Administration Module
User's Guide

Process, Power & Marine

INTERGRAPH

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Preface

This user's guide describes concepts, procedures, and interface features of the SmartPlant Instrumentation Administration module.

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Working with Administration Module

Overview

The Administration module provides you with administrative tools for keeping track of your resources and maintaining user access security.

There are two mutually exclusive levels of administration – System Administration and Domain Administration – that provide you with a greater degree of control over security and resource management.

The system must first be set up at the System Administration level before resources can be allocated at the Domain Administration level.

Related Topics

- *Accessing the Administration Module Common Tasks*, page 14
- *Domain Administration Common Tasks*, page 75
- *Domain Administration Overview*, page 75
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *System Administration Common Tasks*, page 19
- *System Administration Overview*, page 19

Accessing the Administration Module Common Tasks

The following tasks are used when you need to access the Administration module.

Define Database Profiles

This procedure shows how to define multiple database profiles for logging on to SmartPlant Instrumentation. This means that when logging on, a SmartPlant Instrumentation user will be able to select the required database from the **Database** list in the **Logon Information** dialog box. Multiple database connections at login become available after defining the required database profiles in the INTOOLS.INI file. All the databases that you want to make available for connection must belong to the same database platform: Oracle, SQL Server, or Sybase Adaptive Server Anywhere. For more information, see *Define Database Profiles*, page 55.

Log on as System Administrator

Every user is required to log on to the application using a designated user name and password. Any user can log on to the Administration module, however, only a user designated as *System Administrator* can have access to the System Administration options. This procedure explains how to start the Administration module with System Administrator privileges. For more information, see *Log on as System Administrator*, page 15.

Log on as Domain Administrator

This option explains how to enter the Administration module with *Domain Administrator* privileges. For more information, see *Log on as Domain Administrator*, page 16.

Switch from System Administration to Domain Administration

Where the same person is responsible for both System Administration and Domain Administration activities, it is possible to switch between the two functions (provided that the user has an identical user name and password for both functions) without exiting the Administration module. For more information, see *Switch from System Administration to Domain Administration*, page 16.

Switch from Domain Administration to System Administration

This option explains how to switch from Domain Administration to System Administration without exiting the Administration module. This is possible if you have a valid System Administration use name and password. For more information, see *Switch from Domain Administration to System Administration*, page 17.

Log on as System Administrator

1. Start the **Administration** module.
2. In the **Logon Information** dialog box, from the **Database** list, select the database you want to connect to.
3. In the **User name** and **Password** text boxes, enter your System Administrator's user name and password.

   Tips

   - The list of databases appears in the INTOOLS.INI file. For each database, you need to define a database profile.
   - The System Administrator user name and password are defined per installation. **DBA** is the default user name and password that you use to log on to SmartPlant Instrumentation for the first time. The password is entered in upper case characters, regardless of the keyboard setting. After you log on for the first time, you should change your password.
4. In the **Open Administration Module** dialog box, click **System Administrator**.

Note

- If you are currently logged on as the Domain Administrator, you can switch to the system administration level without the need to log on again. You can do this only if the System Administrator user name and password are the same as the Domain Administrator's.

Related Topics

- *Accessing the Administration Module Common Tasks*, page 14
- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Log on as Domain Administrator

5. Start the Administration module.
6. In the **User name** and **Password** boxes of the **Logon Information** dialog box, enter your Domain Administrator's user name and password.

   Tip

   - The Domain Administrator user name and password are defined per domain by the System Administrator.
7. In the **Open Administration Module** dialog box, select the required domain from the list.
8. Click **OK** to open the **Domain Administration** window.

Note

- If you are currently logged on as the System Administrator, you can switch to the Domain Administrator level without the need to log on again. You can do this only if the Domain Administrator user name and password are the same as the System Administrator's

Related Topics

- *Accessing the Administration Module Common Tasks*, page 14
- *Domain Administration Common Tasks*, page 75
- *Domain Administration Overview*, page 75
- *Working with Administration Module Overview*, page 12

Switch from System Administration to Domain Administration

1. Click  to close the current window.
2. Click  .
3. In the **Open Administration Module** dialog box, click **Domain Administrator**.

Related Topics

- *Accessing the Administration Module Common Tasks*, page 14
- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Switch from Domain Administration to System Administration

1. Click  to close the current domain.
2. Click  .
3. In the **Open Administration Module** dialog box, click **System Administrator**.

Related Topics

- *Accessing the Administration Module Common Tasks*, page 14
- *Domain Administration Common Tasks*, page 75
- *Domain Administration Overview*, page 75
- *Working with Administration Module Overview*, page 12

System Administration

An Overview

System Administration is a set of activities that provide for the management of the database infrastructure. These activities include creating and defining a working environment, creating and managing user profiles (including the Domain Administrator), setting audit trail options, setting up database security, generating certain reports, and managing user sessions on multi-user versions.

Related Topics

- *Domain Administration Overview*, page 75
- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

System Administration Common Tasks

The System Administrator is responsible for defining and managing the database infrastructure, setting up the security definitions, for example, password encryption, whether user names are required to be unique, and how the software responds to users who log on with incorrect passwords. The System Administrator is also responsible for setting audit trail options, generating certain reports, and managing user sessions on multi-user versions.

As System Administrator, you can perform the following sets of tasks:

Create and Manage Domains

The System Administrator has to create, define, and manage the SmartPlant Instrumentation domains. For more information, see *Creating and Managing a Domain Common Tasks*, page 21.

Maintain Domains

This set of procedures deals with backing up, and deleting domains. For more information, see *Maintaining a Domain Common Tasks*, page 35.

Manage Database Security

This set of procedures explains how to define your database security . For more information, see *Database Security Common Tasks*, page 43.

Create and Manage User Profiles and Departments

This set of procedures deals with defining SmartPlant Instrumentation users and assigning them to various departments. For more information, see *Create and Manage User Profiles and Departments Common Tasks*, page 48.

Manage Accounting, Contractors and Clients

The System Administrator can create and maintain a list of accountants, contractors, and clients that you can associate with the domain. This information is used for reference only – it is not accessed elsewhere in the software. For more information, see *Accounting, Contractors, and Clients Common Tasks*, page 68.

Import Interface Languages

This feature enables the System Administrator to add an interface language which is currently not supported in SmartPlant Instrumentation. For more information, see *Import Interface Languages*, page 71.

Generate Reports

As System Administrator, you can generate domain and activity reports. For more information, see *Report Generation (System Administration)*, page 73.

Maintain the Database

As System Administrator, you are required to deal with certain tasks that keep the integrity of your database in tact. SQL Server and Oracle require different maintenance tasks. However, there are a number of procedures that are common to all platforms. For more information, see *Maintaining the SmartPlant Instrumentation Database*, page 53.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Working with Administration Module Overview*, page 12

Creating and Managing a Domain Common Tasks

The following set of procedures deal with creating, defining, and managing SmartPlant Instrumentation domains. You can perform the following actions:

Create a Domain

Domain is a term used in SmartPlant Instrumentation to define the working environment for your instrumentation activities. The environment can be either a project or an operating facility. The System Administrator must create a new domain before users can start working in SmartPlant Instrumentation. For more information, see *Create a Domain*, page 22.

Define a Domain

After initializing and associating a domain, you can set the definitions of the new domain in the **Domain Definition** window. Later on, if required, you can change some of these definitions. For example, you can change the domain type, activate or deactivate the audit trail options, set the workflow option, set a plant hierarchy separator, and so forth. For more information, see *Make Domain Definitions*, page 25.

Manage Activity Tracking

The domain activity tracking feature monitors the usage of every module in the domain (except for the Administration module). For more information, see *Activity Tracking Management Common Tasks*, page 31.

Activate the Audit Trail Functionality

This option allows the System Administrator to activate the audit trail mechanism. As a result, the *Domain Administrator* will be able to trim and load audit trail records. The System Administrator, however, can switch the audit trail functionality on or off as required at any stage of the plant life-cycle. For more information, see *Activate the Audit Trail Functionality*, page 29.

Enable Entity Registry

The Entity Registry is a table that can hold references to all entities (tag and loop numbers, wiring entities, and so forth), and records with information about user operations such as deleting, inserting, updating the domain data and so forth. When the System Administrator activates the entity registry options, the Domain Administrator can register entities in the Entity Registry so that other applications can retrieve SmartPlant Instrumentation data using The Engineering Framework (TEF). The System Administrator can switch the entity registry on or off as required at any stage of the plant life-cycle. For more information, see *Enable Entity Registry*, page 26.

Enable Cable Type Dependency

Cable type dependency is a method of managing cable data in the Wiring module. Using this method, it is possible to create plant cables only by copying default cables, where each default cable represents a specific cable type. As a result, certain cable properties are fixed because they are cable type-dependent. This procedure explains how the System Administrator can enable or disable cable type dependency at any stage of the plant life-cycle. For more information, see *Enable Cable Type Dependency*, page 27.

Enable Workflow

This procedure explains how to activate the SmartPlant Instrumentation workflow setup. When activated, the software displays the Workflow Browser in SmartPlant Instrumentation to enable instrument engineers to implement the workflow setup. For more information, see *Enable Workflow*, page 28.

Specify a Global Path

The System Administrator can use this procedure to specify a global path in SmartPlant Instrumentation. It is useful to specify a common global path for all users if you want the software to retrieve data from different users when performing a domain backup. The System Administrator can set or change the global path any time, at any stage of the plant life-cycle. For more information, see *Specify a Global Path*, page 29.

Related Topics

- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Create a Domain

Domain is a term used in SmartPlant Instrumentation to define the working environment for your instrumentation activities. The environment can be either a project or an operating facility. The System Administrator must create a new domain before users can start working in SmartPlant Instrumentation.

The System Administrator creates a new domain in two steps.

- Domain initialization
- Domain association

The actual procedures that are involved in these steps depend on your database platform: Oracle, SQL Server, or Sybase Adaptive Server Anywhere.

Initializing a Domain

The initialization process creates all the domain entities and the appropriate database objects. After you initialize the domain, you need to associate it with SmartPlant Instrumentation so that you can start working with it.

To learn how to initialize domains in your database platform, see *Installation Guide, Initializing a SmartPlant Instrumentation Domain* in the appropriate section for the database platform you are working with (Oracle, SQL Server, or Sybase Adaptive Server Anywhere).

If you need to initialize a new empty domain in Oracle or SQL Server, you can perform the initialization procedure without using the Administration module options of SmartPlant Instrumentation. For details, see Initialize a Domain from the Command Line.

Associating the Initialized Domain

After initialization, the association process grants you access to the objects of the new domain and allows you to utilize the SmartPlant Instrumentation features. Note that you can only associate a domain which has been initialized successfully.

To learn how to associate domains in your database platform, see *Installation Guide, Associating a Domain* in the appropriate section for the database platform you are working with.

Related Topics

- *Back Up a Domain from the Command Line*, page 38
- *Create an Operating Owner Domain*, page 92
- *Creating and Managing a Domain Common Tasks*, page 21
- *Initialize a Domain from the Command Line*, page 23
- *System Administration Common Tasks*, page 19

Initialize a Domain from the Command Line

This topic describes how to initialize a domain without using the Administration module options of SmartPlant Instrumentation. To do so, you, you need to specify additional parameters. For example, if your Operating System is Windows 2000, you specify these parameters in your Windows Server Task Scheduler.

When initializing a domain without using SmartPlant Instrumentation, you do not use any source domain, and, therefore, the software creates a new empty domain in your database platform (that is, Oracle or SQL Server).

Parameter String for Backup

Init.exe INT,<new domain name>,<new Domain schema name>,<new Domain schema password>

Notes

- You must only use commas as parameter separators.
- The parameters are not case-sensitive.

The following table describes the parameters in the order of their appearance in the parameter string.

Parameter	Description	Possible Settings
Init.exe	The initial parameter, which allows you to start the database engine.	INIT.EXE
INT	Stands for the name of the operation	INT
<New domain name>	The name of your target domain	DEMO
<New Domain schema name>	The name of the target Domain schema	DEMO
<New Domain schema password>	The password of the target Domain schema	DEMO

Example

INIT.EXE INT,DEMO,DEMO,DEMO

Related Topics

- *Back Up a Domain from the Command Line*, page 38
- *Back Up a Domain*, page 36
- *Delete a Domain*, page 39
- *Maintaining a Domain Common Tasks*, page 35
- *System Administration Common Tasks*, page 19

Make Domain Definitions

1. Start the Administration module and log on as System Administrator.
2. Do one of the following to open the **Domain Definition** window:
   - Click **File > Domain**.
   - Click  .
3. From the **Domain** list, select the required domain.
4. Click  .

   Tip

   - The domain schema name and domain schema password values are set only once, when you initialize the domain; therefore, you cannot edit these values.
5. From the **Standard** list, select a naming convention standard.

   Tip

   - You can select a naming convention standard in the **Standard** box only if you have not yet created the first instrument tag. For further information about naming convention standards, see Define Naming Conventions.
6. Do one of the following to specify the domain type:
   - Click **Operating owner** to set the domain type as Operating owner and enable users to work in projects or in AsBuilt. For further information, see Create Operating Owner Domain.
   - Click **Engineering company** to define the domain as an engineering company if you do not need the AsBuilt functionality.
7. Under **Domain features**, enable or disable the available domain features.
8. Under **Workflow**, select a desired option. For more information, see *Enable Workflow*, page 28.

   Tip

   - Workflow options are available only when the domain type is defined as Engineering company. For an Operating owner domain, the workflow is defined at the level of the projects in the domain.

9. Under **Specification title block**, from the **Custom title block assignment method**, select on of the following methods:
   - **Standard (used in all modules)**— Allows the Domain Administrator to select one specific custom title block to be assigned to all specifications. After selecting this option, the software hides all the title block assignment options that are available in the **Specifications** module.
   - **Special (used in Specifications module only)**— Allows users to assign individual title blocks to any specification, using the title block assignment options available in the **Specifications** module.
10. In the **Plant hierarchy separator** box, enter a single-character separator for all or part of a plant hierarchy is displayed as a string. For example, if the separator character is **&**, and you have plant hierarchy items **My Plant**, **My Area**, and **My Unit**, in the **Properties** dialog box for the **My Unit** item, the software displays the parent hierarchy as follows:
    My Plant&My Area
11. Under **Global path**, click **Browse** to navigate to a folder which you want to set as a global path folder. For more information, see *Specify a Global Path*, page 29.
12. Click  .

Related Topics
- *Creating and Managing a Domain Common Tasks*, page 21
- *Log on as System Administrator*, page 15
- *System Administration Common Tasks*, page 19
- *Title Block Descriptions*, page 226

Enable Entity Registry

Important

- Note that the following procedure does not register the entities, but only makes the entity registry commands available on the **DBA** menu for the Domain Administrator, who performs all the entity registry activities.

1. Start the Administration module and log on as System Administrator.
2. With the **System Administration** window open, do one of the following to open the **Domain Definition** window:
   - Click **File > Domain**.
   - Click  .
3. From the **Domain** list, select a domain.

4. Do one of the following:
   - Click **Options > Edit**.
   - Click  .
5. Under **Domain features**, select the **Entity registry** check box.
6. Click  to save the current domain data to the database.

Related Topics
- *Creating and Managing a Domain Common Tasks*, page 21
- *Entity Registry Activities Overview*, page 273
- *Log on as System Administrator*, page 15
- *System Administration Common Tasks*, page 19

Enable Cable Type Dependency

Important

- Selecting the **Cable type dependency** option makes it impossible to duplicate internal connections when duplicating cables or copying cables from **Domain Explorer** to **Reference Explorer** in SmartPlant Instrumentation. Also, the **Cable type dependency** option becomes unavailable if a SmartPlant Instrumentation user selected the **Duplicate internal connections** preference option on the **Duplicate Entities** page of the Wiring module preferences.

1. Start the Administration module and log on as System Administrator.
2. With the **System Administration** window open, do one of the following to open the **Domain Definition** window:
   - Click **File > Domain**.
   - Click  .
3. From the **Domain** list, select a domain.
4. Do one of the following:
   - Click **Options > Edit**.
   - Click  .
5. Under **Domain features**, select the **Cable type dependency** check box.
6. Click  to save the current domain data to the database.

Related Topics
- *Creating and Managing a Domain Common Tasks*, page 21
- *Log on as System Administrator*, page 15
- *System Administration Common Tasks*, page 19

Enable Workflow

Important

- Your Domain Administrator needs to define access rights at the level of individual instrument tags in order to implement workflow (for details, see *Workflow Access Rights*, page 211).

1. Start the Administration module and log on as System Administrator.
2. With the **System Administration** window open, do one of the following to open the **Domain Definition** window:
   - Click **File > Domain**.
   - Click  .
3. From the **Domain** list, select a domain.
4. Do one of the following:
   - Click **Options > Edit**.
   - Click  .
5. In the **Workflow** section, from the **Instrumentation and Process Data** list, select the required workflow from the following:
   - **Full** - the software activates all the workflow options, and marks instrument tags for release as a formal issue in a binder package. The **Release to Spec** option becomes available in the Document Binder module and in the **Spec Change Notification Options** dialog box.
   - **Without Document Binder** - the software activates all the workflow options except for the option to release instrument tags as a formal issue in a binder package.
   - **None** - No workflow options are activated.
6. Click  to save the current domain data to the database.

Related Topics

- *Creating and Managing a Domain Common Tasks*, page 21
- *Log on as System Administrator*, page 15
- *System Administration Common Tasks*, page 19
- *Workflow Access Rights*, page 211

Activate the Audit Trail Functionality

1. Start the Administration module and log on as System Administrator.
2. With the **System Administration** window open, do one of the following to open the **Domain Definition** window:
   - Click **File > Domain**.
   - Click  .
3. From the **Domain** list, select a domain.
4. Click  to enable editing of the domain definitions.
5. Under **Domain features**, select **Audit trail options**.
6. Click  .

Related Topics

- *Creating and Managing a Domain Common Tasks*, page 21
- *Log on as System Administrator*, page 15
- *System Administration Common Tasks*, page 19

Specify a Global Path

Important

- If you change the existing global path, all user-defined paths remain linked to the previous global path. For example, if you change the global path from \\APP_SERVER\SmartPlant\Instrumentation to \\APP_SERVER_1\SmartPlant\Instrumentation, and a user has already specified a path to the PSR folder, in the appropriate box, the user-defined path is displayed as a full path \\APP_SERVER\SmartPlant\Instrumentation\PSR.

1. Start the Administration module and log on as System Administrator.
2. With the **System Administration** window open, do one of the following to open the **Domain Definition** window:
   - Click **File > Domain**.
   - Click  .
3. From the **Domain** list, select a domain.
4. Do one of the following:
   - Click **Options > Edit**.
   - Click  .

5. In the **Global path** group box, click **Browse** to navigate to the folder which you want to set as a global path.

   Tips

   - We recommend that you specify a path that complies with universal naming conventions (that is, it starts with \\). If you want to use mapped drives, make sure that all SmartPlant Instrumentation users have the same drive mapping.
   - A global path does not apply to individual temporary folder settings.
   - Select **Allow to overwrite the global path** if you want to allow users to set user-defined paths in addition to the specified global path. When this check box is selected, users are not restricted to setting new paths in SmartPlant Instrumentation only within the global path folder.

6. Click  to save the current domain data to the database.

Related Topics

- *Creating and Managing a Domain Common Tasks*, page 21
- *Log on as System Administrator*, page 15
- *System Administration Common Tasks*, page 19

Activity Tracking Management Common Tasks

The domain activity tracking feature monitors the usage of every module in the domain (except for the Administration module). You can perform the following actions:

Set the Activity Tracking Mode

You can use the activity tracking functionality to log user activity, that is, to show which modules users have worked in and the length of time for which they were logged on. You can also switch off activity tracking to obtain faster performance. For more information, see *Set the Activity Tracking Mode*, page 31.

Clear Activity Tracking Data

You can delete some or all of the activity-tracking data, if required. You can delete the activity-tracking according to a selected time period, user, domain, or module. For more information, see *Clear Activity Tracking Data*, page 32.

Generate a Grid-Style Activity Tracking Report

This option enables you to generate a report in tabular format showing usage of SmartPlant Instrumentation according to domain, module, and user. For more information, see *Generate a Grid-Style Activity Tracking Report*, page 33.

Generate a Graph-Style Activity Tracking Report

This option enables you to generate a report in graphical format showing usage of SmartPlant Instrumentation according to domain, module, and user. For more information, see *Generate a Graph-Style Activity Tracking Report*, page 34.

Related Topics

- *Creating and Managing a Domain Common Tasks*, page 21
- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Set the Activity Tracking Mode

1. With the **System Administration** window open, do one of the following:
   - Click **File > Domain**.
   - Click  .
2. From the **Domain** list, select the required domain.
3. Do one of the following:
   - Click **Options > Edit**.
   - Click  .

4. Under **Domain features**, select or clear the **Activity Tracking** check box.
5. Click  to save the current domain data to the database.

Related Topics

- *Activity Tracking Management Common Tasks*, page 31
- *Creating and Managing a Domain Common Tasks*, page 21
- *System Administration Common Tasks*, page 19

Clear Activity Tracking Data

1. With the **System Administration** window open, click **DBA > Clear Activity Tracking**.
2. To delete the activity tracking data according to a selected time period, select the **Period** check box to include the time period in the deletion criteria.
3. In the **From** and **To** data fields, type the appropriate date range.
4. To delete the activity tracking data according to a selected user, select the **User** check box to include a user in the deletion criteria. (Clearing the **User** check box allows you to delete the activity tracking data for all users.)
5. From the **User** list, select the user whose activity tracking data you want to delete.
6. To delete the activity tracking data according to a selected domain, select the **Domain name** check box to include the domain name in the deletion criteria. (Clearing the **Domain name** check box allows you to delete the activity tracking data for all domains.)
7. From the **Domain name** list, select the domain whose activity tracking data you want to delete.
8. To delete the activity tracking data according to a selected module, select the **Module** check box to include the module name in the deletion criteria. (Clearing the **Module** check box allows you to delete the activity tracking data for all modules.)
9. From the **Module** list, select the module whose activity tracking data you want to delete.

   Tip

   - To clear activity tracking, you must select at least one check box.
10. Click **OK**.

Related Topics

- *Activity Tracking Management Common Tasks*, page 31
- *Creating and Managing a Domain Common Tasks*, page 21
- *System Administration Common Tasks*, page 19

Generate a Grid-Style Activity Tracking Report

1. Click **Report > Activity Tracking - Grid**.
2. From the **Main category** list, select the main category according to which you want to display the information.
3. From the **Secondary category** list, select the secondary category according to which you want to display the information.
4. In the **Period** section, type the range of dates (**From**, **To**) for which you want to generate the report.

   Important

   - The date format must comply with the one defined in your system. See your Windows User Guide for additional information about the date format supported by your system.
5. In the **Deleted domains** section, do one of the following:
   - Click **Ignore** to display only current domains in the report.
   - Click **Include** to display deleted domains in the report.
6. In the **Terminated activities** section, do one of the following:
   - Click **Include** to display terminated activities (these are activities where the software closed down due to a power failure or restarting the workstation by pressing Ctrl + Alt + Del).
   - Click **Exclude** to exclude terminated activities from the report.
   - Click **Only** to display only terminated activities in the report.
7. Click **OK** to open the **Print Preview** dialog box, from where you can view and print the report.

Note

- If **Domain** and **User** are selected as the main and secondary categories, the hours shown in the third column are divided per module. In all other cases, only the total number of hours is shown.

Related Topics

- *Activity Tracking Management Common Tasks*, page 31
- *Creating and Managing a Domain Common Tasks*, page 21
- *Generate a Graph-Style Activity Tracking Report*, page 34
- *Report Generation (System Administration)*, page 73
- *System Administration Common Tasks*, page 19

Generate a Graph-Style Activity Tracking Report

1. Click **Report > Activity Tracking - Graph**.
2. From the **Main category** list, select the main category according to which you want to display the information.
3. From the **Secondary category** list, select the secondary category according to which you want to display the information.

   Tips

   - Selecting the **Domain** option from either of the category lists enables you to select up to ten domains to show in the report.
   - Selecting the **User** option from either of the category lists enables you to select up to ten users to show in the report.
   - For the secondary category, selecting the **General** option means that the activities will be divided according to the main category only.
4. In the **Period** section, type the range of dates (**From**, **To**) for which you want to generate the report.

   Important

   - The date format must comply with the one defined in your system. See your Windows User Guide for additional information about the date format supported by your system.
5. In the **Deleted domains** section, do one of the following:
   - Click **Ignore** to display only current domains in the report.
   - Click **Include** to display deleted domains in the report.
6. In the **Terminated activities** section, do one of the following:
   - Click **Include** to display terminated activities (these are activities where the software closed down due to a power failure or restarting the workstation by pressing Ctrl + Alt + Del).
   - Click **Exclude** to exclude terminated activities from the report.
   - Click **Only** to display only terminated activities in the report.
7. In the **Graph type** section, select one of the following graph types:
   - **Area** - filled-area graph.
   - **Bar** - horizontal bar graph.
   - **Column** - vertical graph.
   - **Pie** - pie graph.
8. Click **OK** to open the **Print Preview** dialog box, from where you can view and print the report.

Maintaining a Domain Common Tasks

As System Administrator, you are responsible for backing up and, if necessary, deleting SmartPlant Instrumentation domains. You can perform the following actions:

Back Up a Domain

This procedure enables the System Administrator to select an existing domain on the server database on SQL Server or Oracle and then back up this domain to the backup repository. The backup repository is the INtools_Backup.db database, which is a Sybase Adaptive Server Anywhere database, created automatically during SmartPlant Instrumentation setup. For more information, see *Back Up a Domain*, page 36.

Back Up a Domain from the Command Line

This topic explains how to back up a domain to INtools_Backup.db database without using the Administration module options of SmartPlant Instrumentation. For more information, see *Back Up a Domain from the Command Line*, page 38.

Delete a Domain

The System Administrator can delete a domain that is no longer in use. In SQL Server and Sybase Adaptive Server Anywhere, you need to associate a new domain with SmartPlant Instrumentation before deleting it. For more information, see *Delete a Domain*, page 39.

Delete an Invalid Domain on SQL Server

An invalid domain is a domain whose initialization process failed to complete. You can use this option to delete an invalid domain and also automatically delete all database files associated with this domain. For more information, see *Delete an Invalid Domain on SQL Server*, page 42.

Delete an Invalid Domain on Oracle

An invalid domain is a domain whose initialization process failed to complete. You can use this option to delete an invalid domain. For more information, see *Delete an Invalid Domain on Oracle*, page 41.

Related Topics

- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Back Up a Domain

This procedure allows you to back up data of a specific domain to the backup repository in Sybase Adaptive Server Anywhere. You must use the INtools_Backup.db databases as the backup repository. Also, you can use a clean copy of this database, provided that the name of the copy is also INtools_Backup.db.

To the backup repository, you can only back up data from a single domain. Therefore, to be able to make several backups, you need to have several copies of INtools_Backup.db. If you have already used the INtools_Backup.db for a backup and forgot to make a clean copy of INtools_Backup.db, you can obtain another INtools_Backup.db from Intergraph Support, and then use it as a master database for making copies.

The backup repository and its copies are only compatible with the current version of SmartPlant Instrumentation. After you install a new service pack for the current version, you can only use the backup repository that is supplied with the service pack.

Important

- When backing up a domain, the software does not back up the audit trail data. Therefore, before performing the domain backup, you must make sure that you trimmed all the audit trail data. Then, you can back up the trimmed audit trail data manually. For details, see *SmartPlant Instrumentation Installation and Upgrade Guide, Backup and Restore, Backing up Files Containing Audit Trail Data*.

The backup procedure involves the following operations:

- Connecting to the target Sybase Adaptive Server Anywhere database.
- Connecting to the database containing a domain you want to back up.
- Selecting a domain for backup.
- Backing up the domain to the backup repository.

After completing the backup procedure, you can do the following:

- Initialize a new domain using the backed up domain as a source.
- Restore the backed up domain from the backup repository to Oracle or SQL Server, or to another Sybase Adaptive Server Anywhere database file.

Important

- If you work in thin client environment, for example, Citrix, you must copy the INTOOLS.INI file to the SmartPlant Instrumentation home folder on the server machine to be able to perform a backup procedure.

On backup completion, remove the INTOOLS.INI file from the server machine.

1. With the **System Administration** window open, click **File > Backup**.
2. In the **Backup Repository** dialog box, click **Browse** to navigate to the INtools_Backup.db database file, and display it in the **Target database name and path** box.
3. Click **Connect** to connect to INtools_Backup.db and to the current database.
4. In the **Source Database** dialog box, from the **Domain** list, select the domain which you want to back up.
5. Select **Save last created ID for merging renamed entities** to save the ID of the last entity that was created in the domain. You can select this option if you later intend to merge entities in the Merger Utility. For details, the check box description in the Help topic for the **Source Database** dialog box.
6. If required, select **Copy users to target domain** to copy the user definitions from the source domain to the target Sybase Adaptive Server Anywhere database file.
7. If required, select **Copy departments to target domain** to copy the department definitions from the source domain to the target Sybase Adaptive Server Anywhere database file.
8. Click **OK** to start the backup process and monitor the progress in the **Backup** dialog box.

Tips

- The name of the backed up domain is INtools_Backup. The Domain schema name and password are also INtools_Backup. You cannot change these settings.
- On completion of the backup process, the software records the errors in the initlog.txt file, located in the SmartPlant Instrumentation home folder.
- In the target database, the domain type is the same as in the source database.

9. Click **Close** after the backup is completed.

Note

- When backing up an *Operating owner* domain, you need to rebuild the projects after the backup process is complete.

Related Topics

- *Back Up a Domain from the Command Line*, page 38
- *Delete a Domain*, page 39
- *Export Project Data for Backup or Working Off-Site*, page 102
- *Initialize a Domain from the Command Line*, page 23
- *Managing Audit Trail Data Overview*, page 255
- *Rebuild a Project*, page 106

Back Up a Domain from the Command Line

You can perform a domain backup without using the Administration module options of SmartPlant Instrumentation. To do so, you, you need to specify additional parameters. For example, if your Operating System is Windows 2000, you specify these parameters in your Windows Server Task Scheduler.

Parameter String for Backup

Init.exe BKC,<target domain name>,<target Domain schema name>,<target Domain schema password>,<'copy users' flag>,<'copy departments' flag>,<'save last created ID' flag>,<source domain name>,<path to the target database>

Notes

- You must only use commas as parameter separators.
- The parameters are not case-sensitive.

The following table describes the parameters in the order of their appearance in the parameter string.

Parameter	Description	Possible Settings
Init.exe	The initial parameter, which allows you to start the database engine.	INIT.EXE
BKC	Stands for the name of the operation	BKC
<Target domain name>	The name of your target domain	DOMAIN_TARGET
<Target Domain schema name>	The name of the target Domain schema	DEMO
<Target Domain schema password>	The password of the target Domain schema	DEMO
<'copy users' flag>	The Yes/No parameter for copying user definitions from the source domain to the target Sybase Adaptive Server Anywhere database file	Y or N
<'copy departments' flag>	The Yes/No parameter for copying the department definitions from the source domain to the target Sybase Adaptive Server Anywhere database file.	Y or N

Parameter	Description	Possible Settings
<'save last created ID' flag>	The Yes/No parameter for saving the ID of the last entity that was created in the domain. Set this parameter to Y (yes) if you later intend to merge entities in the Merger utility. Set this parameter to N (no) if you previously backed up the domain and you want to merge data that was modified since this previous backup.	Y or N
<Source domain name>	The name of the domain that you use as a source for backup	DOMAIN_SOURCE
<Path to the target database>	The full path to the target SmartPlant Instrumentation database and the database file name itself	d:\Program Files\SmartPlant\ Instrumentation\ INtools_Backup.db

Example

Init.exe BKC,domain_target,DEMO,DEMO,y,y,n,domain_source, d:\Program Files\SmartPlant\Instrumentation\INtools_Backup.db

Related Topics

- *Back Up a Domain*, page 36
- *Delete a Domain*, page 39
- *Initialize a Domain from the Command Line*, page 23
- *Maintaining a Domain Common Tasks*, page 35
- *System Administration Common Tasks*, page 19

Delete a Domain

Important

- Deletion is an operation you should consider very carefully before attempting to perform it. If you delete a domain, all the database tables associated with it will be deleted. Since this operation is irreversible, you should consider backing up your domain (or your entire database, if required) before deleting. See *Installation Guide, Backup and Restore* to learn more about backup procedures on your database platform.

1. Do one of the following to open the **Domain Definition** window:
   - Click **File > Domain**.
   - Click  .
2. Do one of the following
   - Click **File > Domain**.
   - Click  .

Notes

- When deleting a domain in Oracle and if the software detects a rollback segment problem, an appropriate message appears. In this case, click **OK** and then click **Delete** again. If this kind of message reappears, click **OK** each time and then restart the deletion process until you receive a message notifying you that the domain has been deleted successfully. The possible problems that cause the occurrence of the error messages are insufficient disk space, non-optimal storage clause, or insufficient number of rollback segments.
- After deleting a domain in Oracle, a message is displayed with a list of physical tablespace data files to delete.
- In SQL Server 7.0, deleting a domain automatically deletes the filegroup and data files associated with the domain.
- In Sybase Adaptive Server Anywhere, after a domain is deleted, the Sybase Adaptive Server Anywhere database engine automatically optimizes the database size of INTOOLS.DB.

Related Topics

- *Delete an Invalid Domain on Oracle*, page 41
- *Delete an Invalid Domain on SQL Server*, page 42
- *Maintaining a Domain Common Tasks*, page 35
- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Delete an Invalid Domain on Oracle

Important

- The following operation is irreversible!

1. With the **System Administration** window open, click **DBA > Delete Invalid Domain**.
2. In the **Delete Invalid Domain** dialog box, from the **Domain Name** list, select the invalid domain.

   Tip

   - If the list is empty, there are no corrupted domains in the current database.
3. Click **Start**.

Notes

- After you click **Start**, you cannot stop the deletion process.
- The duration of the deletion process depends on the stage at which the domain initialization failed: the later the stage, the longer the deletion process.
- On Oracle, SmartPlant Instrumentation does not automatically delete all the data files associated with a deleted domain. You need to delete the remaining data files manually. You can view and print out the list of these data files in the **Data Files to Delete Manually** dialog box, which opens after SmartPlant Instrumentation completes the invalid domain deletion.

Related Topics

- *Delete a Domain*, page 39
- *Maintaining a Domain Common Tasks*, page 35
- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Delete an Invalid Domain on SQL Server

Important

- The following operation is irreversible!

1. With the **System Administration** window open, click **DBA > Delete Invalid Domain**.
2. In the **Delete Invalid Domain** dialog box, from the **Domain Name** list, select the invalid domain.

   Tip

   - If the list is empty, there are no corrupted domains in the current database.
3. Click **Start**.

   Tip

   - If you use the default login password (empty) to log on to the SQL Server, after you click **Start**, SmartPlant Instrumentation automatically connects to the database and the deletion process begins.
4. If you use a login password other than the default, in the **DB Server System Administrator** dialog box, in the **Login password** field, type your password to log on to the SQL Server database.
5. Click **OK** to start the deletion process.

Notes

- After you click **Start**, you cannot stop the deletion process.
- The duration of the deletion process depends on the stage at which the domain initialization failed: the later the stage, the longer the deletion process.
- In SQL Server 7.0/2000, SmartPlant Instrumentation automatically deletes all the data files associated with an invalid domain.

Related Topics

- *Delete a Domain*, page 39
- *Maintaining a Domain Common Tasks*, page 35
- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Database Security Common Tasks

As *System Administrator*, you are responsible for setting up the general security definitions, for example, password encryption, whether user names are required to be unique, and how the software responds to users who log on with incorrect passwords. You are also responsible for managing multiple user connections and database locking options for multi-user platforms.

You can perform the following procedures:

Change the System Administrator Password

After logging on to SmartPlant Instrumentation for the very first time, it is recommenced that you change the default System Administrator logon password, which is DBA. This procedure explains how to do it. For more information, see *Change System Administrator Password*, page 44.

Encrypt the Admin Schema Logon Password

This option allows you to encrypt the Admin schema logon password to prevent unauthorized users from viewing the logon names and passwords, and modifying or deleting data. For more information, see *Encrypt the Admin Schema Logon Password*, page 44.

Encrypt All User Password

This option allows you to encrypt all user passwords and prevent other users, including the System Administrator or any other super database user, from logging on other than under their own logon name. For more information, see *Encrypt All User Passwords*, page 45.

Set Security Options

You can increase security when logging on to SmartPlant Instrumentation by ensuring that every user logs on using a unique password. You can also specify a minimum length of five characters for passwords. For more information, see *Set Security Options*, page 45.

Set the Database Locking Mode

This option enables you to work faster in a multi-user version of SmartPlant Instrumentation by disabling database locking.. For more information, see *Set Database Locking Mode*, page 47.

Related Topics

- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Change System Administrator Password

1. With the **System Administration** window open, click **File > Change Password**.
2. In the **Current password** field, type the current System Administrator login password.
3. In the **New password** field, type the new System Administrator login password.
4. In the **Confirm** new password field, retype the new password, and click **OK**.

Notes

- The passwords that you type appear masked.
- The System Administrator login password is not case-sensitive.

Related Topics

- *Database Security Common Tasks*, page 43
- *Working with Administration Module Overview*, page 12

Encrypt the Admin Schema Logon Password

1. With the **System Administration** window open, click **DBA** > **Security Options** > **Admin Schema Password Encryption**.
2. Type the new Admin schema logon password.
3. Click **OK**.

Notes

- This option is not available in Sybase Adaptive Server Anywhere.
- After you select to encrypt the Admin schema logon password the values of the LogId and LogPassword are automatically cleared from the [DATABASE] section of INTOOLS.INI file on the System Administrator's workstation. On all other workstations, the System Administrator has to delete the values of these parameters, including the equal sign (`='). For example, where the parameters are displayed as shown: LogId=IN_DBAMN LogPassword=IN_DBAMN You should delete the text '=IN_DBAMN' in each of the lines above.
- To revert to the previous password settings, replace the text '=IN_DBAMN' for the above parameters in the INTOOLS.INI file.

Related Topics

- *Database Security Common Tasks*, page 43
- *Encrypt All User Passwords*, page 45
- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Encrypt All User Passwords

1. With the **System Administration** window open, click **DBA** > **Security Options** > **User Password Encryption**.
2. Click **OK** to encrypt all SmartPlant Instrumentation user passwords.

Note

- The Database System Administrator or any user with the appropriate database access rights can access the users' logon information stored in the USERS table. See your database platform User Guide for further information about the available facilities to access the database tables.

Related Topics

- *Database Security Common Tasks*, page 43
- *Encrypt the Admin Schema Logon Password*, page 44
- *Set Security Options*, page 45
- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Set Security Options

1. With the **System Administration** window open, click **Activities > Security Options**.
2. In the **Security Options** dialog box, select the check boxes as required.

Note

- If you want to select or clear the **Enable Windows authentication login** check box, we strongly recommend that you read the *Windows Authentication Login Overview*, page 192 topic. Enabling or disabling this option can prevent certain users from accessing SmartPlant Instrumentation.

Related Topics

- *Database Security Common Tasks*, page 43
- *System Administration Common Tasks*, page 19
- *Windows Authentication Login Overview*, page 192
- *Working with Administration Module Overview*, page 12

Database Locking Mode (for Multi-User Versions)

This option enables you to work faster in a multi-user version of SmartPlant Instrumentation by disabling database locking. Normally, when working in a multi-user environment such as Oracle or SQL Server, all database objects, for example, triggers, stored procedures, and so forth become automatically locked. Locking objects prevents sharing violation problems from happening when several users try to access the same instrumentation data entity at the same time. Note that this locking mechanism slows down your work.

In multi-user versions of SmartPlant Instrumentation (Oracle and SQL Server), all database objects are locked by default. However, depending on the way you manage your database, you can unlock all database objects, thus making the software work faster. You can also revert to the default mode and lock the database objects any time you need.

To learn how to set your database locking mode, see *Set Database Locking Mode*, page 47.

Notes

- Remember that once you unlock your database objects, there is no mechanism which prevents sharing violation problems from happening. In this case database problems can occur when more than one user tries to work on the same entity.

Related Topics

- *Database Maintenance on SQL Server Common Tasks*, page 59
- *Database Security Common Tasks*, page 43
- *Set Database Locking Mode*, page 47
- *Working with Administration Module Overview*, page 12

Set Database Locking Mode

1. Start the **Administration** module and enter as System Administrator.
2. In the **System Administration** window, do one of the following:
   - Click **File > Domain Definition**.
   - Click  .
3. In the **Domain Definition** window, from the **Domain** list, select the domain whose locking mode you want to change.
4. Click 
5. Under **Domain features**, select **Single mode** to enable locking of entities and to switch to multi-user mode.
6. Click 

Related Topics

- *Database Locking Mode (for Multi-User Versions)*, page 46
- *Database Security Common Tasks*, page 43
- *Working with Administration Module Overview*, page 12

Create and Manage User Profiles and Departments Common Tasks

As System Administrator, you are responsible for the creation of all SmartPlant Instrumentation users and for the management of their profiles. Also, you assign them to various departments and determine who of the users will function as the Domain Administrator.

