

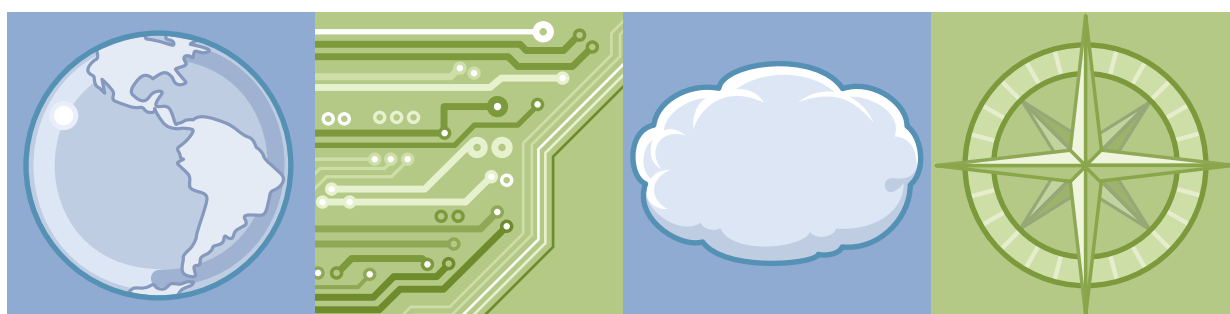


IBM Training

Student Exercises

IBM Case Foundation 5.2.1: Workflow Application Deployment

Course code F237 ERC 1.0



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Unit 1. IBM Case Foundation 5.2.1: Workflow application deployment

Unit overview

Lessons

Lesson 1.1, "How to move FileNet workflow applications," on page 1-3

Lesson 1.2, "Planning and preparing for application deployment," on page 1-7

Lesson 1.3, "Export the application assets," on page 1-25

Lesson 1.4, "Convert and Analyze the FileNet P8 assets," on page 1-35

Lesson 1.5, "Import the application assets," on page 1-55

Activity 1.6, "Using the FDM command line interface," on page 1-77

Unit dependencies

The activities in this unit must be performed in order.

The labs in this unit are independent of other units. However, prerequisite knowledge is assumed. It is recommended that the following courses be completed first:

- Case Foundation 5.2.1 - Introduction
- Case Foundation 5.2.1 - Configure the workflow system

Lesson 1.1. How to move FileNet workflow applications

Overview

Why is this lesson important?

You need to move a FileNet application from one FileNet P8 environment to another, for example development to User Acceptance Test.

It is important that you understand the high-level process of deploying a FileNet application and the tools available.

Activities

- "Test your knowledge of the deployment process" on page 1-5

Test your knowledge of the deployment process

For each question, indicate the correct answer or the best answer.

1. The FileNet P8 assets in a workflow application fall into two categories, what are they?
 - a. Object store assets.
 - b. Assets that you create or configure in the destination environment.
 - c. Workflow assets.
 - d. Assets that you deploy to the destination environment.
2. Which of the choices that are listed is NOT a deployment phase?
 - a. Planning
 - b. Preparing
 - c. Exporting
 - d. Deploying
3. The only tool that you need to deploy a workflow application that contains both FileNet P8 assets and external assets is FileNet Deployment Manager. (T or F)?
4. What tool is used to deploy IBM Content Navigator desktops from one environment to another?
 - a. FileNet Deployment Manager.
 - b. IBM Content Navigator administration tool.
 - c. Administration Console for Content Platform Engine.
 - d. FileNet Enterprise Manager.
5. What role has primary responsibility for performing the tasks in the phase, Deploying?
 - a. Project Manager
 - b. Developer
 - c. Application Designer/Workflow Author
 - d. Workflow Administrator
6. Who is responsible for writing the initial deployment instructions?
 - a. Workflow Administrator
 - b. Developer
 - c. Application Designer/Workflow Author
 - d. Project Manager
7. Who is responsible for taking the application package from development and deploying the application into non-development environments?
 - a. Project Manager
 - b. Application Designer/Workflow Author
 - c. Workflow Administrator
 - d. Developer

Lesson 1.2. Planning and preparing for application deployment

Overview

Why is this lesson important?

You need to move a FileNet workflow application from one FileNet P8 environment to another, for example development to Quality Assurance (QA).

You must complete planning and preparation steps before you can start moving the application.

Activities

- "Prepare the student system for the exercises" on page 1-9
- "Review the application package" on page 1-13
- "Perform one-time configuration setup tasks" on page 1-17

User accounts

	Type	User ID	Password
	Operating system	administrator	passw0rd
	P8 administrator	p8admin	IBMFileNetP8
	IBM Content Navigator administrator	p8admin	IBMFileNetP8



Note

Passwords are always case-sensitive.

Prepare the student system for the exercises

Introduction

The student system is running Microsoft Windows 7 Operating system. The student system is configured as a single application server, running the FileNet P8 system, with three WebSphere Application Server profiles. For this unit, you use the application server profile for server1. You follow the steps in Procedure 1 and 2 to start the system components and validate that all necessary components are running.

If your student system is already running, you can skip this exercise.

Procedures

Procedure 1, "Start system components," on page 1-9

Procedure 2, "Check system components," on page 1-10

Procedure 1: Start system components

There are start scripts to make starting the WebSphere Application Server profiles easier. The scripts are in the folder WebSphere Admin on the desktop.

1. Start the student system.
2. If you get a login prompt, log in as:
 - Username: administrator
 - Password: passw0rd



Important

If you just started the student system, ensure that the Windows 7 Operating System completes starting all the services before starting the WebSphere Application Server profile. Launch the Windows Task Manager and ensure that CPU usage is down to 0-1% CPU usage. It can take several minutes.

3. Open the WebSphere Admin folder on the desktop.
4. Double-click the *Start Server1.bat* to run the script.
5. Wait for the command window to disappear. (Can take several minutes).

**Note**

For your convenience, the WebSphere Admin folder also contains:

- A link to launch the WebSphere administrative console for each server profile.
 - A shortcut to the location of the WebSphere Application Server logs for each profile.
-
- If you have issues with starting the system components, refer to Appendix B, "Start and Stop System Components".
 - Minimize the WebSphere Admin folder.

**Information**

The Start Server1.bat, starts the WebSphere Application Server, *server1*, which starts the following applications:

- Tivoli Directory Server Administration tool
- Content Platform Engine
- IBM Content Navigator
- Administration Console for Content Platform Engine

Procedure 2: Check system components

An IBM FileNet P8 Workflow system consists of one main engine, the Content Platform Engine, with two primary services, content and process services. In addition to the Content Platform Engine, a client application is required for the users, and databases are required to store configuration information and the object stores. The client application that you use for these activities is IBM Content Navigator. You work with two IBM Content Navigator desktops that are configured for the workflow system administrator and for the workflow author. You need to verify that the Content Platform Engine and the IBM Content Navigator desktops are fully functional before you start your student exercises. Because these two applications rely on more software, testing the two applications also ensures that the underlying software is also functioning properly within your system.

1. Verify that the Content Platform Engine, content services are functioning properly by opening the Content Engine Startup Context (Ping Page).
 - a. Open a Mozilla Firefox browser window.
 - b. Go to the URL: <http://ecmedu01:9080/FileNet/Engine>

**Hint**

There is a bookmark in the Bookmarks menu under:

- *System Health > CE ping*

Because the Content Platform Engine is running as an application inside the IBM WebSphere Application Server, successfully viewing the Content Platform Engine Ping Page indicates that the web application server is also running on your student system.

2. Verify that the Content Platform Engine process Services are functioning properly.
 - a. Open a new browser tab.
 - b. Go to the URL: <http://ecmedu01:9080/peengine/IOR/ping>

**Hint**

There is a bookmark in the Bookmarks menu under:

- *System Health > PE ping*

- c. Log in with a P8 administrator account.
 - Username: `p8admin`
 - Password: `IBMFileNetP8`
 - d. If both ping pages display successfully, close the browser and all the tabs.
3. Verify that the P8 Admin console desktop is functioning properly.
 - a. Open a Mozilla Firefox browser window.
 - b. Go to the URL: <http://ecmedu01:9080/navigator/?desktop=P8adminconsole>

**Hint**

There is a bookmark in the Bookmarks menu, *P8 Admin console*, for your convenience.

- c. Log in with an IBM Content Navigator administrator account.
 - Username: `p8admin`
 - Password: `IBMFileNetP8`

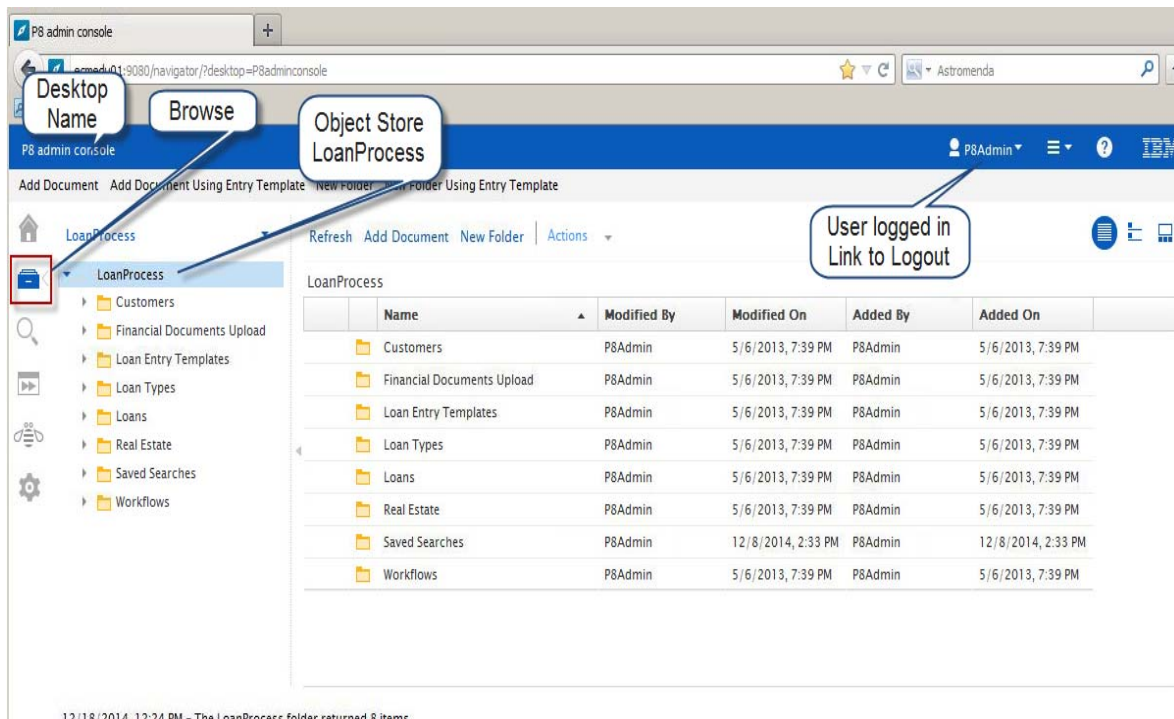


Note

If you do not get a login prompt, that means that the credentials were cached in Step 2c.

The first time the desktop is launched; it can take several minutes to load the profile. The subsequent times, the desktop is launched, is faster because the Java cache is used.

You see a screen similar to:



If you get to this screen, it indicates that the following components are running and communicating within your student system:

- A database system. Your system uses the IBM DB2 database software. Every time a user logs in to the P8 Admin console desktop, the desktop configuration is loaded from the IBM Content Navigator DB2 database. This desktop is configured to browse the LoanProcess object store by default, which demonstrates that the database used by the Content Platform Engine is functional.
 - A directory service to handle user authentication. Your system uses the IBM Tivoli Directory Server.
- d. Log out of the P8 Admin console.
- On the upper right corner of the desktop, click **P8Admin** and select **Log Out**.
 - Click **Log Out** to confirm.
- e. Close the browser window and all the tabs.

Review the application package

Introduction

The development team provided you, the Workflow Administrator, with an application package for the Deployment Application. In this exercise, you review the deployment instructions and the Application Assets Tracking spreadsheet included in the application package. You need to make sure that you have everything you need to deploy the workflow application to the destination environment.

Procedures

Procedure 1, "Review the deployment instructions," on page 1-13

Procedure 2, "Review the Application Assets Tracking spreadsheet," on page 1-14

Procedure 1: Review the deployment instructions

In this procedure, you review the deployment instructions to make sure that you have everything you need to deploy the workflow application.

1. Extract the application package.
 - a. Open a Windows Explorer window and go to the path:
C:\Labs\IBM Case Foundation5.2.1 Administration\Workflow application deployment
 - b. Extract the application package, Deployment Application.zip, to the current folder (the path previously specified).



Note

You can use any path. However, the exercise instructions are provided for the path specified.

2. Open the deployment instructions.
 - a. Open the folder, **Deployment Application**.
 - b. Open the file, Deployment instructions.pdf.
 - c. If the bookmarks are not displayed on the left, click the bookmarks icon to display them.
3. Notice the contents of the application package.
4. Review the Prerequisites section.
 - a. Notice the software required and the object store Add-ons that need to be installed.
 - b. Notice that the application requires a custom step processor, StepProcessorEDU.
 - c. Notice that a database is required in the destination environment, LOANDB.

- d. Notice the instructions to prepare the workflow system and the connection point on the destination environment.
5. Review the Deployment section.
 - a. In the bookmarks navigation pane on the left, notice that there are two subsections:
 - Deploy FileNet P8 Assets.
 - Deploy other IBM Assets.
 - b. Click the bookmark for, **Deploy FileNet P8 Assets**.
 - Quickly review the steps. You perform these steps in future exercises.
 - c. Click the bookmark for, **Deploy other IBM Assets**.
 - Notice that you import one IBM Content Navigator desktop.
6. Review the Application Verification section.
 - a. Notice that this section provides a high-level description of the workflow application and lists steps for testing the workflow application.
7. Minimize the Adobe Reader window.

