

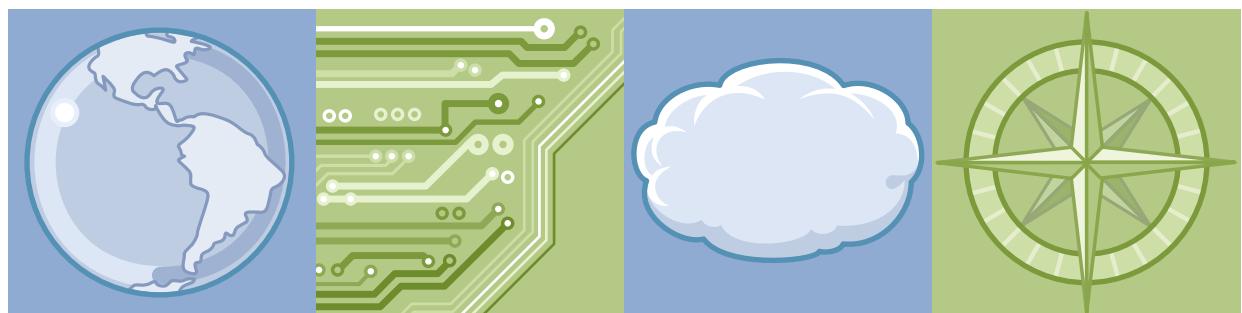


IBM Training

Student Notebook

IBM Case Foundation 5.2.1: Workflow Application Deployment

Course code F237 ERC 1.0



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Contents

Trademarks	vii
Course description	ix
Agenda	xiii
Unit 1. IBM Case Foundation 5.2.1: Workflow application deployment	1-1
Unit objectives	1-2
Unit lessons	1-3
Lesson 1.1. How to move FileNet workflow applications	1-5
How to move FileNet workflow applications	1-6
Activities that you need to complete	1-7
Application lifecycle	1-8
FileNet workflow application elements	1-9
FileNet P8 asset types	1-10
FileNet P8 assets	1-11
Other IBM and external assets	1-12
Terminology	1-13
Deployment process	1-14
Deployment phases	1-16
Deployment tools	1-18
Who is responsible for application deployment?	1-19
Coordinating application deployment	1-21
Coordinating application deployment(2)	1-22
Best Practices	1-23
Activities	1-24
Checkpoint	1-25
Checkpoint	1-26
Checkpoint	1-27
Lesson 1.2. Planning and preparing for application deployment	1-29
Planning and preparing for application deployment	1-30
Activities that you need to complete	1-31
Planning for application deployment	1-32
Plan the deployment strategy	1-34
Assemble deployment instructions	1-35
Identify application assets	1-37
Source and destination environment compatibility	1-39
Perform one-time configuration setup tasks	1-40
Overview of a deployment tree	1-42
Deployment Tree Structure	1-43
Environment half maps	1-45
Extract an object store half map	1-46
Extract a security principal half map	1-48
Extract a service half map	1-50
Extract a connection point half map	1-52
Extract the destination environment half maps	1-54
Extract the destination environment half maps(2)	1-56
Demonstration	1-58

Exercise introduction	1-60
Activities	1-62
Lesson 1.3. Export the application assets	1-63
Export the application assets	1-64
Activities that you need to complete	1-65
Export the application assets	1-66
FileNet Deployment Manager deployment tasks	1-68
Deployment instructions and Asset Tracking	1-69
Export the FileNet P8 assets	1-70
Export the FileNet P8 assets(2)	1-71
What is an export manifest?	1-73
Add assets to the export manifests	1-74
Add workflow system assets to the export manifests	1-75
Edit the export manifest	1-76
Define export include options	1-77
Export include options: Best Practices	1-79
Export include options: Best Practices(2)	1-81
Export assets to a deploy data set	1-82
Deployment.log	1-84
Extract the source environment half maps	1-85
Create a deploy package	1-86
Export other IBM and external assets	1-88
Assemble the application package	1-89
Demonstration	1-91
Exercise introduction	1-93
Activities	1-94
Lesson 1.4. Convert and Analyze the FileNet P8 assets	1-95
Convert and Analyze the FileNet P8 assets	1-96
Activities that you need to complete	1-97
Analyzing Phase	1-98
FileNet Deployment Manager deployment tasks	1-99
Prepare the FileNet P8 destination environment	1-100
Prepare for asset conversion	1-102
Create a source-destination pair	1-103
How do labels affect data maps?	1-104
Create the source-destination pair data maps	1-106
View or update the data map	1-107
View or update the data map(2)	1-109
Convert the FileNet P8 application assets	1-110
Analyze objects for import	1-111
Change impact analysis report	1-112
Resolving failures	1-113
Demonstrations	1-114
Exercise introduction	1-115
Exercise introduction(2)	1-117
Activities	1-118
Lesson 1.5. Import the application assets	1-119
Import the application assets	1-120
Activities that you need to complete	1-121
Steps to complete the application deployment	1-122
Import the assets into the destination environment	1-124

FileNet Deployment Manager deployment tasks	1-125
Import the FileNet P8 application assets	1-126
Import options	1-128
Import options: defaults	1-130
Import options: recommendations	1-132
Audit changes to imported objects	1-133
Sample audit report	1-135
Import other IBM and external assets	1-137
Complete additional system configuration tasks	1-139
Verifying phase	1-140
Exercise introduction	1-141
Exercise introduction(2)	1-142
Activities	1-143
Lesson 1.6. Using the FDM command line interface	1-145
Using the FDM command line interface	1-146
Activities that you need to complete	1-147
FDM Command line introduction	1-148
Deployment Operation command line syntax	1-150
Deployment Operations	1-151
How to create a deployment operation file	1-152
Sample files	1-153
Recommendations	1-154
Exercise introduction	1-155
Activities	1-156
Additional references	1-157
Unit summary	1-158

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Course description

IBM Case Foundation 5.2.1: Workflow application deployment

Duration: 1 day

Purpose

This course teaches how to move FileNet workflow applications between FileNet P8 environments. For example, Development > Quality Assurance > Production.

Audience

This course is for anyone responsible for deploying workflow applications between FileNet P8 environments.

Audience Roles

- A workflow system administrator responsible for deploying the workflow application into other environments, for example QA testing or Production.
- A workflow author responsible for developing workflow applications who needs to package the application in preparation for deployment to other environments.

Prerequisites

Before attempting this unit, students must already have the following knowledge and skills:

- Basic knowledge of organization's business process applications.
- Basic knowledge of database technology.
- PCs, networks, and their organization's server operating systems at the expert level
- Prerequisite courses:
 - F115G IBM FileNet Content Manager 5.2: Implementation and Administration
 - F230G IBM Case Foundation 5.2.1: Introduction
 - F231G IBM Case Foundation 5.2.1: Configure the workflow system
 - F232G IBM Case Foundation 5.2.1: Workflow security

Objectives

After completing this course, you should be able to:

- Understand the process of moving FileNet Workflow applications.
- Prepare for workflow application deployment.
- Export the application assets or extract the application assets from an application package.
- Analyze the impact of the deployment on the destination environment.
- Import the application assets and complete the application deployment.
- Use the FileNet Deployment Manager command line interface.

Contents

How to move FileNet workflow applications

- Elements of a FileNet workflow application
- Understand the migration and deployment process
- What are the deployment phases?
- What tools are used for application deployment?

Prepare for application deployment

- Assemble deployment instructions.
- Identify the FileNet application artifacts and assets.
- Verify source and destination environment compatibility.

Export the application assets

- Export FileNet P8 domain assets
 - Create or update export manifest
 - Export assets to a deployment dataset
 - Extract the source environment half maps
 - Create a deployment package
- Export other IBM and external assets
 - Export user interface assets

Convert and analyze the FileNet P8 assets

- Prepare the destination environment
 - Extract the destination environment half maps
- Create a source-destination pair definition
 - Create the conversion data maps
- Converting assets for import

- Perform a change impact analysis

Import the application assets

- Import prerequisite assets
- Import FileNet P8 assets
- Import non-FileNet P8 assets

Use the FDM command line interface

- Introduction to the command line interface
- Deployment operations

Appendix

- Solutions to Exercises.
- Start and Stop System Components.

Curriculum relationship

This section covers the courses planned for IBM Case Foundation 5.2.1 Administration. Refer to the IBM Training Paths for the curriculum relationship. The training paths will be updated as courses become available.

IBM Training Paths

<http://www.ibm.com/training>

The courses are available as single SPVC modules, or multi-day courses delivered as instructor lead training. Here is a list of the modules organized by roles. Some of the modules apply to multiple roles.

Solution Architect

- Introduction
- Workflow security

Workflow system administrator:

- Introduction
- Configure the workflow system
- Workflow security
- Maintain the workflow system
- Manage Work in Progress
- Workflow application deployment - optional
- Component Integration - optional
- Workflow Analysis tools - optional

Workflow Author:

- Introduction
- Workflow security
- Component Integration - optional
- Workflow application deployment - optional
- Workflow Analysis tools - optional

Application developer:

- Introduction
- Workflow security

Agenda

Day 1

- Welcome
- Lesson 1.1: How to move FileNet workflow applications
 - Checkpoint Exercises
- Lesson 1.2 - Planning and preparing for application deployment
 - Demonstration: Getting started with FileNet Deployment Manager
 - Exercise: Prepare your system for the student exercises
 - Exercise: Review the application package
 - Exercise: Perform one-time configuration setup tasks
- Lesson 1.3 - Export the application assets
 - Demonstration: Export workflow application assets with FileNet Deployment Manager
 - Exercise: Examine the exported FileNet P8 assets
 - Exercise: Examine the Other IBM and External assets
- Lesson 1.4 - Convert and Analyze the FileNet P8 assets
 - Demonstration: Convert FileNet P8 assets with FileNet Deployment Manager
 - Demonstration: Perform a change impact analysis with FileNet Deployment Manager
 - Exercise: Prepare the destination environment for import
 - Exercise: Convert the FileNet P8 assets
 - Exercise: Perform a change impact analysis
- Lesson 1.5 - Import the application assets
 - Exercise: Perform prerequisite tasks
 - Exercise: Import the FileNet P8 assets
 - Exercise: Import other IBM assets
- Lesson 1.6 - Using the FDM command line interface
 - Exercise: Perform a change impact analysis
 - Exercise: Expand a deploy package to a new environment

Unit 1. IBM Case Foundation 5.2.1: Workflow application deployment

What this unit is about

This course is for anyone responsible for deploying workflow applications between FileNet P8 environments.

What you should be able to do

After completing this unit, you should be able to:

- Learn how to move FileNet Workflow applications
- Learn how to prepare for workflow application deployment
- Learn how to package the application
- Learn how to analyze the impact of the deployment on the destination environment
- Learn how to import the application assets and complete the application deployment

How you will check your progress

- Knowledge checkpoint exercises and hands on labs

References

IBM FileNet P8 Platform V5.2.1 Documentation

http://www.ibm.com/support/knowledgecenter/SSNW2F_5.2.1/com.ibm.p8toc.doc/welcome_p8.htm

IBM Case Manager Solution Deployment Guide on developerWorks

https://www.ibm.com/developerworks/community/blogs/e8206aad-10e2-4c49-b00c-fee572815374/entry/ibm_case_manager_5_2_solution_deployment_guide

IBM Case Foundation 5.2.1: Workflow application deployment

Unit objectives



After completing this unit, you should be able to:

- Understand the process of moving FileNet Workflow applications.
- Prepare for workflow application deployment.
- Export the application assets or extract the application assets from an application package.
- Analyze the impact of the deployment on the destination environment.
- Import the application assets and complete the application deployment.
- Use the FileNet Deployment Manager command line interface.

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Figure 1-1. Unit objectives

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Notes:

IBM Case Foundation 5.2.1: Workflow application deployment

Unit lessons

This unit contains these lessons:

- How to move FileNet workflow applications
- Prepare for application deployment
- Export the application assets
- Convert and analyze the FileNet P8 assets
- Import the application assets
- Use the FDM command line interface

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Figure 1-2. Unit lessons

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Notes:

Lesson 1.1. How to move FileNet workflow applications

Lesson

How to move FileNet workflow applications



Why is this lesson important to you?

- 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.

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Figure 1-3. How to move FileNet workflow applications

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Notes:

How to move FileNet workflow applications

Activities that you need to complete

- Test your knowledge of the deployment process.

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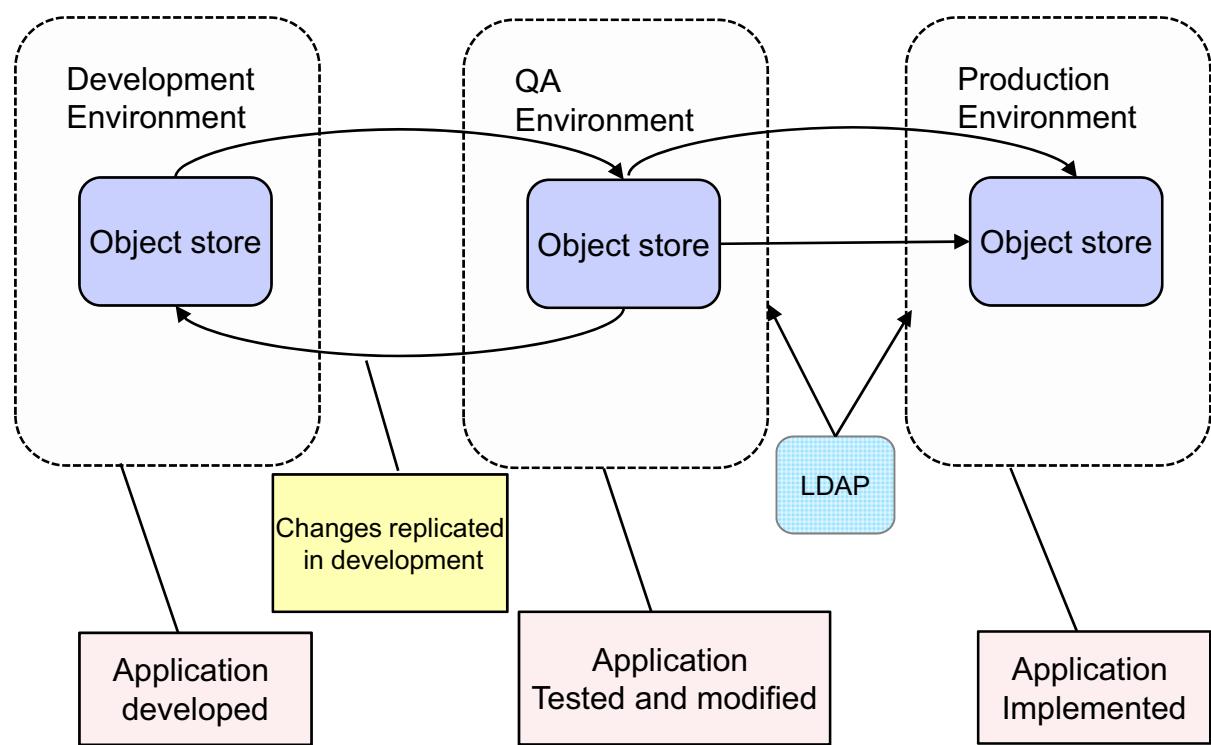
Figure 1-4. Activities that you need to complete

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Notes:

These are the activities that you are going to perform in this lesson.

How to move FileNet workflow applications

Application lifecycle

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Figure 1-5. Application lifecycle

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Notes:

The diagram shows three environments, Development, Quality Assurance, and Production. Typical projects split their infrastructure into at least these three environments. An application moves in stages through the various environments during its lifecycle.

The application is developed in a development environment. When the application is ready for quality assurance testing, it is deployed to a QA environment. In the QA environment, you do production level testing and apply and test the security that is used in production. After user acceptance testing is completed, the application is deployed from QA to Production.

During acceptance test, if any changes are made to the application, those changes need to be replicated in development to ensure that the application is still in sync for future updates.

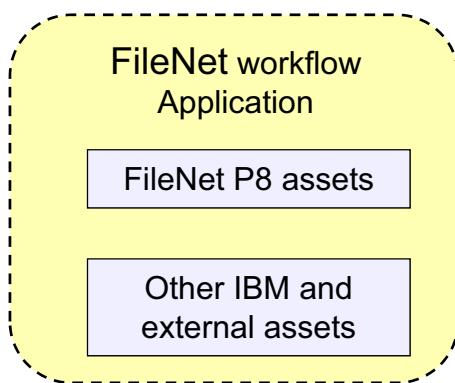
The lifecycle of an application includes two important stages:

- Initial deployment of an application from a source environment, such as a development or test environment, to a destination environment, such as a test or production environment.
- Propagation of incremental sets of changes from a source environment, such as a development or test environment, to a subset of the existing objects in a destination environment, such as a test or production environment.

How to move FileNet workflow applications

FileNet workflow application elements

- A FileNet application usually includes two types of elements
 - FileNet P8 assets
 - Other IBM and external assets



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Figure 1-6. FileNet workflow application elements

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Notes:

A FileNet P8 application generally includes two categories of elements

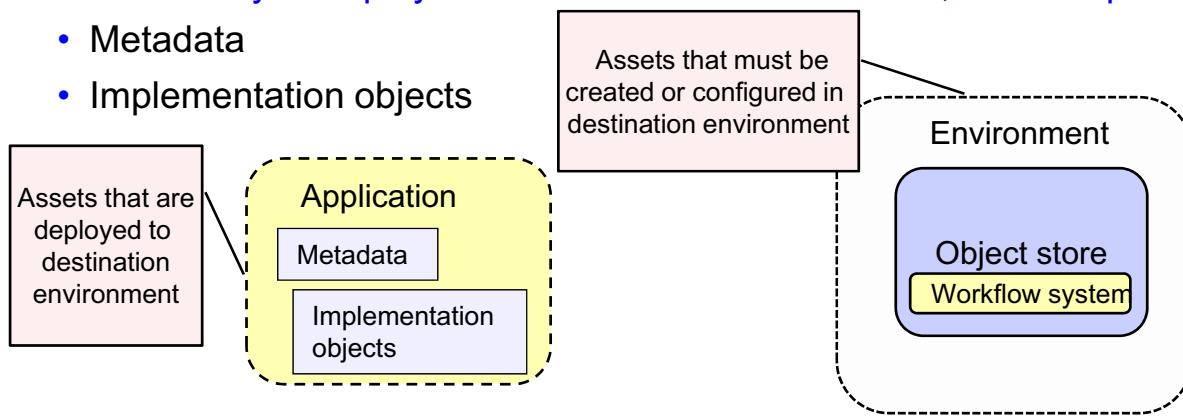
- a. FileNet P8 assets
- b. Other IBM and external assets

The next couple of slides will discuss the two categories.

How to move FileNet workflow applications

FileNet P8 asset types

- FileNet P8 assets in a workflow application fall into two categories:
 - Assets that you create or configure in the destination environment, for example:
 - Data Containers – object stores and workflow systems
 - Workflow connection points and isolated regions
 - Assets that you deploy to the destination environment, for example:
 - Metadata
 - Implementation objects



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Figure 1-7. FileNet P8 asset types

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Notes:

Workflow applications have two types of elements.

1. Elements that need to be created or configured in the destination environment, for example:
 - Containers such as object stores and workflow systems.
 - Workflow connections points and isolated regions.
 - Connections to external services such as an External data service or a web service.
 - Install add-on features.
2. Elements that are deployed, for example:
 - Metadata such as class definitions, property templates, choice lists, workflow definitions, and isolated region configuration.
 - Implementation objects such as folders, documents, custom objects, event actions, subscriptions, code modules, and other system artifacts to support the modules and processors.
 - User interfaces such as IBM Navigator desktops.

How to move FileNet workflow applications

FileNet P8 assets



- FileNet P8 assets
 - Metadata
 - Class definitions
 - Property templates and choice lists
 - Workflow definitions and configuration
 - Implementation objects
 - Folders
 - Documents
 - Custom objects
 - Subscriptions (workflow subscriptions)
 - Custom user interfaces
 - IBM Content Navigator desktop

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Figure 1-8. FileNet P8 assets

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Migration and deployment overview

A FileNet application includes FileNet P8 assets. This slide lists some of the more common assets. It is not an exhaustive list.

How to move FileNet workflow applications

Other IBM and external assets



- Other IBM and external assets
 - External Web Services
 - External Database Services
 - Custom user interfaces
 - Rules project

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Figure 1-9. Other IBM and external assets

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Migration and deployment overview

An application can include many elements. The slide lists some typical elements that are included in many FileNet workflow applications.

How to move FileNet workflow applications

Terminology



Term	Definition
Workflow application or application	Complete ECM FileNet workflow application includes all elements, FileNet P8 assets, other IBM assets, and External assets.
Deploy	To move an application from a source environment to a destination environment.
Migration	To move data from one location to another or one environment to another.