You can perform the following tasks:

Create and Manage Departments

Departments are used to provide extra information about your users. Department names appear in the **Users** dialog box only. For more information, see *Create and Manage Departments*, page 49.

Create and Manage User Profiles

The System Administrator must define all the users that can work in SmartPlant Instrumentation. The System Administrator can also assign users to departments and edit the user profile information, including user passwords. For more information, see *Define a SmartPlant Instrumentation User*, page 50.

Assign a Domain Administrator

As System Administrator, you must assign a Domain Administrator when associating a new domain. You can change the Domain Administrator later if required. For more information, see *Assign a Domain Administrator*, page 52.

Related Topics

- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Create and Manage Departments

1. Start the Administration module and log on as System Administrator.
2. With the **System Administration** window open, do one of the following to open the **Domain Definition** window:
   - Click **Activities > Department**.
   - Click  .
3. Click **New**.
4. Under **Department**, **Description**, and **Note**, type the appropriate values.
5. Click **Apply**.
6. To edit or delete an existing department, from the **Department** list, select a department.
7. Click **Edit** or **Delete** as you require.
8. Click **Close** when done.

Note

- Note that the software creates a default department with each new domain. If required, you can assign all your users to this department.

Related Topics

- *Create and Manage User Profiles and Departments Common Tasks*, page 48
- *Log on as System Administrator*, page 15
- *System Administration Common Tasks*, page 19

Define a SmartPlant Instrumentation User

1. Start the Administration module and log on as System Administrator.
2. With the **System Administration** window open, do one of the following to open the **Domain Definition** window:
   - Click **Activities > User**.
   - Click  .
3. In the **User** dialog box, click **New**.
4. Under **User**, type a **unique** user name.

   Tips

   - The user name can contain up to thirty characters. The software applies upper case to all alphabetic characters. You can use any combination of characters.
   - If you intend to use Windows authentication login, you must define a user group with the same name as a user group defined in Windows. In this case, you do not have to define users at all. Then, whenever a user that belongs to the Windows group accesses SmartPlant Instrumentation for the first time, the software logs on this user and assigns the user to the SmartPlant Instrumentation group. The user name appears in the **User** dialog box automatically.
5. Under **User initials**, type the appropriate initials. The software uses this value to identify the reviewer in all the revisions created in the software.
6. From the **Department** list, select a department to which you want to assign the user.
7. Under **Password**, type a unique login password for the user.

   Tip

   - A password can contain up to 15 characters (not case-sensitive). The password that you type appears masked.
8. Under **Verify new password**, retype the password you just entered.
9. Select the **System Administrator** check box if you want to grant System Administrator rights to the new user.

   Tip

   - In SmartPlant Instrumentation, there can be more than one user with System Administrator access rights.

10. Select the **IDEAL user** check box if you want this user to generate reports using IDEAL. After defining an IDEAL user, the software can make a connection between the SmartPlant Instrumentation Server and the SmartPlant Instrumentation database.

Tips

- You must log on to SmartPlant Instrumentation using the IDEAL user name and password to be able to set the preferences for IDEAL report generation that the software can recognize.
- Only one IDEAL user can be defined per domain.

11. Under **Note**, type a brief note as required.
12. Click **Apply**.

Notes

- To edit the profile of an existing user, select the required user from the **User** list and click **Edit.**
- To delete a user from the system, select the required user from the **User** list and click **Delete**.
- Deleting a user means that this individual will no longer be able to access SmartPlant Instrumentation. However, the history and activity tracking information associated with that user will continue to exist in the database. For this reason, every user should have a name that is unique in the system.
- If you want to delete a user who is a System Administrator or Domain Administrator, you must first assign a different user as the System or Domain Administrator.

Related Topics

- *Create and Manage User Profiles and Departments Common Tasks*, page 48
- *Log on as System Administrator*, page 15
- *System Administration Common Tasks*, page 19

Assign a Domain Administrator

1. Start the Administration module and log on as System Administrator.
2. Do one of the following to open the **Domain Definition** window:
   - Click **File > Domain**.
   - Click  .
3. From the **Domain** list, select the required domain.
4. Click  .
5. From the **Administrator** list, select a user who will function as Domain Administrator.

   Tip

   - The Domain Administrator name password remain the same that you have set in the **User** dialog box when you created that user's profile.
6. Repeat steps 2 through 4 to assign additional Domain Administrators as you require.
7. Click  .

Related Topics

- *Create and Manage User Profiles and Departments Common Tasks*, page 48
- *Log on as System Administrator*, page 15
- *System Administration Common Tasks*, page 19

Maintaining the SmartPlant Instrumentation Database

As *System Administrator*, you are required to deal with certain tasks that keep the integrity of your database in tact. Maintenance tasks differ from database platform to database platform. However, there are a number of procedures are common to all platforms. The maintenance procedures are grouped according to the following categories.

Related Topics

- *System Administration Common Tasks*, page 19
- *System Administration Overview*, page 19
- *Working with Administration Module Overview*, page 12

General Database Maintenance Common Tasks

The following tasks are used frequently when you need to perform general database maintenance tasks.

Define Database Profiles

This procedure shows how to define multiple database profiles for SmartPlant Instrumentation access. This means that when logging on to SmartPlant Instrumentation, an user will be able to select the required database from the **Database profile** list in the **Login** dialog box. Multiple database connections at login become available after defining the required database profiles in the INTOOLS.INI file. Note that all the databases that you want to make available for connection must belong to the same database platform: Oracle, SQL Server, or Sybase Adaptive Server Anywhere. For more information, see *Define Database Profiles*, page 55.

Rebuild Default Views in Domains

The *System Administrator* can rebuild the default views of all the database objects for a domain that you specify. You must rebuild the default views after upgrading SmartPlant Instrumentation to Version 7. This is because during the upgrade, the software makes changes to certain tables, and as a result, the default views associated with these tables might become invalid. For more information, see *Rebuild Default Views in Domains*, page 56.

Rebuild Stored Procedures and Triggers

The *System Administrator* performs this procedure if the software displays inappropriate SQL messages. This procedure allows to identify abnormal database behavior and solve it by rebuilding the stored procedures and triggers in the database. You can recreate stored procedures either for the Admin schema or for the Domain schema. For more information, see *Rebuild Stored Procedures and Triggers*, page 57.

Rebuild Catalog Tables

The software uses catalog tables to enable users to work with multi-tag specifications in the Specifications module. The software creates the catalog tables during the SmartPlant Instrumentation database setup. If the software encounters a database problem when creating the catalog tables, you can try to rebuild them to resolve the problem. If such a problem occurs, the software displays a message notifying you that you cannot work with multi-tag specifications due to a problem with the catalog tables. For more information, see *Rebuild Catalog Tables*, page 58.

Related Topics

- *Maintaining the SmartPlant Instrumentation Database*, page 53
- *System Administration Common Tasks*, page 19
- *System Administration Overview*, page 19

Define Database Profiles

1. In the INTOOLS.INI file, create a [Profiles] section, if one does not already exist , and define the list of all available database profiles and the default profile name, for example:

   ```
   [Profiles]
   Database1=IN_DEMO
   Database2=INTOOLS
   Database3=DEVELOP1
   Default=IN_DEMO
   ```

2. For each database that appears in the profiles list, define the connection parameters for each database appear under a section designated for that database, for example:

   ```
   [IN_DEMO]
   DBMS=O84
   LogId=IN_DBAMN
   LogPassword=IN_DBAMN
   ServerName=QA1ORC2
   Database=ORC2
   UserId=
   DatabasePassword=
   TableDir=0
   StayConnected=1
   AutoCommit=0
   DBParm='DISABLEBIND=1'
   Prompt=110
   Commit=100
   ```

Notes

- The profiles that appear in the **Logon Information** dialog box are specific to the database platform to which you have connected; profiles associated with other platforms do not appear.
- If you define only one database profile for a particular platform, the software connects by default to that database, and the **Database** list does not appear in the **Logon Information** dialog box.

Related Topics

- *Accessing the Administration Module Common Tasks*, page 14
- *General Database Maintenance Common Tasks*, page 54
- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Rebuild Default Views in Domains

Important

- You can only rebuild the default views supplied with the SmartPlant Instrumentation database. You cannot rebuild any user-defined views.
- Make sure that all users have logged out of the database before starting this procedure.

1. With the **System Administration** window open, click **DBA > Rebuild Default Views in Domains**.
2. From the **Domain** list, select the domain whose database views you want to rebuild.
3. In the **View-Only Domain schema password** box, enter the logon password of the View-Only Domain schema. The password characters appear masked. You need to enter this password to connect to the View-Only Domain schema, which holds database views of all tables in a domain. This schema enables viewing data for users of report generators, such as Microsoft Access and InfoMaker.

   Tip

   - You can change the password only once, when initializing a new domain. If you did not change the password when initializing the selected domain, enter the default logon password, which is <domain name>_VIEW. The <domain name> segment corresponds to the Domain schema logon name in the database.
4. If working on SQL Server, type the SQL Server System Administrator's password.
5. Click **OK** to start rebuilding the views of the selected domain.

Related Topics

- *Database Maintenance on SQL Server Common Tasks*, page 59
- *General Database Maintenance Common Tasks*, page 54
- *Maintaining a Domain Common Tasks*, page 35

Rebuild Stored Procedures and Triggers

Important

- This option should **not** be handled without Intergraph Support supervision.
- Make sure that all users have logged out of the SmartPlant Instrumentation database before starting this procedure.

1. With the **System Administration** window open, click **DBA > Rebuild Procedures and Triggers**.
2. Do one of the following:
   - Click **Admin schema** to rebuild stored procedures and triggers of the Admin schema.
   - Click **Domain schema** and then, under **Domain**, select a domain for which you can rebuild stored procedures and triggers.
3. Click **OK**.

Tips

- When upgrading the Admin schema, the Domain list is redundant as its value is DEFAULT.
- At this point you can select the default LOG.TXT file. This file will contain the update process information of your current update session and any errors that may have occurred. The log file is incremented if you use the same log file name.
- If the upgrade stops for any reason (for example, insufficient memory), you can restart the process and the upgrade will continue from where it stopped. If you get an error that cannot be corrected, contact Customer Support with the error description. It is recommended that you have your log file available when calling Customer Support.

4. In the **Database Upgrade** dialog box, click **OK** to start updating the stored procedures and triggers of the selected schema. At the end of the upgrade process, an appropriate message is displayed and the LOGERROR.TXT and the LOG.TXT files are generated.

Note

- The LOGERROR.TXT file is created automatically and lists any errors that may have occurred. The data in this file is incremented between sessions. Please send the LOGERROR.TXT file (if created) to Intergraph Support after you complete the upgrade process.

Related Topics

- *Maintaining a Domain Common Tasks*, page 35

Rebuild Catalog Tables

Important

- Make sure that all users have logged out of the SmartPlant Instrumentation database before starting this procedure.

1. With the **System Administration** window open, click **DBA > Rebuild Catalog Tables**.
2. Click **OK** to start rebuilding all the catalog tables.

Related Topics

- *General Database Maintenance Common Tasks*, page 54
- *Maintaining a Domain Common Tasks*, page 35

Database Maintenance on SQL Server Common Tasks

SQL Server 7.0/2000 uses data files which are resized automatically as the data grows, until the disk is full. When this happens, you can add another data file on a different disk. The following tasks are used frequently when you need to perform database maintenance tasks on SQL Server.

Add a Filegroup

Filegroups are used as containers for datafiles. A filegroup can be connected to one database only. Usually, two filegroups are used for each domain: one for data tables and the other for table indexes. You can backup and restore data for a filegroup. A primary filegroup contains stored procedures and triggers. When deleting a domain, the entire filegroup and the datafiles it contains are deleted, resulting in cleaner data, without causing damage to the database. For more information, see *Add a Filegroup*, page 60.

Print Filegroup Information

This procedure explains how the *System Administrator* can display the list of all the existing SQL Server filegroups and print out the filegroup information. For more information, see *Print Filegroup Information*, page 61.

Add a Log File

The database log file is used internally by SQL Server to backtrack aborted user sessions. This way you can resume any previous sessions that you stopped or canceled. This procedure explains how to add a log file. For more information, see *Add a Log File*, page 61.

Add a Datafile to the TEMPDB Database

This option enables the *System Administrator* to add a datafile to the SQL Server TEMPDB Database. This database is used internally by the SQL Server to make all the required temporary operations. Such operations are needed when SmartPlant Instrumentation brings data in a certain order, and the database needs to sort this set of data after retrieving it. For more information, see *Add a Datafile to the TEMPDB Database*, page 60.

Optimize Indexes

You can use this option to optimize fragmented SQL Server indexes. The SQL Server indexes become fragmented during the domain lifetime and contribute to database under-performance. In this case you can rearrange your SQL Server indexes to optimize them. As you keep storing and deleting domain data, the SQL Extents become disordered thus slowing down SQL operation. SmartPlant Instrumentation solves this problem by reordering the indexes stored in these Extents. For more information, see *Optimize Indexes*, page 62.

Update Statistics

This option enables you to improve the SmartPlant Instrumentation database performance on SQL Server after optimizing the SQL Server indexes or after initializing a domain. For more information, see *Update Statistics*, page 63.

Related Topics

- *Maintaining the SmartPlant Instrumentation Database*, page 53
- *System Administration Common Tasks*, page 19
- *System Administration Overview*, page 19

Add a Filegroup

1. With the **System Administration** window open, click **DBA > Add Datafiles**.
2. Click the **Filegroup** tab.
3. In the **System Admin. Password** field, type the password to log on as the Database System Administrator (this field is empty by default).
4. In the **New file information** section, type the datafile name, the datafile location, and the initial size (in MB).
5. Click **Add** to add the filegroup.

Related Topics

- *Database Maintenance on SQL Server Common Tasks*, page 59
- *System Administration Common Tasks*, page 19

Add a Datafile to the TEMPDB Database

Important

- On SQL Server 7.0/2000, TEMPDB is automatically incremented and depends on a disk size. If TEMPDB reaches the disk limit, you can increase the TEMPDB database size by adding a datafile to another disk.

1. With the **System Administration** window open, click **DBA > Add Datafiles**.
2. Click the **Tempdb** tab.

3. In the **New file information** section, type the datafile name, the datafile location, and the initial size (in MB).
4. Click **Add** to add the datafile to the TEMPDB database.

Related Topics

- *Database Maintenance on SQL Server Common Tasks*, page 59
- *System Administration Common Tasks*, page 19

Print Filegroup Information

1. Start the Administration module and log on as System Administrator.
2. With the **System Administration** window open, click **DBA > Filegroup List**.
3. In the **Filegroup List** dialog box, review the existing filegroup information.
4. Click **Print** to print out the information displayed in the data window of the **Filegroup List** dialog box.
5. Click **Close**.

Related Topics

- *Database Maintenance on SQL Server Common Tasks*, page 59
- *System Administration Common Tasks*, page 19

Add a Log File

Important

- You should exercise caution when adding a log file, as doing so affects the entire SQL Server.

1. With the **System Administration** window open, click **DBA > Add Datafiles**.
2. Click the **Log** tab.
3. In the **System Admin. Password** field, type the password to log on as the Database System Administrator (this field is empty by default).
4. In the **New file information** section, type the datafile name, the datafile location, and the initial size (in MB).
5. Click **Add** to add the filegroup.

Related Topics

- *Database Maintenance on SQL Server Common Tasks*, page 59
- *System Administration Common Tasks*, page 19

Optimize Indexes

Important

- Before starting the optimization process, make sure that no other user is using the currently selected domain. If you attempt to optimize the indexes of a domain which is currently being used by another user, the software displays a message warning you that the domain is currently in use.

1. With the **System Administration** window open, click **DBA > Optimize Indexes**.
2. From the **Domain** list, select the required domain.
3. Do one of the following to define the tables you want to include in the optimization process:
   - Click **All tables** to optimize the indexes of all the existing tables in the defined domain.
   - Click **Selected tables** to display the database indexes in the **Table Name** data window and optimize the indexes of the highlighted tables in the defined domain.
4. Do one of the following to define the index source on which you base the optimization:
   - Click **Current database** to optimize indexes using the current database indexes.
   - Click **Template database** to optimize indexes using the IN_TEMPL.DB template database indexes. Use the **Template database** option if your current database indexes have been deleted or become unusable.
5. Click **OK**.

Note

- To enable better performance after completing the index optimization process, you need to update statistics.

Related Topics

- *Database Maintenance on SQL Server Common Tasks*, page 59
- *System Administration Common Tasks*, page 19

Update Statistics

- Start the Query Analyzer and run the SP_UPDATESTATS procedure.

Note

- To learn about initializing domains in SQL Server, see *Installation Guide, Installing SmartPlant Instrumentation on Microsoft SQL Server > Initializing a SmartPlant Instrumentation Domain in SQL Server*.

Related Topics

- *Database Maintenance on SQL Server Common Tasks*, page 59
- *System Administration Common Tasks*, page 19

Database Maintenance on Oracle Common Tasks

The following tasks are used frequently when you need to perform database maintenance tasks on Oracle.

View Tablespace Data

Tablespaces are database domains where Oracle keeps your SmartPlant Instrumentation database information. The tablespace data is physically stored in one or more files. This option allows you to view a list of tablespaces in which there is still free space to store data. For more information, see *View Tablespace Data*, page 65.

Add Datafiles to Tablespaces

If your system reports that you ran out of space in the database tablespaces or if the system fails to perform, you can use this option to increase the database tablespace by attaching additional datafiles to an existing tablespace. For more information, see *Add Datafiles to Oracle Tablespaces*, page 65.

Optimize Indexes

You can use this option to optimize fragmented Oracle database indexes. Oracle database indexes become fragmented during the domain lifetime and contribute to database under-performance. In this case, you can rearrange your database indexes to optimize them. The domain index data is generated during the initialization phase. The index data is grouped into one or more Extents which may account for the index fragmentation level. As you keep storing and deleting domain data, the Oracle Extents become disordered thus slowing down SQL operation. SmartPlant Instrumentation solves this problem by reordering the indexes stored in these Extents. For more information, see *Optimize Indexes*, page 62.

Update Statistics

This option enables you to improve the Oracle SQL statement processing performance, especially after a large data import or after optimizing indexes, or after initializing a domain on Oracle. During updating the statistics, SmartPlant Instrumentation executes an ANALYZE SQL statement which retrieves the statistical data for the SmartPlant Instrumentation tables. That statistical information is later used by the Oracle Cost-based Optimizer to optimize SQL statement execution. For more information, see *Update Statistics*, page 63.

Related Topics

- *System Administration Common Tasks*, page 19
- *System Administration Overview*, page 19
- *Working with Administration Module Overview*, page 12

View Tablespace Data

- With the System Administration window open, click **DBA > Tablespaces List** to display the data for all filegroups that have free space for storing data.

Note

- To learn about Oracle tablespaces, user logins, and how they are used in SmartPlant Instrumentation, see *Installation Guide, Installing SmartPlant Instrumentation on Oracle > Running Oracle Database Setup > Oracle Database Server Tablespaces*.

Related Topics

- *Database Maintenance on Oracle Common Tasks*, page 64
- *System Administration Common Tasks*, page 19

Add Datafiles to Oracle Tablespaces

Important

- This procedure enables you to the add a datafile to a tablespace. Therefore, make sure you have enough free disk space on the drive where the tablespace is stored.

1. With the **System Administration** window open, click **DBA > Add Datafiles**.
2. From the **Tablespace** list, select the tablespace you want to resize.
3. In the **Datafile name** box, type the full path and name of a new additional datafile (.DB file format) that you want to attach to the currently selected tablespace.

   Tip

   - Ensure that you select a datafile which is not currently in use.
4. In the **Datafile size** box, type the size of the additional datafile.
5. Click **OK**.

Note

- The software displays an appropriate message notifying you that the selected tablespace was increased successfully.

Related Topics

- *Database Maintenance on Oracle Common Tasks*, page 64
- *System Administration Common Tasks*, page 19

Optimize Indexes

Important

- Before optimizing indexes in SmartPlant Instrumentation tables, make sure that in the Oracle Instance Configuration file, the OPTIMIZER_MODE parameter value is either CHOOSE (default) or COST. This way, you activate the Oracle Cost-based Optimizer, which determines the quality of the SmartPlant Instrumentation database performance.
- Before starting the optimization process, make sure that no other user is using the currently selected domain. If you attempt to optimize the indexes of a domain which is currently being used by another user, the software displays a message warning you that the domain is currently in use.

1. With the **System Administration** window open, click **DBA > Tuning > Optimize Indexes**.
2. From the **Domain** list, select the domain in which you want to optimize indexes.

   Tips

   - The **Fragmentation** column displays the number of Extents of each index.
   - It is recommended to optimize all database indexes whose fragmentation level is higher than 4.
3. Do one of the following:
   - Click **All tables** to optimize the indexes for all the tables in the selected domain.
   - Click **Selected tables** to display in the data window all the tables in the current domain and optimize the indexes for the required tables.
4. Click **OK** to start the optimization process.

Note

- To enable better performance after completing the index optimization process, you need to update statistics. Without updating statistics, the Oracle Cost-based Optimizer cannon use the reordered indexes.

Related Topics

- *Database Maintenance on Oracle Common Tasks*, page 64
- *System Administration Common Tasks*, page 19

Update Statistics

- With the **System Administration** window open, click **DBA > Tuning > Update Statistics**.

Notes

- This option is available to both System and Domain Administrator when using SmartPlant Instrumentation on Oracle.
- To learn how to initialize domains in Oracle, see *Installation Guide, Installing SmartPlant Instrumentation on Oracle > Domain Initialization in Oracle*.

Related Topics

- *Database Maintenance on Oracle Common Tasks*, page 64
- *System Administration Common Tasks*, page 19

Accounting, Contractors, and Clients Common Tasks

As System Administrator, you can create lists of accountants, contractors, and clients. This information is used for reference only – it is not accessed anywhere else in the software.

You can perform the following tasks:

Add and Manage Accounting Information

This option explains how to add and manage accounting information. For more information, see *Add and Manage Accounting Information*, page 68.

Add and Manage Contractors

This option explains how to add and manage accounting information. For more information, see *Add and Manage Contractors*, page 69.

Add and Manage Clients

This option explains how to add and manage accounting information. For more information, see *Add and Manage Clients*, page 70.

Associate Accounting, Client, and Contractor Information with a Domain

This procedure deals with associating client, accounting, and contractor information with a domain. For more information, see *Associate Accounting, Client, and Contractor Information with a Domain*, page 71.

Related Topics

- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Add and Manage Accounting Information

1. Start the Administration module and log on as System Administrator.
2. Do one of the following to open the **Domain Definition** window:
   - Click **File > Domain**.
   - Click  .
3. From the **Domain** list, select the required domain.
4. Click **Options > Add Accounting**.
5. Click **Accounting**.
6. Click **New**.

7. Type in the accounting name, number, and note as required.
8. Click **Apply**.
9. Click **Close** when done.
10. To associate an accounting item with the current domain, in the **Add Accounting** dialog box, select the required accounting in the **General list** and drag it to the **Domain list**.

Notes

- To edit the properties of existing accounting information, select the required accounting from the **Accounting name** list and click **Edit.**
- To delete existing accounting information from the system, select the required accounting from the **Accounting name** list and click **Delete**.

Related Topics

- *Accounting, Contractors, and Clients Common Tasks*, page 68
- *Log on as System Administrator*, page 15
- *System Administration Common Tasks*, page 19

Add and Manage Contractors

1. Start the Administration module and log on as System Administrator.
2. Do one of the following to open the **Domain Definition** window:
   - Click **File > Domain**.
   - Click  .
3. From the **Domain** list, select the required domain.
4. Click **Options > Add Contractor**.
5. Click **Contractor**.
6. Click **New**.
7. Type in the contractor name, number, and note as required.
8. Click **Apply**.
9. Click **Close** when done.
10. To associate a contractor with the current domain, in the **Add Contractor** dialog box, select the required contractor in the **General list** and drag it to the **Domain list**.

Notes

- To edit the properties of existing contractor, select the required contractor from the **Contractor** list and click **Edit.**
- To delete existing contractor from the system, select the required contractor from the **Contractor** list and click **Delete**.

Add and Manage Clients

1. Start the Administration module and log on as System Administrator.
2. Do one of the following to open the **Domain Definition** window:
   - Click **File > Domain**.
   - Click  .
3. From the **Domain** list, select the required domain.
4. Click **Options > Add Client**.
5. Click **Client**.
6. Click **New**.
7. Type in the client name, number, and note as required.
8. Click **Apply**.
9. Click **Close** when done.
10. To associate a client with the current domain, in the **Add Client** dialog box, select the required client in the **General list** and drag it to the **Domain list**.

Notes

- To edit the properties of existing client, select the required client from the **Client** list and click **Edit.**
- To delete existing client from the system, select the required client from the **Client** list and click **Delete**.

Related Topics

- *Accounting, Contractors, and Clients Common Tasks*, page 68
- *Log on as System Administrator*, page 15
- *System Administration Common Tasks*, page 19

Associate Accounting, Client, and Contractor Information with a Domain

1. Start the Administration module and log on as System Administrator.
2. Do one of the following to open the **Domain Definition** window:
   - Click **File > Domain**.
   - Click  .
3. From the **Domain** list, select the required domain.
4. Click **Options > Add Accounting** (or **Add Contractor** or **Add Client**).
5. In the **General list** pane, select an item and drag it to the **Domain** pane.
6. Click **Apply**.

Notes

- To dissociate an accounting, client, or contractor item from a domain, select the item in the **Domain** pane and drag it back to the **General list** pane.

Related Topics

- *Accounting, Contractors, and Clients Common Tasks*, page 68
- *Log on as System Administrator*, page 15
- *System Administration Common Tasks*, page 19

Import Interface Languages

This feature enables the *System Administrator* to add an interface language which is currently not supported in SmartPlant Instrumentation. Afterwards, it can be used in all the domains in your SmartPlant Instrumentation installation. To do this, you must first add the required language which can be purchased separately as an add-on. Then, when the required language has already been defined in the software, you can switch to it.

The following languages are currently available:

- English (by default)
- French
- German
- Custom (see *Getting Started, Selecting the Interface Language, Creating New Customized Phrases* for details).

Prior to switching to another interface language, you must add this language to the database. This process is referred to as importing a language into the database. You import the language from a language database file provided to you as an add-in to SmartPlant Instrumentation.

1. With the **System Administration** window open, click **Add-Ins > Language**.

   Tip

   - If you have not purchased the appropriate language add-in, the **Language** menu item will be inactive. In this case the only available interface language is English.

2. Locate the path and filename of the language database file in one of the following ways:

   - In the **File name and path** box, type the path and filename of the language database file (the default file is IN_CTLOG.DB).
   - Click **Browse** to navigate to the required language database file.

3. Click **Connect** to display the languages available in the language database file in the **Language** data window.

   Important

   - If you get a message stating that the connection has failed, make sure you typed in the correct path and filename of the database file (see step 2 of this procedure).

4. In the **Language** section, do one of the following:

   - Select the required language to add.
   - Select **Custom** to be able to replace the phrases in the current SmartPlant Instrumentation user interface with your own phrases.

5. If you have already imported the selected language before, do one of the following:

   - Select the **Overwrite previously imported items** check box to overwrite the existing interface terms and phrases.
   - Clear this check box if you want to add new terms and phrases to the previously imported language without overwriting any existing terms or phrases.

6. Click **Import** to add the selected language to the database.

Related Topics

- *SmartPlant Instrumentation Interface Language Overview*, page 281
- *System Administration Common Tasks*, page 19

Report Generation (System Administration)

As System Administrator, you can generate domain and activity reports.

The following table describes the reports that are available on the **Report** menu.

Report	Description
Domain Information	Accounting, client, and contractor information.
Domain List	Information about every domain in the database as shown in the **Domain Definition** window.
User List per Department	SmartPlant Instrumentation users listed according to departments.
Activity Tracking Grid	A tabulated print-out activities of a given user on the basis of each domain or each module where that user works, a given domain or module. The system actually tracks the time between the user entering and leaving a module.
Activity Tracking Graph	A graphical print-out activities of a given user on the basis of each domain or each module where that user works, a given domain or module. The system actually tracks the time between the user entering and leaving a module.

Note

- The Administration module is not included in the Activity Tracking report options.

Related Topics

- *Generate a Graph-Style Activity Tracking Report*, page 34
- *Generate a Grid-Style Activity Tracking Report*, page 33
- *System Administration Common Tasks*, page 19

Domain Administration

Overview

Domain Administration is a set of activities that provide for the management of database resources defined by a *System Administrator*. These activities include defining projects where the working environment is an Operating owner domain, managing a working environment which is defined as an Engineering company domain, and so forth.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Working with Administration Module Overview*, page 12

Domain Administration Common Tasks

The Domain Administrator is responsible for managing the resources that have been set up by the *System Administrator*. The responsibilities of the Domain Administrator include defining projects when the domain type is an Operating owner, or manage a working environment which of an Engineering company domain. The Domain Administration can grant access privileges for users, define *entity* naming conventions, set plant structure, set preferences, create custom tables, custom fields, and so forth.

As Domain Administrator, you can perform the following sets of tasks:

Plant Design and Structure

As the software organizes all the information in SmartPlant Instrumentation on a very specific hierarchy level, users must access a particular unit when they start SmartPlant Instrumentation. The Domain Administrator is responsible for setting up and organizing the plant hierarchy that constitutes the structure of every plant. For more information, see *Plant Design and Structure Common Tasks*, page 81.

Operating Owner Domain (AsBuilt and Projects)

The Operating owner domain is a domain with *AsBuilt* and projects. The database is partitioned into several schemas: a single schema for AsBuilt and separate schemas for projects. An operational plant exists and most of the activities are concerned with routine maintenance or plant modernization (revamps). To facilitate plant modernization, you can create a number of projects within an Operating owner domain. Each project is defined for one plant only, and a plant can have several associated projects. For more information, see *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89.

Naming Conventions

This set of procedures deals with naming conventions. Naming conventions define the parameters which will be the rule for building tag, loop, device panel, and device cable names. For more information, see *Naming Conventions Overview*, page 151.

Copying <Unit> Data

This set of procedures explains how to copy data from one <*unit*> to another. For more information, see *Copying Data Overview*, page 177.

Users and Groups

This set of procedures deals with creating and managing user groups in a domain. Also, there are topics that deal with *Windows authentication login*. For more information, see *User Groups Overview*, page 187.

Access Rights

After assigning users to groups, one of the key roles of the Domain Administrator is to define user access rights. This set of procedures deals with setting and managing access rights for all the users in the current domain on the appropriate access rights level. For more information, see *Access Rights Overview*, page 195.

Preferences Management

This set of procedures deals with the management of preferences in SmartPlant Instrumentation. The Domain Administrator can control the management of preferences in the current domain as well as in all the projects if the domain type is Operating owner. For more information, see *Preferences Management Overview*, page 215.

Report Management

This set of procedures deals with tasks like associating a new title block with a report, selecting archiving options, and defining revision management settings. For more information, see *Managing Reports Overview*, page 223.

Working with Add-Ins

This set of procedures deals with various add-ins that are available after purchasing the appropriate license. The add-ins include various libraries that contain item resources, such as hook-ups, DCS hardware, DDP data for PDS, and so forth For more information, see *Working with Add-Ins Overview*, page 233.

Miscellaneous Tasks

This set of topics deals with various miscellaneous tasks that are performed by the Domain Administrator. For more information, see *Miscellaneous Domain Administration Tasks*, page 242.

Managing Audit Trail Data

The software provides for the ability to mark history changes and save information about various user operations. These actions comprise the audit trail activities. For more information, see *Managing Audit Trail Data Overview*, page 255.

Clearing Locking

This option enables the *Domain Administrator* to clear locking in multi-user databases SQL Server or Oracle. For more information, see *Clearing Locking Overview*, page 263.

Entity Registry

This set of procedures deals with entity registry activities for the Engineering Framework (TEF). For more information, see *Entity Registry Activities Overview*, page 273.

Related Topics

- *Domain Administration Overview*, page 75
- *System Administration Common Tasks*, page 19
- *Working with Administration Module Overview*, page 12

Plant Design

Overview

The software provides you with the flexibility of specifying your working environment so that, whether you are designing and building an entirely new plant, or modernizing an existing plant, you can use the software to maximum effect when managing data.

In SmartPlant Instrumentation, the working environment is known as a *domain*, which the *System Administrator* is responsible for setting up in the Administration module. The type of domain depends on the starting point for your activities:

- New plant design and construction — The System Administrator selects the domain type *Engineering company*, and you can create as many plants as required within each domain. For details, see *Plant Design and Structure Common Tasks*, page 81.
- Plant modernization — The System Administrator selects the domain type *Operating owner* that includes *AsBuilt*. Within the domain, you define projects for modifying the data in each plant. For details, see *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89.

Once the System Administrator has set up the working environment, the Domain Administrator is responsible for performing the activities.

The *Domain Administrator* is responsible for defining plant hierarchy levels and then setting up and organizing the plant hierarchy level items. For example, on the Plant level, it is possible to create several items such as Plant1, Plant2, Plant3, and so forth.

When you enter a domain for the first time, and open the **Plant Hierarchy Explorer**, the software only displays the plant DEFAULT, provided that the System Administrator has enabled the use of the *default plant*. The System Administrator has rights to switch the default plant on or off until you create a plant hierarchy with more than three levels.

When a user starts a module to access information, such as loops or tag numbers in the Instrument Index module, the information is grouped on a per <*unit*> basis. For this reason, users must select a <unit> before entering a module. Instrument tags are therefore unique on the <unit> level. Wiring data, for example, equipment, line, custom fields, and so forth, are defined per <*plant*> and are usable in all <units> that belong to that <plant>. These entities are, therefore, unique on the <plant> level.

Notes

- When working with The Engineering Framework (TEF), certain actions relating to AsBuilt and projects are forbidden. For a complete list of these actions, see *SmartPlant Instrumentation Online Guide, Forbidden Actions when Working in The Engineering Framework*.
- It is recommended that you back up your database before performing any engineering activities.
- You must be granted full access rights for the ENGINEERING PROJECT DEFINITION activity in order to be able to perform engineering activities. To learn how to grant access rights, see *Grant Access Rights for Selected Entities or Activities*, page 208.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Plant Design and Structure Common Tasks*, page 81

Plant Design and Structure Common Tasks

The Domain Administrator can perform plant structure design tasks after the *System Administrator* defines the *domain* type and sets all the necessary domain settings using the options of the **Domain Definition** window. When designing a plant structure, the *Domain Administrator* performs the following tasks

Create a Plant Hierarchy

A plant hierarchy consists of a minimum of three levels, to which you can assign as many items as you require. For example, you can create a level My_Unit and then, using the Plan t Hierarchy Explorer, create items Unit1, Unit2, Unit3, and so forth, and assign these items to the My-Unit level.

Creating a plant hierarchy is the first stage of your plant structure design. This is because after creating a first <*plant*> in the **Plant Hierarchy Explorer**, you cannot change the plant hierarchy levels until you delete that plant. For more information, see *Create a Plant Hierarchy*, page 82.

Define a Plant Owner

You define owners of <*plants*> prior to creating plant hierarchy items in the **Plant Hierarchy Explorer**. When creating a new <plant> on the highest plant hierarchy level, you need to assign this <plant> to an owner. For more information, see *Define a <Plant> Owner*, page 83.

Create a Plant Hierarchy Item on the Highest Level

This procedure deals with creating and modifying a plant hierarchy item on the highest level using the **Plant Hierarchy Explorer**. Plant is the default highest level in a hierarchy that has three levels. For details, see *Create a Plant Hierarchy Item on the Highest Level*, page 84.

Create a Plant Hierarchy Item on an Intermediate Level

This procedure deals with creating and modifying a plant hierarchy item on an intermediate level using the **Plant Hierarchy Explorer**. Area is the default intermediate level in a hierarchy that has three levels.

The number of intermediate levels depends on the level definitions you made in the **Plant Hierarchy** dialog box. For example, if your plant hierarchy has four levels, both Level 2 and Level 3 are intermediate levels. You can create items on any of these levels. However, only on Level 3, which is the lowest intermediate level item, you can create multiple <*units*>. For more information, see *Create a Plant Hierarchy Item on an Intermediate Level*, page 84.

Create a Plant Hierarchy Item on the Lowest Level

This procedure deals with creating and modifying an item on the lowest plant hierarchy level using the **Plant Hierarchy Explorer**. Unit is the default lowest level in a hierarchy that has three levels. This procedure allows you to create a <unit> with no module data. For more information, see *Create a Plant Hierarchy Item on the Lowest Level*, page 85.

Copy Unit Data

This set of procedures deals with copying engineering data from one <unit> to another. For more information, see *Copying Data Overview*, page 177.

Delete a Plant Hierarchy Item

Use this procedure to delete a plant hierarchy item. For more information, see *Delete a Plant Hierarchy Item*, page 87.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Plant Design Overview*, page 79

Create a Plant Hierarchy

1. With the **Domain Administration** window open, on the **Activities** menu, click **Plant Hierarchy**.
2. Using the options in the **Plant hierarchy** dialog box, set up the number of hierarchy levels and name the levels as needed. You can set up your plant hierarchy using the options as follows:
   - Click **Add** to add the lowest level in the plant hierarchy (the default lowest level is Level 3).
   - Select a level, and then click **Insert** to add a new level above the selected level.
   - Select a level, and then click **Delete** to delete the level that you do not require.
   - Under **Name**, change or enter a new name for the level. The name that you enter appears as the name of the appropriate folder in the **Plant Hierarchy Explorer**.

Tips

- You can delete any levels as long as three levels remain in the dialog box after deletion. Three levels in the minimum number of plant hierarchy levels.
- You can add or insert levels only before creating the first plant in the **Plant Hierarchy Explorer**.
- You can change the level names at any stage of your domain life cycle.

Related Topics

- *Plant Design and Structure Common Tasks*, page 81
- *Plant Design Overview*, page 79

Define a <Plant> Owner

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, do one of the following:
   - Click **Activities > Owner**.
   - Click  .
3. Click **New**.
4. In the boxes, for the new owner profile, enter data as required.
5. Click **Apply** to save the new owner profile in SmartPlant Instrumentation.

Notes

- To edit the profile of an existing owner, from the **Owner** list, select an owner and click **Edit**.
- To delete an owner, from the **Owner** list, select an owner and click **Delete**.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Log on as Domain Administrator*, page 16
- *Plant Design and Structure Common Tasks*, page 81

Create a Plant Hierarchy Item on the Highest Level

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, on the toolbar, click  .
3. Right-click **Plant Hierarchy Explorer**.
4. Click **New**.

Tips

- To modify properties of an existing highest level item, right-click the item itself, which is indicated by the icon  , and then, on the shortcut menu, click **Properties**.
- To delete an item, right-click the item itself, and then, on the on the shortcut menu, click **Delete**. To delete an item that has child items, you must first delete the child items.

5. In **General** tab of the **Plant Properties** dialog box, in the **<Plant>** box, type the new <*plant*> name.
6. From the **Owner** list, select the appropriate owner for the new <plant>.
7. In the boxes, enter data as required.
8. If needed, click the **Custom Fields** tab to define custom field values to be associated with the current <plant>.

Related Topics

- *Plant Design and Structure Common Tasks*, page 81
- *Plant Design Overview*, page 79

Create a Plant Hierarchy Item on an Intermediate Level

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, on the toolbar, click  .
3. In the **Plant Hierarchy Explorer**, right-click any level under which the software displays the icon  .
4. Click **New**.

Tips

- To modify properties of an existing intermediate level item, expand the plant hierarchy, right-click the appropriate item, which is indicated by the icon  , and then, on the shortcut menu, click **Properties**.
- The highest plant hierarchy level items are indicated by the icon  .

- To delete an item, right-click the item itself, and then, on the on the shortcut menu, click **Delete**. To delete an item that has child items, you must first delete the child items.

5. From the **Plant** list, select a plant.
6. Click **New**.
7. In the **<Area>** data field, type a new <*area*> name.

Tip

- The intermediate level item name must be unique within the current node of the parent level.

8. In the boxes, enter data as required.
9. If needed, click the **Custom Fields** tab to define custom field values to be associated with the current intermediate level item.

Related Topics

- *Plant Design and Structure Common Tasks*, page 81

Create a Plant Hierarchy Item on the Lowest Level

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, on the toolbar, click  .
3. In the **Plant Hierarchy Explorer**, expand the plant hierarchy until you display the lowest level icon  .
4. Right-click the intermediate level above the icon  .

Tips

- Intermediate level items are indicated by the icon  .
- To modify properties of an existing item, right-click the item itself, and then, on the shortcut menu, click **Properties**.
- To delete an item, right-click the item itself, and then, on the on the shortcut menu, click **Delete**. To delete an item that has child items, you must first delete the child items.

Important

- Make sure you select the appropriate plant hierarchy node before you click **New**. After creating a <unit>, you cannot move it to another plant hierarchy node.

5. On the shortcut menu, click **New**.
6. In the **General** tab of the **<Unit> Properties** dialog box, in the **<Unit>** box, type a unit name which is unique within the current node of the parent level.

