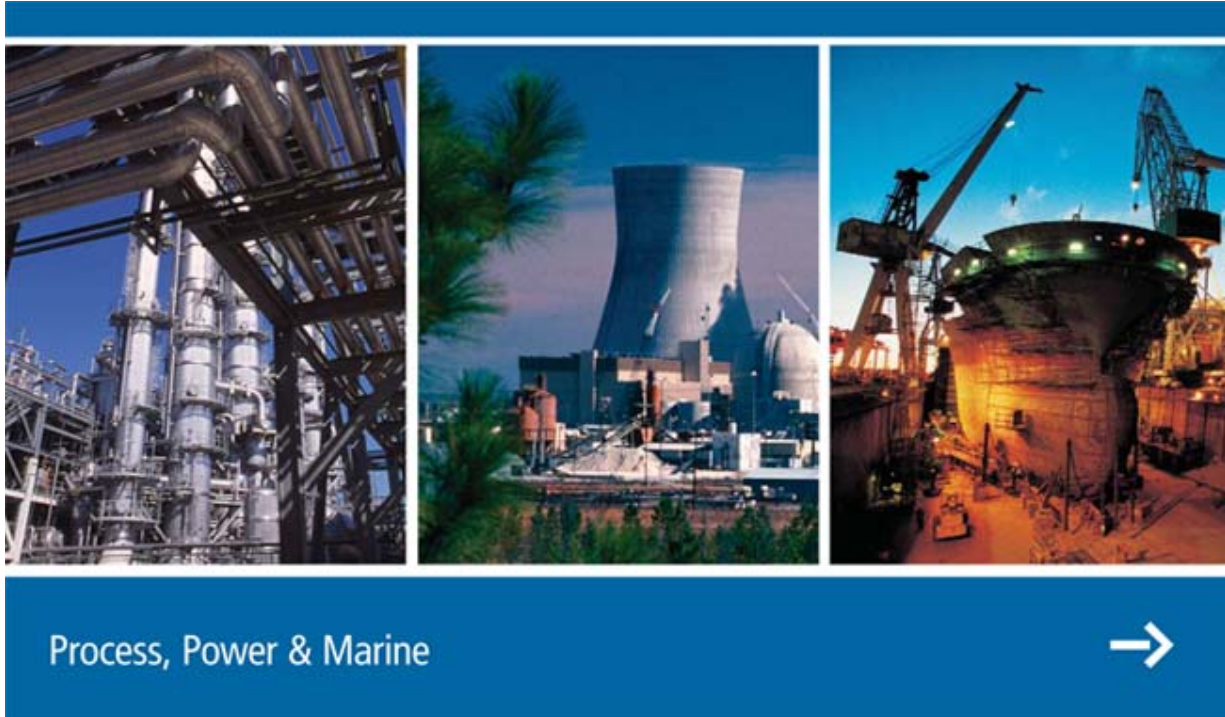


SmartPlant Foundation Configuration and Administration II

Activity Workbook



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Preface

This is the activity workbook containing all of the hands on activities for each of the chapters in the SmartPlant Foundation Configuration and Administration II training course. Use this guide along with the information in each chapter to complete each activity.

1. SmartPlant Foundation Overview and Architecture - Activity

There is no activity for Chapter 1.

2. SmartPlant Foundation Loader and Schema Import Wizard - Activities

This section contains all of the activities for Chapter 2 – SmartPlant Foundation Loader and Schema Import Wizard.

2.1 Activity 1 – Loading SPF Users, Organizations and Role Assignments

The objective of this activity is to have you load the same SPF *Users*, *Organizations* and create *Role Assignment* relationships that were created in the SmartPlant Foundation 4.2 Introduction and Administration I training class. This is an example of using the SPF Loader to load administrative objects.

1. Log in to the Desktop Client as user *superuser* and start the **Loader** from the **File** menu.
2. Use the **Directory** browse button to open the load files from **D:\SPF42_Training\loader\Worksheet** folder. Select the following files:
 - ☐ 01-Organizations.txt
 - ☐ All_904_Users.txt
 - ☐ All_905_RoleAssignment.txt
3. Re-order the files to load the users first, then the organizations, and finally create the role assignments. Enable the toggle to add the new objects to the Desktop Client *New Items* window. Process these load files to load users, organizations and create role assignment relationships in the SPF database.
4. Use the *Administration Find* commands to check and verify that the objects were loaded successfully.
5. Find the following files, and add them to the *Selected load files* list in the order indicated below:
 - ☐ ExcelRoles.xml (located in D:\SPF42_Training\OtherLoad)
 - ☐ 01 - Methods.xml (located in D:\SPF42_Training\OtherLoad)
 - ☐ 02 - Methods.xml (located in D:\SPF42_Training\OtherLoad)

☐ 03 - Methods.xml (located in D:\SPF42_Training\OtherLoad)

6. When you finish this activity, continue on to activity 2.

2.2 Activity 2 – Create Design Document Load File

The objective of this activity is to have you build a load file to create and load design document objects, attach a file to each object and store the attached files in an SPF vault. Use the examples in sections 2.3 and 2.3.2 in building your file.