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Figure 1-10. Terminology

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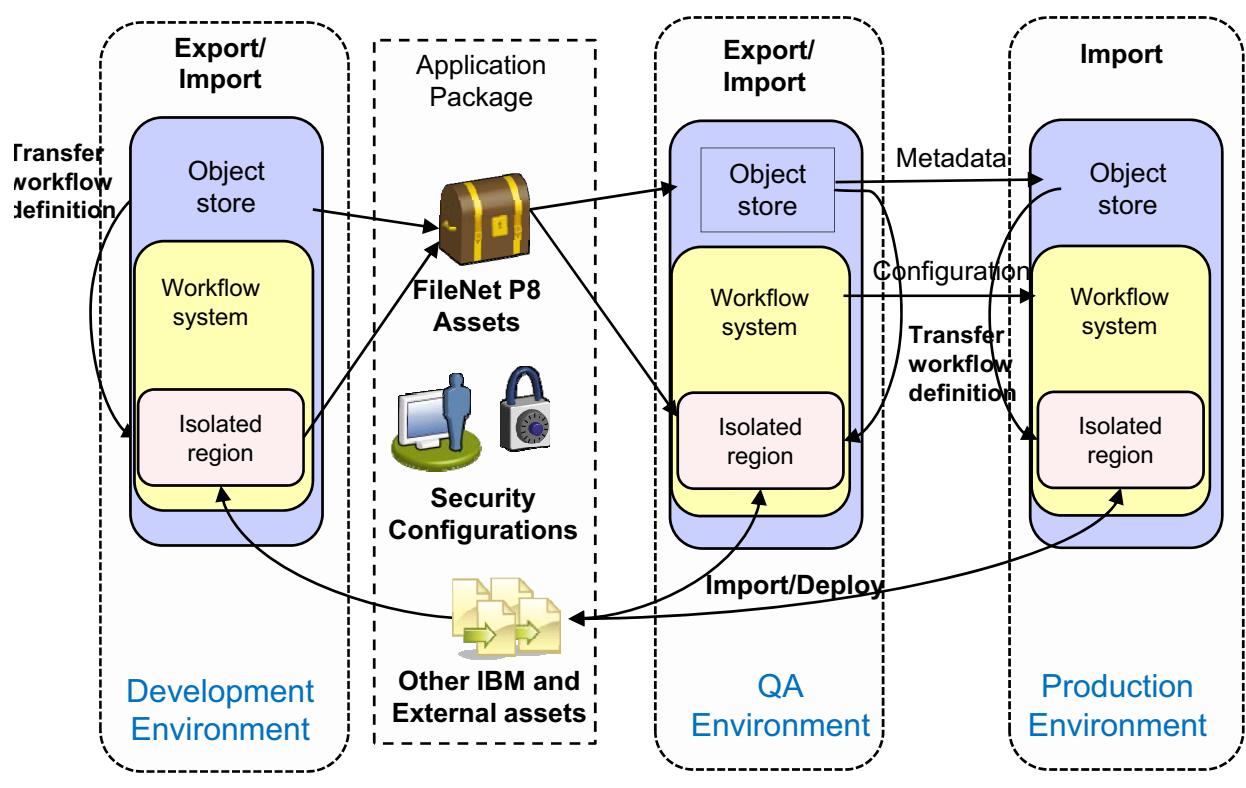
Notes:

The table includes terminology that pertains to FileNet workflow application deployment.

The term deploy is used in the context of moving an application from one environment to another.

The term migration is used in the context of moving data from one location to another.

How to move FileNet workflow applications

Deployment process

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Figure 1-11. Deployment process

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Notes:

This diagram outlines the deployment process for a FileNet workflow application, with FileNet P8 assets and other IBM and external assets. An Application Package, is a way to package the workflow solution, created by the development team. When the application is packaged, it can be put under change control and handed over to the workflow administrators to deploy to other environments.

Deployment process for FileNet P8 assets

- Initial design occurs in the development environment, modifications might be made in preproduction environments, such as QA.
- The deployment moves from Dev > QA > PROD.
 - Most organizations have a FileNet P8 domain for each environment. You deploy the FileNet P8 assets with FileNet Deployment Manager. Security usually differs between environments.
 - A workflow definition must be transferred to the runtime isolated region environment before the workflow is operational.

Deployment process for other IBM and External assets

- You use application-specific tools to deploy the assets.

How to move FileNet workflow applications

Deployment phases



- Planning
- Preparing
- Analyzing
- Backing up the system
- Deploying
- Verifying

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Figure 1-12. Deployment phases

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Migration and deployment overview>Migration and deployment phases

Deployment phases

The deployment process can be divided into five major phases: planning, preparing, analyzing, backing up the system, deploying and verifying.

Planning

During the planning phase, you review information such as assets, objects, hardware and software requirements, system and asset configuration, and other aspects of the source and destination environments. As you complete this review, you document this information. You also begin creating instructions for the deployment process that can be refined over time.

Preparing

During the preparing phase, you use information from the planning phase to prepare an application package for deployment. To ensure that a consistent version of the application is packaged, stop all

development activities for the application to be deployed while the assets are exported. Ideally, the documentation that you develop during the planning phase includes both information about communicating the work stoppage to the correct teams and the steps for implementing it.

The responsibility for the preparing phase is shared between the workflow application developers and the workflow administrator. In the development environment, the application developers are responsible for exporting the application assets, packaging them and writing the deployment instructions. The application developers need to collaborate with the workflow system administrator, who is more familiar with the security in place in the destination environments. The workflow system administrator is responsible for deploying the application to the non-development environments.

Analyzing

During the analyzing phase, you analyze the impact of the deployment on the destination environment. This analysis enables identification and mediation of issues that might cause errors. In some tools, this analysis is known as a change analysis impact report. If this report is generated, it can be archived and used for review or audit activities. The archived reports can be used iteratively to improve the deployment process.

Backing up the system

During the backing up the system phase, you suspend activity on the system for the destination environment and create a backup for that system. Before any system modification, it is always prudent to back up the portions of the system that are affected by the changes. This best practice allows a consistent snapshot of all related data to be captured.

Deploying

During the deploying phase, you follow the steps outlined in the deployment instructions to deploy the application into the destination environment. The needs of your organization, the architecture of your system, and requirements of the application itself all determine the number and order of these tasks.

Verifying

During the verifying phase, test the deployed application in the destination environment to verify that all of its components are working correctly. The tests that you need to complete vary according to the features and expected behaviors of the deployed application. The deployment instructions should include a plan for verifying the deployment, with specific tests to probe areas of change.

How to move FileNet workflow applications

Deployment tools

- FileNet P8 domain assets:
 - [FileNet Deployment Manager](#)
- Other IBM and External assets
 - [IBM Content Navigator administration tool](#)
 - IBM Content Navigator desktop
 - [External tool, based on the asset](#)
 - External data service
 - Custom widget
 - [Cognos Real-time Monitoring](#)
 - Dashboards and dashboard objects for real-time reporting
 - [IBM Operational Decision Manager](#)
 - Rules project

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Figure 1-13. Deployment tools

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Notes:

Help paths

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets based on Content Platform Engine

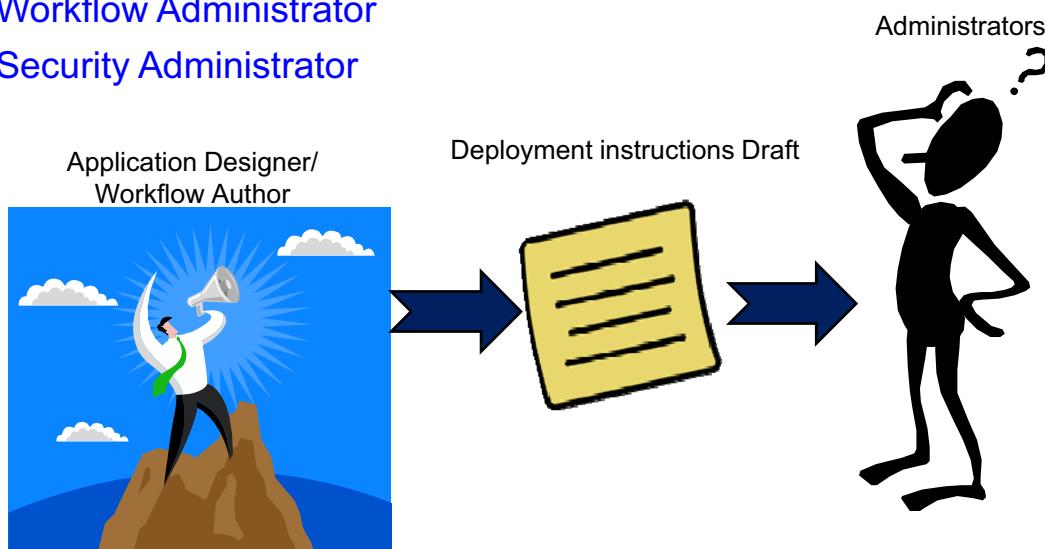
FileNet Deployment Manager is the tool that you use to deploy assets that are stored in the Content Platform Engine. For example, classes, properties, workflow system configuration, workflow definitions, and content-based objects such as forms, search templates, and form templates.

For other IBM and External assets, the tool you use depends on the asset. The slide lists examples of assets that are often used in workflow applications.

How to move FileNet workflow applications

Who is responsible for application deployment?

- Shared Responsibility:
 - Application Designer/Workflow Author
 - Developer
 - Workflow Administrator
 - Security Administrator



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Figure 1-14. Who is responsible for application deployment?

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Notes:

Deploying an application from one environment to another requires the collaboration of various people:

- Application Designer/Workflow Author
- Developer
- Workflow Administrator
- Security Administrator

A Workflow Administrator should not be expected to guess what parts make up an application.

The Application Designer/Workflow Author is responsible for providing the initial application deployment instructions and the application package that is ready to move to another environment. The Application Designer can run a test deployment in a development environment to test the deployment instructions. The Application Designer should work with the Workflow Administrator and the Security Administrator to plan how security is handled in the various environments.

The Workflow Administrator is responsible for taking the application package from development and deploying the application into non-development environments, such as User Acceptance Test and Production. The Workflow Administrator might need to work with the Security Administrator to adjust LDAP users or groups. Any required modifications would be added to the deployment instructions.

How to move FileNet workflow applications

Coordinating application deployment



Deployment phase	Application Designer/ Workflow author responsibilities	Application Developer responsibilities	Administrator responsibilities
Planning	Identify and document the application assets Write deployment instructions, including how to test	Identify and document custom code assets, widgets, and so on.	Assist with security considerations
Preparing	Export assets from development environment, package the assets Create FDM dev environment	Export custom code assets, widgets, and so on.	Prepare destination environment (one-time configuration setup tasks) Create FDM destination environments (envs)
Analyzing	Assist the administrator if necessary		Perform impact analysis on destination env
Backing up the system	Development environment: Collaborate with administrator		Non-Dev envs: Back up the destination system

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Figure 1-15. Coordinating application deployment

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Notes:

This table identifies the deployment phases, the high-level tasks associated with each phase, and who is responsible.

The application designer/workflow author might test deploying the application in development as part of writing the deployment instructions. They should work with the administrator to plan how security is handled in the various environments.

The table is continued on the next slide.

How to move FileNet workflow applications

Coordinating application deployment(2)


Deployment phase	Application designer/workflow author responsibilities	Application developer responsibilities	Administrator responsibilities
Deploying	Assist administrator	Assist administrator	<p>Perform application deployment on destination environment</p> <p>Update deployment instructions if necessary</p>
Verifying	Assist administrator	Assist administrator	<p>Use the deployment instructions to test the application on the destination environment.</p> <p>Update deployment instructions if necessary</p>

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Figure 1-16. Coordinating application deployment(2)

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Notes:

How to move FileNet workflow applications

Best Practices



- Application designer/ workflow author
 - Track application assets as you design/develop the application.
 - Plan where you store all the assets to simplify packaging.
 - Plan security carefully and collaborate with the workflow system administrator and security administrator.
 - Package the workflow application.
- Administrator
 - Use the workflow application package to deploy the application to other environments.
 - Carefully follow the deployment instructions and update as necessary.
 - Enhance with deployment tool details.
 - Add any security changes.
 - Goal: Establish reproducible deployment instructions.

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Figure 1-17. Best Practices

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Notes:

It is a good practice to track the application assets as you design and develop them. Adopting this practice saves time and increase the speed and success of the deployment process.

Plan where to store the application assets, for example a file system folder that can be compressed. The compressed file can serve as an application package, which can be checked into your company's change control system.

Security is generally different in development environments than it is in pre-production environments. The application designer and the administrator need to collaborate to plan the security carefully. It is a good idea to define a security mapping table, listing how the security users/groups map between the different environments.

The administrator should follow the deployment instructions to complete the application deployment and update as needed for the different environment. The goal is that by the time the administrator needs to deploy the application to Production, the deployment instructions are tested and provide a reproducible deployment process.

How to move FileNet workflow applications

Activities



In your Student Exercises

- Unit: Unit name
- Lesson: Lesson name
- Activities:
 - Test your knowledge of the deployment process (Checkpoint Quiz).

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Figure 1-18. Activities

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Notes:

IBM Case Foundation 5.2.1: Workflow application deployment

Checkpoint

- 
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 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)?

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Figure 1-19. Checkpoint

F2371.0

Notes:

Write your answers here:

IBM Case Foundation 5.2.1: Workflow application deployment

Checkpoint



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

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Figure 1-20. Checkpoint

F2371.0

Notes:

Write your answers here:

IBM Case Foundation 5.2.1: Workflow application deployment

Checkpoint

- 
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

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Figure 1-21. Checkpoint

F2371.0

Notes:

Lesson 1.2. Planning and preparing for application deployment

Lesson

Planning and preparing for application deployment



Why is this lesson important to you?

- 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.

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Figure 1-22. Planning and preparing for application deployment

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Notes:

Planning and preparing for application deployment

Activities that you need to complete

- Prepare the student system for the exercises.
- Review the application package.
- Perform one-time configuration setup tasks.

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Figure 1-23. Activities that you need to complete

F2371.0

Notes:

These are the activities that you are going to perform in this lesson.

Planning and preparing for application deployment

Planning for application deployment



- Planning your application deployment is:
 - The first phase of application deployment.
 - Key to a successful deployment.
- Assemble deployment instructions
 - Comprehensive set of tailored instructions that document the process for deploying an application.
- Identify and document application assets
 - Include roles and LDAP users or groups required.
 - Include a description of the application components and the tool used to develop them.
- Review source and destination environment compatibility
 - Review the equipment available
 - Acquire the appropriate access rights
 - Ensure compatibility of the object stores

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Figure 1-24. Planning for application deployment

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Migration and deployment overview>Deployment planning

Planning your application deployment is the first phase of application deployment. Planning is key to a successful application deployment.

Assemble deployment instructions

You need to assemble a comprehensive set of tailored instructions that document the process for deploying an application from the development environment to other environments, such as User Acceptance Test.

Identify and document all the application assets

Document all the assets of the application as you design the application. Include:

- The roles and the LDAP users and groups required to associate with the roles.
- A description of the major components of the application with the tools used to create them.

Review source and destination environment compatibility.

Review the assets that you plan to move in both the source and destination environment. Understand any dependencies that might exist.

Planning and preparing for application deployment

Plan the deployment strategy



- Things to consider:
 - What environments do you need to deploy to?
 - Test, QA, Production
 - How is Change Control implemented?
 - Different assets of the application might need to be modified at different times.
 - What security changes are needed when you deploy to Test, QA, or Production.
 - Who is exporting the assets from development and creating the application package?
 - What is the expected lifecycle of the application?
 - How to handle updates.

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Figure 1-25. Plan the deployment strategy

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Notes:

It is important to plan the deployment strategy for the application. Although the Workflow System Administrator has primary responsibility for deploying the application to the non-development environments, deployment strategy should be coordinated between the Application Designer/Workflow Author the Security Administrator and the Workflow System Administrator.

Things to consider when planning the application deployment strategy:

- What environments do you need to deploy the application?
- How is change control for the application maintained?
- Different application assets might need to be modified at different times.
- What security changes are needed to deploy to Test, QA, or Production.
- Who runs the export of the application assets in the development environment? Ideally the Application Designer/Workflow Author.
- What is the expected lifecycle of the application?
 - In what environment are updates made before deploying to Production?

Planning and preparing for application deployment

Assemble deployment instructions

- The deployment instructions should include:
 - High-level description of the application and what it does.
 - Required tasks and their order of execution.
 - Any configuration details that must be completed.
 - The roles that are involved in the deployment process and the required system privileges.
 - How to verify the application after deployment.
- Created as a part of the development process.
- Initial draft is the responsibility of the application development team.
- Administrator refines the initial draft for non-development environments.

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Figure 1-26. Assemble deployment instructions

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Migration and deployment overview>Deployment planning>Assembling migration and deployment instructions

The deployment instructions need to include:

- All the required tasks and their order of execution to deploy the application successfully.
- Any configuration steps that are required to complete the deployment of the application assets. Some examples are:
 - Prerequisite system configuration steps that are needed before the use of FileNet Deployment Manager, such as establishment of a web service.
 - Post-requisite steps that are needed after the movement of the application. For example, the setup of printers that are expected to be available as a part of the user operating environment.
 - Security configuration details.

- Roles involved in the deployment process and the required system privileges for each participant.
- How to verify the application after deployment.

This list is not an exhaustive list. Refer to the documentation reference for more examples of information to include in the deployment instructions.

It is important to create the deployment instructions during development of the application to make the documentation process more efficient. The initial draft of the deployment instructions is the responsibility of the application development team. The workflow administrator updates the deployment instructions as the application moves from development to non-development environments.

Planning and preparing for application deployment

Identify application assets

- Track the application assets as you develop the application.
- Asset tracking spreadsheet
 - Prepared by the Application Designer/Workflow Author
 - Should include:
 - Name and type of the asset
 - Source security
 - Dependencies between assets
 - Location of assets

Application Assets Tracking Spreadsheet						
Name	Category	Description	Dependencies	Location	Source Security	Target Security
Web Application configuration	FileNet P8 Asset	Web Application configuration for isolated region: IBM Content Navigator default Server Base URL: <code>http://navigator_host_port/navigator</code>	Workflow system and isolated region must exist.	object store: Loan Process Isolated Region: LoanProcessR10	Requires workflow configuration administrator to modify	
Web Application configuration	FileNet P8 Asset	Web Application configuration for isolated region: IBM Content Navigator default	Workflow system must exist	object store: Loan Process Workflow system node	Requires workflow configuration administrator to modify	
Step Processor EDU	Other IBM Asset	Custom step processor that displays the document viewer	Deployed with IBM Content Navigator application			
LoanDB	External Asset	DB2 Database with Stored Procedure to GetInterestRate	None			

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Figure 1-27. Identify application assets

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Migration and deployment overview>Deployment planning>Identifying application artifacts and assets

The Application Designer/Workflow Author needs to use some method of tracking the assets of an application during development.

The information can be provided as a spreadsheet or document that should include:

- The name of the asset.
- The type of the asset.
- Description of the asset.
- Any dependencies between assets.
- The location of the asset.
- Source Security.

The destination environment security is something that should also be included. However, the Application Designer/ Workflow Author needs to collaborate with the Workflow Administrator and the Security Administrator to define the destination environment security.

The screen capture shows an example of an application assets tracking spreadsheet.

Planning and preparing for application deployment

Source and destination environment compatibility

- Before application deployment, you need to ensure that the source and destination environments are compatible.
 - Object store Add-ons must be the same in the source and destination object stores.
 - The release level of the deployment tool, FileNet Deployment Manager should match the server that they are connecting to.
 - You do not need to worry about the fix pack level.
 - The release level of the IBM Products should be the same in the source and destination environments to avoid issues during import.

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Figure 1-28. Source and destination environment compatibility

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Notes:

Reference

IBM Case Manager 5.2 Solution Deployment Guide, Part 2: Advanced Solution Migration and Deployment

https://www.ibm.com/developerworks/community/blogs/e8206aad-10e2-4c49-b00c-fee572815374/entry/ibm_case_manager_5_2_solution_deployment_guide

Chapter: Source and destination environment compatibility

Determine the release level for a FileNet P8 domain: http://<CPE_server>:port/FileNet/Engine

Determine the release level for FileNet Deployment Manager: Open the FileNet Deployment Manager tool and select Help>about.

Planning and preparing for application deployment

Perform one-time configuration setup tasks

- Create FileNet Deployment Tree
 - Decide where to create the FileNet Deployment Tree.
 - Use default path or create a custom path?
 - Should you run FileNet Deployment Manager (FDM) Connected or Disconnected?
 - Connected - You must have internet access to both the source and destination environment.
 - Disconnected - The running FDM can connect only to one environment at a time.
- Create FileNet Deployment Environments:
 - Source Environment
 - Destination Environment

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Figure 1-29. Perform one-time configuration setup tasks

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Notes:

Help paths

FileNet P8 Platform 5.2.1>Migrating and deploying applications>The FileNet Deployment Manager tool>Working with the interface>Creating or selecting a deployment tree

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Defining the deployment environment

The last step in planning and preparing for application deployment is to run one-time configuration and setup tasks.

A few steps must be run only one time per source/destination environment pair.

- Create the FileNet Deployment Tree.
- Create the FileNet Deployment Environments.

When you create the FileNet Deployment tree, you need to make a couple of decisions:

- Where to create the FileNet Deployment tree? By default the system creates the deployment tree under <CPE_install_path>\tools\deploy\P8DeploymentData. You can accept the default path or choose a custom path.

- To run FileNet Deployment Manager connected or disconnected mode.
 - Connected mode: Do you have INTERNET access to both the source and destination environments?
 - Disconnected mode: The running FDM instance can connect only to one environment at a time?
 - Do you have a shared drive that can be accessed from all environments?
- Create the FileNet Deployment Environments. At a minimum, you need to create one source. If you are running in connected mode, you can create destination environments for all environments that you can connect to. For example, you can create environments for:
 - Development environment
 - Test environment
 - QA environment

Planning and preparing for application deployment

Overview of a deployment tree

- A deployment tree is a folder that contains the files that FileNet Deployment Manager creates.
- Characteristics of deployment trees:
 - You can create an unlimited number of deployment trees.
 - You can move or copy an entire deployment tree structure; however, do not rename the individual folders or configuration files.
 - You can copy environments and pairs from one tree to another, provided you keep associated environments and pairs together.
 - You can delete a tree if the data is no longer needed.



