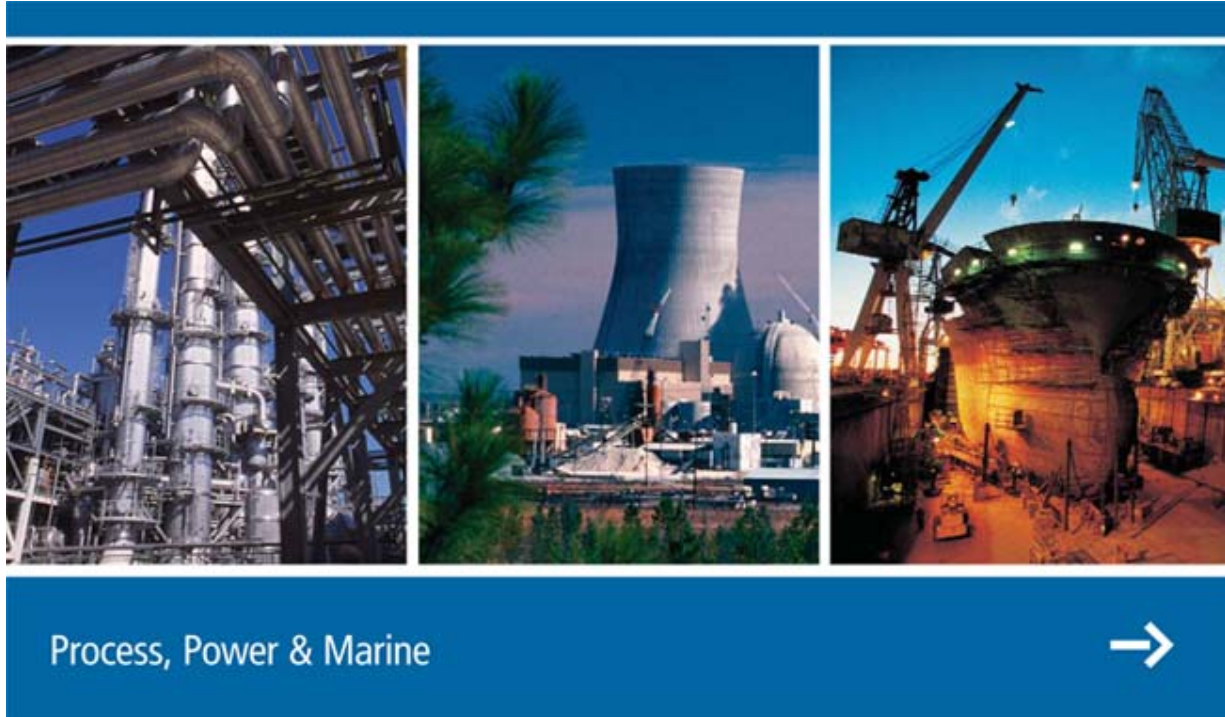


SmartPlant Foundation 2008 (4.2)

Introduction and Administration I

Activity Workbook



Version 2008	November 2008	DSPF-TP-100013A
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SmartPlant Foundation 2008 (4.2)

Introduction and Administration I

Activity Workbook

November 2008

Version 4.2.1

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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 2008 (4.2) Introduction and Administration I training course. Use this guide along with the information in each chapter to complete each activity.

1. Introduction to SmartPlant Foundation and SmartPlant Enterprise

There is no activity for Chapter 1.

2. Introduction to the SPF Desktop Client

This section contains all of the activities for Chapter 2 – Introduction to the SPF Desktop Client.

2.1 Activity – Using the SPF Desktop Client

The goal of this activity is to familiarize you with starting and using the SmartPlant Foundation Desktop Client. You will start a SmartPlant Foundation session and use the mouse and menus.

1. If not already logged in, log on to your operating system (not SmartPlant Foundation) as *Administrator* with the password *spf2008*.
2. Use the **Start > Programs > Intergraph SmartPlant Foundation > SmartPlant Foundation Desktop Client** menu hierarchy to start the SmartPlant Foundation Desktop Client.
3. When the **Login** screen appears, use the **User name** *superuser* and leave the Password blank. Verify that the **Server** field displays the site **SPF42**. When you have entered the User name field value, click the left mouse button on **OK** or press *Enter*.

Note: A password will not appear in the field as you key it in but will be represented by asterisks.

4. Once you are logged in to the *Desktop Client*, examine the different areas of the window. Before querying for object instances, if this is your first time to access the client, you must set your active scope.
 - ☐ Click **File > Set Active Scope**.
 - ☐ Filter the list of plants in the Query scope table by modifying the selection in the Status filter list.
 - ☐ Set the scope to query plants **SPF42** and **PlantA** (Status filter should be **Active**).
 - ☐ Choose the roles you want to play (keep **superuser**).

- ☐ Verify that the *Query scope* has been set to **SPF42** and **PlantA**.
- ☐ Set the Create Scope to **SPF42** plant also.
- ☐ Click **OK** to accept the *Set Active Scope* dialog.

5. What does the query scope define for the user?

6. Can a **view**-only user set their own create scope? _____

7. Turn on **Look Ahead**.

8. How do you know **Look Ahead** is turned on? _____

9. What does **Look Ahead** provide for the user? _____

10. Change the **Effective Date** to July 12, 2008 11:26 and 45 seconds.

11. Change the **Effective Date** back to now.

12. Expand the **Tree View** relationships for the *Document category* objects.

- ☐ Click the  next to the *Document Category* object.

13. Use the pop-up (right mouse button) menu to display related objects.

- ☐ Right click on the *P&ID Documents* object.
- ☐ Select the **Show All Relationships** command from the pop up menu.

What happens to the *Tree View* display? _____

- ☐ Continue to use the **Show All Relationships** command on *P&ID*.
- ☐ Click the  next to the *Utility P&ID* object.

What happens to the display? _____

14. Clear the *Tree View* relationship expansions, and reset the *Tree View* back to its original state.

☐ Select the ***Clear Tree*** command from the tool bar.

Now what happens to the *Tree View* display? _____

15. Use the *Change User Preferences* command to set the following preferences:

- ☐ On the *Windows* tab, set the option to **Multiple floating windows, dockable**.
- ☐ Disable the **Create all new windows as tabs** toggle.
- ☐ On the *General* tab, set the **To Do List refresh interval in minutes** to **180**.
- ☐ Change the **Picklist item display** to *Both* (Name and Description).
- ☐ On the *Expansion* tab, enable the **Always update Properties window to reflect selected item** toggle (if it is not already enabled).
- ☐ Click **OK** to close the *Change User Preferences* dialog and save your new preferences.

16. Even though the Find commands have not been discussed, you are going to perform a simple find to give you some data to work with in your window commands. On the *toolbar*, use the quick find to locate P&ID's.

- ☐ In the *Items* field use the list button to pick **Design Documents**.
- ☐ In the next field, the asterisk means to find all instances.
- ☐ Click the **Find** button.
- ☐ A *Find Design Documents* = "*" list view window will appear.
- ☐ Use this window, the Design Documents window, to perform the rest of the steps in this activity.

17. Right-click on an object in the Design Documents window, and open this object into a new window.

- ☐ Once the object has been viewed in a new window, close the new window.