7. In the **<Unit> number** field, type a unit number which is unique within the current node of the parent level.

   Tips

   - The value you type in the **<Unit> number** data field is generally used in the prefix part of the tag number naming conventions. For further information, see Define Naming Conventions. You do not have to define the unit number if you plant to define naming conventions without using the <unit> number segment. However, you must define the <unit> number if you want to copy data from another <unit> even if in the source <unit>, naming conventions do not include the <unit> number segment.
   - If you change the unit number of a unit which already has naming conventions with the unit number segment, the new naming convention applies to existing entities as well as for new entities.
   - In the **Custom Fields** tab, you can define custom field values to be associated with the current <unit>.

8. Do one of the following:

   - Click **Copy From** to copy data from another existing unit.
   - Click **OK** to create the empty unit and display it in the **Plant Hierarchy Explorer**.

Related Topics

- *Copy Naming Conventions to Other <Units>*, page 163
- *Copying Data Common Tasks*, page 178
- *Plant Design and Structure Common Tasks*, page 81

Delete a Plant Hierarchy Item

1. In the tree view pane, expand the hierarchy.
2. Select and right-click a plant hierarchy item.
3. On the shortcut menu, click **Delete**.

Tip

- You can only delete a plant hierarchy item that does not have child items.

Related Topics

- *Plant Design and Structure Common Tasks*, page 81

Operating Owner Domain (AsBuilt and Projects)

Overview

Operating owner domain is a *domain* with *AsBuilt* functionality. The database is partitioned into several schemas: a single schema for AsBuilt and separate schemas for projects. An operational plant exists and most of the activities are concerned with routine maintenance or plant modernization (revamps).

To facilitate plant modernization, the software enables you to create one or more projects using existing instrumentation data for the operating plant as a starting point for plant modernizations (revamps). Each project is defined for one plant only, and a plant can have several associated projects. Plant modernization may involve the modification of a single tag number or loop or hundreds of loops.

After merging project data with AsBuilt, you cannot reverse the process. For this reason, at all stages of plant modernization, you should ensure that there is full coordination of engineering activities between AsBuilt and other projects within your *Operating owner* domain, to avoid inadvertent loss of data. It is also recommended that you back up your database before starting the projects.

Related Topics

- *Explorer Windows Overview*, page 109
- *Merging Project and AsBuilt Data Overview*, page 131
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *Project Deletion Common Tasks*, page 107
- *Scoping Data for Projects Overview*, page 121

Operating Owner Domain (AsBuilt and Projects) Common Tasks

The following tasks are used frequently when working with an *Operating owner* domain:

Create an Operating Owner Domain

When making domain definitions, System Administrator specifies the domain type as Operating owner. At this stage, before any projects are created, System Administrator determines whether the same SmartPlant Instrumentation *entity* can be *claimed* for more that one project. For more information, see *Create an Operating Owner Domain*, page 92.

Create a Project

After System Administrator creates an Operating owner domain, the first stage of revamping an owner operator facility is defining a project within which the revamping engineering activities will take place. Each project has to be defined within a specific plant, but may overlap several areas and units. More than one project can be defined for the same plant, and several projects may cover the same areas or units. In projects, you can create new entities and also claim *AsBuilt* entities. Prior to creating a project, your *System Administrator* needs to define a domain and specify the domain type as Operating owner. For more information, see *Create a Project*, page 93.

Select a Logo for the Project

This option enables you to define a logo for a selected project when the domain type is Operating owner. You can select a .bmp format graphic file that you want to appear as the logo in most printed documents, such as some reports and specifications.
When your Operating owner domain contains more than one project, you can assign a distinctive logo for each project. In this case, when you switch from one project to another, the logo assigned to that project is retrieved from the SmartPlant Instrumentation database. For details, see *Select a Project Logo When the Domain Type is Operating Owner*, page 95.

Make AsBuilt Definitions

After the *System Administrator* has defined a domain with domain type Operating owner, that includes *AsBuilt*, the Domain Administrator can make a number of definitions which include assigning a Project Administrator, defining workflow options, and adding notes. For more information, see *Make AsBuilt Definitions*, page 96.

Display Entity Categories

When viewing or selecting entities in the scope definition and merge activities in the Administration module or for AsBuilt and project engineering data in the main SmartPlant Instrumentation application, you can specify how to display the data to distinguish between different categories of entities. The software allows you to modify the display format and copy the display format from another project. For more information, see *Display Formats of Entity Categories*, page 97.

Export Project Data for Backup or Working Off-Site

Perform this procedure to make a backup of your project data and then work with this data off-site. You connect to a target database and then export data from the current project to the Operating owner domain in the target database. This way, in the target database, you create a project with the same name as the project you selected in the **Project Activities** dialog box. For more information, see *Export Project Data for Backup or Working Off-Site*, page 102.

Specify Path for Project Export Log File

Prior to exporting project data, the Domain Administrator can change the default name and path of the log file. The software creates a log file automatically on completing the export process. The log file contains all information about the project export process. For more information, see *Specify Path for Project Export Log File*, page 103.

Import Project Data

This procedure outlines how the Domain Administrator can connect to the source database and import project data to the target project specified in the **Project Activities** dialog box. For more information, see *Import Project Data*, page 104.

Specify Path for Project Import Log File

Prior to importing project data, the Domain Administrator can change the default name and path of the log file. The software creates a log file automatically on completing the import process. The log file contains all information about the project import process. For more information, see *Specify Path for Project Import Log File*, page 105.

Reserve Tags and Loops for a Project

This procedure enables you to reserve for a project tag numbers and loop numbers within specified ranges. After you reserve a range of numbers, SmartPlant Instrumentation users who work in the current project can create only those loops and tags whose numbers belong to the specified range. On the other hand, users in other projects in the same Operating owner domain cannot create tags and loops that belong to the specified range. For more information, see *Reserve Tags and Loops for a Project*, page 99.

Generate Reserved Entities Report

You can generate reports that display all the tag numbers or loop numbers that have been reserved for projects available in the current domain. For more information, see *Generate Reserved Entities Report*, page 100.

Set the Project Status for The Engineering Framework

After the System Administrator has enabled the Entity Registry options, the Domain Administrator can set project status for The Engineering Framework (TEF). A status for TEF determines the availability of various activities that users can perform in TEF for a project within SmartPlant Instrumentation. For more information, see *Set Project Status for The Engineering Framework*, page 101.

Rebuild a Project

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89
- *Scoping Data for Projects Common Tasks*, page 122

Create an Operating Owner Domain

1. Start the Administration module and log on as System Administrator.
2. Do one of the following to open the **Domain Definition** window:
   - Click **File > Domain**.
   - Click  .
3. From the **Domain** list, select the required domain.
4. Click  .

   Tip

   - The domain schema name and domain schema password values are set only once, when you initialize the domain; therefore, you cannot edit these values.
5. From the **Standard** list, select a naming convention standard.

   Tip

   - You can select a naming convention standard in the **Standard** box only if you have not yet created the first instrument tag. For further information about naming convention standards, see Define Naming Conventions.

6. Under **Domain type**, click **Operating owner**.

Tip

- For a detailed description of domain features, see the Domain Definition window Help topic.

7. Do one of the following:

- Select **Allow claims for multiple projects** to allow a Project Administrator to *claim* the same entity for more than one project after creating these projects in the current Operating owner domain.
- Clear **Allow claims for multiple projects** to prevent a Project Administrator from claiming the same entity for more than one project. It is possible, however, to claim this entity for another project after removing the entity from the project for which it was claimed first.

Important

- After creating a project, this domain feature setting becomes permanently fixed in your Operating owner domain.

Related Topics

- *Creating and Managing a Domain Common Tasks*, page 21
- *Make Domain Definitions*, page 25
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89

Create a Project

Important

- You may also want to define a <*plant*> before creating a project (for details, see *Create a Plant Hierarchy Item on the Highest Level*, page 84).

1. Start the Administration module and log on as Domain Administrator.
2. Do one of the following:

- Click **Activities > Project Activities**.
- Click  .

3. In the **Project Activities** dialog box, click **New**.
4. Type a name and description for the project as required.
5. From the **Project Administrator** list, select a Project Administrator.
6. From the **Plant** list, select a plant to which the project is to be assigned.
7. If required, select a workflow option for the project.

8. Do one of the following:
   - Select the **Do not propagate wire tag names** check box if you want to suppress the tag number name propagation along the signal path – this way you will be able to customize wire tag names along the propagated signal path.
   - Clear the **Do not propagate wire tag names** check box to propagate wire tag names – this way, all the wires along the propagated signal path will be named according to the tag number from which the signal originates.
9. If needed, select a logo for the current project.
10. Click **Apply**.
11. When prompted to copy user groups from AsBuilt, do one of the following:
    - Click **Yes** to copy all the AsBuilt user groups to the current project.
    - Click **No** to create the project with only one user group (that is, the group to which the current Project Administrator belongs).
12. click **Yes** if you want to proceed immediately.
13. When prompted to create the project schema, click **Yes** if you want to proceed immediately.

    Tip
    - Creation of the project schema can take a considerable time, therefore, if you do not need to implement your project right away, click **No** when prompted. You can then create the project schema when you *claim* entities for the project.
14. Do one of the following:
    - Click **Scope** to proceed to the next stage of revamping your plant and claim entities for the project.
    - Click **Close** if you do not want to proceed to the next stage.

Related Topics
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89
- *Scoping Data for Projects Common Tasks*, page 122
- *Scoping Data for Projects Overview*, page 121
- *Select a Project Logo When the Domain Type is Operating Owner*, page 95

Select a Project Logo When the Domain Type is Operating Owner

1. In the **Project Activities** dialog box, do one of the following:
   - From the **Project** list, select a project for which you want to assign a logo and click **Edit**.
   - Click **New** to create a new project.
2. Click **Logo** to open the **Browse Logo Files** dialog box.

   Tip

   - The first time you open the **Browse Logo Files** dialog box the **Logo Preview** data window displays a message notifying you that no logo is currently assigned to the selected project.
3. Click **Browse** to open the **Select Logo File** dialog box.

   Tip

   - You can select only the BMP (Bitmap) file format. You can create a Bitmap file using a graphic editing application such as Windows Paintbrush. Since most reports are printed out in black-and-white, we recommend that you select Bitmap files in black-and-white to save system resources.
4. Navigate to the required BMP file which you want to assign as the project logo and click **OK**.
5. In the **Browse Logo Files** dialog box, click **Assign** to assign the selected bitmap to the current project and save the new project logo to the database.

Related Topics

- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89

Make AsBuilt Definitions

1. Start the Administration module and log on as Domain Administrator.
2. Do one of the following:
   - Click **Activities > Project Activities**.
   - Click  .
3. In the **Project Activities** dialog box, select **AsBuilt**.
4. Click **Edit**.
5. From the **Project Administrator** list, select a Project Administrator.
6. From the **Plant** list, select a plant to which the project is to be assigned.
7. If required, select a workflow option for the project.
8. If needed, type additional information in the **Notes** field.
9. Click **Apply**.

Related Topics

- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89
- *Select a Project Logo When the Domain Type is Operating Owner*, page 95

Display Formats of Entity Categories

When viewing or selecting entities in the scope definition and merge activities in the Administration module or for *AsBuilt* and project engineering data in the main SmartPlant Instrumentation application, you can specify how to display the data to distinguish between different categories of entities. For example, when users open SmartPlant Instrumentation and view both project and AsBuilt data, the entities that belong to the project can be displayed with a different color from the AsBuilt entities – among the places where this applies in SmartPlant Instrumentation are Instrument Index Standard Browser views, the **Loop Explorer**, the **Wiring Explorer**, the lists that are retrieved in the **Find Entity** dialog boxes, and so forth.

Display formats are available for the following categories:

- **Merge entity** — Merge Now
- **Merge entity** — Merge Later
- **Merge entity** — Release Claim
- **Define scope** — AsBuilt entity
- **Define scope** — Project entity
- **Define scope** — Project entity (not claimed)
- **AsBuilt entity** — Claimed entity
- **Project entity**— Dummy entity. A dummy entity is an entity that is displayed in a project but it has not been claimed for the project. A dummy entity is always associated with another entity that has been claimed for a project. For example, if you claim tag numbers without the associated loop, in the project, this loop appears as a dummy entity.
  Dummy entities are view-only and marked by a specific color. When merging project and *AsBuilt* data, the software ignores the dummy entities.

To modify the display format of an entity category, see *Modify the Display Format for an Entity Category*, page 98

To copy the display format of an entity category from another project, see *Copy the Display Format from Another Project*, page 99

Related Topics

- *Merging Project and AsBuilt Data Overview*, page 131
- *Modify the Display Format for an Entity Category*, page 98
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *Specify an Action for Merging a Group of Entities*, page 148

Modify the Display Format for an Entity Category

1. In the **Project Activities** dialog box, from the **Project** list, select one of the following:
   - Select **AsBuilt** to indicate in AsBuilt those entities that you claim for projects.
   - Select a project in which you want to set the display format for *dummy entities*. Also, for users working in the current project with AsBuilt entities displayed, you can set the display format for AsBuilt entities and project entities.
2. Click **Edit**.
3. In the **Colors** dialog box, for a desired entity category, click **Change** in the **Display Format** column.
4. Move the sliders for the red, green, and blue components to obtain the required color.
5. If required, click **Bold** or **Italic** (or both) to format the text.
6. Click **OK** to return to the **Color Display Options** dialog box.
7. Click **Apply**.

Related Topics

- *Copy the Display Format from Another Project*, page 99
- *Display Formats of Entity Categories*, page 97
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90

Copy the Display Format from Another Project

1. In the **Project Activities** dialog box, click **Colors** to open the **Color Display Options** dialog box.
2. Click **Copy From**.
3. Select the source project from the list and click **OK**.
4. Click **Apply** to accept the changes.

Related Topics

- *Display Formats of Entity Categories*, page 97
- *Modify the Display Format for an Entity Category*, page 98
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90

Reserve Tags and Loops for a Project

Notes

- Loop or tag reservation does not apply to loop or tag claiming procedures that users can perform within SmartPlant Instrumentation.
- Loop or tag reservation does not apply if you use the Free standard naming conventions in the current domain.

1. With the **Domain Administration** window open, do one of the following:
   - Click **Activities > Project Activities**.
   - Click  .
2. In the **Project Activities** dialog box, do one of the following:
   - From the **Project** list, select an existing project.
   - In the **Project** box, enter a name for a new project.
3. Click **Reserve**.
4. Click the appropriate tab.
5. Click **Add**.
6. Do one of the following:
   - If you clicked the **Loop Numbers** tab, under **Measured Variable**, select the measured variable of the loop numbers for which you want to define the reservation.
   - If you clicked the **Tag Numbers** tab, under **Instrument Type**, select the instrument type of the tag numbers for which you want to define the reservation.

7. Under **From Number**, type the first number for the range.

   Tips

   - When defining a range of loop numbers, the number of digits that you type must be as smaller or the same as the number defined in the **Naming Conventions** dialog box for the **LOOP NUMBER** segment.
   - When defining a range of loop numbers, the number of digits that you type must be as smaller or the same as the number defined in the **Naming Conventions** dialog box for the **LOOP IDENTIFIER** segment.

8. Under **To Number**, type the last number for the range. The number of digits that you type must be as smaller or the same as the number defined in the **Naming Conventions** dialog box, for the **LOOP NUMBER** segment.

   Tips

   - When defining a range of loop numbers, the number of digits that you type must be as smaller or the same as the number defined in the **Naming Conventions** dialog box for the **LOOP NUMBER** segment.
   - When defining a range of loop numbers, the number of digits that you type must be as smaller or the same as the number defined in the **Naming Conventions** dialog box for the **LOOP IDENTIFIER** segment.

9. Click **Apply**.

   Tip

   - Click **Add** to add a new row and define another range of numbers.

Related Topics

- *Generate Reserved Entities Report*, page 100
- *Naming Conventions Common Tasks*, page 153
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90

Generate Reserved Entities Report

- With the **Domain Administration** window open, on the **Reports** menu, point to **Reserved Entities** and do one of the following:
- Click **Tag Numbers** to generate a report that displays all the reserved tag numbers in the current domain.
- Click **Loop Numbers** to generate a report that displays all the reserved tag numbers in the current domain.

Set Project Status for The Engineering Framework

1. Start the Administration module and log on as Domain Administrator.
2. Do one of the following:
   - Click **Activities > Project Activities**.
   - Click  .
3. In the **Project Activities** dialog box, select the project for which you want to set a status for TEF.
4. From the **Project status for the Framework** list, select one of the following:
   - **Active** — select to enable publishing and retrieving documents via TEF.
   - **Completed** — select to indicate that activities in TEF for the project have been successfully completed and disable data retrieval.
   - **Canceled** — select to indicate that the project is no longer in use and that you can delete it if needed.
   - **Merged** — select to indicate that after completion of the project, the project engineering data has been merged back with AsBuilt.
5. Click **OK**.

Notes

- The Active status is the default status assigned automatically to every new project that you create.
- Project deletion is only available for projects with Canceled or Merged status.
- For a project with Completed or Merged status, users cannot publish or retrieve documents.

Related Topics

- *Configuring SmartPlant Instrumentation for The Engineering Framework Overview*, page 267
- *Entity Registry Activities Overview*, page 273
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *TEF Common Tasks*, page 268

Export Project Data for Backup or Working Off-Site

Important

- SmartPlant Instrumentation is shipped with the INtoolsAB.db database. You can use this database for project data export because it already contains an Operating owner domain. However, you can only export data from a single project to the INtoolsAB.db database. Therefore, before performing this procedure, we recommend that you rename INtoolsAB.db to <Master>.db, and then, for each export process, make a copy of the <Master>.db database with the name INtoolsAB.db. After exporting project data, you should rename INtoolsAB.db. For example, if your source project name is Project1, you can rename INtoolsAB.db to Project1.db.

1. Start the Administration module and log on as Domain Administrator.
2. Do one of the following:
   - Click **Activities > Project Activities**.
   - Click  .
3. In the **Project Activities** dialog box, from the **Project** list, select a project you want to use as a source for data export.
4. Click **Export** to open the **Select Target Database** dialog box.
5. Beside **Target database name and path**, click **Browse** to select a copy of the INtoolsAB.db database.
6. Click **Connect** to connect to the target database.
7. From the **Domain** list, select a domain in which you want to create a project.

   Tip

   - By default, there is only one domain that you can select. If you know how to use advanced options of the Administration module, and have the full engine of Sybase Adaptive Server Anywhere, you can create several domains in the target database as you require.
8. Before exporting data, click **Log File** to open the **Log File** dialog box and specify the log file name and path.
9. Click **Export**.

Related Topics

- *Back Up a Domain*, page 36
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *Specify Path for Project Export Log File*, page 103

Specify Path for Project Export Log File

Important

- If you do not specify a log file name and path, the software does not create any log file during the project export process.

1. Start the Administration module and log on as Domain Administrator.
2. Do one of the following:
   - Click **Activities > Project Activities**.
   - Click  .
3. In the **Project Activities** dialog box, from the **Project** list, select a project whose data you want to export to another database.
4. Click **Export**.
5. In the **Select Target Database** dialog box, click **Log File**.
6. In the **Log File** dialog box, do one of the following:
   - Accept the default path and name of the log file <SmartPlant Instrumentation home folder>\Exportlog.txt. At this stage, the log file is not created yet. If you do not want a log file to be created, clear the **Log file name and path** box.
   - Type a different log file path and name as you require.
   - Click **Browse** to select the desired log file. The log file must be a .txt file.
7. Click **OK** to save the changes and return to the **Select Target Database** dialog box, where you can export the current project data to another database.

Related Topics

- *Back Up a Domain*, page 36
- *Export Project Data for Backup or Working Off-Site*, page 102
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90

Import Project Data

Important

- You can perform the following procedure successfully only if the source and the target projects have the same database ID.

1. Start the Administration module and log on as Domain Administrator.
2. Do one of the following:
   - Click **Activities > Project Activities**.
   - Click  .
3. In the **Project Activities** dialog box, from the **Project** list, select a target project to which you want to import data.
4. Click **Import** to open the **Select Source Database** dialog box.
5. In the **Database type** list, select the source SmartPlant Instrumentation database.
6. In the **Server** field, depending on your database platform, do one of the following:
   - When using Oracle or SQL Server, type your database server name.
   - When using Sybase Adaptive Server Anywhere, select the required database profile from the list.
7. In the **Admin schema login name** box, accept or type the required user name to connect to the admin schema of the source domain.

   Tip

   - When using Sybase Adaptive Server Anywhere, the Admin schema login boxes are view-only.
8. In the **Admin schema login password** box, accept or type the required password.
9. Click **Connect**.
10. From the **Domain** list, select a source domain.

    Tip

    - After selecting the source domain, the software detects the source project with the same database ID as in the target project, and automatically displays the source project in the **Project** field.
11. Before importing data, click **Log File** to open the **Log File** dialog box and specify the log file name and path.
12. Click **Report** to open the **Duplicate Entities After Import** dialog box where you can view the list of entities in the projects of the target domain that appear as duplicate in the target project after import.
13. Click **OK** when done.
14. Click **Import**.

15. In the **Project Activities** dialog box, click **Close**.

Related Topics

- *Back Up a Domain*, page 36
- *Export Project Data for Backup or Working Off-Site*, page 102
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90

Specify Path for Project Import Log File

Important

- If you do not specify a log file name and path, the software does not create any log file during the project import process.

1. Start the Administration module and log on as Domain Administrator.
2. Do one of the following:
   - Click **Activities > Project Activities**.
   - Click  .
3. In the **Project Activities** dialog box, from the **Project** list, select a target project to which you want to import data.
4. Click **Import** to open the **Select Source Database** dialog box.
5. In the **Database type** list, select the source SmartPlant Instrumentation database.
6. In the **Server** field, depending on your database platform, do one of the following:
   - When using Oracle or SQL Server, type your database server name.
   - When using Sybase Adaptive Server Anywhere, select the required database profile from the list.
7. In the **Admin schema login name** box, accept or type the required user name to connect to the admin schema of the source domain.

   Tip

   - When using Sybase Adaptive Server Anywhere, the Admin schema login boxes are view-only.
8. In the **Admin schema login password** box, accept or type the required password.
9. Click **Connect**.
10. In the **Select Source Database** dialog box, click **Log File**.

11. In the **Log File** dialog box, do one of the following:
    - Accept the default path and name of the log file <SmartPlant Instrumentation home folder>\importlog.txt. At this stage, the log file is not created yet. If you do not want a log file to be created, clear the field.
    - Type a different log file path and name.
    - Click **Browse** to navigate to the required log file. The log file must be a .txt file.
12. Click **OK** to save the changes and return to the **Select Source Database** dialog box, where you can import the source data to the current project.

Related Topics
- *Back Up a Domain*, page 36
- *Import Project Data*, page 104
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90

Rebuild a Project

1. As Domain Administrator, enter the *Operating owner* domain.
2. Click **DBA > Rebuild Projects in Domain**.
3. In the data window, select **AsBuilt** and those projects for which you want to rebuild the schemas.

   Tip
   - Selecting **AsBuilt** is required after initializing an Operating owner domain in Sybase Adaptive Server Anywhere (full engine version).
4. Click **OK** to rebuild the selected projects.

Note
- Without rebuilding the *AsBuilt* and project schemas, you cannot use an Operating owner domain initialized in Sybase Adaptive Server Anywhere (full engine version) because during the domain initialization, only the Domain schema is created.

Related Topics
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89

Project Deletion Common Tasks

In an *Operating Owner domain*, the *Domain Administrator* can delete projects along with the project data. It is also possible to delete project data without deleting the project. The Domain Administrator might want to delete the projects that contain corrupted data or projects for which the initialization process failed to complete.

Also, if SmartPlant Instrumentation users work with activities in The Engineering Framework (TEF), the Domain Administrator can delete projects with Canceled or Merged status. For more information on project statuses, see Set Project Status for The Engineering Framework.

The actions that you perform are:

Delete a Single Project

This procedure explains how to delete a project from SmartPlant Instrumentation. For details, see *Delete a Single Project*, page 107.

Delete Data from a Single Project

Use this procedure to delete project data without deleting the project. This can be useful if you want to use the same project schema when creating new engineering data. For more information, see *Delete Data from a Single Project*, page 108.

Delete Projects or Project Data in Batch Mode

This procedure deals with deleting several projects at a time or deleting engineering data from several projects without deleting the projects themselves. For more information, see *Delete Projects or Project Data in Batch Mode*, page 108.

Related Topics

- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89

Delete a Single Project

1. With the **Domain Administration** window open, click **DBA > Delete Projects**.
2. In the **Delete Projects** dialog box, select the **Delete project schema** check box.
3. In the data window, under **Project List**, select the project that you want to delete.
4. Click **OK**.

Note

- You can delete a project that does not contain any data by opening the **Project Activities** dialog box (**Activities > Project Activities**). From the **Project** list, select an empty project and click **Delete**.

Delete Data from a Single Project

1. With the **Domain Administration** window open, click **DBA > Delete Projects**.
2. In the **Delete Projects** dialog box, clear the **Delete project schema** check box.
3. In the data window, under **Project List**, select the project for which you want to delete engineering data.
4. Click **OK**.

Note

- You can delete a project that does not contain any data by opening the **Project Activities** dialog box (**Activities > Project Activities**). From the **Project** list, select an empty project and click **Delete**.

Related Topics

- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90

Delete Projects or Project Data in Batch Mode

Important

- When deleting project data together with the project schema, the software permanently deletes the projects from your SmartPlant Instrumentation database.

1. With the **Domain Administration** window open, click **DBA > Delete Projects**.
2. In the **Delete Projects** dialog box, do one of the following:
   - Select the **Delete project schema** check box to delete project data together with the project schema.
   - Clear the **Delete project schema** check box if you only want to delete the engineering data and be able to use the same projects for creating new data.
3. In the data window, under **Project List**, select the projects you want to delete.
4. Click **OK**.

Related Topics

- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90

Explorer Windows

Overview

In an Operating owner domain, the Project Administrator uses explorer windows to claim entities for projects or merge entities with AsBuilt. The explorers displays instrumentation entities according to hierarchical structure. You can arrange the hierarchical structure of the data according to entity types or according to the physical location of the entities.

The explorer toolbar enables you to find a specific or multiple entities, or to filter the display of entities. All the explorer windows are accessible from the **Project Activities** dialog box. The following explorer windows are available:

- **AsBuilt Explorer** — Opens when defining a scope of entities for a project. Displays all entities that exist in AsBuilt.
- **Claim Buffer** — Opens when defining a scope of entities for a project. Displays entities that you copied from AsBuilt for claiming for a particular project, and allows you to claim all entities in batch mode.
- **Claimed Entities**— Opens when defining a scope of entities for a project. Displays entities that you have already claimed for the current project, and also displays *dummy* entities.
- **Project Explorer**— Opens when defining a scope of project entities for merging with AsBuilt. Displays entities that exist in a specific <*plant*> of a project you use as a source for merging entities. The **Project Explorer** also displays entities that have been deleted from the project but exist in AsBuilt.
- **Merge Buffer**— Opens when defining a scope of project entities for merging with AsBuilt. Displays entities that you copied from the **Project Explorer**, and allows you to merge all entities in batch mode.

Related Topics

- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Merging Project and AsBuilt Data Overview*, page 131
- *Scoping Data for Projects Common Tasks*, page 122
- *Scoping Data for Projects Overview*, page 121
- *Working with Explorer Windows Common Tasks*, page 110

Working with Explorer Windows Common Tasks

In an Operating owner domain, the following tasks are used frequently when the Project Administrator works with explorer windows (that is, **Claim Buffer** or **Merge Buffer**, **AsBuilt Explorer**, and so forth).

Find a Specific Entity in the Tree View

This feature enables you to find an entity in the tree view of an explorer window. This feature is especially useful when you want to find an entity in a particular folder that contains numerous entities. You can type an entity name and click **Find** or you can let the software look for the entity as you type the entity name. The feature allows you to set the search delay that determines how long the software waits after the last time you press a key on your keyboard. For more information, see *Find a Specific Entity in the Tree View*, page 112.

Search for Entities

You use this feature to find entities that you want to work with. You can search for multiple entities in the current highest plant hierarchy level, or the current lowest plant hierarchy level. For more information about searching for entities, see *Search for Entities*, page 111.

Filter the Entities in the Tree View Pane

You can filter the display of entities in the tree view of an explorer window. Filter settings take effect only for the user who defined the filter and only for the current explorer window. That is, if you define a filter in the **Claim Buffer**, these settings do not apply in the **AsBuilt Explorer**, and so forth. For more information, see *Filter the Display of Entities in an Explorer Window*, page 113.

Filter Cables

Use this procedure to set additional filter definitions for the **Cables** and the **Cross Cables** folders in an explorer window. You can filter cables according to their connections and cables that are connected to a specific Foundation or Profibus segment. For more information, see *Filter Cables*, page 114.

Filter Loops

Allows you to set additional filter definitions for the **Loops** folder in an explorer window. You can filter loops according to blocks associated with loop tags. For more information, see *Filter Loops According to Blocks*, page 117.

Use My List in the Entities Pane

This procedure explains how to add various entities to the **My List** view of the **Entities** pane. **My List** allows you to create a special view of the **Entities** pane where you can keep entities that belong to various folders in the tree view. The software retains all the entities in the **My List** view until you remove them from that list. Exiting the current project and the Administration module, and starting a new session does not affect the contents of **My List**. For more information, see *Add Entities to My List in the Entities Pane*, page 119.

Related Topics

- *Explorer Windows Overview*, page 109
- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Scoping Data for Projects Common Tasks*, page 122

Search for Entities

1. On the toolbar of an explorer window, click  to open the **Search** dialog box.
2. Select an entity type. Note that the **Entity type** list is a required field and without selecting an entity type, the software cannot proceed with the search.
3. Under **Entity name**, type a name of an entity that you want to find.

   Tip

   - You can use wildcard characters (* or %) to find entities whose names contain part of the text that you type. If you do not know the entity name, leave the asterisk * in the this field.
4. Under **Search in**, select a plant hierarchy level on which the software searches for entities:

   - **Current highest plant hierarchy level**— the highest plant hierarchy level that you in the **Project Activities** dialog box.
   - **Current lowest plant hierarchy level**— the lowest plant hierarchy level that appears in the current <*plant*>.
5. In the **Entity properties** data window, if needed, specify entity properties so that the software looks for entities with those properties only. Click **Add** to append a new row if you want to specify more than one property.

   - **Property** — select an existing property from the list.
   - **Operator**— select an operator from the list to determine how the selected property will relate to the expression you type in the **Value** field.
   - **Value** — type an appropriate value to determine how the selected property will be specified.

- **Logic** — select a logic operator (AND or OR) to determine how the next expression will relate to the current one. Leave this field empty if this is the last expression you are defining.

6. Click **Search Now**.
7. In the **Results** data window, select the entities that you want to work with and click **Add to My List**.

Notes

- After the software finds the entities that you were looking for and lists them in the **Results** data window, you can search for more entities without losing your current results. Select another entity type and click **Search Now**. The software adds the newly found entities to the previously found results.
- To start a new search and clear the **Search results** data window.

Related Topics

- *Explorer Windows Overview*, page 109
- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Scoping Data for Projects Common Tasks*, page 122
- *Working with Explorer Windows Common Tasks*, page 110

Find a Specific Entity in the Tree View

1. On the toolbar of an explorer window, click  .
2. On the **Find Entity** dialog box, select **Match case** if you want the software to find entities whose names match the capitalization of the entity name you entered.
3. Select **Find whole name only** if you want the software to search for occurrences that are whole names and not part of a larger entity name.
4. Do one of the following:
   - Under **Entity**, type a name and click **Find**.
   - Select **As typed** and then under **Entity** type a name. The software looks for the entity as you type. You can set the search delay to determine how long the software will wait after the last time you press a key on your keyboard.
5. Click **Close**.

Related Topics

- *Explorer Windows Overview*, page 109
- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Scoping Data for Projects Common Tasks*, page 122
- *Working with Explorer Windows Common Tasks*, page 110

Filter the Display of Entities in an Explorer Window

1. In an **Explorer** window, select a hierarchy level or a folder containing the entities that you want to filter and do one of the following:
   - Right-click the folder, and then click **Filter**.
   - On the **Explorer** window toolbar, click  .
2. To filter according to an entity name in the folder or at the hierarchy level that you selected in the **Explorer** tree view, under **Entity name**, type a valid name or part of a name. You can use wildcard characters to specify partial strings: asterisk (*) or percent (%) for multiple characters and underscore (_) for single characters.

   Tip
   - Note that the value that you enter in this box overrides all other filter criteria in this dialog box.
3. Type a filter name.
4. Select an entity type appropriate for the folder that you selected. You must select an entity type to be able to perform the filter operation.
5. Do one of the following:
   - Select **Selected node definition** to filter the child entities that belong to a folder or the entities at any hierarchy level that you selected in the **Explorer** tree view.
   - Select **Global definition** to define a filter for the entire tree view of the active **Explorer**. The software applies this definition to the entity type you selected. If you defined a filter definition for a specific folder, the filter for the folder override the settings for the global filter definition.
6. In the **Filter definition** group box, define the criteria that you use to filter the entities displayed:
   - **Property** — select a property to use for filtering the entities.
   - **Operator**— select the required comparison operator to determine how the header selected under **Property** will relate to the expression you select for **Value**.
   - **Value**— select or type a required value for the item you selected under **Property**. The available values depend on the specific property that you select.

- **Logic**— You use this option when you specify more than one filter condition. The option allows you to select the required logical operator (And or Or) to determine how the next filter expression will relate to the current expression. When you have a mixture of logical operators for several conditions, the software performs the expressions on the conditions in order, for example:
  (A and B) or C
  (A or B) and C

7. Click **Verify** to check the validity of the current filtering condition.
8. Click **OK**.

Note

- Clicking **Advanced** allows you to define a special filter for the **Cables**, **Cross Cables**, and **Loops** folders. For details, see *Filter Cables*, page 114 and *Filter Loops According to Blocks*, page 117.
- To reset the filter, delete the filter definition.

Related Topics

- *Explorer Windows Overview*, page 109
- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Scoping Data for Projects Common Tasks*, page 122
- *Working with Explorer Windows Common Tasks*, page 110

Filter Cables

1. In an **Explorer** window, select the **Cables** or the **Cross Cables** folder and do one of the following:
   - Right-click the folder, and then click **Filter**.
   - On the **Explorer** window toolbar, click  .
2. To filter according to an entity name in the folder that you selected, under **Entity name**, type a valid name or part of a name. You can use wildcard characters to specify partial strings: asterisk (*) or percent (%) for multiple characters and underscore (_) for single characters.

   Tip

   - The value that you enter in this box overrides all other filter criteria in this dialog box.
3. Type a filter name.

4. Do one of the following:
   - Select **Selected node definition** to filter the child entities that belong to a folder or the entities at any hierarchy level that you selected in the **Explorer** tree view.
   - Select **Global definition** to define a filter for the entire tree view of the active **Explorer**. The software applies this definition to the entity type you selected. If you defined a filter definition for a specific folder, the filter for the folder overrides the settings for the global filter definition.
5. In the **Filter definition** group box, define the criteria that you use to filter the entities displayed:
   - **Property** — select a property to use for filtering the entities.
   - **Operator**— select the required comparison operator to determine how the header selected under **Property** will relate to the expression you select for **Value**.
   - **Value**— select or type a required value for the item you selected under **Property**. The available values depend on the specific property that you select.
   - **Logic**— You use this option when you specify more than one filter condition. The option allows you to select the required logical operator (And or Or) to determine how the next filter expression will relate to the current expression. When you have a mixture of logical operators for several conditions, the software performs the expressions on the conditions in order, for example:
     (A and B) or C
     (A or B) and C
6. Click **Verify** to check the validity of the current filtering condition.
7. Click **Advanced** to define a filter for the **Cables** folder.
8. In the **Advanced Filter Definition (Cables)** dialog box, do one of the following:
   - Clear the **Look for connections** check box if you do not want to include any of the connection criteria in the filter condition. Selecting this option disables the check boxes in this group box and in the **Connected to** group box.
   - Select the **Look for connections** check box to include and select connection criteria in the filter condition.

9. To select a connection criterion, in the **Connection** group box, click the following:
   - **No connections on either end** — Includes the cables that are not connected to anything on both ends.
   - **At least one wire connected on one end only** — Includes the cables that contain at least one wire that is only connected on one of its ends.
   - **At least one wire connected to both ends** - Includes the cables that contain at least one wire that is connected on its both ends.
10. In the **Connected to** group box, select one or more check boxes to define a filter according to the type of panel that is connected to the cable. This selection defines connection criteria for cables that have at least one wire connected to one or both ends.
    - **Junction boxes** — Includes all the cables that are connected to junction boxes.
    - **Marshaling racks** — Includes all the cables that are connected to marshaling racks.
    - **Cabinets** — Includes all the cables that are connected to cabinets.
    - **Device panels** - Includes all the cables that are connected to device panel.
    - **DCS panels** — Includes all the cables that are connected to DCS panel.
    - **PLC panels** — Includes all the cables that are connected to DCS panel.
11. In the **Cable associations** group box, select an appropriate Foundation Fieldbus or Profibus segment if you want to include cables that are associated with a specific Fieldbus segment.
12. Select the **Display telecom cables** only if you want to filter the **Cables** folder so that it displays telecom cables only.
13. Click **OK** in the **Advanced Filter Definition** dialog box.
14. Click **OK** in the **Filter Definition** dialog box.

Related Topics

- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Scoping Data for Projects Common Tasks*, page 122
- *Working with Explorer Windows Common Tasks*, page 110

Filter Loops According to Blocks

1. In an **Explorer** window, select the **Loops** folder and do one of the following:
   - Right-click the folder, and then click **Filter**.
   - On the **Explorer** window toolbar, click  .
2. To filter according to an entity name in the **Loops** folder, under **Entity name**, type a valid name or part of a name. You can use wildcard characters to specify partial strings: asterisk (*) or percent (%) for multiple characters and underscore (_) for single characters.

   Tip
   - The value that you enter in this box overrides all other filter criteria in this dialog box.
3. Type a filter name.
4. Do one of the following:
   - Select **Selected node definition** to filter the child entities that belong to a folder or the entities at any hierarchy level that you selected in the **Explorer** tree view.
   - Select **Global definition** to define a filter for the entire tree view of the active **Explorer**. The software applies this definition to the entity type you selected. If you defined a filter definition for a specific folder, the filter for the folder overrides the settings for the global filter definition.
5. In the **Filter definition** group box, define the criteria that you use to filter the entities displayed:
   - **Property** — select a property to use for filtering the entities.
   - **Operator**— select the required comparison operator to determine how the header selected under **Property** will relate to the expression you select for **Value**.
   - **Value**— select or type a required value for the item you selected under **Property**. The available values depend on the specific property that you select.
   - **Logic**— You use this option when you specify more than one filter condition. The option allows you to select the required logical operator (And or Or) to determine how the next filter expression will relate to the current expression. When you have a mixture of logical operators for several conditions, the software performs the expressions on the conditions in order, for example:
     (A and B) or C
     (A or B) and C

6. Click **Verify** to check the validity of the current filtering condition.
7. Click **Advanced** to define a filter for loops according to loop blocks.
8. In the dialog box that opens, if needed, under **Display level for blocks**, click one of the following to filter the blocks displayed in the data windows:
   - **Highest plant hierarchy level** — Displays blocks on the highest level of the plant hierarchy defined by the Domain Administrator. The default level is Plant.
   - **Lowest plant hierarchy level** — Displays blocks on the lowest level of the plant hierarchy defined by the Domain Administrator. The default level is Unit.
9. To filter the loops according to blocks, do one of the following:
   - Under **Blocks associated with tags**, select one or more blocks that are associated with loop tags. After you select these blocks, in the current explorer window, the software only displays loops whose blocks are assigned to tags using the block-tag assignment method.
   - Under **Blocks associated with instrument type**, select one or more blocks that are associated with the instrument type of the loop tags. After you select these blocks, in the current explorer window, the software only displays loops whose blocks are assigned to tags using the block-instrument type assignment method.

   Tip

   - In the Administration module, explorer windows do not include blocks. Blocks only appear in the **Loop Explorer**, which you can open in the Loop Drawings module of SmartPlant Instrumentation. In the **Loop Explorer**, blocks associated with tags using the block-tag assignment method are marked with the icon (in red). Blocks associated with tags using the block-instrument type assignment method are marked with the icon (in green).
10. Click **OK** in the **Advanced Filter Definition (Loops)** dialog box.
11. Click **OK** in the **Filter Definition** dialog box.

Related Topics

- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Scoping Data for Projects Common Tasks*, page 122
- *Working with Explorer Windows Common Tasks*, page 110

Add Entities to My List in the Entities Pane

- In an explorer windows, do one of the following:
- In the tree view, right-click an entity and then on the shortcut menu, click **Add to My List**.
- In the **Entities** pane, click **My List** and then drag an entity from the tree view to **My List**.