1. Build a text file (using Notepad) which creates two entries for loading two new DesignDocument objects into the SPF database. The names and entries are your choice.
2. Use the information you have learned in this chapter. Required fields in the form are required in the loader file. Also make sure you include the following properties:
 - ..Description
 - ..SPFDataAccessGroup
 - ..SPFDocumentClass
 - ..SPFTitle
 - ..SPFRevisionScheme
 - ..SPFMajorRevision
 - ..SPFMinorRevision
 - ..SPFDocState
 - ..SPFRevState
 - ..SPFDocVersion|
3. Entries which have picklists must use the picklist entries only. You can't create your own entry for this field. Use **Find > Schema > Enumerated List Type** and **Show Entries** commands to review the values for the **Document category** Enumerated List Types (for example – *3D Documents > Civil > Civil Details*). Add values to your load file for the **SPFDocumentClass** property along with the **SPFPrimaryClassification_21** reldf in order to traverse the tree.
4. Include an upload instruction and the necessary statements to load and attach the following files to your two design documents:
 - ☐ piping.dgn
 - ☐ tank.dgn
5. After you create the load file, use the Loader to process your file then use the *Desktop Client* to verify your loaded data and attached files.
6. When you finish this activity, continue on to activity 3.

2.3 Activity 3 – Loading Schema Definitions with the Schema Import Wizard

In this activity, you will use the Schema Import Wizard to load a new class definition for a new pump definition as well as the required relationships.

1. Log in to the Desktop Client as user *superuser*.
2. Select the **Administration > Schema Import Wizard** command to import (load) the **EISchema.xml** model file. When the Wizard form displays, use the browse button to select the schema file to be processed from the *D:\SPF42_Training\ExcelSchema* folder.
 - ☐ Make sure the *Compare selected file(s) content with the database* option is enabled.
 - ☐ **Select All** objects to load (Comparison Results form).
 - ☐ Verify all *Items* were *Imported*.
 - ☐ Click **Finish** to conclude the import.
3. When you finish this activity, you may take a short break until everyone has finished.

3. SPF Infrastructure Objects – Activities

This section contains all of the activities for Chapter 3 – SPF Infrastructure Objects.

3.1 Activity 1 – Subscriptions and Notifications

The objective of this activity is to let you test the topics covered in this chapter.

Objectives:

In this activity you will create subscriptions for yourself and for others. You will create subscriptions for specific types of objects, as well as entire class defs. You will test creating log subscriptions, and you will create customer notifications and apply them to a subscription and an event so they can be sent to a user.

If you are not currently logged into your machine:

1. Log on to your operating system:

Administrator with a password of *spf2008*

2. Modify the **EIPump** class def to support subscriptions:

- ☐ Start the Schema Editor, and click the **File Configurations** button.
- ☐ From D:\Program Files\SmartPlant\Foundation\2008\Models\Core, open the 900-AllCore.cfg file.
- ☐ Use the existing **EISchema.xml** extension file as part of that configuration. Copy the EISchema file from D:\SPF42_Training\ExcelSchema to D:\Program Files\SmartPlant\Foundation\2008\Models\Core.
- ☐ Use the **Edit Configuration** command (under File Configurations) to set all files to **No** Editable except for *EISchema.xml*, which will be set to **Yes**. Make sure *EISchema* is the **Active Schema** and **View** this configuration with the **Editor** viewing option.
- ☐ From the Tree, find the **EIPump** class def.
- ☐ Right-click on **EIPump** and choose the **Edit** command.
- ☐ Modify the list of **Realized Interface Definitions** to include the **ISPFSubscribableItem** interface.
- ☐ Click **Ok** to close the forms.
- ☐ Edit the realizes relationship between the class def and the **ISPFSubscribableItem** interface.

- ☐ From the ***Must all instances of class definition realize interface definition?*** list box, choose the ***Yes*** option to make this relationship required.
 - ☐ Save the modified schema file (EISchema.xml), and close the Schema Editor.
3. Log into the SPF Desktop Client as ***superuser*** on the ***SPF42*** server.
4. Import the Schema changes:
- ☐ Click ***Administration > Schema Import Wizard***.
 - ☐ Browse to find the EISchema.xml file you just modified (in D:\Program Files\SmartPlant\Foundation\2008\Models\Core), and click ***Next***.
 - ☐ Choose ***Select All***, then unselect the ***RelDef DesignDocumentVersionToPump*** and click ***Next***.
 - ☐ Verify that the relationships were loaded to the database, and then click ***Finish***.
5. Verify that you see the new relationship:
- ☐ Use the ***Find > Schema > Class Definition*** command to find the ***EIPump*** class definition.
 - ☐ Use the ***Show Realized Interface Definitions*** command to verify that the realized relationship appears. Confirm that ***ISPFSubscribableItem*** appears in the list.
6. Create a custom notification definition:
- ☐ Click ***File > New > Administration > Notification Definition***.
 - ☐ Provide a name for the new notification definition.
 - ☐ Using the examples in section 2-3, modify the title to be used on the notification object and the text that will be used in the details.
 - ☐ Click ***Finish***.
7. Associate the customer notification def with an interface:
- ☐ Using the ***Find > Schema > Interface Definition*** command, find the ***IEI_Pump*** interface def.
 - ☐ Right-click on the ***IEI_Pump*** interface def, and click ***Manage Notifications***.
 - ☐ Find the ***EvUpdated*** event in the right-hand side of the screen and move it to the left side using the arrow button.

- ☐ From the **Notification** column, find your new Notification def from the list of available definitions. This will associate the new def with this event.
 - ☐ Click **OK** to close the **Manage Notifications** dialog box.
8. Find the **EIPump** class def.
 9. Right-click and use the **Subscription > Manage Notification Subscriptions** command.
 10. Add the **EvUpdated** event to the list (notice the user that will be receiving the notification!) for user *Eddie*. Click **OK** to save your changes and close the dialog box.
 11. When you finish this activity, you may take a short break until everyone has finished.