Procedure 2: Review the Application Assets Tracking spreadsheet

In this procedure, you review the Application Assets Tracking spreadsheet. The Application Assets Tracking spreadsheet is an example of how you can track the assets that comprise a FileNet workflow application. For example, the Deployment Application. The spreadsheet was created during development of the workflow application and used track the application assets, as they were developed. Finally, the Application Asset Tracking spreadsheet was used to help identify what assets needed to be exported and included in the application package to prepare for deployment.

1. Open the Application Assets Tracking spreadsheet.
 - a. In the Deployment Application folder that you extracted, open the `Application Assets Tracking.pdf` file.
2. Review FileNet P8 Assets.

You can identify them using the second column, labeled Category.

- a. Review the column labeled Description.
 - Notice the different types of FileNet P8 assets that are included with the application.

- b. Review the column labeled Location.
 - Notice that there are two deploy packages listed.
 - What are the names of the two deploy packages?
 - Verify that the two deploy packages are included in the application package.

**Hint**

Expand Deployment Application\FileNet P8 Assets\Deploy Packages. There are three deploy packages listed.

- c. Review the columns labeled Source Security and Destination Security.
 - Notice that most of the cells refer to LDAP Mapping. Verify that the file exists in the Security folder.
 - d. Review the columns labeled Comments.
 - This column can be used for any additional information that might be required. For example:
 - Notice that the first two rows include the comment that this asset is configured as a post deployment step.
 - Row 3, includes a command for how to verify that the DBExecute connection is configured on the destination environment.
3. Review the other IBM Assets.
 - a. Look for the rows, where Category is **Other IBM Asset**.
 - b. How many other IBM assets are there?
 - c. Verify that the other IBM Assets are included in the application package.
 4. Review the External Assets.
 - a. Look for the rows, where the Category is **External Asset**.
 - b. How many external assets are there?
 - c. Verify that the external assets are included in the application package.
 5. Minimize the Application Assets Tracking spreadsheet.

Perform one-time configuration setup tasks

Introduction

In this exercise, you perform one-time configuration setup tasks that need to be performed one time for each source and destination environment. The tasks can be performed well in advance of the deploying phase. You run FileNet Deployment Manager in disconnected mode. Create the deployment tree and create the source and destination environments.

Procedures

Procedure 1, "Create a deployment tree," on page 1-17

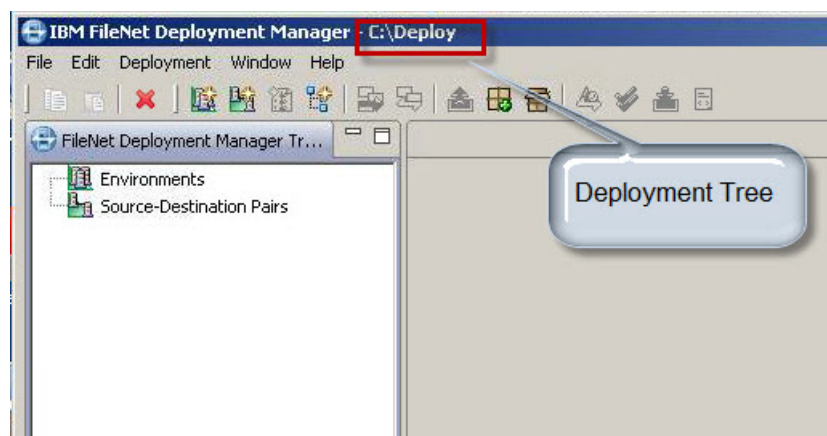
Procedure 2, "Create the source environment," on page 1-19

Procedure 3, "Create the destination environment," on page 1-22

Procedure 1: Create a deployment tree

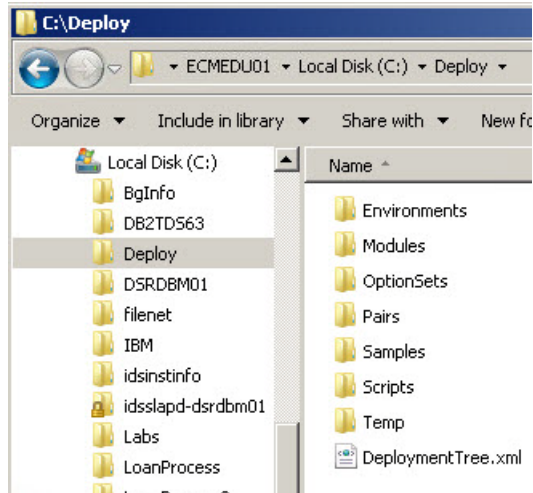
In this procedure, you run FileNet Deployment Manager and create the deployment tree that you use in subsequent exercises.

1. Create a folder for the deployment tree. For example: C:\Deploy.
2. Start FileNet Deployment Manager.
 - a. Click Start > All Programs > IBM FileNet P8 Platform > FileNet Deployment Manager.
3. Create a deployment tree.
 - a. For the **Deployment Tree** path, click Browse to **ECMEDU01 > C:\Deploy**.
 - Click **OK** to create the Deployment Tree.
4. The FileNet Deployment Manager tool opens to the screen:



5. Review the deployment tree folder structure.
 - a. Open a Windows Explorer window and browse to C:\Deploy.

- b. You see a folder structure that looks like:



- c. Minimize the Windows Explorer window and leave the FileNet Deployment Manager window open for the next procedure.



Information

FileNet Deployment Manager creates the deployment tree folder structure to store all the files that are created.

Procedure 2: Create the source environment

In this procedure, you create the source environment, in the deployment tree you created in Procedure 1. You are running FileNet Deployment Manager in disconnected mode. You create the source environment by using the deploy packages that were included in the application package.



Information

For the next two procedures, *<Deployment_Application_path>* refers to the path where the Deployment Application package was extracted to. For example:

C:\Labs\Case Foundation 5.2.1 Administration\Workflow applicaiton deployment\Deployment Application.

If you used a different path to export the application package, then substitute *<Deployment_Application_path>* with the path that you used.

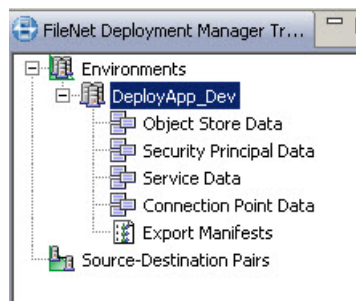
In the Deployment section of the *<Deployment_Application_path>\Deployment instructions.pdf*, under Deploy FileNet P8 Assets, Steps 1 - 3, you find the steps to create the source and destination environments. You might want to follow along. For the first few exercises, detailed instructions are included in the procedures. As your skills develop, only high-level steps are included.

1. Expand the first deploy package.
 - a. In IBM FileNet Deployment Manager window, select **File > Deploy Package > Expand Deploy Package**.
 - b. Complete the wizard by using the following information:

Item	Value
Deploy Package	<ul style="list-style-type: none"> • <i><Deployment_Application_path>\FileNet P8 assets\Deploy packages\App_deploy isolated region objects.zip</i>
Source Environment	<ul style="list-style-type: none"> • Create New Source Environment • DeployApp_Dev
Half Map Mode	<ul style="list-style-type: none"> • Extract from Package

- c. Click **Finish**.
- d. A progress window opens. When the task successfully completes, a window opens stating: Successfully expanded deploy package. It includes the name of the deploy package used and the deploy dataset created.
- e. Click **OK**.

2. Expand the source environment that you created.



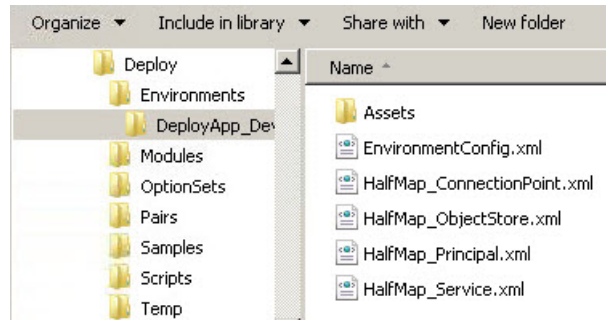
3. Expand the second deploy package.
- Right-click the source environment that you created, **DeployApp_Dev**, and select **Deploy Package > Expand Deploy Package**.
 - Complete the wizard by using the following information:

Item	Value
Deploy Package	<ul style="list-style-type: none"> <Deployment_Application_path>\FileNet P8 assets\Deploy_packages\App_deploy.zip
Source Environment	<ul style="list-style-type: none"> Select Existing Source Environment DeployApp_Dev
Half Map Mode	<ul style="list-style-type: none"> Merge

- Click **Finish**.
 - Click **OK** to close the message window.
4. Examine the half maps created from the deploy packages.
- Double-click **Object Store data** half map, under the Environment, **DeployApp_Dev**.
 - Notice that there is only one object store defined, **LoanProcess**, with the label, **OS**.
 - The row with the label, OS, identifies the name of the object store from which the deploy dataset was exported.
 - Double-click the **Security Principal Data** half map.
 - The security principals referenced by the assets exported are listed.
 - Notice the rows that have labels assigned.
 - Double-click the **Service Data** half map.
 - Notice that there is only one entry for a web server, with the URL for the IBM Content Navigator.
 - Double-click the **Connection Point Data** half map.
 - There is one connection point, **NewLoansR10**, associated with the object store, LoanProcess, and isolated region #10.
 - Notice that there is a label, **CP**, assigned to the connection point.
 - Close all the open files.

- **File > Close All.**

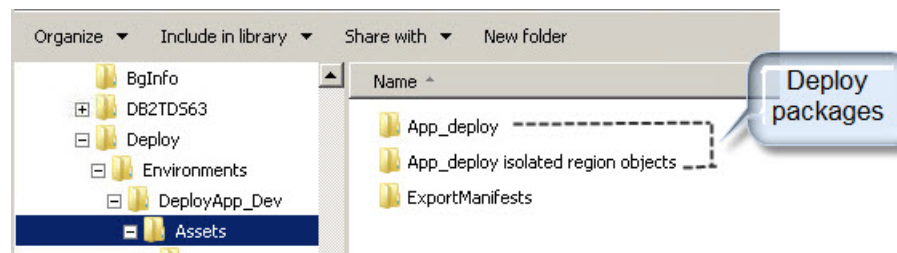
- f. Minimize the FileNet Deployment Manager window.
5. Examine the files created in the deployment tree.
 - a. Maximize the Windows Explorer window, open to C:\Deploy.
 - b. Open **Environments > DeployApp_Dev.**
 - c. You see:



- d. Examine the HalfMap xml files.

The HalfMap xml files contain the data that you just examined with FileNet Deployment Manager, in Step 4.

- Open each of the HalfMap xml files, with Notepad++.
- Examine the tags and the data included in each file.
- When you are done examining the files:
 - In Notepad++, select **File > Close All.**
 - Exit Notepad++.
- e. Examine the deploy datasets.
 - Back in the deployment tree, expand the **Assets** folder.
 - Notice the three folders listed:



- Deploy packages folders:
 - Notice that you have one folder for each deploy package that you expanded.
 - You can examine the contents of each of the folders, if you want.
- ExportManifests folder:
 - The ExportManifests folder is empty.

- The deploy packages include only the deploy datasets, which contain the exported assets. The export manifests, used to create the deploy datasets, are not included.
- f. Minimize the Windows Explorer window.

Procedure 3: Create the destination environment

In this procedure, you create the destination environment. The Deployment instructions document, outlines how to create the destination environment, under Step 3. The procedure outlines the steps to create the destination environment.

1. Maximize the FileNet Deployment Manager window.
2. Create the destination environment.
 - a. In the left navigation pane, right-click **Environments**, select **New > Environment**.
 - b. Enter, AppDeploy_QA for the name.
 - c. Click **Finish**.
3. Configure the connection to the Content Platform Engine (CPE).
 - a. In the left navigation pane, double-click the new environment you created to open it.
 - b. Complete the wizard by using the following information:

Item	Value
URL: Server	<ul style="list-style-type: none">• ecmedu01
Account: Username Password	Account with admin privileges to the CPE. <ul style="list-style-type: none">• p8admin• Select, Save the password• IBMFileNetP8

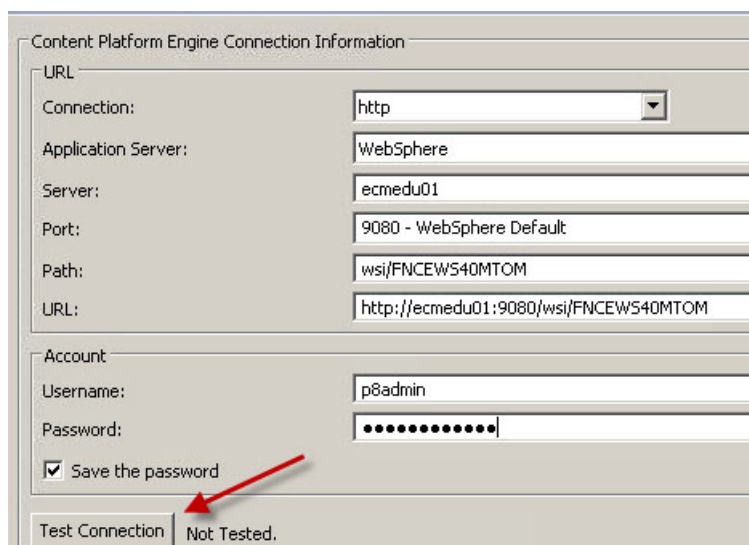


Information

The account you specify in the Content Platform Engine connection information needs to be a Content Platform Engine account that has the necessary privileges to create the application assets to be imported into the destination environment.

- c. Select **File > Save**.

d. Click the button, **Test Connection**.



The image shows a dialog box titled "Content Platform Engine Connection Information". It is divided into two main sections: "URL" and "Account".

