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Deploying Applications to Production with IBM FileNet Deployment Manager 5
Session Number 1631

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Agenda

- **Overview of Deployment Manager 5**

- **Basics and Walk-through**

- **Our Experience**

- **Command Line**

- **Wish List**

- **Question and Answer**

Overview

- **Connect to two FileNet installations (Environments) -Test and Production and gather id information from each (Half Maps)**

- **Export from Test (export manifest)**

- **Match object ids from one to the other (Source-Destination Pairs)**

- **Change the Test object ids to the Production ids (Convert Assets)**

- **Make sure all required objects either exist in the Destination or are in the Export Manifest (Analyze)**

- **Import**
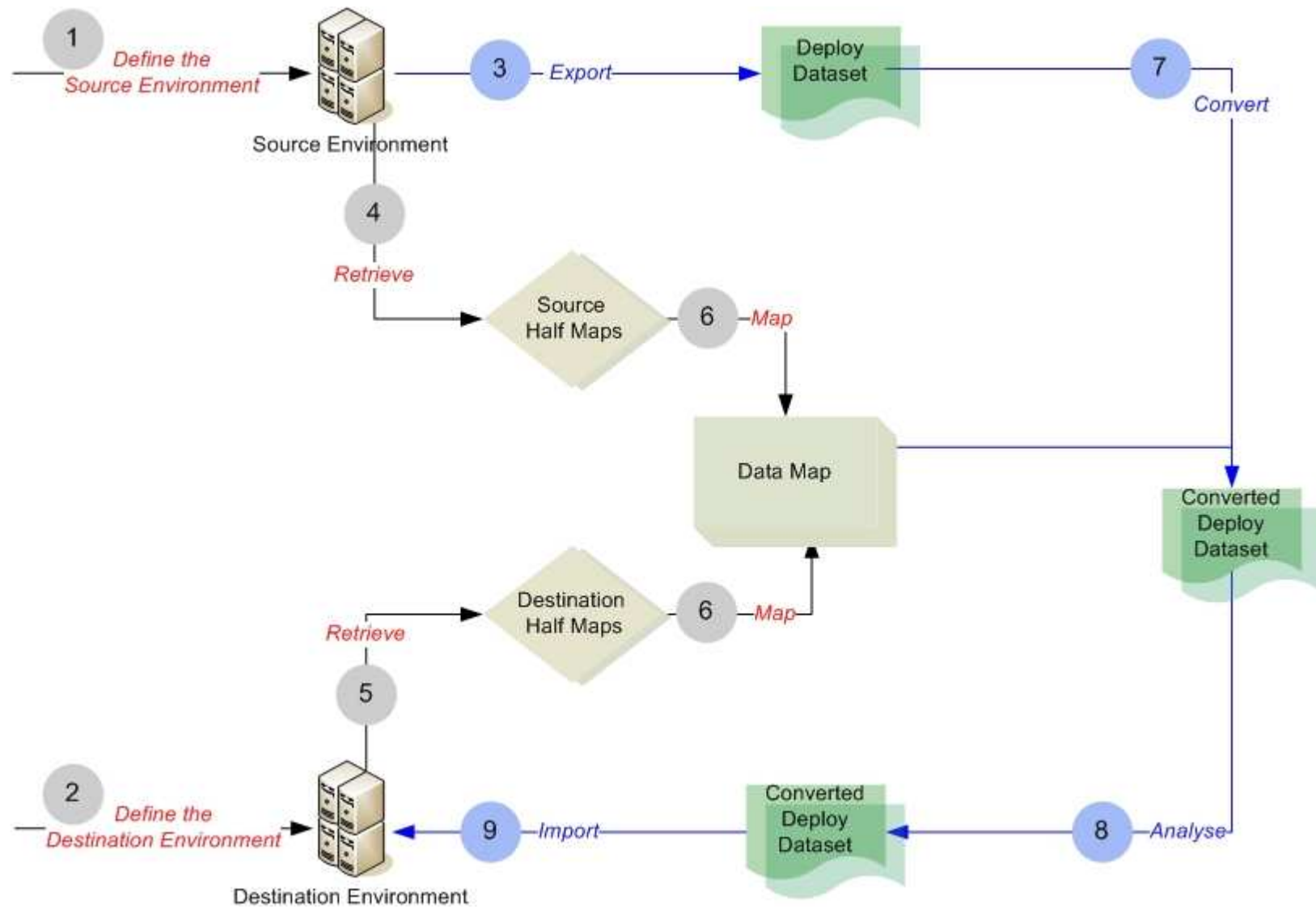
Overview

- **Deployment Manager is found in same install program as Enterprise Manager so it is a 'thick' client install**

- **It can be thought of as Enterprise Manager Import/Export with object mapping.**

- **Can do export/import from one environment to another and maintain security even if different SIDs are involved**

- **Also can map elements between Object Stores even if the Object Stores have different Object IDs**

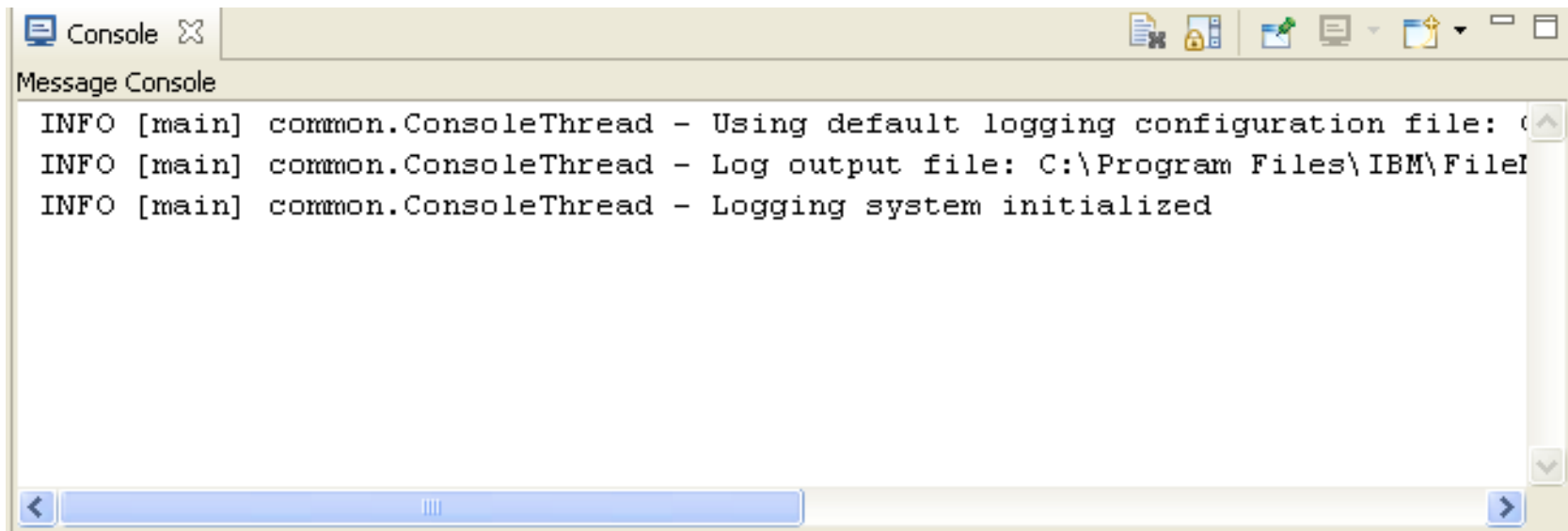- **Has the ability to move web service elements**