Notes

- To remove an entity from **My List**, right-click the entity, and then, click **Remove from My List**.
- To clear the **My List** view of all the entities, right-click an entity and then click **Remove All from My List**.

Related Topics

- *Explorer Windows Overview*, page 109
- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Scoping Data for Projects Common Tasks*, page 122
- *Working with Explorer Windows Common Tasks*, page 110

Scoping Data for Projects

Overview

After creating a project, the next stage is to define the scope of the entities to be used in the project. Scoping data involves selecting entities from the **AsBuilt Explorer** and then claiming them for the project either directly from the **AsBuilt Explorer** or from the **Claim Buffer**. After you claim entities, they remain fully operational in AsBuilt. If the System Administrator has set the current domain definition so that each entity can be used in several projects at a time, you can *claim* the same AsBuilt entity for several projects.

Scoping data includes the following sequence of procedures:

- Open the **AsBuilt Explorer** and the **Claim Buffer** for a specific project. Although you can claim entities directly from the **AsBuilt Explorer**, you can only claim specific entities belonging to a particular entity type. Therefore, if you want to claim entities belonging to different types, and also claim the associated sub-entities and the parent entities in batch mode, you need to use the **Claim Buffer**.
- Set preferences for scoping data (shared for all projects available in a particular Operating owner domain).
- From the **AsBuilt Explorer**, copy all or selected entities to the **Claim Buffer**. According to the preferences that you set, the software determines which entities to copy as fully operational, or as dummy entities. At this stage, you can also generate a report of the entities that you copied to the **Claim Buffer** for the current project scope.
- Claim the copied entities for the current project.

Note

- A dummy entity is an entity that is displayed in a project but it has not been claimed for the project. A dummy entity is always associated with another entity that has been claimed for a project. For example, if you claim tag numbers without the associated loop, in the project, this loop appears as a dummy entity.
  Dummy entities are view-only and marked by a specific color. When merging project and *AsBuilt* data, the software ignores the dummy entities.

Related Topics

- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Merging Project and AsBuilt Data Overview*, page 131
- *Scoping Data for Projects Common Tasks*, page 122

Scoping Data for Projects Common Tasks

The following tasks are used frequently when you define a scope of entities for a projects using AsBuilt entities as a source.

Display Entities in the AsBuilt Explorer

Use this procedure to display entities that belong to AsBuilt. After you open the **AsBuilt Explorer**, you can define a scope of entities for the current project by claiming the entities. You can claim entities from the **AsBuilt Explorer**, or copy the appropriate entities to the **Claim Buffer** first. The Claim Buffer opens automatically together with the **AsBuilt Explorer**. For more information, see *Display Entities in the AsBuilt Explorer*, page 123.

Set Preferences for the Scope of a Project

This topic deals with setting preferences for claiming entities, the associated parent entities, sub-entities, and revision when defining the scope of a project. For more information, see *Set Preferences for the Scope of a Project*, page 124.

Copy Entities to the Claim Buffer

This procedure allows you to copy entities to the **Claim Buffer** from the **AsBuilt Explorer**. After you copy the entities, the Project Administrator can claim all the entities available in the **Claim Buffer**. When you make entity selections, the software automatically applies preferences that you set in the **Preferences for Scoping and Merging Data** dialog box. These preferences determine how the software copies to the **Claim Buffer** sub-entities that are associated with the entities you select. For more information, see *Copy Entities to the Claim Buffer*, page 125.

Generate Reports of Entities Copied to the Claim Buffer

Use this procedure to generate reports of entities available for claiming from the **Claim Buffer**. Note that as long as the **Claim Buffer** contains entities, you cannot claim entities directly from the **AsBuilt Explorer**. For more information, see *Generate Reports of Entities Copied to the Claim Buffer*, page 127.

Remove Entities from the Claim Buffer

This procedure allows you to remove all or specific entities from the **Claim Buffer** before you claim entities. Use this procedure if you need to modify your entity selection in the **Claim Buffer**. After claiming entities, the software removes all the entities from the **Claim Buffer** automatically. For more information, see *Remove Entities from the Claim Buffer*, page 127.

Claim Entities from the Claim Buffer

This topic deals with claiming all the entities you copied to the **Claim Buffer** from the **AsBuilt Explorer**. For more information, see *Claim Entities from the Claim Buffer*, page 128.

Claim Entities Directly from the AsBuilt Explorer

This topic deals with claiming specific entities from the **AsBuilt Explorer**. If you want to use this procedure, make sure the **Claim Buffer** does not contain any entities. For more information, see *Claim Entities Directly from the AsBuilt Explorer*, page 125.

Prerequisites for Claiming Documents

This topic deals with the prerequisites for *claiming* documents. For more information, see *Prerequisites for Claiming Documents*, page 128.

Claim Documents

The Project Administrator uses this procedure to *claim* documents from *AsBuilt* for a project when defining the scope of a project. The software claims documents together with associated revision data. Claiming documents is different from claiming entities. Even if you do not claim any documents that exist in AsBuilt, the software claims the documents automatically whenever users in projects of the same domain generate reports. Claiming documents manually enables you to select multiple documents and then claim them all at once. Also, when claiming documents manually from the Administration module, you do not experience any locking problems, while in SmartPlant Instrumentation, it is possible for a document to be unavailable for claiming when locked by another user. For more information, see *Claim Documents*, page 129.

Show Projects Containing Claimed Entities

If you previously claimed an AsBuilt entity for other projects in the current Operating owner domain, you can display a list of projects that contain this entity. For more information, see *Show Projects Containing Claimed Entities*, page 130.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89
- *Scoping Data for Projects Overview*, page 121
- *Working with Explorer Windows Common Tasks*, page 110

Display Entities in the AsBuilt Explorer

1. Start the Administration module and log on as Domain Administrator.
2. Do one of the following:
   - Click **Activities > Project Activities**.
   - Click  .
3. In the **Project Activities** dialog box, select a project for which you want to claim data from AsBuilt.
4. Click **Scope**.

5. In the **Scope Definition** dialog box, do one of the following:
   - Select **Include** to make entities from selected units available for use in the project.
   - Select **Select all** to make entities from all the units available for use in the project (or clear this check box to clear the selection for all the entities).
6. Click **Continue**.
7. In the **AsBuilt Explorer**, expand the hierarchy to display the entity type folders.

Related Topics
- *Scoping Data for Projects Common Tasks*, page 122
- *Scoping Data for Projects Overview*, page 121

Set Preferences for the Scope of a Project

1. In the **Project Activities** dialog box, select a desired project.
2. Click **Scope**, and then open the **AsBuilt Explorer** and the **Claim Buffer**.
3. In the **AsBuilt Explorer** or the **Claim Buffer**, right-click the highest hierarchy node.
4. On the shortcut menu, click **Preferences**.
5. In the dialog box that opens, set preferences for the scope of the current project as you require, and then click **Apply**.

Tips
- For details on preferences options, see Help topics for the **Preferences for Scoping and Merging Data** dialog box.
- The software saves the preferences that you define for the entire Operating owner domain, so that the same preferences apply in all the projects and AsBuilt. These preferences do not affect user preferences defined in the **Preferences Management** dialog box.
- Preferences you define on the **General** tab also apply to merging data options.

Related Topics
- *Scoping Data for Projects Common Tasks*, page 122
- *Scoping Data for Projects Overview*, page 121

Claim Entities Directly from the AsBuilt Explorer

Note

- Merging entities from the **AsBuilt Explorer** is only possible if the **Claim Buffer** has no entities.

1. In the **AsBuilt Explorer**, expand the hierarchy to display folders of entity types.
2. In the tree view pane, click an entity type folder to display the entities in the **Entities** pane.
3. In the **Entities** pane, select and right-click one or more entities.
4. On the shortcut menu, click **Claim**.

Related Topics

- *Scoping Data for Projects Common Tasks*, page 122

Copy Entities to the Claim Buffer

1. In the **AsBuilt Explorer**, expand the hierarchy to display folders of entity types.
2. In the tree view pane, click an entity type folder to display the entities.
3. Do one of the following:

   - In the tree view pane, right-click a specific entity, and then, on the shortcut menu, click **Copy to Claim Buffer**.
   - In the **Entities** pane, select and right-click one or more entities, and then, on the shortcut menu, click **Copy to Claim Buffer**.
   - From the tree view or **Entities** pane, drag the entities to the **Claim Buffer**.

Note

- When you select the entities for defining the scope of a project, in addition to the main entities you select, the software can select the associated sub-entities automatically, or you have the option to include the sub-entities manually with the main entity by setting preferences on the General tab of the **Preferences for Scoping and Merging Data** dialog box. The following table summarizes sub-entity selection options available for each of the entities. Entities that are not listed in this table, do not have associated sub-entities.

Entity Type	Additional Entities Selected Automatically	Additional Entities Available for Selection Manually
Loop	None	Tags with basic engineering data (process data, calculations, specifications, calibration, hook-ups, and dimensional data for piping), wiring
Tag	None	Basic engineering data, and wiring
Panel	Hardware racks (for DCS or PLC), strips, terminals	Non-connected terminals, lowest level sub-entities
Rack	Strips, terminals	None
Terminal Strip	Terminal	None
Cable	Cable sets, wires	Non-connected wires, lowest level sub-entities
Wire		Cables and cable sets

Related Topics

- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89
- *Scoping Data for Projects Common Tasks*, page 122

Remove Entities from the Claim Buffer

1. In the **Claim Buffer**, expand the hierarchy to display folders of entity types.
2. Do one of the following:
   - To remove all entities that appear in the **Claim Buffer**, in the tree view pane, right-click the highest hierarchy node (the Claim Buffer node), and then, on the shortcut menu, click **Remove All**.
   - To remove one specific entity, in the tree view pane, select and right-click an entity, and then, on the shortcut menu, click **Remove**.
   - To remove one or more entities, in the **Entities** pane, select and right-click one or more entities, and then, on the shortcut menu, click **Remove**.

Note

- On removing the entities, the software removes the associated sub-entities according to the settings you defined on the General tab of the **Preferences for Scoping and Merging Data** dialog box.

Related Topics

- *Scoping Data for Projects Common Tasks*, page 122

Generate Reports of Entities Copied to the Claim Buffer

1. In the **Claim Buffer**, right-click the highest hierarchy node.
2. On the shortcut menu, click **Reports of Copied Entities**.
3. In the **Select Entity Types for Reports** dialog box, use the check boxes to select entity types for which you want to generate reports.
4. Click **OK** to display the report print preview for the first entity type you selected.
5. In the print preview, under **Reports**, click arrow keys to display reports for other entity types you selected.

Tips

- The software generates an individual reports for each entity type that you selected. For example, if you selected **Line**, **Loop**, and **Tag**, the software first displays a report of lines that appear in the **Claim Buffer**. After you close this report, the software displays a report of loops that appear in the **Claim Buffer**, and so forth.
- You can only print or save each report individually.

Claim Entities from the Claim Buffer

1. In the **Claim Buffer**, right-click the highest hierarchy node.
2. On the shortcut menu, click **Claim All**.

Notes

- The **Claim Buffer** only contains entities that you copied from the current project.
- On completing merging the entities, the software clears the **Claim Buffer**. However, if you copied entities to **My List**, you need to remove the entities manually.
- A log file and .psr files that include a list of claimed entities appear in the path that you specified when setting the preferences for claiming entities.

Related Topics

- *Scoping Data for Projects Common Tasks*, page 122

Prerequisites for Claiming Documents

Prior to claiming documents, whether the Project Administrator claims the documents manually, or the software claims them automatically, you must perform the following activities in AsBuilt in the order shown:

1. In the **Report Management** dialog box, the Domain Administrator must define the revision setting as *per document* for *non-list-type reports* to be used as a source for claiming documents. All *list-type reports* are assigned to the per document revision management setting by default. For more information, see *Define Report Revision Management Settings*, page 230.
2. In SmartPlant Instrumentation, for a report with a per document revision management setting, a user has to create a document number in the **Revisions** dialog box and then save this number to the database.

   Tip

   - To make the document available for claiming, you do not actually have to create a report revision, but just specify the document number.

Related Topics

- *Claim Documents*, page 129
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89
- *Scoping Data for Projects Common Tasks*, page 122

Claim Documents

Important

- Prior to claiming documents we recommend that you read the *Prerequisites for Claiming Documents*, page 128 topic.

1. With the **Domain Administration** window open, do one of the following:
   - Click **Activities > Project Activities**.
   - Click  .
2. In the **Project Activities** dialog box, from the **Project** list, select a target project.
3. Click **Scope**.
4. In the **Scope Definition** dialog box, do one of the following:
   - Select **Include** to make documents from selected <*units*> available for use in the project.
   - Select **Select all** to make documents from all the <units> available for use in the project.
5. Click **Continue** to open the **AsBuilt Explorer** and the **Claim Buffer**.
6. In the **AsBuilt Explorer**, click the documents folder to display the **AsBuilt** documents in the **Entities** pane.
7. In the **Entities** pane, select one or more documents.
8. Right-click the selected documents and then, on the shortcut menu, click **Claim**.

Tip

- You can also click **Copy to Claim Buffer** and copy the selected documents to the **Claim Buffer** first. The **Claim Buffer** allows you to collects all the entities you want to claim and then claim all of the entities at once.

Related Topics

- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89
- *Prerequisites for Claiming Documents*, page 128
- *Scoping Data for Projects Common Tasks*, page 122

Show Projects Containing Claimed Entities

1. In the **AsBuilt Explorer**, right-click expand the hierarchy to display folders of entity types.
2. In the tree view pane, click an entity type folder to display the entities.
3. In the tree view, right-click an entity.
4. On the shortcut menu, click **Claimed For** to display a list of projects that already contain the selected entity.

Tips

- After clicking **Claimed For**, the software changes the lower pane name from **Entities** to **Projects**.
- If the **Projects** pane is empty, this means that the selected entity has not been claimed for any project.
- The **Projects** pane does not display entities that you claimed for a project and then deleted from that project.
- Before you can claim the same entities for more than one project, the System Administrator must select the check box **Allow claims for multiple projects** in the **Domain Definition** window.

Related Topics

- *Scoping Data for Projects Common Tasks*, page 122

Merging Project and AsBuilt Data

Overview

After modifying existing entities or creating new entities in Operating owner domain projects in SmartPlant Instrumentation, it is possible to merge some or all of the entities with *AsBuilt*. To merge project data with AsBuilt, the Project Administrator needs to perform the following sequence of procedures:

- Open the **Project Explorer** and the **Merge Buffer** for a specific project. Although you can merge entities directly from the **Project Explorer**, you can only merge specific entities belonging to a particular entity type. Therefore, if you want to merge entities belonging to different types, and also merge the associated sub-entities and the parent entities in batch mode, you need to use the **Merge Buffer**.
- Set preferences for merging data (shared for all projects available in a particular Operating owner domain).
- From the **Project Explorer**, copy all or selected entities to the **Merge Buffer**. At this stage, the software applies the merge action assigned to the entities and also applies the preferences options that you have set. Several merge actions are available for each entity. You can either change a merge action for a specific entity or for all entities and sub-entities in batch mode, regardless of the entity type.
- Merge the copied entities with AsBuilt.

Notes

- Merging specific entities directly from the **Project Explorer** is only possible if the **Merge Buffer** contains no entities.
- Using a Comparison List, available from the **Project Explorer**, is an alternative way to change a merge action. The software applies the changes after you close the Comparison List. The changes only take effect in the **Merge Buffer**. For example, if you change the action from Merge Later to Merge Now, the software does not merge the entity but only copies it and the associated sub-entities to the **Merge Buffer**.
- When working with The Engineering Framework (TEF), certain actions relating to AsBuilt and projects are forbidden. For a complete list of these actions, see *SmartPlant Instrumentation Online Guide, Forbidden Actions when Working in The Engineering Framework*.

Open the Project Explorer and Merge Buffer

1. Start the Administration module and log on as Domain Administrator.
2. Do one of the following:
   - Click **Activities > Project Activities**.
   - Click  .
3. In the **Project Activities** dialog box, select a project whose data you want to merge with which AsBuilt.
4. Click **Merge**.

Related Topics

- *Generating Reports for Merging Data Common Tasks*, page 134
- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Merging Project and AsBuilt Data Overview*, page 131

Entity and Sub-Entity Selection Options for Merging with AsBuilt

When you select entities for merging with AsBuilt, in addition to the main entities you select, the software can select the associated sub-entities automatically, or you have the option to include the sub-entities manually with the main entity by setting preferences on the General tab of the **Preferences for Scoping and Merging Data** dialog box. These preferences apply whether you merge the entities or only copy them from the **Project Explorer** to the **Merge Buffer**.

The following table summarizes sub-entity selection options available for each of the entities. Entities that are not listed in this table, do not have associated sub-entities.

Entity Type	Sub-Entities Selected Automatically	Sub-Entities Available for Selection Manually
Loop	None	Tags with basic engineering data (process data, calculations, specifications, calibration, hook-ups, and dimensional data for piping), wiring
Tag	None	Basic engineering data, and wiring
Panel	Hardware racks (for DCS or PLC), strips, terminals	Non-connected terminals, lowest level sub-entities
Rack	Strips, terminals	None
Terminal Strip	Terminal	None
Cable	Cable sets, wires	Non-connected wires, lowest level sub-entities
Wire		Cables and cable sets

Related Topics

- *Generating Reports for Merging Data Common Tasks*, page 134
- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Merging Project and AsBuilt Data Overview*, page 131

Generating Reports for Merging Data Common Tasks

Use the following tasks to generate reports from the **Project Explorer**, which displays all the entities available in the current project. Also, in the **Merge Buffer**, it is possible to generate a report of entities that you have copied from the **Project Explorer**. You copy entities to the **Merge Buffer** to merge entities in batch mode with AsBuilt.

Generate Comparison List Reports

This procedure allows you to create comprehensive reports as saved files showing the changes for entities belonging to a specific entity type. When generating a Comparison List for a specific entity type, you can also display and generate Comparison List reports for the sub-entities associated with the main entity.

After you have modified data in your project in SmartPlant Instrumentation, it can be useful to review the changes (insertion, deletion, and updating of entities) by generating comparison list reports for the entities you modified. This way you can mark the reports to follow up how you intend to merge the entities, and after merging, you can regenerate a new set of reports summarizing the merging actions.

First, you select the entity types and display the available entities in the in the **Comparison List** dialog box. Then, you can specify the columns available for viewing, sort or filter the list of entities. After that, you can print or save the report in a variety of formats, including PowerSoft reports, text files, or Excel format. For more information, see *Generate Comparison List Reports*, page 135.

Generate Reports of Changed Entities

Use this procedure to generate reports of entities that have been changed in the project or AsBuilt, new entities that have been created in the project or AsBuilt, or entities that have been deleted from the project or AsBuilt.

As opposed to Comparison List reports, Changed Entities reports only displayed the actual changes that were made in the project or AsBuilt. However, to be able to generate a Changed Entities report, the System Administrator must activate the audit trail options in the current domain. Also, note that you can generate a Changed Entities report only for the entity type that you select. If you need to generate a report of changed made to associated sub-entities, use the Comparison list report options. For details on the Changed Entities report generation, see *Generate Reports of Changed Entities*, page 136.

Generate Reports of Changed Documents

Use this procedure to generate reports of documents that have been changed in the project or AsBuilt, new documents that have been created in the project or AsBuilt, or documents that have been deleted from the project or AsBuilt. Also, these reports show other projects for which you have claimed the entities associated with the documents. Prior to generating a report, make sure that in the **Preferences for Scoping and Merging Data** dialog box, under **Merge option for revisions**, the setting is either **Merge by revision ID** or **Merge by revision ID**. For details on the Changed Documents report generation information, see *Generate Reports of Changed Documents*, page 137.

Generate Reports of Entities Copied to the Merge Buffer

Use this procedure to generate reports of entities available for merging with AsBuilt from the **Merge Buffer**. Note that as long as the **Merge Buffer** contains entities, you cannot merge entities directly from the **Project Explorer**. For more information, see *Generate Reports of Entities Copied to the Merge Buffer*, page 137.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Merging Project and AsBuilt Data Overview*, page 131
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89

Generate Comparison List Reports

1. In the **Project Explorer**, right-click the highest hierarchy node.
2. On the shortcut menu, click **Comparison List**.
3. In the **Select Entity Types for Comparison** dialog box, use the check boxes to select entity types for which you want to generate comparison list reports.
4. Click **OK** to display the **Comparison List** dialog box.

   Tip

   - A **Comparison List** dialog box opens separately for each entity type that you select. For example, if you selected **Loop**, **Tag**, and **Wiring Equipment**, the software first displays a **Comparison List** dialog box for loops. After you close this dialog box, the software opens another dialog box for tags, and so forth.
5. If required, click **View** to open the **Select Columns for Viewing** dialog box and select the columns for viewing. By default, all the available columns are displayed.
6. Drag the required columns in the order you want them to appear from **Column list** to **Columns to view**.
7. To remove a column, drag it from **Columns to view** to **Column list**.

8. Click **Include modified columns** if you want to ensure that where entities were updated, the columns where the changes were made will appear in the report.
9. If required, click **Sort** to open the **Select Columns for Sorting** dialog box to select the sort order of the columns.
10. Drag the required columns for sorting from **Column list** to **Sorted Columns**. The list will be sorted according to the selected columns in ascending priority.
11. Click **Report**.
12. Do one of the following:
    - Click **Print** to print out a report for the current entity.
    - Click **Save As** to save the report in a format that you specify.
13. Repeat the steps 5-12 to generate a comparison list report for another entity type (if you selected more than one entity type in the **Select Entity Types for Comparison** dialog box).

Related Topics

- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89

Generate Reports of Changed Entities

1. In the **Project Explorer**, right-click the highest hierarchy node.
2. On the shortcut menu, point to **Reports** and click **Changed Entities**.
3. In the **Select Entity Types for Reports** dialog box, use the check boxes to select entity types for which you want to generate reports.
4. Click **OK** to display the report print preview for the first entity type you selected.
5. In the print preview, under **Reports**, click arrow keys to display reports for other entity types you selected.

Tips

- The software generates an individual reports for each entity type that you selected. For example, if you selected **Line**, **Loop**, and **Tag**, the software first displays a report of changes made to the lines. After you close this report, the software displays a report of changes made to the loops, and so forth.
- You can only print or save each report individually.

Related Topics

- *Generating Reports for Merging Data Common Tasks*, page 134

Generate Reports of Changed Documents

1. In the **Project Explorer**, right-click the highest hierarchy node.
2. On the shortcut menu, point to **Reports** and click **Changed Documents**.
3. In the **Select Entity Types for Reports** dialog box, use the check boxes to select entity types for which you want to generate reports of changed documents.
4. Click **OK** to display the report print preview for the first entity type you selected.
5. In the print preview, under **Reports**, click arrow keys to display reports for other entity types you selected.

Tips

- The software generates an individual reports for each entity type that you selected. For example, if you selected **Cable**, **Terminal Strip**, and **Tag**, the software first displays a report of changes made to the cables. After you close this report, the software displays a report of changes made to the terminal strips, and so forth.
- You can only print or save each report individually.

Related Topics

- *Generating Reports for Merging Data Common Tasks*, page 134
- *Merging Project and AsBuilt Data Common Tasks*, page 142

Generate Reports of Entities Copied to the Merge Buffer

1. In the **Merge Buffer**, right-click the highest hierarchy node.
2. On the shortcut menu, click **Reports of Copied Entities**.
3. In the **Select Entity Types for Reports** dialog box, use the check boxes to select entity types for which you want to generate reports.
4. Click **OK** to display the report print preview for the first entity type you selected.
5. In the print preview, under **Reports**, click arrow keys to display reports for other entity types you selected.

Tips

- The software generates an individual reports for each entity type that you selected. For example, if you selected **Line**, **Loop**, and **Tag**, the software first displays a report of lines that appear in the **Merge Buffer**. After you close this report, the software displays a report of loops that appear in the **Merge Buffer**, and so forth.
- You can only print or save each report individually.

Related Topics

- *Copy Entities to the Merge Buffer Common Tasks*, page 138

Copy Entities to the Merge Buffer Common Tasks

Use the following tasks to copy entities from the **Project Explorer** to the **Merge Buffer** prior to merging the entities from the **Merge Buffer**. When copying the entities, the software also assigns a merge action (Merge Now or Release Claim) to the entities.

Copy All Entities to the Merge Buffer as Merge Now

Use this procedure to copy all the entities available in the current project to the Merge Buffer and assign a Merge Now action to all the entities. For more information, see *Copy All Entities to the Merge Buffer as Merge Now*, page 139.

Copy Selected Entities to the Merge Buffer as Merge Now

Use this procedure to copy specific entities to the Merge Buffer and assign a Merge Now action to these entities. For more information, see *Copy Selected Entities to the Merge Buffer as Merge Now*, page 139.

Copy All Entities to the Merge Buffer as Release Claim

Use this procedure to copy all the entities available in the current project to the Merge Buffer and assign a Release Claim action to all the entities. For more information, see *Copy All Entities to the Merge Buffer as Release Claim*, page 140.

Copy Selected Entities to the Merge Buffer as Release Claim

Use this procedure to copy specific entities to the Merge Buffer and assign a Release Claim action to these entities. For more information, see *Copy Selected Entities to the Merge Buffer as Release Claim*, page 140.

Related Topics

- *Actions for Merging Entities*, page 147
- *Entity and Sub-Entity Selection Options for Merging with AsBuilt*, page 133
- *Generate Reports of Entities Copied to the Merge Buffer*, page 137
- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Merging Project and AsBuilt Data Overview*, page 131
- *Specify an Action for Merging a Group of Entities*, page 148

Copy All Entities to the Merge Buffer as Merge Now

1. In the **Project Explorer**, right-click the highest hierarchy node.
2. On the shortcut menu, click **Copy All as Merge Now**.

Note

- When copying the entities, the software also changes the merge action to Merge Now for those entities that already appear in the **Merge Buffer**.

Related Topics

- *Copy Entities to the Merge Buffer Common Tasks*, page 138
- *Entity and Sub-Entity Selection Options for Merging with AsBuilt*, page 133
- *Remove Entities from the Merge Buffer*, page 141

Copy Selected Entities to the Merge Buffer as Merge Now

1. In the **Project Explorer**, expand the hierarchy to display folders of entity types.
2. In the tree view pane, click an entity type folder to display the entities.
3. Do one of the following:

   - In the tree view pane, right-click a specific entity, and then, on the shortcut menu, click **Copy to Buffer as Merge Now**.
   - In the **Entities** pane, select and right-click select one or more entities, and then, on the shortcut menu, click **Copy to Buffer as Merge Now**.
   - From the tree view or **Entities** pane, drag the entities to the **Merge Buffer**.

Note

- If the entities that you select already appear in the **Merge Buffer**, when copying the entities, the software also changes the merge action to Merge Now for those entities.

Related Topics

- *Copy Entities to the Merge Buffer Common Tasks*, page 138
- *Entity and Sub-Entity Selection Options for Merging with AsBuilt*, page 133
- *Remove Entities from the Merge Buffer*, page 141

Copy All Entities to the Merge Buffer as Release Claim

1. In the **Project Explorer**, right-click the highest hierarchy node.
2. On the shortcut menu, click **Copy All as Release Claim**.

Note

- When copying the entities, the software also changes the merge action to Release Claim for those entities that already appear in the **Merge Buffer**.

Related Topics

- *Copy Entities to the Merge Buffer Common Tasks*, page 138
- *Entity and Sub-Entity Selection Options for Merging with AsBuilt*, page 133
- *Remove Entities from the Merge Buffer*, page 141

Copy Selected Entities to the Merge Buffer as Release Claim

1. In the **Project Explorer**, expand the hierarchy to display folders of entity types.
2. In the tree view pane, click an entity type folder to display the entities.
3. Do one of the following:

   - In the tree view pane, right-click a specific entity, and then, on the shortcut menu, click **Copy to Buffer as Release Claim**.
   - In the **Entities** pane, select and right-click select one or more entities, and then, on the shortcut menu, click **Copy to Buffer as Release Claim**.

Notes

- If the entities that you select already appear in the **Merge Buffer**, when copying the entities, the software also changes the merge action to Merge Now.
- Do not drag the entities to the **Merge Buffer**. This is because the software automatically applies the Merge Now action to the entities that you drag.

Related Topics

- *Copy Entities to the Merge Buffer Common Tasks*, page 138
- *Entity and Sub-Entity Selection Options for Merging with AsBuilt*, page 133
- *Remove Entities from the Merge Buffer*, page 141

Remove Entities from the Merge Buffer

1. In the **Merge Buffer**, expand the hierarchy to display folders of entity types.
2. Do one of the following:
   - To remove all entities that appear in the **Merge Buffer**, in the tree view pane, right-click the highest hierarchy node (the Merge Buffer node), and then, on the shortcut menu, click **Remove All**.
   - To remove one specific entity, in the tree view pane, select and right-click an entity, and then, on the shortcut menu, click **Remove**.
   - To remove one or more entities, in the **Entities** pane, select and right-click one or more entities, and then, on the shortcut menu, click **Remove**.

Note

- On removing the entities, the software removes the associated sub-entities according to the settings you defined on the General tab of the **Preferences for Scoping and Merging Data** dialog box.

Related Topics

- *Scoping Data for Projects Common Tasks*, page 122

Merging Project and AsBuilt Data Common Tasks

The following tasks are used frequently when you merge project data with AsBuilt:

Open the Project Explorer and Merge Buffer

Use this procedure to open the **Project Explorer** and the **Merge Buffer** for a particular project in an Operating owner domain. This is the first stage of defining a scope of entities you want to merge with AsBuilt. The **Project Explorer** contains all of the entities available in the project. You can use **Merge Buffer** to create a selection of entities you want to merge with AsBuilt. For more information, see *Open the Project Explorer and Merge Buffer*, page 132.

Set Preferences for Merging Project Entities with AsBuilt

This topic deals with setting preferences for merging entities, the associated parent entities, sub-entities, and revision data. For more information, see *Set Preferences for Merging Project Entities with AsBuilt*, page 144.

Copy Entities to the Merge Buffer Common Tasks

Copying entities from the **Project Explorer** to the **Merge Buffer** is the first step of merging current project with AsBuilt. After that, the Project Administrator can merge the current project entities with AsBuilt. When you make entity selections, the software automatically applies preferences that you set in the **Preferences for Scoping and Merging Data** dialog box. These preferences determine how the software copies to the **Merge Buffer** sub-entities that are associated with the entities you select. *You can set a merge action for the entities that you copy, that is Merge Now or Release Claim. In the Merge Buffer, these actions take effect when you start merging the entities.* For more information, see *Copy Entities to the Merge Buffer Common Tasks*, page 138.

Remove Entities from the Merge Buffer

This procedure allows you to remove all or specific entities from the **Merge Buffer** before you merge entities. Use this procedure if you need to modify your entity selection in the **Merge Buffer**. After merging entities, the software removes all the entities from the **Merge Buffer** automatically. For more information, see *Remove Entities from the Merge Buffer*, page 141.

Compare Project Data with AsBuilt Data

Before merging data, it is recommended that you compare for each entity type the differences between the entities in the current project and *AsBuilt*. The comparison list shows whether a particular entity was changed, and if so the type of change (insert, update, delete, or no change) that was made. In the case of an update, the comparison list shows the old and new values for the appropriate fields in the database. For more information, see *Compare Project Data with AsBuilt Data*, page 144.

Entity Comparison Options

When you run the comparison list on certain specific entities, you can compare changes for additional entities associated with the main entity. For more information, see *Entity Comparison Options*, page 146.

Actions for Merging Entities

This topic provides information about the actions that you can take when merging project and AsBuilt data. For more information, see *Actions for Merging Entities*, page 147.

Specify an Action for Merging a Group of Entities

For a large number of modified entities, you can specify a merge action according to the type of modification made to the entities. For example, you can decide to merge only updated entities in the project, while retaining the original entities in AsBuilt if they are new or were deleted in the project. For more information, see *Specify an Action for Merging a Group of Entities*, page 148.

Merge Entities from the Merge Buffer

Use this procedure to merge with AsBuilt the entities that you copied to the **Merge Buffer** from the current project. When you start merging the entities, the software applies merge actions assigned to the entities. Entities whose merge action is Merge Now are merged with AsBuilt. Entities whose merge action is Release Claim appear in AsBuilt in their original state (that is, as they appeared in AsBuilt before being claimed for the current project). For details, see *Merge Entities from the Merge Buffer*, page 149.

Merge Entities Directly from the Project Explorer

After modifying existing entities or creating new entities in your project in SmartPlant Instrumentation, you can merge some or all of the entities with *AsBuilt*. Several merging actions are available for each entity. Also, you can change a merging action for all entities and sub-entities in batch mode, regardless of a specified entity type. For more information, see *Merge Entities Directly from the Project Explorer*, page 150.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Generating Reports for Merging Data Common Tasks*, page 134
- *Merging Project and AsBuilt Data Overview*, page 131
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89

Set Preferences for Merging Project Entities with AsBuilt

1. In the **Project Activities** dialog box, select a desired project.
2. Click **Merge**.
3. In the **Project Explorer** or the **Merge Buffer**, right-click the highest hierarchy node.
4. On the shortcut menu, click **Preferences**.
5. In the dialog box that opens, set preferences for merging data of the current project with AsBuilt, and then click **Apply**.

Tips

- For details on specific preferences options, see Help topics for the **Preferences for Scoping and Merging Data** dialog box.
- The software saves the preferences that you define for the entire Operating owner domain, so that the same preferences apply in all the projects and AsBuilt. These preferences do not affect user preferences defined in the **Preferences Management** dialog box.
- Preferences you define on the **General** tab also apply to defining a scope of entities for projects.

Related Topics

- *Entity and Sub-Entity Selection Options for Merging with AsBuilt*, page 133
- *Merging Project and AsBuilt Data Common Tasks*, page 142
- *Merging Project and AsBuilt Data Overview*, page 131

Compare Project Data with AsBuilt Data

1. In the **Project Explorer**, right-click the highest hierarchy node.
2. On the shortcut menu, click **Comparison List**.
3. In the **Select Entity Types for Comparison** dialog box, use the check boxes to select entity types for which you want to generate comparison list reports.
4. Click **OK** to display the **Comparison List** dialog box.

Tip

- A **Comparison List** dialog box opens separately for each entity type that you select. For example, if you selected **Loop**, **Tag**, and **Wiring Equipment**, the software first displays a **Comparison List** dialog box for loops. After you close this dialog box, the software opens another dialog box for tags, and so forth.

5. If required, click **View**, and in a dialog box that opens, select the database fields for viewing. By default, all the available fields are displayed in the Comparison List.

   Tip

   - From **Column list** to **Columns to view**, drag columns in the order you want them to appear in the Comparison List for the current entity type. To remove a column, drag it from **Columns to view** to **Column list**.

6. If required, click **Sort**, and in a dialog box that opens, select the sort order of the database fields.

   Tip

   - In the Comparison List, the software sorts the fields in ascending priority, according to the fields that you drag from **Column list** to **Sorted Columns**.

7. In the Comparison List, view the change for each of the selected entities. The **Mode** column can display the following change indicators:

   - **I** — Indicates a new entity inserted in the project.
   - **D** — Indicates an entity claimed for the project and then deleted from the project.
   - **U** — Indicates an entity updated in the project or changed in AsBuilt after claiming, resulting in either case in non-identical data. The database fields that were updated are shown with a light blue background, and the old and new values appear. Renaming an entity is the equivalent of updating the entity.
   - **N** — Indicates that no change was made to the entity in the project.

8. Click **Options** to display a list of additional entities for comparison – the entities that are available depend on the selected entity type. For details, see *Entity Comparison Options*, page 146.

Related Topics

- *Entity Comparison Options*, page 146
- *Generate Comparison List Reports*, page 135
- *Generating Reports for Merging Data Common Tasks*, page 134
- *Merging Project and AsBuilt Data Overview*, page 131

Entity Comparison Options

When you run the comparison list on certain specific entities, you can compare changes for additional entities associated with the main entity. The following table summarizes options available for each of the entities.

To access these options, in the **Comparison List** dialog box for the main entity, click **Options**.

Main Entity	Additional Entities Available for Comparison
Line	Process Data
Document	None
Process Equipment	None
Loop	None
Tag	Signal, Process Data, Specification
Fieldbus Segment	None
Connector	None
Panel	1 Side, 2 Side, Cross Wire, Jumper
Controller	None
Rack	None
Slot	None
Wiring Equipment	None
Terminal Strip	1 Side, 2 Side
Channel	None
Terminal	1 Side, 2 Side
Cable	1 Side
Cable set	1 Side
Wire	1 Side
Control System Tag	None

Related Topics

- *Compare Project Data with AsBuilt Data*, page 144
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *Operating Owner Domain (AsBuilt and Projects) Overview*, page 89
- *Prerequisites for Claiming Documents*, page 128

Actions for Merging Entities

When merging project and *AsBuilt* data, the following actions are available per entity. If needed, you or can apply a merge action to entities belonging to a specific entity type in the **Comparison List** dialog box.

Merge now — Overwrites the data in AsBuilt with the modified data in the current project and deletes the entity in the project. The results depend on the change made in the project:

- Entities that were created in the project are also inserted in AsBuilt. If an entity that exists in the project was deleted in AsBuilt, that entity is reinserted in AsBuilt.
- Entities that were deleted in the project are also deleted in AsBuilt.
- Entities that were updated in the project are also updated in AsBuilt. Also, if you made any changes to AsBuilt data after claiming the entity for the project, the software overwrites the AsBuilt data with the project data on merging.

Release claim — Disregards changes and leaves the data in AsBuilt as it was before claiming it for the project, provided that in the project, no new entities have been associated with the claimed entities. For example, if in the project a user added new wires to a claimed cable and changed the cable name and description, after you set the merge action for the cable as **Release claim**, the software does not change the cable name or description, but adds the new wires to the cable on merging the cable data with AsBuilt. This action does not apply to new entities that you create in the project.

Merge later — The default action applied to all the entities that appear in the **Project Explorer**. Leaves the entity in the currently selected project for merging at a later time.

Related Topics

- *Copy Entities to the Merge Buffer Common Tasks*, page 138
- *Merging Project and AsBuilt Data Overview*, page 131
- *Operating Owner Domain (AsBuilt and Projects) Common Tasks*, page 90
- *Specify an Action for Merging a Group of Entities*, page 148

Specify an Action for Merging a Group of Entities

1. In the **Project Explorer**, right-click the highest hierarchy node.
2. On the shortcut menu, click **Comparison List**.
3. In the **Select Entity Types for Comparison** dialog box, use the check boxes to select entity types for which you want to display comparison reports.
4. Click **OK** to display the **Comparison List** dialog box.

   Tip

   - A **Comparison List** dialog box opens separately for each entity type that you select. For example, if you selected **Loop**, **Tag**, and **Equipment**, the software first displays a **Comparison List** dialog box for the loop entity type. After you close this dialog box, the software opens another dialog box for the tag entity type, and so forth.
5. Select the merge action you want to apply to the entities that belong to the displayed entity type.
6. Select one or more of the types of changes for applying the action, for example, **Inserted**, **Deleted**, and **Not changed**.
7. Click **Options** to display a list of additional entities for comparison – the available associated entities depend on the selected entity type.

   Tip

   - The merge action for the additional entities you view by clicking **Options** are identical to the action you select for the main entity; you cannot select the merge action for the associated entities independently.
8. Click **OK** to save the changes and return to **Comparison List** dialog box displayed for another entity type (if you selected more than one entity type in the **Project Explorer**), and then, repeat the steps 6-9.

   Tips

   - After you click **OK**, the software applies the merge action and affects the display of entities that already appear in the **Merge Buffer**.
   - If you change a merge action from Merge Now or Release Claim to Merge Later, the software automatically removes this entity from the **Merge Buffer**.
   - If you change the action from Merge Later to Merge Now, the software does not merge the entity but only copies it and the associated sub-entities to the **Merge Buffer**.

Related Topics

- *Actions for Merging Entities*, page 147

Merge Entities from the Merge Buffer

1. In the **Merge Buffer**, right-click the highest hierarchy node.
2. On the shortcut menu, click **Merge All**.

Notes

- The **Merge Buffer** does not contain any entities assigned to the Merge Later action.
- During the process of merging data, the software merges all the entities assigned to the Merge Now action in the **Merge Buffer**, and also release claim for those entities that are assigned to the Release Claim action. For details on merge action descriptions and examples, see Actions for Merging Entities.
- On completing merging the entities, the software clears the **Merge Buffer**. However, if you copied entities to **My List**, you need to remove the entities manually.
- A log file and .psr files that include a list of merged entities appear in the path that you specified when setting the preferences for merging entities.

Related Topics

- *Actions for Merging Entities*, page 147
- *Merging Project and AsBuilt Data Common Tasks*, page 142

Merge Entities Directly from the Project Explorer

Note

- Merging entities from the **Project Explorer** is only possible if the **Merge Buffer** has no entities.

1. In the **Project Explorer**, expand the hierarchy to display folders of entity types.
2. In the tree view pane, click an entity type folder to display the entities in the **Entities** pane.
3. In the **Entities** pane, select and right-click one or more entities, and then do one of the following:
   - On the shortcut menu, click **Merge** to apply the Merge Now action to all the entities that you selected.
   - On the shortcut menu, click **Release Claim** to apply the Release Claim action to all the entities that you selected.