18. Highlight an object in the Design Documents window. Make sure the properties for this object are displayed in the *Properties* window. If the *Properties* window is not displayed, use the **Window > Properties** command to turn on the display.
 - ☐ Change the Properties window display to an *Alphabetic* display.
 - ☐ Change the Properties window display to a *Categorized* display.
19. Use the **Change User Preferences** command to set the Notification type for **superuser** to *E-mail and notify*.
20. Use the **File > Exit** command to exit out of the SmartPlant Foundation *Desktop Client* interface.

3. Finding and Manipulating Objects

This section contains all of the activities for Chapter 3 – Finding and Manipulating Objects.

3.1 Activity 1 – Finding and Manipulating Objects

The goal of this activity is to familiarize you with searching for objects and then performing operations on the found objects. You will also create new documents and familiarize yourself with some of the manipulation commands available in the Desktop Client.

1. Log on to your operating system (not SmartPlant Foundation) as *Administrator* with the password *spf2008* (if not already logged in).
 2. Use **Start > Programs > Intergraph SmartPlant Foundation > SmartPlant Foundation Desktop Client** to start the SmartPlant Foundation Desktop Client.
 3. When the **Login** screen displays, use the **User name** *superuser*, and leave the Password field blank. Set the Query scope and the Create scope to *SPF42* and the roles to *Engineer* and *DWViewer*.
 4. Perform a **Find** on all Published Documents (**Find > Published Data > Published Documents**).
 5. Review the results in the displayed list view window. Use the Details command to view the detail information. What Category of document(s) is/are shown?
-

6. Perform a quick **Find** on all *Design Documents*.

Review the results in the displayed list view window. Write down some of the characters found in values in the *Name* field so that you can use that information later to perform a more specific quick Find. _____

7. Perform a quick **Find** on *Design Documents* using the * wildcard character and some of the information that you wrote down in step 7 above.
8. Perform a **Query** on *Design Documents(3D Documents >Civil)*. Key in some query criteria in the search form. Click **OK** to execute the query. (Use the **Weighting** field with a value of 50.)
9. Review the results in the displayed list view window to confirm that the query returned the desired results.
10. Select one of the objects from the list view, and use the **Details** command to view the object details.
11. Re-execute the **Query** on *Design Documents(3D Documents >Civil)*. Enter the same search criteria that you entered in step 10. Click **Save** on the bottom of the query form.
12. Enter a name and description for this saved query in the *Save Query* dialog.
13. **Cancel** the query form.
14. Use the *Query > Saved Queries* command to execute the saved query.
15. Select one of the objects from the list view window, and use the **File > Extract List to Excel** command.
16. What happens? _____
17. Select one of the objects from the list view window, and use the **File > Export (Default Template)** command.
18. What is the difference between this command and the **Extract** command above?

19. When you have finished with this activity, take a short break until everyone else has finished.

3.2 Activity 2 – Document Management

The objective of this activity is to allow users to experiment with the document types supported in SmartPlant Foundation.

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. Create a new design document (*File > New > Design Document*).
 - ☐ Use the **Document category** path *P&ID Documents > P&ID > Utility P&ID*. Enter the necessary information in the new object form.
 - ☐ Use your own choice of values.
 - ☐ Choose the **ENGINEER** Owning Group.
 - ☐ Click *Next* to continue to the next dialog.
 - ☐ Attach the file **Plot Plan #2.igr** file to this new document. This file is in the folder d:\SPF42_Training.
 - ☐ Click *Finish* when the file has been attached.
4. Reserve a new vendor document (*File > New > Reserve Vendor Document*).
 - ☐ Use the **Document category** path *P&ID Documents > P&ID > Utility P&ID*. Enter the necessary information in the new object form.
 - ☐ Use your own choice of values.
 - ☐ Click *Finish* when the values have been entered.
5. Activate the reserved vendor document.
 - ☐ Choose the **ENGINEER** Owning Group.
 - ☐ Click *Finish* when the values have been entered.
 - ☐ Attach the file **ActivateVendorDocumentTest.doc** file to this new document. This file is in the folder d:\SPF42_Training\Documents.

6. Change your Create/Update scope to Scope Not Set. Make sure the *superuser* role is enabled.
7. Create a new template document and attach the CustomExcelTemplate.xls file (located in the D:\SPF42_Training\Documents).
 - ☐ Use the **Find > Organization / Support Items > Classifications** command.
 - ☐ Locate and use the Classifications *Excel Template*.
 - ☐ Choose the **New Template Document** command from the dynamic menu.
 - ☐ Use your own choice of values and choose the **ENGINEER** Owning Group.
 - ☐ Click **Next** to continue to the next dialog.
 - ☐ Attach the file **CustomExcelTemplate.xls** file to this new document. This file is in the folder d:\SPF42_Training\Documents.
 - ☐ Click **Finish** when the file has been attached.
8. Change your Create/Update scope back to **SPF42** and create another new design document object.
 - ☐ Use the **Document category** path *P&ID Documents > P&ID > Utility P&ID*. Enter the necessary information in the new object form.
 - ☐ Use your own choice of values.
 - ☐ Choose the **ENGINEER** Owning Group.
 - ☐ Click **Next** to continue to the next dialog.
9. Attach the file **Process Block Diagram Fig. B2.igr** file to this new document. This file is in the folder d:\ SPF42_Training. Click **Finish** when the file has been attached.
10. Verify that the files were attached to the new documents.
11. Make a copy (**Document > Copy Document**) of one of the new *Utility P&ID* design documents. Give the copy a new name and attach a different file, **Ortho Piping.igr**.
12. Update (**Document > Update Document**) the first document that you created (from step 3), and change the description field. Can you change the name of the document? Why or why not?_____

13. Terminate (*Document > Terminate Document*) the object that you copied in step 11.
14. View the **Details** of the object you created in step 3.
15. View the **History** of the object you created in step 3.
16. When you have finished with this activity, take a short break until everyone else has finished.

4. Using a Workflow in SmartPlant Foundation

This section contains all of the activities for Chapter 4 – Using a Workflow in SmartPlant Foundation.

4.1 Activity – Using a Workflow in SmartPlant Foundation

In this activity, you will be creating a new document object with an attached file and submitting it to a workflow. You will use the To Do List to perform the necessary signoff steps to move the object through the steps of the workflow.

1. If you are not already logged in, log on to your operating system (not SmartPlant Foundation) as *Administrator* with the password *spf2008* (if not already logged in).
2. Use the **Start > All Programs > Intergraph SmartPlant Foundation > SmartPlant Foundation Desktop Client** command to start the SmartPlant Foundation *Desktop Client*. Log in as **superuser** and set the Query scope and the Create scope to *SPF42* and the role to *Engineer*.
3. Create a new design document object. Use the *Document category* path **P&ID Documents > P&ID > Utility P&ID**. Enter the necessary information in the new object form. Give the document the name **TTEF2142**, but use your own choices for the rest of the required values. Choose the **ENGINEER** Owning Group. Click **Next** to continue to the next screen of the document creation wizard.
3. Attach the file **Process Design Workflow.igr** file to this new document. This file can be found in the folder **d:\SPF42_Training**. Click **Finish** when the file has been attached. Right click on the new design document and select **Workflow > Attach Workflow** from the right mouse button menu.
4. Select the workflow **Document Review And Sign Off** from the *Attach and Edit Workflow* screen, and click **Attach**.
5. Verify that the file was attached to the new **TTEF2142** document.