URL Section:

- Connection: http (dropdown menu)
- Application Server: WebSphere
- Server: ecmedu01
- Port: 9080 - WebSphere Default
- Path: wsi/FNCEWS40MTOM
- URL: http://ecmedu01:9080/wsi/FNCEWS40MTOM

Account Section:

- Username: p8admin
- Password: [masked with dots]
- ☒ Save the password

At the bottom, there is a "Test Connection" button and a status label "Not Tested.". A red arrow points to the "Test Connection" button.

e. You see Successfully Connected. If you get anything else:

- Verify the information that you entered for the CPE Connection tab.
- Make any necessary corrections.
- Save and Test Connection again.
- You cannot proceed until you can successfully connect to the Content Platform Engine.

4. Select **File > Exit** to close FileNet Deployment Manager.

Lesson 1.3. Export the application assets

Overview

Why is this lesson important?

A FileNet Workflow application was developed and tested and is ready to be moved to another environment. You need to export the application assets and create an application package.

The development team provided you, the workflow administrator, an application package. You want to examine the assets that were exported.

Activities

- "Examine the exported FileNet P8 assets" on page 1-27
- "Examine the exported other IBM and External Assets" on page 1-33

Examine the exported FileNet P8 assets

Introduction

In this exercise, you add the export manifests, provided in the application package, to the deployment tree and examine the FileNet P8 assets that were exported to create the deploy data sets.

Remember that you are starting with an application package, where the export of the assets is completed. In another lesson, you get the opportunity to perform the export of the FileNet P8 assets.

Procedures

Procedure 1, "Add the export manifests to the deployment tree," on page 1-27

Procedure 2, "Examine the FileNet P8 assets in an export manifest," on page 1-28

Procedure 3, "Examine the include options in an export manifest," on page 1-30



Information

In the procedures that follow, *<Deployment_Application_path>* refers to the path where the Deployment Application package was extracted to. For example:

C:\Labs\Case Foundation 5.2.1 Administration\Workflow applicaiton deployment\Deployment Application.

If you used a different path to export the application package, then substitute *<Deployment_Application_path>* with the path that you used.

Procedure 1: Add the export manifests to the deployment tree

A deploy package includes the exported deploy dataset, the environment definition, and the half maps. The export manifests are not included. If the application package includes the export manifests, you can add them to the deployment tree so that you can examine the assets included in the deploy dataset. A good practice is to set the export manifest file properties to read-only to prevent accidental modifications.

1. Copy the export manifests to the deployment tree.
 - a. If you still have Windows Explorer windows that are minimized from the previous lesson, maximize them.
 - b. Otherwise, open a Windows Explorer window.

- c. Copy the files: App_deploy isolated region objects.xml and App_deploy.xml,
 - From: <Deployment_Application_path>\FileNet P8 assets\Export Manifests
 - To: C:\Deploy\Environments\AppDeploy_Dev\Assets\ExportManifests
 - d. Change the properties of the two files to read-only.
2. Start FileNet Deployment Manager.

**Note**

You can double-click the lower left icon on the desktop,



- e. Accept, **C:\Deploy**, for the deployment tree.
3. Expand the environment, *DeployApp_Dev*.
 - a. Expand **Environments > AppDeploy_Dev > Export Manifests**.
 - b. Notice the two export manifest files that you copied in the previous step. In the next procedure, you examine the files.

**Important**

FileNet Deployment Manager is flexible and can copy files between different deployment trees and different instances, if you do not change the directory structure. You need to be careful to ensure that you copy files between compatible versions of FileNet Deployment Manager. Copying files from an older version to a newer version or worse from a newer version to an older version can cause unpredictable results.

Procedure 2: Examine the FileNet P8 assets in an export manifest

1. Open the export manifest, App_deploy.xml.
 - a. In the left navigation pane, double-click App_deploy.xml to open it.
2. Compare the assets in the export manifest, *App_deploy.xml*, to the Application Assets Tracking Spreadsheet.
 - a. Maximize the Application Assets Tracking Spreadsheet:
 <Deployment_Application_path>\Assets Tracking Spreadsheet.pdf

- b. How many property templates are included in the export manifest? _____



Note

You might notice that the Application Assets Tracking spreadsheet has one more property template than the export manifest. Don't worry about it now.

- c. What is the name of the only class definition? _____
- d. What are the names of the two folders, in the export manifest? _____ and _____

- Note: The Application Assets Tracking spreadsheet is missing one of the folders.

- e. Notice the assets:

- Application Deployment:
 - Find the asset in the Application Assets Tracking Spreadsheet.
 - What type of asset is it? _____



Hint

Find the asset and look at the column, Description.

- Application Deployment AutoLaunch:
 - Find the asset in the Application Assets Tracking Spreadsheet.
 - What type of asset is it? _____



Note

From the export manifest, you can tell the category of these assets, not the exact type. The Application Assets Tracking Spreadsheet identifies what type of assets they are.

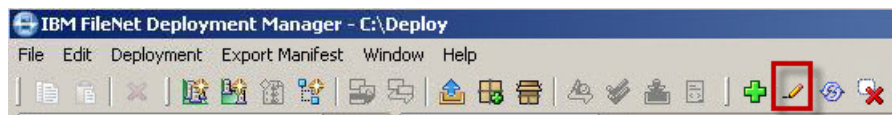
3. Compare the assets in the export manifest, *App_deploy isolated region objects.xml*, to the Application Assets Tracking Spreadsheet.
- a. Open the export manifest, ***App_deploy isolated region objects.xml***.
- In the left navigation pane, double-click ***App_deploy isolated region objects.xml*** to open it.

- b. Notice the first three rows. When you select a connection point, in the export manifest window, you can choose any of these three properties, which contain configuration information.
 - Switch to the Application Assets Tracking spreadsheet.
 - The assets listed in the first three rows are exported by selecting the three connection point properties.
- c. Go back to the FileNet Deployment Manager window with the **App_deploy isolated region objects.xml** tab open. Look at the remaining assets.
 - Look at the column, Category.
 - What are the names of the two User Queues? _____ and _____
 - What is the name of the Event log? _____
- d. Switch to the Application Assets Tracking spreadsheet.
 - Arrange the two windows so that you can view the first few columns of the spreadsheet and FileNet Deployment Manager at the same time, and make it easier to compare the information.
 - Find the row in the spreadsheet that corresponds to the assets in the export manifest, starting with **LoanQueue**.
 - Minimize the Application Assets Tracking spreadsheet.

Procedure 3: Examine the include options in an export manifest

In this procedure, you examine the include options that are selected in the export manifest, App_deploy.xml. Include options apply to Content Engine assets only, not workflow system assets.

1. In FileNet Deployment Manager, select the tab for, **App_deploy.xml**.
2. Select the asset, **CustomerName**, and click the pencil icon on the menu bar to view the include options.



- a. **CustomerName** is a property template, which is part of Data Design.
 - b. Notice that the section, **Data Design**, does not have any include option selected.
 - c. The options were not selected to ensure that only the assets listed were included in the export.
 - d. Click **Cancel**.
3. Select the asset, **LoanTerm**, and open the include options window.
 - a. Look at the section, **Data Design**.
 - b. Notice that the option, **“Include choice lists on property templates”**, is checked.
 - c. This property template has a choice list associated with it, which was exported along with the property template.
 - d. Click **Cancel**.

4. Right-click the asset, **Loan**, which is a class definition, select **Include Options**. This class definition triggers a workflow subscription.
 - a. Look at the section, **Event and Lifecycle**.
 - b. Notice that only the last two include options are selected. The Deployment Application has a workflow subscription attached to the class definition, **Loan**. The option, **“Include event subscriptions attached to objects”**, is not selected because the class definition, **Loan**, has two event subscriptions attached to it. You want only the event subscription that the Deployment Application needs, **Application Deployment AutoLaunch**. You have to export the workflow subscription explicitly.
 - c. Click **Cancel**.
5. Right-click the asset **Workflows**, which is a folder, select **Include Options**.
 - a. Look at the section, **Folders and Contained Objects**.
 - b. Which options are not selected? _____ and _____
 - c. Why? _____
 - d. Click **Cancel**.
6. Select the asset, **Application Deployment**.
 - a. What category of asset is it? _____
 - b. Select the pencil icon to open the include options.
 - c. Look at the section, **Document-Related**.
 - d. Based on the options selected, will the export include all the versions of the document?
 - Yes or No? _____
 - e. Click **Cancel**.
7. Select the asset, **Application Deployment Autolaunch**.
 - a. What category of asset is it? _____
 - b. Select the pencil icon to open the include options.
 - c. The default include options were used for the object.
 - d. Click **Cancel**.
8. Select **File > Exit** to exit the FileNet Deployment Manager.



Information

In this procedure, you examined the export manifest include options used to export the Content Engine assets. Each asset category is associated with a section in the include options menu and has its own set of default include options. The include options in the section, **General**, are usually left at the default settings. For more information, see:

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Preparing the source environment>Creating or updating an export manifest>Adding assets to an export manifest by browsing>Specifying the include options of an asset.

Examine the exported other IBM and External Assets

Introduction

In this exercise, examine the other IBM assets that were exported and included in the application package.

Procedures

Procedure 1, "Examine the other IBM Assets exported," on page 1-33

Procedure 2, "Examine the External Assets," on page 1-34



Information

In the procedures that follow, *<Deployment_Application_path>* refers to the path where the Deployment Application package was extracted to. For example:

C:\Labs\Case Foundation 5.2.1 Administration\Workflow applicaiton deployment\Deployment Application.

If you used a different path to export the application package, then substitute *<Deployment_Application_path>* with the path that you used.

Procedure 1: Examine the other IBM Assets exported

1. Maximize the Application Assets Tracking spreadsheet.
2. Use the Category column to find the Other IBM Assets.
3. What are the two Other IBM Assets? _____ and _____
4. Examine the other IBM Assets in the Deployment Application package.
 - a. Open the Deployment Application package with Windows Explorer.
 - b. Use the information, provided in column, **Location**, of the spreadsheet to find the Other IBM Assets in the Deployment Application package.
 - c. The ProcessLoans-export.properties file is an export file from IBM Content Navigator administration tool, which contains the desktop configuration. You use the export file in a later exercise to import the Process Loans desktop into the destination environment.
 - d. Open the folder, StepProcessorEDU.
 - How many files are in the folder? _____
 - Leave the Windows Explorer window opened for the next procedure.

Procedure 2: Examine the External Assets

1. Go back to the Application Assets Tracking spreadsheet.
2. Use the Category column to find the External Asset.
3. What is the name of the External Asset? _____
4. Use the information, provided in the Location column of the spreadsheet to find the External Asset in the Deployment Application package.
5. Open the folder, LOANDB.

The file is a backup of the LOANDB database. The Deployment instructions include steps for how to use this file to create the LOANDB database in the destination environment.

6. Minimize the Windows Explorer window.
7. Close the Application Assets Tracking spreadsheet.

Lesson 1.4. Convert and Analyze the FileNet P8 assets

Overview

Why is this lesson important?

You have an application package that contains all the assets for a FileNet workflow application. You need to move the application to a Quality Assurance (QA) environment for testing. Before importing the application into the QA environment, you want to analyze what impact the import has on the destination environment.

Activities

- "Prepare the destination environment for import" on page 1-37
- "Convert the FileNet P8 assets" on page 1-45
- "Perform a change impact analysis" on page 1-49

User accounts

	Type	User ID	Password
	P8 administrator	p8admin	IBMFileNetP8



Note

Passwords are always case-sensitive.

Prepare the destination environment for import

Introduction

In this exercise, you perform the tasks to prepare the destination environment to ensure a successful import.

Procedures

Procedure 1, "Verify object store Add-ons," on page 1-37

Procedure 2, "Create the workflow system and connection point," on page 1-38

Procedure 3, "Retrieve data for the destination environment half maps," on page 1-40

Procedure 4, "Add labels to the source and destination half maps," on page 1-42

Procedure 1: Verify object store Add-ons

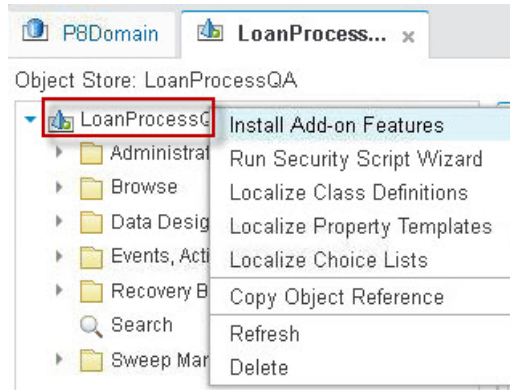
The object store add-on features must be compatible between the source environment and the destination environment. In other words, object store add-on features installed in the source environment must be installed in the destination environment.

1. Maximize the Deployment instructions.pdf.
 - a. Ensure that you have the Bookmarks pane open, select **Prerequisites**.
 - b. Notice the list of object store Add-ons that must be installed.
2. Open the Administration Console for Content Platform Engine.
 - a. Open a Mozilla Firefox browser window.
 - Go to the URL: `http://ecmedu01:9080/acce`

Tip: There is a bookmark in the Bookmarks menu, **ACCE**, for your convenience.

 - b. Log in with a P8 administrator account.
 - Username: `p8admin`
 - Password: `IBMFileNetP8`
3. Open the object store **LoanProcessQA**.

4. In the left navigation pane, right-click **LoanProcessQA** and select, **Install Add-on Features**.



5. Compare the list of installed add-on features, listed in the lower half of the window displayed, with the list of required Add-ons in the Deployment instructions document. Use the scroll bar on the right to scroll down and see the full list.
- a. Make sure that the required Add-ons are installed.



Information

For this lab, the required object store add-on features were previously installed. If you perform this task in a real environment, you need to install the missing add-on features. Users cannot be accessing the FileNet P8 system when you install the add-on features. You also need to carefully look at any existing applications to ensure that installing the add-on feature would not have a negative effect.

6. Click **Cancel**. Leave the administration console open for the next procedure.

Procedure 2: Create the workflow system and connection point

This procedure assumes that you are familiar with creating a workflow system. Only high-level instructions are provided.

1. You are logged in to the Administration Console for Content Platform Engine, and the object store, **LoanProcessQA**, is open.