Basics
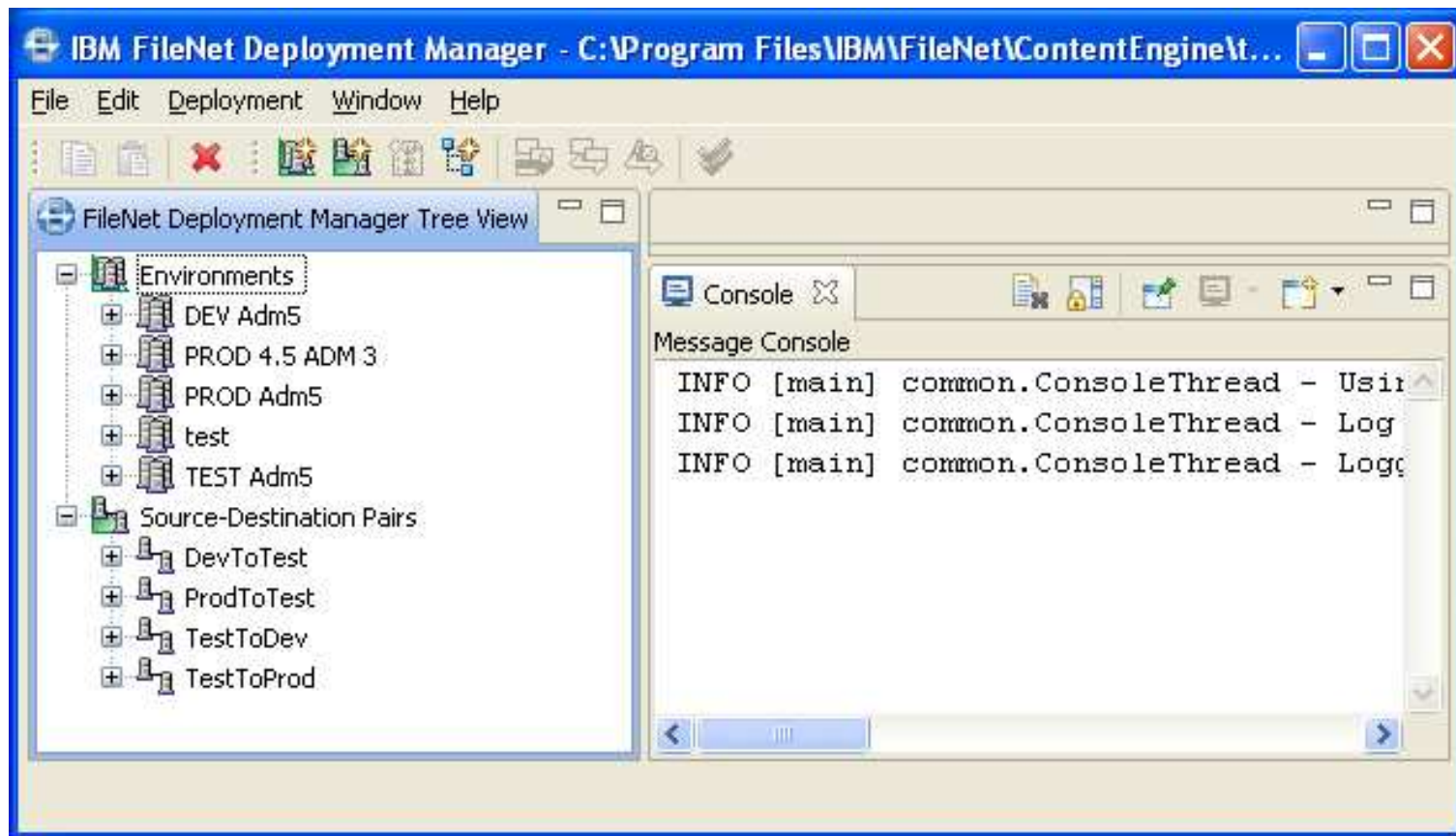
The Deployment Tree contains information on the Environments and Source-Destination Pairs. As shown in the FileNet Deployment Manager Tree View Perspective.

Console Perspective

```
Console   ✕                                    📄 🔒  📄 🖥 ▾  📄 ▾  ▭ ▢
Message Console
INFO [main] common.ConsoleThread - Using default logging configuration file:
INFO [main] common.ConsoleThread - Log output file: C:\Program Files\IBM\FileI
INFO [main] common.ConsoleThread - Logging system initialized
```

The Console perspective is where informative messages show up. The three lines shown here indicate a normal startup of Deployment Manager.