6. Start the *Outlook Express* email client, and switch the identity to **Alex Admin** (if necessary). Open the email message, and review the contents.
7. Minimize *Outlook Express* so you can use it again later.
8. In the Desktop Client, open the *To Do List* for **superuser**.
9. Locate the **PrepareForReview** step for the TTEF2142 document.
10. Use the shortcut menu to **Complete** this workflow step.
11. In the *SignOffStep Task* dialog, enter some comments of your choice. Click **OK** when you are ready to finish the sign off.
12. Use Outlook Express to view the new message.
13. Back in the Desktop Client, right-click on the **TTEF2142** document and view the graphical workflow (**Workflow Details** and **View**).
14. Use the *Properties* button to make changes to the displayed step information. Enable the *Display property name* toggle to add information to the graphical display. Click **OK** when you have finished your changes and **Close** the graphical workflow display.
15. Locate the **Approve** step for the TTEF2142 document in the *To Do List* for **updateuser**.
16. Use the shortcut menu to **Approve** this workflow step.
17. In the *SignOffStep Task* dialog, enter some comments of your choice. Click **OK** when you are ready to finish the sign-off.
18. Use Outlook Express to view the new sign off message.

19. Perform a search for the document **TTEF2142**. Right-click on the document, and view the graphical workflow (**Show Workflows** and **View Workflow**). Verify that all of the steps are now **green** indicating that the workflow has been completed. **Close** the graphical workflow display.
20. Right-click again on the TTEF2142 document object, and view the details report that contains the history information for that document's process through the workflow (**Workflow Details Report**). Close the report.
21. Log out of the Desktop Client and take a short break until all of the other students have finished this activity.

5. SPF User Functionality

This section contains all of the activities for Chapter 5 – SPF User Functionality.

5.1 Activity 1 – File Viewing and Markup

The objective of this activity is to acquaint you with the viewing and markup topics from this chapter.

Viewing Files

1. Log on to your operating system (not SmartPlant Foundation) as *Administrator* with a password of *spf2008* (if not already logged in). Login to the SPF Desktop Client as **updateuser**.
 - ☐ Set the Query scope and the Create scope to *SPF42* and the roles to *Engineer* and *Viewer*.
2. Create a new design document (*File > New > Design Document*).
 - ☐ Use the **Document category** path *P&ID Documents > P&ID > Utility P&ID*. Enter the following information in the new object form.

<input type="checkbox"/> Main details	
Name: *	DD350-2142
Description:	Cooling water circulation line NON-PUBLISHED PID
<input type="checkbox"/> Details	
Status:	RESERVED
Title:	Cooling water circulation line by-pass
<input type="checkbox"/> Owning group	
Item owning group: *	ENGINEER
<input type="checkbox"/> Design document revision details	
Notes:	Vendor supplied information
<input type="checkbox"/> Revision details	
Revision scheme: *	RevA1
Major revision: *	A
Minor revision:	1

- ☐ Click **Next** to continue to the next dialog.
 - ☐ Attach the file **P&ID With Detail.igr** file to this new document. This file is in the folder d:\SPF42_Training.
 - ☐ Click **Finish** when the file has been attached.
3. Make sure the user preference is set for *Multiple floating windows*, *dockable* is set for this user. Highlight the design document object **DD350-2142** from the *New Items* window.
- a. Perform a **Files > View and Markup** command to review the file in the viewer.
 - b. From the menu bar, select **View > Fit > File** to fit the file in the window.
 - c. Use the other commands (**Zoom In**, **Zoom Out**, **Window Area**) to become familiar with viewing the file.
 - d. From the Markup menu bar, select **Layer > Create**.
 - e. Before drawing your first markup layer, use the *Markup Ribbon* to set your markup parameters. Set a **color**, a **line width**, **font**, and **text size**.
 - f. Create a few redline objects within the working window in Markup. Use the Markup commands (or the Markup toolbar) to create your first markup layer. Use any of the following tools to do your markups:
 - ☐ Line
 - ☐ Arc
 - ☐ Circle
 - ☐ Rectangle
 - ☐ Shape
 - ☐ Leader
 - ☐ Freehand
 - ☐ Ellipse
 - g. Place some descriptive *Text* on your layer. Size your text using the Shift/arrow keys as you place it.
4. When you have finished with your markups, save the markup layer to SPF.
- ☐ From the menu bar, select **Layer > Save**.
 - ☐ The *Save Layer* dialog displays.
 - ☐ Key in a description for your layer.

- ☐ Click on **OK** to save the layer.
5. Use the **Layer** commands to create a second layer, using a different color.
 - a. Select the **Layer > Create** command and begin the markup session.
 - b. Place a **Leader**.
 - c. Place a **Text Annotation**.
 - d. **Zoom In** toward the *Text Annotation*. Notice it does not resize.
 - e. When you have finished with your markups, save the markup layer to SPF.
 - ☐ From the menu bar, select **Layer > Save**.
 - ☐ The *Save Layer* dialog displays.
 - ☐ Key in a description for your layer.
 - ☐ Click on **OK** to save the layer.
 - f. Close the Markup window.
 6. Highlight the **DD350-2142** PID design document object.
 7. Right-click the object, and select **Show All Files**.
 8. Highlight the *P&ID With Detail.igr* file, right-click the object, and select **Show Markups**.
 9. Perform a **Find** on published *P&IDs* (**Published Data > Published Documents**).
 10. Select the *P&IDs* and use the **View and Markup** command to view the graphics.
 11. Click on several of the objects (one at a time) and view the properties in the *Properties* window. If the properties window is not displayed, turn it on.
 12. Highlight, lines, pumps, etc. within the drawing and select some of the right mouse button options, such as show lines, details, history, etc.

13. Use the dynamic (right mouse button) menu to display the viewing commands to *Zoom*, *Window*, and *Fit* the drawing.
14. Use the dynamic (right mouse button) menu to *Show All Relationships* for one of the objects that you select in the displayed view.
15. When you have finished with this activity, take a short break until everyone else has finished.

5.2 Activity 2 – Creating Reports

The objective of this activity is to be able to create and run a report.

1. Login to the SPF Desktop Client as **updateuser**.
2. Create a Report - Click **File > New > Report**.
3. Select the *Instrument List* report.
4. Choose the **Select All** button, and then **Apply** to run a report to a *New Window*.
5. Rerun the report multiple times performing the following tasks.
 - ☐ Change a caption of a property.
 - ☐ Change the Sort Order of 2 columns making *Instrument Type* order **1** and *Process Function* order **2**.
 - ☐ Change the Sort Order of 2 columns making *Instrument Type* order **1** and *Process Function* order **2** and the *Instrument Type* order **Descending**.
 - ☐ Use the *Criteria* of the **Instrument Name** and search for *like AB** OR *like CV** objects.
6. Activate the *Prompt* option for the **Instrument Name** property and test the report.
7. Save the report.
8. Find the report you just saved, and run it using the short cut menu. Use the value *like AB** when prompted for a value for **Instrument Name** property..
9. Logout of SPF Desktop Client and take a short break.