Tip

- When clicking **Merge** or **Release Claim**, the software applies the merge action all the entities that you selected, regardless of the merge action that was previously assigned to the entities. If you want to preserve the merge action of the selected entities, we recommend that you first copy the entities to the **Merge Buffer** as Merge Now or Release Claim, and then, in the **Merge Buffer**, use the **Merge All** option.

Related Topics

- *Actions for Merging Entities*, page 147
- *Merging Project and AsBuilt Data Common Tasks*, page 142

Naming Conventions

Overview

Naming conventions define the parameters which the software uses when creating tags, loops, device panel, cable, or other entities in SmartPlant Instrumentation.

Before you start defining naming conventions, we recommend that you familiarize yourself with the following general guidelines:

- You define naming conventions on a per <*unit*> basis. Therefore, if you want certain entities (for example, panels) to share naming conventions on the highest plant hierarchy level, for example, you can define a naming convention for panels in a specific <unit>, and then, copy this convention to all other units available in the same <*plant*>.
- Each convention is made up of a number of segments. For example, five segments for a loop name, four for a tag number. The segments are separated by separator characters. You can use any character as a separator. The maximum length of a naming convention is 50 characters, including separators. This length applies for all naming convention standards.
- You can copy naming conventions only on the lowest plant hierarchy level, for example, from Unit1 to Unit2, within the same domain.
- You can set a specific item on the lowest plant hierarchy level as a source item for copying naming conventions to new items that you create in the current domain. This allows the software to apply naming conventions from the source item on creating anew item in the **Plant Hierarchy Explorer**.
- For an entity type, it is only possible to define one naming convention.
- When defining a naming convention for wiring equipment, note the following limitation: you cannot include a slot name or an I/O card name together with the rack name. The software can only retrieve the name of the actual parent entity. For example, when a card is a child of a slot, only the slot name can be retrieved but not the rack name.

Compatibility with Instrumentation Standards

Being an instrumentation software system, SmartPlant Instrumentation is compatible with the predominant standards which are used in instrumentation handling. In addition to traditional standards such as ISA, SmartPlant Instrumentation also provides for non-formal standards. This way you can build and maintain the instrumentation data according to your specific instrumentation needs.

The tag and loop number naming convention options depend on the standard that the System Administrator has selected from the **Standard** list of the **Domain Definition** window. The System Administrator can set the naming convention standard only when associating a new domain.

The Domain Administrator defines or modifies naming conventions in the **Naming Conventions** dialog box, where the software displays the standard when selecting the COMPONENT or LOOP convention from the **Convention** list.

The following tag an loop number naming convention standards are available:

-

Notes

- The System Administrator can modify the domain standard in the **Domain Definition** window provided that no tags are defined in the domain. See *Create a Domain*, page 22 for details of how to select the domain standard.
- The ISA standard is based on the Instrument Society of America ANSI/ISA-S5.1-1975 standard as published in:
  Instrument Society of America. Standards and Practices of Instrumentation, Instrumentation Symbols and Identification. 7th ed. NC, 1983.
- You can use some parts of the Flexible standard with the Power Station Designation System (KKS) standard.

Related Topics

- *Document Number Naming Convention Examples*, page 166
- *Domain Administration Common Tasks*, page 75
- *Entity Naming Convention Examples*, page 169
- *Naming Conventions Common Tasks*, page 153
- *Notes for Creating Naming Conventions for Wiring Entities*, page 155
- *Tag Naming Convention Example*, page 164
- *Wire End Naming Conventions Overview*, page 171

Naming Conventions Common Tasks

The following tasks are used when you need to define naming conventions for a <*unit*> in SmartPlant Instrumentation:

ISA Standard Naming Convention Structure

This topic describes the structure of the ISA Standard naming convention. For more information, see *ISA Standard Naming Convention Structure*, page 156.

Loop Standard Naming Convention Structure

This topic describes the structure of the Loop Standard naming convention. For more information, see *Loop Standard Naming Convention Structure*, page 158.

Flexible Standard Naming Convention Structure

This topic describes the structure of the Flexible Standard naming convention. For more information, see *Flexible Standard Naming Convention Structure*, page 160.

Free Standard Naming Convention Structure

This topic describes the structure of the Free Standard naming convention. For more information, see *Free Standard Naming Convention Structure*, page 161.

Define Naming Conventions

This procedure enables you to define new naming conventions in a unit. The naming convention standard (ISA, Loop, Flexible, or Free Format) is set in the domain by the System Administrator at the time of associating a domain. The software uses the standard to determine the naming conventions. For more information, see *Define Naming Conventions*, page 161.

Copy Naming Conventions from Another <Unit>

This procedure explains how you can copy the naming conventions from a selected source <unit> in the current domain to the current <unit>. You can use this procedure after creating a new <unit> for which no naming convention definitions have been made yet. The software does not let you copy naming conventions to a <unit> that already contains tag numbers. For more information, see *Copy Naming Conventions from Another <Unit>*, page 164.

Copy Naming Conventions to Other <Units>

This procedure explains how you can copy naming conventions to <units> that exist in the current domain but have no naming convention definitions yet. Also, you can use the procedure tips if you want to set the software to copy naming conventions automatically to all new <units> on creating the <units> in the **Plant Hierarchy Explorer**. The software does not let you copy naming conventions to a <unit> that already contains tag numbers. For more information, see *Copy Naming Conventions to Other <Units>*, page 163.

Tag Naming Convention Example

This topic shows an example of tag naming conventions. For more information, see *Tag Naming Convention Example*, page 164.

Entity Naming Convention Examples

This topic provides examples of naming conventions of entities whose conventions do not depend on the standard set by the System Administrator in the **Domain Definition** window. For more information, see *Entity Naming Convention Examples*, page 169.

Document Number Naming Convention Examples

This topic provides examples of document number naming conventions. Document number naming conventions do not depend on the standard set by the System Administrator in the **Domain Definition** window. For more information, see *Document Number Naming Convention Examples*, page 166.

Generate Naming Convention Reports

This option enables you to generate and print a naming convention report. This report contains information about the naming conventions for each entity in all the <units> of the current domain. For more information, see *Generate Naming Convention Reports*, page 170.

Wire End Naming Convention

This set of procedures allows you to define wire end naming conventions so that SmartPlant Instrumentation users can assign a wire end naming convention to the ends of one or more wires belonging to a cable. For more information, see *Wire End Naming Conventions Common Tasks*, page 172.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Naming Conventions Overview*, page 151
- *Notes for Creating Naming Conventions for Wiring Entities*, page 155

Notes for Creating Naming Conventions for Wiring Entities

General Note

Naming conventions of wiring entities do not depend on the naming convention standard set by the System Administrator per domain. You define a naming convention for wiring entities (apart from wire ends) using the options available in the **Naming Conventions** dialog box. In this dialog box, a complete list of wiring entities for which you can define naming conventions appears in the **Convention** box.

Wire End Naming Conventions

Options for defining wire end naming conventions are available in the **Wire End Naming Conventions** dialog box.

Panel Naming Conventions

If your panel naming convention segments contain levels of panel locations, the software does not display the lowest level in SmartPlant Instrumentation in the following scenario:

1. In the **Panel Location Levels** dialog box, create several levels, for example, **Building**, **Floor**, and **Room**.
2. In the **Naming Conventions** dialog box, define a naming convention for a panel, for example, for a DCS. For the naming convention, use the panel location segments, for example, **Building\Floor\Room\XX**,
   where XX represents a free segment.
3. In SmartPlant Instrumentation, create a new DCS at the Floor level. When creating the DCS name, the software automatically replaces the **Room** segment with spaces so that the new DCS name appears as follows:
   Building\Floor\ \XX
   If, when defining the naming convention, you selected the **Remove spaces** check box, the name appears as follows:
   Building\Floor\\XX

Related Topics

- *Define Panel Location Levels*, page 244
- *Naming Conventions Common Tasks*, page 153
- *Naming Conventions Overview*, page 151
- *Wire End Naming Conventions Overview*, page 171

ISA Standard Naming Convention Structure

Each segment of the naming convention is made up of two parts: a separator and a descriptor. You can type any character as a separator; however, each set of descriptors is predefined and appears in a list from which you can select an option.

The separators are characters you type which appear before each segment of the naming convention. In the Component Convention example below, the first separator is `U'. The other separators can be a `-' or `/' character or none.

The prefix, when present, often identifies the plant, area, or unit where the instrument tag is located.

Component Convention

Segment	Prefix	Function Identifier	Loop Identifier	Loop Suffix
Example:	U 108	FE	2212 /	1
Applicable values	AREA NAME PLANT NAME UNIT NAME UNIT NUMBER	INSTRUMENT TYPE	COMPONENT NUMBER	COMPONENT SUFFIX

Note

- When defining a tag naming convention, the **Description** list of the **Naming Conventions** dialog box always includes three default levels of the plant hierarchy, even if you defined more than three levels in the **Plant Hierarchy** dialog box. The default settings are **Plant**, **Area**, and **Unit**, where **Plant** stands for the highest hierarchy level item of the parent hierarchy, **Unit** for the current <unit>, and **Area** for the intermediate level item under which you created the <unit> in the **Plant Hierarchy Explorer**.

Loop Convention

Segment	Prefix	Measured Variable	Function	Loop Number	Suffix
Example:	U 108	F	E	2212 /	1
Applicable values	AREA NAME LOOP PREFIX PLANT NAME UNIT NAME UNIT NUMBER	LOOP MEASURED VARIABLE	LOOP FUNCTION	LOOP NUMBER	LOOP SUFFIX

Notes

- For the ISA standard, in both Component and Loop conventions, the PREFIX and SUFFIX segments and the separators are optional. In the Loop convention, the FUNCTION segment is also optional.
- When defining a loop naming convention, the **Description** list of the **Naming Conventions** dialog box always includes three default levels of the plant hierarchy, even if you defined more than three levels in the **Plant Hierarchy** dialog box. The default settings are **Plant**, **Area**, and **Unit**, where **Plant** stands for the highest hierarchy level item of the parent hierarchy, **Unit** for the current <unit>, and **Area** for the intermediate level item under which you created the <unit> in the **Plant Hierarchy Explorer**.

Related Topics

- *Naming Conventions Common Tasks*, page 153
- *Naming Conventions Overview*, page 151
- *Tag Naming Convention Example*, page 164

Loop Standard Naming Convention Structure

Each segment of the naming convention is made up of two parts: a separator and a descriptor. You can type any character as a separator; however, each set of descriptors is predefined and appears in a list from which you can select an option.

Component Convention

Segment	Prefix	Loop Parameter	Loop Identifier	Loop Suffix	Tag Suffix
Example:	U 108	LRC	2212	A /	LX1
Applicable values	AREA NAME LOOP PREFIX PLANT NAME UNIT NAME UNIT NUMBER	LOOP MEASURED VARIABLE + LOOP FUNCTION	LOOP NUMBER	LOOP SUFFIX	INSTRUMENT TYPE

Notes

- For the Loop standard, in Component conventions, the TAG SUFFIX segment is mandatory. The PREFIX and LOOP SUFFIX segments and the separators are optional.
- When defining a tag naming convention, the **Description** list of the **Naming Conventions** dialog box always includes three default levels of the plant hierarchy, even if you defined more than three levels in the **Plant Hierarchy** dialog box. The default settings are **Plant**, **Area**, and **Unit**, where **Plant** stands for the highest hierarchy level item of the parent hierarchy, **Unit** for the current <unit>, and **Area** for the intermediate level item under which you created the <unit> in the **Plant Hierarchy Explorer**.

Loop Convention

Segment	Prefix	Measured Variable	Function	Loop Number	Suffix
Example:	U 108	L		2212 /	/A
Applicable values	AREA NAME LOOP PREFIX PLANT NAME UNIT NAME UNIT NUMBER	LOOP MEASURED VARIABLE	LOOP FUNCTION	LOOP NUMBER	LOOP SUFFIX

Notes

- For the Loop standard, in Loop conventions, the PREFIX and SUFFIX segments and the separators are optional.
- When defining a loop naming convention, the **Description** list of the **Naming Conventions** dialog box always includes three default levels of the plant hierarchy, even if you defined more than three levels in the **Plant Hierarchy** dialog box. The default settings are **Plant**, **Area**, and **Unit**, where **Plant** stands for the highest hierarchy level item of the parent hierarchy, **Unit** for the current <unit>, and **Area** for the intermediate level item under which you created the <unit> in the **Plant Hierarchy Explorer**.

Related Topics

- *Naming Conventions Common Tasks*, page 153
- *Naming Conventions Overview*, page 151

Flexible Standard Naming Convention Structure

The Flexible standard enables you to select any description for any segment as required. This way you can set the value for each string segment.

There are several segments for the Flexible standard. For each segment, you select a value from one of the following:

Segment	Description
AREA NAME	<*Area*> name defined in the **Plant Hierarchy Explorer**.
COMPONENT NUMBER	Tag number numeric segment For example, in tag number 101-FT-202/A, the numeric segment is 202.
EQUIPMENT	Equipment
FREE SEGMENT	Any string segment that you need, for example, the loop/tag prefix or suffix (as it is used in ISA or Loop standards). If you use a free segment for a tag or loop number, after creating a first tag or loop number in the domain, you cannot replace the free segment with another segment.
INSTRUMENT TYPE	Function identifier The INSTRUMENT TYPE SEGMENT IS NOT OBLIGATORY IN THE FLEXIBLE STANDARD. THEREFORE, THE SOFTWARE CANNOT AUTOMATICALLY ASSOCIATE A SEGMENT OR A PART OF THE SEGMENT WITH AN INSTRUMENT TYPE. IT IS POSSIBLE TO ASSOCIATE SEGMENTS WITH INSTRUMENT TYPES MANUALLY IN THE INSTRUMENT INDEX MODULE.
LINE	Line number
LOOP NUMBER	Loop number numeric segment For example, in loop number 101-F-202/A, the numeric segment is 202.
LOOP FUNCTION	Loop function
LOOP MEASURED VARIABLE	Loop measured variable
P& ID	P&ID drawing number
PLANT NAME	<*Plant*> name defined in the **Plant Hierarchy Explorer**.

Segment	Description
SUFFIX	Tag or loop number suffix Selecting the SUFFIX SEGMENT IS REQUIRED IF YOU PLAN TO CREATE LOOPS AND TAGS IN BATCH MODE. A SUFFIX VALUE DETERMINES THE UNIQUENESS OF TAG NUMBERS WHEN CREATING LOOPS AND TAGS USING A TYPICAL LOOP WITH ASSOCIATED TYPICAL TAGS.
UNIT NAME	<*Unit*> name defined in the **Plant Hierarchy Explorer**.
UNIT NUMBER	<Unit> number

Related Topics

- *Naming Conventions Common Tasks*, page 153
- *Naming Conventions Overview*, page 151

Free Standard Naming Convention Structure

For the Free Format standard, there is only one segment for the loop name and one for the component (tag) name.

The INSTRUMENT TYPE segment is not obligatory in the Free Format standard. Therefore, the software cannot automatically associate a segment or a part of the segment with an instrument type (that is, a functional identifier). You will be able to manually associate segments with instrument types as required in the Instrument Index module.

Related Topics

- *Naming Conventions Common Tasks*, page 153
- *Naming Conventions Overview*, page 151

Define Naming Conventions

Important

- You can modify the domain standard in the **Domain Definition** window provided that no tags are defined in the domain. For details of how to select the standard see, see *Create a Domain*, page 22.

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window or **Domain Definition** window, do one of the following:
   - Click **Activities > Naming Conventions**.
   - Click  .

3. Beside **Parent hierarchy**, click **Browse** to specify a <unit> for which you want to define naming conventions.

   Tip

   - Naming conventions are always defined per <unit>.

4. From the **Convention** list, select the entity whose naming conventions you want to define, for example, COMPONENT (for instrument tags), LOOP, DEVICE PANEL, DEVICE CABLE, CONTROL SYSTEM TAG, and so forth.

   Tip

   - If you modify the naming convention definition of either COMPONENT or LOOP of a <unit> which already contains tags or loops, the software prompts you to confirm the naming convention change.

5. Type the data as required in each field. The tag type description example in the **Example** field, and the tag length in the **Length** field change as you type data in each of the fields.
6. In the **Description** list, select the value appropriate for the current segment.
7. In the **Separator** data field, type a string which will be added to separate the current segment from the next.

   Tip

   - By default, the software assigns the C- prefix to all the device cable names. However, when you select DEVICE CABLE from the **Convention** list, the **Separator** data field is empty. If you define new naming conventions for the DEVICE CABLE but do not type any separator in the <B>TAG NUMBER</B> row, cable names appear without the C- prefix. You need to type C in the **Separator** field of the <B>TAG NUMBER</B> row to make the C- prefix available again.

8. In the **Start** data field, type the starting position of the current segment, that is, the leftmost character of the description which appears in the segment descriptor.
9. In the **Length** data field, type the total number of characters (from the starting character) which appears in the segment descriptor.

   Tips

   - If you use the Flexible standard, you can select a part of a segment by specifying the appropriate **Start** and **Length** values.
   - If you use the Free Format standard, it is inappropriate to define the segment **Start** value (in the data window), as there is no other source field from which you can retrieve the definition for this part of the naming convention. Therefore, you should leave the default segment start value (‘1’) unchanged.

10. If you are prompted to change the naming convention (if a naming convention already exists for the unit), do one of the following in the displayed message:
    - Click **Yes** to modify the current unit naming conventions.
    - Click **No** to retain the current unit naming conventions without modifying them.
11. When done, click **Apply** to save the naming conventions to the database.
12. Click **Close** to close the dialog box.

Related Topics
- *Entity Naming Convention Examples*, page 169
- *Log on as Domain Administrator*, page 16
- *Naming Conventions Common Tasks*, page 153
- *Naming Conventions Overview*, page 151
- *Tag Naming Convention Example*, page 164

Copy Naming Conventions to Other <Units>

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window or **Domain Definition** window, do one of the following:
    - Click **Activities > Naming Conventions**.
    - Click  .
3. Beside **Parent hierarchy**, click **Browse** to specify a source <*unit*>.

    Tips
    - Naming conventions are always defined per <unit>.
    - You can select **Copy all conventions from the current <unit>** to copy all the naming conventions that exist in the current <unit> to every new <unit> that you create using the **Plant Hierarchy Explorer**. This option does not apply to units that already exist in your domain.
4. Click **Copy To**.
5. In the **Copy Naming Conventions** dialog box, select a check box beside the target <units> to which you want to copy the naming conventions of the source <unit>.
6. Click **Copy** and then **Close**.
7. In the **Naming Conventions** dialog box, click **Apply** and then **Close**.

Related Topics
- *Log on as Domain Administrator*, page 16
- *Naming Conventions Common Tasks*, page 153

Copy Naming Conventions from Another <Unit>

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window or **Domain Definition** window, do one of the following:
   - Click **Activities > Naming Conventions**.
   - Click  .
3. Beside **Parent hierarchy**, click **Browse** to specify a target *<unit>*.
4. Click **Copy From** to select a source <unit>.
5. In the dialog box **Copy Naming Conventions From**, expand the plant hierarchy and select a source <unit> from which you want to copy the naming conventions.
6. Click **OK** to return to the dialog box where you can view the naming conventions you copied.
7. In the **Naming Conventions** dialog box, click **Apply** and then **Close**.

Related Topics

- *Log on as Domain Administrator*, page 16
- *Naming Conventions Common Tasks*, page 153
- *Naming Conventions Overview*, page 151

Tag Naming Convention Example

The following example illustrates how a tag number naming convention for ISA standard affects the characteristics of tag numbers in SmartPlant Instrumentation.

Segment	Seq.	Separator	Description	Start	Length
PREFIX	1		UNIT NUMBER	1	3
FUNCTION IDENTIFIER	2	-	INSTRUMENT TYPE	1	5
LOOP IDENTIFIER	3	-	COMPONENT NUMBER	1	6
LOOP SUFFIX	4	\	COMPONENT SUFFIX	1	3

The tag segment description is selected from the list which appears when the **Description** field is highlighted. The list of values you can select for the prefix segment is shown in the following screen capture.

Segment	Seq.	Separator	Description	Start	Length
PREFIX	1		UNIT NUMBER	1	3
FUNCTION IDENTIFIER	2	-	AREA NAME	1	5
LOOP IDENTIFIER	3	-	COMPONENT PREFIX	1	6
LOOP SUFFIX	4	\	PLANT NAME	1	3
			UNIT NAME		
			UNIT NUMBER		

The description selected affects the default parameters that appear when creating a new tag number. In this example, the selected prefix description is **Unit Number**. This corresponds to the <unit> number entered in the **<Unit> Properties** dialog box in the **Plant Hierarchy Explorer**. For further information, see *Create a Plant Hierarchy Item on the Lowest Level*, page 85.

The number in the **Length** column indicates the maximum number of characters permitted for the string. In this example, each tag segment may consist of up to 4 characters, except for the loop suffix, which may only be one character in length. For the prefix, the number in the **Start** column has been set to `2' in this example (the default is '1').

This means that the string will start at the second character, therefore the string '108' will appear as the default when a new tag number is created in the Instrument Index module.

Data entered in the other fields determines whether the string you type is expected to be alphanumeric (letters and numbers) or numeric only, for example:

108-FV -2225\1

where each section of the name is described as follows.

108 — prefix (appears as default)

FV — function identifier (alphanumeric)

2225 — loop identifier (numeric)

1 — suffix (alphanumeric)

Naming conventions for loop numbers follow a similar pattern.

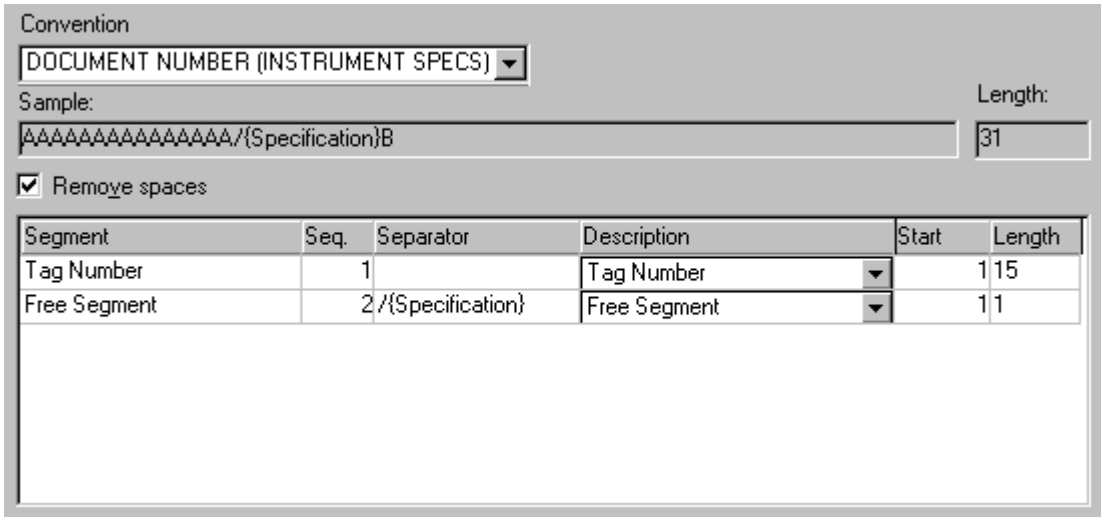
Related Topics

- *Document Number Naming Convention Examples*, page 166
- *Naming Conventions Common Tasks*, page 153
- *Naming Conventions Overview*, page 151

Document Number Naming Convention Examples

In SmartPlant Instrumentation, it is possible to assign a document number to a process data, dimensional data, or calculation sheet, entity specification, loop drawing, or panel-strip report. In the Administration module, you can define a document number naming convention individually for each document type available in SmartPlant Instrumentation. In the **Naming Conventions** window, the document types appear in the **Convention** list, in parenthesis beside the DOCUMENT NUMBER string. This topic provides examples of document number naming conventions for instrument specifications and loop drawings. Document number naming conventions do not depend on the standard that the System Administrator sets in the **Domain Definition** window.

Segment Definition Example for the Instrument Specification Document Number

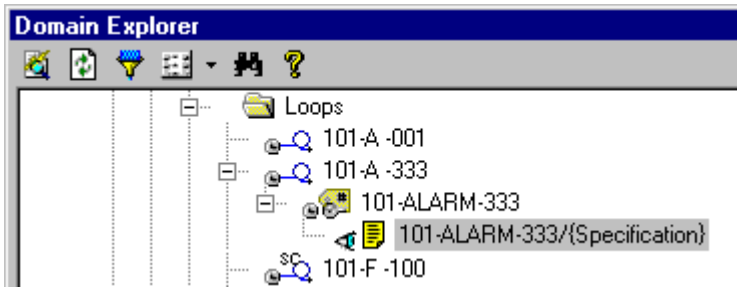


Implementation Example in SmartPlant Instrumentation

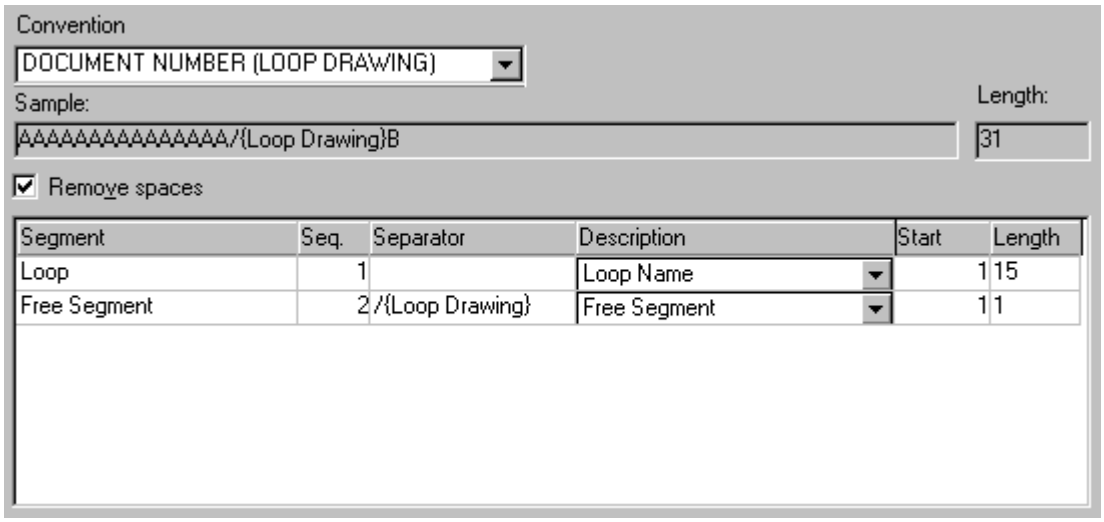
The following example illustrates how the software uses the document number naming convention defined for an instrument specification. After you set the appropriate instrument type profiles to include specification data, the software applies the convention when you do any of the following:

- Create a new instrument specification — the software displays automatically the document number in the **New Entity Specification** dialog box.

- Edit properties of an existing loop or tag, and then, on the **Tag Number Properties** dialog box, select the **Update document numbers** check box.



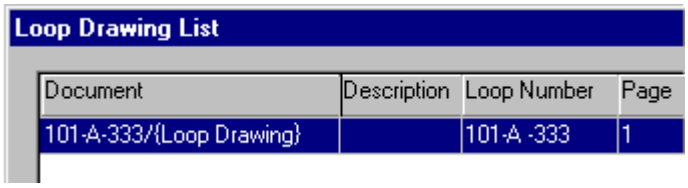
Segment Definition Example for the Loop Drawing Document Number



Implementation Example in SmartPlant Instrumentation

The following example illustrates how the software uses the document number naming convention defined for a loop drawing. The software applies the convention when you do any of the following:

- Create a new loop — the software assigns automatically the document number to the drawing that you can generate for the loop.
- Edit properties of an existing loop, and on the **Loop Number Properties** dialog box, select the **Update document numbers** check box.



Notes

- If you do not define a naming convention for instrument specification document numbers, the software creates the default document number <tag number>-SP.
- If you do not define a naming convention for calculation sheet document numbers, the software creates the default document number <tag number>-CL.
- If you do not define a naming convention for process data sheet document numbers, the software creates the default document number <tag number>-PD.
- If you do not define a naming convention for document numbers of dimensional data sheets, the software creates the default document number
  <tag number>-DDP.
- If you do not define a naming convention for loop drawing document numbers, the software creates the default document number
  LD <loop number>.
- For other documents, the software only create document numbers when naming conventions exist.
- In SmartPlant Instrumentation, it is always possible to change the document number associated with a particular document, for example, from the **Revisions** dialog box.
- If needed, when editing properties of a tag or loop number, you can update the document number for the associated documents. In this case, the software assigns document numbers according to the document number naming conventions.

Related Topics

- *Naming Conventions Common Tasks*, page 153
- *Naming Conventions Overview*, page 151
- *Tag Naming Convention Example*, page 164

Entity Naming Convention Examples

The examples shown in this topic refer to the following entities: device panels, device cables, and control system tags.

Device Panel Convention

Segment	Prefix	Tag Number	Suffix
Example:	108	108-FT-2212 /1	1
Applicable values	PANEL PREFIX	TAG NUMBER (ALL COMPONENT parts including separators)	PANEL SUFFIX

Device Cable Convention

Segment	Prefix	Tag Number	Suffix
Example:	C	108-FT-2212 /1	1
Applicable values	CABLE PREFIX	TAG NUMBER (ALL COMPONENT parts including separators)	CABLE SUFFIX

Control System Tag Convention

The control system tag convention consists of up to seven segments for each of which you can select a number of descriptions, including free segment descriptions. In the example below, five of the seven available segments are used to display data as shown (the **Length** parameter is set to zero for the unused segments).

Segment	1	2	3	4	5
Example:	U 108	FE	E	1	TEST
Applicable values	AREA NAME COMPONENT PREFIX PLANT NAME UNIT NAME UNIT NUMBER	INSTRUMENT TYPE	LOOP FUNCTION	COMPONENT SUFFIX	FREE SEGMENT

Notes

- The control system tag convention must be selected in order to enable automatic creation of control system tags in SmartPlant Instrumentation. If this naming convention is not set, control system tags are created with names based on INSTRUMENT TYPE + NUMERIC STRING + \SUFFIX. For the alias option to be available in the instrument type definition, you must select INST. TYPE ALIAS as one of the descriptions.

Related Topics

- *Document Number Naming Convention Examples*, page 166
- *Naming Conventions Common Tasks*, page 153
- *Naming Conventions Overview*, page 151
- *Tag Naming Convention Example*, page 164

Generate Naming Convention Reports

- With the **Domain Administration** window open, click **Report > Naming Convention**.

Related Topics

- *Naming Conventions Common Tasks*, page 153
- *Naming Conventions Overview*, page 151

Wire End Naming Conventions

Overview

SmartPlant Instrumentation users can assign a wire end naming convention to the ends of one or more wires belonging to a cable. A convention can consist of free segments as well as segments that designate properties of certain wiring entities. A convention can also have separators between segments. The total length of a wire end naming convention can be up to 50 characters.

The *Domain Administrator* is responsible for defining and managing wire end naming conventions. Also, the Domain Administrator has rights to enable or disable the use of the wire end naming conventions in the Wiring module.

To use the wire end naming convention options, you need to enter the Administration module as the Domain Administrator and then, with the **Domain Administration** window open, on the **Activities** menu, click **Wire End Naming Conventions**.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Log on as Domain Administrator*, page 16
- *Wire End Naming Conventions Common Tasks*, page 172

Wire End Naming Conventions Common Tasks

The following tasks are used when you need to access the Administration module.

Enable the Use of Wire End Naming Conventions

Use this procedure to allow users to assign naming conventions to wire ends in the Wiring module. For more information, see *Enable the Use of Wire End Naming Conventions*, page 172.

Define Wire End Naming Conventions

You can use this procedure to define new wire end naming conventions. For more information, see *Define Wire End Naming Conventions*, page 172.

Duplicate Wire End Naming Conventions

This procedure describes how to duplicate wire end naming conventions. For more information, see *Duplicate Wire End Naming Conventions*, page 174.

Modify Wire End Naming Conventions

You can use this procedure to modify wire end naming conventions. For more information, see *Modify Wire End Naming Conventions*, page 175.

Delete Wire End Naming Conventions

This option you to delete wire end naming conventions. For more information, see *Delete Wire End Naming Conventions*, page 175.

Enable the Use of Wire End Naming Conventions

- With the **Wire End Naming Conventions** dialog box open, select **Enable using wire end naming conventions**.

Related Topics

- *Wire End Naming Conventions Common Tasks*, page 172
- *Wire End Naming Conventions Overview*, page 171

Define Wire End Naming Conventions

1. In the **Wire End Naming Conventions** dialog box, click **New**.
2. In the **Wire End Naming Convention Properties (New)** dialog box, under **Convention**, type a unique name.
3. Under **Description**, type a description, if needed.
4. Click **Add** to add a new row in the data window.

5. Under **Segment definitions**, in the data window, select a segment from the list.

   Tip

   - A segment can be either free or can designate properties of certain wiring entities. If you select a free segment as part of a naming convention, in the Wiring module, SmartPlant Instrumentation users can type any string up to the length allocated for the free segment.

6. To determine all or part of the naming convention string by the actual name of the entity that appears in the segment that you selected under **Trim Trailing Spaces**, select the check box.
7. To define the start position and length of segments, under **Start** accept or modify the value that designates the starting character in the segment from which the segment appears in the naming convention.
8. Under **Length**, accept or modify the default number of characters allocated for the selected segment string in the naming convention (starting from the position defined in the **Start** box).

   Tip

   - When you select a segment, the software automatically displays the maximum length that can be used for the segment. If the total length exceeds the maximum permitted value of 50 characters, the software automatically truncates the number of characters in the segment to maintain the permitted total length or displays a message if the total length of the segment has already reached the maximum value.

9. If you need to define a separator between the segments in the naming convention string, in the **Separator** column, type separator characters (up to 30 characters of any kind).
10. Repeat steps 4 through 9 for each segment that you want to define.

    Tips

    - You can change the sequence of segments in the naming convention using the **Up** and **Down** buttons.
    - The **Sample** box shows a preview of the naming convention. The value that appears in the **Total length** box represents the total value of characters in the naming convention segments, including the separator characters. All naming convention strings can have a maximum length of 50 characters.

11. Select **Remove spaces from wire end names** if you defined your naming convention in any of the following ways:
    - You used a naming convention segment that includes spaces, for example, panel name 101-FT -200.
    - You increased the default length of a segment. For example, if the default segment length is 20 characters and you changed it to 30 characters, the software automatically adds the additional characters to the naming convention as trailing spaces, provided that the entire naming convention does not exceed 50 characters.
12. Click **OK**.

Related Topics
- *Naming Conventions Common Tasks*, page 153
- *Wire End Naming Conventions Common Tasks*, page 172
- *Wire End Naming Conventions Overview*, page 171

Duplicate Wire End Naming Conventions

1. In the **Wire End Naming Conventions** dialog box, select a naming convention to be used as a source.
2. Click **Duplicate**.
3. In the **Wire End Naming Convention Properties (Duplicate)** dialog box, type a unique name for the target convention.

Note
- You can modify any existing segment definitions as you need. These settings only apply to the target naming convention.

Related Topics
- *Naming Conventions Common Tasks*, page 153
- *Wire End Naming Conventions Common Tasks*, page 172
- *Wire End Naming Conventions Overview*, page 171

Modify Wire End Naming Conventions

1. In the **Wire End Naming Conventions** dialog box, select a naming convention.
2. Click **Properties**.
3. In the **Wire End Naming Convention Properties** dialog box, modify the settings as you need.

Note

- If the convention is already in use in SmartPlant Instrumentation, you can modify only the convention name and description.

Related Topics

- *Naming Conventions Common Tasks*, page 153
- *Wire End Naming Conventions Common Tasks*, page 172
- *Wire End Naming Conventions Overview*, page 171

Delete Wire End Naming Conventions

1. In the **Wire End Naming Conventions** dialog box, select a naming convention.
2. Click **Delete**.

Note

- You can delete only those conventions that are not in use in SmartPlant Instrumentation.

Related Topics

- *Naming Conventions Common Tasks*, page 153
- *Wire End Naming Conventions Common Tasks*, page 172
- *Wire End Naming Conventions Overview*, page 171

Copying Data

Overview

When creating a new lowest plant hierarchy item, you can copy data from another existing lowest plant hierarchy item within the same *domain*. In the plant hierarchy, the lowest source item can belong to any highest item in the current domain. The default lowest plant hierarchy item is <*unit*>. The default highest plant hierarchy item is <*plant*>. When the domain type is an *Operating owner*, you can select a specific project to which you want to copy <unit> data from the source project.

Before copying data, we recommend that you familiarize yourself with naming convention definitions.

Copying data to another <unit> involves three major steps:

1. Defining the name and number of the target lowest plant hierarchy item.
2. Selecting the source <unit>.
3. Selecting the source <unit> module data to copy. The following table lists the modules and the module data which you can copy:

Module	**Module Data**
Instrument Index	Tag number Loop P&ID drawing Line Equipment Document association Calculation
Process Data and Calculation	Process data Calculation
Specifications	All module data (you can only copy the specification data in its entirety.)
Wiring	Wiring entities Connection data (excluding cross wiring)
Loop Drawings	All module data (you can only copy the loop drawing data in its entirety.)
Hook-Ups	All module data (you can only copy the hook-up data in its entirety.)

Copying Data Common Tasks

The following tasks are used when you need to copy data from one lowest plant hierarchy item to another. The default lowest plant hierarchy item is <*unit*>.

Copy Data from Another Lowest Plant Hierarchy Item

This procedure enables the Domain Administrator to copy engineering data from one lowest plant hierarchy item to another. For more information, see *Copy Data from Another Lowest Plant Hierarchy Item*, page 179.

Set Options for Copying All Module Data

When copying data from one lowest plant hierarchy item to another, you can select a module and copy all of its data to the target lowest plant hierarchy item. You set the options for copying all module data in the upper-right section of the **Copy Data from Source** dialog box. For more information, see *Set Options for Copying All Module Data*, page 182.

Set Options for Copying Specific Data

When copying data from one lowest plant hierarchy item to another, you can select data of a specific module, and set the options for copying the specific data in the lower-right section of the **Copy Data from Source** dialog box. For more information, see *Set Options for Copying Specific Data*, page 180.

Set Revisions for Target Plant Hierarchy Item

When copying data, you can use this option to set drawing and document revisions to be used in the target lowest plant hierarchy item. You can set revisions for all module documents or selected module documents. Setting revisions is available for the following modules Process Data and Calculation, Specifications, and Loop Drawings. For more information, see *Set Revisions for Target Plant Hierarchy Item*, page 184.

Set Wiring Naming Options for Target Plant Hierarchy Item

Use this procedure to set naming options for wiring entities in the target lowest plant hierarchy item when copying data from one lowest plant hierarchy item to another. For details, see *Set Wiring Naming Options for Target Plant Hierarchy Item*, page 183.

Related Topics

- *Copying Data Overview*, page 177
- *Create a Plant Hierarchy Item on the Lowest Level*, page 85
- *Domain Administration Common Tasks*, page 75

Copy Data from Another Lowest Plant Hierarchy Item

1. In the In the **Plant Hierarchy Explorer**, open the **<Unit> Properties** dialog box. For details, see Create a Plant Hierarchy Item on the Lowest Level.

   Tips

   - If you want to copy data to an existing <*unit*>, in the **Plant Hierarchy Explorer**, select a <unit> that does not have naming conventions.
   - In the <unit> that you selected, you must define the <unit> number even if in the source <unit>, the naming conventions do not include the <unit> number segment.

2. Click **Copy From**.
3. In the dialog box that opens, select a source <unit>, and then, click **OK** to open the **Copy Data from Source** dialog box.

   Tips

   - When the domain type is *Operating owner*, select the required project from the **Source project** list, and then select the <unit> whose data you want to copy.
   - The **Copy Data from Source** dialog box can display previously used settings that you used the last time when you were copying data. You can use the same settings, discard some of them, or discard them all. Click **Clear All** to discard all the displayed settings.

4. In the left section of the **Copy Data from Source** dialog box, do one of the following:

   - To copy all module data of the required module, select a module to access the fields in the upper-right section of the **Copy Data from Source** dialog box. For details, see *Set Options for Copying All Module Data*, page 182.
   - To copy specific data, expand the module hierarchy, and select the required module data to access the fields in the lower-right section. For details, see *Set Options for Copying Specific Data*, page 180.

5. Repeat step 4 in this procedure for each source <unit> module or module data.
6. Click **Options** to set naming options for wiring entities in the target <unit>.

   Important

   - Make sure that you define the settings described in this procedure for all the required modules and module entities before clicking **OK**. After you click **OK**, canceling the copying process can corrupt the data in the target <unit> and render the <unit> unusable.

7. Click **OK** to close the **Copy Data from Source** dialog box and monitor the progress of the copying process.

Set Options for Copying Specific Data

1. Start copying the <*unit*> data and select specific module data from the source <unit>. For details, see *Copy Data from Another Lowest Plant Hierarchy Item*, page 179.
2. In the lower-right section of the **Copy Data from Source** dialog box, select **Copy selected data**.