File System Locations
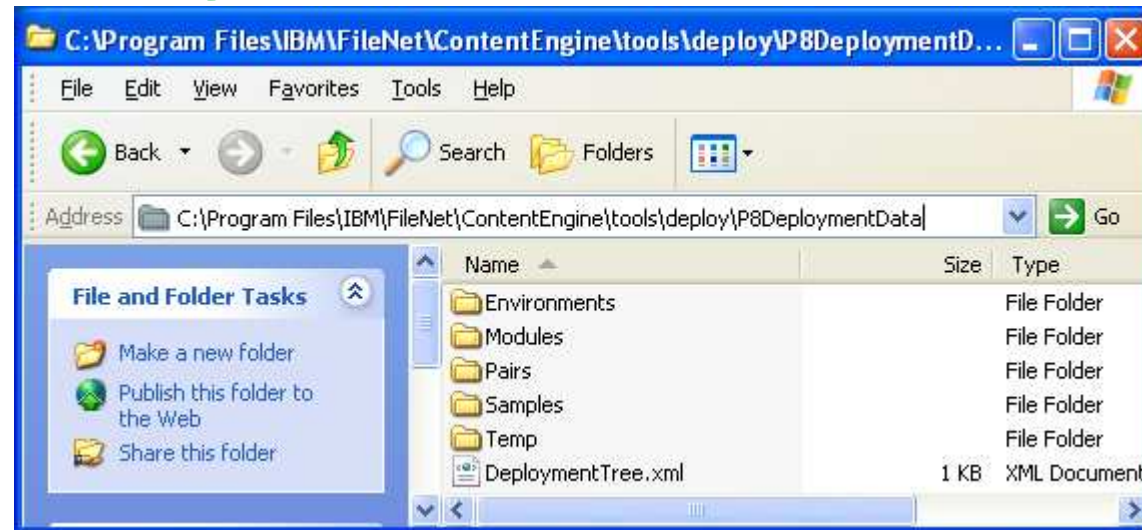
- **Deployment Tree – top level structure that holds all elements below. Is basically a directory folder which contains all other elements:**