5.3 Activity 3 – 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*. Log in to SPF as user **updateuser**. Make sure the *Notification type* user preference is set to **E-mail and notify**.
2. Find an instance of the design document (DD-C1A1U1-01 for example), right-click on it, and click **Subscription > Manage My Subscriptions**.
3. Choose the following events to kick off the subscriptions: **SPFDesignDocMaster-EvCopied**, **SPFDesignDocMaster-EvTerminated**, **SPFDesignDocMaster-EvUpdated**. Select them from the list, and click **Add**. Click **OK** to close the **Manage My Subscriptions** dialog box.
4. Right-click on the same instance of the design document, and use the **Update Document** command to access the update form for the object. Change a value for the document, and close the form.
5. Click the **List of Notifications** button on the toolbar to review the notifications window.
6. Right-click on the notification and use the **Details** command to view information about the object.
7. Log in as *superuser* and subscribe to an object for another user:
 - a. Right-click on a design document and use the **Subscription > Manage All Subscriptions to Object** command.

- b. Add the **SPFDesignDocMaster-EvUpdated** event and choose **Update User** as the user to receive the notification.
 - c. Click **OK** to close the dialog box.
- 8. Verify the subscription as the other user:
 - a. Use the **File > Change User** command to log off as **superuser** and log in as **updateuser**.
 - b. Use the **Administration > Subscription > Manage My Object Subscriptions** command to view your subscriptions.
 - c. Choose a design document object in the bottom of the frame and view the subscription information for that object.
 - d. Click **OK** to close the dialog box.
 - e. Find the design document and update it using the **Update Document** command.
 - f. View the notifications using the **List of Notifications** button on the toolbar.
- 9. When you have finished with this activity, take a short break until everyone else has finished.

6. Document Management

This section contains all of the activities for Chapter 6 – Document Management.

6.1 Activity 1 – Document Check in and Check out

The objective of this activity is to allow you to perform document Checkin and Checkout operations.

1. Login to the SPF Desktop Client as **updateuser** and the role of **Engineer**.
2. Perform a search to find the very first document you created, back in Chapter 3.
3. Right-click on this document, and select *Edit > Check Out*.
4. Select a local directory for the checked out files (use D:\users\spf_user).
5. Perform an *Undo Check Out* on the document that you just checked out.
6. Right-click on the original document, and again select *Edit > Check Out* to perform the check out operation.
7. Check in the document/files that you just checked out.
8. Verify the version of the document after you check it back in.
9. Checkout the new version of the document.
10. Perform a *Undo Check Out* of the document and verify the version returns to the pre-checkout condition.
11. Logout of the Desktop Client and take a short break.

6.2 Activity 2 – Working with Reference Files

The objective of this activity is to allow you to create and manipulate reference file relationships.

1. Login to SPF Desktop Client as **updateuser**.
2. Create a design document for *P&ID Documents > P&ID > Utility P&ID*.
3. Fill in a name (Logo_Doc) and title (Logo Reference File) of the document, and click **Next**.
4. Attach the **6-Embed 11.tif** file to the document (located in the D:\SPF42_Training\ref_files folder):
5. Click **Finish**.
6. In the *New Items* window, use the right mouse button to choose the document and select the **Show All Files** command.
7. Verify the file is attached.
8. Create another design document for *P&ID Documents > P&ID > Utility P&ID*.
9. Fill in a name (PID_Doc) and title (PID Reference File) of the document, and click **Next**.
10. Attach the **6.dgn** file to the document (located in the D:\SPF42_Training\ref_files folder):
11. Click **Finish**. A Missing References form is displayed. What is it telling you? _____

12. Click **Cancel** on this form. The design document creation is canceled.

13. Create a design document for *P&ID Documents > P&ID > Utility P&ID*.
14. Fill in a name (Border_Doc) and title (Border Reference File) of the document, and click **Next**.
15. Attach the **6-Embed 1.dgn** file to the document (located in the D:\SPF42_Training\ref_files folder):
16. Click **Finish**.
17. Repeat steps 8, 9, and 10.
18. Click **Finish**. The Missing References form does not display. Why?

19. Explore how the files are referenced to each other using the following commands:
 - Right click one of the documents and select **Reference Document > Show Nested References**.
 - Right click one of the files and select **Show Nested Reference Files**.
 - Right click one of the files and select **Show File to Referenced By Files**.
20. Logout of SPF Desktop Client and take a short break.

6.3 Activity 3 – Sign Off and Revising Objects

The objective of this activity is to sign off and make current documents that are in a the *As-Built* plant. As part of the sign off, document revisions may be needed so you will make some revisions.

1. Login to SPF Desktop Client as **superuser** and the role of **Engineer**.
2. Perform a search to find the document you checked in and out in the last activity.
3. Signoff the document by right-clicking on the document and selecting **Edit > Sign Off**.
4. Highlight the signed off document, right-click on the document, and select **Edit > Revise**.
5. Create the next *Revision* of the document, and click **Finish**.
6. Find the document you have been working with in this lab and drag it to the New Items window (hint: hold down the control key).
7. Right-click on the document, and select **Revision Relationships > Show All Versions**.
8. Review the *Status*, *Icons*, and all the *Revisions* of the design document.
9. When you finish this activity, you may take a short break until everyone has finished.

7. Concurrent Engineering

This section contains the activity for Chapter 7 – Concurrent Engineering.

7.1 Activity – Concurrent Engineering

The objective of this activity is to allow user to learn how to use the commands that are part of the concurrent engineering functionality and to experiment with that portion of the software.

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 *SPF42DEV* server.
3. Review your personal claim settings on the *Change User Preference* dialog box.
4. Review the system claim settings as illustrated in the *SPF Option* section of the SPF Infrastructure Objects chapter.
5. Make sure that the system is set to require explicit and to support non-exclusive claiming.
6. Set your scope to the plant level (PlantA).
7. Create a new tag using the **File > New > Tag** command. (Provide values for the Weight, Height, Width and Length.) Using the properties grid, confirm the configuration of the new tag.
8. Change your scope the the project level (Project 1).
9. Using the quick find tool on the toolbar, find the new tag you just created.

10. Right-click on the new tag and claim it into the project using the ***Concurrent Engineering > Claim*** command.
11. Using the properties grid, confirm the configuration of the new tag.
12. Update the tag and modify some of the information about it. (Right-click on the tag and use the ***Update*** command.)
13. Right-click on the tag and use the ***Concurrent Engineering > Compare Objects to Higher Configuration*** report to compare the values for the tag at the plant level to those at the project level.
14. In the Tree window, right-click on PlantA and click the ***Show Projects*** command.
15. Right-click on the plant again and use the ***Concurrent Engineering > View Future Changes Report*** command to create a report of object changed at the project level.
16. Right-click on Project1 and use the ***Concurrent Engineering > View Configuration Report*** command to see the objects that are part of the project.
17. Right-click on the tag in the project and Merge it back into PlantA.
18. Change your scope to PlantA. Find the tag using the quick find tool, and look at the configuration and values in the Properties grid.
19. Create another new tag at the plant level. (Provide values for the Weight, Height, Width and Length.)
20. Change your scope to Project2, and claim the tag.
21. Change your scope to Project1, and claim the tag.
22. Update the information saved for the tag from within Project1.