3.2 Activity 2 – SPF Scheduler and Calendars

If you are not currently logged into your machine:

1. Log on to your operating system:
Administrator with a password of *spf2008*
2. Log into the SPF Desktop Client as *superuser* on the *SPF42* server.
3. Using the *Find > Administration > Schedulers* command, display all the existing scheduler tasks.
4. Choose one of the tasks in the list, and stop it using the shortcut menu.
5. Restart that task.
6. Find a list of scheduled tasks using the *Query for Scheduled Tasks* button.
7. Search for all published documents using the *Documents in Queue* button.
8. Create a new, custom calendar using the *File > New > Administration > Calendar* command.
9. Find your new custom calendar, and use the *Update* command to open the **Maintain Calendar** dialog box.
10. Add the year 2009.
11. Make all Saturdays and Sundays non-working days.
12. Make the following dates non-working dates, as well:
 - ☐ January 1st

- ☐ May 25th
- ☐ July 3rd
- ☐ September 7th

14. When you finish this activity, you may take a short break until everyone has finished.

4. Creating SmartPlant Foundation Forms – Activities

This section contains all of the activities for Chapter 4 – Creating SmartPlant Foundation Forms.

4.1 Activity 1 – Creating Forms

The objective of this activity is to give you practical experience in configuring the Forms in SmartPlant®Foundation.

Objectives:

In this activity you will define the forms needed to interactively create and manipulate new pump objects.

If you are not currently logged into your machine:

1. Log on to your operating system:
Administrator with a password of *spf2008*
3. Use the *Start > All Programs > Intergraph SmartPlant Foundation > SmartPlant Foundation Desktop Client* menu hierarchy to start the SmartPlant Foundation Desktop Client.
4. When the *Logon Information* dialog window appears, use the *User name* **superuser** with no password, and click on **OK** (or press the Enter key).
5. Use the *Find > Schema > Class Definition* menu command to locate the EIPump**EIPump** class definition.
6. Select the *Generate Form* command from the right mouse menu and create a new form for the pump class. When prompted to edit the form with *Form Builder*, click **Yes**.
7. From the *NameDesc_C-Section* form section, use the *Copy* right mouse button command. Enter the following information to create a new form section:

☐ Name - *PNameDesc_C-Section*

- | | |
|--|--------------------------|
| <input type="checkbox"/> Description - | <i>Pump details</i> |
| <input type="checkbox"/> Display as - | <i>Pump details</i> |
| <input type="checkbox"/> Is section visible - | <i>toggle enabled</i> |
| <input type="checkbox"/> Form purposes - | <i>Copy</i> |
| | <i>Create</i> |
| | <i>Get info</i> |
| | <i>Query</i> |
| | <i>Update</i> |
| <input type="checkbox"/> Property-level access control - | <i>Read//write</i> |
| <input type="checkbox"/> Collapse behavior - | <i>InitiallyExpanded</i> |

Click **Finish** to create the new form section.

7. From the *EIPump-Form* form, use the **Manage Sections** right mouse button command. Use the *Find* button over the library pane to find the **PNameDesc_C-Section** form section. Relate the **PNameDesc_C-Section** form section to the *EIPump-Form* form.
8. Move the **PNameDesc_C-Section** item to just above the existing *NameDesc_C-Section* form section.
9. Select the existing *NameDesc_C-Section*, *NameDesc_Q-Section*, *NameDesc_UI-Sections* form section and remove them from the form (delete relationship). Click **OK** to finish the *Manage Sections* relationships.
10. From the *Name-DisplayItem* display item, use the **Copy** right mouse button command. Enter the following information to create a new display item:

<input type="checkbox"/> Name -	<i>PName-DisplayItem</i>
<input type="checkbox"/> Display as -	<i>Pump</i>

Click **Finish** to create the new display item.
11. From the *PNameDesc_C-Section* form section, use the **Manage Display Items** right mouse button command. Use the *Find* button over the Library pane to find the **PName-DisplayItem** display item. Relate the **PName-DisplayItem** display item to the *PNameDesc_C-Section* form section.

12. Move the **PName-DisplayItem** to just above the existing *Name-DisplayItem* display item. Change the *DisplayAs* value for the display item to reflect the name as **Pump**. Set the *Top* and *Left* values to **0** and the *Madatory* value to **True**.
13. Select the existing *Name-DisplayItem* display item and remove it from the *PNameDesc_C-Section* form section (delete relationship). Click **OK** to finish the *Manage Display Items* relationships.
14. Use the **Update** command to remove EI from the *Display as* fields for the following Display Items:
 - ☐ EI_PumpType
 - ☐ EI_TagPrefix
 - ☐ EI_TagSequenceNo
 - ☐ EI_TagSuffix
 - ☐ EI_MaxPres
 - ☐ EI_MaxTemp
 - ☐ EI_Status
15. Use the **View Form** right mouse button command to view the copied/changed form.
16. When you finish this activity, you may take a short break until everyone has finished.

4.2 Activity 2 – Manually Creating Forms

The objective of this activity is to give you practical experience in manually configuring Forms in SmartPlant®Foundation.

Objectives:

In this activity you will manually create forms and experiment with the copy forms function.

If you are not currently logged into your machine:

1. Log on to your operating system:
Administrator with a password of *spf2008*
2. Use the *Start > All Programs > Intergraph SmartPlant Foundation > SmartPlant Foundation Desktop Client* menu hierarchy to start the SmartPlant Foundation Desktop Client.
3. When the *Logon Information* dialog window appears, use the *User name* **superuser** with no password, and click on **OK** (or press the Enter key).
4. Use the *File> New > Administration > Form* menu command to create a new Pump form.
5. Create at least one new section for the form. Enter the following information to create a new form section. Enter your choice of information for the rest of the values. Make this section be used for the following purposes.

<input type="checkbox"/> Form purposes -	<i>Copy</i>
	<i>Create</i>
	<i>Get info</i>
	<i>Query</i>
	<i>Update</i>
6. Relate the new form section to the new form.