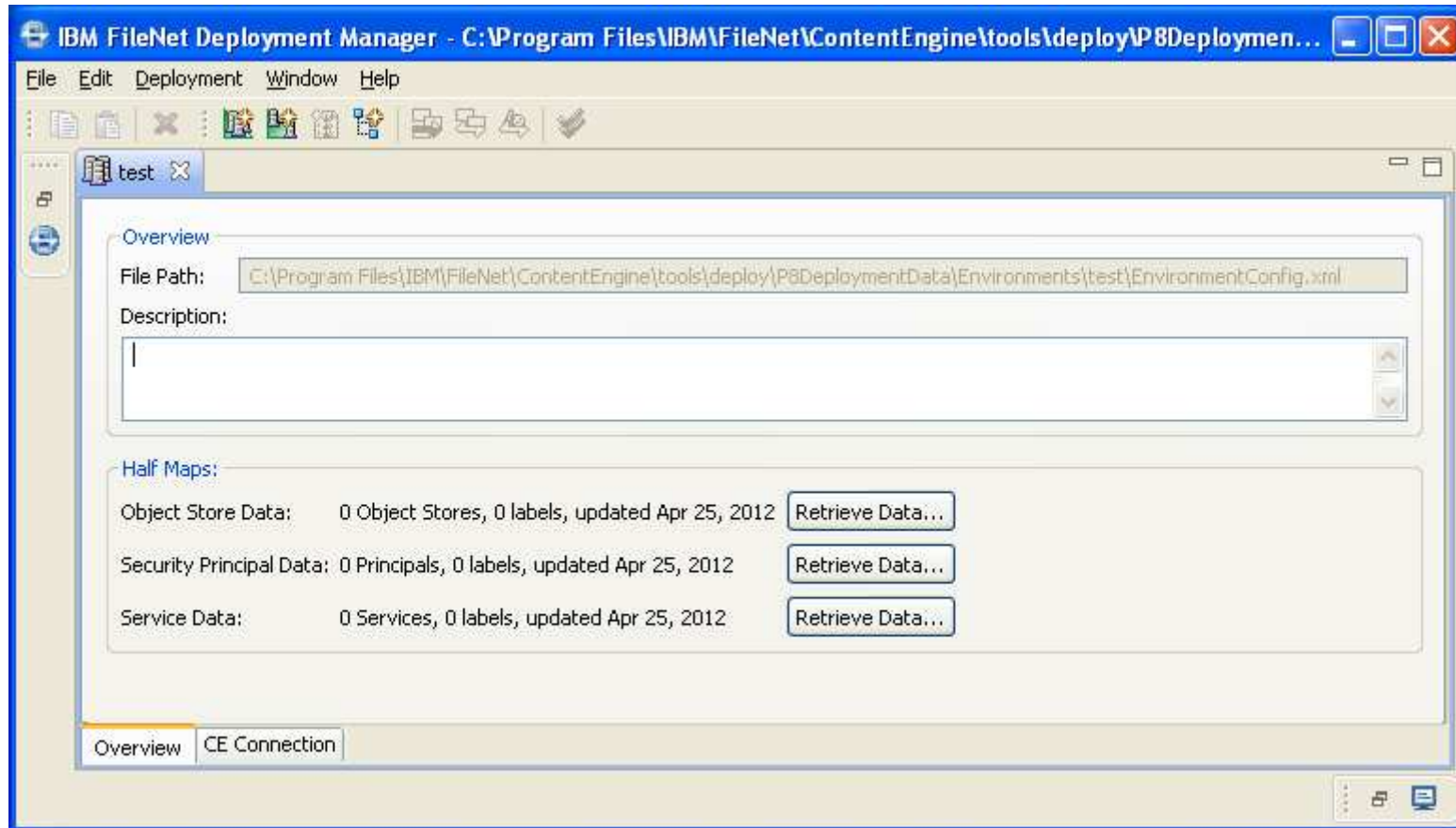- **C:\Program Files\IBM\FileNet\ContentEngine\tools\deploy\P8DeploymentData**

Environments

- **Contains connections to a FileNet instance, uses the same URI as Enterprise Manager**

- **Is a place to hold 'half maps'**
  - **Object Store**
  - **Security Principal**
  - **Service Data**

