limited to 255 characters.

! Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own uses.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

Note

Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

SmartPlant P&ID Schema - Load Plant Structure Wizard

Defines the plant schema database information for your SmartPlant P&ID plant structure.

! Important

- This screen is only displayed if an application was associated to the plant structure selected previously in the **Applications to associate** screen, of the wizard.
- An asterisk (*) means a value is required for that box.

Oracle service/alias - Specifies the Oracle net service name for the plant database. This value is carried forward from the plant structure definition page and appears only if using Oracle.

Database server - Displays the node name of the server on which the SQL Server database resides. This option appears only if using SQL Server.

Database name - Displays the name of the SQL Server database used by the plant to which the application is being associated. This option appears only if using SQL Server.

Oracle tablespace - Select the default tablespace name for your application schema. These tablespaces are defined when the database administrator created the default database instance using Oracle Database Assistant.

Oracle temp tablespace - Select the default temporary tablespace name for your application schema. The temporary tablespace was defined when the database administrator created the temporary database instance using Oracle Database Assistant. If this list is empty, contact your database administrator.

• Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use. This option appears only if using Oracle.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

Database username - Displays the default database user name, as set by the database software. You can change the user name, by typing the name you want to use for the SmartPlant P&ID database in the **Database username** field. This name must be unique in the database.

Database password - Displays the default database password, as set by your database software. You can change the password for the SmartPlant P&ID database user by typing a new password in the **Database password** field. We recommend using the default SmartPlant P&ID user name defined above as this password.

Confirm password - Re-type the password.

SmartPlant P&ID reference data path - Taken from the Plant Structure Path as set previously in the Target Paths screen of the wizard. To select a different path, click to browse to the reference data path for the application options. This field is limited to 255 characters.

Note

Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

SmartPlant Electrical Database Server - Load Plant Structure Wizard

Allows you to enter database server information for SmartPlant Electrical. The tablespaces and other database information displayed in the drop-down lists are based on the database used in the plant structure creation. The database user name must be unique.

Note

• An asterisk (*) means a value is required for that box.

Application to associate - Displays the application being associated. This value is carried forward from the previous page.

Schema type - Displays the application schema type. This value is carried forward from the previous page.

Oracle service/alias - Specifies the Oracle net service name as defined by your database administrator. This value is carried forward from the plant structure definition and appears only if using Oracle.

Database node - Type the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is selected as the database type.

Database name - Displays the name of the SQL Server database used by the site in which the plant will be created. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default Oracle tablespace name for your plant database. These tablespaces were defined when the database administrator created the default database instance using Oracle Database Assistant. This option appears only if Oracle is selected as the database type.

Oracle temp tablespace - Select the default Oracle temporary tablespace name for your plant database. If this list is empty, contact your database administrator. This option appears only if Oracle is selected as the database type on the previous page.

Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the application data dictionary user. This value must be unique in the database. For more information about default database user names, see *Understanding Default Database User Names*, page 24.

Database password - Type the password for the application data dictionary user. We recommend using the application data dictionary user name defined in the field above as this password.

Confirm password - Re-type the password for the database user.

Note

Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

Related Topics

- Change the Database Passwords for an Application, page 118
- Default Settings Command, page 34
- Understanding Default Database User Names, page 24
- Use Default Settings Command, page 41

SmartPlant Electrical Data Dictionary - Load Plant Structure Wizard

Allows you to enter all of the database and user information for SmartPlant Electrical data dictionary. The tablespaces and other database information displayed in the drop-down lists are based on the database used in the plant structure creation. The database user name must be unique.

Note

• An asterisk (*) means a value is required for that box.

Application to associate - Displays the application being associated. This value is carried forward from the previous page.

Schema type - Displays the application schema type. This value is carried forward from the previous page.

Oracle service/alias - Specifies the Oracle net service name as defined by your database administrator. This value is carried forward from the plant structure definition and appears only if using Oracle.

Database node - Type the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is selected as the database type.

Database name - Displays the name of the SQL Server database used by the satellite site in which the satellite plant will be created. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default Oracle tablespace name for your plant database. These tablespaces were defined when the database administrator created the default database instance using Oracle Database Assistant. This option appears only if Oracle is selected as the database type.

Oracle temp tablespace - Select the default Oracle temporary tablespace name for your plant database. If this list is empty, contact your database administrator. This option appears only if Oracle is selected as the database type on the previous page.

• Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the application data dictionary user. This value must be unique in the database. For more information about default database user names, see *Understanding Default Database User Names*, page 24.

Database password - Type the password for the application data dictionary user. We recommend using the application data dictionary user name defined in the field above as this password.

Confirm password - Re-type the password for the database user.

Note

Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

Related Topics

- Change the Database Passwords for an Application, page 118
- Default Settings Command, page 34
- Understanding Default Database User Names, page 24
- Use Default Settings Command, page 41

SmartPlant P&ID Data Dictionary - Load Plant Structure Wizard

Allows you to enter database information for the SmartPlant P&ID application data dictionary. The tablespaces and other database information displayed in the drop-down lists are based on the database used in the plant structure creation.

Note

• An asterisk (*) means a value is required for that box.

Application to associate - Displays the application being associated to the plant. This value is carried forward from the previous page.

Schema type - Displays the schema type being created. This value is carried forward from the previous page.

Oracle service/alias - Specifies the Oracle net service name as defined by your database administrator. This value is carried forward from the previous page and appears only if using Oracle.

Database server - Displays the node name of the server on which the SQL Server database resides. This option appears only if using SQL Server.

Database name - Displays the name of the SQL Server database used by the plant to which the application is being associated. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default tablespace name for your application data dictionary database. These tablespaces are defined when the database administrator created the default database instance using Oracle Database Assistant.

Oracle temp tablespace - Select the default temporary tablespace name for your application data dictionary database. The temporary tablespace was defined when the database administrator created the temporary database instance using Oracle Database Assistant. If this list is empty, contact your database administrator. This option appears only if using Oracle.

Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use. This option appears only if using Oracle.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the application data dictionary user. This name must be unique in the database.

Database password - Type the password for the application data dictionary user. We recommend using the application data dictionary user name defined in the field above as this password.

Confirm password - Verify the password by retyping it.



Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

Summary - Load Plant Structure Wizard

Displays the settings you defined for loading your plant structure. Review these settings carefully. If you are satisfied with the settings, click **Finish**. Otherwise, click **Back** to change one or more of the settings.

User Access: An Overview

User access identifies the users allowed to work at specified access levels within the site and related plant structures. With user access, administrators can control access to data and thereby ensure the security of their project data.

SmartPlant Engineering Manager incorporates user access as an integral product feature by using roles to define and maintain user privileges and rights at the plant structure level, where each application has its own set of rights. Roles are the primary focus, with each role associated to a single Windows or Novell user group. Each role is then assigned specific rights for each engineering application and for SmartPlant Engineering Manager.

? Tips

- To see the roles currently defined for a plant, click the **Roles** node under the plant node in the **Tree** view.
- To view the rights settings for a particular role, right-click the role in the **List** view and click **Properties**.

Mutually-Exclusive Rights

Users can have access privileges that vary from one plant to another in the same site. These rights are defined by categories. Categories with radio-button options indicate that the rights contained within are mutually exclusive, meaning you can choose only one right in that category to apply to the role. In other categories, you can choose multiple rights, as denoted by check boxes.

- **None** The user is not allowed to execute the application or utility for this plant structure.
- **Read-Only** The user can execute the application or utility for this plant structure to view the data held within it.
- Modify Settings The user can execute the application or utility for this
 plant structure to view the data held within it and to modify any custom
 settings.
- **Full Control** The user can execute the application or utility for this plant structure and perform all commands and modifications. This right is not available to a satellite site when operating in the Workshare mode because the reference data must be controlled by the host site.

SmartPlant Engineering Manager provides roles templates to help you easily create new roles. Because the most labor-intensive part of a role creation is setting the values for the rights, you can create templates for specific roles and then use those templates multiple times. This feature is useful for defining a role template in one site and then reusing that same role template throughout all of your sites. For more information, see *Role Templates: An Overview*, page 102.

SmartPlant Engineering Manager Rights

SmartPlant Engineering Manager contains two sets of rights: site administrator rights and plant structure rights.

Site Administrator Rights

Site administrators, while not appearing in the **Roles** node in a plant structure, have a set of unique rights that cannot be granted to any other role. This group of users has privileges to create and modify plant structures, roles, hierarchies, and plant group types, to enable projects, and so forth.

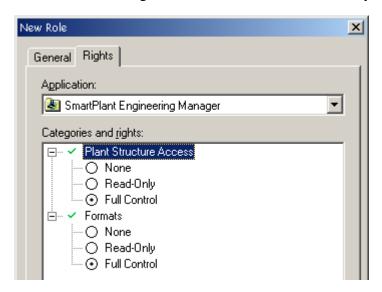
Only members of the user group specified as the Site Administrator User Group during site creation can see the **Hierarchy Templates** and **Plant Group Types** roots in the **Tree** view. Site administrators can see all plant structures and have full access to them.

! Important

- Site administrator privileges do not extend by default to full privileges in the engineering applications.
- Additional site administrators can be added to the Site Administrator User Group by using the administrative tools provided by Windows or Novell. Be sure that these users are granted network access rights to the computer where SmartPlant Engineering Manager is installed.
- You can change the user group assigned as the site administrator group after site creation. For more information, see *Change the Site Administrator User Group*, page 57.
- You can automatically include the site administrators group in each plant you create by selecting the **Add the site administrator group to each plant created** option on the **Site Properties > General** tab. Doing this saves you the step of creating a new role to grant these users access to the new plant. For more information, see *General Tab (Site Server Properties Dialog Box)*, page 55.

Plant Structure Rights

These rights are valid only within the plant structure with which the right is associated. To access the plant structure through SmartPlant Engineering Manager, the user must belong to a role that has at least read-only access to the plant structure.



The following rights are available to the **Plant Structure Access** category and are mutually exclusive.

Category	Right
Plant Structure Access	None - The user is not allowed to see any part of the plant structure, including the plant structure node.
Access	Read-Only - The plant structure is visible, but the user cannot create, modify, or delete any data within the plant structure.
	Full Control - The user can create plant groups, add applications and roles, and create projects and satellites, but cannot see the hierarchies or the plant group types. This right is valid only within the SmartPlant Engineering Manager software.
Formats	None - The user is not allowed to launch Format Manager. Read-Only - The user can launch Format Manager and view the format settings but cannot create, modify, or delete formats. Full Control - The user can launch Format Manager and can create,
	modify, or delete formats.

Related Topics

- Change the Site Administrator User Group, page 57
- New Site Server Wizard Site Administrator Group, page 48
- Roles Node: An Overview, page 89

SmartPlant P&ID User Access Rights

Category	Right	Notes
Catalog	None	None prevents users from accessing Catalog Manager.
	Read-Only	Read-Only allows users to view symbols in Catalog Manager, but not make changes.
	Full Control	Full Control allows users to create new symbols and edit existing symbols. Full Control is disabled for Workshare satellites and projects.
Plant Filters	None	None prevents users from accessing Filter Manager.
	Read-Only	Read-Only allows users to view existing filter definitions, but not make changes.
	Full Control	Full Control allows users to create new filters and edit existing filters. Full Control is disabled for Workshare satellites and projects.
Display Sets	None Read-Only	Controls the ability to view, edit, and define display sets. Full Control is disabled for Workshare satellites.
	Full Control	workshare saterities.
Default Views	None	Controls the ability to specify default filters and
	Read-Only	layouts for item types. Also controls setting the Brief/Bulk Lists associated with item types.
	Full Control	Full Control is disabled for Workshare satellites and projects.
Plant Reports	None	None prevents users from accessing the plant reports.
	Read-Only	Read-Only allows users to view existing report definitions, but not make changes.
	Full Control	Full Control allows users to create new plant reports and edit existing reports. Full Control is disabled for Workshare satellites and projects.
Rules	None	None prevents users from accessing Rule Manager.
	Read-Only	Read-Only allows users to view existing rule definitions, but not make changes.

Category	Right	Notes
	Full Control	Full Control allows users to create new rules and edit existing rule definitions. Full Control is disabled for Workshare satellites and projects.
Data Dictionary	None	None prevents users from accessing Data Dictionary Manager. Modify Select Entry and Full Control are disabled for Workshare satellites and for projects.
	Read-Only	Read-Only allows users to view settings in the data dictionary, but not make any changes.
	Modify Select Entry	Modify Select Entry allows users to edit select lists.
	Full Control	Full Control allows users to add items and edit existing items in the data dictionary. Modify Select Entry and Full Control are disabled for Workshare satellites and for projects.
Options	None	None prevents users from accessing Options Manager.
	Read-Only	Read-Only allows users to view option settings, but not make any changes.
	Modify Settings	Modify Settings allows users to change reference data pointers.
	Full Control	Full Control allows users to add options and edit existing options. Full Control is disabled for Workshare satellites and for projects, but users must have at least Modify Settings level privileges to use Workshare.
Insulation Specifications	None	None prevents users from accessing Insulation Manager.
	Read-Only	Read-Only allows users to view insulation settings, but not make any changes.
	Full Control	Full Control, disabled for Workshare satellites and projects, allows users to add settings and edit existing insulation settings.
Drawing Management	Create P&ID	Create P&ID allows users to execute the New Drawing command in Drawing Manager.
	Delete P&ID	Delete P&ID allows users to execute the Delete command in Drawing Manager.

Category	Right	Notes
	Refresh P&ID	Refresh P&ID allows users to execute the Compare and Refresh and Validate commands in SmartPlant P&ID. Users must also have Full Control permission for P&ID Objects before they can refresh a drawing.
	Create Version	Create Version allows users to execute the Create Version command in Drawing Manager.
	Delete Version	Delete Version allows users to execute the Delete Version command in Drawing Manager.
	Fetch Version	Fetch Version allows users to execute the Fetch Version command in Drawing Manager.
	Edit Import Map	Edit Import Map allows users to execute the Edit Import Map command in Drawing Manager.
	Update P&ID	Update P&ID allows users to execute the Update P&ID command in Drawing Manager to update existing drawings.
	Create Revision	Create Revision allows the user to create revision properties, modify revision properties, and associate revision properties with the revised drawing.
	Delete Revision	Delete Revision allows the user to delete a revision and its associated version.
P&ID Objects	None	None prevents users from accessing objects in the SmartPlant P&ID Modeler environment.
	Read-Only	Read-Only allows users to view objects in the SmartPlant P&ID Modeler environment, but not make any changes.
	Modify Properties	To import, user needs at least the Modify Properties right.
	Full Control	To refresh drawings in SmartPlant P&ID, users must have Full Control permission on P&ID Objects.
Workshare	Publish	Publish allows users to publish drawings to other satellites or back to the host.
	Get Latest Version	Get Latest Version allows users to obtain the latest published drawing from the host or satellite site.
	Assign Drawing Ownership	Assign Drawing Ownership allows users to specify which Workshare sites have read/write permission for published drawings.

Category	Right	Notes
	Synchronize Reference Data	Synchronize Reference Data allows users to update their reference data with the reference data at the host.
	Synchronize Shared Items	Synchronize Shared Items allows users to update their shared items with the shared items at the host.
Projects	Check Out	Check Out allows users to execute the Check Out and Undo Check Out commands in Drawing Manager.
	Check In	Check In allows users to execute the Check In command in Drawing Manager.
	Fetch	Fetch allows users to execute the Fetch command in Drawing Manager.
	Change Status	Change Status allows users to interact with the Project Status dialog box in Drawing Manager. If you are not granted this right, you can only view the project status, but cannot modify it.
	Claim	Claim allows users to execute the Claim and Release Claim commands in SmartPlant P&ID.
SmartPlant	Publish Retrieve	Enables or disables the ability to publish to or retrieve documents. Select the check box to enable an option; clear to disable.

SmartPlant P&ID User Access Examples

The following examples are suggestions for granting rights to common groups of users. These example are a great starting place for defining custom SmartPlant P&ID role templates.

Plant Administrators

This user group has full control over all aspects of the plant structure for drawings, administrative tasks, and reference data. The users should have the capability to create plant groups, add applications and roles, create projects, enable Workshare, and create satellites, but should not see the hierarchy templates or plant group types.

Category	Right	
SPEM Plant Structure Access	Full-Control	
Catalog	Full-Control	
Plant Filters	Full-Control	
Display Sets	Full-Control	
Default Views	Full-Control	
Formats	Full-Control	
Plant Reports	Full-Control	
Rules	Full-Control	
Data Dictionary	Full-Control	
Options	Full-Control	
Insulation Specifications	ions Full-Control	
Drawing Management	Create P&ID, Delete P&ID, Archive, Retrieve	
P&ID Objects	Full Control	
Workshare Publish, Get Latest Version, Assign Drawing Ownership, Synchronize Reference Data, Synchronize Shar Items		
SmartPlant	Publish, Retrieve	

Plant Users

This group has full control on all drawings, can set personal filters, set up personal display sets, set up My Reports, create drawings, and archive drawings (needed for personal use in case there are big changes to the drawing design).

Category	Right
SPEM Plant Structure Access	Read-Only
Catalog	None
Plant Filters	Read-Only
Display Sets	Full-Control
Default Views	Read-Only
Formats	None
Plant Reports	Read-Only
Rules	None
Data Dictionary	None
Options	None
Insulation Specifications	None
Drawing Management	Create P&ID
	Archive
P&ID Objects	Full Control
Workshare	Undefined (do not choose anything)
SmartPlant	Undefined (do not choose anything)

Engineers

This group has access to drawings to view and modify data reports but not graphics. They can set up personal filters, set up personal display sets, and create My Reports. They should not be able to modify any project reference data or perform any administrative tasks with respect to drawing management, projects, or Workshare activities.

Category	Right
SPEM Plant Structure Access	Read-Only
Catalog	None
Plant Filters	Read-Only
Display Sets	Full-Control
Default Views	Read-Only
Formats	None
Plant Reports	Read-Only
Rules	None
Data Dictionary	None
Options	None
Insulation Specifications	None
Drawing Management	Undefined (do not choose anything)
P&ID Objects	Modify Properties
Workshare	Undefined (do not choose anything)
SmartPlant	Undefined (do not choose anything)

Managers

This group needs only view data access. They can set up personal filters, set up personal display sets, and create My Reports. They should not be able to modify any project reference data or perform any administrative tasks with respect to drawing management or Workshare activities.

Category	Right
SPEM Plant Structure Access	Read-Only
Catalog	None
Plant Filters	Read-Only
Display Sets	Full-Control
Default Views	None
Formats	None
Plant Reports	None
Rules	None
Data Dictionary	None
Options	None
Insulation Specifications	None
Drawing Management	Undefined (do not choose anything)
P&ID Objects	Read-Only
Workshare	Undefined (do not choose anything)
SmartPlant	Undefined (do not choose anything)

SmartPlant Electrical User Access Rights

Category	Right	Notes
Catalog	None Read-Only Full Control	Controls the use of Catalog Manager. None prevents users from accessing Catalog Manager. Read-Only allows users to view symbols in Catalog Manager, but not make changes. Full Control allows users to create new symbols and edit existing symbols.
Plant Filters	None Read-Only Full Control	Controls the use of Filter Manager. None prevents users from accessing Filter Manager. Read-Only allows users to view existing filter definitions, but not make changes. Full Control allows users to create new filters and edit existing filters.
Plant Reports	None Read-Only Full Control	Controls access to plant reports definitions. None prevents users from accessing the plant reports. Read-Only allows users to view existing report definitions, but not make changes. Full Control allows users to create new plant reports and edit existing reports.
Rules	None Read-Only Full Control	Controls access to SmartPlant Electrical Rule Manager. None prevents users from accessing Rule Manager. Read-Only allows users to view existing rule definitions, but not make changes. Full Control allows users to create new rules and edit existing rule definitions.
Data Dictionary	None Read-Only Modify Select Entry Full Control	Controls access to Data Dictionary Manager. None prevents users from accessing Data Dictionary Manager. Read-Only allows users to view settings in the data dictionary, but not make any changes. Modify Select Entry allows users to edit select lists. Full Control allows users to add items and edit existing items in the data dictionary.

Category	Right	Notes
Options	None Read-Only Modify Settings Full Control	Controls access to SmartPlant Electrical Options Manager. None prevents users from accessing Options Manager. Read-Only allows users to view option settings, but not make any changes. Modify Settings allows users to change reference data pointers. Full Control allows users to add options and edit existing options.
Electrical Items Data	None Read-Only Modify Settings Full Control	Controls the ability to create and manage the items that appear in the Electrical Index.
Power Distribution Boards and Internals (Index)	None Read-Only Modify Settings Full Control	Controls the ability to generate and open PDBs and to disconnect electrical equipment items in the Electrical Index.
Wiring Equipment	None Read-Only Modify Settings Full Control	Controls the ability to work with cables and panels in the Electrical Index.
Cable Sizing	None Read-Only Full Control	Controls the ability to perform cable sizing.
Cable Replace	None Full Control	Controls the ability to replace multiple cables in batch mode.
Single Line Diagram Drawings (Index)	None Read-Only Modify Settings Full Control	Controls the ability to generate and manage power distribution board-based SLD drawings generated from the Electrical Index.

Category	Right	Notes
Single Line Diagram Generation	None Read-Only	Controls the ability to generate and manage SLD drawings generated from the Electrical Engineer.
	Modify Settings	
	Full Control	
Redlining	Read-Only Full Control	Enables and disables redlining options in SLD drawings and schematics.
Schematic	None	Controls the ability to open and manage the
Drawings		items that appear in the Drawings folder of
(Index)	Read-Only	the Electrical Index.
	Modify Settings	
	Full Control	
Schematic	None	Controls the ability to generate and open
Drawing Generation	Read-Only	schematic drawings.
	Modify Settings	
	Full Control	
Apply Options	Profile	Enables or disables the available Apply
	Circuit	Options features. Select the check box to enable an option; clear to disable.
	Control Station	
	Lookup	
	Schematic	
	I/O Set	
Association	Among Items	Enables or disables the Association features.
	External Documents	Select the check box to enable an option; clear to disable.
Reference	None	Controls the management of external
Documents	Read-Only	documents from within SmartPlant Electrical.
	Modify Settings	
	Full Control	

Category	Right	Notes
Templates	None Read-Only Modify Settings Full Control	Controls the ability to create and open SmartPlant Electrical templates. None prevents users from viewing the templates. Read-Only allows users to view template definitions, but not make any changes. Modify Settings allows users to edit existing templates. Full Control allows users to create new and edit existing templates.
Reference Data Explorer - Cables	None Read-Only Modify Settings Full Control	Controls the creation and management of RDE cables.
Reference Data Explorer - Lookup Tables	None Read-Only Modify Settings Full Control	Controls the creation and management of RDE lookup tables.
Reference Data Explorer - Other Categories	None Read-Only Modify Settings Full Control	Controls the creation and management of RDE items that belong to the categories other than lookup tables and cables.
Tabular Editor Layouts	None Full Control	Enables or disables the creation and management of Tabular Editor layouts. Select the check box to enable an option; clear to disable.
Electrical Engineer	None Full Control	Controls access to Electrical Engineer. For example, Full Control access is required to copy items from Electrical Engineer from another plant.
Import Manager	None Full Control	Controls access to Import Manager. None prevents users from opening Import Manager. Full Control allows users to open and work within Import Manager.
SmartPlant	Publish Retrieve	Enables or disables the ability to publish to or retrieve documents. Select the check box to enable an option; clear to disable.

Category	Right	Notes
Register Reports	None Full Control	Enables or disables registering internal documents. None prevents users from registering internal documents. Full Control allows users to register internal documents.
Project Management (As-Built)	None Full Control	Enables or disables the Project Management table in As-Built.
Project Management (Projects)	None Full Control	Enables or disables the Project Management table in As-Built.

SmartPlant Electrical Access Rights Examples

The following examples are suggestions for granting rights to common groups of users. These examples are a great starting place for defining rights for users of SmartPlant Electrical.

Project Administrators

This group is defined as those who have full control over all aspects of the administrative tasks and reference data.

These users should have the ability to create plant groups, add applications, and roles. These users should only be able to view and not modify detailed project engineering data.

Category	Right
SmartPlant Engineering Manager	Full Control
Catalog	Full Control
Project Filters	Read-only
Project Reports	Read-only
Data Dictionary	Full Control
Options	Full Control
Electrical Items Data	Read-only
Power Distribution Boards and Internals (Index)	Read-only
Wiring Equipment	Read-only
Cable Sizing	Read-only
Cable Replace	None
Single Line Diagram Drawings (Index)	Read-only

Category	Right
Single Line Diagram Generation	Read-only
Redlining	Read-only
Schematic Drawings (Index)	Read-only
Schematic Drawing Generation	Read-only
Apply Options	Disabled
Associations	Disabled
Reference Documents	Full Control
Templates	Full Control
Reference Data Explorer - Cables	Full Control
Reference Data Explorer - Lookup Tables	Full Control
Reference Data Explorer - Other Categories	Full Control
Tabular Editor Layouts	Full Control
Electrical Engineer	Full Control
Import Manager	Full Control
SmartPlant	None
Register Reports	Full Control
Project Management (As-Built)	Full Control
Project Management (Projects)	Full Control

Project Engineers

This group is defined as those users who are responsible for the electrical distribution network, association of items, sizing cables, and specifying equipment. Although these users do not generate schematic drawings and do not deal with detailed engineering, they should have full access to most SmartPlant Electrical functions.