2. Create a workflow system in the destination object store, **LoanProcessQA**.
 - a. Expand **Administrative** and select **Workflow System**.
 - b. Click **New**.
 - c. Use the data in the table to complete the New Workflow System wizard. Between each window, click **Next**. If no value is specified in the table, accept the defaults.

Window	Field Name	Value
New Workflow System	Table Spaces: Data	CEDATA_TS
	Workflow System Security Groups:	Click Browse to select:
	Administration group:	AEadmins
	Configuration group:	AEadmins
Specify New Connection Point	Connection point name	NewLoansQA_R20
Specify New Isolated region	Isolated region name	LoansReg20
	Isolated region number	20

- d. The summary screen looks like:

Summary

Name	Value
Connection point name	NewLoansQA_R20
Connection point description	NewLoansQA_R20
Isolated region name	LoansReg20
Isolated region number	20
Default locale	English (United States)
Date/Time mask	mm/dd/yy hh:tt am
System default table spaces	pe_data - CEDAT_TS
Administration group	AEadmins
Configuration group	AEadmins

- e. Click **Finish** to complete the wizard and create the workflow system.
- f. Make sure that you see **Success** displayed. Close the tab.
3. Verify the connection point and isolated region created.
 - a. On the left, expand **Administrative > Workflow System > Connection Points**.
 - You see **NewLoansQA_R20** listed.

- b. Expand **Isolated Regions**.
 - You see **LoansReg20** listed.



Information

When you create an isolated region, the wizard automatically initializes the isolated region.

4. Log out and close the browser window.
5. Minimize the Deployment instructions.pdf.

Procedure 3: Retrieve data for the destination environment half maps

You created the destination environment in Lesson 1.2. You need to retrieve the data for the destination environment half maps.

1. Start FileNet Deployment Manager.
 - a. Double-click the lower left icon on the desktop.
 - b. Accept the deployment tree, C:\Deploy.
2. Expand **Environments**.
3. Double-click **AppDeploy_QA** to open it.
4. Retrieve Data for the Object Store half map.
 - a. Click the button, **Retrieve Data**, for type, **Object Store**.
 - b. Select, **From Content Platform Engine** and click **Next**.
 - c. Notice that you can also select to retrieve storage policies and storage areas for each object store.
 - d. Accept the defaults and click **Finish**.
 - e. Click **OK**, on the Successfully retrieved the object store data message.
 - f. The Half Maps section, shows six entries for the Object Store half map.

Half Maps		
Action	Type	Status
Retrieve Data...	Object Store	6 entries, no labels, updated Aug 31, 2015 at 3:17:34 PM
	Storage Policy	no entries, no labels, updated Aug 31, 2015 at 3:17:34 PM
	Storage Area	no entries, no labels, updated Aug 31, 2015 at 3:17:34 PM
Retrieve Data...	Security Principal	no entries, no labels, updated Aug 31, 2015 at 2:58:53 PM
Retrieve Data...	Service	no entries, no labels, updated Aug 31, 2015 at 2:58:53 PM
Retrieve Data...	Connection Point	no entries, no labels, updated Aug 31, 2015 at 2:58:53 PM

5. Create an LDAP label file to use to retrieve data for the Security Principal half map.



Note

The LDAP label file is used as a filter when retrieving security principals from the Content Platform Engine's LDAP provider.

- Open the **LDAP mapping.pdf** spreadsheet, in the Security folder of the application package:
`<Deployment_Application_path>\Security\LDAP mapping.pdf.`
- Create a text file, with Notepad++.
- Use the information in the second column, starting with **Finance Clerks** to create the label file.
 - Each unique row, in the second column, is to be a line in the text file. Do not duplicate entries.
- Save the file as `C:\Deploy\QA_LDAP_filter.txt`.
- The resulting text file looks like:

```

1 Finance Clerks
2 Finance Managers
3 Finance Reviewers
4 AEadmins
5 CEadmins
6 Clerks
7 Finance Admins
  
```

- Close the file, and exit Notepad++.
6. Retrieve Data for the Security Principal half map.
- Click the button, **Retrieve Data**, for type, **Security Principal**.
 - Select, **From Content Platform Engine's LDAP Provider** and click **Next**.
 - In the LDAP Realms, select the button, **Retrieve Realms**.
 - In the Filter section, select **Use a Label File**.
 - Browse to the label file you created, `C:\Deploy\QA_LDAP_filter.txt`.
 - In the Mode section, either selection generates the same results, since it is the first time you retrieve the data.
 - Accept the default mode and click **Finish**.
 - Click **OK**, on the Successfully retrieved the principal data message.
 - You see seven entries under **Status**.

7. Retrieve Data for the Service half map.
 - a. Click the button, **Retrieve Data**, for type, **Service**.
 - b. Select, **From an Environment's Service HalfMap** and click **Next**.
 - c. Accept the Source Environment, **DeployApp_Dev**, and the default mode. Click **Finish**.
 - d. Accept the default mode and click **Finish**.
 - e. Click **OK**, on the Successfully retrieved the service data message.
 - f. You see one entry under **Status**.
8. Retrieve Data for the Connection Point half map.
 - a. Click the button, **Retrieve Data**, for type, **Connection Point**.
 - b. Select, **From Content Platform Engine** and click **Next**.
 - c. Select **Overwrite existing half map with retrieved data**, and click **Finish**.
 - d. Click **OK**, on the Successfully retrieved the object store data message.
 - e. You see four entries under **Status**.
9. When you are done retrieving the data for all the half maps, the status looks like:

Half Maps		
Action	Type	Status
Retrieve Data...	Object Store	6 entries, 1 label, updated Sep 3, 2015 at 12:48:15 AM
	Storage Policy	no entries, no labels, updated Sep 3, 2015 at 12:48:15 AM
	Storage Area	no entries, no labels, updated Sep 3, 2015 at 12:48:15 AM
Retrieve Data...	Security Principal	7 entries, no labels, updated Sep 3, 2015 at 11:24:30 AM
Retrieve Data...	Service	1 entry, 1 label, updated Aug 31, 2015 at 3:50:37 PM
Retrieve Data...	Connection Point	4 entries, 1 label, updated Sep 3, 2015 at 12:24:07 AM

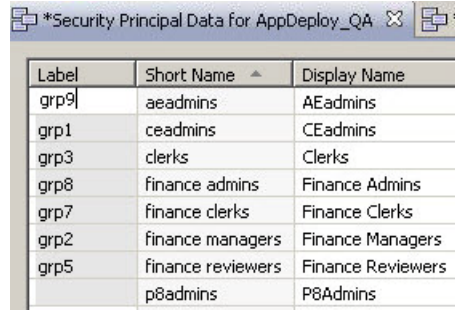
10. Leave FileNet Deployment Manager open for the next procedure.

Procedure 4: Add labels to the source and destination half maps

You need to add common labels to the source and destination half maps to facilitate mapping the data. Perform all the steps, for this procedure, in FileNet Deployment Manager. Most of the source environment half maps already have labels.

1. Add a label to the object store half map for the destination environment.
 - a. Expand **AppDeploy_QA**.
 - b. Double-click **Object Store Data** to open it.
 - c. On the row with, **LoanProcessQA**, type **OS**, in the column, **Label**.
 - d. Click **File > Save All**.
 - e. Click **File > Close All**.

2. Add labels to the security principal half maps.
 - a. Under **AppDeploy_QA**, double-click **Security Principal Data** to open it.
 - b. Refer to the LDAP mapping.pdf spreadsheet and add the appropriate labels.
 - c. The resulting half map looks like:



Label	Short Name	Display Name
grp9	aeadmins	AEadmins
grp1	ceadmins	CEadmins
grp3	clerks	Clerks
grp8	finance admins	Finance Admins
grp7	finance clerks	Finance Clerks
grp2	finance managers	Finance Managers
grp5	finance reviewers	Finance Reviewers
	p8admins	P8Admins

- d. Under **DeployApp_Dev**, double-click **Security Principal Data** to open it.
 - Add the label, **grp7**, to the principal, **olivia**.
 - Change the existing label, **p8admins**, to **grp9**, for the user principal, **p8admin**.
 - Add the label **grp9**, to the principal, **p8admins**.
- e. The resulting half map looks like:

	ceadmin
grp1	ceadmins
	gabe
	gail
grp2	loan business analysts
grp7	loan business users
grp3	loan guests
grp2	loan managers
grp5	loan officers
grp5	loan operations
grp7	loan processors
grp8	loan system administrators
grp5	loan underwriters
	loanguest
	mabel
	mac
	mary
	matt
grp7	olivia
	opal
	ophelia
	oscar
grp9	p8admin
grp9	p8admins

- f. Click **File > Save All**.
- g. Click **File > Close All**.
3. Add a label to the service half map for the destination environment.
 - a. Under **AppDeploy_QA**, double-click **Service Data** to open it.
 - b. The label, **svc**, exists. The reason is that you created the service half map with the source environment service half map, which has the label.

- c. In the column, **Name**, change the isolated region number to the destination region number.
Resulting value: F_WebServer.20.

Label	Name ▲	URL
svc	F_WebServer.20	http://ecmedu01:9080/navigator

- d. Click **File > Save All**.
e. Click **File > Close All**.
4. Add a label to the connection point half map for the destination environment.
- a. Under **AppDeploy_QA**, double-click **Connection Point Data** to open it.
b. Find the row with, **NewLoansQA_R20**. Type **CP** in the column, **Label**.
c. Click **File > Save All**.
d. Click **File > Close All**.
5. Leave FileNet Deployment Manager open for the next exercise.

Convert the FileNet P8 assets

Introduction

In this exercise, you create the source-destination pair, create the data maps and convert the FileNet P8 assets.

Procedures

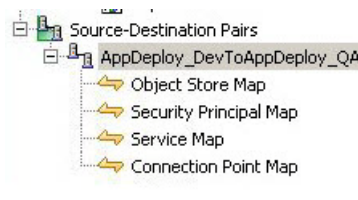
Procedure 1, "Create the source-destination pair," on page 1-45

Procedure 2, "Create the source-destination pair data maps," on page 1-45

Procedure 3, "Convert the FileNet P8 assets," on page 1-47

Procedure 1: Create the source-destination pair

1. In FileNet Deployment Manager, right-click **Source-Destination Pairs** and select **New > Source-Destination pair**.
 - a. Name: `DeployApp_DevToAppDeploy_QA`
 - b. Source Environment: `DeployApp_Dev`
 - c. Destination Environment: `AppDeploy_QA`
2. Click **Finish**.
3. You see:



4. Examine the files created in the deployment tree.
 - a. Open a Windows Explorer window and go to the path: **C:\Deploy\Pairs**.
 - b. You see the source-destination pair you created.
 - c. Open the folder and notice the four data map files that correspond to the four data maps, shown in the preceding diagram.

Procedure 2: Create the source-destination pair data maps

1. Double-click the Source-Destination pair, **DeployApp_DevToAppDeploy_QA**.
2. Map the data for the object store half maps.
 - a. Click the **Map Data** button for type, Object Store.
 - b. A successful message window displays. Click **OK**.
 - c. The object store map window opens. You see one entry, with **LoanProcess** mapped to **LoanProcessQA**.
 - d. Close the object store map window.

3. Map the data for the security principal half maps.
 - a. Click the **Map Data** button for type, Security Principal.
 - b. You get a message that states that the principal data map was created but 20 items could not be mapped. Click **OK** to proceed.
 - c. Click OK on the warning message, **Many-to-one mapping detected**.
 - d. The security principal map window opens.
4. Verify that all the principals needed by the application needs are mapped correctly.
 - a. Open the **LDAP mapping.pdf** spreadsheet, in the Security folder of the application package:
`<Deployment_Application_path>\Security\LDAP mapping.pdf.`
 - b. Use the information in the file, **LDAP mapping.pdf**, to verify the security principal map.
 - Several security principals are not mapped.

	Source Short Name	Destination Short Na
	gail	###
	loanguest	###
	mabel	###
	mac	###
	mary	###
	matt	###
	opal	###
	ophelia	###
	oscar	###
	peter	###
	sydney	###
	sylvia	###
	uma	###
	uri	###
	ceadmins	ceadmins
	loan business analysts	finance managers
	loan managers	finance managers
	loan guests	clerks
	pat	clerks
	loan officers	finance reviewers
	loan operations	finance reviewers
	loan underwriters	finance reviewers
	loan business users	finance clerks
	loan processors	finance clerks
	olivia	finance clerks
	loan system administrators	finance admins
	p8admin	aadmins
	p8admins	aadmins

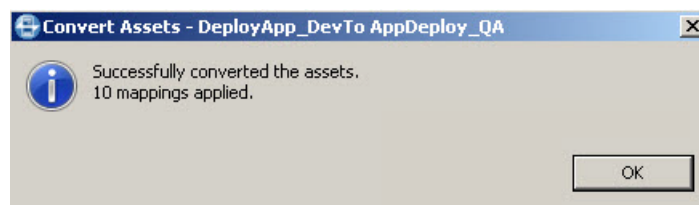
- c. What if you needed to map one of the unmapped entries? Simply click a cell with “###”, and use the drop-down menu to select the correct principal.
 - For example: On the row, with the principal, **gail**, click the “###” under the destination short name column.
 - Notice the principals available to choose from.
 - Click **<Esc>**, and leave the cell with the value, “###”.
- d. Close the security principal map.

5. Map the data for the service half maps.
 - a. Click the **Map Data** button for the type, **Service**.
 - b. A successful message window displays. Click **OK**.
 - c. The service map window opens. You see one entry, with **F_WebServer.10** mapped to **F_WebServer.20**.
 - d. Close the service map window.
6. Map the data for the connection point half maps.
 - a. Click the **Map Data** button for the type, **Connection Point**.
 - b. A successful message window displays. Click **OK**.
 - c. The service map window opens. You see one entry, with **NewLoansR10** mapped to **NewLoansQA_R20**.
 - d. Close the service map window.
7. Close the **DeployApp_DevToAppDeploy_QA** window.
8. Leave FileNet Deployment Manager open for the next procedure.