23. Merge the changes to the tag back up to the plant. Confirm your changes in the Properties grid.
24. Change your scope to Project2.
25. Update the information for the tag.
26. In the Tree window, find Project2 under PlantA. Right-click on the project and use the **Concurrent Engineering > View Invalid Mergeable Items Report** to view a list of objects with discrepancies that must be resolved before merging.
27. Right-click on the tag and use the **Resolve Conflicts** command to open the **Resolve Conflicts** dialog box.
28. Note the existing values in the chart below:

Property	Plant Value	Project Value	Value When Claimed
Weight			
Height			
Width			
Length			

29. Check one or more of the check boxes besides the values on the **Resolve Conflicts** dialog box. Indicate on the chart above which values you selected with check boxes.
30. Click the **OK** button.
31. Set your scope to the plant level and right-click on the project in the Tree window, and merge the entire project into the Plant.
32. Find the new tag. And use the properties grid to confirm the configuration. Check the values of the Weight, Height, Width, and Length to your chart. What did the check box do?

33. Create a new design document as covered in the previous chapter on documents.
(Make sure your scope is still set to the plant level.)
34. Sign-off the document using the *Edit > Sign off* command from the shortcut menu of the new document.
35. Change your scope to Project1, and find the new document.
36. Right-click on the document and revise it using the *Edit > Revise* command on the shortcut menu. Create the next major revision.
37. Right-click on the new document in the project, and merge it up to the plant using the *Concurrent Engineering > Merge* command from the shortcut menu.
38. Change your scope to the plant and find the new document. How many versions did you find? What is the revision and version number of the newest working version?

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

8. Introduction to the Progress Model

This section contains the activity for Chapter 8 – Progress Model.

8.1 Activity - Progress Model

In this activity, you will be setting the basic progress components and creating a design workpack. You will register documents against the workpack and update the progress to move the documents through the workpack steps.

If you are not currently logged into your machine:

1. Log on to your operating system:
Administrator with a password of *spf2008*
2. If you are not already logged into the *Desktop Client*, log in as **superuser** to the **SPF42** server.
3. Review the *Progress Hierarchy*.
4. Review the *Progress Options* for the active configuration.
5. Add two *Cut-off dates*, of your choosing, to the active configuration.
6. Create a new *Design Workpack Template*. Ensure you include the following:
 - ☐ Include at least three steps
 - ☐ Include at least two time stringsUse the illustrations in this chapter for examples.
7. Use the template from step 6 to create a new *Design Workpac*, using the following settings:
 - ☐ Name - WP-0001-24-01
 - ☐ Contract – C02
 - ☐ Area – A01

- ☐ Unit – U01
 - ☐ Make the workpack active
 - ☐ Check automatic progress
 - ☐ Check downstream forecasting
 - ☐ Check the include in rollup option
 - ☐ Set plan dates starting 3/3/2008 and ending 6/30/2009
8. Find the Design Document DD-C1A1U2-04, and register it for Progress.
 9. Incrementally update the progress of the document to move it through the steps of the workpack. After each update view the changes to the progress in the ***Properties Grid***.
 10. Create a ***Review Period*** and one ***Return Period*** to be used with ***Activity Workpacks***.
 11. Run a rollup and view the results.
 12. View the S-Curve for Progress.
 13. You may take a short break until all of the other students have finished this activity.

9. System Administration Overview

This section contains all of the activities for Chapter 9 – System Administration Overview.

9.1 Activity 1 – Configuring Basic SPF Security

The objective of this activity is to create new *User* logins and then to relate the new users to the security model roles through *Role Assignments*. You will also continue the security configuration of SmartPlant Foundation by creating *Access Group* and *Owning Group* objects.

Objectives:

In this activity you will use the **SPF42** configuration (plant). You will create a *User* with Administrative privileges and several *Users* with non-Administrative privileges.

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).

When you create new objects, they are placed in the *Tree View* window of the Desktop Client.

4. Use the *Change User Preferences* command to set the following preferences:
 - ☐ Under the *Default ContainerIDs* tab, select the ADMIN files and type in a new container name of **Trn.Mods**.
 - ☐ Click **OK** to close the *Change User Preferences* form and save your new preference.

5. Create the following three new user accounts:

- ☐ From the menu, select **File > New > Administration > User**. A *New user* form will appear. After entering the values for each new user, click **Apply** except for the last user, *van*, where you will click **Finish**.

Administrative user

- ☐ Name * - *Alex Admin*
- ☐ Description- *An administrative user*
- ☐ Organization - *Intergraph*
- ☐ E-mail address - *alex@ingr.com*
- ☐ Login name * - *alex*
- ☐ Password - leave blank
- ☐ Days between password changes -leave blank
- ☐ Disable user - leave blank
- ☐ Timeout duration for signoff - leave blank
- ☐ Notification types * - **EmailAndNotification**

Click **Apply** to save the entries and create another user.

Edit/View user

- ☐ Name * - *Mark Markup*
- ☐ Description- *An edit/view user*
- ☐ Organization - *Intergraph*
- ☐ E-mail address - *mark@ingr.com*
- ☐ Login name * - *mark*
- ☐ Password - leave blank
- ☐ Days between password changes -leave blank
- ☐ Disable user - leave blank
- ☐ Timeout duration for signoff - leave blank
- ☐ Notification types * - **EmailAndNotification**

Click **Apply** to save the entries and create another user.

View only user

- ☐ Name * - *Van Viewer*
- ☐ Description- *A view user*

- ☐ Organization - ***Intergraph***
- ☐ E-mail address - ***van@ingr.com***
- ☐ Login name * - ***van***
- ☐ Password - leave blank
- ☐ Days between password changes -leave blank
- ☐ Disable user - leave blank
- ☐ Timeout duration for signoff - leave blank
- ☐ Notification types * - **EmailAndNotification**

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

6. Configure **Role Assignments** for the newly created users. You will also be creating an additional user from inside the *Configuration Role Assignment* form. Use the **Administration > Configuration Role Assignment** command and the following steps:

- ☐ Select the **New > Logon User** command from the *Configuration Role Assignment* form menu and enter:
 - ☐ Name * - ***Eddie Editor***
 - ☐ Description- ***An edit/view user***
 - ☐ Organization - ***Intergraph***
 - ☐ E-mail address - ***eddie@ingr.com***
 - ☐ Login name * - ***eddie***
 - ☐ Password - leave blank
 - ☐ Days between password changes -leave blank
 - ☐ Disable user - leave blank
 - ☐ Timeout duration for signoff - leave blank
 - ☐ Notification types * - **EmailAndNotification**

Click **Finish** to save the entries.

- ☐ Select the **Find > Logon Users** command from the *Configuration Role Assignment* form menu and find all users.
- ☐ Enable the following toggle from the *Configurations* section:
 - SPF42
- ☐ Enable the following toggles from the *Roles* section:
 - Engineer

- System Administration
 - Viewer
 - ☐ Enable the following toggles from the *Query users* section:
 - Eddie Editor
 - adminuser
 - Alex Admin
 - Mark Markup
 - Van Viewer
 - viewuser
 - ☐ Select the *Role Assignments* tab and the Configuration radio button
 - ☐ Make the following role assignments:
 - adminuser – **System Administration**
 - Alex Admin – **System Administration**
 - Eddie Editor – **Engineer**
 - Mark Markup – **Engineer**
 - Van Viewer – **Viewer**
 - viewuser– **Viewer**
 - ☐ Click **Apply** to save the assignments.
 - ☐ Use the other options, **Role** and **User**, to review your role assignments.
 - ☐ Click **OK** to save the work and automatically return back to the *Administration* tab.
 - ☐ Click Cancel to close the *Configuration Role Assignment* form.
7. Create a new Access Group called *TRNEditor*. Use the **File > New > Administration > Access Group** command and the following information:
- ☐ Name * - ***TrnEditor***
 - ☐ Description- ***Training Editor***
 - ☐ Configuration statuses * - ***Active, Active***

Click **Finish** to create the new access group.