Category	Right
SmartPlant Engineering Manager	None
Catalog	Read-only
Project Filters	Full Control
Project Reports	Full Control
Data Dictionary	Read-only
Options	Read-only
Electrical Items Data	Full Control
Power Distribution Boards and Internals (Index)	Full Control
Wiring Equipment	Full Control

Category	Right
Cable Sizing	Full Control
Cable Replace	Full Control
Single Line Diagram Drawings (Index)	Full Control
Single Line Diagram Generation	Full Control
Redlining	Full Control
Schematic Drawings (Index)	Full Control
Schematic Drawing Generation	Full Control
Apply Options	Enabled
Associations	Enabled
Reference Documents	Modify Properties
Templates	Read-only
Reference Data Explorer - Cables	Modify Properties
Reference Data Explorer - Lookup Tables	Modify Properties
Reference Data Explorer - Other Categories	Modify Properties
Tabular Editor Layouts	Full Control
Electrical Engineer	Full Control
Import Manager	None
SmartPlant	None
Register Reports	Full Control
Project Management (As-Built)	Full Control
Project Management (Projects)	Full Control

Project Designers

This group is defined as those users who are responsible for the actual detailed engineering design, cable termination, cable routing, and generation of drawings. As a rule, project designers should have read-only access rights to the project documentation and item properties. Project designers can set up personal filters, tabular views, and create My Reports. However, they should not be able to modify project defaults.

Category	Right
SmartPlant Engineering Manager	None
Catalog	None
Project Filters	Read-only
Project Reports	Read-only
Data Dictionary	Read-only

Category	Right
Options	Read-only
Electrical Items Data	Read-only
Power Distribution Boards and Internals (Index)	Read-only
Wiring Equipment	Modify Properties
Cable Sizing	None
Cable Replace	Read-only
Single Line Diagram Drawings (Index)	Read-only
Single Line Diagram Generation	Read-only
Redlining	Read-only
Schematic Drawings (Index)	Full Control
Schematic Drawing Generation	Full Control
Apply Options	Disabled
Associations	Disabled
Reference Documents	Read-only
Templates	Read-only
Reference Data Explorer - Cables	Read-only
Reference Data Explorer - Lookup Tables	Read-only
Reference Data Explorer - Other Categories	Read-only
Tabular Editor Layouts	Full Control
Electrical Engineer	Full Control
Import Manager	None
SmartPlant	Full Control
Register Reports	None
Project Management (As-Built)	Full Control
Project Management (Projects)	Full Control

SmartPlant Electrical Hierarchy-Level Access Rights

After defining the roles for your project, you can set appropriate access rights for your groups of users on a particular plant hierarchy level. This way you can determine which users can access certain sections of your project. For example, if your hierarchy is defined as Plant/Area/Unit, you can select a group of users and grant them different access rights to various plants, areas, and units in your project.

! Important

- Access rights apply only to those item types in your project for which you
 have defined a plant group type in Options Manager. Item types that have
 not been associated with a plant group will have unrestricted access even
 if a particular user has been granted No Access to that plant group.
- Access rights for particular hierarchy levels apply only to the activities performed in the Electrical Index, Electrical Engineer, and the Tabular Editor.

The following plant group access rights are available:

	No Access	Restricted Access	Unrestricted Access
Electrical Index	Users cannot view or access any items in the selected plant groups.	Allows users to view items, but not edit or associate items in the selected plant groups.	Grants users full control of the items in the selected plant groups.
Electrical Engineer	Users can view items (but not properties) in the selected plant groups but cannot change associations among the items.	Users can view items (including properties) in the selected plant groups but cannot change associations among the items.	Grants users full control of the items in the selected plant groups.
Tabular Editor	Users cannot view or access any items in the selected plant groups.	Users cannot edit the items in the selected plant groups.	Grants users full control of the items in the selected plant groups.

Notes

- Hierarchy access rights do not affect the items that you select for a report. Use the standard filtering feature to include the items that you require.
- Hierarchy level access rights do not affect opening or modifying documents. Hierarchy level access rights do not govern document revisions either.

Related Topics

- Access Rights Command, page 173
- Access Rights Dialog Box, page 175
- View Access Rights by Plant Group, page 174
- View Access Rights by Role, page 174

Access Rights Command

Tools > Access Rights

Provides SmartPlant Electrical users the ability to view role-level access by plant group or plant-level access by role.

You can set access rights to one of three states:

No Access - Allows the role no access, not even read-only access, to the plant group, no matter what user rights are assigned to the role.

Restricted Access - Reduces the user rights for the role to read-only in the selected plant group. For example, if the role has been assigned full-control in all user access rights, selecting this option limits the role to read-only access in the plant group.

Unrestricted Access - Does not limit the user rights for the role in the plant group.

Related Topics

- Access Rights Dialog Box, page 175
- SmartPlant Electrical User Access Rights, page 165
- View Access Rights by Plant Group, page 174
- View Access Rights by Role, page 174

View Access Rights by Plant Group

- 1. Select the plant group in the **Tree** view.
- 2. Right-click and select **Access Rights**.
- 3. Modify the access rights as necessary.

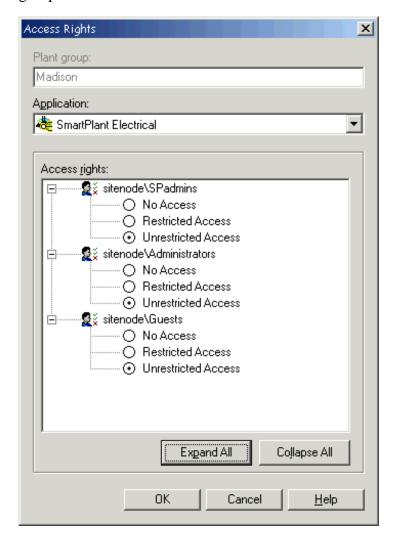
View Access Rights by Role

- 1. Select the **Roles** node in the **Tree** view.
- 2. Select a role in the **List** view.
- 3. Right-click and select **Access Rights**.

Access Rights Dialog Box

Displays role-level access rights by plant group or plant-level access rights by role.

When you select a plant group in the **Tree** view and then click **Tools > Access Rights**, the **Access Rights** dialog box displays the role access assigned to that plant group.



Plant group - Displays the plant group level you selected in the **Tree** view.

Application - Displays the applications associated with the selected plant group.

Access rights - Displays the roles defined for the plant group and their assigned plant group access rights.

Expand All - Opens the entire **Access rights** list, allowing you to quickly view all of the rights options.

Collapse All - Closes the entire Access rights list.

When you select the **Roles** node in the **Tree** view, then select a role in the **List** view and click **Tools** > **Access Rights**, the **Access Rights** dialog box displays the plant group access assigned to that role.



Role name - Displays the role you selected in the **List** view.

Application - Displays the applications associated with the selected role.

Access rights - Displays the plant group levels in the plant in which the role resides.

Expand All - Opens the entire **Access rights** list, allowing you to quickly view all of the rights options.

Collapse All - Closes the entire Access rights list.

Backing Up and Restoring Your Data: An Overview

The Backup and Restore functionality allows you to backup all data on a site and/or plant structure basis, including application/engineering data, for means of disaster recovery.

Using the zip.exe and unzip.exe executables installed with SmartPlant Engineering Manager, backups are bundled into a zip files that are named using the top level object name and type contained within the backup. These zip files contain various files depending on the type of backup and options selected. All database schemas in each backup instance are saved into a single file. For plant backups, files in the plant structure paths are bundled into a zip file inside the main plant backup zip file. The reference data files are archived into individual zip files and added to the main plant backup zip file.

A manifest document describing the data included in the backup is included in the backup zip file. This manifest document provides the input necessary to restore the data at a later time.

You can schedule backups using the scheduling functionality provided in the Backup wizard. This scheduling functionality uses the Windows Task Scheduling system to list, delete or modify a backup schedule. Each backup schedule is stored in a control file in the \Engineering Manager\Schedules folder. The control file contents describe the type of backup and all other information needed in order to accomplish the scheduled backup.

Backup Options

- **Site Server** Includes the site schema and site data dictionary. You may choose to backup all plant structures or define a list of plant structures to be included in the site server backup.
- **Plant Structure** You can choose to include or omit reference data from the plant structure backup.
- **Scheduled Backups** Both site and plant structure backups may be scheduled to run one time only, or on daily/weekly intervals.

Restore Options

• **Site Server** - You can restore the site to the same computer from which it was backed up or you can restore it to another computer. If you restore the site to another computer, you must provide, during the site restoration process, the database alias and password information for the database instance on the new computer.

• **Plant Structure** - You can restore a plant structure to the same site from which it was backed up or you can restore it to another site. If you restore the plant to another site, you must provide, during the plant restoration process, the database alias and password information used by the new site.

Warning

- You must have Site Administrator privileges to use the backup and restore functionality.
- If you are using Oracle, we recommend running in Archive Logging mode.
- Do not mix Oracle versions when using Backup and Restore. For example, do not use an Oracle 8i Client to backup an Oracle 9i site or plant. Do not try to restore a backup created from an Oracle 9i plant to a site using Oracle 8i.
- When using the Backup and Restore functionality in a Workshare environment, you must restore the host site and host plant <u>before</u> restoring any of the satellite sites and plants. We also recommend making a complete backup after you transfer data and after updating reference data.

Related Topics

- Backup Command, page 178
- Restore Command, page 190
- SmartPlant Engineering Manager Rights, page 155

Backup Command

Tools > Backup

Allows you to backup the site and/or plant structure information, depending on which node you select in the **Tree** view before using the **Backup** command. To backup the site, select the **Site Server** node and then click **Tools** > **Backup**. To backup just a plant, select the plant under the **Plant Structures** node and then click **Tools** > **Backup**.

Important

- Only a site administrator can perform a restore.
- Backing up a Plant automatically includes all projects in the Plant.

Related Topics

- Back Up a Plant Wizard, page 184
- Back Up a Site Wizard, page 179
- Restore Command, page 190
- Troubleshooting Backup and Restore, page 204

Back Up a Site Wizard

A site backup includes the site schema and the site data dictionary. Included in the site backup file is a manifest document describing the contents of the backup and all necessary information to restore the site. Also included in the backup file is a dump file containing all database user objects belonging to the site schema and site data dictionary.

Backup zip files for a site use the following naming convention:

site name s.zip

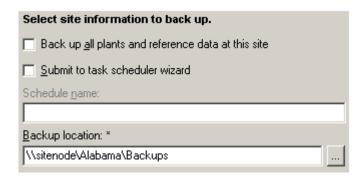
If a file exists in the backup location with the same name, the backup zip file name will contain a revision number: Site Server name_1_s.zip. There is no limit to the revision numbers.

Related Topics

- Backup Command, page 178
- Restore a Site Wizard, page 191
- Site Backup Wizard Options, page 179
- Site Backup Wizard Plant Structures, page 181
- Troubleshooting Backup and Restore, page 204

Site Backup Wizard - Options

Allows you to specify options for backing up the site.



Back up all plants and reference data at this site - Allows you to include all plant structures in the site as well as the reference data for each associated application. This option is dynamic and obtains the list of plant structures directly from the site schema. A scheduled backup with this option selected will include any new plant structure and reference data added to the site schema at a later date. When a plant structure is included in a site server backup, the contents of the plant structure backup will be bundled into a separate backup zip file.

Submit to task scheduler wizard - Allows you to create a one time only or recurring backup schedule. If you select this options, two extra pages in the Site Backup wizard will display to allow you to input the scheduling information.

Schedule name - Defaults to the name of the site being backed up. You may edit this value. If a schedule with this name already exists, you will be prompted to enter a unique name for the schedule.

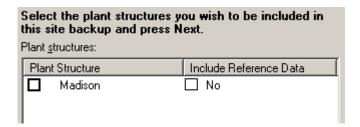
Backup location - Specifies where the zip file containing the site backup data is placed when the backup process finishes. By default, the backup path specified during site creation displays. You can change this path. This field is limited to 255 characters and cannot contain any of the following characters: <, >?/'; {}[]~`!%*():|"

• Important

- If the backup location for your SQL Server site is located on a separate computer from your database, you must change the login information for the SOL Server services.
 - 1. Click **Start > Settings > Control Panel**, then open **Administrative Tools**.
 - 2. Double-click the **Services** icon.
 - 3. In the **Services** list, double-click **MSSQLServer** to open the **MSSQLSERVER Properties** dialog box.
 - 4. Select **This account**, and type the user name and password for the domain user who will be starting the MSSQLSERVER service.
 - 5. Save your changes.
 - 6. Grant the user specified in **This account** read/write permissions to the share where backups are stored.
- A separate zip file containing all of the data necessary to restore the plant structure and associated information is created for each plant structure included in the site backup. These zip files are placed in the same backup location as the site backup. In this situation, the site backup location specified above overrides the plant backup location specified when the plant was created.

Site Backup Wizard - Plant Structures

Allows you to select the plant structures to be included in the site backup. This page appears only if there is at least one plant structure in the site and you did not select the **Back up all plants and reference data at this site** option on the previous page.



Plant structures - Lists the plant structures in the site. Check the box by each plant structure you want to include in the site backup. Reference data associated with each plant structure is automatically included in the backup unless you check the **No** check box. This plant structures list is a static list and will not include any new plant structures added to the site schema at a later date.

Scheduling Options

Allows you to specify options for scheduling the backup. This page appears only if you selected the **Submit to task scheduler wizard** on the previous page.



Task name - Displays the name of the backup being scheduled. You cannot edit this field.

User name - Type your system or domain login. You must have the necessary operating system permissions to create a task in the Windows task scheduling system. This user must also have database administrator privileges.

Password - Type your system or domain password.

Confirm password - Re-type your password.

Perform this task - Allows you to specify the frequency of the scheduled backup.

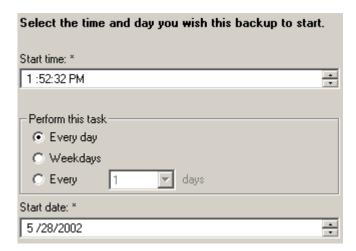
- **Daily** Performs the scheduled backup every 24 hours.
- Weekly Performs the scheduled backup once in every 7 days.
- One time only Performs the scheduled backup once at the specified time.

Notes

- If you are scheduling a site backup task and you selected the Back up all
 plants and reference data at this site option, all plant structures added to
 the site after the task was created are automatically included in subsequent
 backup runs. If you did not use this option when creating the site backup
 task, you will have to create another site backup task to include the new
 plant structures.
- You cannot view the details of a previously scheduled backup task from within SmartPlant Engineering Manager. If you set up a scheduled event, such as backing up a particular plant at a given time, whether it be daily, weekly, or monthly, you cannot view that schedule within SmartPlant Engineering Manager. Use the Control Panel > Administrative Tools > Scheduled Tasks program to see what events are scheduled. However, Schedule Tasks indicates only that an event is scheduled, not what that event includes (such as whether it is backing up a plant or site).
- To reschedule an event, such as a daily plant backup, you must first end the scheduled task using Schedule Tasks, and then use the backup wizards in SmartPlant Engineering Manager to schedule a new task.
- Usernames and passwords cannot contain any of the following characters:
 . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

Scheduling Times

Allows you to set the times for the scheduled backup. The options that appear on this page depend on whether you selected **Daily**, **Weekly**, or **One time only** on the previous scheduling page.



Start Time - Allows you to specify the time the scheduled backup will start on the selected dates.

Perform this task - Allows you to specify the frequency of the scheduled backup.

- Every day Performs the scheduled backup at the specified Start time each day from the Start date.
- Weekdays Performs the scheduled backup at the specified Start time
 each weekday from the Start date. Saturdays and Sundays are excluded
 from this schedule.
- Every so many days Performs the scheduled backup at the specified Start time at this number of days interval from the Start date. For example, you can specify that the backup run every 4 days at Noon starting on May 28th.

! Important

You cannot view the details of a previously scheduled backup task from within SmartPlant Engineering Manager. If you set up a scheduled event, such as backing up a particular plant at a given time, whether it be daily, weekly, or monthly, you cannot view that schedule within SmartPlant Engineering Manager. Use the Control Panel > Administrative Tools > Scheduled Tasks program to see what events are scheduled. However, Schedule Tasks indicates only that an event is scheduled, not what that event includes (such as whether it is backing up a plant or site).

• To reschedule an event, such as a daily plant backup, you must first end the scheduled task using Schedule Tasks, and then use the backup wizards in SmartPlant Engineering Manager to schedule a new task.

Site Backup Wizard - Finish

Displays all the settings that you defined for backing up the site server. Review these settings carefully. If you are satisfied with the settings, click **Finish**. Otherwise, click **Back** to change one or more of the settings.

If you did not schedule the backup, the backup process begins when you click **Finish**. The status bar displays progress information as the backup proceeds. The wizard automatically exits after the backup process completes successfully.

If you chose to schedule the backup, clicking **Finish** creates a task in the Windows task scheduling system and then the wizard closes.

Details - Allows you to toggle the amount of information displayed.

- When backing up the a site server that includes plant structures with projects, the software also backs up all the projects.
- Backup log information is available in the SpaBackups.log file in the Temp folder.

Back Up a Plant Wizard

A plant structure backup includes the plant schema, plant data dictionary, associated application schemas and data dictionaries, and all other information pertaining to that plant structure, including all project data if the plant includes projects. Included in the plant structure backup file is a manifest describing the contents of the backup and all necessary information to restore the plant structure and associated application schemas. Also included in the backup is a dump file containing all database user objects belonging to the schemas and data dictionaries for the plant structure and associated applications.

Backup zip files for a plant structure use the following naming convention:

- RootItemName_p.zip for non-Workshare plant structures
- *RootItemName_*m.zip for host plant structures
- *RootItemName_*w.zip for satellite plant structures
- RootItemName_a.zip for projects

If a file exists in the backup location with the same name, the backup zip file name will contain a revision number, for example, *RootItemName_1_[pws].zip*. There is no limit to the revision numbers.

Notes

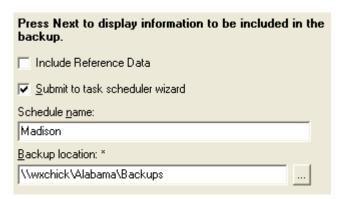
- Backups for remote satellite plant structures will not include the proxy
 user objects in the oracle export data. The proxy user objects must be
 restored by the host plant structure.
- Backups for same-instance satellite plant structures will include the proxy user objects in the oracle export data. The proxy user objects may be restored by the satellite import or by the host plant structure import.
- Backing up a Plant automatically includes all projects in the Plant.

Related Topics

- Backup Command, page 178
- Plant Structure Backup Wizard Options, page 185
- Restore a Plant Wizard, page 195
- Troubleshooting Backup and Restore, page 204

Plant Structure Backup Wizard - Options

Allows you to specify options for backing up the plant structure.



Include Reference Data - Select this option if you want to include the reference data for applications associated with the plant structure. For more information about backups and reference data files, please see the Backing Up Reference Data topic. This option is not available if the plant has no applications associated with it.

Submit to task scheduler wizard - Allows you to create a one time only or recurring backup schedule. If you select this options, two extra pages in the Plant Structure Backup wizard will display to allow you to input the scheduling information.

Schedule name - Defaults to the name of the plant structure being backed up. You may edit this value. If a schedule with this name already exists, you will be prompted to enter a unique name for the schedule. This name cannot contain any of the following characters: <, >?//'; { } [] \sim $^{^{\circ}}$! % * () | ":

Backup location - Specifies where the zip file containing the plant structure backup data will reside after the backup finishes. By default, the backup path specified during site creation displays. You can change this path. This field is limited to 255 characters and cannot contain any of the following characters: <, >? / '; { } [] \sim `! % * (): | "

Scheduling Options

Allows you to specify options for scheduling the backup. This page appears only if you selected the **Submit to task scheduler wizard** on the previous page.



Task name - Displays the name of the backup being scheduled. You cannot edit this field.

User name - Type your system or domain login. You must have the necessary operating system permissions to create a task in the Windows task scheduling system. This user must also have database administrator privileges.

Password - Type your system or domain password.

Confirm password - Re-type your password.

Perform this task - Allows you to specify the frequency of the scheduled backup.

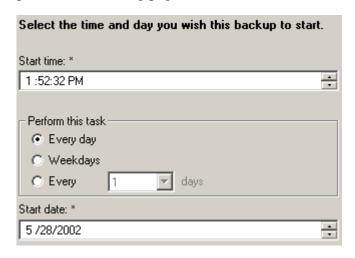
- **Daily** Performs the scheduled backup every 24 hours.
- Weekly Performs the scheduled backup once in every 7 days.
- One time only Performs the scheduled backup once at the specified time.

Notes

- If you are scheduling a site backup task and you selected the Back up all
 plants and reference data at this site option, all plant structures added to
 the site after the task was created are automatically included in subsequent
 backup runs. If you did not use this option when creating the site backup
 task, you will have to create another site backup task to include the new
 plant structures.
- You cannot view the details of a previously scheduled backup task from within SmartPlant Engineering Manager. If you set up a scheduled event, such as backing up a particular plant at a given time, whether it be daily, weekly, or monthly, you cannot view that schedule within SmartPlant Engineering Manager. Use the Control Panel > Administrative Tools > Scheduled Tasks program to see what events are scheduled. However, Schedule Tasks indicates only that an event is scheduled, not what that event includes (such as whether it is backing up a plant or site).
- To reschedule an event, such as a daily plant backup, you must first end the scheduled task using Schedule Tasks, and then use the backup wizards in SmartPlant Engineering Manager to schedule a new task.
- Usernames and passwords cannot contain any of the following characters:
 . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

Scheduling Times

Allows you to set the times for the scheduled backup. The options that appear on this page depend on whether you selected **Daily**, **Weekly**, or **One time only** on the previous scheduling page.



Start Time - Allows you to specify the time the scheduled backup will start on the selected dates.

Perform this task - Allows you to specify the frequency of the scheduled backup.

- Every day Performs the scheduled backup at the specified Start time each day from the Start date.
- Weekdays Performs the scheduled backup at the specified Start time
 each weekday from the Start date. Saturdays and Sundays are excluded
 from this schedule.
- Every so many days Performs the scheduled backup at the specified Start time at this number of days interval from the Start date. For example, you can specify that the backup run every 4 days at Noon starting on May 28th.

• Important

- You cannot view the details of a previously scheduled backup task from within SmartPlant Engineering Manager. If you set up a scheduled event, such as backing up a particular plant at a given time, whether it be daily, weekly, or monthly, you cannot view that schedule within SmartPlant Engineering Manager. Use the Control Panel > Administrative Tools > Scheduled Tasks program to see what events are scheduled. However, Schedule Tasks indicates only that an event is scheduled, not what that event includes (such as whether it is backing up a plant or site).
- To reschedule an event, such as a daily plant backup, you must first end the scheduled task using Schedule Tasks, and then use the backup wizards in SmartPlant Engineering Manager to schedule a new task.

Plant Structure Backup Wizard - Finish

Displays all the settings that you defined for backing up the plant structure. Review these settings carefully. If you are satisfied with the settings, click **Finish**. Otherwise, click **Back** to change one or more of the settings.

Details - Allows you to toggle the amount of information displayed.

Notes

- When backing up the plant structure, the software also backs up all the projects that exist in this plant structure.
- Backup log information is available in the SpaBackups.log file in the Temp folder.

Running Backups from the Command Line

You can run backups from the command line using the spabackup.exe program, which is delivered to the \Program Files\SmartPlant\Engineering Manager\Program folder during installation.

Argument	Description
-d [DbgLevel]	(Optional) Debug level. Defaults to 0 if you do not specify a debug level (0-3). If used, this argument must be the first argument in the command line call.
-с	Control File. Creates a control file that contains all the information needed to complete the backup process. Only the Debug argument (-d [DbgLevel]) can be used with this argument. You must use this argument with scheduled backups because the control file contains the minimal information needed to initiate the backup.
-s	(Optional) Site server INI file. Specifies the site server .ini file path. If you do not use -s, the backup process uses the site INI path found in the SmartPlantManager.ini file. If you use both the -s and -p arguments, the -s argument must precede -p.
-p [RItemName]	Includes the RItemName and reference data if you do not use the -NoRefData argument. Can be used as the first, second, or third argument.
-NoRefData	(Optional - valid only when used with the -p [RItemName] argument) Backup will not include any reference data.