   Tips

   - The lower-right section of the **Copy Data from Source** dialog box displays only the options that are required for copying data, depending on the specific module data you select in the left section. The options that are irrelevant to the selected module are read-only.
   - Make sure that you do **not** select the **Copy all module data** check box. If you do, click **Clear All**. Clicking this button discards all the settings you have made and you have to start again.
3. In the **Name prefix** field, type a new name prefix to be applied to all the copied entities.
4. In the **Name suffix** field, type a new name suffix to be applied to all the copied entities.

   Tip

   - Specifying a prefix, a suffix, or both is required when copying module data within the same <*plant*>. This way you avoid creating duplicate module entity names.
5. If required, set revision copying options.
6. To avoid having duplicate module entity names, in the **Char. location** data field, type the number of characters from the start of the name string where you want the substitution to start from.
7. In the **No. of chars.** data field, type the number of characters in the name string to be substituted.
8. In the **Value** field, type a new value that will substitute a part of the module entity name string.
9. In the **Prefix** field, to avoid creating duplicate loop and tag number prefixes in the units of the same <plant>, type a loop or tag number prefix to be used in the target <unit>.

Tips

- This option is available when copying loop or tag number data from a <unit> within the same <plant>. Also, it is available only for those entities for which the prefix naming convention segment is set as COMPONENT PREFIX in the ISA or Loop standard.
- For loop entities, the option is accessible only if the ISA or Loop standard naming convention for the prefix segment description of loops is LOOP PREFIX.
- This option is not applicable if you use Flexible or Free naming conventions in the source <unit>. For Flexible or Free standard naming conventions, you can define your target loop and tag number prefixes in the **Name prefix** field.

10. In the **Suffix** field, type a loop or tag number suffix to define a distinctive loop or tag number suffix to be used in the target <unit>.

Tips

- This option is available when copying loop or tag number data from a <unit> within the same <plant>. For tag number entities, the option is accessible only if the ISA or Loop standard naming convention for the suffix segment description of tags is COMPONENT SUFFIX.
- For loop entities, the option is accessible only if the ISA or Loop standard naming convention for the suffix segment description of loops is LOOP SUFFIX.
- If, in your source <unit>, there are loop names or tag numbers that differ only in their suffix segments, these loop names and tag numbers become identical in the target <unit>. The new suffix value in the target <unit> overwrites all the suffix values of the source <unit>. For example, if in the **Suffix field**, you type 5, loop names 101-F-100\1, 101-F-100\2, 101-F-100\3 in the source <unit> become 101-F-100\5 in the target <unit>. This option is not applicable if you use Flexible or Free naming conventions in the source <unit>. For Flexible or Free standard naming conventions, you can define your target loop and tag number suffixes in the **Name suffix** field.

11. In the left section, select other specific data, and repeat steps 2 through 10.

Related Topics

- *Copying Data Common Tasks*, page 178
- *Copying Data Overview*, page 177

Set Options for Copying All Module Data

1. Start copying the <*unit*> data and select specific module data from the source <unit>. For details, see *Copy Data from Another Lowest Plant Hierarchy Item*, page 179.
2. In the upper-right section of the **Copy Data from Source** dialog box, select **Copy all module data**.

   Tip

   - The upper-right section of the **Copy Data from Source** dialog box displays only the options that are required for copying data, depending on the module you select in the left section. The options that are irrelevant to the selected module are read-only.
3. In the **Name prefix** field, type a new name prefix to be applied to all the copied entities of the selected module.
4. In the **Name suffix** field, type a new name suffix to be applied to all the copied entities of the selected module.

   Tip

   - Specifying a prefix, a suffix, or both is required when copying the <unit> module data within the same <*plant*>. This way you avoid creating duplicate module entity names.
5. To avoid having duplicate module entity names, in the **Char. location** data field, type the number of characters from the start of the name string where you want the substitution to start from.
6. In the **No. of chars.** data field, type the number of characters in the name string to be substituted.
7. In the **Value** field, type a new value that will substitute a part of the module entity name string.
8. If required, set revision copying options.
9. Do one of the following to define the level on which you want to copy the Wiring module data:

   - Click **Highest** when copying data from units belonging to different plants. You must select the highest plant hierarchy level when copying data from <units> belonging to different <plants>. This is required because most wiring data is defined either per <*area*> or per <plant>.
   - Click **Lowest** when copying the source and the target <units> belonging to the same <plant>.

Tip

- When the source and the target <units> belong to the same <plant>, you can select either the highest or the lowest plant hierarchy level. However, if you select to copy data on the lowest level, you have to modify the name strings to avoid duplicate names in the Wiring module (see steps 5 through 7 in this procedure to learn how to modify the name string).

10. In the left section, select another module, and repeat steps 2 through 8.

Important

- Make sure to set the copying options for all the required modules and module entities before clicking **OK**. After you click **OK**, canceling the copying process can corrupt the data in the target <unit> and render the <unit> unusable.

Related Topics

- *Copying Data Common Tasks*, page 178
- *Copying Data Overview*, page 177

Set Wiring Naming Options for Target Plant Hierarchy Item

1. In the **Copy Data from Source** dialog box, click **Options**.
2. In the **Wiring Entity Naming Options** dialog box, do one of the following to set naming options for control system tags:
   - Select **Control system tag** to name new control system tags according to target tag names.
   - Clear **Control system tag** to name new controls system tags according to source tag names.
3. Do one of the following to set naming options for device panels:
   - Select **Device panel**, and from the **Like** list, and then select **Default** to copy the device cables with the default names (identical with tag number names) or **Naming Convention** to copy the device panels with the naming convention of the target <unit>.
   - Clear **Device panel** to copy all device panels without changing the source names, according to the settings you make for copying wiring entities in the **Copy Data from Source** dialog box.
4. Clear the **Device cable** check box to set the naming convention options for device cables and to copy all device cables without changing the source names, according to the settings you make for copying wiring entities in the **Copy Data from Source** dialog box.

5. Select the **Device cable** check box and then select one of the following options:
   - **Default**— to copy the device cables with the default names, for example, C-<TAG NUMBER>.
   - **Naming Convention** — to copy the device cables with the naming convention of the target <unit>.
6. Do one of the following to set naming options for signal names:
   - Select **Signal name** to copy signals using target tag names.
   - Clear **Signal name** to copy signals according to the settings you make for copying wiring entities in the **Copy Data from Source** dialog box.
7. Do one of the following to set naming options for wire tags:
   - Select **Wire tag** to copy wire tags using target tag names.
   - Clear **Wire tag** to copy wire tags according to the settings you make for copying wiring entities in the **Copy Data from Source** dialog box.
8. Click **OK** to accept the settings, and return to the **Copy Data from Source** dialog box.

Related Topics
- *Copying Data Common Tasks*, page 178
- *Copying Data Overview*, page 177

Set Revisions for Target Plant Hierarchy Item

When setting revisions, you can do one of the following:

- Copy all revisions from the source <*unit*> to the new <unit>.
- Create new revisions for the new <unit>. This option allows you to start a new set of revisions for the copied <unit> data.
- Forgo creating any revisions for the target <unit>. This option resembles the creation of new revisions. You can assign revisions to the documents in the new <unit>.

1. Start copying the <unit> data and select specific module data from the source <unit>. For details, see Copy Data from Another Lowest Plant Hierarchy Item.
2. In the left section of the **Copy Data from Source** dialog box, do one of the following:
   - Select **Specifications**, **Loop Drawings**, or **Process Data & Calculation**.
   - Expand **Process Data & Calculation** and select specific data (Process Data or Calculation).

3. Do one of the following:
   - If you selected a module, in the upper-right section of the dialog box, select the **Copy all module data** check box.
   - If you selected specific data, in the lower-right section of the dialog box, select the **Copy selected data** check box.
4. Do one of the following:
   - Click **Skip** not to copy any revisions.
   - Click **All existing** to copy all revisions from the selected module data to the new module data.
5. To set new revisions, click **Set new**.
6. Click **New Revisions**.
7. In the dialog box that opens, click the appropriate **Revision method** option button to select the required revision numbering, for example, P0, P1, P2,... 0,1,2,... and so forth.
8. To add a new revision line, click **New** and type the required data in the **Revision** data window.
9. To edit a revision, select the revision you want to edit and click **Edit**.
10. When done, click **OK** to return to the **Copy Data from Source** dialog box.

    Important

    - Make sure to set the copying options for all the required modules and module entities **before** clicking **OK**. After you click **OK**, canceling the copying process can corrupt the data in the target unit and render the unit unusable.
11. If you have finished setting all other copying options, in the **Copy Data from Source** dialog box, click **OK** to assign the new revision settings to the copied module data.

Related Topics

- *Copying Data Common Tasks*, page 178
- *Copying Data Overview*, page 177

User Groups

Overview

A SmartPlant Instrumentation user group is a group in which all users share the same access rights. After the *System Administrator* defines new users, the *Domain Administrator* needs to assign the users to groups so that they can be granted access rights to various *entities* or activities. As access rights are defined at the level of a group, the Domain Administrator needs to define user groups and then assign appropriate users to these groups. A user can belong to several groups with different access rights.

When the domain type is *Operating owner*, in a project, access rights granted on the domain level do not apply. If you want to grant access rights to a group assigned to a project, you must also assign this group to *AsBuilt*.

If the System Administrator enables the use of Windows authentication login, the software can create and assign users to groups automatically. For more information, see *Windows Authentication Login Overview*, page 192.

Related Topics

- *Access Rights Descriptions*, page 197
- *Create a Domain*, page 22
- *Create a Group for Windows Authentication Login*, page 193
- *Create a New Group*, page 189
- *Users and Groups Common Tasks*, page 188

Users and Groups Common Tasks

The *Domain Administrator* can perform the following tasks to manage user groups:

Create a New Group

Access rights are defined at the level of a group; therefore, for each access rights profile that you can assign to users, you need to define a group and then assign the appropriate users to one or more groups. For more information, see *Create a New Group*, page 189.

Create a Group for Windows Authentication Login

A group for Windows authentication login is a user group that exists in Windows and is associated with a SmartPlant Instrumentation group. The names of the Windows and SmartPlant Instrumentation groups must be identical. All users defined in a Windows domain who belong to this Windows group can access SmartPlant Instrumentation without having to provide any logon information, such as user name and password. When such a user starts SmartPlant Instrumentation, the software detects the user's Windows group settings, matches the Windows group name to the corresponding SmartPlant Instrumentation group name, and assigns the user to the SmartPlant Instrumentation group automatically. For more information, see *Create a Group for Windows Authentication Login*, page 193.

Modify the Profile of a Group

This option explains how you can edit the profile of an existing group. For more information, see *Modify the Profile of a Group*, page 189.

Assign Users to Groups

In the current domain, the Domain Administrator can assign an existing user to one or more groups. Assigning users to groups is needed because access rights to the domain entities are granted per group. Therefore, users who are not assigned to any group have no access rights to the domain. For more information, see *Assign Users to Groups*, page 190.

Remove Users from Groups

This procedure explains how the Domain Administrator can remove users from a group. For more information, see *Remove Users from Groups*, page 191.

Delete a Group

This procedure explains how the Domain Administrator can delete a group that has no users. For more information, see *Delete a Group*, page 190.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *User Groups Overview*, page 187

Create a New Group

1. With the **Domain Administration** window open, click **Activities > Group**.
2. In the **Group** dialog box, click **New**.
3. Type the new group name, description and note as you require.
4. Click **Apply**.
5. When prompted whether to copy access rights from another group, do one of the following:
   - Click **No** to create a new group in which all members have full access rights to all SmartPlant Instrumentation features.
   - Click **Yes** select a source group for copying access rights to the group that you are creating.

Related Topics

- *Access Rights Overview*, page 195
- *Create a Domain*, page 22
- *Create a Group for Windows Authentication Login*, page 193
- *User Groups Overview*, page 187
- *Users and Groups Common Tasks*, page 188

Modify the Profile of a Group

1. With the **Domain Administration** window open, click **Activities > Group**.
2. In the **Group** dialog box, from the **SmartPlant Instrumentation group** list, select the group you require.
3. Click **Edit**.
4. Make all the changes that you need.
5. Click **Apply** to save the changes you have made.

Note

- When modifying the profile of a group, the group access rights remain unchanged.

Related Topics

- *User Groups Overview*, page 187
- *Users and Groups Common Tasks*, page 188

Delete a Group

Important

- You can only delete a group that has no users.

1. Start the Administration module and log on as Domain Administrator.
2. Click **Activities > Group**.
3. From the **Group** list, select the group that you want to delete.
4. Click **Delete**.

Related Topics

- *Remove Users from Groups*, page 191
- *User Groups Overview*, page 187
- *Users and Groups Common Tasks*, page 188

Assign Users to Groups

Important

- If you created groups for Windows authentication login, you do not need to add any users to the groups. Whenever a new user with Windows authentication login credentials starts SmartPlant Instrumentation for the first time, the software assigns this user to the appropriate SmartPlant Instrumentation group automatically. For more information, see *Create a Group for Windows Authentication Login*, page 193.

1. Start the Administration module and log on as Domain Administrator.
2. Click **Activities > Assign Users to Groups**.
3. From the **Group** list, select the group to which you want to assign the required user.

   Tip

   - The users who have already been assigned to the selected group appear in the **Group** users pane.
4. In the **User** list pane, select the user you want to assign to the selected group.
5. Drag the selected user from the **User list** pane to the **Group** users pane.
6. Repeat steps 3 through 5 in this procedure for each user you want to assign to a group.
7. Click **Apply** to save the selections.

8. Click **Close** to close the dialog box.

Note

- If a user does not see the plant hierarchy after starting SmartPlant Instrumentation, this means that this particular user is not assigned to any group in the domain.

Related Topics

- *Access Rights Overview*, page 195
- *User Groups Overview*, page 187
- *Users and Groups Common Tasks*, page 188
- *Windows Authentication Login Overview*, page 192

Remove Users from Groups

Important

- If you remove a user who belongs to a group that is also a Windows group, you cannot prevent this user from accessing SmartPlant Instrumentation using Windows authentication login. For more information, see *Create a Group for Windows Authentication Login*, page 193.
- Users who are not assigned to any group have no access rights in the domain.

1. Start the Administration module and log on as Domain Administrator.
2. Click **Activities > Assign Users to Groups**.
3. From the **Group** list, select the group from which you want to remove the required user.
4. In the **Group users** pane, select the user you want to remove from the selected group.
5. Drag the selected user from the **Group users** pane to the **User list** pane.
6. Repeat steps 3 through 5 in this procedure for each user you want to remove from a group.
7. Click **OK** to save changes.

Related Topics

- *User Groups Overview*, page 187
- *Users and Groups Common Tasks*, page 188

Windows Authentication Login Overview

Windows authentication login allows the software to create SmartPlant Instrumentation users automatically and assign them to existing SmartPlant Instrumentation groups as soon as these users start SmartPlant Instrumentation.

First, in a specific domain, the Domain Administrator must associate a global group that exists in Windows with a SmartPlant Instrumentation group. To do so, the Domain Administrator creates a SmartPlant Instrumentation group with the same name as a user group that already exists in Windows (the group name characters are case-sensitive).

After that, any user who belongs to this Windows group can access this SmartPlant Instrumentation domain automatically without having to provide any logon information. When such a user starts SmartPlant Instrumentation, the software bypasses the **Logon Information** dialog box, and displays directly the **Open** dialog box, where you select a <*unit*>.

To access SmartPlant Instrumentation, in the **Open** dialog box, the user needs to select a domain in which the Domain Administrator has associated the user's Windows group with the SmartPlant Instrumentation group.

Notes

- The System Administrator can enable or disable the use of Windows authentication login when setting security options.
- To be able to access SmartPlant Instrumentation using Windows authentication login, a user must be connected to the appropriate Windows domain. Only after the user receives the Windows group privileges can the software match the user's Windows domain name with the SmartPlant Instrumentation domain name.
- Users who do not belong to any Windows user group or who are not defined in any SmartPlant Instrumentation group cannot access the domain.
- When the Windows authentication login is disabled, users must provide a personal SmartPlant Instrumentation user name and password when logging on.
- After the software creates users in a SmartPlant Instrumentation group by using Windows authentication login, these users remain in the SmartPlant Instrumentation group even if they are removed from the Windows group. In this case, these users can no longer access SmartPlant Instrumentation and, therefore, the Domain Administrator has to delete them manually from the **Assign Users to Groups** dialog box.

Create a Group for Windows Authentication Login

1. With the **Domain Administration** window open, click **Activities > Group**.
2. In the **Group** dialog box, click **New**.
3. Under **SmartPlant Instrumentation group**, type the new group name.
4. Type the group description and note as you require.
5. Under **Windows** group, using case-sensitive characters, enter the group name exactly as it appears in your Windows domain.
6. Click **Apply**.
7. When prompted whether to copy access rights from another group, do one of the following:
   - Click **No** to create a new group in which all members have full access rights to all SmartPlant Instrumentation features.
   - Click **Yes** select a source group for copying access rights to the group that you are creating.

Note

- The System Administrator can enable or disable the use of Windows authentication login at any stage of the plant life-cycle. For more information, see *Set Security Options*, page 45.

Related Topics

- *Access Rights Overview*, page 195
- *User Groups Overview*, page 187
- *Users and Groups Common Tasks*, page 188
- *Windows Authentication Login Overview*, page 192

Access Rights

Overview

One of the key roles of the *Domain Administrator* is to define user access rights. If the *domain* type is *Operating owner*, access rights are also defined at the level of individual projects.

To grant access rights to each SmartPlant Instrumentation user group, the *Domain Administrator* chooses the entities and activities, and the level of access granted. When the domain type is Operating owner, in a project, access rights granted on the domain level do not apply. If you want to grant access rights to a group assigned to a project, you must also assign this group to *AsBuilt*. For the description of the entities and activities, see *Access Rights Descriptions*, page 197.

In SmartPlant Instrumentation, entities (for example, tags, cables, loops, and so forth) and activities (for example, modules) are defined on a specific level: *domain*, plant, or unit. When data is defined on a specified level, it contains data which is unique on the specified level.

For example:

The cable entity is defined per plant. This means that any cable data is described in the current domain on the plant level. This is so because tag numbers associated with wiring can propagate to more than one unit or area.

On each level you can grant to a group one of the following access rights:

- **Full** — users in the corresponding group can add, delete, and update the data of the selected entity.
- **Modify** — users in the corresponding group can only add or update the data of the selected entity (deletion is prohibited).
- **View Only** — users in the corresponding group can only view the data of the selected entity without being able to modify it.
- **Access Denied** — users in the corresponding group cannot access the data of the selected entity.

Note

- If you assign a user to more than one group, you can specify whether to grant maximum or minimum access rights for that user over all the groups, by respectively selecting or clearing **Grant maximum access rights**.

Related Topics

- *Domain Administration Common Tasks*, page 75

Access Rights Common Tasks

The *Domain Administrator* can perform the following tasks to define and manage access rights:

Access Rights Descriptions

This topic describes the *entities* and activities for which the Domain Administrator can grant access rights. For more information, see *Access Rights Descriptions*, page 197.

Grant Access Rights for Selected Entities or Activities

This option enables the Domain Administrator to grant access rights for selected entities/activities to a specific group. For more information, see *Grant Access Rights for Selected Entities or Activities*, page 208.

Grant the Same Access Rights for All Entities

This option allows the Domain Administrator to grant the same access right to a group of users on a specified level of the plant hierarchy in the current domain. The Domain Administrator can also grant the same access rights to all user groups on a specified level. If you select the plant or unit level, you can also grant the same access rights to all plants or units or only to the selected plant or unit. The selected access right mode will then apply to the selected user group or to all the user groups in the current domain. For more information, see *Grant the Same Access Rights for All Entities*, page 209.

Copy Access Rights

The Domain Administrator can use this procedure to copy access rights from a source group to a target group for SmartPlant Instrumentation entities at the required level. The Domain Administrator can copy access rights at a domain level, at the highest level of the plant hierarchy, or at the lowest level of the plant hierarchy. If the domain type is *Operating owner* domain, the Domain Administrator can only copy access rights from one project to another. For more information, see *Copy Access Rights*, page 212.

Workflow Access Rights

In addition to defining access rights at the module level, you can also define access rights at the level of individual instrument tags for use with the workflow option. For more information, see *Workflow Access Rights*, page 211.

View the Entities in the Current Domain

This option enables you to open the **Entity** pop-up window to view the *entities* in the current domain and the levels on which they are defined. Only those entities for which you can grant access rights are displayed. Note that you cannot edit the displayed entity data. For more information, see *View the Entities in the Current Domain*, page 212.

Generate Access Rights Report

You can generate a report that displays access rights granted to user groups that you select. You can either generate a report on a specific plant hierarchy level or on the domain level, or on all levels. For more information, see *Generate Access Rights Report*, page 213.

Related Topics

- *Access Rights Overview*, page 195
- *Domain Administration Common Tasks*, page 75

Access Rights Descriptions

The following table describes the *entities* and activities for which the *Domain Administrator* can grant access rights. The **Parent** column displays an access right entry whose setting override the setting defined for the current entity or activity. All access rights that apply at the module level automatically apply to the appropriate options available in the **Domain Explorer**.

For example, the entry **Instrument Index Module Access** is the parent of **Tag Definition**. If the **Tag Definition** access right definition is **Full**, and the **Instrument Index Module Access** is **Access Denied**, you cannot create, modify, or delete tag numbers in the Instrument Index module.

Entity or Activity	Description	Level	Parent
Access Rights Management	Manage access rights for the current domain (Domain Administrator activity).	Domain	
Add-Ins	Access rights for the add-in options available in the current domain, that is, importing catalogues, browser views, system interfaces, external libraries, and so forth.	Domain	
Administration Reports	Access rights for various reports that can be generated in the Administration module.	Domain	

Entity or Activity	Description	Level	Parent
Assign Groups to Projects	Access rights for the assignment of user groups to AsBuilt and projects existing in the Operating owner domain (Domain Administrator or Project Administrator activity).	Domain	
Assign Users to Groups	Access rights for the assignment of users to groups. (Domain Administrator activity, or Project Administrator activity when the domain type is Operating owner).	Domain	
Auto Cross Wiring	Access rights for the **Automatic Cross-Wiring** feature in the Wiring module.	Plant	Wiring Module Access
Auto Wiring	Access rights for the auto wiring tasks in the Wring module.	Plant	
Binder Package Deletion	Access rights to delete binder packages in the Document Binder module.	Plant	
Browser Buffer Use	Access rights to copy to and paste data from a browser buffer in any browser view.	Unit	
Browser Manager	Access rights for the **Browser Manager**. Users with View Only access rights can expand browser groups, display filter, sort, and style settings, and open a browser view. Users with the Access Denied setting can only expand browser groups, and then select and open a browser view.	Plant	
Browser Manager Filter	Access rights for the **Filter** options in the **Browser Manager**.	Plant	
Browser Manager Sort	Access rights for the **Sort** options in the **Browser Manager**.	Plant	
Browser Manager Style	Access rights for the **Style** options in the **Browser Manager**.	Plant	
Browser Manager Style Headers	Access rights for the **Style Headers** option in the **Browser Manager**.	Plant	
Browser Module Access	Access rights for the Browser module.	Domain	

Entity or Activity	Description	Level	Parent
Browser User Name, Change Date	Access rights to include the **User Name** and **Change Date** fields in a browser view.	Unit	
Cable Routing and Drums	Access rights for the Wiring module **Associations** menu commands related to cable routing and cable drum, and for the appropriate supporting tables accessible on the **Tables** of the Wiring module. These access rights do not apply to the **Cable Routing Options** command available on the **Associations** menu.	Plant	
Cable Routing Options Command	Access rights for **Cable Routing Options** command available on the **Associations** menu of the Wiring module.	Plant	
Calculation Activities	Access rights to perform calculations	Unit	Calculation Module Access
Calculation Module Access	Access rights for the Calculation module.	Unit	
Calibration History Editing	Access rights for editing data in the **Calibration History** window of the Calibration module. To grant full access rights, under **Mode** in the **Entity or activity** section of the **Access Rights** window, select Full (Add / Delete / Update). To grant view-only access rights, select View Only. Note that the **Modify** (Add / Update) option functions as full, while the **Access Denied** option functions as view-only.	Unit	Calibration Module Access
Calibration - Supervisor	Access rights for the Calibration supervisor activities in the Calibration module.	Unit	Calibration Module Access
Calibration Module Access	Access rights for the Calibration module.	Unit	

Entity or Activity	Description	Level	Parent
Calibration Result Modif.	Access rights to modify calibration results or enter calibration data.	Unit	Calibration Module Access
Claim Entities for Project	Access rights for claiming entities from SmartPlant Instrumentation when the domain type is Operating owner. These access rights do not apply to claiming options available in the Administration module.	Domain	
Clear Locking	Access rights for the **Clear Locking** option on the **DBA** menu (Oracle and SQL Server only).	Domain	
Connection Type	Access rights for the definition of connection types in the Wiring module.	Plant	Wiring Module Access
Construction Module Access	Access rights for the Construction module.	Unit	
Construction Revision - Cables	Access rights to define **Formal Issue** for project cables in the Construction module.	Plant	Construction Module Access
Construction Revision - Instr.	Access rights to define **Formal Issue** for project instruments in the Construction module.	Plant	Construction Module Access
Construction Revision - Panels	Access rights to define **Formal Issue** for project panels in the Construction module.	Plant	Construction Module Access
Construction Revision - Wires	Access rights to define **Formal Issue** for the project wires in the Construction module.	Plant	Construction Module Access
Construction Supporting Tables	Access rights for the Construction module supporting tables.	Domain	Construction Module Access
Control System Tag Operations	Access rights for all **I/O assignment** options in the Wiring module and also for modifying information associated with control system tags in the Instrument Index module.	Plant	

Entity or Activity	Description	Level	Parent
Custom Field Definition	Access rights for the **Custom Fields** option in the **Domain Administration** window (Domain Administrator activity).	Domain	
DDP Module Supporting Tables	Access rights for the Dimensional Data for Piping module supporting tables.	Plant	Dimensional Data Module Access
Define User Groups	Access rights for the **Group** option in the **Domain Administration** window.	Domain	
DeltaV Data	Access rights for the DeltaV interface options.	Domain	
Dimensional Data Module Access	Access rights for the Dimensional Data for Piping module.	Unit	
Document Binder Module Access	Access rights for the Document Binder module.	Plant	
Domain Cable Management	Access rights for managing domain cables in the **Wiring Explorer** of the Wiring module.	Plant	Wiring Module Access
Domain Definition Notes	Access rights for the **Notes** section in the **Domain Definition** window - Domain Administrator activity.	Domain	
Domain Panel Management	Access rights for managing domain panels in the **Wiring Explorer** of the Wiring module.	Plant	Wiring Module Access
Project Definition	Access rights that apply to all activities that you can perform in the **Project Activities** dialog box in the Administration module. For example, project creation, scope definition, tag and loop number reservation, merging entities with AsBuilt, and so forth.	Domain	
Enhanced Report Chg. (Layout)	Access rights for changes to enhanced reports at the layout level (macro attributes, redlining). Enhanced reports are reports generated by the Enhanced Report Utility.	Plant	

Entity or Activity	Description	Level	Parent
Enhanced Report Chg. (Report)	Access rights for changes to enhanced reports at the report level (repositioning of drawing objects, SmartText, redlining). Enhanced reports are reports generated by the Enhanced Report Utility.	Plant	
Equipment Supporting Table	Access rights for the **Equipment** supporting table in the Instrument Index module.	Plant	
Field Personnel	Access rights for the **Field Personnel Profile** option in the **Domain Administration** window.	Domain	
Form Data Template	Access rights for managing form data templates in the Specifications module.	Domain	
Global Revision Management	Access rights to manage *global revisions* using the options of the **Global Revisions** dialog box.	Unit	
Hook-Up Definition	Access rights to create, edit, or modify hook-ups in the Hook-Ups module.	Plant	Hook-Ups Module Access
Hook-Up Item List	Access rights for the **Hook-Up Item List** feature in the Hook-Ups module.	Plant	Hook-Ups Module Access
Hook-Ups Module Access	Access rights for the Hook-Ups module.	Unit	
Hook-Ups Supporting Tables	Access rights for supporting tables available on the **Tables** menu of the Hook-Ups module.	Domain	Hook-Ups Module Access
Import Utility Access	Access rights for the Import utility.	Domain	
Instal. Index Manager	Access rights for the Installation Index Manager in the Construction module.	Domain	

Entity or Activity	Description	Level	Parent
Instr. Index Supporting Tables	Access rights for the Instrument Index module supporting tables that allow you to modify information associated with tag numbers. These access rights also apply to typical loop management. These access rights do not apply to the supporting tables **Lines**, **P&ID**, and **Equipment**.	Domain	Instrument Index Module Access
Instrument Index Module Access	Access rights for the Instrument Index module.	Unit	
Instrumentation Workflow Flag	Access rights to define selected users as instrumentation engineers who will work in the workflow mode provided that the System Administrator has selected the **Instrument/Process Data Workflow** check box in the **Domain Definition** window.	Unit	
Intrinsic Safety Definition	Access rights for intrinsic safety definition in the Wiring module.	Plant	Wiring Module Access
Line Definition	Access rights to create, edit, or modify lines in the Instrument Index and Process Data modules.	Plant	
Logo Definition	Access rights for the domain logo definition (Domain Administrator activity), or a project log definition if the domain type is Operating owner.	Domain	
Loop - External Macro Source	Access rights to connect to an external macro source and use external macros during loop drawing generation.	Unit	Loop Drawings Module Access
Loop Definition	Access rights to create, modify, or delete a loop number in the Instrument Index module.	Unit	Instrument Index Module Access
Loop Drawings Module Access	Access rights for the Loop Drawings module.	Unit	

Entity or Activity	Description	Level	Parent
Loop Drw. Supporting Tables	Access rights for creating, editing or deleting blocks and block types in the Loop Drawings module, and for defining and managing macro definitions and macro functions in the Loop Drawings module.	Domain	Loop Drawings Module Access
Maintenance Module Access	Access rights for the Maintenance module.	Unit	
Maintenance Supporting Tables	Access rights for modifying information associated with the Maintenance module supporting tables.	Plant	Maintenance Module Access
Management of Local Revisions	Access rights for adding, updating, and deleting revisions in a **Revisions** dialog box. These access rights do not apply to revision management options available in the **Global Revisions** dialog box.	Unit	
Naming Convention Definition	Access rights for defining and managing entity naming conventions (Domain Administrator activity).	Domain	
P&ID Supporting Table	Access rights for the P&ID drawing number supporting table in the Instrument Index module.	Plant	
Plant Hierarchy Management	Access rights for creating and managing plant hierarchy items in the **Plant Hierarchy Explorer** (Domain Administrator activity).	Domain	
Plant Owner Definition	Access rights for the **Owner** option in the **Domain Definition** window - Domain Administrator activity.	Domain	
Prevent. Maint. - Supervisor	Access rights for the Preventive Maintenance supervisor activities in the Maintenance module.	Unit	Maintenance Module Access
Prevent. Maint. - Technician	Access rights for the Preventive Maintenance technician activities in the Maintenance module.	Unit	Maintenance Module Access

Entity or Activity	Description	Level	Parent
Process Data Change in Specs	Access rights to change process data values in an instrument specification. (Specifications module.)	Unit	
Process Data Definition	Access rights to create, modify, or delete a process data sheet.	Unit	Process Data Module Access
Process Data Module Access	Access rights for the Process Data module.	Unit	
Process Data Supporting Tables	Access rights for the Process Data module supporting tables, that is, **Cases**, **Insulation Types**, **Pipe/Orifice Materials**, and **Fluid Components**.	Domain	Process Data Module Access
Process Data Workflow Flag	Access rights to define selected users as process engineers who will work in the workflow mode provided that the System Administrator has selected the **Instrument/Process Data Workflow** check box in the **Domain Definition** window.	Unit	
Publish Documents to TEF	Access rights for publishing document to The Engineering Framework (TEF).	Unit	
Reference Cable Management	Access rights for managing reference cables in the **Reference Explorer** in the Wiring module.	Domain	
Reference Panel Management	Access rights for managing reference panels in the **Reference Explorer** in the Wiring module.	Domain	
Register with Framework	Access rights for registering with The Engineering Framework (TEF). Enables or disables the **Register** menu command on the **Framework** menu.	Domain	
Repair - Supervisor	Access rights for the Repair Maintenance supervisor activities in the Maintenance module.	Unit	Maintenance Module Access

Entity or Activity	Description	Level	Parent
Repair - Technician	Access rights for the Repair Maintenance technician activities in the Maintenance module.	Unit	Maintenance Module Access
Revision Deletion	Access right to delete saved revisions.	Unit	
SAP Interface Access	Access rights for the SAP interface.	Domain	
Segment-Wide Parameters	Access rights for creation of segment-wide parameter profiles of fieldbus entities in the Wiring module.	Unit	
Segment Manager	Access rights for creating and managing fieldbus entities in the **Segment Manager** in the Wiring module.	Domain	Wiring Module Access
SP Electrical Interface	Access rights for SmartPlant Electrical interface options.	Unit	
Specification Definition	Access rights to create, modify, or delete entity specifications.	Unit	Specifications Module Access
Specification Form Access	Access rights to create, delete, or modify specification forms in the Specifications module.	Domain	
Specifications Module Access	Access rights for the Specifications module.	Unit	
Tag Category Definition	Access rights for the **Tag Category** feature in the Instrument Index module.	Domain	
Tag Definition	Access rights to create, modify, or delete tag numbers.	Unit	Instrument Index Module Access
Telecom Panel Management	Access rights for the creation, deletion, and editing of telecom panels in the **Wiring Explorer** of the Wiring module.	Plant	
Telecom Supporting Tables	Access rights for the telecom supporting tables in the Wiring module.	Plant	

Entity or Activity	Description	Level	Parent
To Do List	Access rights for The Engineering Framework (TEF) **To Do List**.	Domain	
Unit of Measure Definition	Access rights for the options available in the **Units of Measure and Accuracy** dialog box in SmartPlant Instrumentation.	Domain	
Update Statistics (Oracle)	Access rights for the **Update Statistics** option on the **DBA** menu (System Administrator activity).	Domain	
Wire Group	Access rights for signal re-propagation.	Plant	Wiring Module Access
Wiring Connections	Access rights for the connection options in the Wiring module, including batch connection and cross-wiring.	Plant	Wiring Module Access
Wiring Module Access	Access rights for the Wiring module.	Unit	
Wiring Supporting Tables	Access rights for wiring supporting tables accessed using the **Tables** menu of the Wiring module. These rights do not affect telecom, cable routing and cable drum options available on the **Tables** menu.	Domain	Wiring Module Access
Work Request - Supervisor	Access rights for the **Work Request** supervisor activities in the Maintenance module.	Unit	Maintenance Module Access
Work Request - Technician	Access rights for the **Work Request** technician activities in the Maintenance module.	Unit	Maintenance Module Access

Related Topics

- *Access Rights Common Tasks*, page 196
- *Access Rights Overview*, page 195

Grant Access Rights for Selected Entities or Activities

1. With the **Domain Administration** window open, do one of the following:
   - Click **File > Domain**.
   - Click  .
2. In the **Domain Definition** window, do one of the following:
   - Click **Options > Access**.
   - Click  .
3. In the **Access Rights** dialog box, in the **Group List** pane, select the required user group for which you want to define access rights.
4. Double-click the group to expand the tree.
5. Select the entity level at which you want to grant access rights (**Domain level**, **Plant level**, or **Unit level**). If selecting at the plant or unit level, expand the tree further to select a specific plant or unit.
6. In the **Entity/Activity** pane, click the **Mode** field next to the required entity or activity in the **Name** column to open a list of available modes of access rights.
7. Select the required access rights mode from one of the following:
   - **Full (Add / Delete / Update)**
   - **Modify (Add / Update)**
   - **View Only**
   - **Access Denied**
8. Repeat steps 5 through 7 to grant access rights to the same group for another entity. Repeat steps 3 through 7 grant access rights to another group for the required entity.
9. Click  to save your selection to the database.

Note

- Certain entities at the domain level relate to Domain Administration. The access rights mode for these entities is set for all users to Access Denied by default. The Domain Administrator always has full access rights to these entities, regardless of the access rights mode set for them in the group to which the Domain Administrator belongs.

Related Topics

- *Access Rights Common Tasks*, page 196
- *Access Rights Overview*, page 195

Grant the Same Access Rights for All Entities

1. With the **Domain Definition** window open, do one of the following:
   - Click **Options > Access Rights**.
   - Click  .
2. Do one of the following:
   - Click **Options > Global Access Rights**.
   - Click  .
3. In the **Global Access Rights** dialog box, in the **Access mode** list, select the access mode that you require.
4. From the **Group name** list, select a user group to which you want to apply the access rights.

   Tip

   - To apply the access rights to all the groups, select **All**.
5. To choose the level at which the software grants access rights, select the appropriate **Enable entity selection** check boxes.

   Tips

   - At the Domain level, you can grant the selected access rights for all the entities at the domain level for the current domain.
   - At the <*Plant*> level, you can grant the selected access rights for all the entities at the <plant> level for a selected <plant>, or for all <plants> in the domain.
   - At the <*Unit*> level, you can grant the selected access rights for all the entities at the <unit> level for a selected <unit>, or for all <units> in the domain.
6. If you selected the <Plant> or <Unit> level, from the <Plant> an <Unit> lists, select as specific <plant> or <unit>.

   Tips

   - To apply the access rights an entire plant hierarchy level, from the <Plant> or <Unit> lists, select **All**. The labels <Plant> and <Unit> change dynamically according to your highest and lowest plant hierarchy level definitions.
7. From the **Entity** list, select an entity.

   Tip

   - To apply the access rights to all the entities at a particular level, from the **Entity** list, select **All**.
8. Click **Apply**.

9. Repeat steps 3 through 7 for each entity whose access rights you want to define.
10. Close the **Global Access Rights** dialog box and then, in the **Access Rights** window, click  .

Note

- You can also modify any selections you make in the **Access Rights** window.

Related Topics

- *Access Rights Common Tasks*, page 196
- *Access Rights Overview*, page 195

Workflow Access Rights

Important

- Workflow can only be implemented in SmartPlant Instrumentation after being enabled by your *System Administrator*.

1. Start the Administration module and log on as *Domain Administrator*.
2. Define two engineering groups, one for instrumentation, and one for process data with their users.
3. With the **System Administration** window open, do one of the following to open the **Domain Definition** window:
   - Click **File > Domain**.
   - Click  .
4. Click  to open the **Access Rights** window.
5. Select the instrument engineering group in the left area and expand the tree by double-clicking it.
6. Double-click the **Unit** level icon to expand the list of units and select the required unit where you want to grant workflow access.
7. In the **Entity Name** column, select INSTRUMENTATION WORKFLOW FLAG.
8. In the **Mode** column, select **Full (Add / Delete / Update)**.
9. In the **Entity Name** column, select PROCESS DATA WORKFLOW FLAG.
10. In the **Mode** column, select **Access Denied**.
11. Select the process engineering group in the left area and expand the tree by double-clicking it.
12. Double-click the **Unit level** icon to expand the list of units and select the required unit where you want to grant access.
13. In the **Entity Name** column, select PROCESS DATA WORKFLOW FLAG.
14. In the **Mode** column, select **Full (Add / Delete / Update)**.
15. In the **Entity Name** column, select INSTRUMENTATION WORKFLOW FLAG.
16. In the **Mode** column, select **Access Denied**.
17. When done, do one of the following:
    - Click **Options > Save**.
    - Click  .

Copy Access Rights

1. Start the Administration module and log on as Domain Administrator for the required domain.
2. On the **Domain Definition** toolbar, click  to open the **Access Rights** window.
3. On the Access Rights toolbar, click  to open the **Copy Access Rights** dialog box.
4. Under **Project and group selection**, do the following:
   - When the domain type is *Operating owner*, select source and target projects. To copy access rights within one project, from the **Source project** and **Target project** lists, select the same project.
   - Select source and target groups.
5. Under **Access rights level**, do the following:
   - Select a check box to specify the level at which you want to copy access rights.
   - According to your level selection, select source and target domains, highest plant hierarchy level items, or lowest plant hierarchy level items.
6. Click **Apply**.

Related Topics
- *Access Rights Common Tasks*, page 196
- *Access Rights Overview*, page 195

View the Entities in the Current Domain

With the **Access Rights** window open, do one of the following:

- Click **Options > Entity**.
- Click  .

Related Topics
- *Access Rights Common Tasks*, page 196
- *Access Rights Overview*, page 195

Generate Access Rights Report

1. With the **Domain Administration** window open, on the **Reports** menu, click **Access Rights**.
2. Do one of the following:
   - To generate a report on all levels of the plant hierarchy, on the domain level, and, if the domain type is Operating owner, on the project level, click the **All Levels** tab.
   - To generate a report on a specific level, click any tab other that **All Levels**.
3. Under **Group Name**, select user groups that you want to include in the Access Rights report.