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Figure 1-30. Overview of a deployment tree

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>The FileNet Deployment Manager tool>Deployment trees

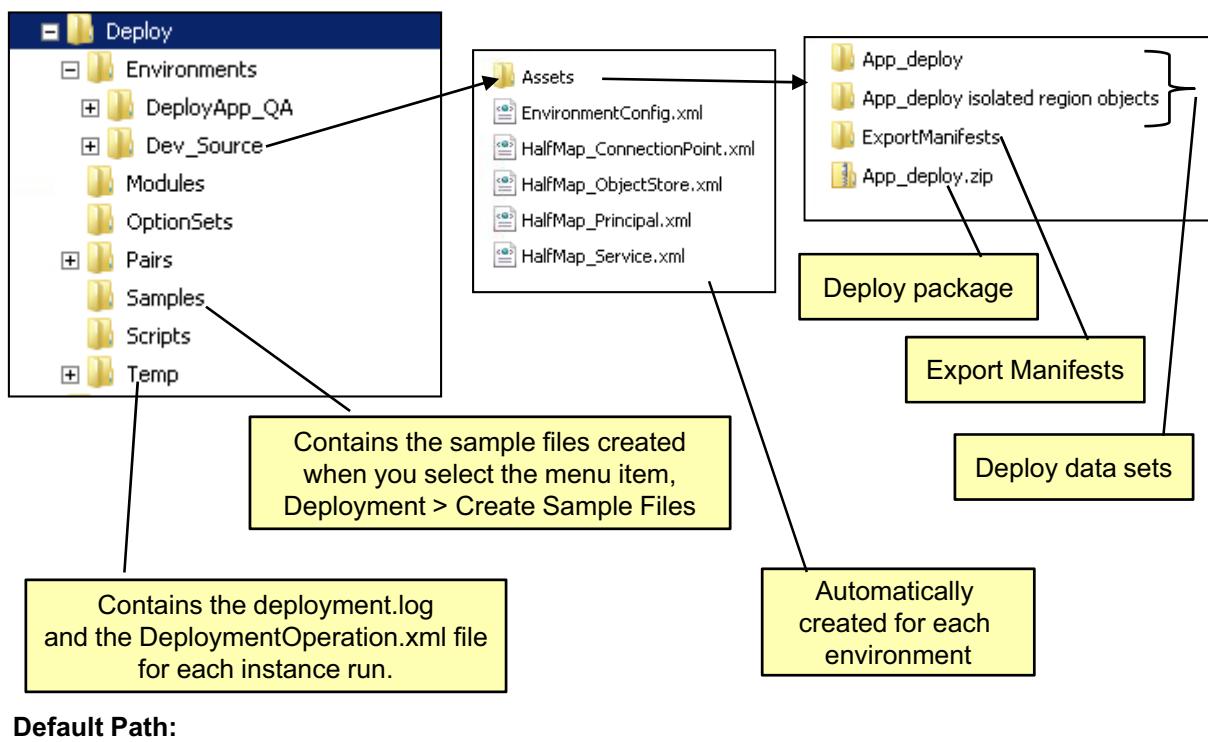
FileNet Deployment Manager requires that you work within a predefined folder structure that is called the deployment tree. When you first start FileNet Deployment Manager and create the deployment tree, two folders are created under the deployment tree:

- Environments
- Source-Destination Pairs

When you define a source or destination environment, FileNet Deployment Manager creates a subfolder within the Environments folder for each environment.

Planning and preparing for application deployment

Deployment Tree Structure

**Default Path:**

<CPE_install_Path>\tools\deploy\FDMDeploymentData

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Figure 1-31. Deployment Tree Structure

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Notes:

The left screen capture shows a deployment tree that is created at C:\Deploy.

- Two environments are created, DeployApp_QA and Dev_Source.
 - When an environment is created, IBM FileNet Deployment Manager (FDM) automatically creates the folder structure that is shown, in the center screen capture.
 - The right screen capture shows the contents of the Assets folder:
 - The first two files are deploy data set folders.
 - The ExportManifests folder, contains all the export manifests created by FDM for the environment.
- The Samples folder contains the sample files. FDM provides a set of sample files that can be used as models to create the xml files that are needed to use with the command line interface (CLI). To create the sample files, select **Create Sample Files** from the **Deployment** menu.
- The temp folder contains a *Run.<timestamp>* folder for each time a deployment operation is run in FDM. The folder contains the deployment operation file, DeploymentOperation.xml run, and the deployment.log.

- The DeploymentOperation.xml file can be used in the command-line interface.
- The deployment.log is useful for troubleshooting.
- If running multiple instances of FileNet Deployment Manager
 - You can compress the entire folder structure or part of the folder structure and move it to another client with an instance of FDM, to easily reproduce the deployment tree or perhaps an environment.

FDM uses the default path show for the deployment tree. You can change the path, the next time you run FDM; it will remember the path that is most recently used.

Planning and preparing for application deployment

Environment half maps

- What is a half map?
 - A deployment file that contains a list of environment-specific information associated with the application.
 - Four files per environment
 - Object store half map
 - Security principle half map
 - Service half map
 - Connection point half map.

Half Maps		
Action	Type	Status
Retrieve Data...	Object Store	no entries, no labels, updated Aug 10, 2015 at 10:42:47 AM
Retrieve Data...	Storage Policy	no entries, no labels, updated Aug 10, 2015 at 10:42:47 AM
Retrieve Data...	Storage Area	no entries, no labels, updated Aug 10, 2015 at 10:42:47 AM
Retrieve Data...	Security Principal	no entries, no labels, updated Aug 10, 2015 at 10:42:47 AM
Retrieve Data...	Service	no entries, no labels,  updated Aug 10, 2015 at 10:42:47 AM
Retrieve Data...	Connection Point	no entries, no labels, updated Aug 10, 2015 at 10:42:47 AM

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Figure 1-32. Environment half maps

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>The FileNet Deployment Manager tool>Deployment files

FileNet Deployment Manager uses four files called half maps to contain environment-specific information. Each environment has its own set of half maps.

When you click Retrieve Data, for each of the half maps, you get two options to select what data source to use to retrieve the data. The default selection for all of the half maps is to retrieve the data from a deploy data set. (Usually the preferred selection).

The next few slides cover each of the half maps in more detail.

Planning and preparing for application deployment

Extract an object store half map

- The object store half map contains a list of the object stores extracted from an environment.
 - File: HalfMap_ObjectStore.xml

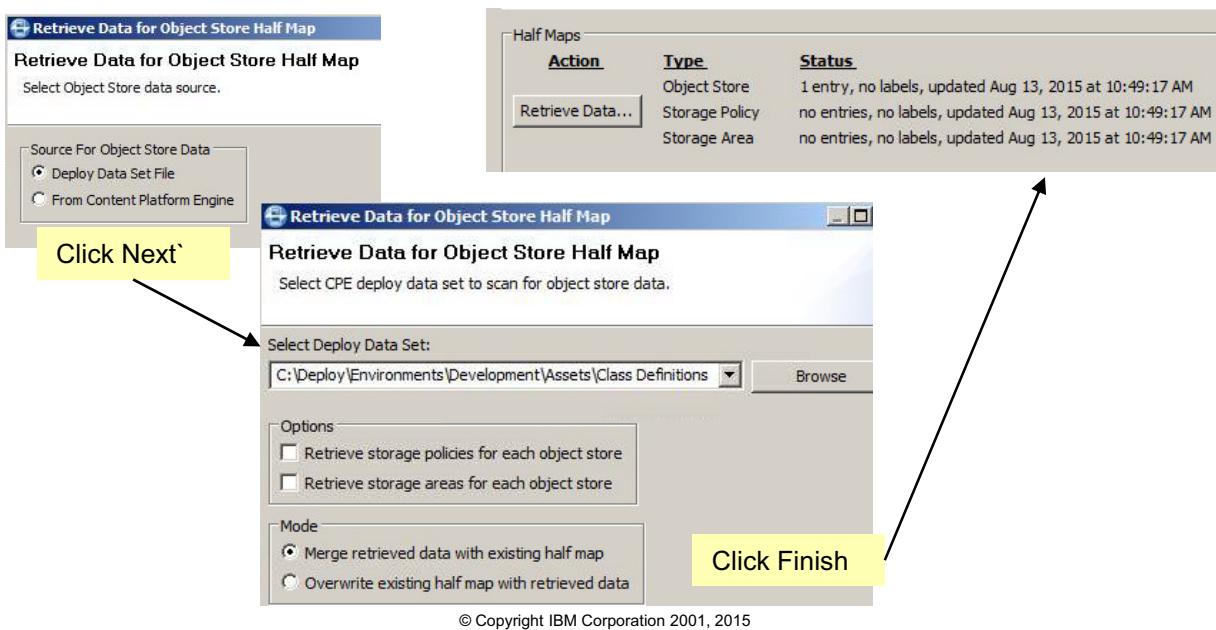


Figure 1-33. Extract an object store half map

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Preparing the source environment>Extracting the source environment half maps>Extracting an object store half map

The object store half map contains the object stores of a specific environment. If you select to retrieve the object stores from a deploy data set, then the file contains only the object stores referenced in the deploy data set assets.

FileNet Deployment Manager stores the object store half map information in the file: **<deployment tree>\Environments\<environment_name>\HalfMap_ObjectStore.xml**.

When you click Retrieve Data, on the overview tab, you get a window that prompts you to select the object store data source.

- If you select **Deploy Data Set File**, all the object stores referenced by the assets, exported into the deploy data set, are added to the Object Store half map. (Usually the best selection).
- If you select **From Content Platform Engine**, all the object stores that are defined in the Content Platform Engine are added to the half map.

When you click Next, the screen capture on the bottom displays. If you selected to use a Deploy Data Set, then you need to specify the deploy data set. The remaining selections are displayed regardless of which option you select on the first window:

- **Options:**

- **Retrieve the storage policies for each object store.**
- **Retrieve storage areas for each object store.**
- Select one or both of these options if your application requires them.

- **Mode**

- **Merge retrieved data with an existing half map.**
- **Overwrite existing half map with retrieved data.**

When you click Finish, the overview tab displays the number of object stores retrieved. In this example, there is only one entry. Refer to the screen capture on the upper right.

If you have more than one deploy data set for your application, repeat the Retrieve Data steps, for each deploy dataset, and make sure that the **Mode** is set to **Merge retrieved data with existing half map.**

Planning and preparing for application deployment

Extract a security principal half map

- The security principal half map contains a list of the security principals extracted from an environment.
 - File: HalfMap_Principal.xml

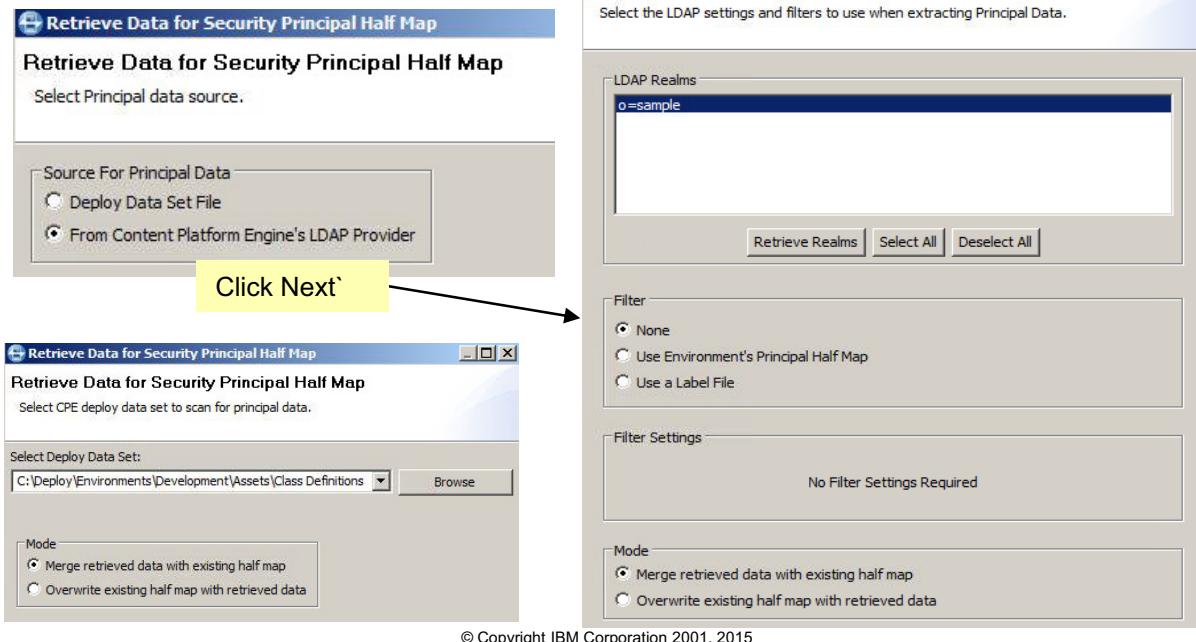


Figure 1-34. Extract a security principal half map

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Preparing the source environment>Extracting the source environment half maps>Extracting a security principal half map

The security principal half map contains a list of the security principals extracted from an environment.

FileNet Deployment Manager stores the principal half map information in the file: <**deployment tree**>\Environments\<**environment_name**>\HalfMap_Principal.xml.

When you click Retrieve Data, on the overview tab, you get a window that prompts for the security principal data source.

- If you select **Deploy Data Set File**, all the users and groups associated with the assets, exported into the deploy data set, are added to the security principal half map. (Usually the best selection). The windows that are displayed are similar to the windows on the previous slide, except that you get the Mode selection on the second screen only. Refer to the screen capture on the lower left.

- If you select **From Content Platform Engine's LDAP Provider**, the **Select LDAP settings and filters to use when extracting Principal data** window opens, the screen capture on the right. You can retrieve LDAP realms. The screen capture shows the LDAP realm, o=sample. You have three options for filtering:
 - **None** – Retrieve data for all the users and groups in the LDAP realm specified.
 - **Use Environment's Principal Half Map** – Retrieve data only for the users and groups, from the LDAP realm, that match the specified environment's principal half map.
 - **Use a Label File** – Retrieve data only for the users and groups, from the LDAP realm, that are identified in the specified file.

If you have more than one deploy data set for your application, repeat the Retrieve Data steps, for each deploy dataset, and make sure that the **Mode** is set to **Merge retrieved data with existing half map**.

Planning and preparing for application deployment

Extract a service half map

- The service half map contains a list of the service-related information extracted from an environment.

– File: HalfMap_Service.xml

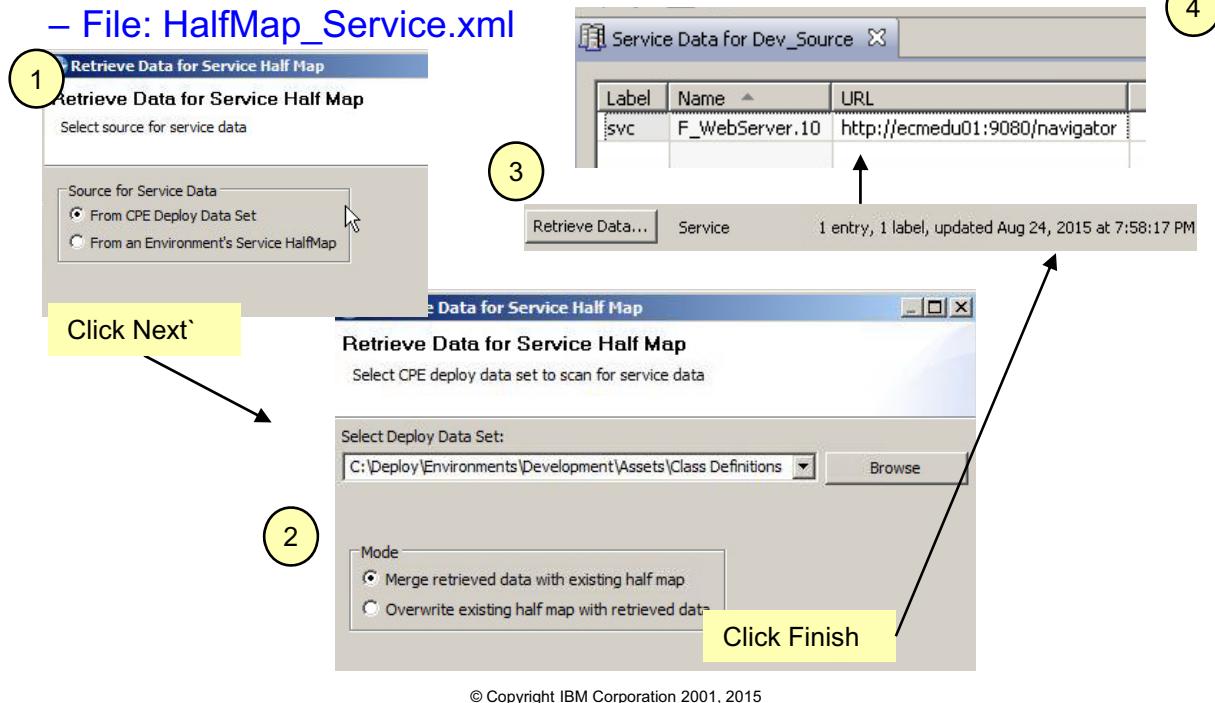


Figure 1-35. Extract a service half map

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Preparing the source environment>Extracting the source environment half maps>Extracting a service half map

The service half map contains the service-related information that is extracted from a specific environment. Service-related information includes, server names, URLs, and so on.

FileNet Deployment Manager stores the service half map information in the file:

<deployment tree>\Environments\<environment_name>\HalfMap_Service.xml.

When you click Retrieve Data, on the overview tab, you get a window that prompts for the service data source.

- If you select **From a CPE Deploy Data Set File**, only the service-related information, referenced by the assets that are exported into the deploy data set, are added to the Service half map. (Most common selection).

- If you select **From an Environment's Service Halfmap**, the service data is copied from the selected Service HalfMap.

When you click Finish, the overview tab displays the number of service-related items retrieved. It is not uncommon to have an empty Service half map. The screen capture that the right arrow is pointing to, shows one entry with one label retrieved.

The screen captures show:

- a. The first window for the **Retrieve Data for Service Half Map** wizard. Displays when you click **Retrieve Data** on the **Overview** window.
- b. The second window for the **Retrieve Data for Service Half Map** wizard. Displays when you click **Next** on the first window.
- c. When you click **Finish** on window 2, the **Retrieve Data for Service Half Map** wizard closes and a summary of the number of entries retrieved is displayed in the **Overview** window.
- d. A sample service half map showing, the URL for the web application IBM Content Navigator. The dot ten after F_WebServer is the isolated region number.

If you have more than one deploy data set for your application, repeat the Retrieve Data steps, for each deploy dataset, and make sure that the **Mode** is set to **Merge retrieved data with existing half map**.

Planning and preparing for application deployment

Extract a connection point half map

- The connection point half map contains a list of the workflow system connection points extracted from an environment.
 - File: HalfMap_ConnectionPoint.xml

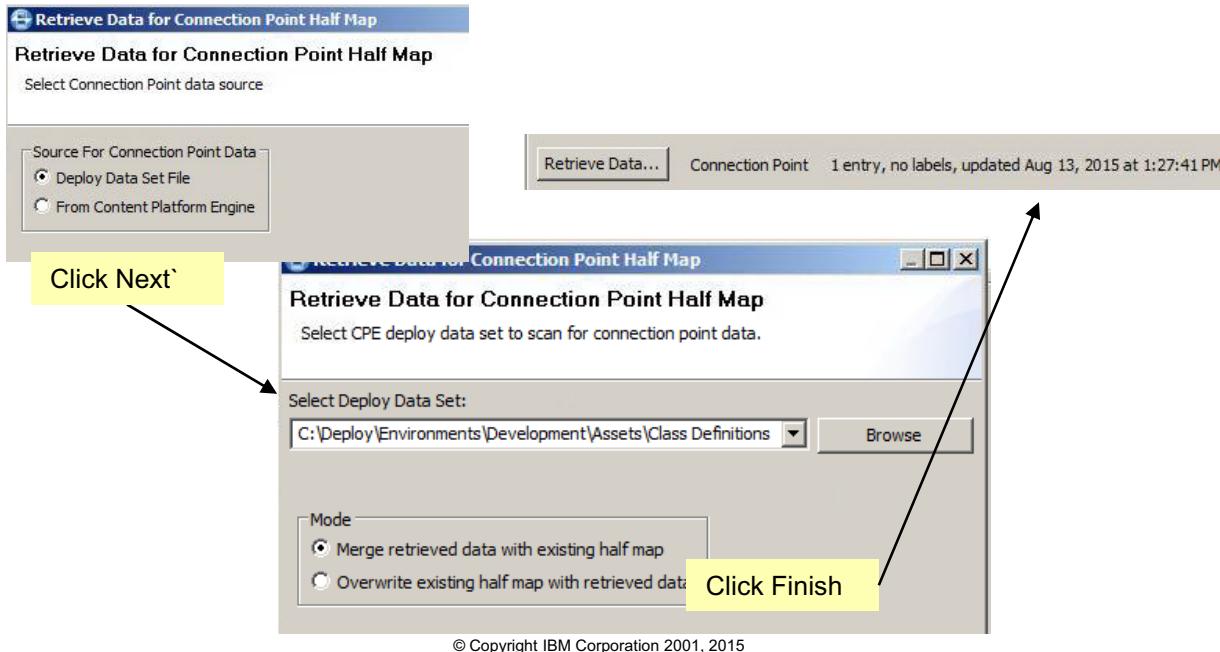


Figure 1-36. Extract a connection point half map

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Preparing the source environment>Extracting the source environment half maps>Extracting a connection point half map

The connection point half map contains the workflow system connection points of a specific environment. FileNet Deployment Manager stores the connection point half map information in the file: <**deployment tree**>\Environments\<**environment_name**>\HalfMap_ConnectionPoint.xml.

When you click Retrieve Data, on the overview tab, you get a window that asks you to select the connection point data source.

- If you select **Deploy Data Set File**, all the workflow system connection points that are referenced by the assets, exported into the deploy data set, are added to the connection point half map.
 - This is generally the best selection.
- If you select **From Content Platform Engine**, all the connection points for all the workflow systems that are defined in the Content Platform Engine, are added to the half map.

The screen capture on the upper right, shows the results of extracting the connection points from a deploy data set. One entry is shown. If you select Content Platform Engine as the connection point data source, then four entries would be extracted. All the connection points defined in all the workflow systems that exist in the Content Platform Engine.

If you have more than one deploy data set for your application, repeat the Retrieve Data steps, for each deploy data set, and make sure that the **Mode** is set to **Merge retrieved data with existing half map**.