Example Plant Backup Command Line Calls

```
spabackup.exe -d -s C:\temp\SmartPlantV4.ini -p PlantName
spabackup.exe -s C:\temp\SmartPlantV4.ini -p PlantName -NoRefData
spabackup.exe -p PlantName -NoRefData
spabackup.exe -p PlantName
```

Example Site Backup Command Line Calls

```
spabackup.exe -d -s C:\temp\SmartPlantV4.ini
spabackup.exe -s C:\temp\SmartPlantV4.ini
```

- Backing Up and Restoring Your Data: An Overview, page 177
- Troubleshooting Backup and Restore, page 204

Restore Command

Tools > Restore

Allows you to restore a plant structure from backup.

Notes

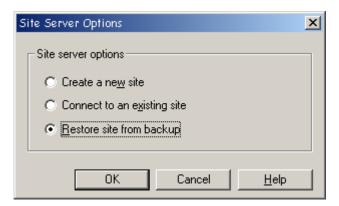
- Only a site administrator can perform a restore.
- This command is enabled only when the **Plant Structure** node is selected. You can restore only a plant structure from within SmartPlant Engineering Manager. To restore a site, you must use the Site Server Options dialog box.
- In a Workshare environment, you must restore the host site and host plant before restoring any of the satellite sites and plants.

- Backup Command, page 178
- Restore a Plant Wizard, page 195
- Restore a Site Wizard, page 191
- Troubleshooting Backup and Restore, page 204

Restore a Site Wizard

You can restore a site from backup in one of two ways. From within SmartPlant Engineering Manager, you can select the **Site Server** node and then click **Tools** > **Restore**. This method launches the **Restore** wizard directly.

If you want to restore the site to another computer, start SmartPlant Engineering Manager and select the **Restore site from backup** option on the **Site Server Options** dialog box.



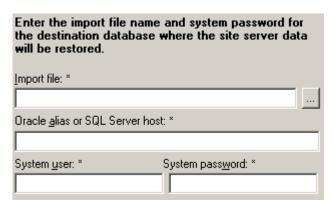
Notes

- Restoring a site does not automatically restore the plants backed up with the site. You must restore the plants separately.
- You do not have to restore a site before restoring a plant. However, you must restore the site to get the data dictionary templates.
- In a Workshare environment, you must restore the host site and host plant before restoring any of the satellite sites and plants.

- Restore Site Wizard Administrative Privileges, page 194
- Restore Site Wizard Import From, page 192
- Restore Site Wizard Site Server Information, page 193
- Site Server Options Dialog Box, page 44
- Site Server Root: An Overview, page 42
- Troubleshooting Backup and Restore, page 204

Restore Site Wizard - Import From

Allows you to browse to the site backup file you want to import.



Import file - Browse to the site backup file you want to import. This path must be in UNC format and contain no more than 255 characters.

Oracle alias or SQL Server host - Type the Oracle alias or SQL Server host name for the database the site will be imported into.



• If you leave the **Oracle alias or SQL Server host** box empty when you browse to the **Import file**, the software will display the value stored in the site backup file. However, if you are restoring the site to a different site server, you must type the Oracle alias or SQL Server host name for the database available to the computer on which you are restoring the site.

System user - Type a database system user name. This name does not have to be the database administrator user name, but this user must have system privileges.

System password - Type the database system password.

! Important

• After you complete this page and click **Next**, the wizard obtains the database user names from the backup file and determines if they are existing users. If a database user exists, you will be asked if it is OK to drop tables and views from the database user table space before the restoration begins. Only conflicting tables and views will be dropped. You must OK the dropping of conflicting database user tables before being allowed to navigate to the next page.

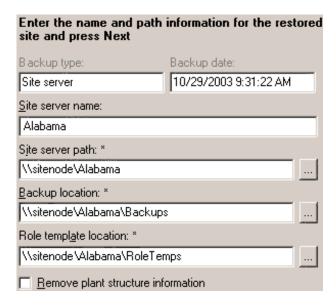
• The Oracle instance on the computer to which you are restoring the site must contain matching tablespace names for all of the schema users included in the import file. If any of the permanent or temporary tablespace names in the import file do not exist in this Oracle instance, you must create the correct tablespace types and names before continuing the site restoration.

Related Topics

- New Site Server Wizard Database Information, page 47
- Restore a Site to a Different Server, page 199

Restore Site Wizard - Site Server Information

Displays the type, name and date of the backup you have selected to restore and allows you to specify the path for the restored site.



Backup type - Displays the type of backup being restored. This field cannot be modified.

Backup date - Displays the date the site backup was created. This field cannot be modified.

Site server name - Displays the name of the site being restored.

Site server path - Allows you to browse to a new location for the site server path. Only the path can be modified. The .INI file name cannot be changed. This field is limited to 255 characters.

Backup location - Type or browse to the location where the site backup data is stored. This path was specified during the site backup process.

Role template location - Type or browse to the location where the role templates are stored. This path was specified during the site backup process.

Remove plant structure information - Check this option to remove all root item information from the restored site server. This option is useful for instances when you include a plant in a site backup and then delete the plant. If you try to restore the site after deleting the plant, an error message displays, indicating that the hierarchy information for the plant cannot be found. Use this option to avoid this situation.

Notes

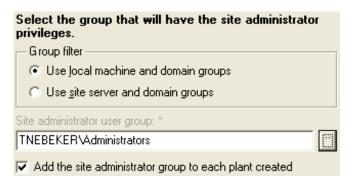
- We recommend selecting a backup location that has plenty of available space because the Restore process generates a temporary folder in this backup location while the site data is being restored. This folder is removed when the process finishes.
- Site names cannot start with a numeric digit and cannot contain any of the following characters: < , > ? \ / '; { } [] ~ `! % * () | " :
- Location paths cannot contain any of the following characters: < , > ? / ';
 { } [] ~ `! % * () : | "

Related Topics

• New Site Server Wizard - Paths, page 46

Restore Site Wizard - Administrative Privileges

Allows you to specify the user group that will have site administrative privileges for the restored site. You cannot change the selected group after you have restored the site. You can, however, add users to or remove users from this group using the user access controls provided by your operating system.



Use local machine and domain groups - Click if you want to choose a user group from your local machine.

Use site server and domain groups - Click if you want to choose a user group from the site server.

Site administrator user group - Type or browse to the user group to which you want to grant site administrator privileges.

Important

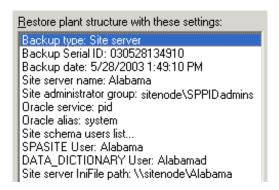
• If you do not already have a user access group created that you can use for these purposes, you can leave the wizard running while you use your operating system user access controls to create a group.

Related Topics

• New Site Server Wizard - Site Administrator Group, page 48

Restore Site Wizard - Finish

Displays all the settings that you have defined to restore the site server. Review these settings carefully. If you are satisfied with the settings, click **Finish**. Otherwise, click **Back** to change one or more of the settings.



As the restoration progresses, the status bar displays updated information. The wizard automatically closes after the restore process completes successfully.

Restore a Plant Wizard

To restore a plant structure from backup, select the **Plant Structure** node and click **Tools > Restore**.

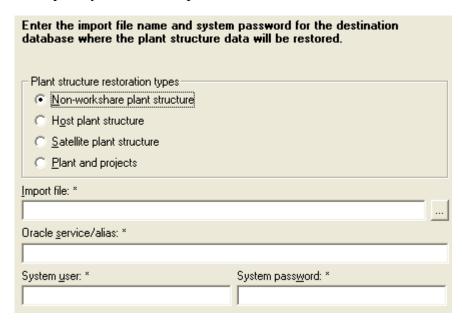
Notes

- You do not have to restore the site before restoring a plant to its original site or to a new site.
- In a Workshare environment, you must restore the host site and host plant before restoring any of the satellite sites and plants.

- Creating a Plant Structure Wizard, page 63
- Loading the Plant Structure Wizard, page 139
- Restore Plant Structure Wizard Import From, page 196

Restore Plant Structure Wizard - Import From

Allows you to select the type of plant restoration and to browse to the plant structure backup file you want to import.



Plant structure restoration types - Allows you to select the type of plant structure you want to restore.

- **Non-Workshare plant structure** Allows you to select a plant structure backup file ending in *_p.zip.
- **Host plant structure** Allows you to select a host backup file ending in *_m.zip. When restoring host plant structure schemas, all the proxy user objects for the plant structure will be restored. Existing proxy user tables and views will be dropped and restored from the oracle export data. This is true for both remote and same-instance satellite proxy users.
- Satellite plant structure Allows you to select a satellite backup file ending in *_s.zip. Because the backups for remote satellite plant structures do not include the proxy user objects in the oracle export data, the proxy user objects must be restored by the host plant structure. When restoring same-instance satellite plant structures, the proxy user objects may be restored by either the satellite restoration or by the host plant structure restoration because the proxy user objects were included in the backup file
- Plant and projects Allows you to select a plant backup file ending in *_a.zip.

Import file - Browse to the plant structure backup file you want to import. This path must be in UNC format and the backup file type must match the restoration type selected above. This field is limited to 255 characters.

Oracle alias - Type the Oracle alias for the database the plant structure will be imported into. This option appears only if the site is using Oracle.

SQL Server host - Type the SQL Server host name for the database the plant structure will be imported into. This option appears only if the site is using SQL Server.

Tip

• If you leave the **Oracle alias** or **SQL Server host** boxes empty when you browse to the **Import file**, the software will display the value stored in the plant backup file. However, if you are restoring the plant to a different site server, you must type the Oracle alias or SQL Server host name for the database on the computer to which you are restoring the plant.

System user - Type a database system user name. This name does not have to be the database administrator user name, but this user must have system privileges.

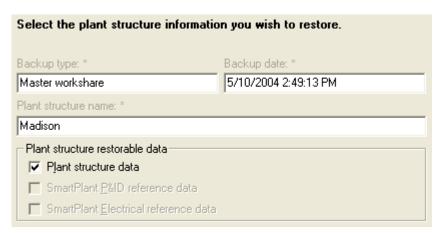
System password - Type the database system password.

! Important

- After you complete this page and click **Next**, the wizard obtains the database user names from the backup file and determines if they are existing users. If a database user exists, you will be asked if it is OK to drop tables and views from the database user tablespace before the restoration begins. Only conflicting tables and views will be dropped. You must OK the dropping of conflicting database user tables before being allowed to navigate to the next page.
- The Oracle instance on the computer to which you are restoring the plant must contain matching tablespace names for all of the schema users included in the import file. If any of the permanent or temporary tablespace names in the import file do not exist in this Oracle instance, you must create the correct tablespace types and names before continuing the plant restoration.

Restore Plant Structure Wizard - Plant Structure Information

Displays the type, name and date of the backup you have selected to restore and allows you to choose what data to restore.



Backup type - Displays the type of backup being restored. This field cannot be modified.

Backup date - Displays the date the backup was made. This field cannot be modified.

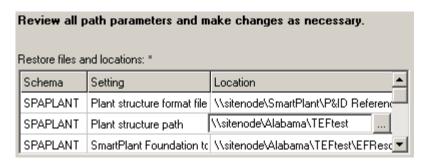
Plant structure name - Displays the name of the plant structure being restored. This field cannot be modified.

Plant structure restorable data - Allows you to select what plant data to include in the restoration. You must select one of these options before you can move to the next page in the wizard.

- Plant structure data Restores the plant schema, plant data dictionary and plant structure storage files, restores all schemas pertaining to applications associated with the plant structure at the time the backup was made, and updates the active site with the root item, database connection information and plant structure roles. For a host Workshare backup type, the satellite slots are updated.
- SmartPlant P&ID reference data Restores the SmartPlant P&ID reference data that was backed up with the plant structure. This option is not available if no SmartPlant reference data was backed up with the plant structure.
- SmartPlant Electrical reference data Restores the SmartPlant Electrical reference data that was backed up with the plant structure. This option is not available if no SmartPlant Electrical reference data was backed up with the plant structure.

Restore Plant Structure Wizard - Paths

Allows you to specify paths for the files being restored.



Restore files and locations - Displays the parameters and their current path settings as defined in the plant schema being restored. The items in the **Schema** and the **Setting** columns cannot be modified. To modify a value in the **Location** column, click the path, then type or browse to the path you want.

Note

 We recommend selecting a backup location that has plenty of available space because the Restore process generates a temporary folder in this backup location while the plant data is being restored. This folder is removed when the process finishes.

Restore Plant Wizard - Finish

Displays all the settings that you have defined to restore the plant structure. Review these settings carefully. If you are satisfied with the settings, click **Finish**. Otherwise, click **Back** to change one or more of the settings.

As the restoration progresses, the status bar displays updated information. The wizard automatically closes after the restore process completes successfully.

Restore a Site to a Different Server

1. Start SmartPlant Engineering Manager and select the **Restore site from backup** option on the **Site Server Options** dialog box.



- If you already have a site open in SmartPlant Engineering Manager, select the Site Server node and click Tools > Restore.
- 2. On the **Import From** page in the **Restore Site** wizard, specify the path to the site backup file. The **Oracle alias or SQL Server host** name field is automatically filled in with information contained in this backup file.

- 3. Change the default **Oracle alias or SQL Server host** name to the correct alias for the database available to the computer on which you are restoring the site.
- 4. Specify the **System user** and **System password** for the database specified above.
- 5. Click Next.
- 6. On the **Site Server Information** page in the **Restore Site** wizard, specify a **Site server name**, **Site server path**, **Backup location**, and **Role template location** appropriate for the new server on which the site is being restored.
- 7. Check the **Remove plant structure information** option if you do not want the references to the original plant list restored with the site.
- 8. Click Next.
- 9. On the **Administrative Privileges** page in the **Restore Site** wizard, specify user group that will have site administrative privileges for the restored site.

If you did not check the **Remove plant structure information** option during the site restoration, complete the following steps to restore the plants included in the restored site.

- 1. In the restored site, restore the plants contained in the site. Be sure to update the plant structure paths as appropriate.
- 2. Using **Settings** in Options Manager, update each of the UNC paths to reflect the appropriate locations on the new server.
- 3. Open each P&ID and change the source link for the border file.
- 4. Edit the templates to link to the border file.

- Restore Plant Structure Wizard Import From, page 196
- Restore Plant Structure Wizard Paths, page 199
- Restore Site Wizard Administrative Privileges, page 194
- Restore Site Wizard Import From, page 192
- Restore Site Wizard Site Server Information, page 193
- Site Server Options Dialog Box, page 44
- Site Server Root: An Overview, page 42
- Troubleshooting Backup and Restore, page 204

Backing up and Restoring Reference Data

Reference data is backed up as part of a plant structure backup. To back up reference data you must back up a plant structure.

Reference data is restored as part of restoring a plant. However, you can restore just the reference data if the plant structure is already online (in the list of root items on the current site server) and the **Restore plant schemas** option in the **Restore Plant Structure** wizard is disabled.

If the reference data object is a path, all files and folders under this location will be archived into a single zip file and included in the overall plant structure zip file. If the reference data object is a file, it will be included in the overall plant structure zip file.

SmartPlant P&ID option setting SP_IDs:

- 680 Rules Library
- 681 Catalog Explorer Root Path
- 682 PID Template Path
- 683 Project Style File
- 684 Default Report Template Path
- 685 Default Assembly Path
- 703 Export to CAD Definition File
- 709 Project Insulation Specification File
- 711 Plant Structure
- 804 SmartPlant Resource File
- 809 Import Map Files
- 824 Core Nominal Diameter and Jacket Nominal XML file

SmartPlant Electrical option setting SP_IDs:

- 1001 Catalog Explorer Root Path
- 1002 Default Report Template Path
- 1004 Default SLD symbols Path
- 1005 Default Schematic Blocks Path
- 1007 Default Generated SLD Path
- 1008 Default Generated Schematic Path
- 1009 Default Generated PDB Layout Path
- 1010 Name of Template File for SLD
- 1011 Name of Template File for Schematic
- 1012 PDB Layout Reports Path
- 1013 Name of Title Block File for SLD
- 1014 Name of Title Block File for Schematic
- 1015 Name of Title Block File for PDB layout
- 1018 Default Templates Path

Restoring Data in an Integrated Environment

When you use SmartPlant Engineering Manager to restore SmartPlant Engineering data in an integrated environment, you must use the **SmartPlant > Compare > With Tool Document** command in the SmartPlant Foundation Client to compare the restored drawing with the version that was published to SmartPlant Foundation. You should make as many manual changes as possible to synchronize the data before publishing the restored documents. For more information about using this command, see the SmartPlant Foundation Client documentation.

Using the **Compare with Tool** functionality allows you to see what needs to be deleted as a result of the restore (for example, an object on a document was deleted and the document was published between the time that the backup was created and the restore happened).

Objects that are only graphics without data on the viewable file will not show up as changes in the comparison tables in SmartPlant Foundation. You must pay attention to graphical differences during the comparison process to see what needs to be added back to the viewable file.

For more information, see the *Restoring Data in an Integrated Environment* section of the *SmartPlant Installation and Configuration Guide*.

Troubleshooting Backup and Restore

Problem	Solution	
If a plant exists in the site, it cannot be restored to the same site. The Plant Structure check box in the Restore wizard is disabled and only the Reference Data check box is enabled.	You cannot use the Backup and Restore functionality to "overwrite" an existing plant structure. Delete the plant from the site before trying to restore the plant.	
The application dose not respond for some time (few seconds to few minutes) after clicking Next on the Plant Backup wizard. A message similar to the following displays in the Status bar: <i>Gathering File information (PlantName): for unknown application file id = 711.</i>	Wait. The application appears to not be responding because it is calculating the space requirement for all of the drawings. In plants with many P&IDs, this process may take several minutes to complete.	
The backup .zip file contains earlier backups of the same plant and just keeps growing.	Change the backup location for the plant so that it is set to a folder not located under the plant structure path. For more information, see <i>New Plant Structure Wizard - Paths</i> , page 67.	
Scheduled backups fail to run or the following error messages appear during site or plant backups. Unable to determine a users < UserName > table space values: ORA-01017: invalid username/password logon denied system. Adding table list to manifest for < PlantName > .	The system user password has been changed in the Oracle database. The Backup process uses the System user password stored in the SPPID database to connect and run backups so that scheduled backups can run without user intervention. To remedy this situation, open the Site Properties dialog box and edit the System password on the Database tab. For more information, see <i>Database Tab</i> (Site Server Properties Dialog Box), page 56.	

Working with Projects: An Overview

Plants, once designed and built, are often modified throughout their lifecycles. During these modifications, information assets of the "as-built" state must be maintained. Using projects in your plant allows you to maintain this information while allowing multiple projects, possibly overlapping and running concurrently, to be designed, approved, constructed, and/or canceled.

Before creating a project in a plant, you must enable that plant for projects. When enabled for projects, the plant structure becomes the Plant, sometimes referred to as the Master or As-Built plant. In a Task/Master scenario, the Plant is the Master and the projects are the individual Tasks.

Database Configuration

To allow work on projects to proceed without affecting the Plant, separate schemas are created for each project. In other words, all projects must be located in the same database instance as the Plant, with each project contained within a separate schema (separate database user names).

The Plant shares reference data with its projects. Changes to the reference data can be made only in the Plant. In other words, you can use Catalog Manager, Data Dictionary Manager, Filter Manager, and Format Manager in a project, but you have read-only permissions and are not allowed to modify any of the data from within these managers.

Fetching and Checking Out Drawings

All drawings in the Plant are locked down when you enable projects. You can no longer create drawings in the Plant; drawings are created inside projects. However, any drawings that might have existed in the Plant before projects were enabled remain in the Plant in a read-only state and can be fetched or checked out from the Plant. You can delete drawings in the Plant, unless the drawings are fetched or checked out to a project.

Claiming

Claiming objects on a drawing is one of the main features of using projects in an integrated environment. When a project claims an object on a drawing, the project controls modifications to that object. A project cannot modify objects that it has not claimed.

Projects claim objects in either **Exclusive** or **Shared** mode. **Exclusive** mode is the default and is mandatory if you plan to use the project in an integrated environment. Use the **Settings** view in Options Manager to set the **Claim Mode** before creating a project.

You can change the **Claim Mode** to **Shared** at any time. However, you can change the mode to **Exclusive** only when there are no claims in any project in the Plant.

Using Workshare with Projects

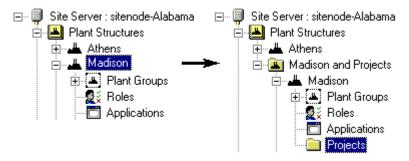
Workshare functions the same whether using projects or not. The only difference is that when using projects, only a project can function as a Workshare host. The Plant cannot be a host or a satellite when projects are enabled.

- Enable Projects Command, page 208
- Enable Projects, page 208
- Projects Node: An Overview, page 119
- Projects vs. Workshare, page 234

Enabling Projects: An Overview

Before you can create projects in a plant, you must activate the plant structure for projects.

When you enable a plant for projects, the plant structure becomes the Plant (often referred to as the Master or As-Built plant) and the **Projects** node is added under the Plant node. From this point on, all changes to the Plant and its drawings must be performed in the context of a project.



Important

- The **Enable Projects** command is not available unless you associate only the SmartPlant P&ID application with your plant. All applications associated with the Plant are automatically associated with the project. For more information about associating applications, see *Associating Applications Wizard*, page 105.
- A plant cannot be enabled for projects if any drawings in the plant are in a re-create state.
- If the plant you are enabling for projects is using Workshare, the **Satellites** folder under the plant structure is removed when projects are enabled. Therefore, before enabling projects in a plant structure containing active satellites, you must transfer all drawings from the satellites back to the host and delete all satellites from the plant.

- Associate Applications Wizard, page 105
- Enable Projects Command, page 208
- Enable Projects, page 208
- Projects Node: An Overview, page 119

Enable Projects Command

Projects > Enable Projects

Allows the selected plant structure to contain projects. When you enable a plant for projects, the plant structure becomes the Plant (often referred to as the Master or As-Built plant), and the **Projects** node is added under the Plant node.

From this point on, all changes to the Plant and its drawings must be performed in the context of a project.

Related Topics

- Enable Projects, page 208
- Enabling Projects: An Overview, page 207
- Projects Node: An Overview, page 119

Enable Projects

- 1. In the **Plant Structures** node, select the plant that you want to enable for projects.
- 2. Click **Projects > Enable Projects**.

! Important

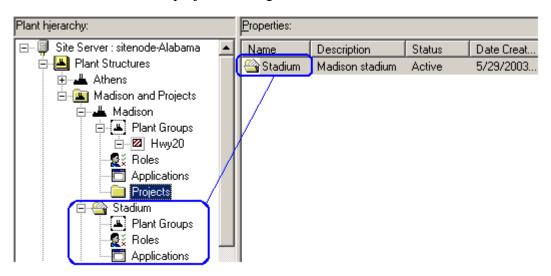
- The **Enable Projects** command is not available until you associate an application with your plant. All applications associated with the Plant are automatically associated with every project created in the Plant.
- When you enable a plant for projects, the plant structure becomes the Plant (often referred to as the Master or As-Built plant) and all drawings in the Plant are locked down. All changes to the Plant and its drawings must be performed in the context of a project. To edit a drawing in project mode, you must use SmartPlant P&ID Drawing Manager to fetch the drawing from the Plant into a project. To maintain one reference data source for all projects in the Plant, only the Plant can modify the reference data. For more information about accessing drawings from within a project, see *SmartPlant P&ID Drawing Manager Help*.
- If the plant you are enabling for projects is using Workshare, the **Satellites** folder under the plant structure node is removed when projects are enabled. Therefore, before enabling projects in a plant structure containing active satellites, you must transfer all drawings from the satellites back to the host and delete all satellites from the plant.

- Associate Applications Wizard, page 105
- Enable Projects Command, page 208
- Enabling Projects: An Overview, page 207

Creating a Project: An Overview

After enabling a plant for projects, create a project in the Plant using the **Projects** > **New Project** command. When creating a new project, the software automatically creates a new database containing a project schema based on the Plant schema and project application schemas based on the applications associated with the Plant. Because the reference data is shared between the Plant and its projects, the software does not need to create project data dictionaries.

New projects display in the **List** view when you select the **Projects** node inside the Plant structure. The new project is also given its own node inside the Plant node.



After creating a project, set the project scope and create roles to assign user access to the project. For more information, see *Set Project Scope*, page 220 and *Create a New Role*, page 91.

! Important

- Projects cannot be created within projects.
- Project names must be unique within the plant and cannot contain any of the following characters: < , > ? \ / '; { } [] ~ - `! % * () | " :
- Plant groups added to a project are automatically added to the Plant. These plant groups cannot be subsequently deleted from the project, but must be deleted from the Plant.

Before creating the project, be sure to set the Claim Mode, use the Settings view in SmartPlant P&ID Options Manager. The Claim Mode is either Exclusive or Shared, and applies to the Plant and all of its projects. Exclusive mode is the default and is mandatory if you plan to use the project in an integrated environment. For more information, see the SmartPlant P&ID Help and the SmartPlant P&ID Options Manager Help.

You can change the **Claim Mode** to **Shared** at any time. However, you can change the mode to **Exclusive** only when there are no claims in any project in the Plant.