8. Use the **Details** right mouse button command to review the properties of the **TRNEditor Access Group**.
9. Next, create a relationship from the TRNEditor access group to the desired methods using the **Manage Methods** right mouse button command.
 - ☐ Use the **Find** menu command to display a list of methods.
 - ☐ Hold the control key down and select the following methods:
 - AllOrgQFind
 - ApproveCorrelations
 - AttachDesignFileToVersion
 - AttachFileToPublishedVersion
 - AttWFlow
 - DesignBasisQueryUpdate
 - ExecuteSavedReportEquip
 - ExecuteSavedReportInst
 - FrameworkCorrelateRHM
 - GenerateMapFile
 - GetDesignBasisData
 - PublishedDocQFind
 - ReGenerateSharedObjs
 - RemoveDocFromQueue
 - RetryAssociatedTask
 - SelectCorrelations
 - SetDesignBasisCriteria
 - SharedAreaQFind
 - SharedEquipmentQFind
 - SharedInstrumentQFind
 - SharedObjUpdate
 - SharedPipelineQFind
 - SharedPipeRunQFind
 - SharedPlantQFind

- SharedUnitQFind
- ShowAssociatedTaskFailure
- ShowToolParticipants
- TEFConsolidateDocument
- TEFDocInQueue
- TEFLoadPublishedData
- TEFLoadPublishedDataIntoConfig
- TEFQueueQFind
- TEFSchemaDocQFind
- TEFSchemaItemQFind
- TEFSchemaItemUpdate
- TEFSignatureQFind
- ViewSharedDataEquip
- ViewSharedDataInst

- ☐ With the methods highlighted, select the **left arrow** button to move the selected methods to the left side of the *Manage Methods* form.
- ☐ Click **OK** to save the *Access Group* → *Methods* relationships.

10. Create a new Owning Group called *PID_Dwg*. Use the **File > New > Administration > Owning Group** command and the following information:

- ☐ Name * - *PID_Dwg*
- ☐ Description- *PID Data and Drawings*

Click **Finish** to create the new owning group.

11. Create a new Role called *PIDDesigner*. Use the **File > New > Administration > Role** command and enter the following information:

- ☐ Name * - *PIDDesigner*
- ☐ Description- *PID Design Engineer*
- ☐ Manage role- leave blank
- ☐ Managed by role- *Configuration Manager*
Document Controller

*Super User**System Administration*

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

12. Use the *Details* right mouse button command to review the properties of the **PIDDesigner Role**.
13. Create a relationship from the PIDDesigner role to the desired access groups using the *Manage Access Groups* right mouse button command.
 - ☐ Hold the control key down and select the following access groups:
 - DocumentUpdate
 - DocumentView
 - InstrumentationViewer
 - MechanicalViewer
 - PlantItemView
 - TRNEditor
 - VIEWONLY
 - ☐ In the Domains column, configure the following *Access Groups → Domains*:
 - TRNEditor- *PID, PID domain*
 - TRNEditor- *SPFAUTHORING, SPF private publishable data*
 - InstrumentationViewer- *InstD, Instrument Design domain*
 - ☐ In the Owning Groups column, configure the following *Access Groups → Owning Groups*:
 - TRNEditor- *PID_Dwg*
 - TRNEditor- *OPEN TO ALL*
 - DocumentUpdate- *PID_Dwg*
 - DocumentUpdate- *ENGINEER*
14. Configure **Role Assignments** for the new role. Use the *Administration > Configuration Role Assignment* command and the following steps:
 - ☐ Select the *Find > Logon Users* command from the *Configuration Role Assignment* form menu and find all users.

- ☐ Enable the following toggle from the *Configurations* section:
 - SPF42
- ☐ Enable the following toggle from the *Roles* section:
 - PIDDesigner
- ☐ Enable the following toggles from the *Query users* section:
 - adminuser
 - Alex Admin
 - Eddie Editor
 - Mark Markup
 - Van Viewer
 - viewuser
- ☐ Select the *Role Assignments* tab and the Configuration radio button
- ☐ Make the following role assignments:
 - Alex Admin – **PIDDesigner**
 - Eddie Editor – **PIDDesigner**
 - Mark Markup – **PIDDesigner**
- ☐ Click **OK** to save the work and automatically return back to the *Administration* tab.
- ☐ Click Cancel to close the *Configuration Role Assignment* form.

15. Use the **File > Change User...** command from the Desktop Client to change to user *eddie*.

16. Set the **Active Scope** by double-clicking on the *Status* bar. Set the following configuration:

- ☐ Set active configuration by roles- radio button enabled
- ☐ Selected roles- **Engineer**
- ☐ Query scope- **SPF42**
- ☐ Status filter- **Active**
- ☐ Create scope- **SPF42**

17. Review the available menu commands for *eddie*.
18. When you are finished with this activity, you may take a short break until the other students are ready to continue with the next section in this chapter.

9.2 Activity 2 – Organizations and Printing

The objective of this activity is to review the creation of organizations, printer object, and printer groups.

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* using the *SPF42* server.
3. Create a new host, using the *File > New > Administration > Host* command.
4. Create a new external organization, and associate it with your new host.
5. Create a new user, and associate them with your new external organization.
6. Create a new printer group.
7. Create a new printer, and associate it with the printer group.
8. Create a relationship between the new printer group and your new external organization.
9. When you are finished with this activity, you may take a short break until the other students are ready to continue with the next section in this chapter.

9.3 Activity 3 – Vaults

The objective of this activity is to allow users to experiment with the creating and configuring vaults in SPF 4.2

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. Create a new vault, using the *File > New > Administration > Vault* command. Specify a path for the new folder to be created and choose **SPF2008CLS1** as the host. Click *Finish* to save the new vault.
4. Associate the new vault with the **SPF42** configuration item using a drag and drop action.
5. Associate the new vault with the **ADMIN** owning group using a drag and drop action.
6. Use the *Find > Schema > Interface Definition* command to find the **ISPFTEFPublishedDocVersion** class def.
7. Relate the new vault to the **ISPFTEFPublishedDocVersion** interface.
8. Right-click on your new vault, and click *Edit Relationships*.
9. Click the *Maintain Attributes* link beside the relationship with the **SPF42** configuration item.
10. From the **Conditions** field, choose the **IsCURRENT** option.

11. When you are finished with this activity, you may take a short break until the other students are ready to continue with the next chapter.

10. SmartPlant Foundation License Management

There is no activity for Chapter 10.

11. SmartPlant Foundation/SmartPlant Installation

There is no activity for Chapter 11.

12. SmartPlant Foundation Web Portal

This section contains the activity for Chapter 12 – SmartPlant Foundation Web Portal.

12.1 Activity – Web Portal

The objective of this activity is to familiarize yourself with the delivered SmartPlant Foundation Web Portal features and functionality.