Procedure 3: Convert the FileNet P8 assets

1. Convert the isolated region objects.
 - a. In FileNet Deployment Manager under Source-Destination Pairs, right-click **DeployApp_DevToAppDeploy_QA** and select **Convert Assets**.
 - b. Click **OK**, to the warning message, **Many-to-one mapping detected**.
 - c. On the **Select Source Deploy Data Set** window, **Browse** to:

C:\Deploy\Environments\DeployApp_Dev\Assets\App_deploy isolated region objects
 - d. Click **OK**.
 - e. Click **Next**.
 - f. On the **Select Output Folder For Converted Deploy Data Set**, note the folder and the converted deploy data set name.
 - g. Click **Finish**.
 - h. Read the warning message, about unmapped principals, and click **Yes**.
 - i. You see:



- j. Click **OK**.

2. Convert the Content Engine objects.
 - a. Repeat Step 1, except for Step 1.c use the following path:
 - b. On the **Select Source Deploy Data Set** window, **Browse** to:
C:\Deploy\Environments\DeployApp_Dev\Assets\App_deploy
- The conversion is successful:



3. Check the deployment.logs in the **Run.<date time stamp>** folders.
 - a. In Windows Explorer, open C:\Deploy\Temp.
 - b. Scroll down to the last **Run.<date time stamp>** folder and open it.
 - c. Right-click **deployment.log** and select, **Edit with Notepad++**.
 - Review the information in the deployment log.
 - Notice at the end of the log, 1536 mappings applied.
 - d. If you want, you can open the next to the last **Run.<date time stamp>** folder and examine the deployment.log file.
 - e. Close the deployment.logs and exit Notepad++.



Reminder

FileNet Deployment Manager creates a **Run.<date time stamp>** folder that contains a deployment.log and a DeploymentOperation.xml file, for every operation it runs. The DeploymentOperation.xml file can be used with the command line interface. You learn more about the command line interface in Lesson 1.6.

Perform a change impact analysis

Introduction

In this exercise, you perform an analyze operation to generate a change impact analysis report, which reports the impact that the import of the FileNet P8 assets has on the destination environment. You also learn how to resolve failures reported in the change impact analysis report.

Procedures

Procedure 1, "Perform an Analyze operation," on page 1-49

Procedure 2, "Resolve analysis failures," on page 1-52

Procedure 1: Perform an Analyze operation

1. Analyze the Impact of importing the deploy data set, **App_deploy isolated region objects**, into the destination environment.
 - a. In FileNet Deployment Manager under Source-Destination Pairs, right-click **DeployApp_DevToAppDeploy_QA** and select **Analyze**.
 - b. On the Select deploy data set to analyze window, browse to:
`C:\Deploy\Environments\AppDeploy_QA\Assets\App_deploy isolated region objects.converted`
 - c. Click **Next**.
 - d. On the Import Options to Use During Analysis window, select, **Always update the object if it exist at the destination**.
 - e. Click **Next**.
 - f. Notice the values set on the **Change impact reporting options** window.
 - The path and name of the Change Impact Report file.
 - The maximum number of failures before terminating.
 - Include details for all objects in report. Check this option.
 - View report after processing.
 - g. Click **Next**.
 - h. A summary of the options selected is displayed.

i. Click **Finish**.

- You see:



- Click **OK**.

2. The Change Impact Analysis Report automatically opens because the option, **view report after processing**, was selected. It can take a minute for the report to display.

3. Examine the report.

a. Click the link, **Information for Workflow System**.

- Examine the summary information, notice:
 - Overall Analysis Status.
 - Total # of Objects Analyzed.

b. Close the report when you are done examining it.



Information

The converted deploy data set, **App_deploy isolated region objects**, contains workflow system objects only.

4. Analyze the impact that importing the deploy data set, **App_deploy** has on the destination environment.

a. Right-click **DeployApp_DevToAppDeploy_QA** and select **Analyze**.

b. On the Select deploy data set to analyze window, browse to:

C:\Deploy\Environments\AppDeploy_QA\Assets\App_deploy.converted

c. Click **Next**.

d. On the Import Options to Use During Analysis window, accept the defaults.

e. Click **Next**.

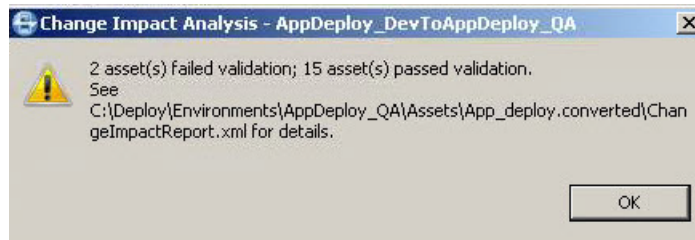
f. Check the option to Include details for all objects in report.

g. Click **Next**.

h. A summary of the options selected is displayed.

i. Click **Finish**.

- You see:



- Click **OK**.

5. Examine the Change Impact Analysis Report.

- Click the link, **Summary**.
- Examine the summary information, notice:
 - Total # of Assets Analyzed.
 - Total # of Failures.
 - Total # of Assets that would be Created during Import.
- Click **Back to Top**.
- Under Details, click the link, **Assets that Failed Analysis**.
 - The first asset that failed analysis is the document class definition, **Loan**.
 - The column, **Comments**, provides the reason for the failure. Loan requires a related object that does not exist. The next procedure teaches you how to resolve the failure.
 - The second asset that failed analysis is the workflow definition, **Application Deployment**.
 - The column, **Comments**, states that the workflow definition cannot be imported because the isolated region objects, LoanRoster, LoanLog, and LoanQueue do not exist.



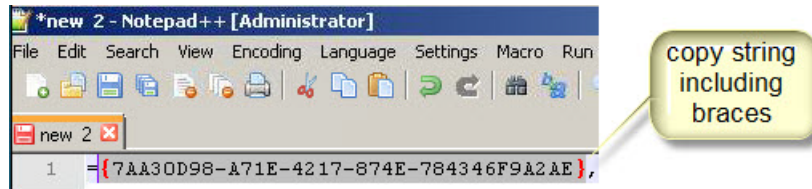
Information

The workflow definition, Application Deployment, requires the isolated region objects, LoanRoster, LoanLog, LoanQueue. When you perform the import, you import the isolated region objects before the Content Engine objects. The missing objects exist and the workflow definition imports successfully. You can ignore this failure.

Procedure 2: Resolve analysis failures

This procedure shows you how to resolve a failure where a related object is missing.

1. Determine what object is missing.
 - a. Note the class of related object.
 - b. Copy the object ID of the related object and paste into a new file in Notepad++.
 - c. The object ID needs the braces, if necessary, fix it in Notepad++.
 - For example:



- d. Copy the object ID, including the braces.
2. Search for the object in the FileNet P8 source environment.
 - a. Open the Administration Console for Content Platform Engine.
 - Log in with a P8 administrator account.
 - b. Open the object store, **LoanProcess**.



Note

You have to perform the search on the source environment. On your student system, you have the source object store, but in a real environment, the source environment might be a different FileNet P8 domain.

- c. On the left, click the node, **Search**.
 - Select **New Object Store Search**.
 - Enter the search criteria as follows:

Search: New Object Store Search

Simple View | SQL View | Bulk Actions (Disabled) | Search Results x

Construct or edit a query step-by-step by entering search criteria. You can optionally switch to the SQL View tab after you begin query construction here.

Class: Property Template Float64

Criteria

Column	Condition	Value
A ID	Equal To	{7AA30D98-A71E-4217-874E-784346F9A2AE}

- d. Click **Run**, on the top menu.
- e. The Search Results show:

Simple View SQL View Bulk Actions (Disabled) Search Results x

Actions ▾

SQL statement: SELECT TOP 500 [This], [Cardinality], [ClassDescription], [Creator], [DataType], [DateC
[DisplayName], [Id], [IsHidden], [IsNameProperty], [IsValueRequired], [LastModifier], [ModificationAccess
[PropertyDefaultFloat64], [PropertyDisplayCategory], [PropertyMaximumFloat64], [PropertyMinimumFloa
[SymbolicName] FROM [PropertyTemplateFloat64] WHERE [Id] = {7AA30D98-A71E-4217-874E-784346F

	Display Name	Cardinality	Class Description
<input type="checkbox"/>	InterestRate	0	Property Template Float6.



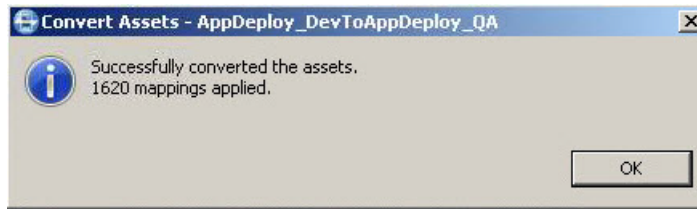
Information

The property template, InterestRate, is missing from the deploy data set. In order to resolve the failure, you need an updated deploy data set that includes this property template. Since the deploy data sets were provided by the development team, the development team needs to provide you with an updated deploy package.

- f. Log out of the administration console and close the browser window.
 - You do not need to save the changes.
3. Expand the corrected deploy package, **App_deploy-updated**.
 - a. In FileNet Deployment Manager, click **File > Deploy Package, Expand Deploy Package**.
 - b. Browse to:


```
C:\Labs\IBM Case Foundation 5.2.1\Workflow application deployment\FileNet P8
assets\Deploy packages\App_Deploy-updated.zip
```
 - c. Select Existing Source Environment: DeployApp_Dev.
 - d. For the Half Map Mode, leave the default, **Merge**.
 - e. Click **Finish**.
4. Convert the deploy dataset, **App_deploy-updated**.
 - a. Under Source-Destination Pairs, right-click **DeployApp_DevToAppDeploy_QA** and select **Convert Assets**.
 - b. Use the following data to complete the wizard:

Item	Value
Deploy Data Set	C:\Deploy\Environments\DeployApp_Dev\Assets\App_Deploy-updated
Output Folder for Converted Deploy Data Set	Accept defaults



5. Analyze the deploy data set, **App_deploy-updated**.
 - a. Right-click **DeployApp_DevToAppDeploy_QA** and select **Analyze**.
 - b. Use the data in the table to complete the wizard:

Item	Value
Deploy Data Set	C:\Deploy\Environments\DeployApp_QA\Assets\App_Deploy-updated.converted (accept the default)
Import Options to Use During Analysis	Accept defaults
Change impact reporting options	Select Include details for all objects in report.



6. Examine the Change Impact Analysis Report.
 - a. Click the link, **Assets that Failed Analysis**.
 - b. The failure reported, is the same failure for the workflow definition, Application Deployment, which was reported in the previous procedure. From the previous analysis, it was decided that this failure can be ignored.
 - c. Close all the tabs and the browser window to close the reports.
7. Exit FileNet Deployment Manager and close any open Notepad++ windows (no need to save any files).

Lesson 1.5. Import the application assets

Overview

Why is this lesson important?

You need to deploy a FileNet workflow application from a development environment into a QA environment. You completed the impact analysis and are now ready to import the application assets into the destination environment.

Activities

- "Perform prerequisite tasks" on page 1-57
- "Import FileNet P8 assets" on page 1-61
- "Import other IBM assets" on page 1-69

User accounts

	Type	User ID	Password
	WebSphere Application Server administrator	p8admin	IBMFileNetP8
	P8 administrator	p8admin	IBMFileNetP8
	Content Navigator administrator	p8admin	IBMFileNetP8



Note

Passwords are always case-sensitive.

Perform prerequisite tasks

Introduction

In this exercise, you perform the tasks that must be completed prior to importing the FileNet P8 assets. For the workflow application, Deployment Application, the prerequisite tasks are:

- Import other IBM Assets
 - Custom Step Processor, StepProcessorEDU
- Verify External Assets:
 - Database, LOANDB and stored procedures.

Procedures

Procedure 1, "Install the custom step processor," on page 1-57

Procedure 2, "Verify that the required external database exists," on page 1-59



Information

In the following procedures, *<Deployment_Application_path>* refers to the path where the Deployment Application package was extracted to. For example:

C:\Labs\Case Foundation 5.2.1 Administration\Workflow applicaiton deployment\Deployment Application.

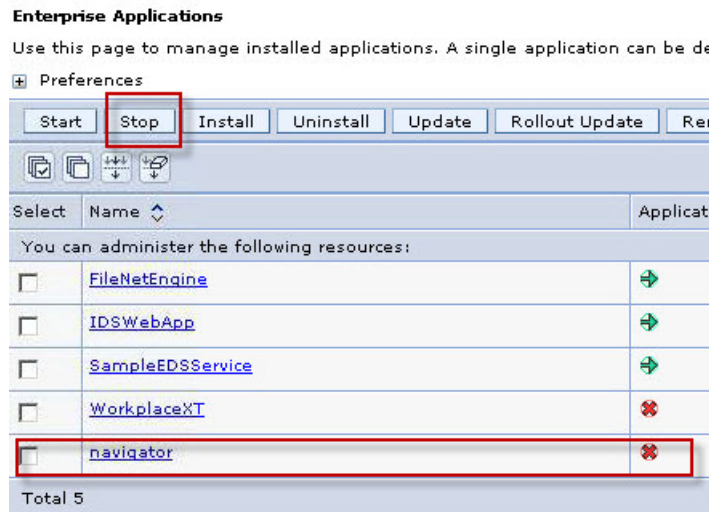
If you used a different path to export the application package, then substitute *<Deployment_Application_path>* with the path that you used.

Procedure 1: Install the custom step processor

In this procedure, you install the custom step processor, StepProcessorEDU. The custom step processor is installed within an IBM Content Navigator application instance. The Deployment instructions include the steps to install the required custom step processor. These instructions were provided by the developer of the custom step processor. Refer to Deployment instructions.pdf, Section: Prerequisites: Custom step processor: StepProcessorEDU

1. Open the WebSphere Integrated Solutions Console that is hosting the IBM Content Navigator application for the destination environment.
 - a. Open the WebSphere Admin folder on the desktop.
 - b. Double-click, **Administrative console server1**.
 - c. Log in with a WebSphere Application Server administrator account:
 - Username: p8admin
 - Password: IBMFileNetP8

2. Stop the IBM Content Navigator application.
 - a. Select **Applications > Application Types > WebSphere enterprise applications**.
 - b. Under Enterprise Applications, select **navigator**.
 - c. Click the **Stop** button.
 - d. Wait until you see a red X, under Application Status. A red X, indicates that the application is stopped.