Related Topics

- Create a New Role, page 91
- Enable Projects Command, page 208
- New Project Dialog Box, page 211
- New Projects Command, page 210
- Set Project Scope, page 220
- Understanding Default Database User Names, page 24

New Projects Command

Projects > New Project

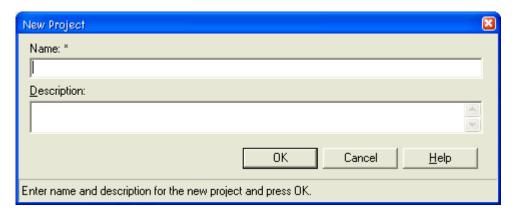
Displays the **New Project** dialog box, allowing you to create a project within the Plant. You must enable the plant for projects before you can access this command.

! Important

- Project names must be unique within the plant and cannot contain any of the following characters: < , > ? \ / '; { } [] ~ `! % * () | ":
- You do not have to be a site administrator to create a project, however if you create a project without site administrator privileges, you will have no privileges in the project. Users without site administrator privileges can create a project and add a role as long as they do not exit SmartPlant Engineering Manager. If they exit without adding themselves to a role with necessary privileges, they will not be able to add roles or create plant groups in the project.
- Before creating the project, be sure to set the **Claim Mode**, use the **Settings** view in SmartPlant P&ID Options Manager. The **Claim Mode** is either **Exclusive** or **Shared**, and applies to the Plant and all of its projects. **Exclusive** mode is the default and is mandatory if you plan to use the project in an integrated environment. For more information, see the *SmartPlant P&ID Help* and the *SmartPlant P&ID Options Manager Help*.
- You can change the **Claim Mode** to **Shared** at any time. However, you can change the mode to **Exclusive** only when there are no claims in any project in the Plant.

New Project Dialog Box

Allows you to specify the name and description for the new project. An asterisk (*) at the end of an item name indicates a value is required for that item.



Name - Type a name for the new project. Project names must be unique within a plant, cannot begin with a numerical digit, and must not contain any of the following characters: <, >? \/'; { } [] ~ - `! % * () | ":

Description - Type a description for the project.

Related Topics

• Creating a Project: An Overview, page 209

Project Properties Dialog Box

Allows you to view the properties pertaining to the selected project. You can modify some of these properties using the tabs on this dialog box.

= "helponly">General Tab

Database Tab

Plant Data Tab

Hierarchy Tab

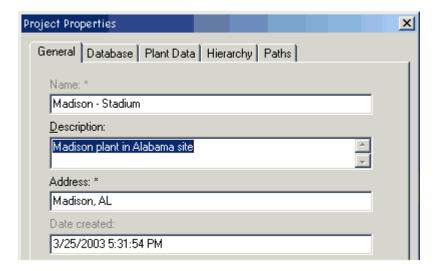
Paths Tab

Data Access Tab

SmartPlant Tab

General Tab (Project Properties Dialog Box)

Displays the attribute information for the project. Items that cannot be modified are unavailable.



Name - Displays the name of the project. You cannot change the project name after the project has been created.

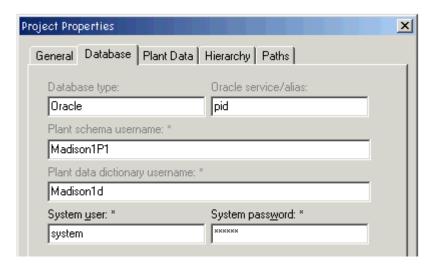
Description - Displays the current description of the project. You can type a new description.

Address - Displays the address for the project root item. This option appears only if the project uses Hierarchy 2: Site/Plant/Unit or uses a hierarchy with the Site plant group type as the root item. You can edit this value.

Date created - Displays the date on which the project was created. You cannot change this value.

Database Tab (Project Properties Dialog Box)

Displays the database information for the project. Depending on the **Database type** you selected when you created the Plant, different options display on this tab. An asterisk (*) at the end of an item name indicates a value is required for that item.



Database type - Displays the database type used by this project.

Oracle service/alias - Displays the name of the Oracle net service alias that you are using for the Plant. This option appears only if Oracle is selected as the database type.

Database server - Displays the node name of the server on which the SQL Server database used by the Plant resides. This option appears only if SQL Server is selected as the database type.

Database name - Displays the name of the SQL Server database where the Plant schemas are located. This option appears only if SQL Server is selected as the database type.

Plant schema username - Displays the Plant schema user name.

Plant data dictionary username - Displays the data dictionary user name used by the Plant.

System user - Displays the database system user name specified during plant creation. You can change this value as needed. This name does not have to be the database administrator user name, but this user must have system privileges.

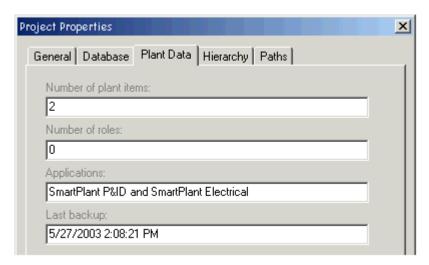
System password - Displays the system user password. You can change this value as needed.

Related Topics

• Understanding Default Database User Names, page 24

Plant Data Tab (Project Properties Dialog Box)

Displays a summary of information about the project.



Number of plant items - Displays the number of plant items in the project.

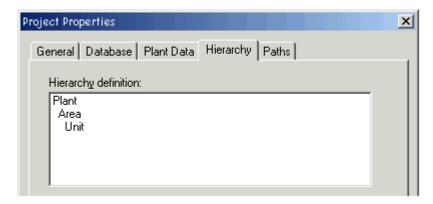
Number of roles - Displays the number of roles defined for this project.

Applications - Displays the engineering applications associated with the project.

Last backup - Displays the time of the last backup of the project.

Hierarchy Tab (Project Properties Dialog Box)

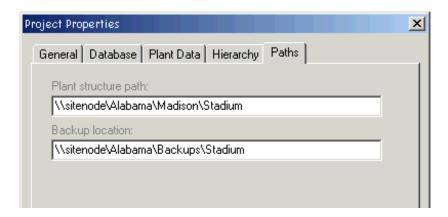
Displays the hierarchy definition for the project.



Hierarchy definition - Displays the plant breakdown structure and hierarchy items of the plant on which the project is based.

Paths Tab (Project Properties Dialog Box)

Displays the path information for the project. Items that cannot be modified are unavailable.



Plant structure path - Displays the path to the share where the actual, physical plant structure files reside. You cannot change this path after the project is created.

Backup location - Displays the path to the share where the project files are backed up. You can change this path to point to a new backup location. This field is limited to 255 characters.

Data Access Tab (Project Properties Dialog Box)

Displays the Workshare data access information for the project. This tab appears only when the project is enabled for Workshare collaboration.



Publishing method - Displays the publishing method used to share project data in a Workshare collaboration.

Publish location - Displays the UNC path to the shared location on the host site where the shared data is stored. This field is limited to 255 characters and is available only when using the file share publishing method.

Mail server - Displays the SMTP server address to which the administrative e-mail address (below) has access.

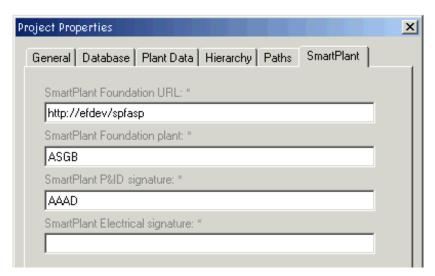
E-mail address - Displays the e-mail address for the satellite site administrator. This address must be a valid account known to the satellite **Mail server** defined above. The satellite site uses this address to send a message to both the satellite and host administrators, notifying them when the database link has been down for an extended period of time.

Related Topics

- Breaking the Database Link: The Significance, page 259
- Enable Workshare Dialog Box, page 264

SmartPlant Tab (Project Properties Dialog Box)

Displays SmartPlant information for the project. This tab appears only if the Plant, in which the project resides, has been registered.



SmartPlant Foundation URL - Displays the URL retrieved from SmartPlant Foundation during plant registration.

SmartPlant Foundation plant - Displays the four-character unique identifier for SmartPlant Foundation.

SmartPlant P&ID signature - Displays the four-character unique identifier assigned to SmartPlant P&ID during registration. No identifier appears if this application has not been registered, for example, if it was not associated with the Plant when the Plant was registered.

SmartPlant Electrical signature - Displays the four-character unique identifier assigned to SmartPlant Electrical during registration. No identifier appears if this application has not been registered, for example, if it was not associated with the Plant when the Plant was registered.

Related Topics

- Register Command, page 301
- SmartPlant Integration: An Overview, page 298

Create a New Project

- Set the Claim Mode using the Settings view in SmartPlant P&ID Options Manager.
- 2. Enable the plant for projects.

For more information see, *Enable Projects*, page 208

- 3. Select the **Projects** node inside the Plant structure.
- 4. Click **Projects > New Project**.
- 5. Type a name and description for the project.

! Important

- Project names must be unique within the plant and cannot contain any of the following characters: < , > ? \ / '; { } [] ~ `! % * () | ":
- 6. On the **Set Project Scope** dialog box, select the plant groups in the Plant to which you want the new project to have access.
- 7. Assign user access rights to the project. You do not have to be a site administrator to create a project, however if you create a project without site administrator privileges, you will have no privileges in the project. Users without site administrator privileges can create a project and add a role as long as they do not exit SmartPlant Engineering Manager. If they exit without adding themselves to a role with necessary privileges, they will not be able to add roles or create plant groups in the project.

Notes

- The **Claim Mode** is either **Exclusive** or **Shared**, and applies to the Plant and all of its projects. **Exclusive** mode is the default and is mandatory if you plan to use the project in an integrated environment. For more information, see the *SmartPlant P&ID Help* and the *SmartPlant P&ID Options Manager Help*.
- You can change the **Claim Mode** to **Shared** at any time. However, you can change the mode to **Exclusive** only when there are no claims in any project in the Plant.

Setting the Project Scope: An Overview

Setting the project scope allows the Plant to share one or more of its plant groups with a project. When you share a plant group with a project, the Plant hierarchy is automatically traversed upwards so that any nodes above the plant group are shared. Additionally, all of the child nodes in a shared plant group, as well as the parent nodes, are shared with the project.

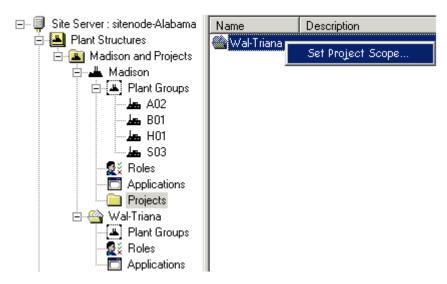
Related Topics

- Set Project Scope Command, page 218
- Set Project Scope Dialog Box, page 219
- Set Project Scope, page 220

Set Project Scope Command

Projects > Set Project Scope

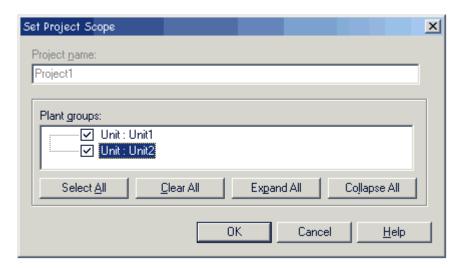
Displays the **Set Project Scope** dialog box, allowing you to specify which plant groups in the Plant are visible to and shared with the selected project. This command is available only when you select the project in the **List** view after selecting the **Project** node in the Plant.



- Set Project Scope Dialog Box, page 219
- Set Project Scope, page 220
- Setting the Project Scope: An Overview, page 218

Set Project Scope Dialog Box

Allows you to specify the plant groups in the Plant that are shared with the selected project.



Project name - Displays the name of the project with which the selected plant groups will be shared.

Plant groups - Displays all of the plant groups currently available in the Plant.

Select All - Marks all of the plant groups as shared.

Clear All - Removes the check marks beside the selected items in the **Plant groups** list.

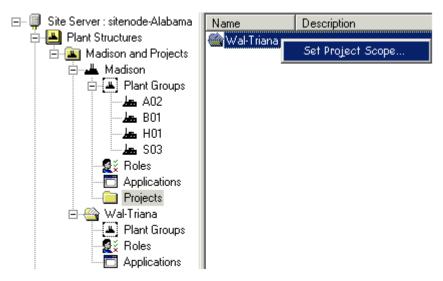
Expand All - Opens all branches in the **Plant groups** list.

Collapse All - Closes all branches in the Plant groups list.

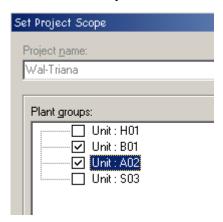
- Set Project Scope Command, page 218
- Set Project Scope, page 220
- Setting the Project Scope: An Overview, page 218

Set Project Scope

- 1. Select the **Projects** node inside the Plant structure.
- 2. In the **List** view, right-click a project, and select the **Set Project Scope** command.



3. On the **Set Project Scope** dialog box, click the checkbox beside the plant groups in the Plant that you want to share with the project.



4. Click **OK**. The selected plant groups should now appear in the **Plant Groups** node in the project.

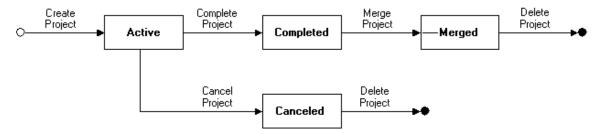


5. Assign user access rights to the project.

Reviewing the Project Status: An Overview

The status for a project displays in the **List** view when the **Projects** node is selected in the Plant. The project status is set in SmartPlant P&ID Drawing Manager.

The following diagram shows the four possible project states: **Active**, **Completed**, **Merged**, and **Canceled** states.



- Active Indicates that the project is ready for design work to proceed. When a project is created, it automatically becomes active and remains in this state until it is either completed or canceled. While a project is active, all of the various project design activities, such as checking out and revising drawings, checking in drawings, and so forth, can be performed.
- Completed Indicates that work on the project has come to an end. All
 drawings checked out to the project are verified for check-in by Drawing
 Manager when the project is promoted to Completed. Work in a
 completed project is not allowed. You can reactivate a completed project
 and do more work, but to finish the project, you must change the status
 back to Completed.
- Merged Indicates that a project is complete and that all project data has been merged back into the Plant. When the project is promoted to Merged, Drawing manager checks in all drawings and merges all project data back into the Plant.
- Canceled Indicates that the project can no longer be worked on. In this state, drawings cannot be checked into or out of the Plant. Canceling a project releases all claimed items and reverses the checkout of all drawings. A canceled project can be deleted in SmartPlant Engineering Manager.

Related Topics

• Projects Node: An Overview, page 119

Project Status and User Rights

User access allows you to define rights that are assigned to roles. These rights define which commands are enabled or disabled for each user. When projects are enabled for a plant, the user defined rights are overlaid with additional rights that depend on the active database and the project status. These rights and overlays combine to define which commands are available to the user.

Plant Without Projects Enabled

In a plant without the project feature enabled, the user defined rights have complete control over which commands are enabled. Both reference data and drawings can be edited in this environment. All of the project commands (such as **Check Out**, **Check In**, and so forth) are, of course, not enabled.

Plant With Projects Enabled

After projects are enabled, the creation and modification of drawings must be done through a project. For a plant that has the project feature enabled, all of the commands for creating and editing drawings are disabled. There is one notable exception to the general rule that all editing takes place within projects: The **Delete Drawing** command is available from within the Plant.

The reference data for the Plant is shared with all of its projects. All editing of the reference data must be done through the Plant; therefore all reference data commands are enabled. The project commands (such as **Check Out**, **Check In**, and so forth) are disabled.

Project

Within a project, all of the commands for editing reference data are disabled. Reference data can only be edited through the associated plant. The availability of the project commands and the commands for editing drawings depends on the project status.

Project Status	Command Access
Active	This is the initial state when a project is created and the state in which most design activity takes place. All commands for editing drawings are enabled. The project commands for pulling drawings into a project (Fetch and Check Out) and merging drawings back into the plant (Check In) are enabled.
Complete d	All drawings have been verified and are ready to be merged into the plant. All commands for editing drawings are disabled. The Check In command is enabled, but the other project commands are disabled.
Merged	All project drawings have been merged back into the plant and the project is ready to be deleted. All commands for editing drawings are disabled. All project commands are disabled.
Canceled	The project has been marked as ready to be deleted (even though it was not merged back into the Plant). All commands for editing drawings are disabled. All project commands are disabled.

- Projects Node: An Overview, page 119
- SmartPlant Engineering Manager Rights, page 155
- SmartPlant P&ID User Access Rights, page 157
- User Access: An Overview, page 154

Deleting Projects: An Overview

Deleting a project removes the database tables and the associated user names for the various project and application schemas generated when the project was created.

! Important

- Before you can access the **Delete** command from within a project, the project status must be marked as merged or canceled, and you must have full control permissions in SmartPlant Engineering Manager.
- Prior to deleting the project, all users must be logged out of all software components that use the project schemas. SmartPlant Engineering Manager checks for open sessions of all database users before deleting the project.
- The **Delete** command is not available for projects containing in-use satellite slots. All satellite slot connections must be disconnected before the project can be deleted.
- The **Delete** command is not available if the project contains drawings at any plant group level. All drawings in the plant group level of the project must be deleted before the project can be deleted.
- Deleting a project cannot be undone.
- When deleting plant group levels, all drawings in the plant group level must be deleted before that level can be deleted. Furthermore, the **Delete** command is not available for a plant group level that is referenced (scoped) by another project.

- Delete a Project, page 226
- Delete Command, page 17
- Delete Plant Structure Dialog Box, page 80
- Delete Project Dialog Box, page 225

Delete Project Dialog Box

Allows you to delete a project. The delete process removes the database schemas defined during both project creation and application association. The site schema and Plant schema are also updated to remove the project entries.



Plant schema database users

- **Drop schema database user** Deletes the project schema database user and its respective tables from the project schema database.
- **Drop data dictionary database user** Deletes the Plant data dictionary database user and its respective tables from the Plant data dictionary database. Because reference data is shared by the Plant with the project, the project does not have its own data dictionary. Therefore, this option is not available.
- **Drop proxy users** Deletes the Workshare proxy users from the project schema database. This option appears only if the project used Workshare.

The following individual application options appear only if that application is associated with the project being deleted.

SmartPlant P&ID database users

• **Drop schema database user** - Deletes the SmartPlant P&ID schema database user and its respective tables from the SmartPlant P&ID schema database.

• **Drop data dictionary database user** - Deletes the SmartPlant P&ID data dictionary database user and its respective tables from the SmartPlant P&ID data dictionary database. Because reference data is shared by the Plant with the project, the project does not have its own data dictionary. Therefore, this option is not available.

SmartPlant Electrical database users

- **Drop schema database user** Deletes the SmartPlant Electrical schema database user and its respective tables from the SmartPlant Electrical schema database.
- **Drop data dictionary database user** Deletes the SmartPlant Electrical data dictionary database user and its respective tables from the SmartPlant Electrical data dictionary database. Because reference data is shared by the Plant with the project, the project does not have its own data dictionary. Therefore, this option is not available.
- **Drop reference schema database user** Deletes the SmartPlant Electrical reference schema database user and its respective tables from the SmartPlant Electrical reference schema database.

Recursively delete files in plant structure path - Deletes the actual physical storage folders (including their contents) for the project.

Related Topics

- Delete a Project, page 226
- Delete Command, page 17
- Delete Plant Structure Dialog Box, page 80
- Deleting Projects: An Overview, page 224

Delete a Project

- 1. In the **Tree** view, select the project node that you want to delete.
- 2. Right-click and select the **Delete** command.
- 3. Select the options on the **Delete Plant Structure** dialog box.

Important

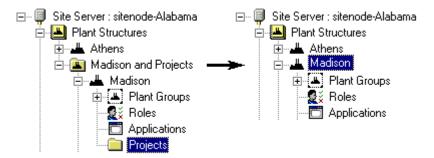
- Before you can access the **Delete** command from within a project, the
 project status must be marked as merged or canceled in SmartPlant P&ID
 Drawing Manager or in SmartPlant Electrical, and you must have full
 control permissions in SmartPlant Engineering Manager.
- Prior to deleting the project, all users must be logged out of all software components that use the project schemas. SmartPlant Engineering Manager checks for open sessions of all database users before deleting the project.

- The **Delete** command is not available for projects containing in-use satellite slots. All satellite slot connections must be disconnected before the project can be deleted.
- The **Delete** command is not available if the project contains drawings at any plant group level. All drawings in the project's plant group level must be deleted before the project can be deleted.
- Deleting a project cannot be undone.
- When deleting plant group levels, all drawings in the plant group level must be deleted before that level can be deleted. Furthermore, the **Delete** command is not available for a plant group level that is referenced by a drawing in another level.

- Delete Command, page 17
- Delete Plant Structure Dialog Box, page 80
- Delete Project Dialog Box, page 225
- Deleting Projects: An Overview, page 224

Disabling Projects: An Overview

Disabling the Plant for projects returns the Plant to a pre-projects state. When you disable a plant for projects, the Plant returns to its original plant structure status, and the **Projects** node is removed from under the plant node.



! Important

• Before you can access the **Disable Projects** command, all projects under the **Project** node must be deleted.

Related Topics

- *Delete a Project*, page 226
- Disable the Plant for Projects, page 229

Disable Projects Command

Allows the plant structure to return to a pre-projects state. When you disable a plant for projects, the Plant returns to its previous plant structure status, and the **Projects** node is removed from under the plant node.

Use this command after you have canceled and deleted all of the projects in the Plant or after you inadvertently enable a plant for projects but have not yet created a project.

- Disabling Projects: An Overview, page 228
- Projects Node: An Overview, page 119

Disable the Plant for Projects

- 1. In the **Tree** view, select the Plant node.
- 2. Click **Projects > Disable Projects**.

! Important

• Before you can access the **Disable Projects** command, all projects under the **Project** node must be deleted.

- Deleting Projects: An Overview, page 224
- Disabling Projects: An Overview, page 228

Using Workshare: An Overview

Workshare functions allow you to share SmartPlant P&ID data within one plant structure with remote sites. Designed for companies running plants from multiple sites, EPCs or Owner/Operators, or for multiple companies that are working on a single plant, Workshare provides tools to manage changes as if they were created at the same site.

Hosts and Satellites

Workshare functions use a host/satellite model for sharing SmartPlant P&ID data among multiple locations. The host, using SmartPlant Engineering Manager, creates satellite slots that include the entire SmartPlant P&ID system and grants access to P&ID data by allowing the satellite sites to subscribe to an available satellite slot.

The satellite sites, after using SmartPlant Engineering Manager to subscribe to a satellite slot at the host site, use SmartPlant P&ID Drawing Manager to create, view, or modify the drawings.

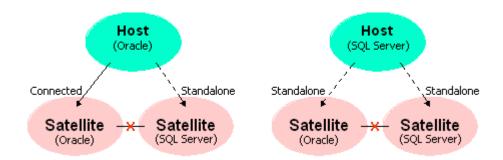
Drawing ownership is controlled at the site where they are created. When ready, the owner of a drawing can grant ownership to the host or to other satellites. Throughout this sharing process, synchronization tools in SmartPlant P&ID Drawing Manager allow the host and the satellites to make sure they are working with the latest data.

Workshare Modes

Workshare can be configured in two modes:

- Connected Uses a database link established between the database servers at the host and satellite sties. In other words, satellites are distributed databases linked to a host database. In connected Workshare, both the host and satellite must be using Oracle. If you plan to use Workshare in an integrated environment, we recommend using connected Workshare to ensure smooth claiming.
- **Standalone** Shares files and data without having a database link. Files are manually transmitted between host and satellites.

Any given site can host both connected and standalone satellites. In other words, the host can use Oracle and the satellite can use SQL Server, or any combination thereof. However, a site must use Oracle to host a connected Workshare collaboration.



Configurations

The configuration possibilities for implementing Workshare are numerous. For example, you can use Workshare to simulate the PDS 2D Task/Master configuration by using the Workshare host as the Task environment and the satellite as the Master. You could then publish drawings for sharing from the host to the satellite. By limiting user access at the satellite site to Read Only for SmartPlant P&ID objects, the satellite becomes an issued drawing database.

You can also use standalone Workshare in a mixed database environment where the host can be using Oracle and the satellite can be using SQL Server, or vice-versa. This configuration is useful when multiple companies using different database standards are working on the same plant.

Workshare can be used in an integrated environment. For more information, see *Using Workshare in an Integrated Environment*, page 232.

Another possible configuration involves using Workshare at the project level within an as-built plant scenario. For more information about using Workshare with projects, see *Using Workshare with Projects: An Overview*, page 233.

Automation

Several of the Workshare commands are available in the SmartPlant P&ID automation layer. For more information about using these Workshare automation commands, see the *SmartPlant P&ID Programmer's Guide*.

- Configuring Workshare: An Overview, page 262
- Create a New Satellite Slot, page 265
- Using Workshare with Projects: An Overview, page 233

Using Workshare in an Integrated Environment

The following rules apply to using the Workshare functionality in an integrated environment.