- **Is a place to define Export Manifests**

- **Is found in:**

    C:\Program Files\IBM\FileNet\ContentEngine\tools\deploy\ P8DeploymentData\Environments\test\EnvironmentConfig.xml
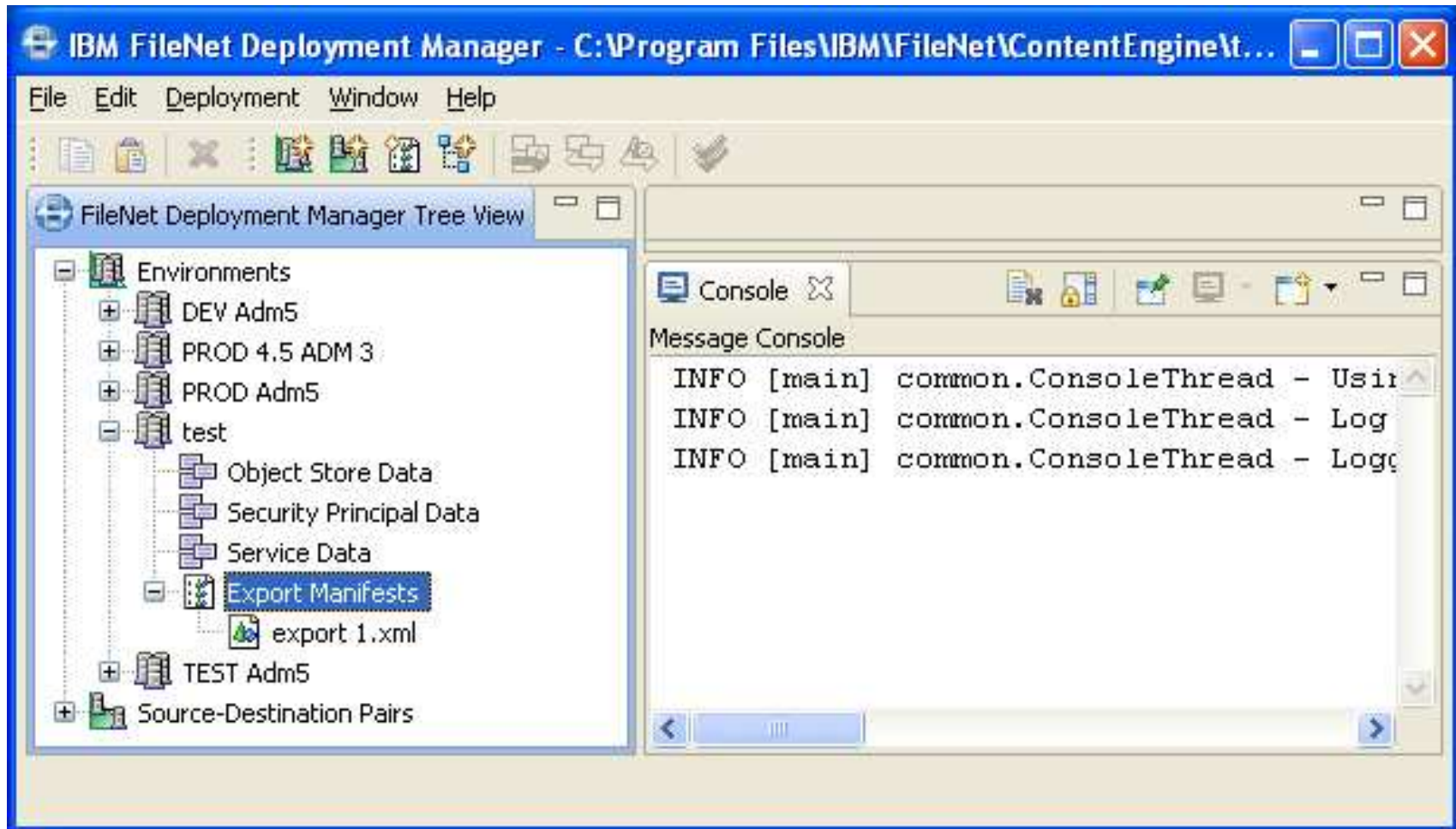
Environment - Overview

Step 1 and 2 from the earlier map. The Half Maps section at the bottom is the beginning of Step 4 and 5.

After getting the Environment setup and populating the Data maps (Step 4 and 5), we can export data from this environment. (Step 3)

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Export Manifest

- **Made in the Environments section.**

- **Includes the list of objects to export and what to include with each one in xml form.**

- **Similar in function to the export manifest from Enterprise Manager.**

- **Is a folder:**
  C:\Program Files\IBM\FileNet\ContentEngine\tools\deploy\ P8DeploymentData\Environments\test\ Assets\ExportManifest1