7. Create at least two new display items for the form. Enter your choice of information for the rest of the values.
 - ☐ A name display item
 - ☐ A description display item
8. Relate the new display items to the new form section. Change the *DisplayAs* value for the display items.
9. Use the **View Form** command to review the new form.

This new form will not be used on the pump class since it only contains a minimum number of display items. You will need this form in other lab exercises.

10. When you finish this activity, you may take a short break until everyone has finished.

5. Configuring Methods, Menus and Toolbars – Activities

This section contains all of the activities for Chapter 5 – Configuring Methods, Menus and Toolbars.

5.1 Activity 1 – Configuring New Methods

The objective of this activity is to give you practical experience in configuring the Graphical User Interface (GUI) in SmartPlant®Foundation.

Objectives:

In this activity you will be using the import wizard and the loader to update the SPF database with a new class, interfaces and properties. You will also be loading some new methods to be configured. You will experiment with the system administration user preferences in order to view the internal names for GUI objects. Finally, you will create the necessary methods interactively to manipulate the new class that you loaded. Then you will add the new class to a domain.

If you are not currently logged into your machine:

1. Log on to your operating system:
Administrator with a password of *spf2008*
2. Use the *Start > All Programs > Intergraph SmartPlant Foundation > SmartPlant Foundation Desktop Client* menu hierarchy to start the SmartPlant Foundation Desktop Client.
3. When the *Logon Information* dialog window appears, use the *User name* **superuser** with no password, and click on **OK** (or press the Enter key).
4. Use the *User Preferences* command to turn on the following System Administration User Preferences:
 - ☐ Display internal object names
 - ☐ Display internalnames for user interface
5. Log out of the Desktop Client and log back in as superuser to test the preferences.

- ☐ View the **Menu** commands
 - ☐ View the names on a form
 - ☐ Turn off the System Administration User Preferences and set them back as they were.
 - ☐ Log out of the Desktop Client and log back in as superuser
6. Use the **Find > Schema > Class Definition** menu command to locate the *EIPump* class definition that was loaded.
7. Select the **Expand ClasDef** command from the EIPump class to view it's loaded interfaces.
8. Create a method to use with your new class. From the menu, select the **File > New > Administration > Method** command. In the *New method* form, enter the following:
- ☐ Name - *EIPumpCreate*
 - ☐ Description - *New Pump...*
 - ☐ Display as - *Pump*
 - ☐ Client API - *CreateObj*
 - ☐ ClassDef of object to be created - *EIPump*
 - ☐ Available in Desktop client - *toggle enabled*

Click **Apply** to create the new method.

Create the next method.

- ☐ Name - *EIPumpUpdate*
- ☐ Description - *Update Pump*
- ☐ Display as - *Update...*
- ☐ Client API - *EditObj*
- ☐ Available in Desktop client - *toggle enabled*

Click **Apply** to create the new method.

Create the next method.

- ☐ Name - *PumpQFind*
- ☐ Description - *Pumps...*
- ☐ Display as - *Pumps...*

<input type="checkbox"/> Client API -	<i>QFindObject</i>
<input type="checkbox"/> Interface name for query by -	<i>IEI_PumpOcc</i>
<input type="checkbox"/> Title -	<i>Pumps</i>
<input type="checkbox"/> Available in Desktop client -	<i>toggle enabled</i>
<input type="checkbox"/> Available in Web portal -	<i>toggle enabled</i>

Click **Apply** to create the new method.

Create the last method.

<input type="checkbox"/> Name -	<i>PumpDelete</i>
<input type="checkbox"/> Description -	<i>Delete</i>
<input type="checkbox"/> Display as -	<i>Delete Pump</i>
<input type="checkbox"/> Client API -	<i>DeleteObj</i>
<input type="checkbox"/> Available in Desktop client -	<i>toggle enabled</i>
<input type="checkbox"/> Available in Web portal -	<i><blank></i>

Click **Finish** to create the last new method.

9. Select the ***Find > Schema > Interface Definition*** menu command to locate the ***IEI_Pump**** interface definitions that were loaded.
10. Select the ***Manage Methods*** command from the right mouse menu and relate the ***EIPumpUpdate*** method to the ***IEI_PumpOcc*** interface.
11. From the ***EIPumpCreate*** method, use the right mouse button menu to select the ***Manage Access Groups*** command. Relate the ***DocumentUpdate Access Group*** to this method.
12. Repeat the steps to relate the ***DocumentUpdate Access Group*** to the ***EIPumpUpdate*** method.
13. Relate the ***DocumentView Access Group*** to the ***PumpQFind*** method. Remember to perform a search for methods if needed.
14. Relate the ***DocumentUpdate Access Group*** to the ***PumpDelete*** method. Remember to perform a search for methods if needed.

15. Relate the **ExcelAccessGroup** *Access Group* to the **ExcelImportPumpList** method. Remember to perform a search for methods if needed.
16. Relate the **ExcelAccessGroup** *Access Group* to the **ExcelImportPumpWithCompare** method. Remember to perform a search for methods if needed.
17. Relate the **ExcelAccessGroup** *Access Group* to the **ExcelImportPumpNoDocNoCompare** method. Remember to perform a search for methods if needed.
18. Use the **Find > Schema > Class Definition** menu command to locate the *EIPump* class definition. Hold the control key down to drag and drop the *EIPump* class def into the *New Items* window. Select the **Show Component Schema** right mouse button command.
19. Select the **Find > Administration > Domain** menu command to locate the *SPFAuthoring* domain. Use drag and drop to relate the *SPFExcelImportComponent* component schema to the *SPFAUTHORING* domain (component schema onto the domain). Verify that the relationship was created by using the **Show Component Schemas Domain** command.
20. When you finish this activity, you may take a short break until everyone has finished.