Planning and preparing for application deployment

Extract the destination environment half maps

- What is a destination environment half map?
 - Same as a source environment half map for the destination environment.
- Typically you retrieve the data for the half maps from the destination environment itself, not a deploy dataset.
 - You have the source environment half maps.
 - Determine what the destination environment half maps should be based on required mapping.
- Four half maps
 - Object store half map – destination object stores
 - Security principle half map – destination users and groups
 - Service half map – destination service-related information
 - Connection point half map – destination workflow systems and connection points

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Figure 1-37. Extract the destination environment half maps

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Prepare the destination environment>Extracting the destination environment half maps

A destination environment half map is identical to a source environment half map, except it contains data for the destination environment. You typically retrieve the data for a destination environment half map from the destination environment, not a deploy data set.

By now you should have the source environment half maps. The deployment instructions should include what half map information is required in the destination environment. For example,

- Object store, LoanProcess, in the source environment is object store, LoanProcessQA, in the destination environment.
- The group, Dev_Administrators in the source environment is the group, QA_Administrators in the destination environment.
- The connection point CPR10 in the source environment is the isolated region, CPQAR10 in the destination environment.

FileNet Deployment Manager uses the two sets of half maps to convert the FileNet P8 assets. use source half map information to use destination half map information. For example:

- Changing the object store where an asset is stored from the source object store to the destination object store.
- Changing access for an asset from a source LDAP group to a destination LDAP group.
- Changing workflow system objects from the source workflow system to the destination workflow system.

How the data mapping is accomplished is covered in more detail in upcoming slides.

Planning and preparing for application deployment

Extract the destination environment half maps(2)

- Object store half map
 - Use the Content Platform Engine as the data source.
- Security principle half map
 - Use the Content Platform Engine's LDAP Provider as the data source.
 - Use a Label file to filter only the users and groups you need.
- Service half map
 - Use the source environment's service half map as the data source.
 - Review the half map information and correct for the destination environment.
- Connection point half map
 - Use the Content Platform Engine as the data source.

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Figure 1-38. Extract the destination environment half maps(2)

F2371.0

Notes:

To extract the object store half map:

- Use the Content Platform Engine as the data source.
- If there are many object stores that are defined on the destination environment, you might want to edit the file and delete any object stores that you do not need. It does not hurt to have unused object stores, but this requires more processing by FileNet Deployment Manager.

To extract the security principal half map:

- Use the Content Platform Engine's LDAP Provider as the data source. It is best to create a Label file that includes only the users and groups that you need for the application to use as a filter. The LDAP realm in a non-development environment might have a large number of users and groups, attempting to retrieve them all might negatively affect the performance of the deployment.

To extract the service half map:

- Use the source environment's service half map as the data source.

- Review the resulting half map and make any necessary corrections that are appropriate for the destination environment. For example, you might need to change the isolated region number for the destination environment if it is different than the source environment, or a URL to a web application.

To extract the connection point half map:

- Use the Content Platform Engine as the data source.
- If there are many connection points that are defined on the destination environment, you might want to edit the file and delete any connection points that you do not need. It does not hurt to have unused connection points, but including them requires more processing by FileNet Deployment Manager.

Planning and preparing for application deployment

Demonstration



- Getting started with FileNet Deployment Manager.

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Figure 1-39. Demonstration

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Notes:

Demonstration notes

Getting started with FileNet Deployment Manager

Preparation: Expand the application package, C:\Labs\Case Foundation 5.2.1

Administration\Workflow application deployment\Deployment Application.zip to the folder,
C:\Labs\Case Foundation 5.2.1 Administration\Workflow application deployment.

1. Start FileNet Deployment Manager
 - a. Start > All Programs > IBM FileNet P8 Platform > FileNet Deployment Manager
 - b. Click the icon on the desktop.
 - c. Select deployment tree location. (Enter C:\Deploy for the path). FileNet Deployment Manager creates the deployment tree folder structure in that path. If a deployment tree exists, then FileNet Deployment Manager opens the deployment tree.
2. Examine the deployment tree
 - a. You see two nodes listed, Environments and Source-Destination pairs. They are both empty because this is a new deployment tree.

- b. If this was a new deployment tree, the two nodes would be empty.
 - c. To create a new environment, right-click Environments > New > Environment or click the icon to create a new environment. In the next step, you will see how to create a new environment from a deploy package.
 - d. Open Windows Explorer window and go to C:\Deploy to examine the folder structure of the deployment tree.
 - The folders are all empty. The folder, Environment maps to the node, Environments. The folder, Pairs maps to the node, Source-Destination Pairs.
3. Expand the deploy package and create a source environment.
 - a. File > Deploy Package > Expand Deploy Package
 - Deploy Package: C:\Labs\Case Foundation 5.2.1 Administration\Workflow application deployment\Deployment Application\FileNet P8 assets\Deploy packages\App_deploy.zip.
 - Source Environment: DeployApp_Dev
 - Half Map Mode: Extract from Package.
 - b. Examine the half maps
 - c. Open the Source Environment.
 - d. Open each of the half maps

IBM Case Foundation 5.2.1: Workflow application deployment

Exercise introduction



Prepare your student system for the exercises.

- In this exercise, you will:
 - Start the student system components.
 - Check system components.

Review the application package

- In this exercise you will:
 - Review the deployment instructions.
 - Review the Application Assets Tracking spreadsheet.

Perform one-time configuration setup tasks

- In this exercise you will:
 - Create a deployment tree.
 - Create the source environment.
 - Create the destination environment.

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Figure 1-40. Exercise introduction

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Notes:

In the exercises for this lesson, you will:

1. Prepare your system for the exercises. (If the student system is already running, skip the first exercise).
 - Start the student system components.
 - Check system components to ensure that the student system is operational.
2. Review the application package.
 - Review the deployment instructions to make sure that you have everything that you need to deploy the workflow application.
 - Review the Application Assets Tracking spreadsheet.
3. Perform one-time configuration setup tasks.
 - Create a deployment tree in IBM FileNet Deployment Manager.
 - You use this deployment tree in subsequent exercises.
 - Create the source environment.

- You create the source environment in the deployment tree you created.
- The source environment is created with the deploy packages, included in the application package.
- Create the destination environment.
 - You create the destination environment in the deployment tree you created.

Planning and preparing for application deployment

Activities



In your Student Exercises

- Unit: Unit name
- Lesson: Lesson name
- Activities:
 - Prepare the student system for the exercises.
 - Review the application package.
 - Perform one-time configuration setup tasks.

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Figure 1-41. Activities

F2371.0

Notes:

Use your Student Exercises to perform the activities listed.

Lesson 1.3. Export the application assets

Lesson

Export the application assets



Why is this lesson important to you?

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

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Figure 1-42. Export the application assets

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Notes:

Export the application assets

Activities that you need to complete

- Examine the exported FileNet P8 assets.
- Examine the exported Other IBM and External assets.

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Figure 1-43. Activities that you need to complete

F2371.0

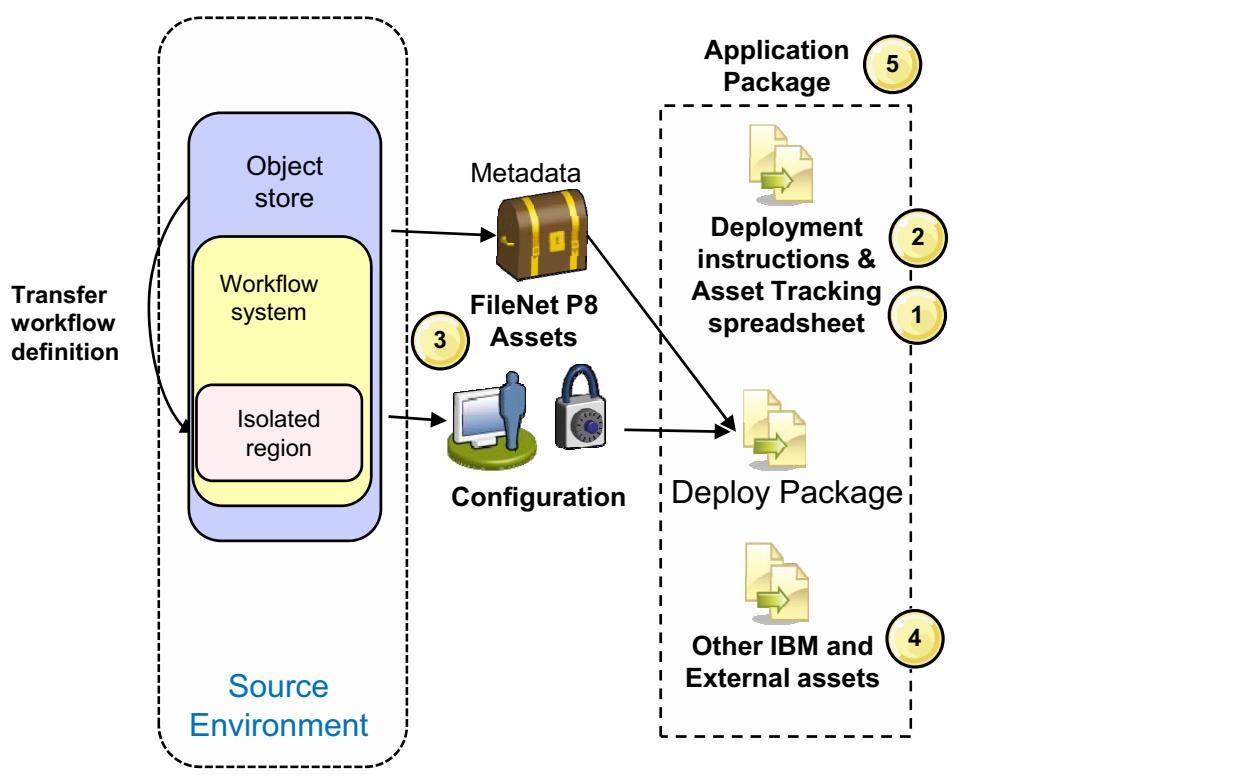
Notes:

These are the activities that you are going to perform in this lesson.

The presentation materials walk you through the deployment process in order. However, because the Application Designer/Workflow Author is responsible for packaging the application, the Administrator's first task might not be to export the assets, but rather review the application package provided. If possible, it is a good idea to test the application in the source environment, probably Development, with the verification steps that are included in the deployment instructions.

Export the application assets

Export the application assets



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Figure 1-44. Export the application assets

F2371.0

Notes:

Exporting the application assets is still part of the phase, Preparing.

This diagram outlines the process that one goes through when exporting the application assets for the first time from a source environment.

The Application Designer/Workflow Author, as part of the application development, must:

- Kept track of all the assets of the application in the Asset Tracking spreadsheet.
- Assemble the initial draft of the deployment instructions.

When the application is ready to deploy to another environment, you will:

- Export the FileNet P8 assets and any security configuration or isolated region configuration required and create one or more Deploy Packages.
- Export other IBM assets and external assets.
- Create an Application Package.

Outlines and reviews the deployment process for a FileNet workflow application, which includes FileNet P8 assets, other IBM and external assets.

Deployment process for FileNet P8 assets

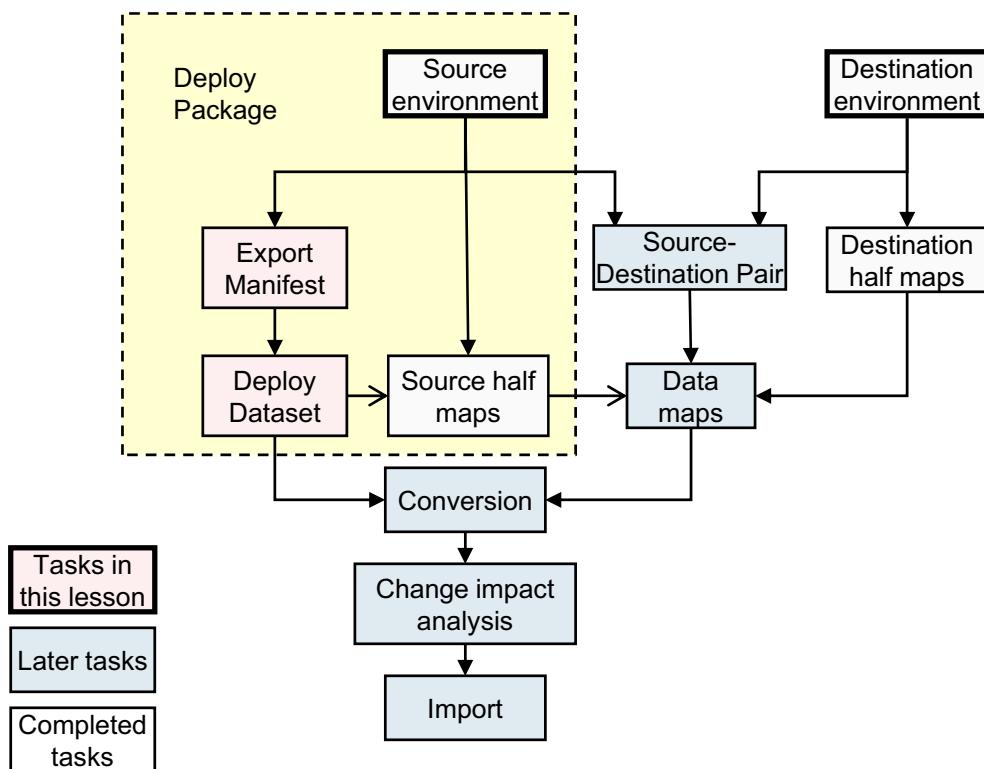
- Initial design occurs in the development environment, modifications might be made in preproduction environments, such as QA.
- Dev > QA > PROD.
 - Most organizations have a domain for each environment. You migrate the FileNet P8 assets with FileNet Deployment Manager, security usually differs between environments.
 - Before a workflow is operational, the workflow definition must be deployed or transferred to the runtime isolated region environment.

Deployment process for other IBM and External assets

- You use application-specific tools to migrate the assets.

Export the application assets

FileNet Deployment Manager deployment tasks



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Figure 1-45. FileNet Deployment Manager deployment tasks

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Notes:

The diagram shows the FileNet Deployment Manager tasks that must be completed to deploy FileNet P8 assets. The order of tasks is flexible and based on object dependencies. The arrows indicate dependencies.

- The yellow box, labeled Deploy Package, which is outlined in dashes, shows the tasks that are completed to export the FileNet P8 assets and create a Deploy Package.

In the previous lesson, you created the source and destination environments and their respective half maps. If you have a deploy package, it means that someone else completed the tasks:

- Create the Export Manifest.
- Perform the export to create Deploy Datasets.
- Extract Source environment half maps.

In the next few slides you cover the tasks that are shown in light red:

- Export Manifest
- Deploy Dataset

Export the application assets

Deployment instructions and Asset Tracking

1. Review Deployment instructions

- An initial draft of the deployment instructions should exist.
- Update the deployment instructions as needed.
- Verify that instructions for how to test the application are included.

2. Review Asset Tracking spreadsheet

- Verify the assets to export on the source environment.
- Pay special attention to asset dependencies.
- Update as necessary.

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Figure 1-46. Deployment instructions and Asset Tracking

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Notes:

Export the application assets

Export the FileNet P8 assets

- FileNet P8 assets

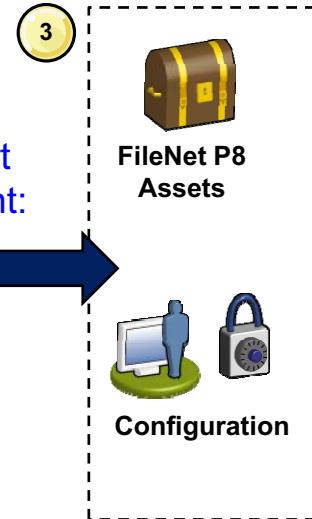
- Assets commonly used:

- Classes, properties, workflow definitions, forms, and search templates.

- Use FileNet Deployment Manager (FDM) to export the FileNet P8 assets from the source environment:

- object store
 - workflow system
 - isolated region
 - Configuration
 - Security
 - Workflow system and isolated region

- More details are covered in subsequent slides.



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Figure 1-47. Export the FileNet P8 assets

F2371.0

Notes:

The primary type of assets that are included in a FileNet workflow application are FileNet P8 assets.

Commonly used FileNet P8 assets:

- Classes, properties, workflow definitions, and content-based objects like forms, search templates, and form templates.

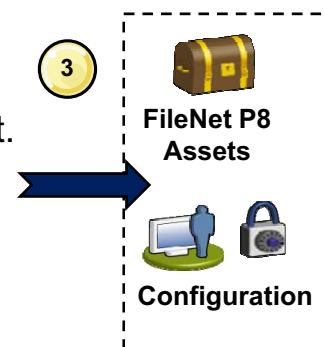
Many steps are required to complete the export and import of FileNet P8 assets, so you cover more details in upcoming slides.

You use FileNet Deployment Manager to export the assets from the source Target object store.

Export the application assets

Export the FileNet P8 assets(2)

- Export FileNet P8 Assets:
 - Create export manifests.
 - Might need to create more than one to handle asset dependencies.
 - Add assets to the export manifests.
 - Include workflow definition and related workflow subscription in same export manifest.
 - Define export include options.
 - Narrowly focus the export and avoid implicit inclusion of unwanted objects.
 - Export to create a deploy dataset.
 - Each export manifest creates a deploy dataset.



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Figure 1-48. Export the FileNet P8 assets(2)

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Notes:

Several steps are involved in exporting FileNet P8 assets with FileNet Deployment Manager.

- a. Create export manifests – group the assets logically and create different export manifests for the different groups.
 - Might need to create several export manifests to handle asset dependencies during import.
- b. Add assets to the export manifests.
 - New feature in FDM 5.2 will transfer a workflow definition after import.
 - To link any related workflow subscriptions automatically, both assets must be included in the same export manifest.
 - This only works for the current version of the workflow, so make sure that the subscription is linked to the current version of the workflow definition.
 - If your workflow subscription is linked to say version 01 of the workflow definition, but the most recent workflow definition is version 02 and that is what is exported. Then,

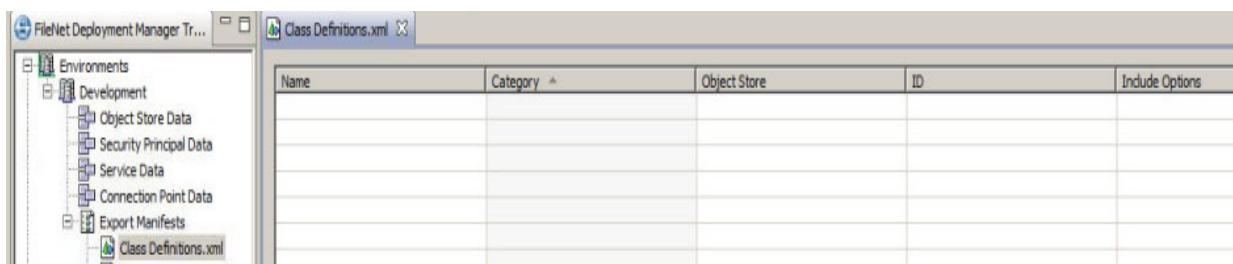
the import fails with a Java stack trace and an error of E_REQUIRED_VALUE_ABSENT.

- c. Define export include options.
 - For a solution application deployment, the include options should narrowly focus the export and avoid implicit inclusion of unwanted objects.
- d. Export the assets and create deploy datasets.
 - Each export manifest creates a deploy dataset.

Export the application assets

What is an export manifest?

- A file that lists the assets you want to export
 - FileNet Deployment Manager creates the export manifest file under an environment node.
 - Created with a user-defined name, such as LoanProcess.xml
 - Each export manifest can contain only assets from a single object store and a single isolated region.



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Figure 1-49. What is an export manifest?

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Notes:

Help path

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

An export manifest lists the assets that you want to export from the object store, workflow system, or isolated region of an environment. After you create an export manifest, you can add assets to it and specify which associated objects to include with each asset by specifying the appropriate include options. You can also refresh an export manifest to remove assets that are deleted or update asset names that changed. Each export manifest can contain assets from a single object store only. After you create an export manifest, you can use it to create a deploy dataset.

Export the application assets

Add assets to the export manifests

- With the export manifest open, click the green cross to open the Add Assets window.
- In the Add Assets window, expand the source object store.
 - The folder structure is identical to the folder structure in the Administration Console for Content Platform Engine.

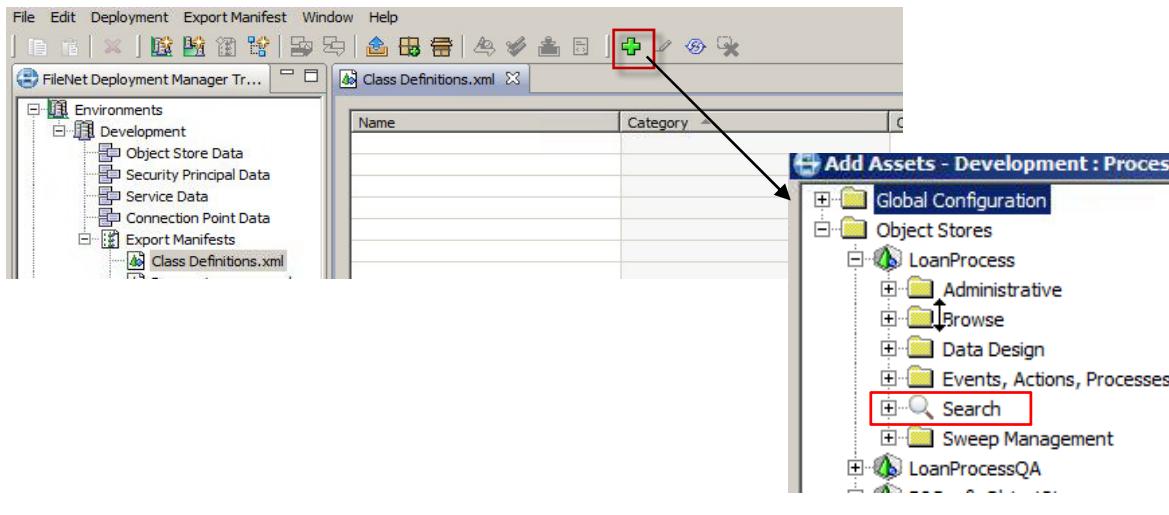


Figure 1-50. Add assets to the export manifests

F2371.0

Notes:

Help paths

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

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 using an SQL search

To add assets to an export manifest, click the green cross in the toolbar. The Add Assets window opens. Open the object store that you want to add assets from. The folder structure that is displayed is identical to the folder structure in the Administration Console for Content Platform Engine to make it easy for you to find the assets you want.