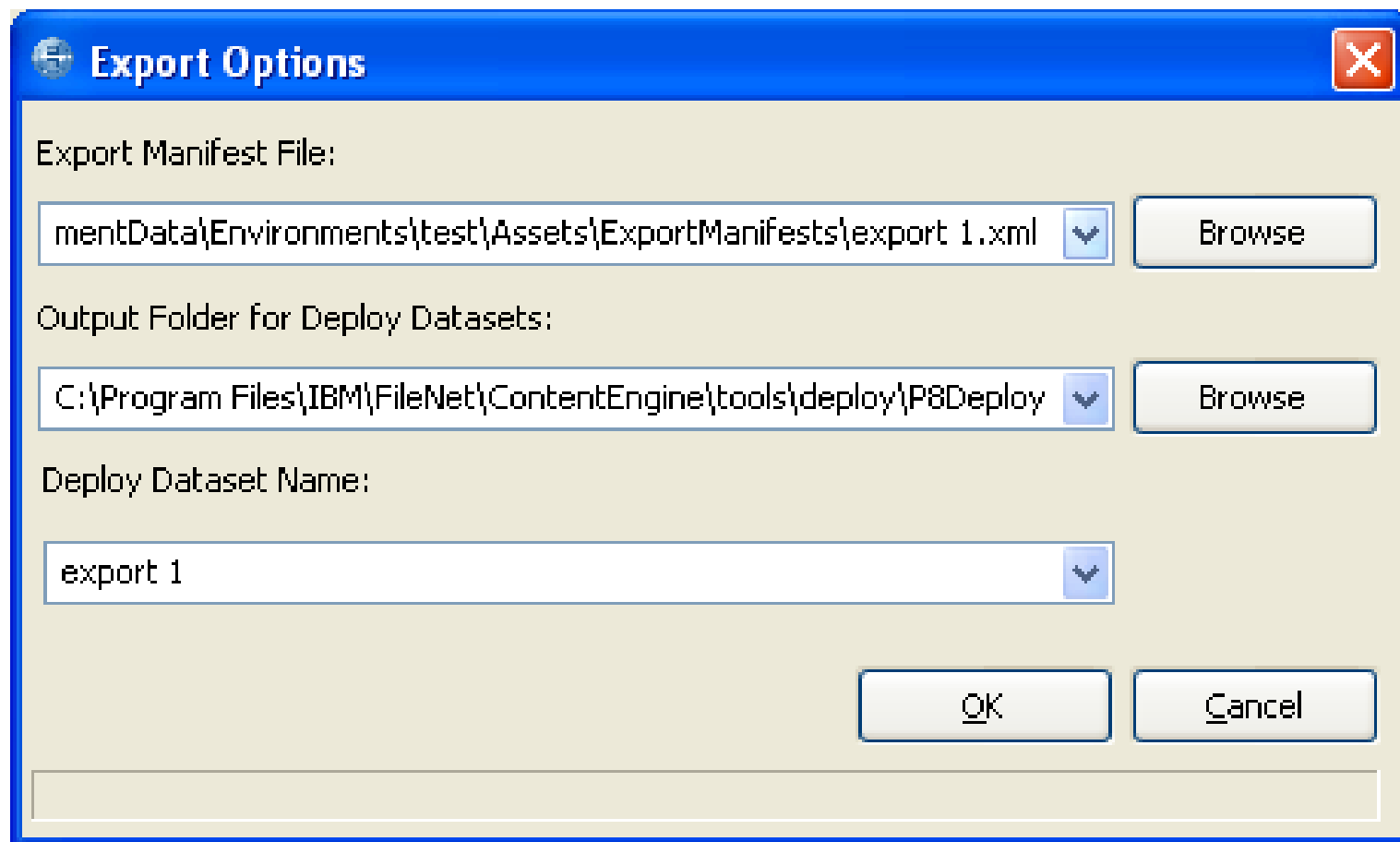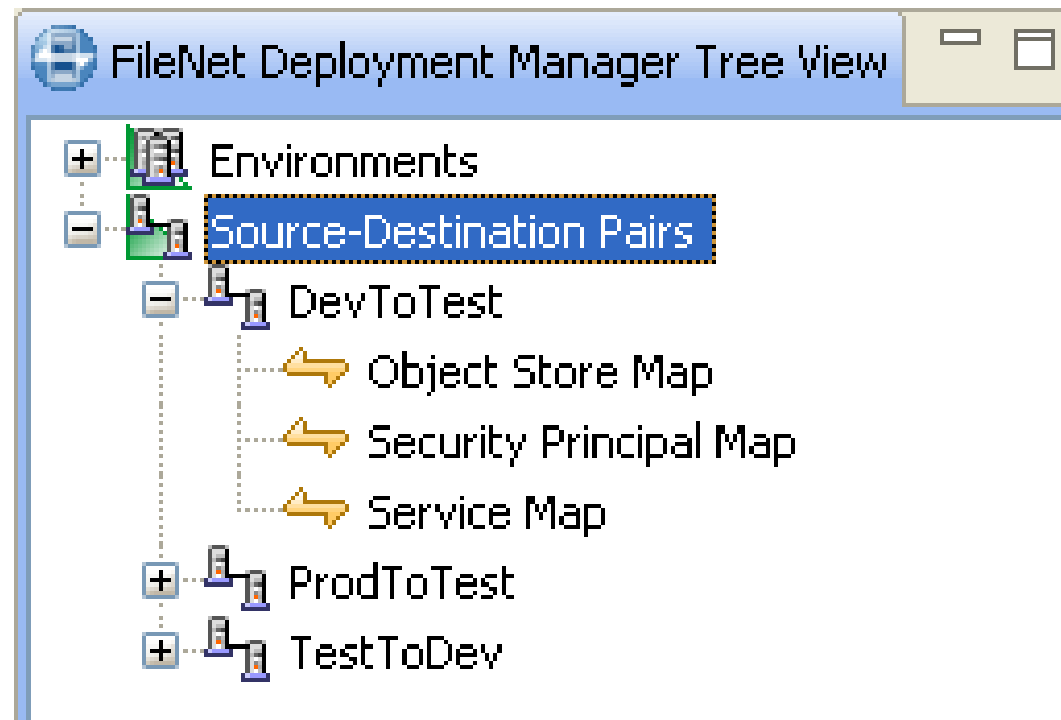- **The name you give your export manifest will be the folder name**