Related Topics

- *Access Rights Common Tasks*, page 196
- *Access Rights Overview*, page 195

Preferences Management

Overview

The software allows the *Domain Administrator* to manage SmartPlant Instrumentation preferences in your domain, or in *AsBuilt* and projects if your *domain* type is *Operating owner*. Managing preferences involves the following operations:

- Viewing and modifying preferences in your domain, or in each project in the Operating owner domain.
- Setting restrictions on preferences in your domain, separately for each project or for each SmartPlant Instrumentation module. This will disable or limit the customization features for those users who work in that domain or project.
- In an Operating owner domain, copying preferences from one project to another.
- In an Operating owner domain, setting default preferences for modifying or copying preferences from one project to another.
- Importing the domain or project preferences from the INTOOLS.INI file.
- Exporting the domain or project preferences to an external file.

Related Topics

- *Managing Preferences Common Tasks*, page 216

Managing Preferences Common Tasks

The *Domain Administrator* can perform the following tasks when managing preferences:

Manage Domain Preferences

This option enables the Domain Administrator to manage preferences in the current domain. This includes the following:

- Viewing and modifying SmartPlant Instrumentation preferences in the current domain.
- Setting user preference restrictions separately for each SmartPlant Instrumentation module, so that the users defined in the current domain can utilize and customize only certain features.
- Importing preferences to the current domain from an external file.
- Exporting the domain preferences to an external file.

For more information, see *Manage Domain Preferences*, page 217.

Set Domain Preferences

This option enables the Domain Administrator to set SmartPlant Instrumentation preferences in the current domain. By setting domain preferences you determine which preferences can be set by individual users and which preferences become unavailable to them and stay as view-only. For more information, see *Set Domain Preferences*, page 218.

Manage Project Preferences

This option enables the Domain Administrator to manage preferences of all projects defined in your *Operating owner* domain. This includes the following:

- Viewing and modifying SmartPlant Instrumentation preferences in AsBuilt and projects in your Operating owner domain.
- Setting user preference restrictions separately for each SmartPlant Instrumentation module in the selected project, so that the users working in that project can utilize and customize only certain features.
- Copying preferences from one project to another.
- Defining the default preferences for using them as a template when copying or modifying preferences.
- Importing preferences to the selected project from an external file.
- Exporting the project preferences to an external file.

For more information, see Manage Project Preferences, page 219.

Set Project Preferences

This option enables the Domain Administrator to set SmartPlant Instrumentation preferences in *AsBuilt* and projects in your *Operating owner* domain. By setting project preferences you determine which preferences can be set by individual users and which preferences become unavailable to them and stay as view-only. For more information, see *Set Project Preferences*, page 219.

Copy Project Preferences

This option enables the Domain Administrator to copy preferences from one project to one or more projects at a time, within your Operating owner domain. Also, you can copy the default preference settings that you have defined in the **Preferences Management** dialog box. For more information, see *Copy Project Preferences*, page 220.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Preferences Management Overview*, page 215

Manage Domain Preferences

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Activities > Preferences Management**.

   Tip

   - To learn more about SmartPlant Instrumentation module preferences, click **Help** in the in the **Preferences Management** dialog box on the appropriate tabs.
3. Click **Import** to import other preferences to the current domain.
4. In the dialog box that opens, select the INTOOLS.INI file, and click **Open**.
5. Click **Export** to export the current domain preferences to an external file.
6. In the **Export Project Preferences** dialog box, enter the required .DMP or .TXT file and click **Save**.
7. Click **Advanced** to set preference restrictions.
8. In the **Preferences Management** dialog box, click **OK** to save the settings.

Related Topics

- *Managing Preferences Common Tasks*, page 216
- *Preferences Management Overview*, page 215

Set Domain Preferences

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Activities > Preferences Management**.
3. Click the tabs in the **Preferences Management** dialog box to define various default preference settings.

   Tip

   - To learn more about SmartPlant Instrumentation module preferences, click **Help** in the in the **Preferences Management** dialog box on the appropriate tabs.
4. Click **Advanced**.
5. In the **Advanced Domain Preferences** dialog box, do the following:

   - To allow users to set a preference for a SmartPlant Instrumentation option in the current domain, select **Enabled** next to the required preference option.
   - To prevent users from setting a preference for a SmartPlant Instrumentation option in the current domain, clear the **Enabled** check box next to the required option.
   - Select the **Enable all** check box to make all the preference options available for customization in the current domain.
6. Click **OK** to save the settings and close the **Advanced Domain Preferences** dialog box.

Important

- We recommend that you do not disable the temporary folder path option. This is because in the temporary folder, the software creates temporary files during various activities that users perform in SmartPlant Instrumentation, for example, when creating specifications, generating CAD drawings, hook-up drawings, reports, and so forth. If you prevent users from specifying individual temporary folder paths, the temporary folder path becomes shared among several users. This can cause problems with data display when users perform the same activity at the same time, for example, when creating two specifications at the same time.

Related Topics

- *Managing Preferences Common Tasks*, page 216
- *Preferences Management Overview*, page 215

Manage Project Preferences

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Activities > Preferences Management**.
3. In the **Preferences Management** dialog box, select the required project, or *AsBuilt* from the **Project** list.

   Tip

   - You can also select the DEFAULT PREFERENCES option in the **Project** list and set the default preferences which you can use when copying preferences to the projects in your *Operating owner* domain.
4. Click the tabs in the **Preferences Management** dialog box to define various default preference settings.

   Tip

   - To learn more about SmartPlant Instrumentation module preferences, click **Help** in the in the **Preferences Management** dialog box on the appropriate tabs.
5. Click **Import** to import other project preferences to the current project.
6. In the **Select File** dialog box, highlight the INTOOLS.INI file and click **Open**.
7. Click **Export** to export the current project preferences to an external file.
8. In the **Export Project Preferences** dialog box, enter the required .DMP or .TXT file and click **Save**.
9. Click **Advanced** to set preference restrictions and copy preferences to other projects.
10. In the **Preferences Management** dialog box, click **OK** to save the settings.

Related Topics

- *Managing Preferences Common Tasks*, page 216
- *Preferences Management Overview*, page 215

Set Project Preferences

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Activities > Preferences Management**.
3. In the **Preferences Management** dialog box, select a project, from the **Project** list.

Tips

- You can also select the DEFAULT PREFERENCES option from the **Project** list and set the default preferences which you can use when copying preferences to other projects.

4. Click the tabs in the **Preferences Management** dialog box to define various default preference settings.

Tip

- To learn more about SmartPlant Instrumentation module preferences, click **Help** in the in the **Preferences Management** dialog box on the appropriate tabs.

5. Click **Advanced**.
6. In the **Advanced Project Preferences** dialog box, do the following:
   - To allow users to set a preference for a SmartPlant Instrumentation option in the current project, select **Enabled** next to the required preference option.
   - To prevent users from setting a preference for a SmartPlant Instrumentation option in the current project, clear the **Enabled** check box next to the required option.
   - Select the **Enable all** check box to make all the preference options available for customization in the current project.
7. Click **OK** to save the settings and close the **Advanced Project Preferences** dialog box.

Related Topics

- *Managing Preferences Common Tasks*, page 216
- *Preferences Management Overview*, page 215

Copy Project Preferences

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Activities > Preferences Management**.
3. In the **Preferences Management** dialog box, select a project, from the **Project** list.

Tip

- You can also select the DEFAULT PREFERENCES option from the **Project** list and set the default preferences which you can use when copying preferences to other projects or *AsBuilt*.

4. In the **Set Project Preferences** dialog box, click one of the following:
   - **Copy To**— to copy the current project preferences to other projects in the *Operating owner* domain.
   - **Copy From**— to overwrite the preferences in the project you have selected in the **Preferences Management** dialog box.
5. Click **Copy**.
6. Click **Copy**.
7. Click **Advanced**.
8. In the **Advanced Project Preferences** dialog box, do the following:
   - To allow users to set a preference for a SmartPlant Instrumentation option in the current project, select **Enabled** next to the appropriate preference option.
   - To prevent users from setting a preference for a SmartPlant Instrumentation option in the current project, clear the **Enabled** check box next to the appropriate option.
   - Select the **Enable all** check box to make all the preference options available for customization in the current project.
9. Click **OK** to save the settings and close the **Advanced Project Preferences** dialog box.

Related Topics

- *Managing Preferences Common Tasks*, page 216
- *Preferences Management Overview*, page 215

Managing Reports

Overview

The Domain Administrator can manage SmartPlant Instrumentation reports. This activity involves associating a customized title block with a report, and setting archiving options for report comparison within the SmartPlant Instrumentation environment. Using these options, you manage all the available reports in most of SmartPlant Instrumentation modules. When managing reports, you filter and sort the report data as needed.

Also, you can define revision management settings. In the database, each report is assigned to the report type, which can be *list* or *non-list*. The report type determines how SmartPlant Instrumentation users can manage revisions created for a specific report, for an entity, or a group of entities. For list-type reports, the Domain Administrator can enable users to manage revisions either *per document* or *per entity*.

In accordance with the revision management setting, users can either create a revision whose document number and revision number become shared for a specific entity and for reports generated for that entity (when the setting is per-entity), or create a unique revision for a particular report (when the setting is per-document).

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Managing Reports Common Tasks*, page 224
- *Title Block Descriptions*, page 226

Managing Reports Common Tasks

The *Domain Administrator* can perform the following tasks when managing reports:

Associate a New Title Block with a Report

The Domain Administrator can associate a default title block supplied with SmartPlant Instrumentation, or a custom title block created in InfoMaker and added to SmartPlant Instrumentation using the options in the **Title Blocks** dialog box (this dialog box is only accessible from SmartPlant Instrumentation).

The software filters the title blocks that you can associate with a certain report according to the report units of measure (*PB units* or inches). For more information, see *Associate a New Title Block with a Report*, page 225.

Set Archiving Options for Report Comparison

This feature allows the Domain Administrator to set archiving options for SmartPlant Instrumentation reports. A revision archive enables users to view a backup copy of a report with the information contained in that report at the time of revision. Users can compare an archived report with a previewed report or with another archived report.

You set an archiving option for each report. This way you determine how users save report revisions, and from what source the software retrieves the archived report revisions for report comparison. For more information, see *Set Archiving Options for Report Comparison*, page 228.

Define Report Revision Management Settings

For most reports, revision management setting are set automatically and fixed in the database. However, for certain *non-list-type reports*, using the options in the **Report Management** dialog box, the Domain Administrator can change the revision management setting. When the domain type is Operating owner domain, you can only change the revision management settings for reports available in *AsBuilt*. For more information, see *Define Report Revision Management Settings*, page 230.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Managing Reports Overview*, page 223
- *Title Block Descriptions*, page 226

Associate a New Title Block with a Report

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Activities > Report Management**.

   Tip

   - In the **Report Management** dialog box, sort and filter the report data if needed.
3. Select the **Title Block** check box for each report want to associate with a title block.
4. From the **Title Block Customization** list, select a title block for each relevant report. For details on the available title blocks, see Title Block Descriptions.

   Tips

   - For specifications, the System Administrator has rights to select a title block assignment method when setting the domain options. If in the **Report Name** column, you selected **Specification** but the **Title Block Customization** column options are disabled, this means that SmartPlant Instrumentation users can associate different title blocks with specifications using the options available in the **Specifications** module itself (as in SmartPlant Instrumentation versions prior to Version 7).
   - If you want to associate a custom title block with all specifications, make sure that in the **Domain Definition** window, the selected custom title block assignment method is **Standard (used in all modules)**.

Related Topics

- *Managing Reports Common Tasks*, page 224
- *Managing Reports Overview*, page 223

Title Block Descriptions

The following table describes the title blocks that are available in the **Title Block Customization** column of the **Report Management** window. The Domain Administrator can select the appropriate title block and assign it to a SmartPlant Instrumentation report.

Title Block	Description	Notes
DEFAULT	A title block that is supplied with SmartPlant Instrumentation and associated by default with a SmartPlant Instrumentation report.	You can use this title block in any module.
Default TB with IN Units	A template title block that is supplied with SmartPlant Instrumentation. This title block is the file DEFAULT TB WITH IN UNITS.PSR. This title block is created using 1/1000 inch units. You can use this title block in any module.	In the IN_DEMO.DB database, the template title blocks appear in the **Title Blocks** dialog box. In a different database, users need to associate them with SmartPlant Instrumentation manually, as any custom title block. The default location of the template title blocks is <SmartPlant Instrumentation home folder>\Psr. After users associate the template title blocks with SmartPlant Instrumentation, they become available for selection in the **Title Block Customization** column of the **Report Management** dialog box.
Default TB with PB Units	A template title block that is supplied with SmartPlant Instrumentation. This title block is the file DEFAULT TB WITH PB UNITS.PSR, created using *PowerBuilder units*. The title block is not suitable for specifications.	

Title Block	Description	Notes
Specs Default TB with PB Units	A template title block that is supplied with SmartPlant Instrumentation. This title block is the file SPECS DEFAULT TB WITH PB UNITS.PSR, created using PowerBuilder units. This title block is only suitable for specifications.	
<Custom Title Blocks>	A list of custom title blocks that users created using InfoMaker, and then, added to SmartPlant Instrumentation using the options in the **Title Blocks** dialog box. You can use custom title blocks in any module.	You can assign a custom title block to a particular report only when the units of measure with which the selected title block has been created are the same as the units of measure defined for that report. Title blocks whose units of measure are different from the units of measure defined for the report do not appear in the **Title Block Customization** list. When creating a title block in Info Maker, you can use either 1/1000 inch units, or PowerBuilder units. As a basis for custom title blocks, it is recommended to use the supplied template title blocks.

Note

- If in the **Plant Hierarchy** dialog box, you define too long names of the plant hierarchy levels (up to 50 characters are allowed), in the default title blocks, truncation may occur in the fields that display the names of the plant hierarchy levels and the specific level items. If you must use long name strings, to prevent truncation, we recommend that users create custom title blocks and provide enough room in the PLANT_NAME, AREA_NAME, and UNIT_NAME fields.

Related Topics

- *Managing Reports Common Tasks*, page 224
- *Managing Reports Overview*, page 223

Set Archiving Options for Report Comparison

The following archiving options are available:

- **Do not save** (not available for the Document Binder module reports) — sets the software not to keep a revision archive. After saving the report revision, SmartPlant Instrumentation users cannot see the information contained in that report at the time of revision, and the report comparison is not available.
- **Save to database** — sets the software to keep a revision archive in the database. This way you eliminate the need for file sharing and management. Note, however, that this option can slow down your work.
- **Save as File**— sets the software to keep a revision archive as an external .PSR file (or as an .sma file when using the Enhanced Report Utility). Using this option can speed up your work.
- **Compress as ZIP file**— sets the software to keep a revision archive as an external file — .psr or .sma — in a compressed ZIP format. This feature is useful, for example, before backing up a database when you have made a large number of report revisions. Using this option reduces the size of the backup database.

Note

- When changing an archiving option for a Document Binder module report, the software assigns the same archiving option to all the other Document Binder reports as well. This is because in the Document Binder module, you can only create revisions for the entire binder package). You can, however, apply a different custom title block to any Document Binder module report.

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Activities > Report Management**.
3. In the **Report Management** dialog box, under **Sort by**, select one of the following options to sort the reports in the **Report Name** column:
   - **Report** — sort the reports in the data window by the report names.
   - **Module** — sort the reports in the data window by modules.
4. To filter the reports by specific module, under **Filter by**, select a module.
5. Select **Apply** to view the reports belonging to the specified module.

Tip

- To return from the filtered view to the normal view, clear the **Apply** check box.

6. For a specific report displayed in the **Report Name** column, select a desired archiving option from the list in the **Archiving Options** column.

Tip

- To use the **Save as File**, or **Compress as Zip** file options, you need to set an archive path (see step 7 below). If you have selected **Save to database**, or **Do not save**, skip step 6 in this procedure.

7. To define the default archive path for all the report revisions to be saved as files or compressed as .zip files, click ... next to the **Path** field in the **Default archive path** group box, and enter the required path.

Tip

- If needed, you can define a different path for a particular report by entering the required path in the **Archive Path** field of the data window.

Related Topics

- *Managing Reports Common Tasks*, page 224
- *Managing Reports Overview*, page 223
- *Title Block Descriptions*, page 226

Define Report Revision Management Settings

1. With the **Domain Administration** window open, click **Activities > Report Management**.
2. If the domain type is Operating owner, from the **Project** list, select **AsBuilt**.
3. In the **Revision Management** column, beside a *non-list-type report*, select one of the following settings:

Setting	Description	Example
Per Entity	Allows users to share the document number and revision in documents created for a specific entity and in all reports generated for that entity. This means that the document number and the revision number that users apply to an entity in the entity properties dialog box are the same as in a print preview of any report generated for this entity.	In the Wiring module, after creating a revision for a specific strip from the entity properties dialog box, the document number and revision number are assigned to the revision opened from a print preview of any report generated for this strip (panel-strip report with or without adjacent connections, I/O assignment report, and so forth).
Per Document	Allows users to apply a unique document number and revision to a specific report generated for a specific entity, and also allows to make global revisions.	After creating two reports for a particular strip: a report with adjacent connections and a report without adjacent connections, the document and revision numbers of the two reports cannot be shared. Likewise, after creating two panel-strip reports for two different strips, each report has a unique document number and revision. As a result, the document number and revision added from the report print preview is different from the document number and revision added in the **Revisions** dialog box opened from the entity properties dialog box.

Notes

- A revision management setting of all *list-type reports* is always per document. A revision management setting of certain non-list-type reports is set permanently as per entity, while for other non-list-type reports you can define the revision management setting as either per entity or per document.
- In an Operating owner domain, after you change the revision management setting from per entity to per document, the report becomes available for claiming. The project Administrator can claim the document using the **Project Activities** dialog box options.

Related Topics

- *Managing Reports Common Tasks*, page 224
- *Managing Reports Overview*, page 223
- *Title Block Descriptions*, page 226

Working with Add-Ins

Overview

After the *System Administrator* initiates a domain, a number of item resources (for example, hook-up items, links, and so forth) become available in the software. These items allow you to get started with building your domain without having to create all the required items from scratch. However, these resources are rather limited and do not provide for all your needs. You can enhance your item resources by appending add-ins to your domain. Add-ins are available on purchasing the appropriate SmartPlant Instrumentation license. Contact your local SmartPlant Instrumentation dealer or Intergraph for further information.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Working with Add-Ins Common Tasks*, page 234

Working with Add-Ins Common Tasks

The *Domain Administrator* can perform the following tasks when working with add-ins:

Import Hook-Up Libraries

You can import a hook-up item library from an external database file to your database. After you import the hook-up item library, you can assign the new imported items to your existing hook-ups from the **Hook-Up Item List**. You can also use prepared hook-up drawings which are stored in the HOOK-UP sub-folder of your SmartPlant Instrumentation home folder.

You import the required hook-up library first by connecting to a catalog database file and then by importing the required hook-up libraries to the appropriate plant in your database. You can only import the link groups that you purchased the appropriate license for. For more information, see *Import Hook-Up Libraries*, page 235.

Import System Interfaces

You can import link groups from an external database file to the SmartPlant Instrumentation database. After you import these linked groups you can use them in the Import utility to import data from external databases.

You import the required external links first by connecting to a database file and then by importing the required link groups to your database. For more information, see *Import System Interfaces*, page 236.

Import Browser Views

This option enables you to import predefined view profiles into your database. After being imported into SmartPlant Instrumentation, these views will be available to you in the Browser module Browser Manager.

You import the required views first by connecting to a database file and then by importing the required views to your database. For more information, see *Import Browser Views*, page 238.

Import DCS Hardware I/O Library Data

This option enables you import DCS hardware I/O data from one of the following libraries:

- Yokogawa - CENTUM CS 1000
- Yokogawa - CENTUM CS 3000
- Honeywell - TDC 3000 - PM - FTAs
- Foxboro - I/A - FBMs

For more information, see *Import DCS Hardware I/O Library Data*, page 238.

Import DDP Library Data for PDS

This option enables you import process connection data for the Dimensional Data for Piping (DDP) module. For more information, see *Import DDP Library Data for PDS*, page 239.

Export Macros

This option enables you to export macros from a current SmartPlant Instrumentation database or domain to a text file. Then, from another database or domain, you import data contained in this file. Note that you can also include all the existing typical tags in the target text file. For more information, see *Export Macros*, page 240.

Import Macros

This option enables you to import macros into SmartPlant Instrumentation from a predefined intermediate text file that already contains macros exported from another database or domain to the current database or domain. When importing macros, this text file serves as the source file. Note that you can also import all the typical tags that have been included in the text file. For more information, see *Import Macros*, page 240.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Working with Add-Ins Overview*, page 233

Import Hook-Up Libraries

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Add-Ins > Import Hook-Up Library**.
3. In the **Import Hook-Up Library** dialog box, under **Source database**, locate the database file in one of the following ways:
   - In the **File name and path** box, type the path and filename of the required database file (the default file is IN_CTLOG.DB).
   - Click **Browse** to navigate to the required database file.
4. Click **Connect** to retrieve the libraries available in the database file.

   Important

   - If you get a message stating that the connection has failed, make sure you typed in the correct path and filename of the database file (see step 3 of this procedure).

5. Do one of the following:
   - Click **Standard** to select the library which contains standard Intergraph compatible hook-ups.
   - Click <B>SHELL</B> to select the library which contains Shell International compatible hook-ups.
6. In the **Hook-up drawing path** box, do one of the following:
   - Type the drawing path for the items in the imported library (the default location is <SmartPlant Instrumentation home folder>HOOK-UP). This is useful if you don't want to type the path every you retrieve a drawing from this library.
   - Leave the data field empty. This way you will have to type the path when retrieving each drawing. For this option, you will still be able to assign a path to the drawings in the Hook-Ups module in batch mode.
7. In the **Plant Name** data window, select the name of the plant in which the appended hook-up items will be used.
8. Click **Import** to append the selected hook-up item library to the database.

Note

- The software does not allow you to import a hook-up item library which already exists in the database. If you attempt to import such a hook-up item library, the software displays an appropriate message.

Related Topics

- *Working with Add-Ins Common Tasks*, page 234
- *Working with Add-Ins Overview*, page 233

Import System Interfaces

System interfaces are available for the following link groups:

- FirstVue
- AutoPlant
- CadPipe
- PlantSpace
- Zyqad
- PDS/IDM/SmartPlant P&ID
- Performance Spec #1
- Performance Spec #71
- Masoneilan Spec #1

- Masoneilan Spec #75

See *SmartPlant Instrumentation Online Guide, Import Utility, Using a Predefined Link to Import Data, Working with Grouped Links* to learn how to use grouped links.

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Add-Ins > Import System Interfaces**.
3. Under **Source database**, locate the database file in one of the following ways:
   - In the **File name and path** box, type the path and filename of the database file IN_CTLOG.DB.
   - Click **Browse** to navigate to IN_CTLOG.DB.
4. Click **Connect** to connect to the source database file.

   Important

   - If you get a message stating that the connection has failed, make sure you typed in the correct path and filename of the database file (see step 3 of this procedure).
5. Under the **Select link group** section, select one or more of the link groups to import.
6. Locate the source path of all the links in the imported group in one of the following ways:
   - In the **Source file path** data field, type the source path.
   - Click **Browse** to navigate to the required source path. Note that setting he source path in the current dialog box is the same as setting it in the Import utility **Source - Target Link** dialog box. See *SmartPlant Instrumentation Online Guide, Import Utility, Using a Predefined Link to Import Data, Changing an Existing Link's Source Path* to learn how to set the source path of the imported links.
7. Clear the **Import only source codes** check box if it was selected.
8. Click **Import** to add the selected link group to the database.

Note

- You can import only those link groups for which you purchased an appropriate license.

Related Topics

- *Working with Add-Ins Common Tasks*, page 234
- *Working with Add-Ins Overview*, page 233

Import Browser Views

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Add-Ins > Import Browser Views**.
3. Under **Source database**, locate the database file in one of the following ways:
   - In the **File name and path** box, type the path and filename of the required database file (the default file is IN_CTLOG.DB).
   - Click **Browse** to navigate to the required database file.
4. Click **Connect** to retrieve the libraries available in the database file.

   Important

   - If you get a message stating that the connection has failed, make sure you typed in the correct path and filename of the database file (see step 3 of this procedure).
5. From the **Target plant** list, select the plant to which you want to add the imported views.
6. Under the **Select Views** section, select views that you want to import.
7. Click **Import** to append the selected views to the database.

Note

- You can import only those views for which you purchased an appropriate license.

Related Topics

- *Working with Add-Ins Common Tasks*, page 234
- *Working with Add-Ins Overview*, page 233

Import DCS Hardware I/O Library Data

1. With the **Domain Administration** window open, click **Add-Ins > Import DCS Hardware I/O Library**.
2. Under **Source database**, locate the database file in one of the following ways:
   - In the **File name and path** box, type the path and filename of the required database file (the default file is IN_CTLOG.DB).
   - Click **Browse** to navigate to the required database file.
3. Click **Connect** to retrieve the libraries available in the database file.

Important

- If you get a message stating that the connection has failed, make sure you typed in the correct path and filename of the database file (see step 3 of this procedure).

4. Under **Select panel library**, highlight the required library to be imported.
5. Click **Import** to import the process connection data to your database.

Note

- The software does not allow you to import the same connection data more than once. If you attempt such an import, the software displays an appropriate message stating that the data import has failed because at least some of the connection data already exists.

Related Topics

- *Working with Add-Ins Common Tasks*, page 234
- *Working with Add-Ins Overview*, page 233

Import DDP Library Data for PDS

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Add-Ins > Import DDP Library Data for PDS**.
3. Under **Source database**, locate the database file in one of the following ways:
   - In the box, type the path and filename of the required database file (the default file is IN_CTLOG.DB).
   - Click **Browse** to navigate to the required database file.
4. Click **Connect** to retrieve the libraries available in the database file.

Important

- If you get a message stating that the connection has failed, make sure you typed in the correct path and filename of the database file (see step 3 of this procedure).

5. Click **Import** to import the process connection data to your database.

Note

- The software does not allow you to import the same DDP Library data more than once. If you attempt such an import, the software displays an appropriate message stating that the data import has failed because at least some of the data already exists.

Related Topics

- *Working with Add-Ins Common Tasks*, page 234
- *Working with Add-Ins Overview*, page 233

Export Macros

Important

- Exporting macros requires the existence of an sppid_macro component table in the source database or domain, *Domain Administrator* access rights, and a database target .txt file.

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Add-Ins > Import/Export Macros > Export Macros**.
3. In the **Export Macros** dialog box, click **Browse**.
4. In the **Select file for Export** dialog box, select a target .txt file from the list or create a new file.
5. Click **Save** to return to the **Export Macros** dialog box.

Tip

- If there are typical tags in the current source database or domain, you can select **Include typical tags** to export all typical tags to the target .txt file.

6. Click **OK** in the **Export Macros** dialog box.
7. Click **OK** in the notification box that appears if macros have been exported successfully.
8. Click **Close** in the **Export Macros** dialog box.

Related Topics

- *Access Rights Overview*, page 195
- *Working with Add-Ins Common Tasks*, page 234
- *Working with Add-Ins Overview*, page 233

Import Macros

Important

- Importing macros requires the existence of an sppid_macro component table in the target database or domain, *Domain Administrator* access rights, and a predefined source .txt file.

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Add-Ins > Import/Export Macros > Import Macros**.
3. In the **Import Macros** dialog box, click **Browse**.
4. In the **Select file for Export** dialog box, select a .txt file from the list.
5. Click **Save** to return to the **Export Macros** dialog box.

Tips

- Select the **Include typical tags** check box to import all typical tags to the current database or domain from the source .txt file, if required.
- Before selecting **Include typical tags**, ensure that the source .txt file contains the required typical tags; otherwise, the macro import process will fail.

6. Click **OK** in the **Import Macros** dialog box.
7. Click **OK** in the notification box that appears if macros have been imported successfully.
8. Click **Close** in the **Import Macros** dialog box.

Related Topics

- *Access Rights Overview*, page 195
- *Working with Add-Ins Common Tasks*, page 234
- *Working with Add-Ins Overview*, page 233

Miscellaneous Domain Administration Tasks

The *Domain Administrator* can perform the following miscellaneous tasks:

Define Panel Location Levels

You can define multiple levels for your panel locations. For example, you can define three levels with Building as the highest level (Level 1), Floor as the second level, and Room as the lowest level (Level 3). Then, in the **Domain Explorer**, users can create specific locations on any of the levels and assign panels to the locations.

For more information, see *Define Panel Location Levels*, page 244.

Assign Icons to Telecom Device Types

Use this procedure to assign icons to telecom device types available in the current domain. This way the software can indicate the telecom device type of specific device panels displayed in the **Domain Explorer** (or **Wiring Explorer**, accessible from the Wiring module).

For more information, see *Assign Icons to Telecom Device Types*, page 245.

Define Custom Fields

Custom fields are database fields for which the Domain Administrator defines default labels on the plant level in the **Custom Fields** dialog box. Custom fields enable users to define characteristics for SmartPlant Instrumentation entities according to their own needs.

For calibration custom fields, the user enters values in the Calibration module. If the Domain Administrator enables process data custom fields, the user can then enter values for these fields in process data sheets. For all other custom fields, the user enters values in the relevant browser views, and can also edit the default labels.

For more information, see *Define Custom Fields*, page 246.

Copy Custom Fields

You can copy custom field definitions from one highest plant hierarchy item to another within the same domain. When copying definitions, you can overwrite or keep the definitions that exist in the target plant hierarchy item. For more information, see *Copy Custom Fields*, page 247.

Define Custom Tables

A custom table is an additional supporting table that holds user-defined information for an instrument tag. The Domain Administrator uses this procedure to define custom tables for tag numbers at the highest level of the plant hierarchy. For each plant hierarchy item, you can define up to sixteen custom tables. Custom tables enable SmartPlant Instrumentation users to set additional attributes for tag numbers in the Instrument Index module. You can add the **Name** field of a custom table to a specification page. For more information, see *Define Custom Tables*, page 250.

Generate Domain Administration Reports

This topic deals with the various reports that a Domain Administrator can generate. For more information, see *Generate Domain Administration Reports*, page 251.

Select a Logo

You can select a .bmp format graphic file which will appear as a logo in most printed documents such as some reports and specifications.

You can build a number of domains in your database, each having a different logo. In this case, when you switch to a domain, the software retrieves the logo assigned to that domain from the database. If all your domains use the same logo, you can make the logo retrieval operation faster by selecting the PROJLOGO.BMP file located in the <SmartPlant Instrumentation home folder>\Temp folder as the default source logo file for all domains in the database. This file is automatically generated by the software during the Setup process. For more information, see *Select a Logo*, page 252.

Define Field Personnel Profiles

This procedure enables you to maintain a list of employees who are in-charge of carrying out the actual instrument field-maintenance. For more information, see *Define Field Personnel Profiles*, page 252.

Modify Domain Notes

This topic explains how to modify your domain notes. Note that this option is available to both System and Domain Administrators. For more information, see *Modify Domain Notes*, page 253.

Add User-Defined Database Views

Using this procedure, you make a list of user-defined database views prior to initializing another domain when using the current domain as a source. The user-defined database views that appear in the list that you make also appear in the target domain after the domain initialization. For more information, see *Add User-Defined Database Views*, page 245.

Related Topics

- *Domain Administration Common Tasks*, page 75

Define Panel Location Levels

1. Start the Administration module and log on as Domain Administrator.
2. In the **Domain Administration** window, on the **Activities** menu, click **Panel Location Levels**.
3. For the first location level, enter a location level name and an optional separator to indicate the highest level of the hierarchy.
   For example, create the level **Building** and enter a back slash separator (\ ).

   Tips

   - The level separators and user-defined level names appear in the **Panel Properties** dialog box of the Wiring module.
   - The level separator can contain a single alphanumeric or special character.
   - For a panel location name, you can use any number of alphanumeric or special characters. The name can include spaces.
4. Click **Add** and then enter another location level name and a separator.
   For example, create the level **Room** and enter am ampersand separator (&).

   Important

   - The location level names must be unique.
5. Do one of the following:

   - Click **Add** to append another row below the **Room** level.
   - Select the row with the **Room** level and click **Insert** to add another row above the **Room** level.

   Tips

   - You can insert or delete levels only before users create panel locations on the level that you select.
   - At any stage of your domain life cycle, you can click **Add** to define a new lowest level in your panel location hierarchy.
   - If you defined three levels, for example, **Building** as the highest level, with separator \, **Floor** as the second level, with separator — , and **Room** as the lowest level (Level 3), with separator &, in the Wiring module, in the **Panel Properties** dialog box, the location string appears as follows:
     <user-defined location name on the Building level>\<user-defined location name on the Floor level> — <user-defined location name on the Room level>&.
   - The level names that you define only appear in the **Domain Explorer**, and do not affect specific location names that users define. Therefore, you can change the level names any time you require.

Assign Icons to Telecom Device Types

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Activities > Telecom Device Panel Icons**.
3. For each telecom device type to which you want to assign an icon, beside **Icon File Name and Path**, click **Browse** to select an icon.

Notes

- You can only select icon files with the extension .ico.
- Icons that you assign will appear in SmartPlant Instrumentation instead of the default icons:  for conventional device panels, and  for plug-and-socket device panels.
- In SmartPlant Instrumentation, a new icon can only appear after a user creates a telecom tag belonging to the device type to which you have assigned the icon.

Related Topics

- *Miscellaneous Domain Administration Tasks*, page 242

Add User-Defined Database Views

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, on the **DBA** menu, click **User-Defined Database Views**.
3. In the dialog box that opens, click **Add**.
4. In the **Add Database Views** dialog box data window, select one or more views and click **Apply**.

Tip

- Prior to initializing a target domain by using the current domain as a source, you can add or remove user-defined database views any time you need.

Note

- After you click **Apply** in the **Add Database Views** dialog box**,** the software allocates the database views that you selected to the data window of the **User-Defined Database Views**. These database views become available in a target domain after initializing that domain using the current domain as a source.

Related Topics

- *Miscellaneous Domain Administration Tasks*, page 242

Define Custom Fields

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, do one of the following:
   - Click **Activities > Custom Fields**.
   - Click  .
3. From the **<Plant>** list, select a <*plant*> in which you want to make custom field definitions.
4. From the **Entity/data type** list, select a target entity or data type.

   Tip

   - For a list of browsers which can contain custom fields that you define per entity/data type, see Browsers That Can Contain Custom Fields.
   - You can select a plant hierarchy level name as an entity and modify the default custom field definitions for each of the twenty custom fields. A custom field definition is a label that appears in the **Custom Fields** tab of the **Plant Hierarchy Item Properties** dialog box. The default label is **Custom field<number incremented from 1 to 20>**. For example, if your highest plant hierarchy level is Plant, for Row Number 1, enter text **My Custom Fields for PlantA**. In the **Custom Fields** tab of the **<Plant> Properties** dialog box, for the first custom field, the software displays **My Custom Fields for PlantA** instead of the default definition **Custom field 1**.
5. In the data window, under **Definitions**, type or edit custom field labels.

   Tips

   - For each field, the **Length** field displays the maximum number of characters that users can specify in the field in SmartPlant Instrumentation. If needed, you can type a smaller value, and thus, decrease the maximum allowed number of characters.
   - If from the **Entity/data type** list, you selected Process Data, you can disable the use of certain custom fields by clearing check box in the **Visible** column.
6. Click **Apply**.
7. Repeat the procedure to make custom field definitions for another <plant> or for another entity or data type.

Related Topics

- *Miscellaneous Domain Administration Tasks*, page 242

Copy Custom Fields

1. With the **Domain Administration** window open, do one of the following
   - Click **Activities > Custom Fields**.
   - Click  .
2. From the <**Plant>** list, select a target <*plant*>.
3. Click **Copy From**.
4. In the dialog box that opens, select a source <plant> and then click **OK**.
5. In the **Custom Fields** dialog box, click **Apply**.

Related Topics

- *Miscellaneous Domain Administration Tasks*, page 242

Browsers That Can Contain Custom Fields

You can add custom fields per entity/data type for a number of the browsers that are available in the Browser module in SmartPlant Instrumentation. The following table lists entity and data types that you can select in the **Custom Fields** dialog box, and also lists the browsers whose views can contain custom fields that you define per entity type.

Entity/Data Type	Browser
Cable	Cable Browser Cable Schedule Instal. Index Cable Schedule Instal. Index Changes Cable Set Browser Wire Browser Wiring Schedule Instal. Index Wiring Schedule Instal. Index Changes
Cable Set	Cable Set Browser Wire Browser Wiring Schedule Instal. Index Wiring Schedule Instal. Index Changes
Calibration Result	Calibration Results Browser
Calibration Setting	Calibration Settings Browser
Control System Tag	Control System Tag Browser NIM Analog Input Browser NIM Analog Output Browser NIM Digital Input Browser NIM Digital Output Browser NIM General Browser

Entity/Data Type	**Browser**
Document	Drawing Browser General Process Data Browser Loop Browser Loop Drawing Browser Revision Browser Specifications Browser Tag Number Browser
Equipment	Equipment Browser
Hook-Up	Hook-Up Browser
Hook-Up Item	Item List Browser
Instrument	Analyzer Browser Calibration Results Browser Calibration Settings Browser Control Valve Browser DDP and Index Browser Drawing Summary Browser Fieldbus Tag Number List Browser Flow Instrument Browser General Process Data Browser Instr. Conn. Pre-assignment (Advanced) Instrument Connection Pre-assignment Instrument Index Standard Browser Instrument Instal. Index Instrument Instal. Index Changes Instrumentation/Process Data Browser Level Instrument Browser Maintenance Schedule Browser Pressure Instrument Browser Relief Valve Browser Spec Binder Package Browser Specifications Browser Tag Category Browser Tag Number Browser Temperature Instrument Browser
Line	Line Browser Line Component Browser Line PD Data Browser
Loop	Block Browser Enhanced SmartLoop Browser Loop Browser Loop Drawing Browser

Entity/Data Type	Browser
Panel	General Panel Browser I/O Card Browser I/O Terminal Browser Local Signal Browser Panel Termination Instal. Index Panel Termination Instal. Index Rack Browser Slot Browser Strip Browser Terminal Browser
Process Data	General Process Data Browser
Revision	Revision Browser
Strip	I/O Card Browser I/O Terminal Browser Local Signal Browser Strip Browser Terminal Browser Terminal Schedule Instal. Index Terminal Schedule Instal. Index Changes
Terminal	I/O Terminal Browser Terminal Browser Terminal Schedule Instal. Index Terminal Schedule Instal. Index Changes
Wire	Wire Browser Wire Schedule Instal. Index Wire Schedule Instal. Index Changes

Related Topics

- *Define Custom Fields*, page 246

Define Custom Tables

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Activities > Custom Tables**.
3. From the **Plant** list, select a plant.
4. Select the desired number of **Custom table** check boxes and then, in the adjacent fields, type table names.

   Important

   - A custom table name must be unique.
   - Do not use the single quote (`) character in custom table names because doing so causes the label to be displayed incorrectly in the **Tag Number Properties** dialog box.
5. Click **Apply** and, if needed, repeat the procedure for another plant.

Related Topics

- *Miscellaneous Domain Administration Tasks*, page 242

Generate Domain Administration Reports

As *Domain Administrator* you can generate domain and activity reports. The following table describes the main activity reports which are available to the Domain Administrator on the **Report** menu.

Report	Description
User List	A list of SmartPlant Instrumentation users for the domains for which you have access rights (those which have been assigned to you as Domain Administrator). When you select this option, the list is printed in ascending alphanumeric sequence.
User List per Group	SmartPlant Instrumentation users of the domains for which you have access rights, listed according to the groups to which they belong.
Domain Statistics	Quantities of the following entities in the current domain: Tags in Calculation, Process Data, and Specs. Supporting Tables: I/O Types, Location, Model, Status. Wiring data :Cables, Panels, Terminals, Wires, Connections and I/O Channels. Panels by categories: Marshaling Racks, PLCs, DCSs, Junction Boxes, Devices, and Cabinets. Other entities: Loop Drawings, Blocks, P&ID Drawing references, Hook-Ups, Lines, and Spec Forms. Maintenance Statistical Data: Calibration Settings, and Calibration Results. A list of signals per largest Group Sequence number.
Access Rights	Access rights information for selected user groups. This information includes a list of selected user groups, the entities for which those user groups were granted access rights, and the access type to every entity. You can generate this report on the domain, plant, and unit levels.

Related Topics

- *Miscellaneous Domain Administration Tasks*, page 242

Select a Logo

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, do one of the following:
   - Click **File > Domain**.
   - Click  .
3. Do one of the following:
   - Click **Options > Select Logo**.
   - Click  .
4. Click **Browse** to open the **Select Logo File** dialog box.

   Tip

   - You can only select the BMP (Bitmap) file format. You can create a Bitmap file using a graphic editing application such as Windows Paintbrush. Since most reports are printed out in black-and-white, it is recommended that you select Bitmap files in black-and-white to save system resources.
5. Navigate to the required BMP file to which you want to assign as the domain logo and click **OK**.
6. In the **Browse Logo Files** dialog box, click **Assign** to assign the selected bitmap to the current domain.
7. Click  to save the new domain logo to the database.
8. Click  to close the **Domain Definition** window.