- You can enable and disable Workshare before or after registering a Greenfield plant.
- You can create satellites and connect to them after registering.
- You cannot register a satellite or a project host.
- You cannot retrieve a WBS document when Workshare is enabled.
- Satellites must transfer drawing ownership back to the host in order for the
 host to publish the drawings and in order for retrieved documents to have
 tasks updated within the satellite drawings.

Using the SmartPlant P&ID SmartPlant Commands Within a Workshare Collaboration

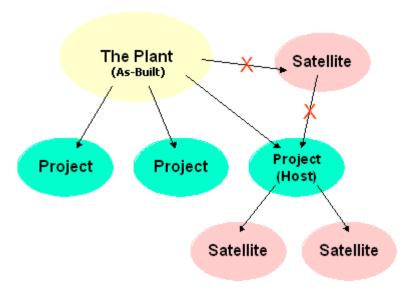
The Workshare host can perform the following actions from within SmartPlant P&ID when registered in an integrated environment. For more information about these commands, see the *SmartPlant P&ID User's Guide*.

- **Publish** Any drawing can be published.
- **Retrieve** Any document can be retrieved.
- **Correlate** Available to review correlations only if the drawing is readonly with respect to Workshare. No other correlation activity is allowed for read-only drawings. If the drawing is owned with respect to the Workshare site, then all correlation activities are available.
- **To Do List** All commands and tasks are available for drawings opened with read-write privileges. For drawings opened in read-only mode, commands that modify a drawing, such as the Run To Do List task, are not available.

- Enable Workshare Command, page 263
- Projects vs. Workshare, page 234
- Register Command, page 301

Using Workshare with Projects: An Overview

Workshare functions the same whether using projects or not. The only difference is that when using projects, only a project can function as a Workshare host. The Plant cannot be a host or a satellite when projects are enabled.



Important

- Connected Workshare is available only for sites using Oracle databases. If your plants and projects are using a SQL Server database, you cannot use connected Workshare.
- Standalone Workshare allows you to mix the type of databases used in a Workshare collaboration.
- When a project is used as a Workshare host, the satellites synchronize their reference data with the Plant reference data.
- When transferring ownership of a drawing to another Workshare site, the
 corresponding versions are not transferred. Only the current version of the
 drawing is transferred.
- New plant groups (plants, areas, units, etc.) cannot be created by satellites hosted by a project.

Using Projects in an Existing Workshare Collaboration

You must discontinue all Workshare collaboration in a plant before you can create projects in the plant. In other words, if the plant structure contains active satellites, the **Enable Projects** command remains unavailable. We recommend completing the following tasks before enabling the plant for projects.

1. Transfer all drawings to the host.

- 2. Delete all satellites.
- 3. Disable the plant for Workshare.
- 4. Enable the plant for projects.
- 5. Create a project to serve as the host.
- 6. Enable the project for Workshare.
- 7. Create satellite slots in the project host.
- 8. Create satellites.
- 9. Check out or fetch drawings at the host, then re-distribute drawings back out to the satellites.

Related Topics

• Projects vs. Workshare, page 234

Projects vs. Workshare

The following comparisons may be useful when making the decision about whether to use projects or Workshare or both.

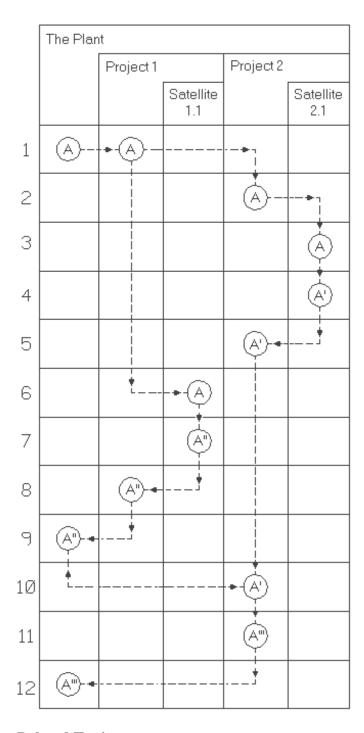
Category	Projects	Workshare
Topology	Each plant can have many projects. Each project belongs to exactly one plant.	Each Workshare host can have many satellites. Each satellite belongs to exactly one host.
Identity	Objects that are transferred between a plant and a project maintain their identity.	Objects that are transferred between a host to a satellite maintain their identity.
Reference Data	One set of reference data is used for a plant and all its projects. Changes can be made only through the Plant. Since all projects use the same reference data as the Plant, all projects immediately see changes to the reference data.	The reference data must be the same for a host and its satellites. Changes can be made only through the host. Changes are propagated to the satellites by means of the synchronize reference data commands in Drawing Manager.
Category	Projects	Workshare

Physical Separation	A plant and all of its projects must exist on the same server and within the same database instance.	Connected Workshare allows data to be distributed to multiple database instances on separate servers that may be remote from the host server. Standalone Workshare allows data to be distributed between separate database types.
Organization	Projects are suited to dividing up work that will be done within a single organization.	Workshare is suitable for dividing up work among multiple organizations.
Work Off- line at a Satellite Site?	No. In a projects/Workshare scenario, claim records are stored in the P&ID schema at the host site. If the database link goes down, claimed items at the satellite site will not recognize the claim status. However, the claim status of newly placed items will be recognized when the database link is re-established.	Yes, in a connected Workshare configuration (without projects), work can continue when the database link goes down. Standalone Workshare does not require any database connections.
When to Use?	When the work to be done must be divided into subsets, but it is all done by the same organization and can use the same server.	When the work to be done must be divided into subsets and assigned to different organizations.
	When an as-built facility model is to be built and the changes to that model need to be managed.	When the subsets of work must be done on servers that are physically separated.
	When a master database is to be used for the approved design and a task database is to be used for the ongoing design work.	

Scenario 1: Compare

The following workflow demonstrates how to compare drawings in a connected Workshare collaboration using projects.

1	Project 1 checks out Drawing A.
	Project 1 assigns ownership of Drawing A to Satellite 1.1.
2	Project 2 fetches Drawing A from Project 1.
3	Project 2 assigns ownership of Drawing A to Satellite 2.1.
4	Satellite 2.1 opens, claims items, and modifies Drawing A.
	Drawing A becomes Drawing A'.
	Satellite 2.1 exits Drawing A'.
5	Satellite 2.1 assigns ownership of Drawing A' to Project 2.
6	Satellite 1.1 opens, claims items, and modifies Drawing A.
	Drawing A becomes Drawing A".
	Satellite 1.1 releases claims and exits Drawing A".
7	Satellite 1.1 assigns ownership of Drawing A" to Project 1.
8	Project 1 checks Drawing A" into the Plant.
9	Project 2 checks out Drawing A" (without replacing Drawing A').
10	Project 2 compares Drawing A" (modified in Project 1) with it's own Drawing A'.
11	Project 2 refreshes Drawing A' with differences from Drawing A".
	Drawing A' becomes Drawing A'".
12	Project 2 checks Drawing A'" in to the Plant.



- Projects Node: An Overview, page 119
- Projects vs. Workshare, page 234
- Working with Projects: An Overview, page 205

Scenario 2: Loops

The following workflow demonstrates using shared items in a connected Workshare collaboration using projects.

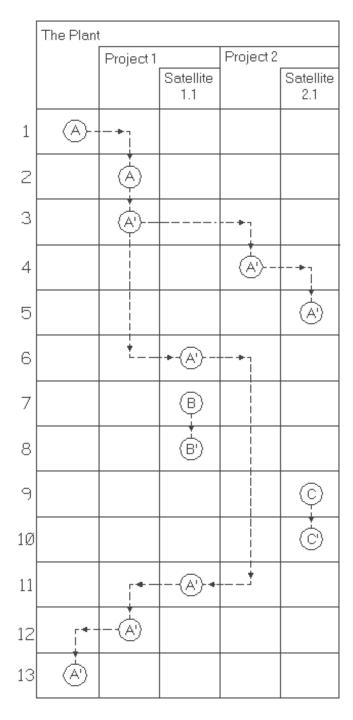
1	The Plant creates Drawing A and places 3 DCS instruments.
2	Project 1 checks out Drawing A and creates the following loops:
	P-100 in the drawing stockpile P-101 in plant stockpile (shared = False)
	P-102 in plant stockpile (shared = True)
	Project 1 verifies via the EDE that there are 3 DCS instruments and 3 loops in the drawing.
3	Project 1 closes Drawing A.
	Drawing A becomes Drawing A'.
4	Project 2 fetches (with read/write permissions) Drawing A' from Project 1.
	Project 2 opens Drawing A' and verifies via the EDE that P-100 is in the drawing stockpile and that there are 3 DCS instruments, then closes Drawing A'.
	Project 2 assigns ownership of Drawing A' to Satellite 2.1 and synchronizes shared items.
5	Satellite 2.1 executes Get Latest Version from Remote command and synchronizes shared items.
	Satellite 2.1 opens Drawing A' and verifies via the EDE that P-100 is in the drawing stockpile and that there are 3 DCS instruments, then closes Drawing A'.
6	Project 1 assigns ownership of Drawing A' to Satellite 1.1 and synchronizes shared items.
	Satellite 1.1 executes Get Latest Version from Remote command and synchronizes shared items.
	Satellite 1.1 opens Drawing A' and verifies via the EDE that P-100 is in the drawing stockpile and that there are 3 DCS instruments, then closes Drawing A'.
7	Satellite 1.1 creates Drawing B and places an instrument. Drawing B becomes Drawing B'.
8	Satellite 1.1 opens Drawing B', verifies via the EDE that the only the P102 loop tag is available for assignment (confirming that synchronizing shared items brought the loop over to the satellite), then closes Drawing B'.
9	Satellite 2.1 creates Drawing C and places an instrument. Drawing C becomes Drawing C'.

10 Satellite 2.1 opens Drawing C', verifies via the EDE that the only the P102 loop tag is available for assignment (confirming that synchronizing shared items brought the loop over to the satellite), then closes Drawing C'. 11 Satellite 1.1 assigns ownership of Drawing A' to Project 1 and synchronizes shared items. **12** Project 1 executes Get Latest Version from Remote command and synchronizes shared items. Project 1 opens Drawing A' and verifies the following via the EDE: P-100 in the drawing stockpile P-101 in plant stockpile (shared = False) P-102 in plant stockpile (shared = True) 3 DCS instruments Project 1 closes Drawing A' and then checks Drawing A' into the Plant.

The Plant opens Drawing A' as read-only and verifies via the EDE that P-100 is

in the drawing stockpile and that there are 3 DCS instruments.

13



- Projects Node: An Overview, page 119
- Projects vs. Workshare, page 234
- Working with Projects: An Overview, page 205

Scenario 3: OPCs

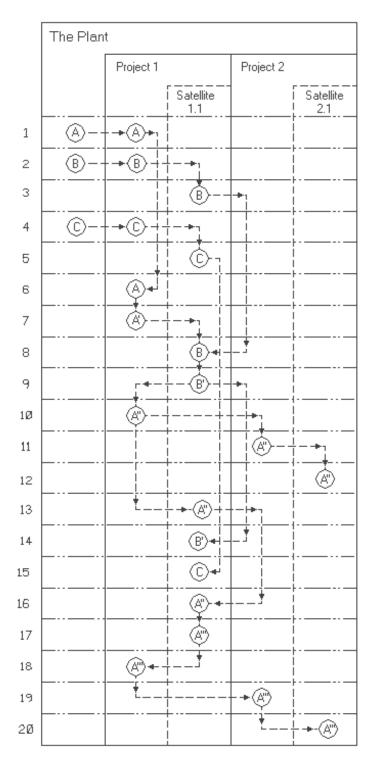
The following workflow demonstrates handling OPCs in a connected Workshare collaboration using projects.

1	Project 1 checks out Drawing A from the Plant.
2	Project 1 checks out Drawing B from the Plant.
3	Project 1 assigns ownership of Drawing B to Satellite 1.1.
4	Project 1 checks out Drawing C from the Plant.
5	Project 1 assigns ownership of Drawing C to Satellite 1.1.
6	Project 1 opens Drawing A, places OPC-100, sends the partner OPC-100 to Drawing B, and closes the drawing.
	Drawing A becomes Drawing A'.
7	Project 1 synchronizes shared items with Satellite 1.1.
8	Satellite 1.1 synchronizes shared items.
9	Satellite 1.1 opens Drawing B, places partner OPC-100 from the drawing stockpile, and closes the drawing.
10	Project 1 synchronizes shared items with Satellite 1.1, then opens Drawing A' and verifies that "to drawing" name in the OPC label is updated with information from Drawing B.
	Drawing A' becomes Drawing A".
11	Project 2 fetches Drawing A" and assigns subscription access to Satellite 2.1.
12	Satellite 2.1 opens drawing A" and verifies that the OPC label is updated with information from Drawing B, then closes Drawing A".
13	Project 1 assigns ownership of Drawing A" to Satellite 1.1 and synchronizes shared items.
	Satellite 1.1 gets latest version of Drawing A" and synchronizes shared items.
	Satellite 1.1 opens Drawing A" and verifies that the "to drawing" name of OPC-100 is updated, then closes Drawing A".
14	Satellite 1.1 opens Drawing B, deletes OPC-100 to the Plant stockpile, then closes the drawing.
15	Satellite 1.1 opens Drawing C, places OPC-100 from the Plant stockpile, then closes the drawing.
16	Satellite 1.1 assigns ownership of Drawing A" to Project 1 and synchronizes shared items.

17	Project 1 gets latest version from remote and synchronizes shared items.
	Drawing A" becomes Drawing A".
18	Project 1 opens Drawing A'' and verifies that the graphical label in OPC-100 contains the correct information and that the data relating to OPC-100 and its partner is correct in the EDE, then closes the drawing.
19	Project 2 fetches Drawing A'" from Project 1.
	Project 2 opens Drawing A'' and verifies that the graphical label in OPC-100 contains the correct information and that the data relating to OPC-100 and its partner is correct in the EDE, then closes the drawing.
	Project 2 publishes and assigns subscription access for Drawing A'' to Satellite 2.1, then synchronizes shared items.
20	Satellite 2.1 gets latest version, subscribes to the updated Drawing A'', and synchronizes shared items.
	Satellite 2.1 opens Drawing A'' and verifies that the graphical label in OPC-100 contains the correct information and that the data relating to OPC-100 and its partner is correct in the EDE, then closes the drawing.

Note

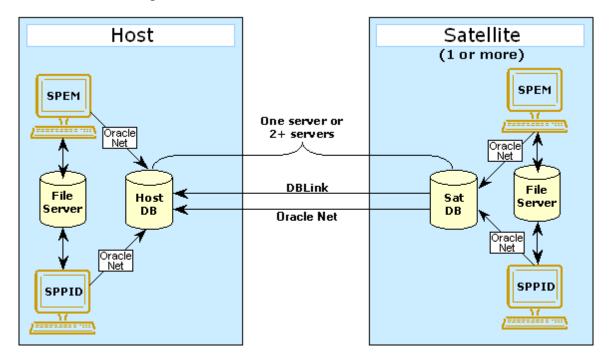
• In a standalone Workshare collaboration, the satellite site needs only to be given subscribe access to a drawing in order to access items (for example, OPCs) in the Plant stockpile.



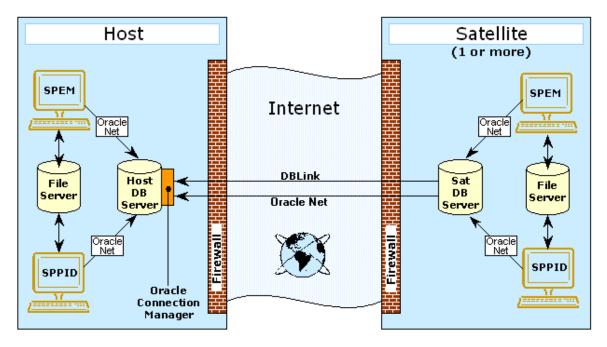
- Projects Node: An Overview, page 119
- Projects vs. Workshare, page 234
- Working with Projects: An Overview, page 205

Networking for Connected Workshare: An Overview

All connected Workshare collaborations require a live network connection to the host. To use connected Workshare over the network, you need to set up an Oracle Net Services environment where an Oracle database link can be established. The diagram below describes one possible intranet Workshare collaboration.



This environment can exist behind a firewall or, if you need to cross a firewall, it can exist by using a Demilitarized Zone (DMZ) at each site or by setting up a Virtual Private Network (VPN) tunnel to each site. Both of these options require that the IP addresses and port numbers remain static, unless you use Oracle's Connection Manager.



Ultimately, the decision about how to establish the networking and database environments must be made on a case-by-case decision based on the purpose of the connected Workshare collaboration, the security needs of the companies involved, and the expertise of the networking personnel.

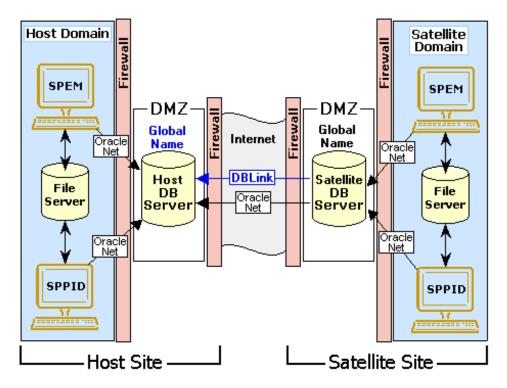
The following sections discuss using a DMZ vs. a VPN and provide sample configuration diagrams.

Collaborating through Firewalls

The following sections discuss the available networking technologies for establishing a connected Workshare collaboration in a firewall environment using either a Demilitarized Zone (DMZ) or Virtual Private Network (VPN) solution. Most corporate network firewalls have the ability to create a DMZ environment. A VPN solution can be implemented using Microsoft Windows® 2000 Server and is delivered with Windows 2000; however, there are other hardware- and software-based VPN solutions. Regardless of which firewall environment you configure, SmartPlant Engineering Manager and SmartPlant P&ID use Oracle Net connections to communicate with Oracle databases.

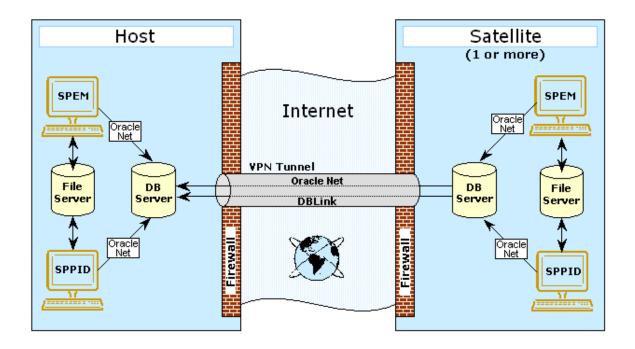
Demilitarized Zone (DMZ)

A DMZ places certain ports on your database server outside the firewall to allow communication over the Internet with other sites. When using a DMZ network implementation, the servers placed outside the firewall can be locked down so that only a single IP address and one port for Oracle communication (port 1521) is allowed to communicate across the Internet to transfer data between the Oracle databases at the host and satellite sites. Communication between the host and satellite sites transfers data only between each other. With the proper firewall rules established, no other IP addresses are allowed on the connection.



Virtual Private Network (VPN)

A VPN can be used to enhance your data protection between sites by using packet encryption to further protect information as it is sent from and received at your network. A VPN can be set up using several different encapsulating protocols (for example, IPSec, L2TP, PPTP, or L2F) that wrap a protective encrypted packet around the data during the transfer between the host and satellite sites. In essence, this creates a virtual Local Area Network (LAN) between the host and satellite locations. Each computer participating in the VPN can be isolated so that no other computers on your corporate LAN are visible to the opposite site.



DMZ vs. VPN

The following questions should be considered before determining which networking environment you will use for creating and maintaining a database link between sites.

Will the SmartPlant P&ID connected Workshare collaboration need share-level access to update or synchronize plant and reference data files?

- If share-level access is used to update or synchronize plant and reference data for a company-internal plant between two or more company locations, then a corporate WAN connection for this process is recommended.
- If the connected Workshare collaboration is between different companies, a DMZ environment is a better solution. If a DMZ solution is used, performing a manual update of the plant and reference data will be required as share-level access in a DMZ environment is not recommended.

What are the corporate firewall policies for customers or vendors that need access to data inside your corporate LAN?

 If customer or vendor access is not a possible solution for access to data inside your corporate firewall, a DMZ environment is the recommended solution.

What if I have a secure VPN established between my location and the satellite location for a connected Workshare collaboration?

• If this environment is available, then we recommend share-level access for project and reference data updates and synchronization.

What ports need to be open for database access in a DMZ environment?

- Port 1521 needs to be opened between the database servers at each location if the databases are using USE_SHARED_SOCKET to lock Oracle into using the single port for operation.
- If USE_SHARED_SOCKET is not used, then all ports between the two
 locations must be open because Oracle uses random ports to communicate
 after the initial connection.
- If both locations use Oracle Enterprise Edition, you can use Connection Manager to handle port connection between the databases at each location.

Isolating Network Clients in a DMZ Environment

All SmartPlant P&ID clients inside the LAN that must access the database server in the DMZ can be isolated on their own sub-network (subnet). Doing this restricts their connections so that they can communicate only with other SmartPlant P&ID clients, the SmartPlant P&ID file server, the SmartPlant Engineering Manager Server, and the Oracle database being used for the project.

To allow access rights on SmartPlant Engineering Manager and file servers if a domain controller is not available, you need to establish a workgroup with local user accounts on the isolated subnet on the LAN.

Subnet Addressing

Two computers belonging to the same subnet do not require an external server (such as DNS or Gateways) to exchange data. This example demonstrates how to determine which IP addresses are considered in your subnet and which ones will not pass through the gateway.

Subnet masks work bitwise and by using a mask.

For example, the following three computers have the following assigned IP addresses:

A: 192.168.1.1 **B**: 192.168.0.127 **C**: 192.168.3.1

If **A**'s subnet is set to 255.255.254.0, then **B** is part of **A**'s sub-network.

Sub-network:

```
192.168.1.1 and 255.255.254.0 = 192.168.0.0 192.168.0.127 and 255.255.254.0 = 192.168.0.0
```

Because both **A** and **B** addresses are the same bitwise after using the subnet mask, both **A** and **B** are considered on the same subnet.

However, **C** is not part of the same sub-network:

192.168.3.1 and 255.255.254.0 = 192.168.2.0

Using a Router to Segment Computers

LAN segments can be interconnected by routers to enable communication between LANs. Routers allow blocking of other types of traffic while also implementing broadcast filters and logical firewalls.

Routers offer the following benefits in LAN segmentation:

Media Transition- Routers are used to connect networks of different media types, taking care of the Layer 3 address translations and fragmentation requirements.

Packet Filtering - Routers can filter packets either inbound or outbound between LAN segments or LAN and WAN segments.

VLAN Communications- Routers remain vital for switched architectures configured as logically defined virtual workgroups (VLANs) because they provide the communication between VLANs.

Using a Switch to Segment Computers

Switches are data link layer devices that enable multiple physical LAN segments to be interconnected into a single larger network. Switches forward and flood traffic based on MAC addresses and are significantly faster because switching is performed in hardware instead of in software. Switches use either store-and-forward switching or cut-through switching when forwarding traffic.

Segmenting shared-media LANs divides the users into two or more separate LAN segments, reducing the number of users contending for bandwidth.

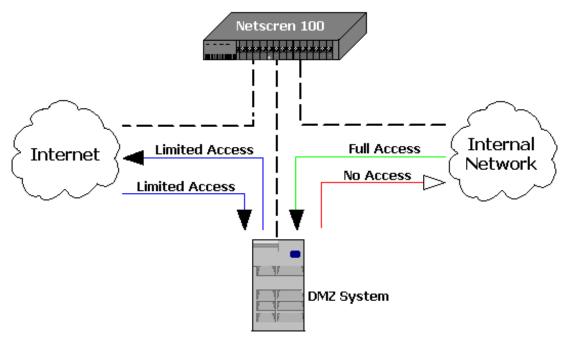
Switches have the intelligence to monitor traffic and compile address tables, which then allows them to forward packets directly to specific ports in the LAN. Switches also usually provide non-blocking service, which allows multiple conversations (traffic between two ports) to occur simultaneously.

LAN switches can be used to segment networks into logically defined virtual workgroups (VLANs). This logical segmentation, commonly referred to as VLAN communication, offers a fundamental change in how LANs are designed, administered, and managed. Logical segmentation provides substantial benefits in LAN administration, security, and management of network broadcast across the enterprise.

Sample DMZ Environment Configurations

The following general items should be considered when establishing a DMZ configuration.