5.2 Activity 2 – Creating Menus and Menu Items

The objective of this activity is to give you practical experience in configuring the Graphical User Interface (GUI) in SmartPlant®Foundation.

Objectives:

In this activity you will define the menu structure needed to interactively create and manipulate new pump objects.

If you are not currently logged into your machine:

1. Log on to your operating system:
Administrator with a password of *spf2008*
2. Use the *Start > All Programs > Intergraph SmartPlant Foundation > SmartPlant Foundation Desktop Client* menu hierarchy to start the SmartPlant Foundation Desktop Client.
3. When the *Logon Information* dialog window appears, use the *User name* **superuser** with no password, and click on **OK** (or press the Enter key).
4. Select the *File > New > Administration > Menu* command to create a new menu node. In the *New Menu* form, enter the following:
 - ☐ Name - *ExcelImportWizard*
 - ☐ Description - *ExcelImportWizard*
 - ☐ Display as - *Excel Import Wizard*
 - ☐ Menu sequence - *1*

Click **Apply** to create the new menu.

Create the next menu.

- ☐ Name - *FindEquipment*
- ☐ Description - *Find Equipment*
- ☐ Display as - *Equipment*
- ☐ Menu sequence - *1*

Click **Finish** to create the new menu.

5. Use the **Manage Menu Items** right mouse button command from the **ExcelImportWizard** menu node to define new menu items. On the *Manage Menu Items* dialog, click the *Create* button.

6. Create three new **Menu Items** for the *ExcelImportWizard* menu. From the *New SPFMenuItem* form, enter the following:

- ☐ Name - *ExcelImportPumpList*
- ☐ Description - *Imports a pump list...*
- ☐ Display as - *Pump list...*
- ☐ Menu - *ExcelImportWizard*
- ☐ Method - *ExcelImportPumpList*

Click **Finish** to create the new menu item.

Click the *Create* button to create the next menu item:

- ☐ Name - *ExcelImportPumpListWithCompare*
- ☐ Description - *Imports a pump list with compare...*
- ☐ Display as - *Pump list with compare...*
- ☐ Menu - *ExcelImportWizard*
- ☐ Method - *ExcelImportPumpListWithCompare*

Click **Finish** to create the new menu item.

Click the *Create* button to create the next menu item:

- ☐ Name - *ExcelImportPumpListNoDocNoCompare*
- ☐ Description - *Imports a pump list data only with no compare...*
- ☐ Display as - *Pump list – No Doc – No Compare...*
- ☐ Menu - *ExcelImportWizard*
- ☐ Method - *ExcelImportPumpListNoDocNoCompare*

Click **Finish** to create the new menu item.

Click **OK** to finish the *Manage Menu Items*.

7. Select the **Find > Administration > Menu** command to locate the *New* menu node. From the *New* menu node, use the **Manage Menu Items** right mouse button command. Click the *Create* button to create a new menu item:

- ☐ Name - *EIPumpCreate*

- ☐ Description - *Pump...*
- ☐ Display as - *Pump...*
- ☐ Menu - *New*
- ☐ Method - *EIPumpCreate*

Click **Finish** to create the new menu item.

8. Move the **EIPumpCreate** item to the top of the menu. Click **OK** to finish the *Manage Menu Items* relationships.
9. Select the **Find > Administration > Menu** command to locate the *File* menu node. From the *File* menu node, use the **Manage Sub Menus** right mouse button command. Relate the **ExcellImportWizard** sub menu to the *File* menu command.
10. Select the **Find > Administration > Menu** command to locate the *FindMenu* menu node. From the *FindMenu* menu node, use the **Manage Sub Menus** right mouse button command. Relate the **FindEquipment** sub menu to the *FindMenu* menu command.
11. Move the **FindEquipment** item to the top of the menu. Click **OK** to finish the *Manage Sub Menus* relationships.
12. From the *FindEquipment* menu node, use the **Manage Menu Items** right mouse button command. Click the *Create* button to create a new menu item:
 - ☐ Name - *PumpsQFind*
 - ☐ Description - *Pumps...*
 - ☐ Display as - *Pumps...*
 - ☐ Menu - *FindEquipment*
 - ☐ Method - *PumpQFind*

Click **Finish** to create the new menu item.

Click **OK** to finish the *Manage Menu Items* relationships.
13. Select the **File > New > Administration > Toolbar** command to create a new toolbar item. In the *New Toolbar* form, enter the following:

- ☐ Name - *FindPumps*
- ☐ Description - *Pumps...*
- ☐ Display as - *Pumps...*
- ☐ Sequence - *55*
- ☐ Icon - *FindPumps*
- ☐ ToolTip text - *Quick search for pumps*
- ☐ Method - *PumpQFind*

Click **Finish** to create the new toolbar item.

14. Specify a new custom icon to use with your toolbar or you can copy and rename an existing icon from the SPF product directory.

Location to copy custom icons from: D:\SPF42 Training\icons

Remember, **gif's** get copied to the *\SmartPlant Foundation 2008 Server Files\Web_Sites\<your site>\Icons* folder.

15. Select the **File > New > Administration > Quick Find Item** command to create a new Quick Find Item. In the *New Quick Find Item* form, enter the following:

- ☐ Name - *PumpQuickFind*
- ☐ Description - *Quick find for Pumps*
- ☐ Display as - *Pumps...*
- ☐ Method - *PumpQFind*
- ☐ Sequence - *5*

Click **Finish** to create the new quick find item.

16. Log in as user eddie and test your new menus to see that the commands appear. Verify that the new toolbar item is visible and that the *Pumps...* options displays in the *Quick Find* toolbar.