The search node can be used to enter a SQL Search to retrieve a list of objects from which you can select items to include in the export manifest.

Any searches that are created in ACCE, show up as child nodes underneath the Search node and can be selected to load in the associated SQL Search query.

Export the application assets

Add workflow system assets to the export manifests

- New feature in FileNet Deployment Manager 5.2.1
 - You can now add workflow system assets to an export manifest

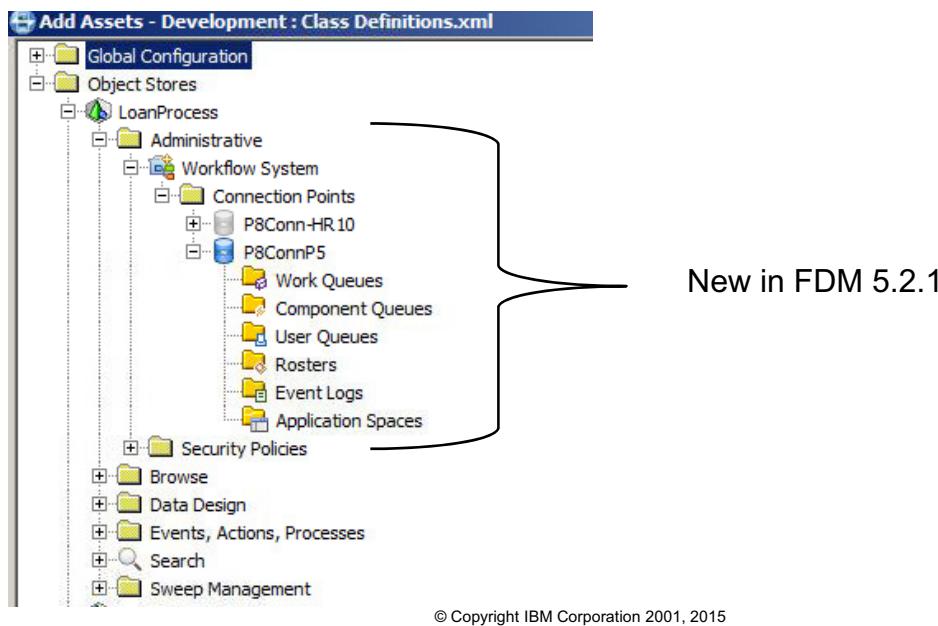


Figure 1-51. Add workflow system assets to the export manifests

F2371.0

Notes:

A new feature was introduced in FileNet Deployment Manager 5.2.1. You can now add workflow system assets to an export manifest.

In previous releases, the only way to export workflow system assets was to use the Process Configuration Console.

FileNet Deployment Manager 5.2.1 is now the only deployment tool you need to deploy FileNet P8 domain assets.

Export the application assets

Edit the export manifest



Name	Category	Object Store	ID	Include Options
Loan	ClassDefinition	LoanProcess	{25D645A0-09CB-41DB-9CF2-4BFC7CA901B5}	custom
Customer	ClassDefinition	LoanProcess	{171D5903-2452-4F64-B000-C13786E85BE1}	all
CustomerID	PropertyTemplate	LoanProcess	{A00D88D6-A6C8-40A4-BE42-2FE629FE2ED6}	default
CustomerName	PropertyTemplate	LoanProcess	{55747A69-2C3F-4965-91BB-6C8C1A93C885}	default
GovernmentID	PropertyTemplate	LoanProcess	{BF899F98-9F54-400F-AACE-5F4402D83D05}	default
Password	PropertyTemplate	LoanProcess	{2C10DAD9-0818-4D7C-AB4F-BA9B245223B4}	default
PhoneNumber	PropertyTemplate	LoanProcess	{2307111A-8AA8-4600-98FE-56C6682424E}	default
Loans	PropertyTemplate	LoanProcess	{07CDEBF8-6E1C-47AE-AE64-26657BC6911C}	default
P8Password	PropertyTemplate	LoanProcess	{29EB5B41-8EAE-4DD4-83B4-4A2436168D7F}	default
emailAddress	PropertyTemplate	LoanProcess	{75293A71-6B96-43FA-86EB-2E4478C6602F}	default
P8User	PropertyTemplate	LoanProcess	{956DB465-B634-4270-9CDA-A2C957FE22F7}	default
LoanProcessor	WorkQueue	LoanProcess	P8ConnP5[5] LoanProcessor	
LoanRoster	Roster	LoanProcess	P8ConnP5[5] LoanRoster	
LoanLog	EventLog	LoanProcess	P8ConnP5[5] LoanLog	

- Export manifest editor
 - Contents are populated from the Add Assets operation.
 - Double-click the export manifest to open it.
 - Export *Include Options* can be set for each asset
 - Default, All, or Custom
 - Workflow system assets do not have include options

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Figure 1-52. Edit the export manifest

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Notes:

Each asset that you select is added to the export manifest and is immediately visible in the export manifest editor. If you try to add an asset that exists in the export manifest, the operation is ignored.

Export *Include Options* can be set for each asset, except workflow system assets. When you add an asset, default export include options are set, based on the type of asset. You can edit the include options to customize the export include options. You explore the export include options in more detail in the next few slides.

Export the application assets

Define export include options

- Export include options:
 - Control export activities on individual assets.
 - How objects for an asset are added
 - Propagate to any related objects that are added as a result of the include options.
 - Cascading action can result in a large number of objects being exported.
 - Organized by object types:
 - To avoid potential negative impacts
 - Separate the data design components from the object instance data
 - Perform several phased export and import actions

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Figure 1-53. Define export include options

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Notes:

Help path

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

Within the export manifest, the export include options control export activities on individual assets or objects. This control includes how associated objects for an asset, such as metadata or folders, are added to the deployment data set.

In addition, the include options that are specified for an asset propagate to any related objects that are added as a result of the include options on the original asset. This cascading action, from one asset or object, to its associated objects, and then to more associated objects, can result in a large number of objects added to the deployment data set.

The Include Options window organizes the include options by object types.

Including too many objects in the export due to include options that add related objects can negatively affect the performance of both the export and import actions. For export, the number of

associated objects that result from the selected include options can increase the processing time associated with the export action. When you import the exported data, FileNet Deployment Manager must search the deploy data set for metadata and then arrange the import actions to ensure that the assets are imported in the correct order.

To avoid potential negative impacts:

- Separate the data design components of the application assets from the object instance data by doing several phased export and import actions. For example, one exported deploy dataset might contain the document class definition and a second exported deploy dataset would include the documents of that document class.

Export the application assets

Export include options: Best Practices

- Data design components
 - Export include options commonly included:
 - Event and Lifecycle – accept defaults
 - Export include options commonly excluded:
 - Folders and Contained Objects
 - Document-Related
 - Social Collaboration
 - Export include options related to add-on features:
 - Do not use, install the add-on feature on the destination object store
 - Export include options related to class definitions:
 - Add the user-defined property templates and use ***the Include choice lists on property templates*** include option
 - Do not use the **Data Design** include options for the class definitions.

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Figure 1-54. Export include options: Best Practices

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Migrating data with FileNet Deployment Manager>Data migration: Recommendations for export include options

When you work with data design components for application assets, the following general best practices for selecting the export include options apply:

- Export include options that are commonly included: The options for the **Event and Lifecycle** area can remain at the defaults, with the options selected, to export associated events and subscriptions.
- Export include options that are commonly excluded: The following groups of export include options are usually not used for data design components: **Folders and Contained Objects**, **Document-Related**, and **Social Collaboration** options, because they do not apply.



Information

You generally start with the default include options. As you test your export, you might find that you must clear certain options, depending on the type of asset you are exporting, to export only the assets you need.

Export the application assets

Export include options: Best Practices(2)

- Object instance components
 - Narrowly target the objects to export.
 - Avoid implicit inclusion of unwanted objects.
 - Click None to clear all selected include options.
 - Only the asset that is listed in the export manifest is exported.
 - Broadly target the objects to export
 - Export all contents in a folder:
 - Include folder in export manifest
 - ***Folders and Contained Objects*** area
 - > Accept defaults except ***Include parent folders***
 - > Explicitly add the parent folder in the export manifest
 - Export all document versions
 - Select ***Include all document version***
 - Accept defaults for ***General*** and ***Event and Lifecycle*** areas

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Figure 1-55. Export include options: Best Practices(2)

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Notes:

When you work with object instances, there are two approaches you can follow:

1. Specify export include options that narrowly target the objects to export. This narrow targeting can avoid implicit inclusion of unwanted objects through propagation of the include options to other, associated objects.
2. Specify export include options that broadly target the objects to export. Follow the best practices that are listed to improve performance for the export and import actions:
 - You want to export all the contents in a folder. It is best to accept the default export include options for the ***Folders and Contained Objects*** area, except ***Include parent folders***. By clearing ***Include parent folders***, you prevent adding all folders that the documents. You explicitly add only the folders you need to the export manifest.
 - You want to export all the document versions, not just the most recent version. Select the export include option, ***Include all document versions***, in the ***Document-Related*** area. Keep in mind that if you export only the most current version of a document, when a document is revised you need to edit the export manifest, delete the older document version, and add the most current document version to the export manifest.

Export the application assets

Export assets to a deploy data set

- In the FileNet Deployment Manager tree view pane
 - Right-click the export manifest under the environment
 - Select Export
 - A deployment.log is created for each operation



Figure 1-56. Export assets to a deploy data set

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Preparing the source environment>Exporting assets to a deployment data set

When you create the necessary export manifests and add the assets to them, the next step is to export the assets and add them to a deploy data set. You right-click the export manifest that you want to export and select Export from the menu. The Export Options window opens. FileNet Deployment Manager creates an Assets folder under the environment and use the name of the export manifest for the **Deploy Data Set Name**. You can change the name if you want.

If the deploy data set exists, you get a prompt to confirm if you want to delete the existing deploy data set and re-create it.

During the export operation, a status window displays and shows the increasing count of items that are exported, when the operation is complete, the window shows the total number of items processed.

If the export results in more objects than you expect, open the file:

<deployment_tree>\Temp\Run.yyyy.mm.dd.hh.min.ss\deployment.log, with a text editor and search for **Exported**. The deployment log lists how many items of each type were exported.

Export the application assets

Deployment.log

- FileNet Deployment Manager creates a folder for each operation it runs
 - <deployment tree>\temp\Run.<date and time stamp>
 - Deployment.log
 - Detail of last operation run
 - Running log stored in <FDM_install_path>\deployment.log
 - DeploymentOperation.xml
 - The xml operation run
 - Can be used with command line interface

Sample deployment.log

```

2015-08-25 10:55:20,486 INFO [ModalContext] filenet_error.api.com.filenet.apimpl.imex.LoggingStream - Exported 1 item(s) of type ChoiceList
2015-08-25 10:55:20,486 INFO [ModalContext] filenet_error.api.com.filenet.apimpl.imex.LoggingStream - Exported 2 item(s) of type PropertyTemplateObject
2015-08-25 10:55:20,486 INFO [ModalContext] filenet_error.api.com.filenet.apimpl.imex.LoggingStream - Exported 1 item(s) of type Folder
2015-08-25 10:55:20,486 INFO [ModalContext] filenet_error.api.com.filenet.apimpl.imex.LoggingStream - Exported 1 item(s) of type DynamicReferentialContainmentRelationship
2015-08-25 10:55:20,486 INFO [ModalContext] filenet_error.api.com.filenet.apimpl.imex.LoggingStream - Exported 1 item(s) of type WorkflowEventAction
2015-08-25 10:55:20,486 INFO [ModalContext] filenet_error.api.com.filenet.apimpl.imex.LoggingStream - Exported 2 item(s) of type ClassWorkflowSubscription
2015-08-25 10:55:20,486 INFO [ModalContext] filenet_error.api.com.filenet.apimpl.imex.LoggingStream - Exported 3 item(s) of type ExternalWorkflowSubscription
  
```

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Figure 1-57. Deployment.log

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Notes:

Every time that you run any operation in FileNet Deployment Manager (FDM), a new Run.<timestamp> folder is created which contains

- deployment.log
 - Details of the operation run
 - Valuable for troubleshooting
- DeploymentOperation.xml
 - Script that is executed for the operation
 - Can be used with the command line interface.

FDM also keeps a running log in the <FDM_install_path>\deployment.log. This deployment.log is continually appended.

- On the student system, the path is: C:\Program Files\IBM\FileNet\ContentEngine\tools\deploy\deployment.log

Export the application assets

Extract the source environment half maps

- What is a half map?
 - A deployment file that contains a list of environment-specific information associated with the application.
 - Four files per environment
 - Object store half map
 - Security principle half map
 - Service half map
 - Connection point half map.

Half Maps		
Action	Type	Status
Retrieve Data...	Object Store	no entries, no labels, updated Aug 10, 2015 at 10:42:47 AM
Retrieve Data...	Storage Policy	no entries, no labels, updated Aug 10, 2015 at 10:42:47 AM
Retrieve Data...	Storage Area	no entries, no labels, updated Aug 10, 2015 at 10:42:47 AM
Retrieve Data...	Security Principal	no entries, no labels, updated Aug 10, 2015 at 10:42:47 AM
Retrieve Data...	Service	no entries, no labels,  updated Aug 10, 2015 at 10:42:47 AM
Retrieve Data...	Connection Point	no entries, no labels, updated Aug 10, 2015 at 10:42:47 AM

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Figure 1-58. Extract the source environment half maps

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>The FileNet Deployment Manager tool>Deployment files

FileNet Deployment Manager uses four files called half maps to contain environment-specific information. Each environment has its own set of half maps.

When you click Retrieve Data, for each of the half maps, you get options to select what data source to use to retrieve the data. The default selection for all of the half maps is to retrieve the data from a deploy data set. This is commonly the preferred selection.

The next few slides cover each of the half maps in more detail.

Export the application assets

Create a deploy package

- What is a deploy package
 - A compressed file of deployable content that can be put under change control.
 - Includes the exported data and the half maps of an environment.
 - Does not include the export manifests
 - Facilitates use of FileNet Deployment Manager in disconnected mode.
- One deploy package per deploy data set.

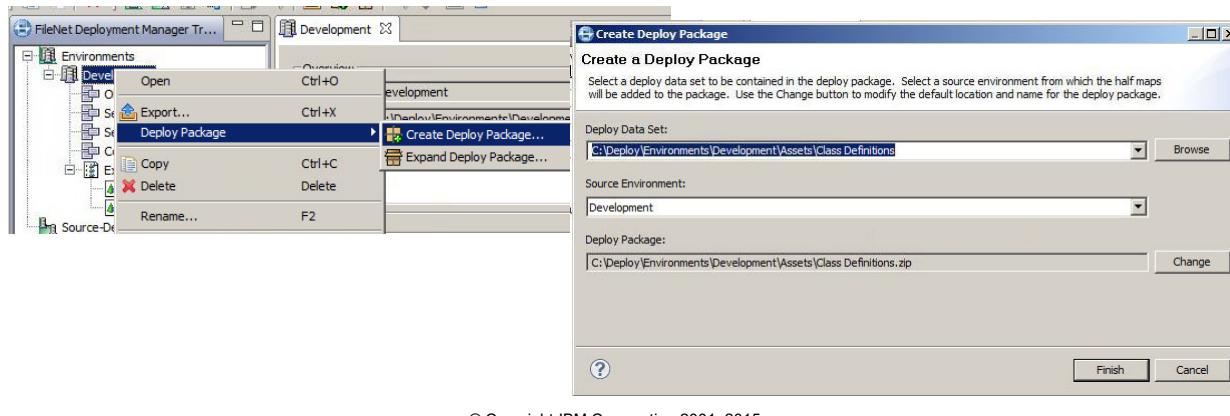


Figure 1-59. Create a deploy package

F2371.0

Notes:

Help path

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 a deployment package by using the FileNet Deployment Manager graphical user interface

You can create a deploy package for each deploy data set.

A deploy package is a compressed file of FileNet P8 deployable content that can be put under change control. A deploy package includes the exported data in a deploy dataset and the half maps of an environment. A deploy package facilitates the use of FileNet Deployment Manager in disconnected mode. When you run FDM on a destination environment, that has no direct connection to the source environment, you can extract the deploy package, which configures the source environment for you, from the information that is stored in the deploy package.

A deploy package does not include the export manifest used to create the deploy dataset.

To create a deploy package, you right-click the environment and select ***Deploy Package > Create Deploy Package***, the screen capture on the left.

The window, which is shown in the screen capture on the right, opens. You browse to the deploy data set you want, and select the environment to use as the source environment. FileNet Deployment Manager displays the default path where it creates the deploy package, using the deploy dataset name for the deploy package file name with a .zip extension. You can change the name if you choose, but it must be a .zip file.

If you have more than one deploy data set, you can create multiple deploy packages.

Export the application assets

Export other IBM and external assets

Export assets that are not FileNet P8 assets.



Other IBM and
External assets

Examples:

- IBM Content Navigator desktops
 - Use IBM Content Navigator administration tool to export
- Custom step processors
- IBM Operation Decision Manager rules project (previously known as WebSphere ILOG JRules)
- Cognos Real-time Monitoring dashboards and objects
- Custom widgets
 - Use appropriate tool to export the asset.
 - Development teams provide:
 - Exported asset
 - Deployment instructions

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Figure 1-60. Export other IBM and external assets

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets based on Content Platform Engine

Export any application assets that are not FileNet P8 assets. For example:

- IBM Content Navigator desktops – use the IBM Content Navigator administration tool to export.
- Custom step processors – developer would provide the component and instructions for how to deploy it
- IBM Operation Decision Manager rules project
 - Cognos Real-time Monitoring dashboards and objects
 - Custom widgets

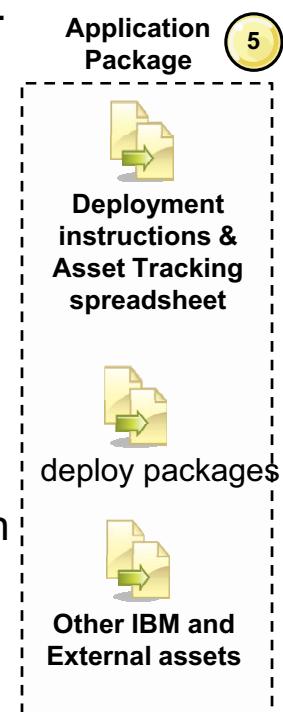
Use the appropriate tool for to export the asset.

It is the responsibility of the development team to provide the exported asset and the instructions to deploy the asset on the destination environment.

Export the application assets

Assemble the application package

- Collect all the exported pieces of the application.
 - All the deploy packages for the FileNet P8 assets
 - All the exported other IBM and external assets
 - Asset tracking documentation
 - Deployment instructions
- Assemble into an application package
 - Compressed file
 - Change Control container
 - Any method that keeps all the pieces together
- Keep in mind that the individual components can require updates at different times.



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Figure 1-61. Assemble the application package

F2371.0

Notes:

You exported all the components of the FileNet workflow application. You now need to assemble all the pieces into an application package that can be:

- Delivered to an administrator to deploy the application in other environments.
- Placed under a change control system.

An application package must include:

- All the deploy packages for the FileNet P8 assets.
 - It is also a good idea to include the export manifests used to create the deploy data sets.
- All the exported other IBM and external assets
- Asset tracking documentation
- Deployment instructions

Decide how to assemble the application package. You can assemble the application package into:

- A compressed file

- A container that can be placed under change control
- Any method that facilitates keeping all the pieces together

When deciding how to assemble the application package, keep in mind that the individual components can require updates at different times.

Export the application assets

Demonstration

- Export workflow application assets with FileNet Deployment Manager.

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Figure 1-62. Demonstration

F2371.0

Notes:

Demonstration notes

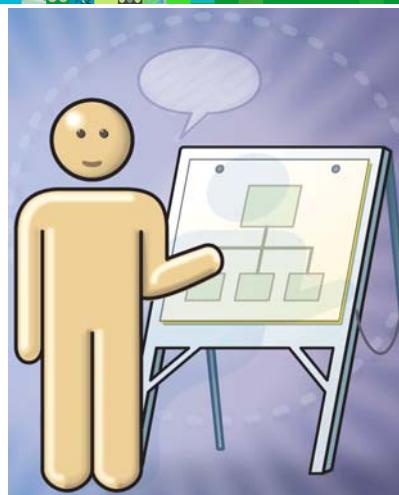
Export workflow application assets with FileNet Deployment Manager.

1. Open the Application Assets Tracking spreadsheet. Use the spreadsheet as a guide to create the export manifest.
2. Start FileNet Deployment Manager.
3. Expand the source environment.
4. Create an export manifest and add a few assets, which are listed in the Application Assets Tracking Spreadsheet.
 - a. Add the connection point properties.
 - b. Add the isolated region objects.
 - c. Add the class definition, Loan
 - d. Add the folder, Workflows.
 - e. Close the Add Assets window.

5. Set the include options
 - a. Select Loan, open the include options window. (Show both ways to open the window).
 - b. Select Workflows, talk about the include options for folders.
 - c. Save the export manifest.
6. Export the assets and create a deploy dataset.

Export the application assets

Exercise introduction



Examine the exported FileNet P8 assets.

- In this exercise you will:
 - Add the export manifests to the deployment tree.
 - Examine the export manifests and the include options.

Examine the exported Other IBM and External assets.

- In this exercise you will:
 - Examine the Other IBM assets.
 - Examine the External assets.

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Figure 1-63. Exercise introduction

F2371.0

Notes:

In the exercises for this lesson, you examine the exported assets, provided in the Deployment Application package. The development team ran the export and created the application package. You, the workflow administrator, must examine the application assets so you understand how they were exported.