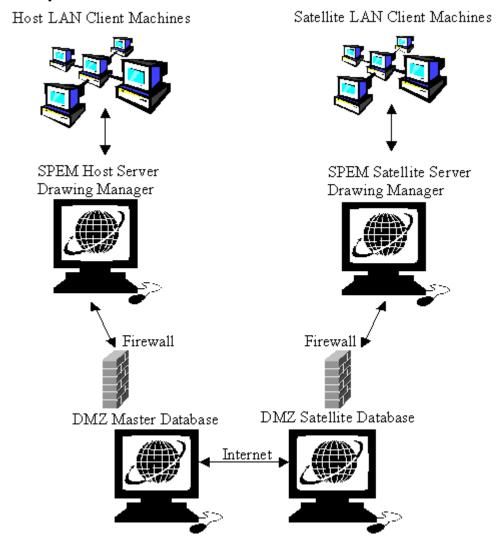
- Use a single network-ready computer with only one assigned IP address.
 No other networking connection should be allowed to a DMZ system (no backdoors).
- Install and maintain virus scanning software on the NIC system.
- Load and maintain all current operating system security patches.
- Load and maintain all current application security patches.
- Limit access from the Internet node (for example, a satellite site) to allow only the functions needed for Workshare. For example, telnet access is not needed for a system whose function is to be a host database server.
- Grant full access from internal networks to the computer in the DMZ.
- Limit access from the computer in the DMZ to the Internet to allow only those functions needed for Workshare.
- Block access from the computer in the DMZ to internal networks. Only for special cases should holes be made to allow access from a DMZ to an internal system (for example, SQL authorization from a web server in the DMZ to an internal domain controller).



In the configuration below, SmartPlant Engineering Manager and Drawing Manager reside inside the LAN behind the firewall to allow domain users and groups to be added to the Roles section in SmartPlant Engineering Manager. This configuration allows domain users to authenticate against the local domain. The DMZ firewall rules need to be set up for the SmartPlant Engineering Manager server on the LAN to allow access to the satellite database and the host database via an Oracle alias for the satellite database. At the satellite site, a database link needs to be created and pointed to the database at the host. This link allows the satellite database to connect to the host database and subscribe to a satellite slot.

! Important

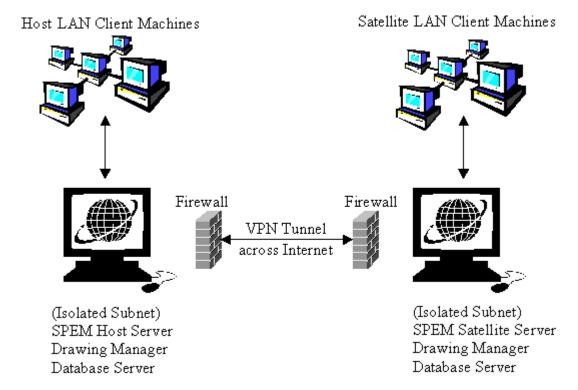
• The only communication between the host and the satellite databases is through the database link. There is no need to create a database alias from any satellite clients to the host.



Sample VPN Environment Configuration

In the sample VPN configuration below, the database, SmartPlant Engineering Manager, and Drawing Manager reside behind the firewall. A secure and encrypted tunnel is established between the host site and the satellite location. The database servers at both sites can be isolated on their own subnet at each location with rules applied to each firewall so that only these computers are visible in the VPN. This way, no other computer on a site's LAN is accessible.

The server containing SmartPlant Engineering Manager, Drawing Manager, and the database resides in an isolated subnet separate from the SmartPlant P&ID computers. Only the isolated subnet at each site is visible to the other site. The visible computers between locations and firewall rules for the connection are defined in the VPN.



Configuring Oracle for Connected Workshare: An Overview

If you have not already installed Oracle, use the instructions found in the *SmartPlant P&ID Installation and Upgrade Guide* to install and configure your database, then complete the following steps to configure your Oracle database for Workshare.

- 1. Create a global name for your database, if it was not created during database installation. For more information, see *Enable Oracle Global Naming*, page 254.
- 2. Add a USE_SHARED_SOCKET registry key to HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\HOME0 to lock Oracle into using a single port. This key tells Oracle to use port 1521 for all Oracle communications to and from the database in the DMZ or VPN environment instead of using random ports after the initial communication connection (that is, the first time the database link is connected). For more information, see *Lock Oracle into Using a Static Port*, page 254.
- 3. Create the database link from the satellite database server to the host database server. For more information, see *Create the Database Link*, page 257.

Enabling Oracle Global Naming: An Overview

Before you can create a database link, you must define the Oracle global database name **global_name** parameter at the host and at each satellite database site. The global database name is the full name of the database and uniquely identifies it from any other database.

The global database name is in the form <code>database_name.database_domain</code>, where <code>database_name</code> is the database name, and the <code>database_domain</code> is the fully qualified domain name where the database is located. For example, if the <code>database_domain</code> is myserver.b30.ingr.com and <code>myserver</code> has a database named hostbeta, then the <code>global_name</code> parameter should be set to hostbeta.myserver.b30.ingr.com.

Important

The global database name should have been defined during database installation and configuration. To verify that the global database name is properly defined, be sure the global_name and db_domain parameters are set properly. To determine the current global database name, run the following SQL statement:

select * from global_name;

Enable Oracle Global Naming

 Run SQL Plus Worksheet to connect to the database and then run the SQL statement:

```
ALTER DATABASE RENAME global_name TO database_name.database_domain;
```

- 2. Set the **db_domain** parameter to match the *database_domain* above. You can run DBA_Studio to do this.
- 3. Set the **global_name** parameter to be **TRUE**.



 The global_name parameter for ALL databases used in the connected Workshare process must be set to TRUE.

Locking Oracle into Using a Static Port: An Overview

To lock Oracle into using a single port for operation, add a **USE_SHARED_SOCKET** key to the Registry as described in the steps below. This key tells Oracle to use port 1521 instead of using random ports after the initial communication connection (that is, the first time the database link is connected).

! Important

- You do not need to create this key if you are using Workshare within a single network domain (LAN) because you will not have a port availability problem.
- You must add this **USE_SHARED_SOCKET** key to the Registry on the Oracle server and on each Oracle client computer.

Lock Oracle into Using a Static Port

- Click Start > Run, type regedit, and then browse to the KEY_LOCAL_MACHINE\SOFTWARE\ORACLE\HOME0 registry location.
- 2. Select the **HOMEO** folder, and then right-click and select **New > String Value**.



! Important

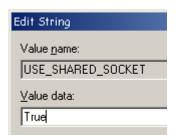
- If you have more than one Oracle instance, you may have multiple Oracle HOMES. In this case, be sure to select the HOME<#> folder that corresponds to the database instance being used for Workshare.
- 3. Type **USE_SHARED_SOCKET** for the name of the new string value.



4. Select the new string variable, right-click and select **Modify**.



5. On the **Edit String** dialog box, type **True** in the **Value data** field and then click **OK**.



Understanding the Database Link: An Overview

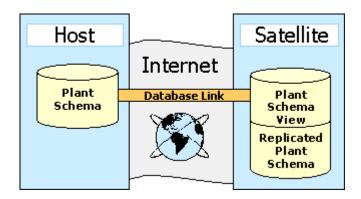
The database link is a network object stored in the local database that identifies a remote database, a communication path to that database, and optionally, a user name and password. Once defined, the database link is used to access the remote database and is vital to a successful connected Workshare collaboration.

Note

• Configuring a database link is not necessary for a standalone Workshare collaboration.

Plant Schema

The database link allows each satellite to view all plant data in the plant schema. When you are at a satellite and are viewing the plant schema over an active database link, you are actually viewing the database at the host site. This plant schema, containing the data available at the time of the last reference data synchronization, is replicated at each satellite, to be used by the satellite in the event the database link is not active.



The SmartPlant P&ID Modeler always uses the local replication plant schema, even when the database link is up. All other SmartPlant P&ID applications use the host plant schema when the link is up.

Drawing Manager dynamically changes both the host and replication schemas when adding new drawings. All drawing-level changes are reflected in both schemas when the change is made at the satellite, allowing the SmartPlant P&ID Modeler environment to be aware of new drawings created locally without having to synchronize reference data.

Drawing Transfer

The transfer of published drawings takes place automatically over the database link, rather than your having to manually bundle and transmit the data to the satellites.

Reference Data Synchronization

The reference data consists of data in the file system and data in the plant and P&ID schemas. Because only the Workshare host has permission to modify the reference data, the updated reference data must be shared with all satellites whenever the reference data is modified. Satellites cannot publish drawings or get the latest version of drawings until the satellite site reference data is in sync with the host.

The file system reference data (rules file, symbol files, format files, and so forth) must be transmitted manually to satellite sites no matter the mode of Workshare collaboration. However, in a connected Workshare collaboration, the database portion (plant and application schemas) of the reference data is synchronized via the database link.

Shared Items Synchronization

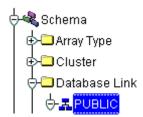
Shared items are defined as OPCs, utility connectors, shared instrument loops, and package systems. These items are referred to as "shared items" since they are designed to intelligently cross drawing boundaries. If one or more of these items crosses the boundary from one drawing to another drawing at another connected Workshare site, the **Synchronize Shared Items** command uses the database link to maintain data for the shared items at each site.

Create the Database Link

- 1. On the host database server, use Oracle Net Manager to create a net service name for the host database (for example, set the name to **master**).
- 2. On the satellite database server, use Net Manager to create a net service name for both the satellite database and the host database.

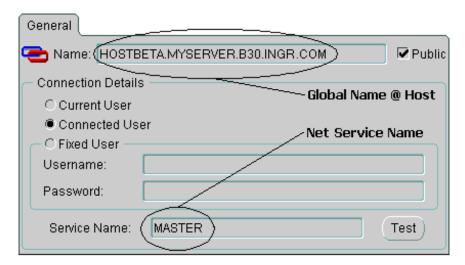
• Important

- The net service name at the satellite site must match the net service name at the host site.
- The database server at the host or satellite site usually has two IP addresses, one for internal and the other for external use. The database server (either the host or the satellite) should open to the IP addresses of the database servers of the other sites.
- 3. At the satellite database site, run DBA_Studio in standalone mode and select the net service name for the satellite site. Log in with the system/manager login/password combination.
- 4. Under the **Schema > Database Link** node, select the appropriate schema node, right-click and select **Create**.



Note

- In Oracle 9i, the **Database Link** node is located under the **Distributed** node rather than the **Schema** node.
- 5. In the **Name** field, type the global name of the host database server (for example, **hostbeta.myserver.b30.ingr.com**). The name of the database link must be the same as the global name of the host database server.



- 6. Select the **Public** option.
- 7. In the **Connection Details** box, select the **Connected User** option.

! Important

- The database link should be created with the Connected User option. Defined in this manner, the database link user does not automatically inherit DBA privileges, but rather the database link user privileges are determined at runtime when the link is accessed by the connected user. If the connected user has credentials at the destination of the link, then those credentials determine what actions are possible via the database link with respect to the destination or remote database.
- Another option is to create a special user with system Create
 Database Link privileges and then use this special user to create the
 database link. However, when the database link is defined with the
 Connected User option, the application will have the same privileges
 as if the database link was created using a system account.
- 8. In the **Service Name** field, type the net service name created above (for example, **master**).
- 9. Click the **Test** button to verify that the database link is active.

If testing the database link fails using DBA_Studio, you can test the database link in either SVRMGRL or SQLPLUS using the following steps.

- 1. Log in as scott/tiger at the satellite site.
- 2. Run the following SQL statement:
 Select * from dual@<dblinkname>
- 3. One row of data is returned if the database link is active.

Note

• If the scott/tiger account does not exist with only connect privileges, run the following SQL statements in SVRMGRL. If no row is found, the database link is not set up properly.

Create user scott identified by tiger default tablespace users temporary tablespace temp;
Grant connect to scott;

Breaking the Database Link: The Significance

If the database link is unavailable, the connected Workshare collaboration can continue, but is not recommended. If you do proceed with the connected Workshare collaboration while the database link is down, the following limitations apply.

Projects

At connected project satellites, all claim operations (claim and unclaim) are persisted at the host and the local satellite database in case the database link is disconnected. While the database link is down, the local claim information is used and all items that were previously claimed are still known to be claimed. As new items are created, they are automatically claimed and this information is stored locally. Pre-existing items cannot be claimed or unclaimed. In other words, the claim state of pre-existing items is frozen.

When the database link is re-established, the local claim information is automatically synchronized with the host claim information and all claim operations are allowed. This automatic synchronization occurs during the first SmartPlant P&ID session initiated after the database link is restored.

Plant Schema

The SmartPlant P&ID Modeler always uses the local replication plant schema, even when the database link is up. All other SmartPlant P&ID applications use the host plant schema when the link is up.

Drawing Manager dynamically changes both the host and replication schemas when adding new drawings. All drawing-level changes are reflected in both schemas when the change is made at the satellite, allowing the SmartPlant P&ID Modeler environment to be aware of new drawings created locally without having to synchronize reference data.

Drawing Creation

New drawings cannot be created when the database link is down because drawing name and number uniqueness must be checked against the host schema.

When the database link is down, we recommend not using Drawing Manager to open drawing files since Drawing Manager still attempts to use the database link. Instead, run the SmartPlant P&ID directly and use the **File > Open** command to open a drawing when the database link is down.

Drawing Transfer

Publishing drawings, giving ownership or subscribe access, taking ownership, and subscribing activities are not available when the database link is inactive.

OPC Placement

When the database link is inactive, you can place OPCs in drawings at your site, but you cannot assign the mates to drawings located in other sites. For example, when you place an OPC on your drawing when the database link is down, the mate OPC is assigned to the local plant stockpile. When the database link is reactivated, you can then move the mates to the drawing stockpiles at other sites.

Reference Data Synchronization

The reference data cannot be synchronized when the database link is inactive.

The satellite can add, modify, and delete the contents of drawings that they owned at the time the reference data was last synchronized with the host. The satellite cannot, however, delete or rename such drawings until the database link is re-established. Therefore, reference data should be synchronized on a regular/frequent basis.

Shared Items Synchronization

Shared items cannot be synchronized when the database link is inactive.

Local Model Item Lookup Table Utility

Use the LocalModelItemLookupTable.sql utility if your connected Workshare satellite experiences performance problems when transferring piping data from SmartPlant P&ID to PDS. This script converts a satellite database view (namely, the T_ModelItemLookup) that references a host table into a local table, allowing the data transfer to proceed without using a database link.

SmartPlant P&ID uses the database link to fetch unique Long IDs from the Host when running from a connected Workshare satellite. If the performance of opening the PID file in PDS is an issue or if maintaining the correlation between SmartPlant P&ID and PDS after the merge is not an issue, then you can run this script to change the lookup for the Long ID from a view to the host to a local query.

This utility is delivered as an SQL script to the C:\Program Files\SmartPlant\P&ID Workstation\Program folder and can be executed using any Oracle user interface, such as SQLPlus.

• Important

• Do not use this script if the transferred PDS data will be merged back into a host PDS database because the Long IDs will not be unique at the host.

For more information about transferring piping data, see the *SmartPlant P&ID to PDS Piping Data Transfer Configuration and Reference Guide*.

Configuring Workshare: An Overview

Whether you are using connected or standalone Workshare, you must complete the following tasks at the host and satellite sites.

- 1. Enable the host site for Workshare.
- 2. Create satellite slots at the host site.
- 3. Configure the satellite site.
- 4. Subscribe to a satellite slot from the satellite site.

! Important

• If you are using connected Workshare, you must configure your network and establish a database link before configuring the host and satellite sites.

Related Topics

- Configuring Oracle for Connected Workshare: An Overview, page 253
- Create a New Satellite Slot, page 265
- Create the Database Link, page 257
- Enable Workshare, page 265
- Subscribe to a Satellite Slot, page 276

Configuring the Host Site: An Overview

Configuring the host site for Workshare involves the following activities.

- 1. Enabling the plant structure for Workshare
- 2. Creating satellite slots.
- 3. Manually transmitting the Workshare password, the satellite template (.sat) file, and reference data, if it has been modified, to the satellite sites via e-mail, network share, CD, or other means.

Important

• Prior to enabling Workshare, you must have already created a site and plant structure, associated the SmartPlant P&ID application with the plant structure, and defined user access rights for the SmartPlant P&ID application. See the SmartPlant Engineering Manager User's Guide or online Help for information about how to complete these tasks.

- Associate Applications Wizard, page 105
- Create a New Satellite Slot, page 265
- Creating a Plant Structure Wizard, page 63
- Creating a Site Server Wizard, page 43
- Enable Workshare, page 265

Enabling Workshare: An Overview

Before you can share data between the host and satellite sites, you must use SmartPlant Engineering Manager to activate Workshare at the host site for each plant structure that you plan to share.

When you enable Workshare, you are asked to select the publishing method to be used between the host and the satellite for the selected plant structure. Each plant structure can use either the database publishing or the file sharing method.

After Workshare is enabled for the selected plant structure, the **Satellites** node is added to the plant structure node.

! Important

• You must have SmartPlant P&ID associated with your plant before you can access the **Enable Workshare** command.

Enable Workshare Command

Workshare > Enable Workshare

Allows you to enable Workshare for the plant structure or project using the **Enable Workshare** dialog box. The **Enable Workshare** command is disabled unless you have SmartPlant P&ID associated with your plant and you have selected a plant structure in the **Plant Structures** node.

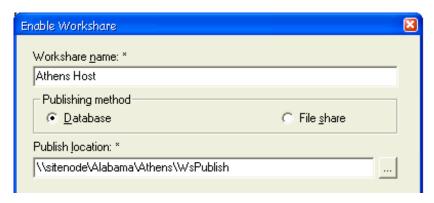
For information about enabling Workshare while using projects, see *Using Workshare with Projects: An Overview*, page 233.

For information about enabling Workshare while working in an integrated environment, see *Using Workshare in an Integrated Environment*, page 232.

- Enable Workshare, page 265
- Using Workshare with Projects: An Overview, page 233

Enable Workshare Dialog Box

Allows you to activate Workshare for the plant structure.



Workshare name - Type a name for the plant being enabled for Workshare. This name will be seen by the satellite site/location.

Publishing method - Select the publishing method to be used to share data contained in the plant.

- **Database** (Recommended) Published files are stored in the database as Oracle blobs at the host. Oracle database links are used to transfer published files between host and satellites.
- **File share** Published files are stored on a file share at either the host or satellite site.

Publish location - Type a UNC path to the shared location on the host site where the published drawings are to be stored. The default location is the **WsPublish** folder in the plant folder. This field is limited to 255 characters.

Notes

- Names cannot start with a numeric digit and cannot contain any of the following characters: < , > ? \ / '; { } [] ~ `! % * () | " :
- Location paths cannot contain any of the following characters: < , > ? / ';
 { } [] ~ `! % * () : | "

- Breaking the Database Link: The Significance, page 259
- Enable Workshare, page 265

Enable Workshare

1. Select the plant structure in which you want to create a Workshare collaboration.



- 2. Right-click and select the **Enable Workshare** command.
- 3. Enter the requested information on the **Enable Workshare** dialog box.

Note

• You must enable each plant structure for Workshare separately.

Related Topics

- Configuring the Host Site: An Overview, page 262
- Enabling Workshare: An Overview, page 263

Creating Satellite Slots: An Overview

After enabling Workshare, the host site must create a satellite slot to which the satellite site can subscribe. Satellite slots appear in the **Satellites** node inside the plant structure in the **List** view.

Related Topics

• New Satellite Slot Wizard, page 266

Create a New Satellite Slot

- 1. Select the **Satellites** node in the plant structure in which you want to create a satellite slot.
- 2. Click **File > New**.
- 3. Follow the prompts in the **New Satellite Slot** wizard.
- 4. Send the Workshare password, the satellite template (.sat) file, and reference data, if it has been modified, to the satellite sites via e-mail, file sharing, floppy disk, CD, or other means.

Note

• If the **Satellites** node does not appear in the plant structure node, you must enable the plant for Workshare before you can create a satellite slot.

Related Topics

• Enable Workshare, page 265

New Satellite Slot Wizard

Steps you through creating satellite slots in the host plant. You must enable the plant structure for Workshare before you can create a satellite slot.

To start the wizard, select the **Satellites** node in the plant structure in which you want to create a satellite slot, right-click and select **New Satellite**.

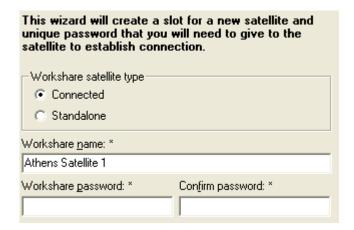


Related Topics

• Enable Workshare, page 265

New Satellite Slot Wizard - Type and Name

Allows you to define the unique name and password for the satellite slot. The password is used as a key of sorts so that only the correct remote site can connect to the satellite slot at the master plant structure. An asterisk (*) means a value is required for that box.



Workshare satellite type - Select the type of Workshare collaboration for this new satellite slot.

Connected - Specifies that this satellite slot will use a database link and will collaborate through an Oracle database.

Standalone - Specifies that this satellite slot will not collaborate through a database. This type of Workshare collaboration allows the host and satellite to use different databases locally.

Workshare name - Use the default name provided or type a name for this satellite slot. This name is used as the name of the slot in the **Satellites** node and must be unique per satellite slot. This name cannot start with a numeric digit and cannot contain any of the following characters: <, >? \/'; { } [] ~ `! % * () | ":

Workshare password - Type a password for the satellite slot. The password is case-sensitive. This password will be needed by the user at the remote site who will be connecting to this satellite slot, and can be changed later, if necessary.

Confirm password - Re-type the password.

Caution

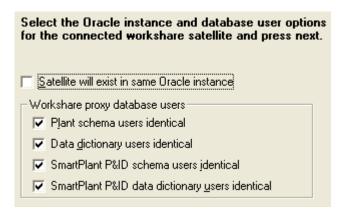
• Be sure to make a note of this password because there is no way to retrieve it if you forget it. You must delete and re-create the satellite slot if you forget the password that you set here.

Related Topics

• Change Password (Workshare) Command, page 295

New Satellite Slot Wizard - Connected Workshare

Allows you to specify combinations of users for a connected Workshare satellite slot. These database users can be the same as or different from the users at the host plant structure or any combination thereof.



Satellite will exist in the same Oracle instance - Select this option if you want the satellite users to exist in the same Oracle instance as the host plant structure. This option is usually used only when Workshare is implemented internally and not across different geographic locations. In this situation, the host and satellite sites will reside in the same database instance. The individual user options below are disabled when this option is selected because the satellite slot user names cannot be identical to the host user names in the same Oracle instance. When this option is selected, you are prompted to define the satellite user names (proxy user names) on subsequent pages in this wizard.

Plant schema users identical - Select this option if you want to use the same users for the satellite schema that are used for the host plant schema.

Data dictionary users identical - Select this option if you want to use the same users for the satellite data dictionary that are used for the host plant data dictionary.

SmartPlant P&ID schema users identical - Select this option if you want to use the same users for the satellite SmartPlant P&ID schema that are used for the host plant SmartPlant P&ID schema.

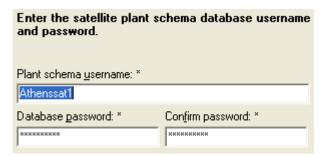
SmartPlant P&ID data dictionary users identical - Select this option if you want to use the same users for the satellite SmartPlant P&ID data dictionary that are used for the host plant SmartPlant P&ID data dictionary.

Related Topics

• Change Password (Workshare) Command, page 295

New Satellite Slot Wizard - Plant Schema

Allows you to define the plant schema user name for the satellite. This page does not display if the **Plant schema users identical** option is selected on the **Location** page. An asterisk (*) means a value is required for that box.



Plant schema username - Type the user name you want to use for the satellite plant schema.

Database password - Type the password for the satellite plant schema.

Confirm password - Re-type the password for the satellite plant schema.



Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

New Satellite Slot Wizard - Plant Data Dictionary

Allows you to define the plant data dictionary user name for the satellite. This page does not display if the **Data dictionary users identical** option is selected on the **Location** page. An asterisk (*) means a value is required for that box.



Plant data dictionary username - Type the user name you want to use for the satellite plant data dictionary.

Database password - Type the password for the satellite plant data dictionary.

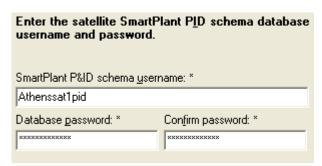
Confirm password - Re-type the password for the satellite plant data dictionary.



Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

New Satellite Slot Wizard - SmartPlant P&ID Schema

Allows you to define the SmartPlant P&ID schema user name for the satellite. This page does not display if the **SmartPlant P&ID schema users identical** option is selected on the **Location** page. An asterisk (*) means a value is required for that box.



SmartPlant P&ID schema username - Type the user name you want to use for the satellite SmartPlant P&ID schema.

Database password - Type the password for the satellite SmartPlant P&ID schema.

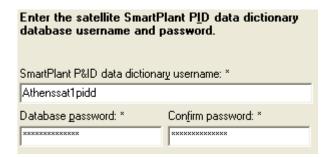
Confirm password - Re-type the password for the satellite SmartPlant P&ID schema.



Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

New Satellite Slot Wizard - SmartPlant P&ID Data Dictionary

Allows you to define the SmartPlant P&ID data dictionary user name for the satellite. This page does not display if the **SmartPlant P&ID data dictionary users identical** option is selected on the **Location** page. An asterisk (*) means a value is required for that box.



SmartPlant P&ID data dictionary username - Type the user name you want to use for the satellite SmartPlant P&ID data dictionary.

Database password - Type the password for the satellite SmartPlant P&ID data dictionary.

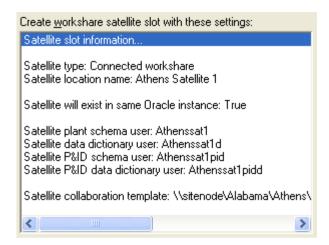
Confirm password - Re-type the password for the satellite SmartPlant P&ID data dictionary.



Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

New Satellite Slot Wizard - Finish

Displays all the settings that you have defined to create the new satellite slot. Review these settings carefully. If you are satisfied with the settings, click **Finish**. Otherwise, click **Back** to change one or more of the settings.



! Important

• After creating the satellite slot, send the Workshare password, the satellite template (.sat) file, and reference data, if it has been modified, to the satellite sites via e-mail, file sharing, floppy disk, CD, or other means.

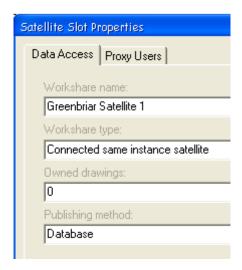
- Change Password (Workshare) Command, page 295
- Creating Satellite Templates: An Overview, page 297
- New Satellite Slot Wizard Type and Name, page 266

Satellite Slot Properties Dialog Box

Allows you to view the properties for the selected satellite slot. The tabs, and the options on those tabs, displayed differ depending on the Workshare mode and use status for each satellite slot.

Data Access Tab (Satellite Slot Properties Dialog Box)

Displays the data access information for the satellite slot. This tab displays only when a connected satellite site is using the slot.



Workshare name - Displays the name of the satellite slot. You cannot change the satellite slot name after the satellite slot has been created.

Workshare type - Displays the type of Workshare mode for the satellite slot.

Owned drawings - Displays the number of drawings currently owned by the satellite connected to this slot.

Publishing method - Displays the type of publishing used for the satellite slot.

- Breaking the Database Link: The Significance, page 259
- New Satellite Slot Wizard Type and Name, page 266

Proxy Users Tab (Satellite Slot Properties Dialog Box)

Displays the user names defined for the satellite proxy users. This tab displays only when a connected satellite site is using the slot.



Plant schema username - Displays the user name defined for access to the plant schema.

Plant data dictionary username - Displays the user name defined for access to the plant data dictionary.

SmartPlant P&ID schema username - Displays the user name defined for access to the SmartPlant P&ID schema.

SmartPlant P&ID data dictionary username - Displays the user name defined for access to the SmartPlant P&ID data dictionary.

- New Satellite Slot Wizard, page 266
- Recreate Proxy Users, page 297
- Recreating Proxy Users: An Overview, page 296

Standalone Slot Properties Tab (Satellite Slot Properties Dialog Box)

Displays the data access information for the satellite slot. This tab displays only for standalone satellite slots.



Workshare name - Displays the name of the satellite slot. You cannot change the satellite slot name after the satellite slot has been created.

Workshare type - Displays the type of collaboration this satellite slot allows.

Owned drawings - Displays the number of drawings currently owned by the satellite.

Configuring a Satellite Site: An Overview

Configuring the satellite site for Workshare involves the following activities.

- 1. At each satellite site, subscribe to a satellite slot at the host site by creating a new Workshare collaboration. The host site must provide you with the Workshare password and the satellite template file for the satellite slot to which you are subscribing.
- 2. Define user access rights. You must grant at least **Modify Settings** access rights in the **SmartPlant P&ID Options** category.
- 3. Using Options Manager in SmartPlant P&ID, adjust the starting sequence numbers for the **OPCItemTag**, **EquipNextSeqNo**, **InstrLoopNextSeqNo**, and **PiperunNextSeqNo** settings to avoid duplicate item numbers.
- 4. Using Options Manager in SmartPlant P&ID, modify the **CAD Definition File** entry by changing .xls to exportlayer.xls.

! Important

• Prior to configuring the satellite site for Workshare, you should have already created a site using SmartPlant Engineering Manager at the satellite location. For information about how to create a site, see the SmartPlant Engineering Manager User's Guide or online Help.

Notes

- All satellites use the host plant schemas. During satellite slot creation, the
 host creates a satellite creation template (.sat) that contains all of the plant
 schema information needed to create the same schemas at the satellite site.
 This template file must be sent from the host to the satellite via e-mail, file
 sharing, floppy disk, CD, and so forth.
- If you are working across multiple sites and are using separate database instances, we suggest using the same user names at the satellites that are used at the host so that creating proxy users is not necessary.
- New plant groups (plants, areas, units, etc.) cannot be created standalone satellites or by satellites hosted by a project.
- You cannot create a plant or application data dictionary template at a satellite site. You must create the templates at the host site.

- Creating a Site Server Wizard, page 43
- New Workshare Collaboration Wizard, page 277
- User Access: An Overview, page 154

New Collaboration Command

Workshare > New Collaboration

Starts the **New Workshare Collaboration** wizard. To complete the Workshare configuration, the satellite site must subscribe to an available satellite slot at the host site. The **New Workshare Collaboration** wizard steps you through the subscription process by using the satellite template, Workshare password, and reference data received from the host site to create a "copy" of the host plant structure.

Notes

- You cannot create a satellite in the same site as the host site. You must have a separate site for the satellite.
- You must obtain the Workshare password and the satellite template from the host site administrator prior to subscribing to a satellite slot.

Related Topics

• New Workshare Collaboration Wizard, page 277

Subscribe to a Satellite Slot

- 1. Open the satellite site in SmartPlant Engineering Manager.
- 2. Click Workshare > New Collaboration.
- 3. Follow the prompts in the **New Workshare Collaboration** wizard.
- 4. Set the user access rights for the satellite plant.
- 5. Run SmartPlant P&ID Options Manager and edit the sequence numbers as needed for the satellite site.

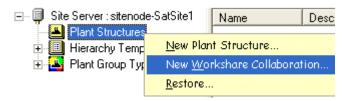
Notes

- You cannot create a satellite in the same site as the host site. You must have a separate site for the satellite.
- You must obtain the Workshare password from the host site administrator, as it will be needed to complete the New Workshare Collaboration wizard.

- Change Password (Workshare) Command, page 295
- Configuring a Satellite Site: An Overview, page 275
- New Satellite Slot Wizard Type and Name, page 266
- New Workshare Collaboration Wizard, page 277

New Workshare Collaboration Wizard

Steps you through subscribing to a satellite slot. This process is much like creating a plant structure, except that the satellite plant is based on a "copy" of the host plant structure instead of being created from scratch. The "copy" information is provided by the host site in the satellite template file. Upon completing this wizard, the satellite is connected to a satellite slot at the host site.



Notes

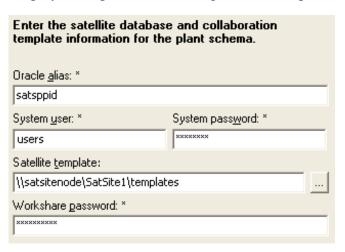
- You cannot create a satellite in the same site as the host site. You must have a separate site for the satellite.
- You must obtain the Workshare password and the satellite template (.sat) file from the host site administrator before you can complete this wizard.
 Both of these items were created when the satellite slot was created at the host. This information can be sent to you via e-mail, file sharing, floppy disk, or CD.

Related Topics

- Changing the Workshare Password: An Overview, page 295
- Creating Satellite Templates: An Overview, page 297
- New Satellite Slot Wizard Type and Name, page 266

New Workshare Collaboration Wizard - Template and Password

Displays the options for creating the satellite plant structure in the satellite site.



Oracle alias - Specifies the Oracle net service alias that allows connection to the Oracle database at the satellite site. This field defaults to the alias specified when the satellite site was created.

Database node - Type the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is selected as the database type.

System User - Type a database system user name. This name does not have to be the database administrator user name, but this user must have system privileges.

System password - Type a system user password.

Satellite template - Type the UNC path or browse to the location where you placed the satellite template file (.sat) received from your host administrator. This field is limited to 255 characters.

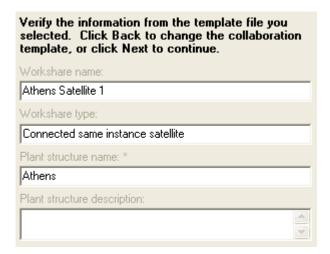
Workshare password - Type the Workshare password. This password, sometimes called a location key, is specified during the satellite slot creation at the host site. The host administrator must provide you with this password as the key to connecting your satellite with a satellite slot at the host site.

Related Topics

- Changing the Workshare Password: An Overview, page 295
- New Satellite Slot Wizard Type and Name, page 266

New Workshare Collaboration Wizard - Template Verification

Displays the information obtained from the satellite template that is based on the satellite slot information defined at the host site.



Workshare name - Displays the name of the satellite slot at the host to which you are connecting.

Workshare type - Displays the type of Workshare collaboration available through the satellite slot.

Plant structure name - Displays the name of the plant containing the satellite slot.

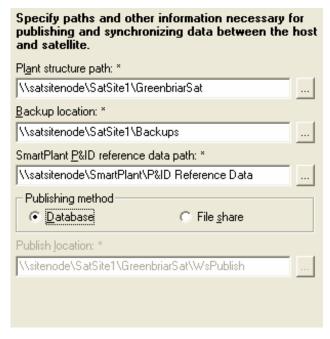
Plant structure description - Displays the available information about the plant containing the satellite slot.

New Workshare Collaboration Wizard - Paths

Allows you to specify a storage directory for the files that the satellite pulls from the host and the paths to the reference data.

Note

• All paths must use the Universal Naming Convention (UNC) format and are limited to 255 characters per path.



Plant structure path - Specify the path to the storage location on the satellite server for the plant data and the drawing files. You must create the plant structure share before running this wizard, using the form \\siteserver\sitename\plantname. The wizard will create the plantname folder if it does not already exist.

Backup location - Type, or browse to, the path to the storage location to use when backing up the satellite plant files. We recommend selecting a backup location <u>outside</u> the **Plant structure path** to avoid recursive backups being stored in a single backup file. For example, if the **Plant structure path** is \\siteserver\sitename\plantname, do <u>not</u> set the backup location for plantname to \\siteserver\sitename\plantname\plantname\backups.

SmartPlant P&ID reference data path - Type, or browse to, the path where the reference data is located at the satellite site.

Publishing method - Select the publishing method to be used to share data contained in the plant.

- **Database** (Recommended) Published files are stored in the database as Oracle blobs at the host. Oracle database links are used to transfer published files between host and satellites.
- **File share** Published files are stored on a file share at either the host or satellite site.

Publish location - Type a UNC path to the shared location on the satellite site where the published drawings are to be stored. This field is limited to 255 characters and is available only for standalone satellites or for connected satellites using the file share publishing option.

Note

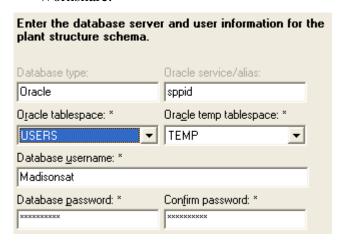
Paths and locations cannot contain any of the following characters: < , > ?
 /'; { } [] ~ `! % * () : | "

New Workshare Collaboration Wizard - Plant Schema

Defines the plant schema database information for your new standalone Workshare collaboration. An asterisk (*) at the end of an item name indicates a value is required for that item.

Note

• This page displays only when configuring a satellite for standalone Workshare.



Database type - Displays the database type used at the satellite site.

Oracle service/alias - Displays the Oracle net service alias used by the satellite site in which the satellite plant will be created. This option appears only if the satellite site is using Oracle .

Database server - Displays the node name of the server on which the SQL Server database resides. This option appears only if SQL Server is used by the satellite site.

Database name - Displays the name of the SQL Server database used by the satellite site in which the satellite plant will be created. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default Oracle tablespace name for your satellite plant database. These tablespaces were defined when the database administrator created the default database instance using Oracle Database Assistant. This option appears only if the satellite site is using Oracle.

Oracle temp tablespace - Select the default Oracle temporary tablespace name for your satellite plant database. If this list is empty, contact your database administrator. This option appears only if the satellite site is using Oracle.

! Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own uses.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the plant user. This value, which must be unique in the database, defaults to the satellite plant name.

Database password - Type the password for the database user. We recommend using the satellite plant database user name, entered above, as this password.

Confirm password - Re-type the password for the database user.



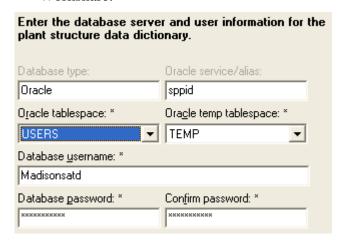
Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

New Workshare Collaboration Wizard - Plant Data Dictionary

Allows you to specify the database information for the satellite plant data dictionary. An asterisk (*) at the end of an item name indicates a value is required for that item.

Note

 This page displays only when configuring a satellite for standalone Workshare.



Database type - Displays the database type used at the satellite site.

Oracle service/alias - Displays the Oracle net service alias used by the satellite site in which the satellite plant will be created. This option appears only if the satellite site is using Oracle .

Database server - Displays the node name of the server on which the satellite SQL Server database resides. This option appears only if SQL Server is used by the satellite site.

Database name - Displays the name of the SQL Server database used by the satellite site in which the satellite plant data dictionary will be created. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default Oracle tablespace name for your satellite plant data dictionary. These tablespaces were defined when the database administrator created the default database instance using Oracle Database Assistant. This option appears only if the satellite site is using Oracle.

Oracle temp tablespace - Select the default Oracle temporary tablespace name for your satellite plant data dictionary. If this list is empty, contact your database administrator. This option appears only if the satellite site is using Oracle.

! Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own uses.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the plant data dictionary user. This value, which must be unique in the database, defaults to satellite plant name.

Database password - Type the password for the plant data dictionary user. We recommend using the satellite plant database user name, entered above, as this password.

Confirm password - Re-type the password.



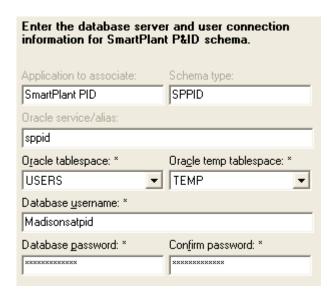
Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

New Workshare Collaboration Wizard - SmartPlant P&ID Schema

Allows you to enter database information for the SmartPlant P&ID application schema at the satellite site. The tablespaces and other database information displayed in the drop-down lists are based on the information specified on the satellite plant structure creation page. An asterisk (*) means a value is required for that box.

Note

 This page displays only when configuring a satellite for standalone Workshare.



Application to associate - Displays the application being associated to the satellite plant.

Schema type - Displays the application schema type being created.

Oracle service/alias - Specifies the Oracle net service name for the satellite plant database. This value is carried forward from the satellite plant structure definition page and appears only if using Oracle.

Database server - Displays the node name of the server on which the satellite SQL Server database resides. This option appears only if using SQL Server.

Database name - Displays the name of the SQL Server database used by the satellite plant to which the application is being associated. This option appears only if using SQL Server.

Oracle tablespace - Select the default tablespace name for your application schema. These tablespaces are defined when the database administrator created the default database instance using Oracle Database Assistant.

Oracle temp tablespace - Select the default temporary tablespace name for your application schema. The temporary tablespace was defined when the database administrator created the temporary database instance using Oracle Database Assistant. If this list is empty, contact your database administrator.

Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use. This option appears only if using Oracle.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back

and then clicking **Next** to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the satellite SmartPlant P&ID database user. This name must be unique in the database.

Database password - Type the password for the satellite SmartPlant P&ID database user. We recommend using the satellite SmartPlant P&ID user name defined above as this password.

Confirm password - Re-type the password.



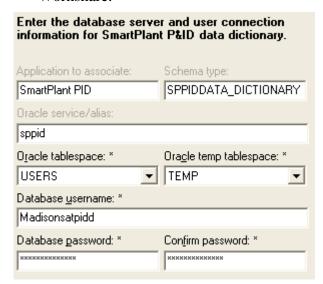
Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

New Workshare Collaboration Wizard - SmartPlant P&ID Data Dictionary

Allows you to enter database information for the SmartPlant P&ID application data dictionary at the satellite site. The tablespaces and other database information displayed in the drop-down lists are based on the database used in the plant structure creation. An asterisk (*) means a value is required for that box.

Note

 This page displays only when configuring a satellite for standalone Workshare.



Application to associate - Displays the application being associated to the satellite plant. This value is carried forward from the previous page.

Schema type - Displays the schema type being created. This value is carried forward from the previous page.

Oracle service/alias - Specifies the Oracle net service name as defined by your database administrator. This value is carried forward from the previous page and appears only if using Oracle.

Database server - Displays the node name of the satellite server on which the SQL Server database resides. This option appears only if using SQL Server.

Database name - Displays the name of the SQL Server satellite database used by the satellite plant to which the application is being associated. This option appears only if SQL Server is selected as the database type.

Oracle tablespace - Select the default tablespace name for your application data dictionary database. These tablespaces are defined when the database administrator created the default database instance using Oracle Database Assistant.

Oracle temp tablespace - Select the default temporary tablespace name for your application data dictionary database. The temporary tablespace was defined when the database administrator created the temporary database instance using Oracle Database Assistant. If this list is empty, contact your database administrator. This option appears only if using Oracle.

• Important

- We recommend that you do not use SYSTEM for the default tablespace because Oracle uses this tablespace for its own use. This option appears only if using Oracle.
- If you create new Oracle tablespaces or SQL Server databases after starting this wizard, you must refresh the tablespace list by clicking Back and then clicking Next to return to this page before the new information will display in the appropriate lists.

Database username - Type the user name you want to use for the application data dictionary user. This name must be unique in the database.

Database password - Type the password for the application data dictionary user. We recommend using the application data dictionary user name defined in the field above as this password.

Confirm password - Verify the password by retyping it.



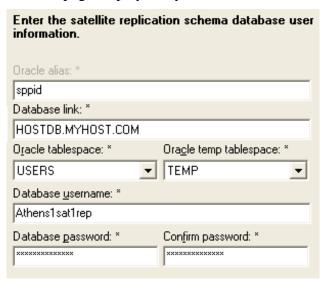
Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

New Workshare Collaboration Wizard - Replication Schema

Allows you to create a replication schema for use when the satellite is working offline. This schema is a replica of the plant schema at the host site. The plant schema is not always replicated, but the plant data dictionary is always replicated.

Note

• This page displays only for connect Workshare collaborations.



Oracle alias - Specifies the Oracle net service alias that allows connection to the Oracle database at the satellite site.

Database link - Select the database link that points to your host database server. The drop-down list displays all available database links on your satellite database server. This option displays only for connected different-instance collaborations.

Oracle tablespace - Select the user tablespace of the Oracle database at the satellite location.

Oracle temp tablespace - Select the temporary tablespace of the Oracle database at the satellite location.

Database username - Type the user name you want to use for the replication plant user. This name must be unique in the database.

Database password - Type the password for the replication database user. This value defaults to the value in the **Database username** field.

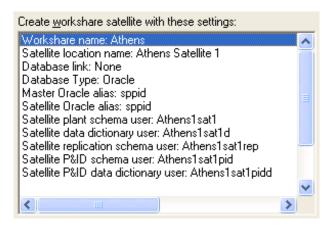
Confirm password - Re-type the password for the replication database user. This value defaults to the value in the **Database username** field.

Note

Database usernames and passwords cannot start with a numeric digit and cannot contain any of the following characters: . < , > ? \ / '; { } [] ~ `! % * () & \$ @ # "

New Workshare Collaboration Wizard - Finish

Displays all the settings that you have defined to create the new Workshare collaboration. Review these settings carefully. If you are satisfied with the settings, click **Finish**. Otherwise, click **Back** to change one or more of the settings.



Important

- After completing this wizard, be sure to set the user access rights for the satellite plant.
- Also, you must run SmartPlant P&ID Options Manager and edit the sequence numbers as needed for the satellite site. Each satellite site can have its own settings (except path), however, the reference data is controlled by the host.

Concluding a Workshare Collaboration: An Overview

Just as you use the **Enable Workshare** command to begin using Workshare, you use the **Disable Workshare** command to conclude a Workshare collaboration. Similarly to when you configured the Workshare collaboration, concluding a Workshare collaboration involves several steps at both the host and satellite sites using SmartPlant Engineering Manager and other SmartPlant P&ID products.

Conclude a Workshare Collaboration

- 1. Ensure that both host and satellite sites are running the latest SmartPlant P&ID and SmartPlant Engineering Manager service packs.
- 2. Satellites transfer ownership of all drawings to the host.
- 3. The host gets the latest versions of all drawings.
- 4. The host synchronizes shared items. This step cleans up the T_INTERSITEOPC table.
- 5. Using SmartPlant Engineering Manager, satellite sites delete satellite plants from their sites. This cleans up the schema users for the plant, plant data dictionary, SmartPlant P&ID, and SmartPlant P&ID data dictionary.
- 6. Using SmartPlant Engineering Manager, the host site runs **Workshare > Disable Workshare**.
- 7. The host ensures that all drawings and shared items are owned by the host. For example, open a drawing and, in the plant stockpile, select a loop that was created at the satellite site. Make sure it can be edited. Also, check the **Engineering Data Editor** to make sure OPC labels match correctly.
- 8. The host runs **Delete Orphan Model Items > Clean DB**.

Notes

- If the satellites do not delete the satellite plants from their sites, orphan data is left behind in their databases, but the host can still disable Workshare.
- For more information about using the **Delete Orphan Model Items** utility, see the *SmartPlant P&ID Installation and Upgrade Guide*.

Disabling Workshare: An Overview

Disabling a plant for Workshare returns the plant to a pre-Workshare state. When you disable a plant for Workshare, the plant returns to its original plant structure status, and the **Satellites** node is removed from under the plant node.

Disable Workshare Command

Workshare > Disable Workshare

Returns the plant structure to a pre-Workshare state. When you disable a plant for Workshare, the **Satellites** node is removed from under the plant node.

Before you can access the **Disable Workshare** command in a connected Workshare collaboration, all connected satellite slots under the **Satellites** node must inactive. In other words, connected satellite sites must be deleted and the **In Use** state must be **False** for all connected satellite slots before you can disable a connected Workshare collaboration.

Standalone Workshare collaborations can be disabled only after all drawings at the satellite site are deleted. All drawings originating from the host must be transferred back to the host with ownership assigned to the host.

Disable Workshare

- 1. In the **Tree** view, select the plant node.
- 2. Click Workshare > Disable Workshare.

Important

- In a connected Workshare collaboration, all connected satellite slots under the Satellites node must inactive before you can disable Workshare. In other words, connected satellite sites must be deleted and the In Use state must be False for all connected satellite slots before you can disable a connected Workshare collaboration.
- Standalone Workshare collaborations can be disabled only after all
 drawings at the satellite site are deleted. All drawings originating from the
 host must be transferred back to the host with ownership assigned to the
 host.

Related Topics

• Conclude a Workshare Collaboration, page 289

Managing a Workshare Collaboration: An Overview

The following administrative commands are available in SmartPlant Engineering Manager to help you manage your Workshare collaborations.

Change Password (Workshare) Command, page 295

New Template Command, page 297

Owner Command, page 291

Publish Standalone Package Command, page 294

Recreate Proxy Users Command, page 296



• Several of the Workshare commands are available in the SmartPlant P&ID automation layer. For more information about using these Workshare automation commands, see the *SmartPlant P&ID Programmer's Guide*.

Owning Plant Groups: An Overview

During the course of administering a connected Workshare collaboration, you can decide to transfer the ownership of a plant group item, such as a unit, to a satellite site. Transferring ownership at this level allows the connected satellite site full control over plant group properties modifications. The owner can also delete the plant group item if all the drawings under it have been deleted.

Owner Command

Workshare > Owner

Allows you to transfer ownership of a plant group item in a plant group. The owner can edit, modify, or delete plant group item properties.

Notes

- The **Owner** command is available at the host only if there is at least one connected satellite slot in use.
- At the host site, you do not need to have ownership of the plant group item to create drawings in that plant group item.

Related Topics

- Plant Group Ownership Dialog Box, page 292
- Transfer Ownership of a Plant Group, page 292

Plant Group Ownership Dialog Box

Allows you to specify the owner of the selected plant group. Transferring ownership at this level allows the connected satellite site full control over plant group properties modifications. The owner can also delete the plant group item if all the drawings under it have been deleted.

Only a host site in a greenfield connected Workshare collaboration can assign plant group ownership. In other words, the connected Workshare collaboration cannot involve projects at any level.