- e. Minimize the WebSphere Integrated Solutions Console.
3. Install the custom step processor StepProcessEDU.
 - a. Create four subfolders under the folder, `<navigator_deployment>\navigator.war`.

Item	Value
<code><navigator_deployment></code>	<code>: \Program Files\IBM\WebSphere\AppServer\profiles\AppSrv01\installedApps\P8Node01Cell\navigator.ear</code>
Resulting path	<code><navigator_deployment>\navigator.war\custom\widget\process\templates</code>

- b. Open the folder, `<Deployment_Application_path>\Other IBM Assets\StepProcessorEDU`.
 - c. Copy each of the files and paste them in the paths shown:

File	Path
stepprocessoredu.jsp	<code><navigator_deployment>\navigator.war</code>
stepProcessorEDULayout.js	<code><navigator_deployment>\navigator.war\custom\widget\process</code>
stepProcessorEDULayout.html	<code><navigator_deployment>\navigator.war\custom\widget\process\templates</code>

4. Start the navigator application.
 - a. Maximize the WebSphere Integrated Solutions Console.
 - b. Select the navigator application and click the **Start** button.
 - c. Wait until you see a green check mark, under Application Status. (Starting the application can take several minutes).
5. Log out of the WebSphere Integrated Solutions Console and close the browser window.
6. Close any Windows Explorer windows that you opened to copy the files.

Procedure 2: Verify that the required external database exists

The Deployment Application requires the database, LOANDB, and the stored procedure GETINTERESTRATE. You need to verify that the destination environment can access the database.

1. Open the IBM DB2 Control Center.
 - a. Start > All Programs > IBM DB2 > TDSV63DB2 > General Administration Tools > Control Center.
 - b. Click OK at the prompt.
2. Verify that the database, LOANDB, exists.
 - a. Expand the node, **All Databases**.
 - b. Make sure that you see **LOANDB** listed.
3. Verify the stored procedure, **GETINTERESTRATE**, exists.
 - a. Expand **LOANDB > Application Objects**, and select **Stored Procedures**.
 - b. On the right pane, click the column, **Schema**, to sort the column. You want **DSRDBM01** to be listed first.
 - c. Examine the column, **Name**, and make sure that you see the stored procedure, **GETINTERESTRATE**.



Information

The student system was set up with the database, LOANDB. When you are deploying applications in the real world, you might have to work with a database administrator to get required databases setup.

4. Close the IBM DB2 Control Center.

Import FileNet P8 assets

Introduction

In this exercise, you import the FileNet P8 assets into the destination environment.

Procedures

Procedure 1, "Import the workflow system assets," on page 1-61

Procedure 2, "Perform an audit-only import of the Content Engine assets," on page 1-62

Procedure 3, "Import the Content Engine assets," on page 1-64

Procedure 4, "Verify the FileNet P8 assets imported," on page 1-66



Information

In the following procedures, *<Deployment_Application_path>* refers to the path where the Deployment Application package was extracted to. For example:

C:\Labs\Case Foundation 5.2.1 Administration\Workflow applicaiton deployment\Deployment Application.

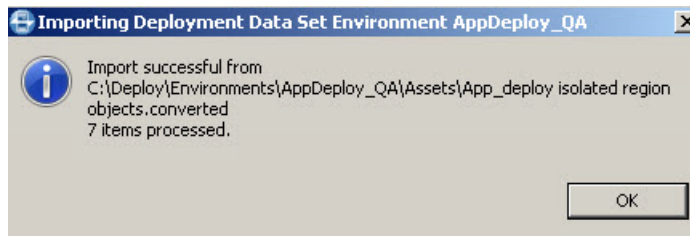
If you used a different path to export the application package, then substitute *<Deployment_Application_path>* with the path that you used.

Procedure 1: Import the workflow system assets

In this procedure, you import the converted deploy data set, **App_deploy isolated region objects.converted**, which contains the workflow system assets.

1. Start FileNet Deployment Manager.
2. Expand the node, **Source-Destination Pairs**.
3. Right-click **DeployApp_DevToAppDeploy_QA** and select **Import**.
4. Select the import options.
 - a. Select Deploy Data Set: C:\Deploy\Environments\AppDeploy_QA\Assets\App_deploy isolated region objects.converted.
 - b. Option Set:
 - Browse to: *<Deployment_Application_path>*\FileNet P8 Assets\Import Options-isolated region objects.xml.

- c. Click Finish.



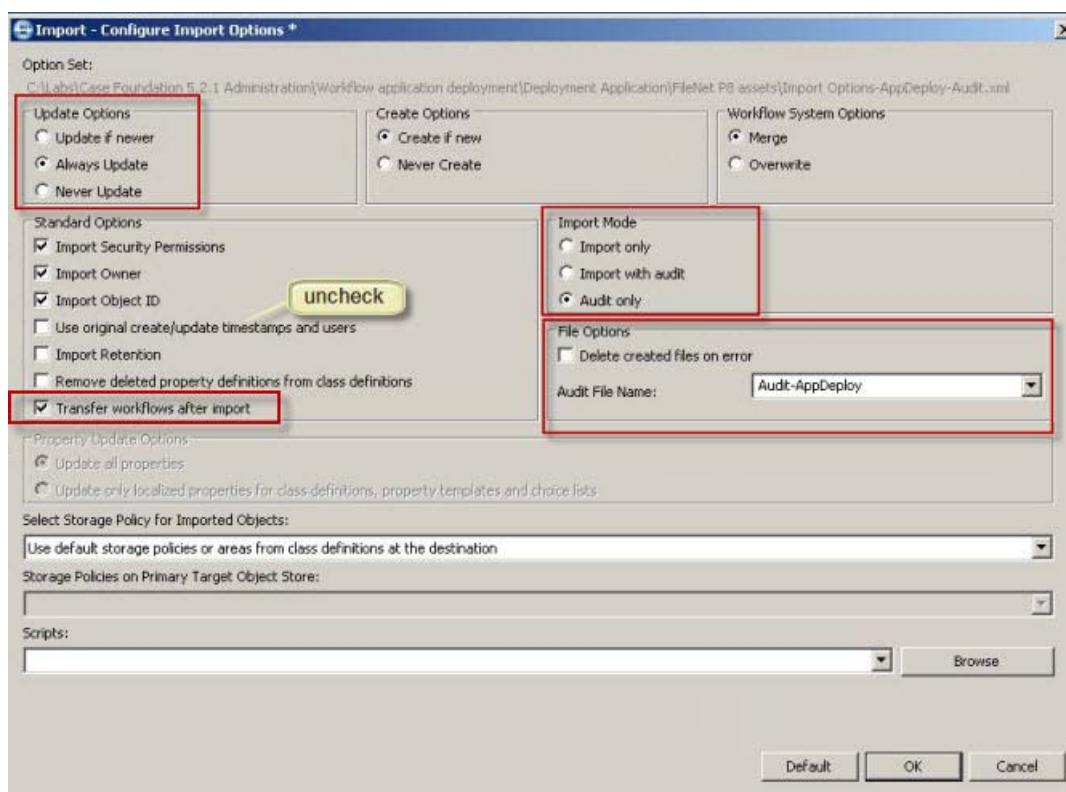
5. Review the, single run operation, deployment.log.
 - a. In Windows Explorer, open the folder, C:\Deploy\Temp.
 - b. Open the folder with the latest Run.<date and time stamp>.
 - c. Open the deployment.log with Notepad++.
 - d. Examine the log. Look for the objects that were imported.
6. Examine the running deployment.log.
 - a. In another Windows Explorer, open the folder:
C:\Program Files\IBM\FileNet\ContentEngine\tools\deploy\
 - b. Open the deployment.log with Notepad++.
 - c. Examine the log. Search for the date and time stamp that matches the deployment.log from the previous step.
 - d. Compare the two deployment logs.
 - e. FileNet Deployment Manager maintains a running log, in the <Preinstallation>, and creates a log for each operation in each Run.<date and time stamp> folder.
 - f. When you are done examining the logs, close the logs and exit Notepad++.
7. Minimize the Windows Explorer window.

Procedure 2: Perform an audit-only import of the Content Engine assets

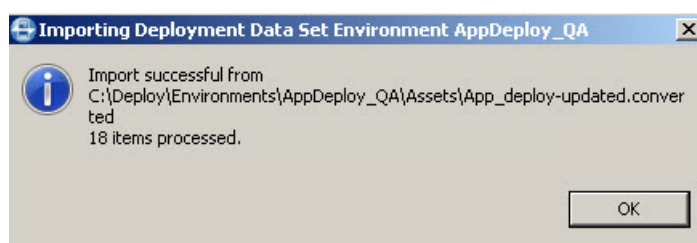
In this procedure, you perform a simulated import of the converted deploy data set, **App_Deploy-updated.converted**, which contains the Content Engine assets. To perform a simulated import, you set the import mode to audit-only. You generate an audit report from the audit file created.

1. In FileNet Deployment Manager, Right-click **DeployApp_DevToAppDeploy_QA** and select **Import**.
2. Select the import options.
 - a. Select Deploy Data Set:
C:\Deploy\Environments\App_Deploy_QA\Assets\App_deploy-updated.converted.
 - b. Option Set:
 - Click **New**.
 - Browse to: <Deployment_Application_path>\FileNet P8 Assets
 - Enter the file name: Import Options-AppDeploy-Audit.xml.
 - Click **Save**.

- The **Configure Import Options** window opens.
- Select the options as shown:



- Click **OK**, twice.
 - Click **Save**.
- c. Click **Finish**.



- d. Click **OK**.



Information

The import successful message is a bit misleading. It is referring to the operation, which in this case was audit only.

3. Generate an Audit Report.

- a. Right-click **DeployApp_DevToAppDeploy_QA** and select **Generate Audit Report**.

- b. Use the values in the table to complete the wizard:

Item	Value
Deploy Data Set:	C:\Deploy\Environments\AppDeploy_QA\Assets\App_deploy-updated.converted
Audit File:	Audit-AppDeploy.xau
Audit Report File	Accept the default
Generate detailed report	Select

- c. Click **Finish**.
4. Examine the Audit Report.

The report contains much information.

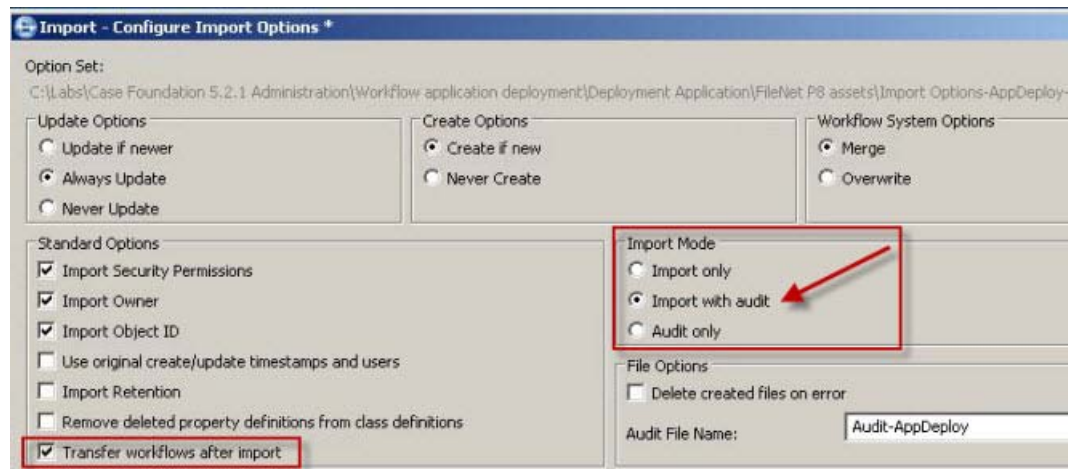
- a. Expand some of the objects under the Details section.
- b. When you are done examining the report, close the report and close the browser window.

Procedure 3: Import the Content Engine assets

In this procedure, you import the converted deploy data set, **App_Deploy-updated.converted**, into the destination environment.

1. In FileNet Deployment Manager, Right-click **DeployApp_DevToAppDeploy_QA** and select **Import**.
2. Select the import options.
 - a. Select Deploy Data Set:
C:\Deploy\Environments\AppDeploy_QA\Assets\App_deploy-updated.converted.
 - b. Option Set:
 - Browse to: <Deployment_Application_path>\FileNet P8 Assets\Import Options-AppDeploy-Audit.xml.

- Click **Configure**.
 - In the **Configure Import Options** window, change the **Import Mode** to **Import with audit**.
 - Select the option to: **Transfer workflows after import**.



- Click **OK** twice.
- Save the import options to: **Import Options-AppDeploy.xml**.

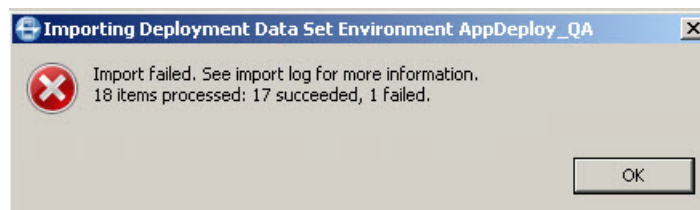


Information

The scripts field at the bottom of the Configure Import Options window, provide a way to include import scripts that can be run at different points throughout the import process to complete custom operations.

Refer to: FileNet P8 Platform 5.2.1 Knowledge Center > Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Preparing import scripts>Import scripts

- c. Click **Finish**.