You will:

1. Examine the exported FileNet P8 assets.
 - Add the export manifests, provided in the application package, to the deployment tree.
 - Examine the export manifests and the include options that are used to create the deploy data sets.
2. Examine the exported Other IBM and External assets that are included in the application package.

Export the application assets

Activities



In your Student Exercises

- Unit: Unit name
- Lesson: Lesson name
- Activities:
 - Examine the exported FileNet P8 assets.
 - Examine the exported Other IBM and External assets.

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Figure 1-64. Activities

F2371.0

Notes:

Use your Student Exercises to perform the activities listed.

Lesson 1.4. Convert and Analyze the FileNet P8 assets

Lesson

Convert and Analyze the FileNet P8 assets



Why is this lesson important to you?

- You have an application package that contains all the assets for a FileNet workflow application. You need to move the application to a 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.

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Figure 1-65. Convert and Analyze the FileNet P8 assets

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Notes:

Convert and Analyze the FileNet P8 assets

Activities that you need to complete

- Prepare the destination environment for import
- Convert the FileNet P8 assets
- Perform a change impact analysis

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Figure 1-66. Activities that you need to complete

F2371.0

Notes:

These are the activities that you are going to perform in this lesson.

Convert and Analyze the FileNet P8 assets

Analyzing Phase



- Analyzes the impact of the application deployment on the destination environment.
- Enables identification and mediation of issues that might cause errors.
- In some tools, like FileNet Deployment Manager:
 - [Change analysis impact report](#)
 - Can be archived.
 - Used for review or audit activities
 - Can be used iteratively, to improve the deployment process.

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Figure 1-67. Analyzing Phase

F2371.0

Notes:

Help path

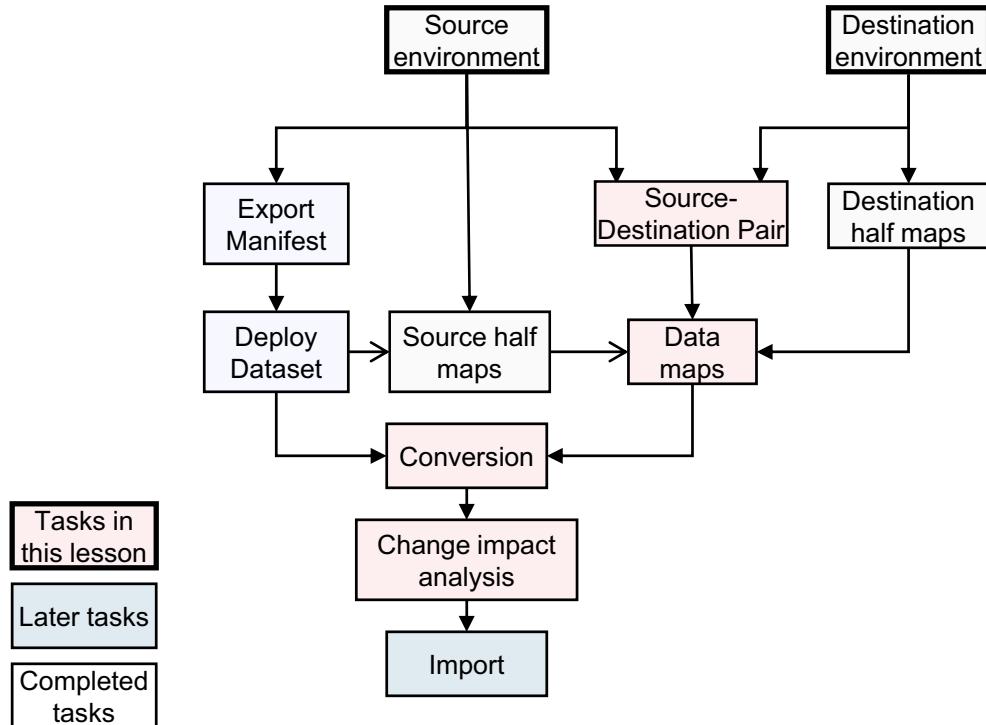
FileNet P8 Platform 5.2.1>Migrating and deploying applications>Migration and deployment overview>Migration and deployment phases

During the analysis phase, you analyze the impact of the deployment on the destination environment. This analysis enables identification and mediation of issues that might cause errors. In some tools, this analysis is known as a change analysis impact report. If this report is generated, it can be archived and used for review or audit activities. The archived reports can be used iteratively, to improve the migration and deployment process.

Assessing the impact on the destination environment might be of little concern when the destination is a test environment that is easily reconfigured. However, when data is imported into a destination that is an in-use, production environment, running this analysis is crucial to the integrity of the production environment.

Convert and Analyze the FileNet P8 assets

FileNet Deployment Manager deployment tasks



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Figure 1-68. FileNet Deployment Manager deployment tasks

F2371.0

Notes:

The diagram shows the FileNet Deployment Manager tasks that must be completed to deploy FileNet P8 assets. The order of tasks is flexible and based on object dependencies. The arrows indicate dependencies.

In this lesson you complete the tasks to convert and analyze the FileNet P8 assets:

- Create Source-Destination pair.
- Create data maps, from the source and destination half maps.
- Convert the FileNet P8 Assets.
- Perform a change impact analysis operation.

Convert and Analyze the FileNet P8 assets

Prepare the FileNet P8 destination environment



- Ensure that all content to be deployed is checked in.
- Stop any running workflows that might contain referenced objects to be deployed.
- Ensure that only users who run essential activities are logged in to the destination environment.
- Ensure that any object store Add-ons, required by the application, are installed and configured on the destination object stores.
- Ensure that any required workflow systems and connection points are created on the destination environment.

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Figure 1-69. Prepare the FileNet P8 destination environment

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Prepare the destination environment

Before you begin importing data, perform the following steps to prepare the destination environment.

- Ensure that all content to be deployed is checked in.
- Stop any running workflows that might contain referenced objects to be deployed.
- Ensure that only users who perform essential activities are logged in to the system.
 - This reduces the load on the system and minimizes the risk of introducing unexpected changes.
- Ensure that any object store Add-ons, which are required by the application, are installed and configured on the destination object stores.
- Extract the destination environment half maps.

- Typically you retrieve the data for the destination environment half maps directly from the destination environment. In some situations, the half maps from the source environment can be used as a starting point.

Convert and Analyze the FileNet P8 assets

Prepare for asset conversion



- Create a source-destination pair.
- Create the source-destination pair data maps.

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Figure 1-70. Prepare for asset conversion

F2371.0

Notes:

To prepare for asset conversion, you must:

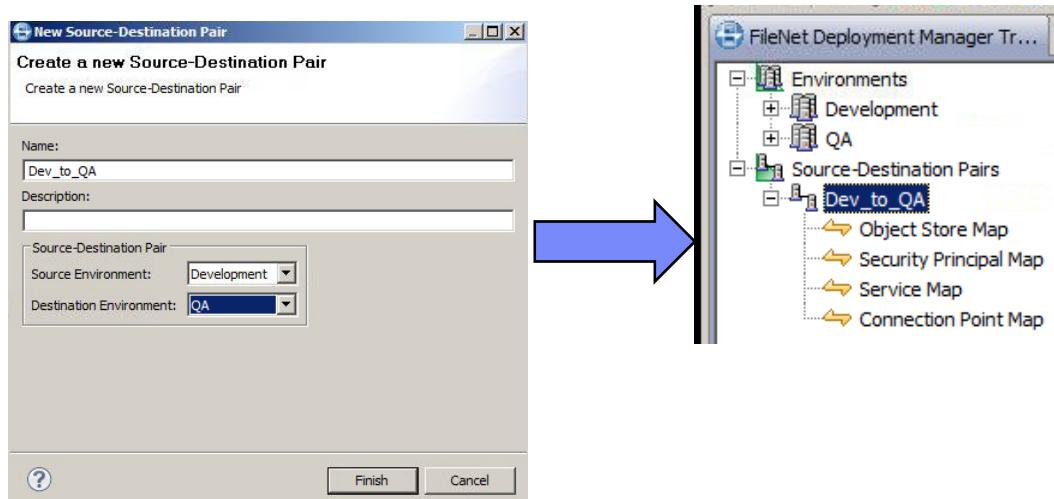
- Create a source-destination pair.
- Create the source-destination pair data maps.

You look at how to complete these operations in the next few slides.

Convert and Analyze the FileNet P8 assets

Create a source-destination pair

- What is a source-destination pair?
 - Connects a source environment to a destination environment.
 - A subfolder of the FDM deployment tree, one folder per pair.
 - FDM uses two half maps for the environments to create data maps.



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Figure 1-71. Create a source-destination pair

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Creating a source-destination pair definition

A source-destination pair connects a source environment to a destination environment and provides a mechanism for FDM to create data maps. The data maps are created from the half maps that are associated with the source and destination environments.

Convert and Analyze the FileNet P8 assets

How do labels affect data maps?

- Labels facilitate mapping information between half maps.
 - Add a matching label to a half map entry in the source and destination environments.

Source environment – object store half map

Label	Name	Symbolic Name	ID
LP	LoanProcess	LoanProcess	{3C506A21-BA3F-4F8A-8699-6F0E3CB33B68}

Destination environment – object store half map

Label	Name	Symbolic Name	ID
LP	LoanProcessQA	LoanProcessQA	{D9FE3F92-56F3-4BFA-B081-49ACAF9ACD1E}
	P8ConfigObjectStore	P8ConfigObjectStore	{FE8CCB2-2604-4845-8EE9-19C1A6D18D58}
	Sales	Sales	{B58C9704-8B80-4535-A79E-DE77FEC66960}
	SalesQA	SalesQA	{BC29329E-1FA0-4BED-8E44-CE6E570CA5FE}
	SalesSBx	SalesSBx	{5E812A89-CD86-411A-8DD8-2C9D28BDDBDCF}

Resulting source-destination pair – object store data map

Source Name	Destination Name	Source Symbolic Name	Destination Symbolic Name	Source ID	Destination ID	Source Label	Destinat
LoanProcess	LoanProcessQA	LoanProcess	LoanProcessQA	{3C506A21-BA3F-4F8A-8699-6F0E3CB33B68}	{D9FE3F92-56F3-4BFA-B081-49ACAF9ACD1E}	LP	LP

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Figure 1-72. How do labels affect data maps?

F2371.0

Notes:**Help path**

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Preparing the source environment>Extracting the source environment half maps>Editing labels in a half map

Labels make it easy for FileNet Deployment Manager (FDM) to map half map entries into source-destination pair data maps.

If entries between a source and destination half map, for example object store half maps, have a matching label, then FDM maps the two entries in the resulting data map.

When you map data for a source-destination, FDM will:

- Search for entries, in the source and destination half maps, with matching labels and map those entries in the new data map.
- Search for entries, without labels, where the symbolic names are the identical, in the source and destination half maps, and map those entries in the new map.

- c. Entries that exist in the source half map, but not in the destination half map, are added to the new data map. The Destination information in the map has three # symbols, indicating that you need to complete the values. You can leave entries unmapped if the application does not require them.

The screen capture on the upper left, shows an object store half map for a source environment, with the Label, “LP” added to the entry.

The screen capture in the center, shows an object store half map for a destination environment, with the Label, “LP” added to the entry.

The last screen capture, shows the resulting source-destination pair object store data map. Notice how the object store Loan Process is mapped to LoanProcessQA, because they had matching labels.

Convert and Analyze the FileNet P8 assets

Create the source-destination pair data maps

- Combine source and destination half maps to create source-destination data maps.

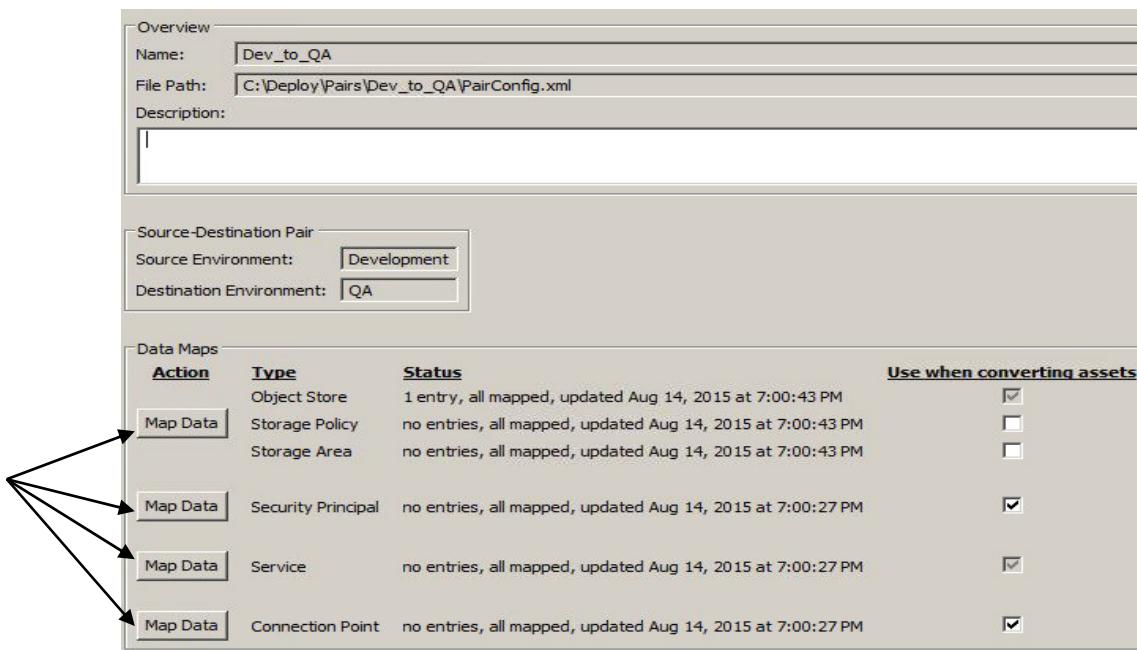


Figure 1-73. Create the source-destination pair data maps

F2371.0

Notes:

When you click Map Data, FileNet Deployment Manager combines the source and destination half maps to create the source-destination data maps.

After you combine the half maps of a source and destination environment for object stores, connection points, security principals, or services, the data map editor is opened automatically.

Convert and Analyze the FileNet P8 assets

View or update the data map

- Each row in a data map contains the information of the combined source and destination half maps for that data map type.
- The first two columns are the same for all four data map types

Information
hover over icon
to display

Mapping status column

Red question mark
unmapped source item

Green question mark
successful mapping

manual

automatic

	Source Short Name	Destination Short Name	Source Display Name	Destination Display Name
loan officers	###	Loan Officers	###	
loan operations	###	Loan Operations	###	
loan underwriters	###	Loan Underwriters	###	
loan system administrators	finance admins	Loan System Administrators	Finance Admins	
loan business users	finance clerks	Loan Business Users	Finance Clerks	
loan processors	finance clerks	Loan Processors	Finance Clerks	
loan business analysts	finance managers	Loan Business Analysts	Finance Managers	
loan managers	finance managers	Loan Managers	Finance Managers	
loan guests	clerks	Loan Guests	Clerks	
ceadmins	ceadmins	CEadmins	CEadmins	
p8admin	p8admin	P8Admin	P8Admin	
p8admins	p8admins	P8Admins	P8Admins	

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Figure 1-74. View or update the data map

F2371.0

Notes:**Help path**

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Creating a source-destination pair definition>Viewing or updating a data map

After you combine the half maps of a source and destination environment for object stores, connection points, security principals, or services, the data map editor is opened automatically. The screen capture shows the data map editor for a security principal data map.

The first two columns are identical for all four data map types.

- The first column is the information column. If you hover your mouse over the icon, a snapshot of the entire contents of the row is displayed.
- The second column is the mapping status column.
 - A green check mark indicates a successful mapping of a source and destination half map item.

- If the mapping was created manually, either by a matched user-entered label pair in the source and destination half map items, or by selecting from a list in the data map, a pencil symbol is included in the icon.
- If the mapping is the result of an automatic pairing of a source and a destination half map item that is based on matching column field values, a gear symbol is included in the icon.
- A red question mark icon indicates an unmapped source half map item. In a row that contains an unmapped item, the value of each destination field is set to the unmatched state ("####"), except for the destination label field, which is populated with a blank entry.

Convert and Analyze the FileNet P8 assets

View or update the data map(2)

- Data map editor makes it easy to update the data map.
 - Click a destination cell to display a choice list of valid values.

The diagram illustrates a many-to-one mapping. A yellow box labeled "Many to one" is positioned above a grid. Arrows point from the grid to the box. The grid contains four columns: Source Short Name, Destination Short Name, Source Display Name, and Destination Display Name. A dropdown menu is open over the Destination Short Name column for the row 'loan system administrators'. The menu lists several options: ceadmins, clerks, finance admins, finance clerks, finance managers, loan business analysts, loan managers, loan guests, p8admin, and p8admins. The 'p8admins' option is highlighted with a blue background. The 'p8admins' entry in the grid's Destination Short Name column is also highlighted with a blue background.

	Source Short Name	Destination Short Name	Source Display Name	Destination Display Name
loan officers	###	Loan Officers	###	
loan operations	###	Loan Operations	###	
loan underwriters		Loan Underwriters	###	
loan system administrators		Loan System Administrators	Finance Admins	
loan business users		Loan Business Users	Finance Clerks	
loan processors		Loan Processors	Finance Clerks	
loan business analysts		Loan Business Analysts	Finance Managers	
loan managers		Loan Managers	Finance Managers	
loan guests		Loan Guests	Clerks	
ceadmins	p8admins	CEadmins	CEadmins	
p8admin	p8admin	P8Admin	P8Admin	
p8admins	p8admins	P8Admins	P8Admins	

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Figure 1-75. View or update the data map(2)

F2371.0

Notes:

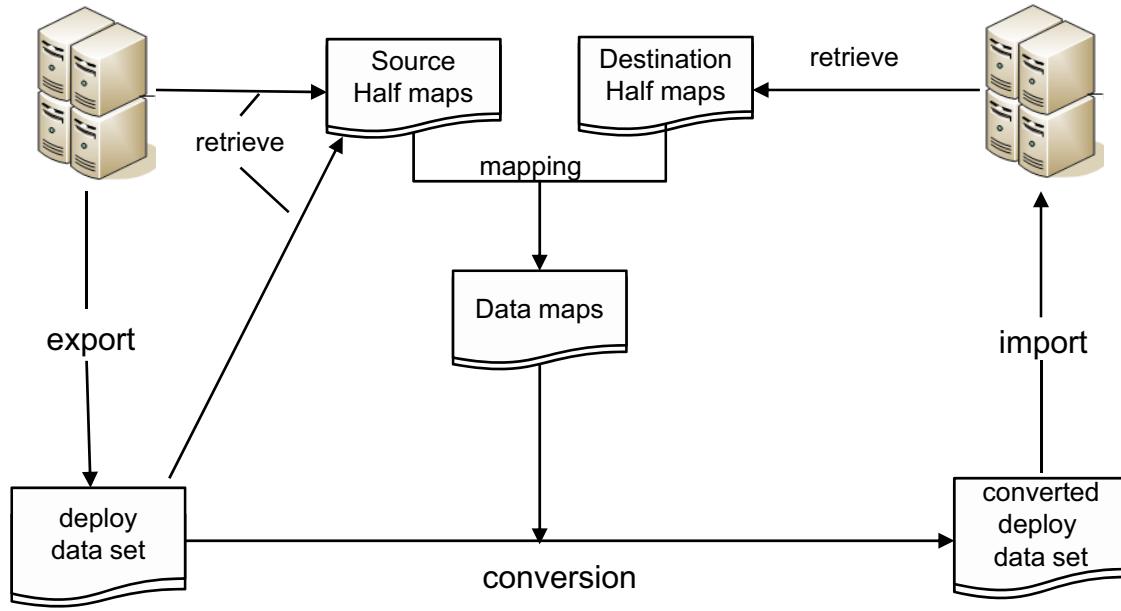
When you click a destination cell, the data map editor displays a choice list that you can use to select an appropriate value for the data map type. You map only rows that contain information that is referenced by the exported application assets. If you used a deploy dataset to create the source destination half map, then all the destination cells must be successfully mapped.

For security principals, FileNet deployment Manager allows Many-to-one security principal mappings. In the screen capture of the security principal data map, notice how the last column shows Finance Clerks as the destination display name for Loan Business Users and Loan Processors.

Convert and Analyze the FileNet P8 assets

Convert the FileNet P8 application assets

- Use FileNet Deployment Manager to convert the assets in the deploy data set.
- Right-click the source-destination pair > Convert Assets.



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Figure 1-76. Convert the FileNet P8 application assets

F2371.0

Notes:**Help path**

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Converting objects for import

When you run the conversion operation, FileNet Deployment Manager (FDM) uses the deploy data set and the mapping that is defined in the data maps to convert the source environment objects and create a converted deploy data set. The converted deploy data contains mapped objects that can be imported into the destination environment.

To start the conversion process, right-click the source-destination pair and select Convert Assets.

The conversion process fails if a required map that is referenced by the exported data is not mapped to a destination item.

Convert and Analyze the FileNet P8 assets

Analyze objects for import

- The change impact analysis operation is central to preparing data for deployment.
- The change impact analysis operation:
 - Validates the converted deploy data set file with the destination environment.
 - Generates a change impact analysis report.
 - Potential import errors in the destination environment.
 - Change impact on the destination environment.
 - Is an information only operation.
 - Reads but does not modify the destination environment.

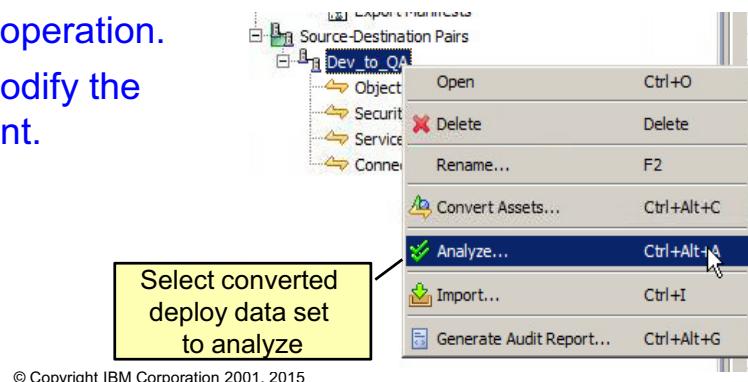


Figure 1-77. Analyze objects for import

F2371.0

Notes:

Help paths

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Analyzing objects for import

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Analyzing objects for import>Change impact analysis

The change impact analysis operation is central to preparing data for deployment. The operation reports on the potential import errors in the destination environment and the change impact on the destination environment.