Workshare owner name - Lists the host site and the currently connected satellite sites. Select the location to which you want to grant ownership privileges.

Transfer Ownership of a Plant Group

- 1. In the **List** view, select the plant group for which you want to transfer ownership.
- 2. Right-click and select the **Owner** command.
- 3. On the **Plant Group Ownership** dialog box, select the satellite site to which you want to grant ownership privileges.

Note

- The **Owner** command is available only at the host site in a greenfield connected Workshare collaboration. In other words, the connected Workshare collaboration cannot involve projects at any level.
- The **Owner** command is enabled at the host only if there is at least one connected satellite slot in use.

Related Topics

• Plant Group Ownership Dialog Box, page 292

Publishing Data for Synchronization: An Overview

Because only the Workshare host has permission to modify the reference data, the updated reference data must be shared with all satellites whenever the reference data is modified (for example, adding a new attribute, creating a new select list, etc). Satellites cannot publish drawings or get the latest version of drawings until the satellite site reference data is in sync with the host.

! Important

In a standalone Workshare collaboration, the user bears full responsibility
of making sure the reference data is in sync between the host and
satellites.

Reference data consists of two parts: data in the file system and data in the plant and P&ID schemas and data dictionaries.

The file system reference data (rules file, symbol files, format files, and so forth), no matter the Workshare mode, must be transmitted manually to satellite sites for synchronization.

Synchronizing the database portion (plant and application schemas) of the reference data depends on the Workshare mode. For connected Workshare collaborations, the database portion of the reference data is synchronized automatically via the database link. For standalone Workshare collaborations or connected collaborations in which the database link is down (the **Synchronize Reference Data from Copy** command is unavailable), this portion of the reference data must be extracted from the database, bundled into a zip file, and manually transmitted to the satellite site. The **Publish Standalone Package** command creates this bundled zip file.

Related Topics

Publish Standalone Package Command, page 294

Publish Standalone Package Command

Workshare > Publish Standalone Package

Bundles the database portion of the reference data (plant and application schemas and data dictionaries, plant structure, and options data) into a zip file (*plantname_sync.zip*) for manual transmission to the standalone satellite. This zip file is placed in the **Synchronization Templates** folder under the plant folder at the host site.

The satellite site accesses this file in Drawing Manager using the **Published** standalone package file field on the Synchronize Reference Data by Copy dialog box.

Notes

- This command is available only at the host in a standalone Workshare collaboration.
- The host should run this command before publishing drawings to standalone satellite sites.

Publish Standalone Package for Synchronization

- 1. At the host site, select the host plant in the **List** view.
- 2. Click Workshare > Publish Standalone Package.
- 3. Send the *plantname_*sync.zip file to the satellite site for synchronization.

Note

• The *plantname_*sync.zip file is placed in the **Synchronization Templates** folder under the plant folder at the host site.

Related Topics

• Plant Group Ownership Dialog Box, page 292

Changing the Workshare Password: An Overview

During the course of administering a Workshare collaboration, you can decide to change the Workshare password for any of the satellite sites. The Workshare password is the key used by a satellite site to subscribe to a satellite slot at the host site. Created during the satellite slot creation at the host site, each satellite slot has its own password. This password must be communicated from the host to the satellite user, usually by e-mail or phone, before the satellite site can subscribe to a satellite slot.

Change Password (Workshare) Command

Workshare > Change Password

Allows you to change the Workshare password that you set during the satellite slot creation process. This password is the key that allows remote users to establish a new collaboration with the satellite slot at the host. The password is case-sensitive and is available only at the host site.

Related Topics

- Change the Workshare Password, page 296
- New Satellite Slot Wizard Type and Name, page 266

Change Password Dialog Box

Allows you to modify the Workshare password set when you created the satellite slot in the plant structure.



Current Workshare password - Type the current Workshare password. This password was set when Workshare was enabled on the plant structure.

New password - Type a new password for the Workshare access to the plant structure data.

Confirm new password - Re-type the new Workshare password.

Change the Workshare Password

- 1. In the **List** view, select the satellite slot for which you want to change the password.
- 2. Right-click the **Satellite Slot** and select the **Change Password** command.
- 3. Type the current Workshare password in the **Change Password** dialog box.
- 4. Type and confirm the new Workshare password.

Related Topics

- Change Password (Workshare) Command, page 295
- Change Password Dialog Box, page 26

Recreating Proxy Users: An Overview

Designating proxy users provides a way of granting users at remote satellites the ability to "talk" to the tables in the host database instance. Proxy users are necessary for connected, same-instance Workshare collaborations. If the user names at the host and the satellite sites are identical and the databases are in separate database instances, you do not need to use proxy users.

Recreate Proxy Users Command

Workshare > Recreate Proxy Users

Available only at the host site and only when a satellite slot is not in use, this command drops and recreates all existing proxy users for the satellite slot.

We recommend recreating proxy users when collaboration has failed for a same-instance satellite or when a privilege problem seems to exist, causing collaboration to fail for either separate or same-instance satellite slots.

When working with proxy users, keep the following scenarios in mind:

Same database instance - Sites are in different database instances, but the plant structures are in the same database instance. In this situation, the user names at the host and satellite sites cannot be the same. You were asked to create the proxy user names during the satellite slot creation.

Different database instance - If user names at the host do not match the user names at the satellite, a proxy user must be created at the host site to provide a way of granting the remote user the ability to talk to the tables in the host database instance. If the user names at the host do match the user names at the satellite, proxy user names are not needed.

Recreate Proxy Users

- 1. In the **List** view, select the satellite slot for which you want to recreate proxy users.
- 2. Right-click and select the **Recreate Proxy Users** command.

Creating Satellite Templates: An Overview

The satellite template, created during satellite slot creation at the host site, is used at the satellite site to create a view of the host plant schema. The template also contains the Workshare password and the database user names for the satellite slot.

During the course of a Workshare collaboration, the data at the host site may change and thereby impacting the content of the satellite template. When this happens, or when proxy users change, the host must generate a new template and send the updated template to the satellite.

New Template Command

Workshare > New Template

Allows the host to create a new Workshare template. During the course of a Workshare collaboration, the data at the host site may change, thereby impacting the content of the satellite template. When this happens, or when proxy users change, the host must generate a new template and send the updated template to the satellite.

Create a New Template

- 1. In the **List** view, select the satellite slot for which you want to create a new template.
- 2. Right-click and select the **New Template** command.
- 3. Type the path and file name for the connection template.

Note

• This command is available only at the host site.

SmartPlant Integration: An Overview

SmartPlant standardizes and improves the communication among the various authoring tools you use in the course of designing, constructing, and operating a plant. SmartPlant Foundation acts as a repository for data and a medium through which information is shared among other tools, such as Zyqad, SmartPlant Instrumentation, SmartPlant Electrical, and SmartPlant P&ID.

Most of the commands that provide access to SmartPlant integration exist in the common user interface available on the **SmartPlant** menu in SmartPlant Engineering Manager, SmartPlant Electrical, and SmartPlant P&ID. SmartPlant Engineering Manager interacts with SmartPlant Foundation by registering the plant database and its associated applications and by retrieving Project Definition File and Plant Breakdown Structures (PBS) documents.

Using the SmartPlant integration commands in SmartPlant P&ID and SmartPlant Electrical allows you to publish and retrieve data. Using the SmartPlant Foundation Web Client allows you to browse SmartPlant Foundation data. For more information about using the SmartPlant integration commands, see the SmartPlant P&ID User's Guide, the SmartPlant P&ID Drawing Manager User's Guide, or the SmartPlant Electrical User's Guide.

For more information about setting up and configuring SmartPlant Foundation and SmartPlant integration, see the *SmartPlant Foundation Installation and Upgrade Guide* and the *SmartPlant Foundation Administrator's Guide*.

Important

 You must install the Schema Component and the SmartPlant Client, delivered with SmartPlant Foundation, on your SmartPlant Engineering Manager workstation before you can register or retrieve. For more information, see the *Configure <Tool Name> for an Integrated Environment* topic in the product installation guide.

Related Topics

• Retrieve Documents to SmartPlant Engineering Manager, page 310

Mapping for SmartPlant Integration

If you customize the plant database items or attributes in your SmartPlant Engineering Manager plant, you must define the mapping between these customized plant attributes and the properties in the SmartPlant schema.

- 1. Open the plant data dictionary by right-clicking the plant in the Tree view in SmartPlant Engineering Manager and selecting the **Data Dictionary Manager** command. For more information, see *Data Dictionary Manager Command*, page 28.
- 2. Add or modify the attributes in Data Dictionary Manager for each level in your hierarchy. For more information, see the *Add a Property to Database Tables* topic in the *Data Dictionary Manager User's Guide*.
- 3. Open the plant SPEMDataMap.xml schema map file in the Schema Editor and map the plant database items between the tool schema (SPEMDataMap.xml) and the SmartPlant schema. For more information, see the *Schema Editor User's Guide*.

! Important

- If you add an enumerated list attribute to the plant data dictionary, see the *Hierarchical Enumerated Lists* topic in the *SmartPlant P&ID User's Guide* for information about mapping these complex data types. SmartPlant Electrical users should refer to the *SmartPlant Electrical User's Guide*.
- The default SPEMdatamap.xml file contains the EF_SPAPlant attributes (CompanyName, SiteName, SiteLocation, DivisionName, DivisionLocation). To use these default attributes, use the EF_SPAPLANT.ddt when creating your plant in SmartPlant Engineering Manager.
- The default SPEMdatamap.xml and the EF_SPAPLANT.ddt files are delivered to the C:\Program Files\SmartPlant\Engineering Manager\EFResources folder.

Related Topics

• Specify Map File Dialog Box, page 302

Using Custom Hierarchies

SmartPlant integration supports custom hierarchies, as long as they contain a minimum of three levels. By default, the delivered SPEMdatamap.xml file is compatible with the standard SmartPlant Plant > Area > Unit hierarchy.

! Important

After registering, SmartPlant Engineering Manager cannot retrieve the PBS document if the plant and SmartPlant hierarchies are not compatible. To be compatible with the SmartPlant hierarchy, your plant hierarchy can contain less than or equal, but not more than the number of levels in the SmartPlant hierarchy.

- SmartPlant Engineering Manager retrieves from the SmartPlant hierarchy only the hierarchy levels it needs. For example, if your plant hierarchy contains 4 levels and the SmartPlant hierarchy contains 8 levels, only the top 4 levels of the SmartPlant hierarchy are retrieved.
- Hierarchy item names at the same level do not have to match. Hierarchies are mapped by depth (level), not by name.

Register Command

SmartPlant > Register

Allows you to register a plant database, along with its associated applications, with an instance of SmartPlant Foundation. Each database must be registered before you can connect to SmartPlant Foundation to perform any specific tasks, such as publishing or retrieving files. You can register each plant database only once.

! Important

• You must install the Schema Component and the SmartPlant Client, delivered with SmartPlant Foundation, on your SmartPlant Engineering Manager workstation before you can register. For more information, see the Configure <Tool Name> for an Integrated Environment topic in the SmartPlant P&ID Installation and Upgrade Guide or the SmartPlant Electrical Installation and Upgrade Guide.

During registration, the software maps the plant database, all of its projects, and all of its the associated applications to a single SmartPlant Foundation URL, which points to one SmartPlant Foundation plant database, and returns a unique signature for the tool/plant combination being registered.

• Important

• If only one application is associated with the plant at the time it is registered, only that application is registered. If another application is later associated with the plant, the **Register** command is enabled so that you can register the new application with the plant.

The **Register** command is disabled if:

- All associated applications are registered.
- No applications are associated with the plant.
- The plant structure does not contain at least <u>three</u> levels. For more information about mapping hierarchies between the plant and SmartPlant, see *Using Custom Hierarchies*, page 300.
- The plant already contains projects. (You can still add projects to the plant after registering it.)

After the plant is registered, the **SmartPlant** tab is added to the **Plant Structure Properties** dialog box. The **SmartPlant** tab displays the SmartPlant Foundation URL, the SmartPlant Foundation plant database, and the unique application identifiers returned by the registration process.

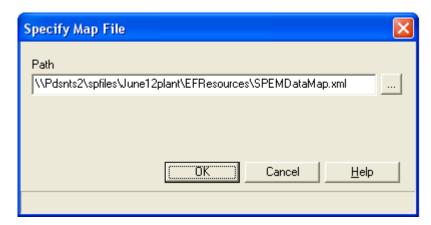
Specify Map File Dialog Box

Allows you to specify the schema map file you want to use to communicate between SmartPlant Engineering Manager and the SmartPlant data model. This schema map file determines how the plant database items (schemas, select lists, plant hierarchies, and so forth) are mapped between the SmartPlant Engineering Manager database schema and the SmartPlant schema.

! Important

• A default schema map file, SPEMDataMap.xml, is delivered to the \SmartPlant\Engineering Manager\EFResources folder during product installation. If one does not exist in the EFResources folder under your plant when you click the **SmartPlant > Register** command, the software copies the default schema map file to that folder in your plant.

The schema map file is also the vehicle for communicating back to SmartPlant any new properties, custom hierarchies, or other customizations that you make to the plant so that other applications can make use of this information. Use the Schema Editor (installed with SmartPlant Foundation as part of the SmartPlant Schema Component) to edit the schema map file.



Path - Type, or browse to, the UNC path to the location of the schema data map file in the plant you are registering.

Related Topics

Register Command, page 301

SmartPlant Registration Wizard - SmartPlant Foundation URL

Allows you to specify the SmartPlant Foundation URL and plant to which you want to register your plant.



SmartPlant Foundation URL - Type, or browse to, the node name and virtual directory of the SmartPlant Foundation plant to which you want to register your plant.

Related Topics

• Register Command, page 301

SmartPlant Registration Wizard - SmartPlant Foundation Plant

Allows you to select the SmartPlant Foundation plant to which your plant will be registered.



Plant name - Displays a list of defined SmartPlant Foundation plants from which you can select the plant to which you want to associate your plant.

Related Topics

Register Command, page 301

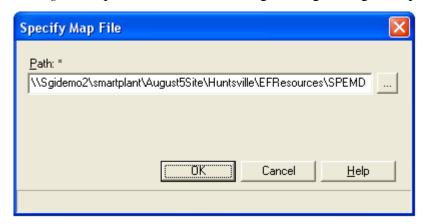
Register from SmartPlant Engineering Manager

1. Click **SmartPlant > Register**.

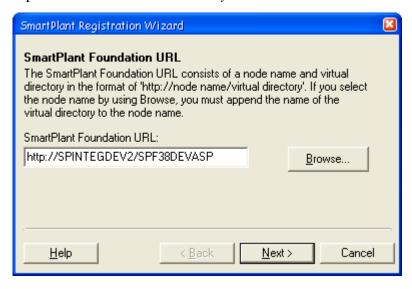
! Important

- You must have site administrator rights to the plant before you can register the plant.
- Your plant hierarchy must contain at least three levels before it can be registered.
- If your plant is being used in a Workshare collaboration, see the SmartPlant Engineering Manager Help for more information about using integrated Workshare.
- You cannot unregister a plant after it is registered.

2. On the **Specify Map File** dialog box, type or browse to the path where your SPEMdatamap.xml is located. For more information, see the *Specify Map File Dialog Box* topic in the SmartPlant Engineering Manager Help.



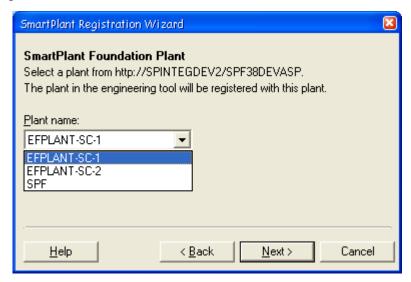
- 3. Click **OK** to start the **SmartPlant Registration Wizard**.
- 4. On the **SmartPlant Foundation URL** page of the **SmartPlant Registration Wizard**, type the node name and virtual directory of the SmartPlant Foundation database to which you want to register your project. Use the following format: http://SPFServer/VirtualDirectory.



💡 Tips

- You can click the Browse button to search for the node name.
 However, you must append the virtual directory to that node name by typing it in the SmartPlant Foundation URL box.
- Replace *<SPFServer>* with the name of your SmartPlant Foundation Web server.

- Replace < Virtual Directory> with the name of the virtual directory for
 the SmartPlant Foundation Web Client. By default, the virtual
 directory for the first instance of the Web Client that you install is
 SPFASP. However, if you install multiple instances of the Web Client
 to connect to multiple databases, the virtual directory name may be
 different.
- 5. Click Next.
- 6. On the **SmartPlant Foundation Plant** page, select the SmartPlant Foundation plant with which you want to register your SmartPlant Engineering Manager plant.



Important

- The SmartPlant Engineering plant that you are registering <u>must</u> contain a minimum of three levels. These levels do not have to match the SmartPlant Foundation plant hierarchy. For more information, see the *Using Flexible Hierarchies in an Integrated Environment* topic in the SmartPlant Engineering Manager Help.
- Additionally, the names of hierarchy items cannot be changed after they are created and the hierarchy structure cannot be modified after you create the project that you are registering.
- If only one application is associated with the plant at the time it is registered, only that application is registered. If another application is later associated with the plant, the **Register** command is enabled so that you can register the new application with the SmartPlant Foundation plant database. For more information, see the SmartPlant Engineering Manager Help.

7. Click **Finish**. The registration process compares the authoring tool's schema release number against the list of supported release numbers on the SmartPlant Foundation server. If the tool schema is compatible, the tool is granted registration.

Related Topics

- Register Command, page 301
- SmartPlant Registration Wizard SmartPlant Foundation Plant, page 304
- SmartPlant Registration Wizard SmartPlant Foundation URL, page 303
- Specify Map File Dialog Box, page 302

Retrieve Command

SmartPlant > Retrieve

Displays a list of the files available for retrieval into SmartPlant Engineering Manager.

SmartPlant Engineering Manager allows you to retrieve Project Definition Files and Plant Breakdown Structure (PBS) files. The Project Definition Files and PBS files are created in SmartPlant Foundation and then published.

The PBS document contains information about the physical project with the following structure: plant/area/unit. The Project Definition File contains information about the concepts of the project in a plant/project/contract structure and communicates the project status.

Notes

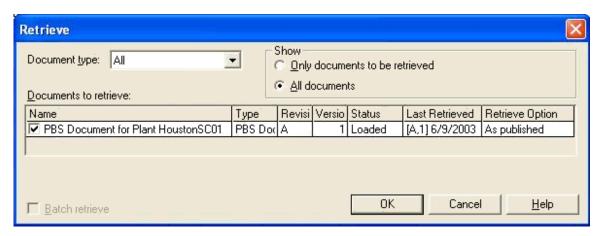
- SmartPlant Engineering Manager does not retrieve Work Breakdown Structure (WBS) files because SmartPlant P&ID and SmartPlant Electrical do not use them.
- This command is available only if the plant has been registered.

Related Topics

- Register Command, page 301
- Retrieve Documents to SmartPlant Engineering Manager, page 310

Retrieve Dialog Box

Allows you to retrieve Project Definition File and Plant Breakdown Structure (PBS) documents.



Document type - Indicates the type of documents you want to retrieve.

Show - Specify whether you want to view a list of all available documents or only those documents that you have selected to retrieve.

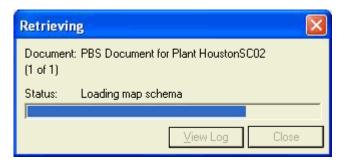
Documents to retrieve - Displays a list of the documents that are available for retrieval. For each document, this list provides the name, the type of the document, the document revision and version numbers, the date when the document was last retrieved, and the revision option. The **Revision Option** indicates whether you want to retrieve the document as it was published or with the latest data. A check mark beside the document name indicates that the document will be retrieved when you click **OK**.

Select All - Places a check mark by each document in the **Documents to retrieve** list, indicating that all documents will be retrieved.

Clear All - Removes the check mark from all selected documents in the **Documents to retrieve** list. A document will not be retrieved unless you place a check mark beside its name.

Batch retrieve - Indicates that the system will retrieve the selected documents in batch mode. You will be notified by e-mail message when the operation is complete. If not selected, the retrieval process begins when you click **OK**.

As SmartPlant Engineering Manager retrieves the selected documents, the following **Retrieving** status dialog box displays. Click the **View Log** button to review any messages written to the log file during the retrieval process.

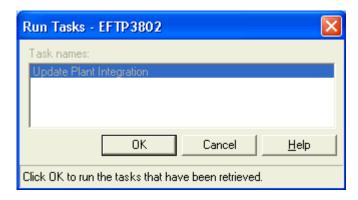


Related Topics

- Retrieve Command, page 307
- Retrieve Documents to SmartPlant Engineering Manager, page 310

Run Tasks Dialog Box

Allows you to run the retrieved tasks. All tasks in the list will run when you click **OK**. You cannot select individual tasks to run.



Task names - Displays the individual tasks contained in the retrieved documents.

Related Topics

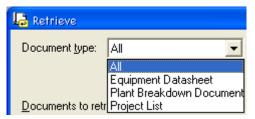
- Retrieve Command, page 307
- Retrieve Documents to SmartPlant Engineering Manager, page 310

Retrieve Documents to SmartPlant Engineering Manager

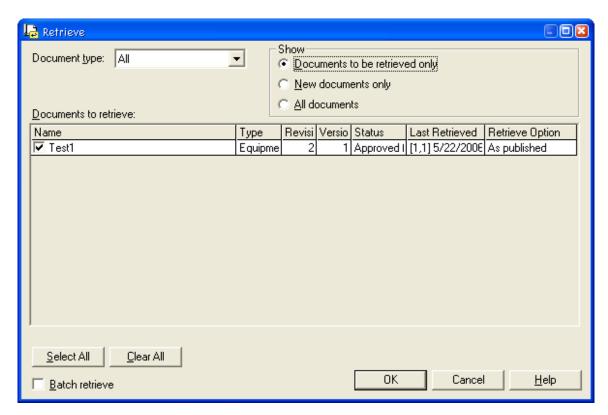
1. Click **SmartPlant > Retrieve**. The **Retrieve** dialog box appears.

? Tips

- This command is available only if you have registered the active plant using the SmartPlant Registration Wizard. For more information, see *SmartPlant Engineering Manager Help*.
- If you logged onto SmartPlant Engineering Manager with a user name that is not defined in the integrated environment, you are prompted to log on when you use this command.
- The **Retrieve** command searches the SmartPlant Foundation plant for documents that are ready to be retrieved into the authoring tool. These documents appear in the **Documents to retrieve** list on the **Retrieve** dialog box.
- SmartPlant Engineering Manager cannot retrieve the PBS document if the plant and SmartPlant Foundation plant hierarchies are not compatible. In other words, your plant hierarchy can contain less than or equal, but not more than the number of levels in the SmartPlant Foundation plant hierarchy. For more information, refer to the Using Flexible Hierarchies in an Integrated Environment topic of the SmartPlant Engineering Manager Help.
- 2. In the **Document type** box, specify the type of document to be retrieved.



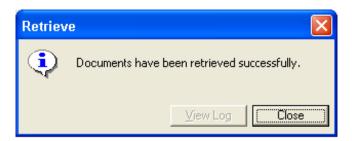
3. In the **Show** section, select **Documents to be retrieved only** to include documents that have been retrieved previously and have been published again since the last retrieval. Select **All documents** to include all revisions and types of documents. Select **New documents only** to retrieve documents that have not been retrieved yet.



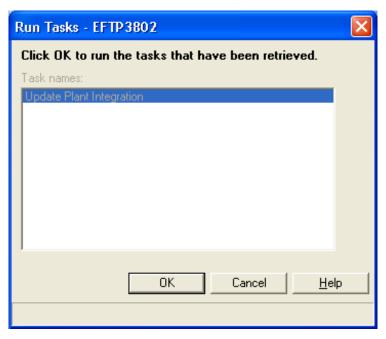
4. In the **Documents to retrieve** list, select the check box beside each document you want to retrieve. To help identify the documents, review the details in the **Type**, **Revision**, **Version**, and **Last Retrieved** columns.

→ Tip

- To quickly select the entire list, click **Select All**. To quickly cancel the selections, click **Clear All**.
- 5. For each document you checked, use the **Retrieve Option** column to specify whether you want to retrieve the document with the latest data or retrieve it as published.
- 6. Check the **Batch retrieve** option if you want the retrieve process to run in batch mode. If you select this option, an e-mail message will alert you when the process is complete. Otherwise, the retrieval process begins immediately.
- 7. Click **OK** to retrieve the specified documents.
- 8. When the retrieval process is complete, the following message appears. Click **View Log**, if enabled, to view a log of errors, warnings, and other information recorded during the retrieval process.



- 9. Click **Close** when the retrieve process finishes.
- 10. On the **Run Tasks** dialog box, review the list of tasks in the documents retrieved.



11. Click **OK** to run these tasks. All tasks run when you click **OK**. You cannot select specific tasks to run.

Related Topics

- Retrieve Command, page 307
- Retrieve Dialog Box, page 308
- Run Tasks Dialog Box, page 309

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