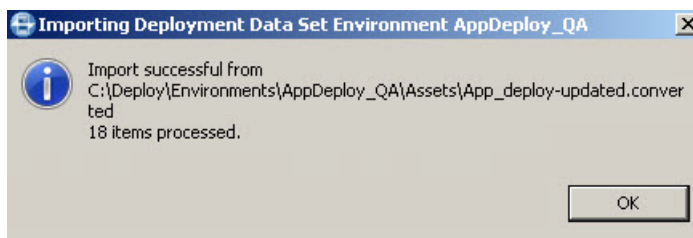
3. Review the deployment.log.
 - a. In Windows Explorer, open the folder, C:\Deploy\Temp.
 - b. Open the latest Run.<date and time stamp> folder.
 - c. Open the deployment.log with Notepad++.
 - d. Examine the log. Scroll down until you find the stack trace. An object of class workflow subscription failed. It states, “**Required singleton property WorkflowDefinition has no value**”.



Information

The cause of the failure is that FileNet Deployment Manager attempts to import the workflow subscription before the workflow definition is imported and transferred. Object dependencies can be complicated, affecting the order of operation. Repeating the import generally resolves the failure.

4. Repeat the import.
 - a. Right-click **DeployApp_DevToAppDeploy_QA** and select **Import**.
 - b. Click **Finish**.



5. You see a message that 18 items were processed. Click **OK**.
6. Exit FileNet Deployment Manager.
7. Close the deployment.log and Notepad++

Procedure 4: Verify the FileNet P8 assets imported

In this procedure, you verify that key objects of the Deployment Application exist in the destination environment. Refer to the Deployment instructions, Step 12, on Page 5 of 7.

1. Open the Administration Console for Content Platform Engine.
 - a. Log in with a P8 Administrator account.
2. Open the destination object store, **LoanProcessQA**.
3. Verify that the folders, **Loans**, and **Workflows**, exists.
 - a. Expand **Browse > Root Folder**.
 - b. Verify that **Loans** and **Workflows** are listed.

4. Verify that the workflow definition, **Application Deployment**, exists.
 - a. Select the node, **Workflows**.
 - b. On the right, verify that **Application Deployment** is listed, and that the Class is Workflow Definition.
5. Verify that the workflow subscription, **Application Deployment AutoLaunch**, exists.
 - a. On the left, expand **Events, Actions, Processes > Subscriptions**.
 - b. On the right, verify that **Application Deployment AutoLaunch** is listed.
6. Verify that the document class definition, **Loan**, exists.
 - a. On the left, expand **Data Design > Classes > Document**.
 - b. Verify that **Loan** is listed, on the left.
 - c. Verify the property templates defined in the document class, **Loan**.
 - Select **Loan** to open it.
 - On the right, click the **Property Definitions** tab.
 - Verify that there are 10 property definitions listed.
7. Verify that the isolated region objects exist.
 - a. On the left, expand **Administrative > Workflow System > Isolated Regions > LoansReg20**.
 - b. Expand each of the nodes listed in the table and verify that the corresponding asset exists.

Node	Asset
Application Spaces	Loans
Event Logs	LoanLog
Rosters	LoanRoster
Work Queues	LoanQueue

8. Log out of the administration console and close the browser window.

Import other IBM assets

Introduction

In this exercise, you import the other IBM assets that were not included as prerequisites. You import the IBM Content Navigator desktop, which functions as the user interface for the workflow application.

Procedures

Procedure 1, "Import the IBM Content Navigator desktop," on page 1-69

Procedure 2, "Configure the imported IBM Content Navigator desktop," on page 1-70

Procedure 3, "Test the deployed workflow application," on page 1-71

Procedure 4, "Export FileNet P8 assets from the destination environment," on page 1-72



Information

In the following procedures, *<Deployment_Application_path>* refer to the path where the Deployment Application package was extracted to. For example:

C:\Labs\Case Foundation 5.2.1 Administration\Workflow applicaiton deployment\Deployment Application.

If you used a different path to export the application package, then substitute *<Deployment_Application_path>* with the path that you used.

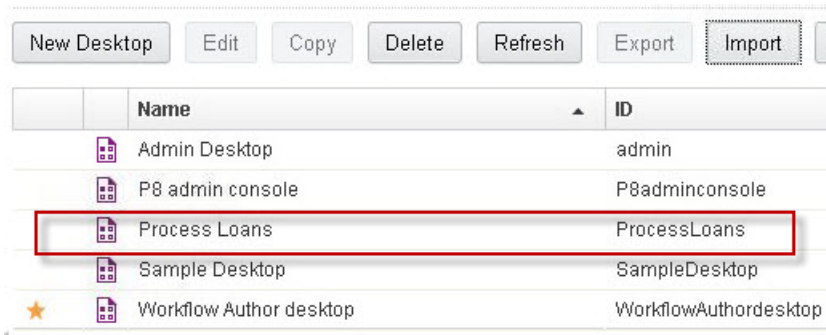
Procedure 1: Import the IBM Content Navigator desktop

In this procedure, you import the IBM Content Navigator desktop, **Process Loans**. Use the IBM Content Navigator administration tool.

1. Open IBM Content Navigator administration tool.
 - a. Open a Mozilla Firefox window.
 - b. Go to **Bookmarks > Content Navigator Administration**.
 - c. Log in with a Content Navigator administrator account.
 - Username: P8Admin
 - Password: IBMFileNetP8
2. The administration tool opens to the Desktops tab.

3. On the menu bar, click **Import**.
 - a. Browse to:

Deployment_Application_path>\Other IBM assets\ProcessLoans-export.properties
 - b. Ignore the warning and click **Import**, on the lower right. You might need to scroll down to see the Import button.
 - c. The Desktop Import Summary is displayed.
 - You can choose to download the report if you want.
 - d. Click **Close**.
4. The desktop **Process Loans** is listed on the **Desktops** tab.



	Name	ID
	Admin Desktop	admin
	P8 admin console	P8adminconsole
	Process Loans	ProcessLoans
	Sample Desktop	SampleDesktop
	Workflow Author desktop	WorkflowAuthordesktop

Procedure 2: Configure the imported IBM Content Navigator desktop

In this procedure, you modify the imported desktop configuration so that it works in the destination environment. Modifying the desktop configuration is an example of a post-deployment task that falls under the category of additional configuration tasks.

1. Modify the imported repository.
 - a. In the IBM Content Navigator administration tool, open the **Repositories** node.
 - b. Select the repository, **LoanR10**, and click **Edit**.
 - Change the Object store symbolic name and display name to: **LoanProcessQA**
 - Click **Save**.
 - Click **Connect** and log in with an account that has the necessary access to the object store, **LoanProcessQA**.
 - Select the **Configuration Parameters** tab when it becomes enabled.
 - On the **Workflow connection point**, use the drop-down menu to select: **NewLoansQA_R20:20**.
 - Click **Save and Close**.
 - c. Close the **Repositories** tab.
2. Modify the imported desktop.
 - a. On the Desktop tab, select the desktop, **Process Loans**, and click **Edit**.
 - b. Under Authentication > Repository, use the drop-down menu to select: **LoanProcessQA**.
 - c. Select the **Layout** tab and set the Default repository to **LoanR10**

3. On the upper menu bar, click **Save and Close**.
4. Log out of the IBM Content Navigator administration tool.
5. Leave the browser window open for the next procedure.


Procedure 3: Test the deployed workflow application

In this procedure, you test the deployed workflow application to complete the application verification task. Refer to the Deployment instructions, Section: Application Verification.

1. Launch the Process Loans desktop.
 - a. In the browser window that is open, change the last part of the URL:
 - From: **desktop=admin**
 - To: desktop=ProcessLoans (Note: The desktop name is case-sensitive).
 - Click return.
 - b. Log in with a **Clerk** account.
 - Username: Clara
 - Password: filenet
2. Open the folder, **Loans**, and add a document.
 - a. Use the data in the table to complete the wizard:

Item	Value
File Name:	<Deployment_Application_path>\Sample Loan Requests\CarolCookLoan.pdf
Browse to:	(You can choose any of the same loan requests).
Class:	Loan
CustomerName:	Enter a customer name, for example: Carol Cook
LoanAmount:	Enter amount, for example: 300000
LoanTerm:	Select a loan term, for example: TermList > Fixed Rate > 15 year
LoanDate:	Select a date

- b. Click **Add**, lower right corner.
- c. A new work item, is listed in the folder.

3. Complete the first step of the workflow launched, when a document of class, **Loan** is added.
 - a. Select the work icon,  .
 - b. Under **MyWork**, open the work item listed (click the icon for the work item).
 - c. Verify that **Interest Rate** has a value other than 0.0.
 - A value other than 0.0, indicates that the step to run the external database stored procedure, GetInterestRate, completed successfully.
 - d. Verify that the viewer displays on the right. (The viewer is empty).
 - The viewer indicates that the StepProcessorEDU is functioning.
 - e. Complete the work item.
4. Log out of the desktop.
5. Log in with a **Finance Clerk** account.
 - Username: carol
 - Password: filenet
6. Complete the final step in the workflow.
 - a. Select the work icon.
 - b. Expand the role, Loan Processor and select the in-basket, **NewLoans**.
 - c. Open the work item listed.
 - Enter a value for the **Branch Office**. (For example: San Diego).
 - Click **Complete**.
7. Log out of the desktop.
8. Close the browser window.
9. If you complete the steps successfully, you know that the Deployment Application was successfully deployed to the QA destination environment.

Procedure 4: Export FileNet P8 assets from the destination environment

In this procedure, you use the destination environment you created to export the FileNet P8 assets and create a deploy package. This procedure is not required; it is here if you want to practice exporting FileNet P8 assets with FileNet Deployment Manager.

1. Open the Application Assets Tracking spreadsheet. Use it as a guide to create the export manifest.
2. Start FileNet Deployment Manager and expand the environment, **AppDeploy_QA**.
3. You can double-click the icon on the lower left corner of the desktop,
4. Create an export manifest for the workflow system assets.
 - a. Right-click **Export Manifests** and select **New > Export manifest**.
 - b. Enter a name for the export manifest, for example: AppDeploy_QA-workflow system objects.
 - c. Double-click the export manifest you created to open it.

5. Add assets to the export manifest.
 - a. Click the green cross in the menu bar.
 - b. Refer to the Application Assets Tracking spreadsheet, and add the objects listed in rows that have App_deploy isolated region objects, in the Location column, to the export manifest. For example:
 - On the **Add Assets** window, expand **Object Stores > LoanProcessQA > Administrative > Workflow System > Connection Points**.
 - Select **NewLoansQA_R20**.
 - Select the three items, listed on the right, and click **Add**.



Hint

Inbox and Tracker are both User Queues. The column width on the spreadsheet causes Tracker to wrap to a new line, which makes it appear like a header.

- c. Click **Finish**.
 - d. Expand the node, **NewLoansQA_20**, on the left.
 - e. Select the node, **Work Queues**.
 - Select **LoanQueue**, on the right, and click **Add**.
 - Repeat the process until you include all the isolated region objects identified in the Application Assets Tracking spreadsheet.
 - f. When you are done adding assets, click **Close** on the **Add Assets** window.
 - g. Click **File > Save**.
6. Export the assets and create a deploy data set.
 - a. On the left, right-click the export manifest, and select **Export**.
 - b. On the **Export Options** window, ensure that the correct export manifest file shows, you can keep the default values for the output folder and the deploy data set name or change them.
 - c. At the end of the export you see:



- d. Review the deployment log to verify the objects that were exported.

7. Create a deploy package for the deploy data set.
 - a. On the left, right-click the node, **AppDeploy_QA**, and select **Deploy Package > Create Deploy Package**.
 - Browse to the deploy data set you created in step 5.
 - Make sure that the source environment is correct, **AppDeploy_QA**.
 - Accept the path for the Deploy Package or change it.
 - Click **Finish**.
8. Create an export manifest for the Content Engine Assets.
 - a. Right-click Export Manifests and select **New > Export manifest**.
 - b. Enter a name for the export manifest, for example: `AppDeploy_QA-CE objects`.
 - c. Click **Finish**.
 - d. Double-click the export manifest you created to open it.
9. Add assets to the export manifest.
 - a. Click the green cross in the menu bar.
 - b. Refer to the Application Assets Tracking spreadsheet, and add the objects listed in rows that have **App_deploy**, in the **Location** column, to the export manifest. For example:
 - On the **Add Assets** window, expand **Object Stores > LoanProcessQA > Data Design > Classes**.
 - Select **Document**.
 - On the right, select **Loan** and click **Add**.
 - Close the Add Assets window.
 - Click the pencil in the menu bar to open the **Include Options** window.
 - Look at the **Data Design** section.
10. Set the include options.
 - a. Under the section: Data Design, clear all the options, so that the only object exported is the class definition, **Loan**.
 - b. Under the section: Event and Lifecycle, clear the first two options. You want to explicitly export the workflow subscription.
11. Continue adding the rest of the CE assets listed in the asset tracking spreadsheet. Play with the include options, remember that the property template, **LoanTerm**, includes a choice list.

**Hint**

You can compare the include options with the export manifest, `DeployApp_Dev: App_deploy.xml`. You can select more than one item, in the export manifest, and set the include options once. For example, you are able to select all the property templates and set the include options one time.

12. When you are done adding assets to the export manifest and setting the include options, save your changes.
13. Export the assets and make sure to open the deployment log to examine the assets that were exported.
14. Exit FileNet Deployment Manager.
15. Close any pdf files that are open.

Lesson 1.6. Using the FDM command line interface

Overview

Why is this lesson important?

You need to use the FileNet Deployment Manager command line interface to script the deployment of your application.

Activities

- "Perform a change impact analysis" on page 1-49
- "Expand a deploy package to a new environment" on page 1-83

Perform a change impact analysis

Introduction

In this exercise, you perform an AnalyzeDeployDataSet operation with the command line interface. You repeat the operation you performed in Lesson 1.4, Exercise , "Perform a change impact analysis," on page 1-49. However, you use the command line interface instead of the GUI.

Procedures

Procedure 1, "Search for the deployment operation file," on page 1-79

Procedure 2, "Run the operation," on page 1-80

Procedure 3, "Verify the operation," on page 1-80 Workflow application deployment

Procedure 4, "Compare deployment operation files," on page 1-81

Procedure 1: Search for the deployment operation file

In this procedure, you search the deployment.log for a deployment operation you performed in Lesson 1.4 to locate and save the appropriate DeploymentOperation.xml file. If you did not successfully complete Lesson 1.4, Exercise , "Perform a change impact analysis," on page 1-49, skip this procedure and go to Procedure 2.