Related Topics

- *Miscellaneous Domain Administration Tasks*, page 242

Define Field Personnel Profiles

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **Activities > Field Personnel Profile**.
3. Click **New** to add a new personnel profile to the current domain.
4. Type the required profile data and then click **Apply**.
5. Click **Edit** to modify a personnel profile.
6. Edit the selected personnel data and click **Apply**.
7. Click **Delete** if you want to delete a selected profile.
8. When prompted to confirm the personnel profile deletion, click **Yes** to delete the currently selected personnel profile or click **No** to retain the currently selected personnel profile.

Related Topics

- *Miscellaneous Domain Administration Tasks*, page 242

Modify Domain Notes

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, do one of the following:
   - Click **File > Domain**.
   - Click  .
3. Do one of the following:
   - Click **Options > Notes**.
   - Click  .
4. In the **Notes** field, edit the text as required.
5. Click  .
6. Click  .

Related Topics

- *Miscellaneous Domain Administration Tasks*, page 242

Modify Printer Settings

This option enables you to view and modify the current printer settings, if required. You can select a standard paper size with predefined width, height, and orientation or customize these settings as required. Furthermore, you can save your settings as default for future print sessions. You can customize your own paper width, height, and orientation and include these values in the default settings. Note, that some reports have their orientation hard-coded, therefore only the hard-coded settings will apply.

When saving your settings as default, the software stores the values in the INTOOLS.INI file under the [PRINTER] section. If you want the software to calculate the required paper size from the Windows printer driver settings, open the INTOOLS.INI file and under the [PRINTER] section, remove the semi-colon before the following parameters:

- LEFTMARGIN
- RIGHTMARGIN
- TOPMARGIN
- WIDTH
- HEIGHT
- ORIENTATION
- HRES
- VRES

Add a semi-colon before the PAPERSIZE parameter.

For more information about this option, click **Help** in the **Page Setup** dialog box.

Notes

- All your page settings apply to all reports and documents that you print and they are true on all the hierarchy levels (domain, plant, area, and unit).
- All your page settings apply to your local machine only and do not affect other users of SmartPlant Instrumentation.
- If you want to change the page setup for the current print session only, do not click **Default**, just make your changes and click **OK**.

Related Topics

- *Log on as Domain Administrator*, page 16
- *Plant Design and Structure Common Tasks*, page 81
- *Plant Design Overview*, page 79

Managing Audit Trail Data

Overview

In SmartPlant Instrumentation, audit trail is a mechanism that enables the *Domain Administrator* to mark history changes and save information about user operations such as deleting, inserting, and updating SmartPlant Instrumentation data in the domain. As soon as a user performs one of these operations, information appears in the appropriate tables. The software records all these operations in the audit trail repository.

You can trim this information in a particular domain by defining the time of operation. The time of operation appears in the audit trail repository.

Also note that the *System Administrator* has the privileges to activate and deactivate the audit trail functionality.

Related Topics

- *Activate the Audit Trail Functionality*, page 29
- *Domain Administration Common Tasks*, page 75
- *Managing Audit Trail Data Common Tasks*, page 256

Managing Audit Trail Data Common Tasks

The *Domain Administrator* can perform the following tasks when managing audit trail data:

Trim Audit Trail Data

This option allows the Domain Administrator to trim the excessive audit trail data contained in the audit trail repository in the current domain. When removing the audit trail data from the domain, you can save it to an external file on your server (Windows or UNIX server on Oracle) if needed. If you save the audit trail data, you can then load it to the audit trail repository in a required domain. For more information, see *Trim Audit Trail Data*, page 258.

Load Audit Trail Data

This option allows the Domain Administrator to load the audit trail data to the audit trail repository in a selected target domain. This data has been removed from the audit trail repository in a particular domain and saved to an external file. Your target domain can be the same domain where you have trimmed this data. You can also load audit trail data trimmed in a different domain. For more information, see *Load Audit Trail Data*, page 257.

External Files with Trimmed Audit Trail Data

This topic explains how the Domain Administrator can define a file to which the system saves the trimmed audit trail data. For more information, see *External Files with Trimmed Audit Trail Data*, page 259.

Define Paths When Using Oracle

This topic explains how to define a path when using Oracle. For more information, see *Define Paths When Using Oracle*, page 260.

Define Paths When Using MS SQL Server

This topic explains how to define a path when using MS SQL Server. For more information, see *Define Paths When Using SQL Server*, page 261.

Define Paths When Using Sybase Adaptive Server Anywhere

This topic explains how to define a path when using Sybase Adaptive Server Anywhere. For more information, see *Define Paths When Using Sybase Adaptive Server Anywhere*, page 262.

Related Topics

- *Activate the Audit Trail Functionality*, page 29
- *Domain Administration Common Tasks*, page 75
- *Managing Audit Trail Data Overview*, page 255

Load Audit Trail Data

Important

- To successfully load audit trail data trimmed in a different domain, you must ensure that the values in the primary key fields in the external source file differ from those in the audit trail repository of the current domain.

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **DBA > Data Maintenance > Load Audit Trail**.
3. In the **From** box, type the initial date of the period (month, day, and year).
4. In the **To** box, type the last date of the period (month, day, and year).
5. In the **Load from file** box, type the file name segment as it appears in the external file containing the audit trail data.

   Tips

   - You can type all of the required variables using information contained in the complete name of the file. The following is an example of a complete file name: 20010501_20010503_<DOMAIN NAME>#CHANGES_LOG#<FILE NAME SEGMENT>.TXT (or .sql on Oracle).
   - Note that in the complete file name, the audit trail period is displayed in the following order: year, month, and day.
6. Click **Load**.

   Tip

   - After loading the audit trail data, the external file remains on your server. If needed, you can load the same data onto another domain, or delete the external file manually.
7. Click **Close**.

Related Topics

- *Activate the Audit Trail Functionality*, page 29
- *Managing Audit Trail Data Common Tasks*, page 256
- *Managing Audit Trail Data Overview*, page 255

Trim Audit Trail Data

Important

- Note that the Document Binder and Construction modules use the audit trail repository to record information about previous revisions. If you generate a Change report, the information recorded in audit trail repository within the period for which the audit trail data is trimmed, will be missing in this report.

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **DBA > Data Maintenance > Trim Audit Trail Data**.
3. If your domain type is *Operating owner*, from the **Project** list, a project in which you want to trim audit trail data, or select **AsBuilt.**
4. To define the period of the audit trail data that you want to remove from the audit trail repository in the current domain, in the **From** box, type the initial date of the period (month, day, and year).
5. In the **To** box, type the last date of the period (month, day, and year).
6. To trim the audit trail data contained within the defined period and save it to an external file, select **Save to file**.
7. In the **File name** box, type a file name segment that will become part of the name of the external file to which you are saving the defined audit trail data.
8. Click **Trim** to save the audit trail data to the defined file and remove this data from audit trail repository in the selected domain.

   Tip

   - The external file name contains information about the initial date of the defined period (year, month, and day), the last date (year, month, and day), the domain name, and the file name segment you have typed in the **File name** box.
9. To trim the audit trail data without saving it to an external file, clear the **Save to file** check box.
10. Click **Trim** to permanently remove the audit trail data from the audit trail repository in the current domain.

Related Topics

- *Activate the Audit Trail Functionality*, page 29
- *Managing Audit Trail Data Common Tasks*, page 256
- *Managing Audit Trail Data Overview*, page 255

External Files with Trimmed Audit Trail Data

When trimming audit trail data, the *Domain Administrator* can define a file to which the system saves the trimmed audit trail data. The file name contains information about the initial date of the defined period, the last date, the source domain name, and the file name segment you have typed in the **File** name field of the **Trim Audit Trail Data** dialog box.

The following is an example of a complete file name:

20010501_20010503_<domain schema>#CHANGES_LOG#<file name segment>.TXT (or .sql on Oracle).

The audit trail period segment displays the period in the following order: year, month, and day.

The format, location and path configuration of files containing audit trail data depends on the platform you are using (Oracle, SQL Server, or Sybase Adaptive Server Anywhere).

For details, see the following Help topics:

- *Define Paths When Using Oracle*, page 260
- *Define Paths When Using SQL Server*, page 261
- *Define Paths When Using Sybase Adaptive Server Anywhere*, page 262

Related Topics

- *Activate the Audit Trail Functionality*, page 29
- *Managing Audit Trail Data Common Tasks*, page 256
- *Managing Audit Trail Data Overview*, page 255

Define Paths When Using Oracle

When using Oracle, files containing audit trail data appear as SQL files on your Windows or UNIX server. To enable saving audit trail data to an external file, you need to open the Oracle Instance Configuration file and set the path value of the parameter UTL_FILE_DIR.

For details about setting the file path value in the Oracle Instance Configuration file on your Windows server, see *Installation Guide, Installing SmartPlant Instrumentation on Oracle, Creating a New Oracle 8.1.7 Instance with SmartPlant Instrumentation Specifications*.

- File path value example on a Windows server:
  utl_file_dir=e:\INtoolStorage\Orc1
- File path value example on a UNIX server:
  utl_file_dir=/vol01/oradata/INtoolStorage/Orc1

Notes

- In the path value, the folder name Orc1 corresponds to a possible instance name. INTOOLSTORAGE is a user-defined name. For convenience, we recommend that you always use this name in the file path.
- On Oracle 9.2, the software might append numbers to the name of the Oracle Instance Configuration File INIT.ORA. For example, the file name might be as follows:
  INIT.ORA.2242004153249. Prior to trimming audit trail data, you need to delete the numbers together with the dot that are appended to the INIT.ORA file. Then, you must restart the Oracle instance manually, that is, not from the Oracle interface but using appropriate SQL commands.

Related Topics

- *Activate the Audit Trail Functionality*, page 29
- *Managing Audit Trail Data Common Tasks*, page 256
- *Managing Audit Trail Data Overview*, page 255

Define Paths When Using SQL Server

When using SQL Server, files containing audit trail appear as .txt files on your Windows server. When trimming audit trail data for the first time, the system chooses the drive with maximum free disk space and creates a folder INTOOLSTORAGE in that drive.

If you do not want the system to choose the target drive, before trimming audit trail data, you can create the folder INTOOLSTORAGE on a different drive. After you click **Trim** in the **Trim Audit Trail Data** dialog box, the system locates the folder INTOOLSTORAGE and configures the path for the file with the audit trail data.

Depending on your SQL Server version, the system creates the following paths for the files containing the trimmed audit trail data:

SQL Server 7.0:

<drive>:\INTOOLSTORAGE\<SQL Server server name>\<SmartPlant Instrumentation database name>.
For example:
e:\INtoolStorage\Develop1\INtools1, where the SQL Server server name DEVELOP1 corresponds to your Windows server name.

SQL Server 2000 with a SmartPlant Instrumentation database created in a default instance:

<drive>:\INTOOLSTORAGE\<default instance name>\<SmartPlant Instrumentation database name>.
For example:
e:\INtoolStorage\Develop1\INtools1, where the default instance name Develop1 corresponds to your Windows server name.

SQL Server 2000 with a SmartPlant Instrumentation database created in a named instance:

<drive>:\INTOOLSTORAGE\<SQL Server server name>\<named instance name>\<SmartPlant Instrumentation database name>.
For example:
e:\INtoolStorage\Develop1\INtools53\INtools1, where the SQL Server server name DEVELOP1 corresponds to your Windows server name.

Related Topics

- *Activate the Audit Trail Functionality*, page 29
- *Managing Audit Trail Data Common Tasks*, page 256
- *Managing Audit Trail Data Overview*, page 255

Define Paths When Using Sybase Adaptive Server Anywhere

When using Sybase Adaptive Server Anywhere, files containing audit trail data appear as .txt files on a client machine where you have installed SmartPlant Instrumentation. The default path to these files is created automatically with SmartPlant Instrumentation setup. Setup creates the following default path: <drive>:\<SmartPlant Instrumentation home folder>\INTOOLSTORAGE. The drive value corresponds to the drive where you have installed SmartPlant Instrumentation.

You can view the file path as the value of the WATINSTORAGEDIR parameter in the [DATABASE] section of the INTOOLS.INI file.

File path value example:

WatINstorageDir="c:\Program Files\SmartPlant\ Instrumentation\IntoolStorage"

If you do not have enough disk space for saving audit trail data to the drive where you have installed SmartPlant Instrumentation, you need to manually change the drive value to another drive the INTOOLS.INI file. In the INTOOLS.INI file, you can also modify the default path values as required, provided that you have configured this path on your machine.

1. On the required drive of your client machine, create a folder INTOOLSTORAGE.
2. Open the INTOOLS.INI file.
3. In the [DATABASE] section, set the file path value of the parameter WATINSTORAGEDIR so that it matches the path you have created.

For example:
WatINstorageDir="d:\SmartPlant\ Instrumentation\IntoolStorage".

Related Topics

- *Activate the Audit Trail Functionality*, page 29
- *Managing Audit Trail Data Common Tasks*, page 256
- *Managing Audit Trail Data Overview*, page 255

Clearing Locking

Overview

This option enables the *Domain Administrator* to clear locking in multi-user databases SQL Server or Oracle.

Clearing locking is useful in the following cases:

- A SmartPlant Instrumentation user has locked a certain *entity* for use in other sessions and remains connected to the database for a long time.
- There in an inactive locking session. For example, there is a session in which SmartPlant Instrumentation stopped responding, or a user has closed the locking session from the Window Task Manager, or the locking session closed down as result of an application error. These session records remain on the server database and keep locking other sessions.
- There is an external application whose session is locking a SmartPlant Instrumentation session in the current domain.

Related Topics

- *Clearing Locking Common Tasks*, page 264
- *Domain Administration Common Tasks*, page 75

Clearing Locking Common Tasks

The *Domain Administrator* can perform the following tasks when clearing locking:

Clear Locking per User

This option enables the Domain Administrator to clear locking per user by disconnecting a user from SmartPlant Instrumentation and closing all the user's sessions in the current domain. You can use this option on either a SQL Server or Oracle server database platform.

After disconnecting a user, the records of the user's sessions remain in the CURRENT_INFO table of your server database. If needed, you can manually clear the session records to improve SmartPlant Instrumentation performance. For more information, see *Clear Locking per User*, page 265.

Clear Blocked Sessions on Oracle

On Oracle, this procedure allows the Domain Administrator to stop the sessions in the current domain which have been blocked by other sessions in a SmartPlant Instrumentation database, and remove the session records from the CURRENT_INFO table. For more information, see *Clear Blocked Sessions on Oracle*, page 265.

Clear Blocking Sessions on SQL Server

On SQL Server, this option allows the Domain Administrator to end the sessions in the current domain which are blocking other sessions in a SmartPlant Instrumentation database, and remove the session records from the CURRENT_INFO table. For more information, see *Clear Blocking Sessions on SQL Server*, page 266.

Clear Locking in All Sessions

This option allows the Domain Administrator to clear locking in all the sessions (inactive and active) in the current domain, and remove the session records from the CURRENT_INFO table. For more information, see *Clear Locking in All Sessions*, page 266.

Clear SmartPlant Instrumentation Session Records

On Oracle and SQL Server, when a user logs out from SmartPlant Instrumentation, the software does not clear records of the sessions which are no longer in use from the CURRENT_INFO table of the current database. These records hold the user name, the domain and session IDs, and the flags used by the sessions to activate or deactivate the SmartPlant Instrumentation triggers. The Domain Administrator needs to clear these records manually.

Clearing SmartPlant Instrumentation sessions manually enables the Domain Administrator to improve the performance of SmartPlant Instrumentation. For more information, see *Clear SmartPlant Instrumentation Session Records*, page 266.

Clear Locking per User

Important

- This clearing locking option stops all at once the SmartPlant Instrumentation application session, the Administration module session, the Import and Merger utility sessions. Clearing locking in active sessions results in losing all the data which was being imported or merged at that time.

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **DBA > Locking > Clear Locking in Selected Sessions**.
3. In the **Clear Locking in Selected Sessions** dialog box, from the **User** list, select the user whose SmartPlant Instrumentation sessions you want to stop in the database.

   Tips

   - View the current database name in the **Database** field.
4. Click **OK**.

Related Topics

- *Clearing Locking Common Tasks*, page 264
- *Clearing Locking Overview*, page 263

Clear Blocked Sessions on Oracle

Important

- Ending active blocked sessions and disconnecting the users from these sessions results in the loss of all the data which was being imported or merged at that time.

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **DBA > Locking > End Blocked Sessions**.

Related Topics

- *Clearing Locking Common Tasks*, page 264
- *Clearing Locking Overview*, page 263

Clear Blocking Sessions on SQL Server

Important

- Ending active blocking sessions and disconnecting the users from these sessions results in the loss of all the data which was being imported or merged at that time.

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **DBA > Locking > End Blocking Sessions**.

Related Topics

- *Clearing Locking Common Tasks*, page 264
- *Clearing Locking Overview*, page 263

Clear Locking in All Sessions

Important

- Clearing active sessions results in ending these sessions, disconnecting the users, and losing all the data which was being imported or merged at that time.

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **DBA > Locking > Clear Locking in All Sessions**.

Note

- This action does not affect your Administration module session.

Related Topics

- *Clearing Locking Common Tasks*, page 264
- *Clearing Locking Overview*, page 263

Clear SmartPlant Instrumentation Session Records

Important

- On Oracle, the Domain Administrator can clear SmartPlant Instrumentation session records when working with Oracle Server database version 8i or later.

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **DBA > Data Maintenance > Clear Session Records**.

Configuring SmartPlant Instrumentation for The Engineering Framework

Overview

To enable the use of The Engineering Framework (TEF) functionality, you need to configure your client machine.

TEF requires Oracle 9.02 or SQL Server 2000, and your database must use a UNICODE (UTF-8) character set. You must install the following software items to ensure the correct running of SmartPlant Instrumentation as part of The Engineering Framework:

- SmartPlant Instrumentation Server (for details, see *SmartPlant Instrumentation Server Installation Guide*)
- MSXML Parser
- Schema Component
- Framework Client

Before you can publish and retrieve documents, your System Administrator must enable the entity registry and specify the XML map file path. To enable publishing of documents, the System Administrator must define an IDEAL user, who must subsequently log on to SmartPlant Instrumentation and specify the PDF generator and the output folder for published documents. Next, the Domain Administrator must register, as a one-time operation, each highest level plant hierarchy item (for example a plant) with a corresponding plant in SmartPlant Foundation. Registration allows SmartPlant Instrumentation to display TEF commands.

The software maps the entire SmartPlant Instrumentation plant hierarchy to a single SmartPlant Foundation URL that points to one SmartPlant Foundation database.

Related Topics

- *Configure SmartPlant Instrumentation for The Engineering Framework*, page 268
- *Set Project Status for The Engineering Framework*, page 101
- *TEF Common Tasks*, page 268

TEF Common Tasks

Before you can work with TEF, you need to perform certain tasks in the SmartPlant Instrumentation Administration module.

The System Administrator performs the following task:

Configure SmartPlant Instrumentation for The Engineering Framework

Use this procedure to configure SmartPlant Instrumentation for TEF. For more information, see *Configure SmartPlant Instrumentation for The Engineering Framework*, page 268.

The Domain Administrator performs the following tasks:

Retrieve a Plant Hierarchy from The Engineering Framework

Use this procedure to create a plant hierarchy in SmartPlant Instrumentation. For more information, see *Retrieve a Plant Hierarchy from The Engineering Framework*, page 270.

Register with The Engineering Framework

Use this procedure to register your plant with TEF. For more information, see *Register with The Engineering Framework*, page 271.

Related Topics

- *Configuring SmartPlant Instrumentation for The Engineering Framework Overview*, page 267
- *Entity Registry Activities Overview*, page 273

Configure SmartPlant Instrumentation for The Engineering Framework

1. On each SmartPlant Instrumentation workstation, install the Schema Component and the Framework Client. (To access the setups, on the SmartPlant Instrumentation CD Browser, click **Add-In Software**.)

   Tips

   - When you install the Schema Component, on the **Select Optional Features** page, be sure to clear the **Schema Editor** check box.
   - When you install the Framework Client, on the **Select Features** page, be sure to clear the **Framework Automatic Retrieval** check box.
2. Log on as System Administrator to the Administration module of SmartPlant Instrumentation.
3. Click **File** > **Domain Definition**.

4. On the **Domain Definition** window, select the desired domain.

   Important

   - You must initialize the domain to be used with TEF from the Intoolsef.db file to ensure the correct mapping of a number of supporting tables with the enumerated lists in the Engineering Framework schema

5. Under **Domain features**, click the **Entity registry** check box.
6. Beside **XML path**, click **Browse** to navigate to the location of the SmartPlant Instrumentation map files: ContextMap.xml and IntoolsMap.xml.

   Tips

   - For the SmartPlant Instrumentation map files, you must choose a location that all users of TEF can access with the same drive letter mapping.
   - By default, when you install SmartPlant Instrumentation, these files are placed in the path <SmartPlant Instrumentation home folder>\XML\.

7. Save the changes and close the **Domain Definition** window.
8. Define an IDEAL user. For details, see *Define an IDEAL User*, page 270.
9. Click **File** > **Close**.
10. From the **Administration** window, click **File** > **Open**.
11. On the **Open Administration Module** dialog box, select **Domain Administrator** and select the desired TEF domain.
12. Click **DBA** > **Data Maintenance** > **Register Entities**.
13. Create a plant hierarchy in SmartPlant Instrumentation to match the source plant hierarchy of each plant for which you want to retrieve or publish data. For details, see *Retrieve a Plant Hierarchy from The Engineering Framework*, page 270.
14. Register each SmartPlant Instrumentation plant that you want to use with TEF. For details, see *Register with The Engineering Framework*, page 271.
15. Log on to SmartPlant Instrumentation as the IDEAL user and define the necessary settings for working with TEF. For details, see *Define Settings for The Engineering Framework*, page 272.

Related Topics

- *Configure SmartPlant Instrumentation for The Engineering Framework*, page 268
- *Set Project Status for The Engineering Framework*, page 101

Define an IDEAL User

When external users need to connect to the SmartPlant Instrumentation database, you must define an IDEAL user through which the software establishes the connections.

1. Log on to the SmartPlant Instrumentation Administration module as System Administrator.
2. On the **Activities** menu, click **User**.
3. In the **User** dialog box, do one of the following:
   - From the **User** list, select an existing user.
   - Click **New**, and in the **User** box, define a new user.
4. Select the **IDEAL user** check box.
5. Click **Apply**.

Related Topics

- *Configure SmartPlant Instrumentation for The Engineering Framework*, page 268
- *Configuring SmartPlant Instrumentation for The Engineering Framework Overview*, page 267

Retrieve a Plant Hierarchy from The Engineering Framework

1. Logon as Domain Administrator and select the desired domain, configured for TEF.
2. Click **Framework** > **Retrieve**.
3. On the **Select Plant** dialog box, select the SmartPlant plant that you want to use as the seed plant for retrieving the plant hierarchy.
4. Do one of the following:
   - Select **Create new plant** to create an entirely new plant hierarchy with the same names as the source plant hierarchy items.
   - Select **Correlate plant** to create under an existing plant new plant hierarchy items with the same names as the source plant hierarchy items.
5. On the **Retrieve** dialog box, in the **Document type** list, select **All**.
6. Under **Show**, select **All documents**.
7. Under **Documents to retrieve**, select the PBS document for the desired plant.
8. Click **OK** to retrieve the document.
9. At the confirmation prompt, click **Close**.

10. On the **Select Plant** dialog box, click **Cancel** to close the dialog box.
11. Click **Framework** > **To Do List**.
12. On the **To Do List** dialog box, select all the tasks that appear in the list.
13. Click **Run** to create the plant hierarchy in SmartPlant Instrumentation.

Tip

- You cannot defer tasks or view To Do List task properties when retrieving a plant hierarchy in the Administration module.

Related Topics

- *Configure SmartPlant Instrumentation for The Engineering Framework*, page 268
- *Configuring SmartPlant Instrumentation for The Engineering Framework Overview*, page 267

Register with The Engineering Framework

1. Log on as Domain Administrator and select the desired domain, configured for TEF.
2. Click **Framework** > **Register**.
3. On the **Select Plant** dialog box, select the SmartPlant plant that you want to register with SmartPlant Foundation.
4. In the **Framework Registration Wizard**, on the **SmartPlant Foundation URL** page, type in the **URL** field the node name and virtual directory of the SmartPlant Foundation database with which you want to register your plant.

   ```
   Use the format:
   http://<SPFServer>/<VirtualDirectory>.
   For example:
   http://<SPFServer>/SPFASP.
   ```

   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 <VirtualDirectory> 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 from the **Plant name** list the SmartPlant Foundation plant with which you want to register your SmartPlant Instrumentation plant.
7. Click **Next**.
8. If desired, select the auto-retrieve option.
9. Click **Finish**.
10. On the **Select Plant** dialog box, click **Cancel** to close the dialog box.

Note

- When you use the **Register** command, you are registering a SmartPlant Instrumentation <plant> with the specified SmartPlant Foundation URL and plant.

Related Topics

- *Configure SmartPlant Instrumentation for The Engineering Framework*, page 268
- *Configuring SmartPlant Instrumentation for The Engineering Framework Overview*, page 267

Define Settings for The Engineering Framework

1. Log on to the SmartPlant Instrumentation application as the IDEAL user.
2. On the **File** menu, click **Preferences**.
3. In the **Preferences** dialog box tree-view pane, click **General**.
4. From the **PDF generator** list, select the PDF generator that is installed on your server machine: **Acrobat Distiller** or **Generic PostScript Printer**.
5. Beside **Output document folder**, click **Browse** to specify an output document folder in which the software places all SmartPlant Instrumentation documents that TEF publishes.

   Tip

   - If you do not intend to publish documents through the Web, we recommend that you specify as the output location a sub-folder of the folder where the INtools.ini file is located.

Related Topics

- *Configure SmartPlant Instrumentation for The Engineering Framework*, page 268
- *Configuring SmartPlant Instrumentation for The Engineering Framework Overview*, page 267

Entity Registry Activities

Overview

After registering the entities, as soon as a user performs any of the *Entity Registry* operations, the appropriate references appear in the Entity Registry automatically. This way, the software keeps SmartPlant Instrumentation data up-to-date for The Engineering Framework (TEF). After registering the entities, users of other applications who have access to options in TEF can use information held in the Entity Registry to retrieve SmartPlant Instrumentation data.

Important

- If your domain type is Operating owner, you must perform entity registration prior to claiming any *AsBuilt* entities. This is because in the Entity Registry, the software duplicates entities that appear both in AsBuilt and projects. If you already claimed entities for your projects, you must merge these entities back to *AsBuilt*.

Note

- The *System Administrator* has rights to switch the entity registry on or off as required at any stage of the plant life-cycle.

Related Topics

- *Configuring SmartPlant Instrumentation for The Engineering Framework Overview*, page 267
- *Domain Administration Common Tasks*, page 75
- *Enable Entity Registry*, page 26
- *Entity Registry Activities Common Tasks*, page 274
- *Merging Project and AsBuilt Data Overview*, page 131
- *TEF Common Tasks*, page 268

Entity Registry Activities Common Tasks

The *Domain Administrator* can perform the following tasks when performing *Entity Registry* activities:

Register Entities

This topic explains how the Domain Administrator with access rights to the Entity Registry options can register all of the SmartPlant Instrumentation entities that exist in the current domain. For more information, see *Register Entities*, page 275.

Clean Up Entity Registry

This procedure describes how to clean up the Entity Registry table. When performing a clean-up, the software removes from the Entity Registry all references to the entities that were deleted in the current domain. For more information, see *Clean Up Entity Registry*, page 275.

Related Topics

- *Domain Administration Common Tasks*, page 75
- *Entity Registry Activities Overview*, page 273
- *TEF Common Tasks*, page 268

Register Entities

Important

- The *System Administrator* needs to enable the entity registry options as a prerequisite to this procedure.
- Prior to registering entities, make sure that no users are connected to the SmartPlant Instrumentation database. It is recommended that you clear all SmartPlant Instrumentation sessions before performing entity registration.

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **DBA > Data Maintenance > Register Entities**.

Note

- The System Administrator has rights to switch the entity registry on or off as required at any stage of the plant life-cycle. If the System Administrator switched the entity registry off after you registered the entities, and then switched it on again, you must re-register the entities. This is required so that the software can update the references to the entities in Entity Registry table. When updating the table, the software registers all the changes that were made to the entities in SmartPlant Instrumentation, including the period when the entity registry options were switched off.

Related Topics

- *Clear Locking in All Sessions*, page 266
- *Enable Entity Registry*, page 26
- *Entity Registry Activities Common Tasks*, page 274
- *Entity Registry Activities Overview*, page 273

Clean Up Entity Registry

1. Start the Administration module and log on as Domain Administrator.
2. With the **Domain Administration** window open, click **DBA > Data Maintenance > Entity Registry Clean-Up**.

Related Topics

- *Entity Registry Activities Common Tasks*, page 274
- *Entity Registry Activities Overview*, page 273

Integrating SmartPlant Instrumentation with The Engineering Framework

The following lists include rules that must be followed when using SmartPlant Instrumentation in The Engineering Framework (TEF) environment. Following these rules allows SmartPlant Instrumentation data to be shared correctly with SmartPlant P&ID and the other tools that are part of The Engineering Framework. Other tools that are not listed here have no known SmartPlant Instrumentation/TEF integration issues.

The software retrieves data to the current project in the lowest level plant hierarchy item that you logged on to in SmartPlant Instrumentation, for example a unit. So long as a project is active in TEF, you can publish and retrieve data and edit entities in SmartPlant Instrumentation, subject to the limitations indicated in the following section.

Working with SmartPlant P&ID

Editing Entities

- You may edit entities in the project in which you are publishing or retrieving data, however, you MUST NOT edit AsBuilt entities, except for publishing data.

Claiming and Merging Entities

- You may not claim entities to multiple projects.
- You may not perform a manual claim of any of the following entities that are shared between SmartPlant Instrumentation and SmartPlant P&ID: tag numbers, loops, lines, equipment, and control system tags. This requirement exists because SmartPlant P&ID performs the scoping and SmartPlant Instrumentation automatically claims scoped items when you retrieve data. You can manually claim any unshared entity such as panels, strips, terminal, cables, cable sets, wires, and so forth.
- In Smart Plant Instrumentation, the software automatically claims control systems tags for pre-assigned instruments to the project whenever the instruments are claimed. However, for unassigned instruments, you must claim the control system tags separately in order to assign them to these instruments in the project.
- You must merge all shared entities at the same time; you may not perform a partial merge of shared entities.

Publishing

- You are not allowed to publish data from AsBuilt. Doing so results in entities appearing more than once (for AsBuilt and for each project where the entity is claimed). Instead, you must open the specific project from which you want to publish the data.

Naming Convention Requirements when Publishing and Retrieving Entities

Instruments, Loops, Control System Tags and other objects in SmartPlant Instrumentation have a naming convention. The names of these objects are made of segments with predefined length and separators between the segments.

The mapping between the segments of the name and properties in TEF schema in version 6 is hard coded.

Instrument Retrieval

When you retrieve an instrument, the software populates the tag number segments from the retrieved instrument object properties according to the following mapping:

Segment	Property
1	InstrTagPrefix
2	MeasuredVariable+InstrFuncModifier
3	InstrTagSequenceNo
4	InstrTagSuffix

Segment 1 is populated with the InstrTagPrefix

Segment 2 is populated with the concatenation of MeasuredVariable and InstrFuncModifier

Segment 3 is populated with the InstrTagSequenceNo

Segment 4 is populated with the InstrTagSuffix

The segments are then trimmed and put together according to the naming convention to create the tag number.

If the naming convention in other tools (for example, SmartPlant P&ID for version 6) does not include a prefix, the first segment length needs to be set to 0.

Loop Retrieval

When you retrieve a loop, the software populates the loop name segments from the retrieved instrument object properties according to the following mapping:

Segment	Property
1	LoopPrefix
2	LoopIdentifier
3	
4	LoopSequenceNo
5	LoopSuff

Segment 1 is populated with the LoopPrefix

Segment 2 is populated with the LoopIdentifier

Segment 4 is populated with the LoopSequenceNo

Segment 5 is populated with the LoopSuff

Segment 3 is not populated and needs to be set to length 0

Instrument Publishing

When you publish an instrument, the software populates the published object properties by the naming convention segments as follows:

Property	Segment	Comment
InstrTagPrefix	1	
MeasuredVariable	2	Left side of segment 2
InstrFuncModifier	2	Right side of segment 2
InstrTagSequenceNo	3	
InstrTagSuffix	4	

The object name is populated by the tag number with all spaces removed. If the length of prefix is more then 0, the prefix will be part of the object name. Other applications that publish instruments (for example, SmartPlant P&ID) need to be configured to publish the instrument object name with the prefix.

The MeasuredVariable and InstrFuncModifier are both populated be the second segment. If the first two characters of segment 2 are included in the TwoLetterMeasuredVariable list that was defined in the SmartPlant Instrumentation mapping file, then the MeasuredVariable is getting these two letters; if not then the MeasuredVariable is getting the first character of segment 2. In both cases the InstrFuncModifier is getting the rest of the characters of segment 2. This allows correct publishing of instruments such as PDT or DPT.

TwoLetterMeasuredVariable
DP
PD
FQ
FF
TD
WD
ZD
FO

Loop Publishing

When you publish a loop, the software populates the published object properties by the naming convention segments as follows:

Property	**Segment**
LoopPrefix	1
LoopIdentifier	2+3
LoopSequenceNo	4
LoopSuff	5

The object name is populated by the loop name with all spaces removed. If the length of prefix is more then 0, the prefix will be part of the object name. Other applications that publish loops (for example, SmartPlant P&ID) need to be configured to publish the loop object name with the prefix.

For naming convention examples, see the appropriate *Naming Conventions* topics.

SmartPlant Instrumentation Interface Language

Overview

You can replace the SmartPlant Instrumentation interface language. The *System Administrator* must first add languages to the database. You can purchase each language as a separate add-in. See *Import Interface Languages*, page 71 to learn how the System Administrator adds an interface language. After adding a language to the database, you can replace your current language with the added one.

The following languages are currently available as add-ins:

- English (default)
- French
- German
- Custom

After the appropriate interface language is added, you can do the following:

- Replace the existing interface language with the imported language.
- Edit interface text phrases.
- Define new phrases to replace existing ones.

Related Topics

- *Import Interface Languages*, page 71
- *Working with the Interface Language Common Tasks*, page 282

Working with the Interface Language Common Tasks

The *Domain Administrator* or the *System Administrator* can perform the following tasks when working with the interface language of SmartPlant Instrumentation:

Replace the Interface Language with a Language from the Database

This procedure explains how to replace the current SmartPlant Instrumentation interface with a language from the database. For more information, see *Replace the Interface Language with a Language from the Database*, page 284.

Replace the Interface Language with a Language from an External File

Use this procedure to replace the interface language with a language from an external file. In this mode, all the terms and phrases are retrieved from a language file instead of being retrieved from the database, a change that improves the performance. For more information, see *Replace the Interface Language with a Language from an External File*, page 284.

Edit Interface Text Phrases

This procedure allows you to change the interface text by editing its phrases. At this stage, you change the phrases of the interface language, as described in the overview. Note that the interface text changes take effect only after exiting and re-entering the application. For more information, see *Edit Interface Text Phrases*, page 283.

Create New Customized Text Phrases

This option enables you to replace the phrases in the current interface text with your customized text. To create customized phrases you use a special interface language called **Custom**.

After switching to the custom language, all the phrases in this column replace the original phrases of the interface language without overwriting them. Empty fields in this column do not affect the original phrases. This way you can always revert to the original phrases of the interface language. For more information, see *Create New Customized Text Phrases*, page 285.

Related Topics

- *Import Interface Languages*, page 71
- *SmartPlant Instrumentation Interface Language Overview*, page 281

Edit Interface Text Phrases

Important

- The *System Administrator* must first add the required language to the database. You can purchase a language that you require as a separate add-in.
- If you edit the phrases of an interface language that you have previously imported, you will not be able to revert to the imported interface language.
- When editing, make sure that you fill all the fields in the appropriate column. If you have a field blank, the phrase from the previous interface language remains after you switch the currently displayed language to the language that you are editing now. This can result in your interface text containing phrases or terms in more than one language.

1. Start SmartPlant Instrumentation or the Administration module.
2. Click **Tools > Edit Translation Text**.
3. Do one of the following:
   - Click **Open** to navigate to the language file that contains the interface text.
   - Click **Retrieve** to retrieve the interface text from the database.
4. Edit the text by clicking the text in the appropriate field.

   Tips

   - You can modify the column sequence, for example, you can compare phrases more easily by moving two columns closer together. Drag a column header and drop it in the desired location. Then, click **Update** to save the changes to the database. If you want to save the changes to an external language file and not to the database, do not click **Update**.
   - To view the changes, replace the active language with the language that you have edited. For details, see *Replace the Interface Language with a Language from the Database*, page 284.
5. Click **Save File** to save the edited interface text to a language file (a file with a .psr extension).
6. Type the path and filename of the language file or navigate to an existing language file.
7. Click **OK** in the displayed message and restart SmartPlant Instrumentation or the Administration module for the changes to take effect.
8. Click **OK** to save the changes and return to the **Edit Translation Text** dialog box.
9. Click **Close**.

Replace the Interface Language with a Language from the Database

1. Start SmartPlant Instrumentation or the Administration module.
2. Click **Tools > Select Language**.
3. In the **Select Language** dialog box, do one of the following:
   - From the **Language** data window, select the language with which you want to replace the current interface language.
   - Click **Default** to revert the language to the default language (English).
4. Do one of the following:
   - Select the **Optimize speed** check box to speed up the translation process. This allows the software to load the interface text to your computer memory and retrieve it from there.
   - Clear the **Optimize Speed** check box to retrieve the interface text from the database. This frees the memory resources but decreases the performance.
5. Click **OK** to close the dialog box and change the interface language.

Related Topics

- *Working with the Interface Language Common Tasks*, page 282

Replace the Interface Language with a Language from an External File

Important

- Use this procedure only if you experience memory problems while working on your local computer.

1. Start SmartPlant Instrumentation or the Administration module.
2. Click **Tools > Select Language**.
3. Select **Optimize speed**.
4. Select **Use file** to retrieve the interface text from a previously saved file (saved in .PSR format), and then do one of the following:
   - In the data field, type the path and filename of the appropriate language file.
   - Click **Browse** to navigate to the language file.

5. To update your language file, do one of the following:
   - Select **Overwrite existing file** to update the contents of the external language file after running an update for the application. This action overwrites all existing data in the language file with the data retrieved from the database.
   - Clear **Overwrite existing file** to leave the language file contents unchanged.
6. Click **OK** to close the dialog box and change the interface language.

Related Topics
- *Working with the Interface Language Common Tasks*, page 282

Create New Customized Text Phrases

Important
- The *System Administrator* must first add the required language to the database.
- The interface text changes take effect only after exiting and re-entering the application.

1. Start SmartPlant Instrumentation or the Administration module.
2. Click **Tools > Edit Translation Text**.
3. Do one of the following:
   - Click **Open** to navigate to the language file that contains the interface text.
   - Click **Retrieve** to retrieve the interface text from the database.
4. In the **Custom Phrase** column, type phrases you want.

   Tips
   - The column header **Custom Phrase** changes to **German Phrase** if you imported the German language, and to **French Phrase** if you imported the French language.
   - In the **Custom Phrase** column, each phrase that you type replaces the corresponding phrase in the interface text. If you leave a field blank, the corresponding field in the interface text remains unchanged. Make sure that you add the same prefixes, suffixes and punctuation marks that appear in the corresponding original phrases of that interface language (for example, ~, &). For details, see Prefixes and Suffixes in the Interface Text.

5. To view the changes, switch to the appropriate language. For details, see Replace the Interface Language with a Language from the Database.

   Tip

   - After the changes are saved, you are prompted to restart SmartPlant Instrumentation for the changes to take effect.

6. Click **Save File** to save the edited interface text to a language file (a file with a .psr extension).
7. Type the path and filename of the language file or navigate to an existing language file.
8. Click **OK** in the displayed message and restart SmartPlant Instrumentation or the Administration module for the changes to take effect.
9. Click **OK** to save the changes and return to the **Edit Translation Text** dialog box.
10. Click **Close**.

Related Topics

- *Working with the Interface Language Common Tasks*, page 282

Prefixes and Suffixes in the Interface Text

The following table contains information about the prefixes and suffixes that you can use when customizing new interface text phrases.

Prefix/Suffix	Function	Syntax	Example
&	Specifies a menu item. Underlines the letter following the '&' symbol.	&[interface text]	&Action
&&	Displays the '&' symbol.	&&	Operators && Functions
~n	Starts a new line.	interface text]~n[interface text]	~nContinue?
~r	Starts a new paragraph (functions like the Enter key in Microsoft Word). It is usually used in conjunction with ~n.	interface text]~r[interface text]	Warning~n~r
~t	Adds a tab entry	interface text]~t[interface text]	&Action~tCtrl+A

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