17. Use the new menu command, **File > New > Pump**, to create a new pump instance. Enter the following values for the pump:

- ☐ Name - *P-200*
- ☐ Description - *New pump*

- ☐ Type - *Vertical*
- ☐ Tag Prefix - *P*
- ☐ Tag Sequence No - *200*
- ☐ Maximum Pressure - *150 psi*
- ☐ Maximum Temp - *55 C*
- ☐ Status - *Held*

Click **Finish** to create the new pump.

18. Test the ***Find*** command and the find ***Toolbar*** to display the new pump object. Notice the properties displayed in the list view window.
19. When you finish this activity, you may take a short break until everyone has finished.

5.3 Activity 3 – Creating Column Sets

The objective of this activity is to give you practical experience in configuring the Graphical User Interface (GUI) in SmartPlant®Foundation.

Objectives:

In this activity you will define column sets to configure list view windows.

If you are not currently logged into your machine:

1. Log on to your operating system:
Administrator with a password of *spf2008*
2. Use the *Start > All Programs > Intergraph SmartPlant Foundation > SmartPlant Foundation Desktop Client* menu hierarchy to start the SmartPlant Foundation Desktop Client.
3. When the *Logon Information* dialog window appears, use the *User name* **superuser** with no password, and click on **OK** (or press the Enter key).

4. Select the *File > New > Administration > Column Set* command to create a new column set. In the *New Column Set* form, enter the following:

- ☐ Name - *EI_PumpCS*
- ☐ Description - *Column set for the IEI_Pump interfaces*

Click **Finish** to create the new column set.

5. From the *EI_PumpCS* column set, use the *Manage Column Items* right mouse button command. Relate the *Name* property to the *EI_PumpCS* column set. Change the *DisplayAs* value for the column item to reflect the name as **Pump**.
6. Relate the *Description* property to the *EI_PumpCS* column set
7. Use the *Create* button over the Library pane to create a new column item. Enter the following information to create a new display item:

- ☐ Name - *EI_PumpTypeCI*

- ☐ Display as - ***EI_Pump Type Column Item***
- ☐ Property definition UID - ***EI_PumpType***

Click **Finish** to create the new display item.

8. Relate the ***EI_PumpTypeCI*** column item to the *EI_PumpCS* column set. Change the *DisplayAs* value for the column item to reflect the name as **Type**.

9. Use the *Create* button over the Library pane to create a new column item. Enter the following information to create a new display item:

- ☐ Name - ***EI_MaxPressCI***
- ☐ Display as - ***EI_MaxPress Column Item***
- ☐ Property definition UID - ***EI_MaxPress***

Click **Finish** to create the new display item.

10. Relate the ***EI_MaxPressCI*** column item to the *EI_PumpCS* column set. Change the *DisplayAs* value for the column item to reflect the name as **Max Pressure**.

11. Use the *Create* button over the Library pane to create a new column item. Enter the following information to create a new display item:

- ☐ Name - ***EI_MaxTempCI***
- ☐ Display as - ***EI_MaxTemp Column Item***
- ☐ Property definition UID - ***EI_MaxTemp***

Click **Finish** to create the new display item.

12. Relate the ***EI_MaxTempCI*** column item to the *EI_PumpCS* column set. Change the *DisplayAs* value for the column item to reflect the name as **Max Temp**.

13. Use the *Create* button over the Library pane to create a new column item. Enter the following information to create a new display item:

- ☐ Name - ***EI_HoldStatusCI***
- ☐ Display as - ***EI_HoldStatus Column Item***
- ☐ Property definition UID - ***EI_HoldStatus***

Click **Finish** to create the new display item.

14. Relate the ***EI_HoldStatusCI*** column item to the ***EI_PumpCS*** column set. Change the *DisplayAs* value for the column item to reflect the name as **Hold Status**. Click **OK** to close the *Manage Column Items* form.
15. Select the ***Find > Schema > Interface Definition*** menu command to locate the *IEI_Pump**.
16. Drag and drop the ***EI_PumpCS*** column set onto the *IEI_Pump* interface to create a new relationship.
17. Use the ***File > New > Pump*** new menu command to create a new pump instance. Enter the following values for the pump:

<input type="checkbox"/> Name -	<i>P-201</i>
<input type="checkbox"/> Description -	<i>New pump</i>
<input type="checkbox"/> Type -	<i>Vertical</i>
<input type="checkbox"/> Tag Prefix -	<i>P</i>
<input type="checkbox"/> Tag Sequence No -	<i>201</i>
<input type="checkbox"/> Maximum Pressure -	<i>145 psi</i>
<input type="checkbox"/> Maximum Temp -	<i>60 C</i>
<input type="checkbox"/> Status -	<i>Held</i>
- Click **Finish** to create the new pump.
18. Use the ***Find > Equipment*** command to display the new pump object. Notice the properties displayed in the list view window using the new column set.
19. When you finish this activity, you may take a short break until everyone has finished.

6. Introduction to Classified Objects – Activity

This section contains all of the activities for Chapter 6 – Introduction to Classified Objects.

6.1 Activity – Creating Classified Objects

The objective of this activity is to give you some experience configuring Classified Objects and a Classified Object Tree.

Objectives:

In this activity, you will load a new class definition for the Engineering Document as well as the required relationships. You will also be creating a new drill down tree to support the new types of Engineering Documents that can be created. You will then create the necessary methods, menus, and forms to support this classified object. To make it easier to distinguish between homogeneous classifications and heterogeneous classifications, you will configure the new form to use the Engineering Numbering System to supply the document name.