1. Search for the AnalyzeDeployDataSet operation in the running deployment.log.
 - a. Open a Windows Explorer window and browse to the *<FDM_Install_Path>*:
 C:\Program Files\IBM\FileNet\ContentEngine\tools\deploy
 - b. Open the deployment.log with Notepad++.
 - c. Search for the string, ChangeImpact. Keep searching until you see **18 items processed**.
2. Get the date and time stamp for the operation, for example:

```
2015-09-06 16:22:06,469 INFO [ModalContext] com.filenet.deployment.common.Util - Done extracting the resource file:
ChangeImpactReport.xml
2015-09-06 16:22:06,469 WARN [ModalContext] com.filenet.deployment.common.Executor - VALIDATE_FOR_IMPORT completed with
errors. 18 items processed: 17 succeeded, 1 failed.
2015-09-06 16:22:06,485 WARN [main] com.filenet.deployment.rcp.Plugin - Change Impact Analysis - AppDeploy_DevToAppDeploy_QA
1 asset(s) failed validation; 17 asset(s) passed validation.
```

3. In another Windows Explorer window, open the folder C:\Deploy\temp\Run.<Date and time stamp> folder, with the date and time stamp that you noted Step 2. The hours and minutes match, but the seconds might be slightly different.
 - a. Copy the DeploymentOperation.xml file to a new folder, for example:

C:\scripts

**Information**

If you choose a path that includes spaces, you need to specify the path in quotes when you run the command.

- b. Rename the file to `Analyze_DeploymentOperation.xml`
- c. Examine the file with Notepad++. Make sure the `DeployDataSet` is **App_deploy-updated.converted**.
- d. Leave the Windows Explorer windows open for the next procedure.

Procedure 2: Run the operation

In this procedure, you run the analyze deployment operation with the command line.

**Note**

If you did not successfully complete Lesson 1.4, Exercise , "Perform a change impact analysis," on page 1-49;

- Copy the file, `Analyze_DeploymentOperation.xml`.

- From the folder,

`C:\Labs\Case Foundation 5.2.1 Administration\Workflow application deployment\scripts`

- To the folder, `C:\scripts`. Create the folder if it does not exist.

1. Open a command prompt window and change the Layout properties to a larger Window size, for example, Width: 100, Height: 50.
2. Change directories to the `<FDM_Install_Path>`:

`C:\Program Files\IBM\FileNet\ContentEngine\tools\deploy`

3. Run the command:

`DeploymentManagerCmd.bat --operation C:\scripts\Analyze_DeploymentOperation.xml`

- a. The information that is normally written to the `deployment.log` is displayed in the command window and also saved in the `deployment.log`.
- b. Minimize the command window.

Procedure 3: Verify the operation

In this procedure, you verify that the command line operation ran successfully.

1. Verify the operation.
 - a. In Windows Explorer, go to the path where you stored the `Analyze_DeploymentOperation.xml` file.
 - b. Notice that a `deployment.log` is created in that directory.

2. Open the Change Impact Analysis Report.
 - a. In Windows Explorer, go to the path:
`C:\Deploy\Environments\AppDeploy_QA\Assets\App_deploy-updated.converted`
 - b. Notice the file `ChangeImpactReport.xml` and the date modified.
 - c. Open the `ChangeImpactReport.xml` file with Internet Explorer.
 - d. Close the report when you are finished.

Procedure 4: Compare deployment operation files

In this procedure, you use FileNet Deployment Manager to create sample deployment files and you compare the sample `AnalyzeDeployDataSet.xml` with the `Analyze_DeploymentOperation.xml` file you used in Procedure 1.

1. Run the command to create the sample files.
 - a. Maximize the command window and run the command:
`DeploymentManagerCmd.bat --samples`
2. Examine the sample files created.
 - a. In Windows Explorer, go to the path:
`C:\Program Files\IBM\FileNet\ContentEngine\tools\deploy\Samples`
 - b. Examine the files created.
 - c. Open the file, **`DeploymentOperation_AnalyzeDeployDataSet.xml`** with Notepad++.
 - d. Compare the sample file with the `Analyze_DeploymentOperation.xml` that you created in Procedure 1.
 - Notice the values that are updated in the deployment operation file that you created.
3. Close all the files in Notepad++ and exit Notepad++.
4. Leave the Windows Explorer windows open for the next exercise.

Expand a deploy package to a new environment

Introduction

In this exercise, you perform an ExpandDeployPackage operation into a new environment, with the command line interface.

Procedures

Procedure 1, "Find and edit the deployment operation file," on page 1-83

Procedure 2, "Run the operation," on page 1-84

Procedure 1: Find and edit the deployment operation file

In this procedure, you search the deployment.log for a deployment operation you performed in Lesson 1.2, Exercise , "Perform one-time configuration setup tasks," on page 1-17. You save the DeploymentOperation.xml file, and modify the DeploymentOperation.xml file.

If you did not successfully complete Lesson 1.2, Exercise , "Perform one-time configuration setup tasks," on page 1-17, skip this procedure and go to Procedure 2.

1. Search for the ExpandDeployPackage operation in the running deployment.log.
 - a. In Windows Explorer, go to the path:


```
C:\Program Files\IBM\FileNet\ContentEngine\tools\deploy\
```
 - b. Open the deployment.log with Notepad++. Make sure that you are at the beginning of the file.
 - c. Search for the string, **Expand**. Keep searching until you see "**Successfully expanded deploy package**" with the deploy package, **App_deploy isolated region objects.zip**.
 - a. Get the date and time stamp for the operation.
 - b. Close the file, deployment.log.
2. Select the Windows Explorer window that is open to the folder, C:\Deploy\temp\Run.<Date and time stamp>. Find the folder with the matching date and time stamp, that you noted Step 1.
 - a. Copy the DeploymentOperation.xml file to the folder you created in Procedure 1, Step 3.a, for example:


```
C:\scripts
```
 - b. Rename the file. For example, **ExpandDeployPackage_DeploymentOperation.xml**.
3. Modify the deployment operation to create a new environment when you expand the deploy package.
 - a. Edit the file, **ExpandDeployPackage_DeploymentOperation.xml**, with Notepad++.
 - Ensure that the tag, **<ExpandDeployPackage>**, has `createEnvironment = "true"`.
 - Modify the value for the tag, **<Environment>**. For example, `DeployApp_Test`.
 - Replace the environment name in the **<DeployDataSet>** tag, with the new environment name.
 - b. Save the file and close it.

Procedure 2: Run the operation

In this procedure, you run the deployment operation, `ExpandDeployPackage`, to expand a deploy package to a new environment, with the command line.



Note

If you did not successfully complete Lesson 1.2, Exercise , "Perform one-time configuration setup tasks," on page 1-17;

- Copy the file, `ExpandDeployPackage_DeploymentOperation.xml`.
 - From the folder,

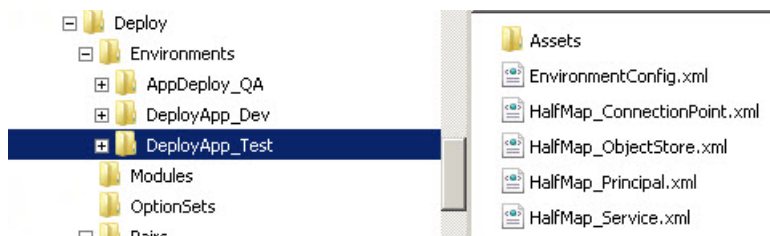
`C:\Labs\Case Foundation 5.2.1 Administration\Workflow application deployment\scripts`

- To the folder, `C:\scripts`.

1. Maximize the command window and run the command.

```
DeploymentManagerCmd.bat --operation  
C:\scripts\ExpandDeployPackage_DeploymentOperation.xml
```

- a. Minimize the command window.
2. Verify the operation.
 - a. In Windows Explorer, browse to the path:
`C:\Deploy\Environments\`
 - b. You see the new environment listed.
 - c. Expand the folder for the new environment. You see:



3. Close all Windows Explorer windows.
4. Close Notepad++ and the command window.

Appendix A. Solutions to exercises

This appendix contains the answers to exercises.

"Lesson 1.1 Test your knowledge of the deployment process" on page A-3

"Lesson 1.3: Examine the exported FileNet P8 assets" on page A-5

"Lesson 1.3: Examine the exported other IBM and External Assets" on page A-7

Lesson 1.1 Test your knowledge of the deployment process

1. The FileNet P8 assets in a workflow application fall into two categories, what are they? (Choose two):
 - a. Object store assets.
 - b. Assets that you create or configure in the destination environment.
 - c. Workflow assets.
 - d. Assets that you deploy to the destination environment.

Answer = B and D

2. Which of the following is NOT a deployment phase?
 - a. Planning
 - b. Preparing
 - c. Exporting
 - d. Deploying

Answer = C

3. The only tool you need to deploy a workflow application that contains both FileNet P8 assets and external assets is FileNet Deployment Manager. (T or F)?

Answer = F

4. What tool is used to deploy IBM Content Navigator desktops from one environment to another?
 - a. FileNet Deployment Manager.
 - b. IBM Content Navigator administration tool.
 - c. Administration Console for Content Platform Engine.
 - d. FileNet Enterprise Manager.

Answer = B

5. What role has primary responsibility for performing the tasks in the phase, Deploying?
 - a. Project Manager
 - b. Developer
 - c. Application Designer/Workflow Author
 - d. Workflow Administrator

Answer = D

6. Who is responsible for writing the initial deployment instructions?
 - a. Workflow Administrator
 - b. Developer
 - c. Application Designer/Workflow Author
 - d. Project Manager

Answer = C

7. Who is responsible for taking the application package from development and deploying the application into non-development environments?
 - a. Project Manager

- b. Application Designer/Workflow Author
- c. Workflow Administrator
- d. Developer

Answer = C

Lesson 1.3: Examine the exported FileNet P8 assets

Procedure 2:

2.b) 9

2.c) Loan

2.d) Loans, Workflows

2.e) workflow definition, workflow subscription

3.c) Inbox, Tracker, LoanLog

Procedure 3

5.b)

- Include contents of folders
- Include parent folders
- You want the folder only, not the files contained in the folder and you do not want the parent folder. The root folder already exists on the destination environment.

6.a) workflow definition

6.d) no

7.a) workflow subscription

Lesson 1.3: Examine the exported other IBM and External Assets

Procedure 1:

3) StepProcessorEDU, Process Loans desktop

4.e) 3

Procedure 2:

3) LOANDB

Appendix B. Start and Stop System Components

Appendix Overview

This image contains three WebSphere Application Server profiles. For this unit, you use the profile for server1, which hosts the following applications:

- Tivoli Directory Server Administration tool
- Content Platform Engine
- IBM Content Navigator
- Administration Console for Content Platform Engine

List of procedures:

- Procedure 1, "Start system components," on page B-1
- Procedure 2, "Check system components," on page B-2
- Procedure 3, "Stop system components," on page B-3

Procedure 1: Start system components

There are start scripts to make starting the WebSphere Application Server profiles easier. The scripts are in the folder WebSphere Admin on the desktop.



Important

If you just started the student system, ensure that the Windows 7 Operating System completes starting up all the services, before starting the WebSphere Application server profile. Launch the Windows Task Manager and ensure that CPU usage is down to 0-1% CPU usage. It can take several minutes.

1. Open the WebSphere Admin folder on the desktop.
2. Double-click the *Start Server1.bat* to run the script.
3. Wait for the command window to disappear. (Can take several minutes).



Note

For your convenience, the WebSphere Admin folder also contains:

- A link to launch the WebSphere administrative console for each server profile.
- A shortcut to the location of the WebSphere Application Server logs for each profile.

- If you have issues with starting the system components, you can need to stop and restart the components. Refer to Appendix A, "Start and Stop System Components".
- Minimize the WebSphere Admin folder.



Information

The Start Server1.bat, starts the WebSphere Application Server, *server1*, which starts the following applications:

- Tivoli Directory Server Administration tool
- Content Platform Engine
- IBM Content Navigator
- Administration Console for Content Platform Engine

Procedure 2: Check system components

An IBM FileNet P8 Workflow system consists of one main engine, the Content Platform Engine, with two primary services, content and process services. In addition to the Content Platform Engine, a client application is required for the users and databases are required to store configuration information and the object stores. The client that you use for these activities is IBM Content Navigator. You work with two IBM Content Navigator desktops that are configured for the workflow system administrator and for the workflow author. You need to verify that the Content Platform Engine and the IBM Content Navigator desktops are fully functional before you start your student exercises. Because these two applications rely on more software, testing the two applications also ensures that the underlying software is also functioning properly within your system.

1. Verify that the Content Platform Engine, content services are functioning properly by opening the Content Engine Startup Context (Ping Page).
 - a. Open a Mozilla Firefox browser window.
 - b. Go to the URL: <http://ecmedu01:9080/FileNet/Engine>



Hint

There is a bookmark in the Bookmarks menu under:

- *System Health > CE ping*

Because the Content Platform Engine is running as an application inside the IBM WebSphere Application Server, successfully viewing the Content Platform Engine Ping Page indicates that the web application server is also running on your student system.

2. Verify that the Content Platform Engine process Services are functioning properly.
 - a. Open a new browser tab.
 - b. Go to the URL: `http://ecmedu01:9080/peengine/IOR/ping`

**Hint**

There is a bookmark in the Bookmarks menu under:

- *System Health > PE ping*

- c. Log in as the P8 administrator.
 - Username: p8admin
 - Password: IBMFileNetP8
- d. If both ping pages display successfully, close the browser and all the tabs.

Procedure 3: Stop system components

1. Open the WebSphere Admin folder on the desktop.
2. Double-click the Stop Server1.bat to run the script.
 - a. Wait for the command window to disappear (Can take several minutes).