If you are not currently logged into your machine:

1. Log on to your operating system:
Administrator with a password of *spf2008*
2. Open an Internet Explorer window.
3. In the address bar, type the following address:
<http://localhost/SPFWebPortal/default.aspx>
4. Log into the *localhost_SPF42* site as *superuser* with no password.
5. Use the appropriate toolbar button to view your user preferences.
6. Use the appropriate toolbar button to modify your active scope. Change your scopes and roles, as necessary, so that you are in the role of *superuser* in the *SPF42* plant.
7. From the *Search* window, use the *Quick* tab to perform a quick search for all *Design Documents* in the plant. View the results of the search in the *List* window and the *Search Results* section of the *Discover* window.
8. Using the *Find* tab in the *Search* window, find the published P&ID drawing that we used in the previous chapter (*128-5001*).
9. Select the P&ID drawing in the *List* window to view the drawing in the *View* window. Using the SmartPlant Markup menu bar in the *List* window, attempt to create a new

Markup layer with annotations of the drawing. Can you create a layer? Why, or why not? _____

10. Review the properties of the document and its relationships with other objects using the *Properties* and *Related Items* tabs (respectively) of the *Review* window.
11. Using the *Actions* tab of the *Review* window, view the *Details* and the *History* of the PID drawing.
12. Exit the Web Portal using the *Log Off* button and close the web browser.
13. Using Windows Explorer, navigate to the following directory:
D:\SmartPlant Foundation 2008 Server Files\WebPortals\SPFWebPortal
14. Find the Web.config file in that directory and open it for editing.
15. In the system.web section, locate the following line:
<pages theme="SPFVista" styleSheetTheme="SPFVista">
16. Change the text in that line to match the following:
<pages theme="SPFDefault" styleSheetTheme="SPFDefault">
17. Save and close the Web.config file.
18. Connect again to the Web Portal (<http://localhost/SPFwebportal/default.aspx>).
19. Login again to the *localhost_SPF42* site as *superuser* with no password.
20. View the interface and compare the way it appears now to how it appeared before, using the other theme.
21. When you finish this activity, you may take a short break until everyone has finished.

13. SPF Authoring

This section contains all of the activities for Chapter 13 – SPF Authoring.

13.1 Activity 1 – Authoring Data in SmartPlant Foundation

The objective of this activity is to use the SP P&ID authoring tool to publish a PID Drawing to SPF along with instruments and equipment.

If you are not currently logged into your machine:

2. 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 *Start > All Programs > Intergraph SmartPlant P&ID > Drawing Manager* from the menu.
5. Highlight P&ID drawing **128-5001** and from the menu, choose *Revisions > New Revisions*.
6. From the *Revise* dialog, set the following fields:
☐ Major - **B**
Click **OK**.
7. Double-click on the drawing **128-5001** from Drawing Manager to launch SmartPlant P&ID. Publish P&ID drawing 128-5001 by selecting *SmartPlant > Publish* from the SmartPlant P&ID menu. When the *Publish* dialog displays, verify the information shown and click **OK** to publish.

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

13.2 Activity 2 – Authoring Data in SmartPlant Foundation

In this activity the results of the publish will be verified in SPF and then some of the instruments will be loaded into the Process Instrument domain. A process engineer will make additions to the property values (meta data) using a data sheet and an SPF form (Update). Once the changes are made, an instrument will be published, and any inconsistent values displayed.

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.
1. When the *Logon Information* dialog window appears, use the *User name* **superuser** with no password, and click on **OK** (or press the Enter key).
2. Select *Find > Published Data > Published Documents* from the menu. Enter the * search criteria in the *Find* dialog and click **OK**.
3. Click on the published **P&ID 128-5001** and review the property grid.
4. Select *Find > Published Data > Instruments* from the menu. Enter the search criteria **ABV*** in the *Find* dialog and click **OK**.
5. Right click on a retrieved instrument **ABV-12815** and from the shortcut menu, select *Show Comprised of*.
6. Right click on instrument **ABV-12815** and from the shortcut menu, select *View Shared Instrument*. Review the contents of the displayed *Property* dialog.
7. Change the active scope to the following settings:
 - ☐ Select the **SPF42** plant from the *query scope*

- ☐ Select the **ProcessEngineer** role
- ☐ Select the **SPF42** plant *create scope*
- ☐ Turn **off** the **Super User** role

Click **OK** to set the scope.

8. Select **Find > Process Instruments** from the menu. Enter the search criteria * in the *Find* dialog and click **OK**.
9. Browse the Process Instrument results from the Process Engineer Domain. Which operation allowed access to the Process Engineer Domain? _____

10. Select SmartPlant > Process > IPDs > Register from the menu.
 - ☐ Enter the URL **spf2008cls1/SPF42** for the server and the site and click **Next**.
 - ☐ Select the **SPF42** Plant name from the list.
 - ☐ Click **Finish**.
11. Right click on the *ProcessD-SPF42* object and select *Details* from the shortcut menu. Review the details for the object.
12. Change the active scope to the following settings:
 - ☐ Turn **On** the **Super User** role
 Click **OK** to set the scope.
13. Configure **Role Assignments** for the publish and retrieve user. Use the **Administration > Configuration Role Assignment** command and the following steps:
 - ☐ Enable the following toggle from the *Configurations* section:
 - **SPF42**
 - ☐ Enable the following toggle from the *Roles* section:
 - **SmartPlantPublisher**
 - **SmartPlantRetriever**
 - ☐ Select the **Find > Logon Users** command from the *Configuration Role Assignment* form menu and find the **Process** (Pr*) and **Instrumentation** (I*) users.
 - ☐ Enable the following toggles from the *Query users* section:

- **ProcessEngineer**
 - **InstrumentationEngineer**
 - ☐ Select the *Role Assignments* tab and the Configuration radio button
 - ☐ Make the following role assignments:
 - **ProcessEngineer – SmartPlantPublisher**
 - **InstrumentationEngineer – SmartPlantPublisher**
 - **ProcessEngineer – SmartPlantRetriever**
 - **InstrumentationEngineer – SmartPlantRetriever**
 - ☐ Click **OK** to save the work and automatically return to the *Administration* tab.
 - ☐ Click **Cancel** to close the *Configuration Role Assignment* form.
14. Change the active scope to the following settings:
- ☐ Turn **off** the **Super User** role
- Click **OK** to set the scope.
15. Select *SmartPlant > Process > IPDs > Retrieve* from the menu. Select the *All documents* radio button, choose the previously published P&ID, **128-5001** and click **OK**.
16. Select *Find > Process Instruments* from the menu. Enter the search criteria * in the *Find* dialog and click **OK**.
17. Right click on the retrieved P&ID (IPD_128-5001) and select *Compare With Design*. Enable the toggles for the following retrieved instruments to be loaded into the authoring domain:
- ☐ **ABV-12815**
 - ☐ **ABV-12827**
 - ☐ **ABV-12830**
- Click **OK**.
18. Select *Find > Process Instruments* from the menu. Enter the search criteria * in the *Find* dialog and click **OK**. Compare the results of the *Process* domain contents before and after the load.

19. Right click on the loaded instrument **ABV-12815** and from the shortcut menu, select **Manage IPD Cases**. Select the following cases:

- ☐ **Winter**
- ☐ **Summer**

Click **Add**.

- ☐ Choose the **Summer** case, enable the Governing case toggle, and click **OK**.

20. Hold the *control* key down, drag and drop the **ABV-12815** instrument into the *New Items* window. Right click on **ABV-12815** (in the *New Items* window) and select **Show Process Data (Points)**. Right click on the **ABV-12815 Process Data Point** and select **Show Process Point Cases** to view the instrument relationships.