The change impact analysis operation validates the converted deployment data set file with the destination environment. This operation provides information only; it does not actually import data, or modify the destination environment in any way.

To start the change impact analysis operation, in FileNet Deployment Manager, you right-click a source-destination pair and select Analyze. The Change Impact Analysis wizard displays. From the wizard, select the converted deploy data set to analyze.

Convert and Analyze the FileNet P8 assets

Change impact analysis report

- One or more XML files.
- HTML-formatted viewing from a web browser.

Change Impact Analysis Report

Table of Contents

[Summary](#)
[Statistics by Class](#)
[Estimated Size Information by Class](#)
[Estimated Size Information by Data Type](#)
[Assets that Failed Analysis](#) ← **Investigate**
[Assets that Passed Analysis with Warnings](#)

Summary

Report Generated On:	2015-08-25 15:57:12 EDT
----------------------	-------------------------

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Figure 1-78. Change impact analysis report

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>Prepare data for deployment>Analyzing objects for import>Change impact analysis

The change impact analysis report consists of one or more XML files, transformed to an HTML-formatted main report for viewing from a web browser.

The upper screen capture shows the top of a Change Impact Analysis Report. Investigate assets that failed and passed with warnings.

Convert and Analyze the FileNet P8 assets

Resolving failures

[Back To Top](#)**Assets that Failed Analysis**

Name	Class	ID	Analysis Status	Import Operation	Estimated Size	Comments
Loan Process Autolaunch	ClassWorkflowSubscription	{34F53CF1-18C6-4278-8974-AD3CF3F7CCDB}	Failed	Create	0.63 KB	<p>Object to be imported requires a related object that does not exist at the destination or in the current import dataset. Object being imported: Name='Loan Process Autolaunch', ID={34F53CF1-18C6-4278-8974-AD3CF3F7CCDB}, Class=ClassWorkflowSubscription. Related object: ID={B410EF21-9057-425C-8264-E41C9F46CCF4}, Class=WorkflowDefinition</p> <p>Warning(s): If the workflow definition document this workflow subscription references has been transferred into the destination workflow system, Deployment Manager can be directed to automatically update the workflow subscription to reference the transferred workflow by enabling the import option 'Automatically transfer workflows after import' in the import specifications. Workflow subscription to be imported: Name='Loan Process Autolaunch', ID={34F53CF1-18C6-4278-8974-AD3CF3F7CCDB}, Class=ClassWorkflowSubscription</p>

ID of object being imported

ID of related object required for import

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Figure 1-79. Resolving failures

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Notes:

The screen capture shows a sample Change Impact Analysis Report, after clicking the link for **Assets that Failed Analysis**. This instance shows a failure to import a WorkflowSubscription with the ID shown in the third column. Under the comments column, on the right, the reason for the failure is included. The failure indicates that a required related object does not exist on the destination environment. The ID for the related object and the type of object is provided. You can use the Administration Console for Content Platform Engine to search the source environment object store for the type of object and the ID to get more information about the object. You can adjust the export manifest, based on what you find.

Convert and Analyze the FileNet P8 assets

Demonstrations



- Convert FileNet P8 assets with FileNet Deployment Manager
- Perform a change impact analysis with FileNet Deployment Manager

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Figure 1-80. Demonstrations

F2371.0

Notes:

Demonstration notes

Convert FileNet P8 assets with FileNet Deployment Manager

1. Explain how the conversion works. You need a source and destination environment created and the half maps ready.
 - a. Add labels to a half map.
2. Create a source-destination pair.
3. Show how to start the convert operation.

Perform a change impact analysis with FileNet Deployment Manager

1. Right-click the source-destination pair and select Analyze.
 - a. Select the converted deploy data set to analyze.
2. Examine the report
 - a. Show the links in the report.

Convert and Analyze the FileNet P8 assets

Exercise introduction**Prepare the destination environment for import**

- In this exercise you will:
 - Verify object store Add-ons.
 - Create the workflow system and connection point.
 - Retrieve data for the destination environment half maps.
 - Add labels to the source and destination half maps.

Convert the FileNet P8 assets

- In this exercise you will:
 - Create the source-destination pair.
 - Create the source-destination pair data maps.
 - Convert the FileNet P8 assets.

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Figure 1-81. Exercise introduction

F2371.0

Notes:

In the exercises for this lesson, you convert the FileNet P8 assets to prepare for the import operation. Then, you analyze impact that the importing the FileNet P8 assets have on the destination environment, and resolve any failures that you encounter.

You will:

1. Prepare the destination environment for import.
 - Verify that the required object store Add-ons are installed on the destination environment.
 - Create the workflow system and connection point on the destination environment.
 - Retrieve the data for the destination environment half maps.
 - Add labels to the source and destination half maps to facilitate data mapping.
2. Convert the FileNet P8 assets.
 - Create the source-destination pair to map the half maps.
 - Create the source-destination pair data maps to support the data conversion.
 - Convert the FileNet P8 assets.

Continued on next slide.

Convert and Analyze the FileNet P8 assets

Exercise introduction(2)



Perform a change impact analysis

- In this exercise you will:
 - Perform an Analyze operation.
 - Resolve analysis failures

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Figure 1-82. Exercise introduction(2)

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Notes:

3. Perform a change impact analysis.
 - Perform an Analyze operation to see the impact the import of the FileNet P8 assets have on the destination environment.
 - Resolve the failure reported in the Change Impact Analysis Report.

Convert and Analyze the FileNet P8 assets

Activities



In your Student Exercises

- Unit: Unit name
- Lesson: Lesson name
- Activities:
 - Prepare the destination environment for import
 - Convert the FileNet P8 assets
 - Perform a change impact analysis

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Figure 1-83. Activities

F2371.0

Notes:

Use your Student Exercises to perform the activities listed.

Lesson 1.5. Import the application assets

Lesson

Import the application assets



Why is this lesson important to you?

- You need to deploy a FileNet 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.

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Figure 1-84. Import the application assets

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Notes:

Import the application assets

Activities that you need to complete

- Perform prerequisite tasks
- Import FileNet P8 assets
- Import other IBM assets

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Figure 1-85. Activities that you need to complete

F2371.0

Notes:

These are the activities that you are going to perform in this lesson.

Import the application assets

Steps to complete the application deployment

- Backing up the system phase:
 - Suspend activity on the system (destination environment).
 - Create a backup of the system.
- Deploying phase
 - Import the FileNet P8 application assets.
 - Import other IBM and external application assets.
- Verifying phase
 - Test the workflow application in the destination environment.

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Figure 1-86. Steps to complete the application deployment

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>FileNet P8 asset deployment

Temporarily suspend system activities on the system for the destination environment. Before any system modification, back up the portions of the system affected.

You are ready to start the deploying phase. The sequence of individual tasks that are required to deploy an application into the destination environment can vary widely. The needs of your organization, the architecture of your system, and requirements of the application itself all determine the number and order of these tasks. The specific plan and procedures for the deployment that is documented in the deployment instructions.

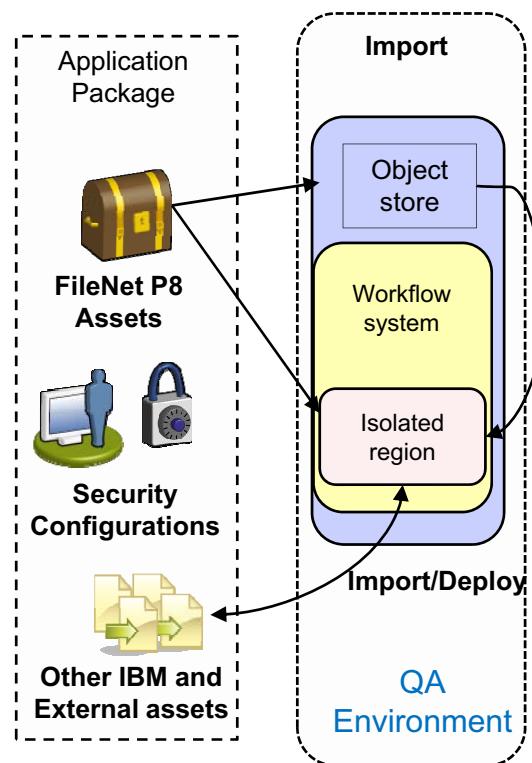
Two major tasks must be completed to complete the application deployment:

- Import the FileNet P8 application assets.
- Import other IBM and external application assets.

The order of the tasks vary.

The slides focus on the deploying phase. Consult the IBM FileNet P8 5.2.1 Knowledge Center for information on suspending activity and creating backup of the system.

Import the application assets

Import the assets into the destination environment

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Figure 1-87. Import the assets into the destination environment

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Notes:

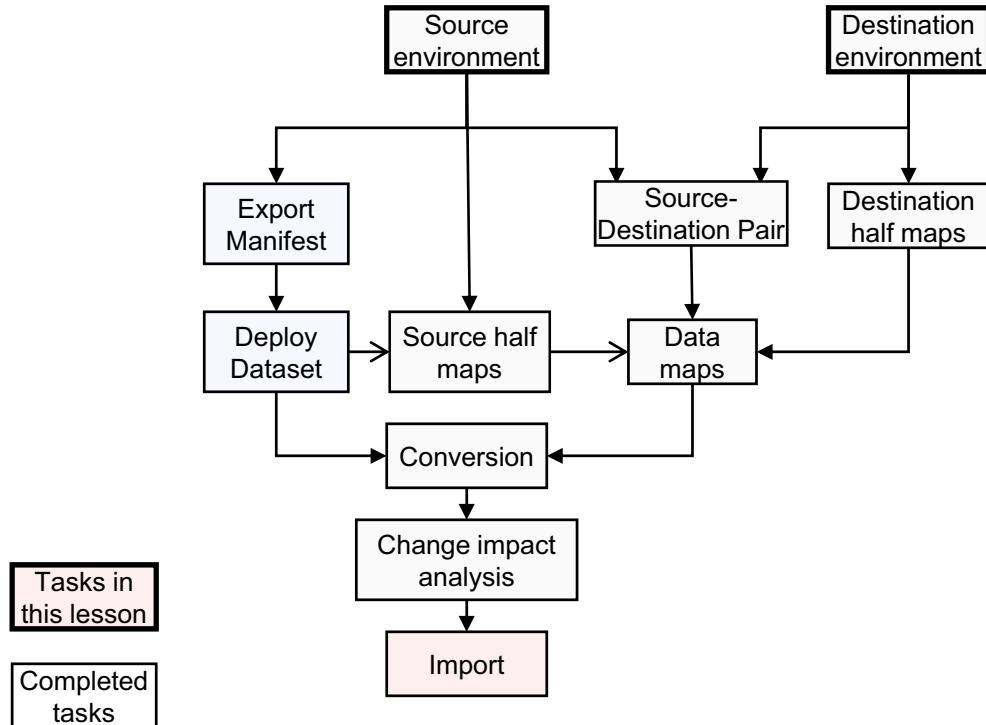
In this lesson, you complete final import task. The diagram shows the part of the deployment process that focuses on the import of the assets from the Application Package into the destination environment.

There can be several import tasks to complete:

- Import the FileNet P8 assets.
- Import other IBM assets.
- Import External assets.

Import the application assets

FileNet Deployment Manager deployment tasks



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Figure 1-88. FileNet Deployment Manager deployment tasks

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Notes:

To import the FileNet P8 assets into the destination environment, you complete the import task in FileNet Deployment Manager.

Import the application assets

Import the FileNet P8 application assets

- Use FileNet Deployment Manager.
 - Import the converted deploy data sets.
 - Follow the order specified in the deployment instructions.
 - Create option set file (optional)
 - Import options specified directly override options in options set file.

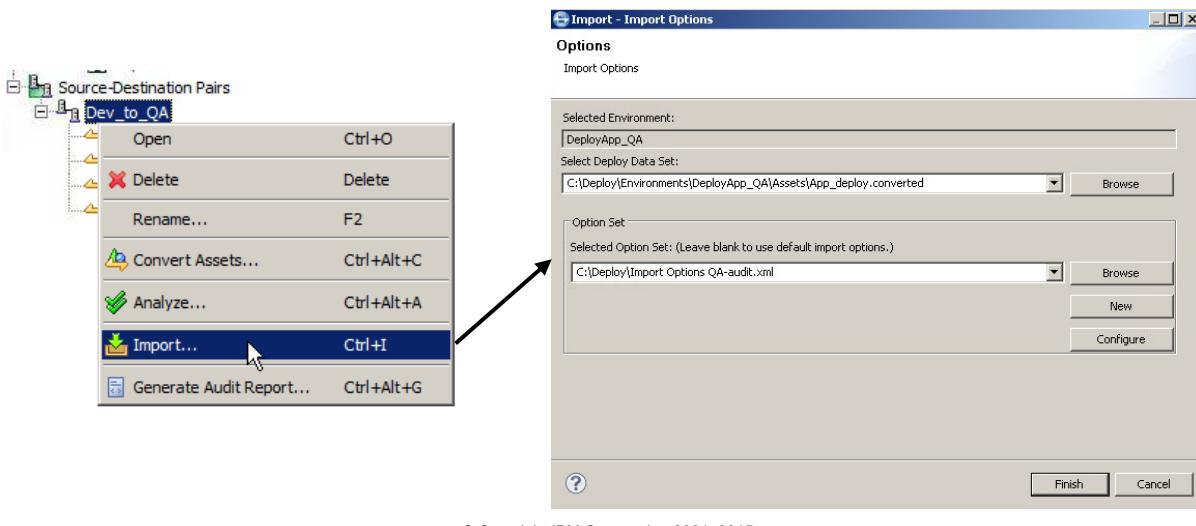


Figure 1-89. Import the FileNet P8 application assets

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>FileNet P8 asset deployment>Importing converted objects

You use FileNet Deployment Manager to import the FileNet P8 application assets. You import all the converted deploy data sets, in the order specified in the deployment instructions, into the destination environment. Some objects can have dependencies and cannot be imported before the dependent object.

To start the import, right-click the source-destination pair and select Import, shown in the screen capture on the left. The import wizard displays, screen capture on the right. You select the converted deploy data set that you want to import and the option set file to use. The ability to specify an option set file was introduced in FileNet Deployment Manager 5.2.0. If you create an option set file, you can save it and include it with the application package, making your import operation reproducible and reducing errors. The import wizard provides four options for the option set:

- Browse: Browse to an existing option set file.

- New: Create an option set file.
- Configure: Configure import options manually. This option displays the import options, on the option set file, and lets you modify and save the modified import options (this option is only available if you select an options set file).
- Leave the Option set blank: The import uses the default import options.

Import the application assets

Import options



- Control the import process for converted objects into the destination environment.
- The import options include:
 - How the objects are stored.
 - How object metadata such as owners and time stamps are added.
 - How objects are created and updated, and other options.
- Enhancements:
 - Import option for Workflow definitions
 - Transfer workflows after import:
 - Import includes a workflow definition document.
 - FDM automatically transfers into destination workflow system.
 - Remove deleted property definitions from class definitions.
 - Change order of property definitions in class definitions updated

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Figure 1-90. Import options

F2371.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>FileNet P8 asset deployment>Import options

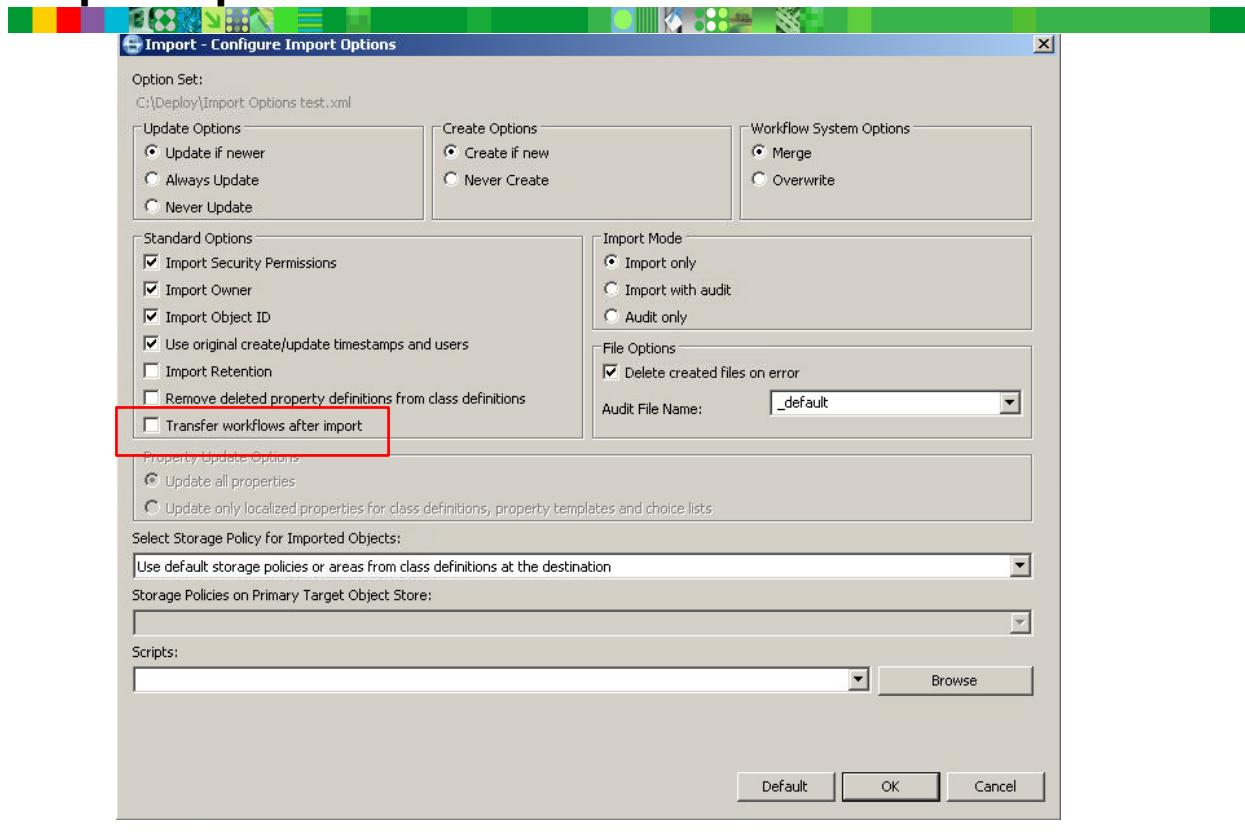
Many enhancements were made to the FileNet Deployment manager 5.2.0.3 release. For example:

- The ability to transfer workflows after import.
 - Select this option if the import includes a workflow definition document that is used as the current version in the destination environment. You also want FileNet Deployment Manager to automatically transfer the workflow definition into the destination workflow system as a part of the import process.
 - This option allows FDM to import a workflow definition and a workflow subscription that are contained in the same deploy dataset. It also allows the transfer of the workflow definition, and linking the two together to avoiding a post deploy operation.
- The ability to remove deleted property definitions from class definitions.

- If this option is selected, FDM removes any property definitions that exist in the existing destination class definition, if they are missing in the imported source class definition
- The ability to change the order of property definitions in class definitions updated.
 - In previous FDM releases, when updating a class definition, the order of existing property definitions in the class definition was never changed. With this release, FDM updates the order of property definitions to match the source class definition's order.

Import the application assets

Import options: defaults



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Figure 1-91. Import options: defaults

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>FileNet P8 asset deployment>Import options

The screen capture shows all the import options that can be configured with the default import options selected.

- Update Options:
 - Update if newer
- Create Options
 - Create if new
- Workflow System Options:
 - Merge
- Standard Options
 - Import security permissions

- Import owner
- Use Original Create/Update Timestamps (requires **Modify certain system properties** privilege, carefully consider whether to set this option.
- Transfer workflows after import – highlighted in a red box on the screen capture. A new option, introduced with FDM release 5.2.0.3. It is not set by default. If this option is set: If a workflow definition document is the current version, FDM automatically transfers the workflow definition and configures any workflow subscriptions, provided they are included in the same deploy data set.

**Note**

On occasion, FileNet Deployment Manager can fail to successfully import the workflow subscription due to complicated object dependencies and the order of operation of the import. In those situations, rerunning the import generally resolves the failure.

- Import Mode - This is where you can select to run an import, import with audit, or audit only.
 - Import only
- File Options - Specify whether you want to delete the audit files if an error occurs and the file name for the audit file. The audit file is saved under the destination environment, converted deploy data set folder.
 - _default – change this file name to a more meaningful name.
- Storage Policy for imported objects:
 - Use default storage policies or areas from the class definitions at the destination

For more information about each of the options, see the IBM Knowledge Center topic.

Import the application assets

Import options: recommendations



- Ensure that the user ID that runs the operation has sufficient privileges.
 - User ID specified in the FDM connection to the destination environment.
 - Needs sufficient privileges on the destination object store to complete all necessary actions during the import.
 - Optimally, specify an object store administrator.
 - Import option, ***Use Original Create/Update Timestamps and Users*** requires extra system privileges:
 - ***Modify certain system properties***

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Figure 1-92. Import options: recommendations

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Migrating data with FileNet Deployment Manager>Data migration: Recommendations for import options

Before you run the import operation, ensure that the user ID that runs the operation has sufficient privileges. The user ID that is specified in the FileNet Deployment Manager connection to the destination environment must have sufficient privileges on the destination object store to complete all necessary actions during the import. Optimally, specify an object store administrator as the user in the connection information for the destination environment.