If you are not currently logged into your machine:

1. Log on to your operating system:
Administrator with a password of *spf2008*
2. Use the *Start > All Programs > Intergraph SmartPlant Foundation > SmartPlant Foundation Desktop Client* menu hierarchy to start the SmartPlant Foundation Desktop Client.
3. When the *Logon Information* dialog window appears, use the *User name* **superuser** with no password, and click on **OK** (or press the Enter key).
4. Select the *Administration > Schema Import Wizard* command to import (load) the **01-SCHEMA-EngDocs.xml** model file. When the Wizard form displays, use the browse button to select the file from the *D:\SPF42_Training\Classified* folder.
 - ☐ Make sure the *Compare selected file(s) content with the database* option is enabled.
 - ☐ Select all objects to load (Comparison Results form).
 - ☐ Verify all *Items* were *Imported*.

- ☐ Click **Finish** to conclude the import.

- 5. Open the SmartPlant Foundation Loader (click **File > Loader**) in the Desktop Client. Use the Loader to load the **02-SCHEMA-EngDocType.xml** file and the **03-DATA-EngDocTypes.xml** file. Find the files, and add them to the *Selected load files list* in the order indicated below:
 - ☐ **02-SCHEMA-EngDocType.xml** (located in *D:\SPF42_Training\Classified*)
 - ☐ **03-DATA-EngDocTypes.xml** (*D:\SPF42_Training\Classified*)

- 6. Select the **Find > Administration > Form** command to locate the *DesignDocument* existing form. (Hint: search for * DesignDocument*)

- 7. From the *DesignDocument-Form* form, use the **Copy** right mouse button command. Enter the following information to create a new form:
 - ☐ **Name** - EngineeringDocument-Form
 - ☐ **Description** - Engineering Document Form
 Click **Finish** to create the new form section.

- 8. Use **Form Builder** to edit the form sections and display items. Expand the form to show the related form sections.

- 9. From the *DocNameDesc_C-Section* form section, use the **Copy** right mouse button command. Enter the following information to create a new form section:
 - ☐ **Name** - *EDocNameDesc_CUIQ-Section*
 - ☐ **Description** - *Engineering Doc Details*
 - ☐ **Display as** - *Engineering Doc Details*
 - ☐ **Form purposes** - *Copy*
Create
Get info
Query
Update
 - ☐ **Property-level access control** - *Read//write*
 - ☐ **Collapse behavior** - *InitiallyExpanded*

Click **Finish** to create the new form section.

10. From the *Name-DisplayItem* display item, use the **Copy** right mouse button command. Enter the following information to create a new display item:

- | | |
|--|---|
| <input type="checkbox"/> Name - | <i>EngName-DisplayItem</i> |
| <input type="checkbox"/> Description - | <i>Name for the Engineering Doc</i> |
| <input type="checkbox"/> Display as - | <i>Engineering Item</i> |
| <input type="checkbox"/> Help text - | <i>This field will be configured by the ENS.</i> |

Click **Finish** to create the new display item.

11. From the *EngineeringDocument-Form*, use the **Manage Sections** right mouse button command. Use the *Find* button over the Library pane to find the *EDocNameDesc_CUIQ-Section* form section. Relate the *EDocNameDesc_CUIQ-Section* form section to the *EngineeringDocument-Form* form.

12. Move the **EDocNameDesc_CUIQ-Section** item to just above the existing *DocNameDesc_C-Section* form section.

13. Select the existing *DocNameDesc_C-Section* form section and remove it from the form (delete relationship). Also select the existing *DocNameDesc_Q-Section* and, *DocNameDesc_UI-Section* form sections and remove them from the form (delete relationship). Click **OK** to finish the **Manage Sections** relationships.

14. From the *EDocNameDesc_CUIQ-Section* form section, use the **Manage Display Items** right mouse button command. Use the *Find* button over the Library pane to find the ***EngName-DisplayItem*** display item. Relate the **EngName-DisplayItem** display item to the *EDocNameDesc_CUIQ-Section* form section.

15. Move the **EngName-DisplayItem** to just above the existing *Name-DisplayItem* display item. Change the *DisplayAs* value for the display item to reflect the name as **Engineering Item**.

16. Select the existing *Name-DisplayItem* display item and remove it from the *EDocNameDesc_C-Section* form section (delete relationship). Set the *Top* and *Left* values to **0** and the *Mandatory* value to **True**. Click **OK** to finish the **Manage Display Items** relationships.

17. Use the **Find > Schema > Class Definition** menu command to locate the *EngineeringDocVersion* class definition. Relate (drag and drop) the *EngineeringDocument-Form* onto the *EngineeringDocVersion* ClassDef. Select **OK** on the *New Relationship* dialog.

18. READ THIS STEP CAREFULLY before you start it. Remove the *EngineeringDocVersion > FRM_DesignDocument-Form* relationship from this load file before running it **IF** you have already created this relationship manually in step 17. Open the SmartPlant Foundation Loader (click **File > Loader**) in the Desktop Client. Use the Loader to load the **04-SCHEMA-FormRelClassDefRel.xml** file.
 - ☐ **04-SCHEMA-FormRelClassDefRel.xml** (located in *D:\SPF42_Training\Classified*)

19. Create a method to use with your new class. From the menu, select the **File > New > Administration > Method** command. In the *New* method form, enter the following:
 - ☐ Name - **CreateEngineeringDocument**
 - ☐ Description - **New Engineering Document...**
 - ☐ Display as - **Engineering Document**
 - ☐ Client API - **CreateClassObj**
 - ☐ RelDef to navigate to the ClassDef - **EngineeringDocClassClassDef**
 - ☐ Allow classification tree drilldown - **enabled**
 - ☐ UID of classification - **EDC_Engineering_Document_Types_1**
 - ☐ Available in Desktop client - **toggle enabled**

Click **Apply** to create the new method.

Create the next method.

- ☐ Name - **CreateEngineeringDocFromClass**
- ☐ Description - **New Engineering Document...**
- ☐ Display as - **Engineering Document**
- ☐ Client API - **CreateClassObjFromClass**
- ☐ RelDef to navigate to the ClassDef - **EngineeringDocClassClassDef**
- ☐ Allow classification tree drilldown - **enabled**
- ☐ Condition - **IsObjClassificationNode**
- ☐ Available in Desktop client - **toggle enabled**

Click **Apply** to create the new method.