21. Right click on the instrument and select **Generate IPD Data Sheet** from the menu.

22. When the IPD Data Sheet displays, enter the following data into the specified fields:

General Details

Fluid Name: **Water**
 Seat Leakage: **ANSI I**
 Failure Action: **Close**

General Properties (set the UoM's first)

Units: **barg**
C
 Design Pressure Min: **4**
 Design Pressure Max: **50**
 Design Temp Min: **0**
 Design Temp Max: **50**

Case Properties (set the UoM's first)

Units: **g/min**
psi
C

	Winter	Summer
Fluid State Norm:	L	L
Vol Flow Min:	3	3
Vol Flow Norm:	4	4
Vol Flow Max:	5	5
Upstream Press Min:	50	50
Upstream Press Norm:	60	60
Upstream Press Max:	70	70
Temperature Min:	25	20
Temperature Norm:	30	25
Temperature Max:	35	30

Select the **Save** button to save the changes into SPF.

23. Right click on the instrument ABV-12815 and select **Update** from the shortcut menu. Make the following changes using the SPF update form:

- ☐ Instrument tag prefix: **UNITZ**
- ☐ ControlValve Seal leakage: **ANSI II**

Click **Finish**.

24. Did an error occur? Why? _____ If an error did occur, make the necessary corrections and try the update again.

25. Click on the instrument **ABV-12815** to verify the changes in the *Properties* window.

26. Right click on the retrieved P&ID (IPD_128-5001) once more and select **Compare With Design** from the menu. Select the changed instrument and view the modified properties. **Cancel** the *ToDo List*.

-
27. Right click on **ABV-12815** in the list view window and select *History*. Close the *History* form.
 28. From the list view window, right click on **ABV-12815** and select *Publish Datasheet (IPD)*. Verify the publish information and click **OK**.
 29. Change the active scope to the following settings:
 - ☐ Turn **on** the **DWViewer** role
 - ☐ Turn **off** the **ProcessEngineer** roleClick **OK** to set the scope.
 30. Select *Find > Process Instruments* from the menu. Enter the search criteria * in the *Find* dialog and click **OK**.
 31. Select *Scheduler Tasks* find button from the toolbar. When the *Schedule Tasks* search form appears, click the **Finish** button to display all Schedule Tasks.
 32. If the **Load** tasks for the published instrument, **ABV12815**, has a status of *Failed*, right click on the **Load** task and select *Task > Retry Task*.
 33. When you finish this activity, you may take a short break until everyone has finished.

13.3 Activity 3 – Authoring Data in SmartPlant Foundation

In this final activity the changed instrument published from SPF will be retrieved into SP Instrumentation and the create tasks executed.

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 *Find > Published Data > Published Documents* from the menu. Enter the * search criteria in the *Find* dialog and click **OK**.
5. Select *Find > Published Data > Instruments* from the menu. Enter the search criteria **ABV*** in the *Find* dialog and click **OK**. Right click on the published instrument **ABV-12815** and select *Show Comprised of*.
6. To view the shared instrument inconsistencies from the authoring tools, right click on the instrument and select *View Shared Instrument*. Compare the values published from PID and the values published from PD (Process Domain).
7. Use the *Start > All Programs > Intergraph SmartPlant Instrumentation > SmartPlant Instrumentation* menu hierarchy to start the *SmartPlant Instrumentation*.
8. When the *Logon Information* dialog window appears, enter the *User name* **DBA** with a *Password* of **DBA**, and click **OK**. Highlight the Plant/Area/Unit, **SPF42/Area/Unit1**, to be opened and click **OK**.

9. Select the *SmartPlant* > *Retrieve* command, choose the document **ABV-12815** to retrieve and click **OK**.
10. Next, select the *SmartPlant* > *To Do List* command. Highlight all of the *To Do List* tasks and click **Run**.
11. Verify the results of the create tasks.
 - ☐ Select the **Index** tool from the tool bar.
 - ☐ Select the **Browse** command from the bottom of the *Instrument Index Module* window.
13. Configure the preference to display the retrieved instrument in a Process Data Sheet:
 - ☐ Select the *File* > *Preferences* menu command.
 - ☐ Click on *Process Data* > *General* to set the *Browser* view options.
 - ☐ Expand the *Process Data* preferences in the tree and click on **General**.
 - ☐ For the *Open process data sheet* preference, choose the **Always** option.
 - ☐ Click OK to save the preferences.
14. Highlight the retrieved instrument **ABV-12815** and choose the *Proc. Data* toolbar button.
15. Exit from SP Instrumentation and take a short break until everyone has finished.

14. Creating a Plant Breakdown Structure

This section contains all of the activities for Chapter 14 – Creating a Plant Breakdown Structure.

14.1 Activity – Creating a Plant Breakdown Structure

The objective of this activity is to allow you to gain some practical experience in creating a new Plant Breakdown Structure (PBS) in SPF. You will then associate this structure with the SmartPlant P&ID authoring tool and the SmartPlant Instrumentation authoring tool.

1. Login to SPF Desktop Client as **superuser**.
2. Create a new plant called **Madison**. Give the plant a description and set it to active.
3. Set the *Active Scope* to be the **Madison** plant. This is the plant to be used in creating a new PBS.
4. Verify in the *Status Bar* that the new plant scope is **Madison**. There should be no project.
5. Create a new area called **Area1**. Give this area a description.
6. Create a new unit called **Unit1A**. Give this area a description and a *Unit Code* of **1A**.
7. Register this new Plant Breakdown Structure.
8. Create a relationship between the **Madison** plant and the **SPF42_Vault** using drag and drop.
9. Publish this new Plant Breakdown Structure.

10. Start SmartPlant Engineering Manager and create a new Plant Structure. Use the information in section 14.2.1 of this chapter to accomplish this. Call this plant the **Madison** plant to match the SPF plant structure.
11. Associate the SmartPlant P&ID application to the new plant. Use the information in section 14.2.1 of this chapter to accomplish this.
12. **Register** the Madison plant with SmartPlant Foundation. Use the information in section 14.2.2 of this chapter to accomplish this.
13. **Retrieve** the PBS structure from SPF.
14. Run the tasks that were retrieved to associate the plant in SP P&ID to the PBS structure in SPF.
15. Verify the updated *Plant Structure* in SmartPlant Engineering Manager.
16. Exit from SmartPlant Engineering Manager.
17. Start SmartPlant Instrumentation and create a new Plant Structure. Log in as DBA/DBA. Select **Domain Administrator** and the **SPF_IN**domain.
18. Use the information in section 14.2.5 of this chapter to create the new plant structure. Call this plant the Madison plant to match the SPF plant structure.
19. **Register** the Madison plant with SmartPlant Foundation. Use the information in section 14.2.6 of this chapter to accomplish this.
20. **Retrieve** the PBS structure from SPF. Use the information in section 14.2.7 of this chapter to accomplish this.
21. Display the **To Do List** and view the tasks listed.

22. Run the tasks that were retrieved to associate the plant in SmartPlant Instrumentation to the PBS structure in SPF.
23. Exit from SmartPlant Instrumentation.
24. Optional: You may want to try and go into SmartPlant P&ID and create a simple P&ID drawing. Try to publish a document containing instruments, vessels, and pipelines to test your new Madison PBS. This P&ID must contain instruments, vessels, and pipelines in order to be able to publish.

DSPF-TP-100013A

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