If the import option Use Original Create/Update Timestamps and Users is selected, then modifications to Content Platform Engine system properties might occur. To modify system properties, the FileNet Deployment Manager import user must additionally have the Modify certain system properties privilege on the destination object store. If the user does not have this privilege, the import operation returns errors.

Import the application assets

Audit changes to imported objects

- Capture a record of changes to the destination environment when you import objects.
- Audit-only mode supported.
 - Simulated import that captures the audit file.
 - The audit file captures differences between:
 - The assets to be imported in the destination environment
 - Generates an audit report from the audit file, which includes:
 - Objects in the deployment data set whose import causes changes in the destination environment.
 - Values for all scalar properties with before and after values when different.
 - IDs of all object-valued properties.

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Figure 1-93. Audit changes to imported objects

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets with FileNet Deployment Manager>FileNet P8 asset deployment>Importing converted objects>Audit changes to imported objects

Use FileNet Deployment Manager (FDM) to capture a record of changes to the destination environment when you import objects and save them to an audit file.

The import operation supports an audit-only mode. In this mode, a simulated import is done, but no assets are created or updated and only the audit file is produced.

You can generate an audit report from the audit file.



Note

The audit changes to imported objects is a new feature introduced in FileNet Deployment Manager 5.2.1. Currently the audit report only captures information about Content Engine objects, not workflow system objects.

Import the application assets

Sample audit report

Audit Report

Summary

Host Used to Create Audit Report: ECMEDU01
 Date Audit Report was Created: Tue Aug 25 18:44:25 EDT 2015
 Audit Option: Audit only
 Audit/Import Performed On: Tue Aug 25 18:43:26 EDT 2015
 Audit/Import Performed By: p8admin
 Elapsed Time to Perform Audit/Import: 1078 msec
 Report Location: C:\Deploy\Environments\DeployApp_QA\Assets\App_deploy isolated region objects.converted\AuditReport.html
 Deployment Data Set Used (Date Created): C:\Deploy\Environments\DeployApp_QA\Assets\App_deploy.converted (Tue Aug 25 18:31:21 EDT 2015)
 Audit File Used (Date Created): C:\Deploy\Environments\DeployApp_QA\Assets\App_deploy.converted\import_audit_results.xau (Tue Aug 25 18:43:26 EDT 2015)
 Destination Content Platform Engine: http://ecmedu01:9080/wsi/FNCEWS40MTOM
 Destination Environment Audited: DeployApp_QA

Details	
<input type="button" value="Collapse All"/>	<input type="button" value="Expand All"/> <input type="button" value="Print"/>
<input type="button" value="Expand for more details"/>	
Name : ClassId : ObjectId : ObjectStore	Access Allowed
<input checked="" type="checkbox"/> CustomerName : PropertyTemplateString : {55747A69-2C3F-4965-91BB-6C8C1A93C885} : LoanProcessQA	995587
<input checked="" type="checkbox"/> DownPayment : PropertyTemplateFloat64 : {F53E9796-DF6C-4035-AFE0-BAC6EA4DE201} : LoanProcessQA	995587
<input checked="" type="checkbox"/> LoanAmoun : PropertyTemplateFloat64 : {EDF1E950-ABB5-4677-BDCB-3B915B7517F0} : LoanProcessQA	995587
<input checked="" type="checkbox"/> LoanDate : PropertyTemplateDateTime : {C1C712F4-D094-4ABD-A34F-BBESF59165C0} : LoanProcessQA	995587
<input checked="" type="checkbox"/> LoanNumber : PropertyTemplateString : {9B3A219D-1F5E-4E93-9764-E3BEE68F7473} : LoanProcessQA	995587
<input checked="" type="checkbox"/> TermList : ClassList : {AD0CF55B-C291-4105-BB92-FA0AA56423F0} : LoanProcessQA	995587

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Figure 1-94. Sample audit report

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Notes:

The two screen captures show sections of a sample audit report. The upper section shows a summary, including:

- The host name of the client where the audit report was created.
- The date the audit report was created.
- The audit option: Audit only in this case.
- When and by what user the audit was run.
- The elapsed time during the audit.
- The Deploy Data set used.
- The destination Content Platform Engine URL.
- The destination environment name.
- The import options selected.

The lower screen capture shows the **Details** section, which includes detailed information about every object that was imported or will be imported, depending on the import mode selected. Each plus sign can be clicked to expand the object and get more details.

Export the application assets

Import other IBM and external assets

- Import non-FileNet P8 assets required by the application.



Other IBM and External assets

Examples:

- IBM Content Navigator desktops
 - [Use IBM Content Navigator administration tool to import](#)
- Custom step processors
- IBM Operation Decision Manager rules project (previously known as WebSphere ILOG JRules)
- Cognos Real-time Monitoring dashboards and objects
- Custom widgets
 - [Use appropriate tool to import the asset.](#)

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Figure 1-95. Import other IBM and external assets

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Deploying assets based on Content Platform Engine

Import any application assets that are not FileNet P8 assets. For example:

- IBM Content Navigator desktops – use the IBM Content Navigator administration tool to import (there is no option to map source to destination settings for IBM Content Navigator exports, depending on your environment, you might need to modify the configuration of the desktop after you import it in the destination environment).
- Custom step processors – developer would provide the component and instructions for how to deploy it
- IBM Operation Decision Manager rules project
 - Cognos Real-time Monitoring dashboards and objects
 - Custom widgets

Use the appropriate tool for to import the asset.

Follow the deployment instructions, provided by the development team to provide the import the asset into the destination environment.

Import the application assets

Complete additional system configuration tasks

- Complete any additional system configuration tasks required.
- Examples of server-level configuration tasks:
 - Setup of printers.
 - Creation of file system folders.
 - Installation of external web services used by the application.
 - Installation of additional software components integrated with the application.
 - Modify IBM Content Navigator desktop configurations.

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Figure 1-96. Complete additional system configuration tasks

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>Completing additional system configuration tasks

When an application is deployed for the first time, extra steps that are not part of the deployment steps might be required to complete the configuration within the new environment. Also, when an application is redeployed, system configuration data might be overwritten during the redeployment process. The system configuration data that is overwritten might need to be specified again.

Complete any additional system configuration tasks that are required by the application.

The additional configuration tasks should be included in the deployment instructions.

Import the application assets

Verifying phase



- Verify deployed assets in the destination environment.
- Test the deployed application in the destination environment.
 - Steps are specific to the FileNet workflow application.
 - Follow the steps in the deployment instructions.
- A sample of tests that might be run:
 - Access the user interface for the application.
 - Create an instance of the workflow application.
 - Complete work items to test the workflow application.
 - Confirm expected behavior.
 - Test steps that integrate with other IBM or external assets.
 - Repeat the tests with different user accounts that belong to groups assigned to different roles.
 - Confirm the assigned permissions reflect the expected behavior for the roles.

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Figure 1-97. Verifying phase

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Notes:

Before releasing the system for testers or users, the deployed application should be tested to verify that all of its components are working correctly. The tests are specific to the environment and the application. The deployment instructions should include a plan for verifying the deployed application.

Verification steps:

1. Verify a subset of the deployed assets in the destination environment. These should be included in the deployment instructions.
2. Test the deployed application in the destination environment:
 - For example: You just completed the deployment of a workflow application that allows customers to open a new loan. When a customer submits a loan application document, a process loan workflow is automatically launched.
 - Test submitting a new loan, as a customer, and completing the steps to process the loan with the appropriate roles and user accounts.

Import the application assets

Exercise introduction



Perform prerequisite steps.

- In this exercise you will:
 - Install StepProcessorEDU
 - Verify the required external database exists.

Import FileNet P8 assets

- In this exercise you will:
 - Import the workflow system assets.
 - Perform an audit-only import of the Content Engine assets.
 - Import the Content Engine assets.
 - Verify the FileNet P8 assets imported.

Continued on next slide...

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Figure 1-98. Exercise introduction

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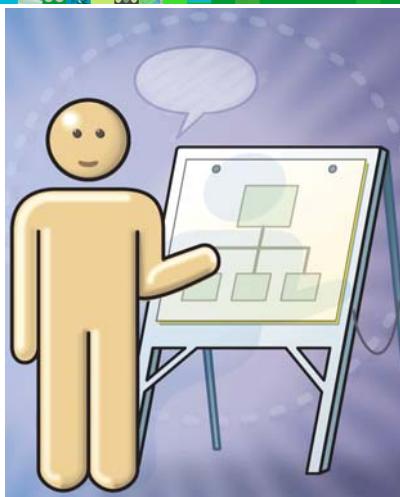
Notes:

In the exercises for this lesson, you:

- Perform the tasks that are required before importing the FileNet P8 assets.
 - Install the custom step processor, StepProcessorEDU.
 - Verify that the required external database, LOANDB, and the required stored procedure, GetInterestRate, are available.
- Import the FileNet P8 assets into the destination environment.
 - Import the isolated region objects first.
 - Perform an audit-only import of the Content Engine assets, and generate an audit report.
 - Import the Content Engine assets.
 - Verify that the FileNet P8 assets were imported into the destination environment.

Import the application assets

Exercise introduction(2)



Import other IBM assets

- In this exercise you will:
 - Import the IBM Content Navigator desktop.
 - Configure the imported IBM Content Navigator desktop.
 - Test the deployed workflow application.
 - Export FileNet P8 assets from destination environment

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Figure 1-99. Exercise introduction(2)

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Notes:

- Import the other IBM assets
 - Import the IBM Content Navigator desktop, Process Loans.
 - Configure the imported desktop.
 - Test the deployed workflow application, Deployment Application.
 - Export FileNet P8 assets from the destination environment – this procedure was added to provide the opportunity to run an export operation, since the labs started with a deploy package. It is not a required procedure.

Import the application assets

Activities

In your Student Exercises

- Unit: Unit name
- Lesson: Lesson name
- Activities:
 - Perform prerequisite steps
 - Import FileNet P8 assets
 - Import other IBM assets

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Figure 1-100. Activities

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Notes:

Use your Student Exercises to perform the activities listed.

Lesson 1.6. Using the FDM command line interface

Lesson

Using the FDM command line interface



Why is this lesson important to you?

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

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Figure 1-101. Using the FDM command line interface

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Notes:

Using the FDM command line interface

Activities that you need to complete

- Perform a change impact analysis
- Expand a deploy package to a new environment

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Figure 1-102. Activities that you need to complete

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Notes:

These are the activities that you are going to perform in this lesson.

Using the FDM command line interface

FDM Command line introduction

- Provides the ability to script the deployment of FileNet P8 assets.
 - Single program supports both the GUI and the command line interface.
 - The arguments specified determine the interface.
 - If no arguments are specified, the GUI is started.
- Supports all the operations that the GUI supports.
- To get the usage:
 - Windows: <FDM_install_path>\DeploymentManager.exe --help > help.txt
 - Windows: <FDM_install_path>\DeploymentManagerCMD.bat --help
 - Displays output in command prompt window
 - Linux: <FDM_install_path>\DeploymentManager --help

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Figure 1-103. FDM Command line introduction

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>The FileNet Deployment Manager tool>Use the command-line utilities

FileNet Deployment Manager supports both a GUI interface and command line interface. The command line interface enables you to script the deployment of FileNet P8 assets.

- A single program supports the GUI and the command line interfaces.
 - The arguments that are specified with the command determine which interface is started.
 - If no arguments are specified, then the GUI is started.

Both interfaces support the same operations.

The --help argument, displays the usage. The slide shows the command for Windows and Linux. There are two options for Windows.

- a. DeploymentManager.exe – does not write the output to the window, so you must redirect the output if you want to see it.

- b. DeploymentManagerCMD.bat – displays output to the command prompt window.

Using the FDM command line interface

Deployment Operation command line syntax

- <*FDM_install_path*>\DeploymentManagerCMD.bat –operation *custom_DeploymentOperation.xml* [-p password]
- *custom_DeploymentOperation.xml* file
 - Includes xml tags that drive the operation
 - Sample of ExpandDeployPackage operation.

```

<DeploymentOperation deploymentTreeLocation="C:\Deploy" version="5.2.0">
  <ExpandDeployPackage createEnvironment="true" halfMapMode="overwrite">
    <Environment>DeployApp_Dev</Environment>
    <DeployDataSet>C:\Deploy\Environments\DeployApp_Dev\Assets\App_deploy isolated region objects</DeployDataSet>
    <DeployPackage>C:\Labs\Case Foundation 5.2.1 Administration\Workflow application deployment\Deployment Application\FileNet P8
      assets\Deploy packages\App_deploy isolated region objects.zip</DeployPackage>
  </ExpandDeployPackage>
</DeploymentOperation>

```

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Figure 1-104. Deployment Operation command line syntax

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>The FileNet Deployment Manager tool>Use the command-line utilities>FileNet Deployment Manager command-line reference

The Deployment Operation command line syntax is the same for all the deployment operations:

- DeploymentManagerCMD.bat –operation *custom_DeploymentOperation.xml* [-p password]

The *custom_DeploymentOperation.xml* file, also called deployment operation file, is an xml file that contains tags that dictate what deployment operation is run.

The screen capture shows an example of a *custom_DeploymentOperation.xml* that runs the ExpandDeployPackage operation.

You can specify the password to use when retrieving information from, or sending information to the Content Engine Platform, with the –p option. Refer to the IBM Knowledge Center for a list of the operations that require a password.

Using the FDM command line interface

Deployment Operations

- AnalyzeDeployDataSet
- CloneService
- ConvertDeployDataSet
- CreateConnectionPointData Map
- CreateDeployPackage
- CreateEnvironment
- CreateObjectStoreDataMap
- CreatePrincipalDataMap
- CreateServiceDataMap
- ExpandDeployPackage
- ExportDeployDataSet
- GenerateAuditReport
- ImportDeployDataSet
- ReassignObjectStore
- RetreiveConnectionPointInfo FromDeployDataSet
- RetrieveConnectionPointInfo FromDomain
- RetrieveObjectStoreInfoFrom DeployDataSet
- RetreiveObjectStoreInfoFrom Domain
- RetrievePrincipalInfoFromDe ployDataSet

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Figure 1-105. Deployment Operations

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Notes:

Help path

FileNet P8 Platform 5.2.1>Migrating and deploying applications>The FileNet Deployment Manager tool>Use the command-line utilities>Deployment operation files

The slide lists most of the deployment operations available. Each of the operations is an xml tag that you add to the deployment operations file. The next slide will show you how to easily create the deployment operation files.

Using the FDM command line interface

How to create a deployment operation file



- Two methods available:
 - Use the FDM GUI to create the *DeploymentOperation.xml*
 - Run the operation with the GUI
 - Save the DeploymentOperation.xml file created in the Run.<Date&Time stamp> folder.
 - Use FDM to create sample files that you can edit.
 - Create samples from the GUI: Deployment > Create Sample Files
 - Use the –s or --samples option from the command line

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Figure 1-106. How to create a deployment operation file

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Notes:

FileNet Deployment Manager (FDM) provides two methods to create deployment operation files.

The easiest method is to run the deployment operation with the GUI interface. When you are satisfied with the results, save the DeploymentOperation.xml file, created by FDM in the Run.<Date&Time stamp> folder.

The other method is to have FDM create the sample files. A sample file for each operation is created. You then need to edit the file with configuration-specific information.

Using the FDM command line interface

Sample files

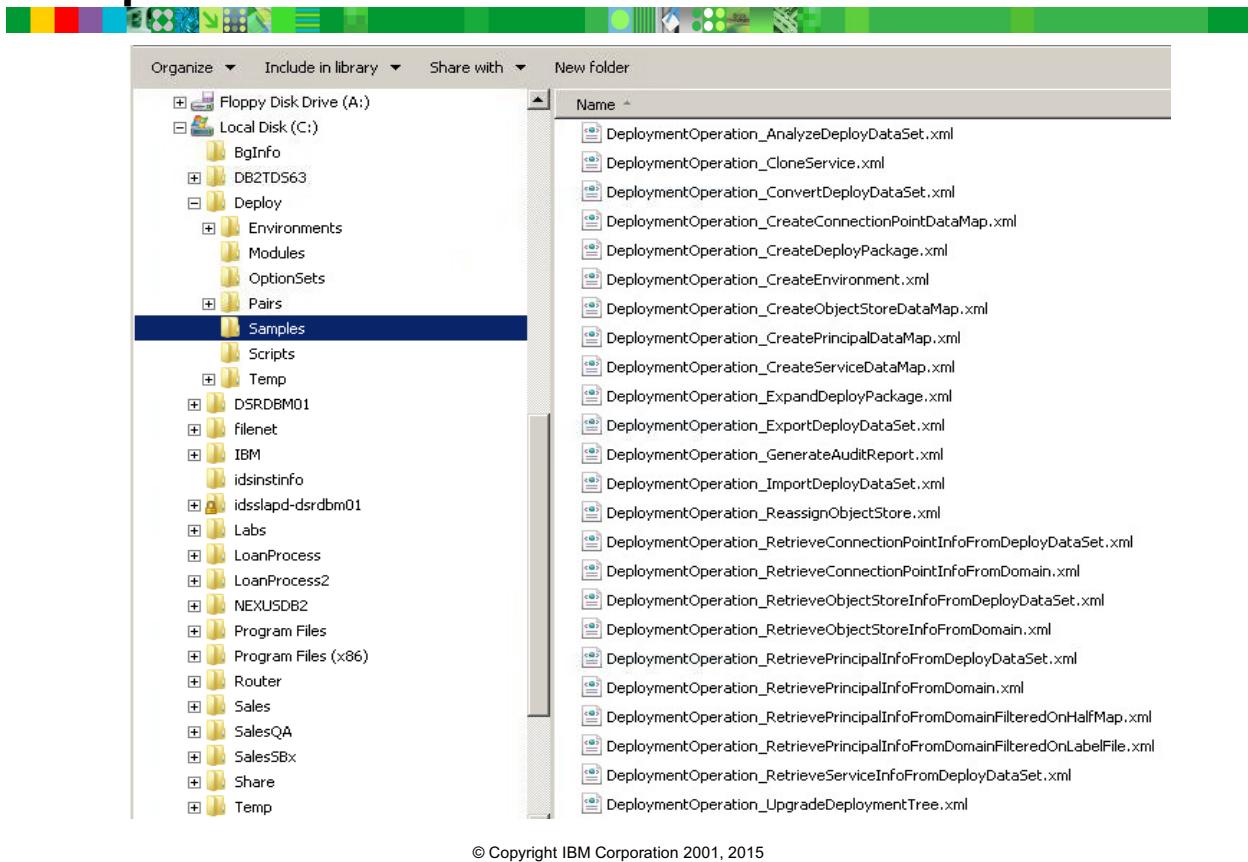


Figure 1-107. Sample files

F2371.0

Notes:

The screen capture shows the sample deployment operation files created by FileNet Deployment Manager when you run the option to Create Sample Files.

Using the FDM command line interface

Recommendations



- Start by running the deployment operation with the GUI.
- When the deployment operation is running successfully:
 - Save the Run.<Date and time stamp>\DeploymentOperation.xml file
 - Give it a name that identifies the deployment operation.
- Create a script that runs each deployment operation.

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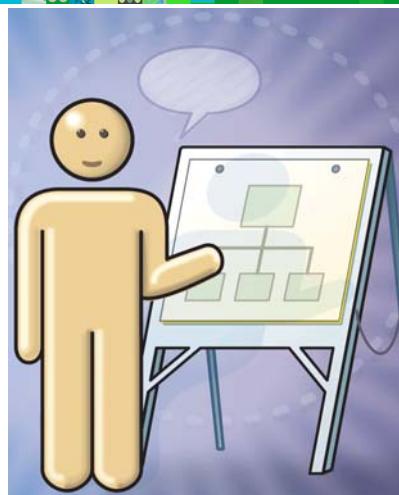
Figure 1-108. Recommendations

F2371.0

Notes:

Using the FDM command line interface

Exercise introduction



Perform a change impact analysis.

- In this exercise you will:
 - Search for the deployment operation file.
 - Run the operation.
 - Verify the operation.
 - Examine a sample file.

Expand a deploy package to a new environment.

- In this exercise you will:
 - Find and edit the deployment operation file.
 - Run the operation.
 - Verify the operation.

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Figure 1-109. Exercise introduction

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Notes:

In the exercises for this lesson, you will:

1. Perform a change impact analysis operation, with the command line interface.
 - You learn how to search for the deployment operation file, in the deployment.log.
 - You learn how to run the operation from the command line.
 - You verify that the operation ran.
 - You compare the deployment operation file to the corresponding sample file.
2. Examine the exported Other IBM and External assets that are included in the application package.
 - You find the deployment operation file to start with and you edit it to specify the new environment you want to create.
 - You run the operation from the command line.
 - You verify that the operation ran.

Using the FDM command line interface

Activities



In your Student Exercises

- Unit: Unit name
- Lesson: Lesson name
- Activities:
 - Perform a change impact analysis
 - Expand a deploy package to a new environment

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Figure 1-110. Activities

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Notes:

Use your Student Exercises to perform the activities listed.

IBM Case Foundation 5.2.1: Workflow application deployment

Additional references

- IBM Case Manager Solution Deployment Guide
 - Part 2: Advance Solution Migration and Deployment
 - Deploying FileNet assets
 - Part 3: Selected External Assets Migration and Deployment
 - Deploying other IBM and external assets

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Figure 1-111. Additional references

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Notes:

Help path

IBM Case Manager Solution Deployment Guide on developerWorks

The IBM Case Manager Solution Deployment Guide is a three part guide. Part 1 focuses on IBM Case Manager solutions, skip part 1.

Part 2 and 3 focus on FileNet assets, other IBM assets, and external assets. You should find them helpful when deploying workflow applications.

IBM Case Foundation 5.2.1: Workflow application deployment

Unit summary



Having completed this unit, you should be able to:

- Understand the process of moving FileNet Workflow applications.
- Prepare for workflow application deployment.
- Export the application assets or extract the application assets from an application package.
- Analyze the impact of the deployment on the destination environment.
- Import the application assets and complete the application deployment.
- Use the FileNet Deployment Manager command line interface.

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Figure 1-112. Unit summary

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Notes:

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