Create the next method.

- ☐ Name - *EngTypeDrillDown*
- ☐ Description - *Eng Classification DrillDown*
- ☐ Display as - *Engineering Classification DrillDown*
- ☐ Client API - *LoadObject*
- ☐ Interface name to search - *IEngineeringDocClass*
- ☐ Object name or UID - *EDC_Engineering_Document_Types_I*
- ☐ Available in Desktop client - *toggle enabled*

Click **Finish** to create the last new method.

20. Select the **Find > Administration > Menu** command to locate the *New* menu node. From the *New* menu node, use the **Manage Menu Items** right mouse button command. Click the *Create* button to create a new menu item:

- ☐ Name - *CreateEngineeringDocument*
- ☐ Description - *Engineering Document...*
- ☐ Display as - *Engineering Document...*
- ☐ Separator required - *toggle enabled*
- ☐ Menu - *New*
- ☐ Method - *CreateEngineeringDocument*

Click **Finish** to create the new menu item.

21. Move the *CreateEngineeringDocument* item towards the top of the menu. Click **OK** to finish the *Manage Menu Items* relationships.
22. Create a new drill down tree to use with your new class. From the menu, select the **File > New > Administration > Drill Down Tree Item** command. In the *New Drill Down Tree Item* form, enter the following:

- ☐ Name - *EngTypeDrillDown*
- ☐ Description - *Eng Classification DrillDown*
- ☐ Menu sequence - *3*
- ☐ Method - *EngTypeDrillDown*

Click **Finish** to create the new drill down tree.

23. From the **EngTypeDrillDown** method, use the right mouse button menu to select the **Manage Access Groups** command. Relate the **DocumentView Access Group** to this method.
24. From the **CreateEngineeringDocument** method, use the right mouse button menu to select the **Manage Access Groups** command. Relate the **DocumentUpdate Access Group** to this method. From the **CreateEngineeringDocumentFromClass** method, use the right mouse button menu to select the **Manage Access Groups** command. Relate the **DocumentUpdate Access Group** to this method.
25. Select the **Find > Schema > Interface Definition** menu command to locate the **IEngineeringDoc*** interface definition.
26. Select the **Manage Methods** command from the right mouse menu and relate the **CreateEngineeringDocFromClass** method to the **IEngineeringDocClass** interface.
27. From the menu, select the **File > New > Administration > ENS Definition** command. In the **New ENS Definition** form, enter the following:
 - ☐ Name - **ENG-XXXXX**
 - ☐ Description - **Enable ENS for Engineering Doc Name**
 - ☐ Property set by ENS - **Name**

Click **Finish** to create the new New ENS Definition.

When the **Manage Engineering Numbering System** form displays, select **OK** (without doing anything).

28. From the **ENG-XXXXX ENS** Definition, use the right mouse button menu to select the **New ENS Item** command. In the **New ENS Item** form, enter the following:
 - ☐ Name - **EngPrefix**
 - ☐ Description - **Engineering Prefix**
 - ☐ ENS Type - **Constant**
 - ☐ ENS delimiter after - **-**
 - ☐ ENS constant - **ENG**

Click **Apply** to create the new ENS Item.

29. In the *New ENS Item* form, enter the following to create the next entry:

- | | |
|--|--|
| <input type="checkbox"/> Name - | <i>DigitSequence-5</i> |
| <input type="checkbox"/> Description - | <i>Sequence for Engineering document</i> |
| <input type="checkbox"/> ENS Type - | <i>Function</i> |
| <input type="checkbox"/> ENS function - | <i>Sequence</i> |
| <input type="checkbox"/> ENS pad character - | <i>0</i> |
| <input type="checkbox"/> ENS sequence start number - | <i>1</i> |
| <input type="checkbox"/> ENS field length - | <i>5</i> |

Click **Finish** to create the new ENS Item.

30. Use the *Find > Schema > Class Definition* menu command to locate the *EngineeringDocVersion* class definition.

31. Use drag and drop to relate the *ENG-XXXXX ENS Definition* to the *EngineeringDocVersion* class definition.

32. Log in to the Desktop Client as user **eddie**. Expand the *Engineering Document Types* tree and select the **Chemistry** entry. Create a new *Engineering Document*. The property values can be of your choice but select a *Start at number* value of **1**. (You can use the example in this chapter as a guide.)

33. Drill down in the tree using the *Show* right mouse menu commands to display the document version that was just created.

34. Log in to the Desktop Client as user **superuser**. Use the Loader to load the **10-SCHEMA-hetClassDefRel.xml** file.

- ☐ **10-SCHEMA-hetClassDefRel.xml** (located in
D:\SPF42_Training\Classified)

This will load an additional RelDef to enable **heterogeneous** classifications.

35. Use *Notepad* to open and review the **10-SCHEMA-hetClassDefRel.xml** file.

36. Log in to the Desktop Client as user **eddie**. Expand the *Engineering Document Types* tree and select the **satellite** entry. Create a new *Engineering Document*. The property values can be of your choice. Notice the absence of the Engineering Numbering System settings. Why?_____

(You can use the example in this chapter as a guide.)

37. Drill down in the tree using the **Show** right mouse menu commands to display the document version that was just created.
38. When you finish this activity, you may take a short break until everyone has finished.

7. SmartPlant Foundation Workflow - Activity

There is no end of chapter activity for Chapter 7. The hands on activity was performed while covering the material in the chapter.

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SmartPlant Foundation 2008 (4.2) Configuration and Administration II

Activity Workbook