- **Export Manifest detail**

- **Items to add, looks a little different from Enterprise Manager, but close enough**

- **Right click the manifest to 'Export…'**

In the resulting dialog you can see why knowing the path is important, it is how you choose what you are exporting. The Deploy Dataset is what you will choose to Convert in the Source-Destination Pairs.

FileNet Deployment Manager Tree View

- Environments
- Source-Destination Pairs
  - DevToTest
    - Object Store Map
    - Security Principal Map
    - Service Map
  - ProdToTest
  - TestToDev

- **Once you export, you move down to the bottom half of the FileNet Deployment Manager Tree View perspective to the Source-Destination Pairs and the rest is done there**

- **There are three sets of 'pairs', Object Store, Security and Service which comprise Step 6**

Object Store Map

One line for each object store map. This shows how the different object store IDs are mapped.

Security Principal Map

		Source S...	Destinati...	Source Displ...	Des...	S...	Des...	S...	[	Source SID	Destination SID
	?	testuser	###	testuser	###	User	###	ui...	#.	S-1-97-1076732649-806...	###
	?	7890_pw...	###	7890_pwb_c	###	User	###	ui...	#.	S-1-97-3223563816-806...	###
		0290_01_...	0290_01...	0290_01_Te...	029...	Gr...	Group	c...	c..	S-1-97-3222815250-806...	S-1-97-1083351754-823172097-14561704
		0350_01_...	0350_01...	0350_01_Te...	035...	Gr...	Group	c...	c..	S-1-97-3222815250-806...	S-1-97-1083351754-823172097-14561755

- **One line for each security principal (SID). This shows how the different SIDs are mapped.**

- **The top two have no corresponding name and need to be manually mapped, the bottom two are auto mapped as their names are the same from one environment to another.**

Rest of the Steps

	Open	Ctrl+O
✖	Delete	Delete
	Rename...	F2
	Convert Assets...	Ctrl+Alt+C
✔	Analyze...	Ctrl+Alt+A
	Import...	Ctrl+I

- **Once you have defined the pairs, you right click the pair to get the rest of the options**

- **Convert Assets… is Step 7**

- **Analyze… is Step 8**

- **Import… is Step 9**

Convert Assets

Many-to-one mapping detected

WARNING:

More than one source principal is mapped to the same destination principal.
See the console or log for further details.

Do you wish to continue?

☐ Do not perform this check next time.

[Ok]   [Cancel]
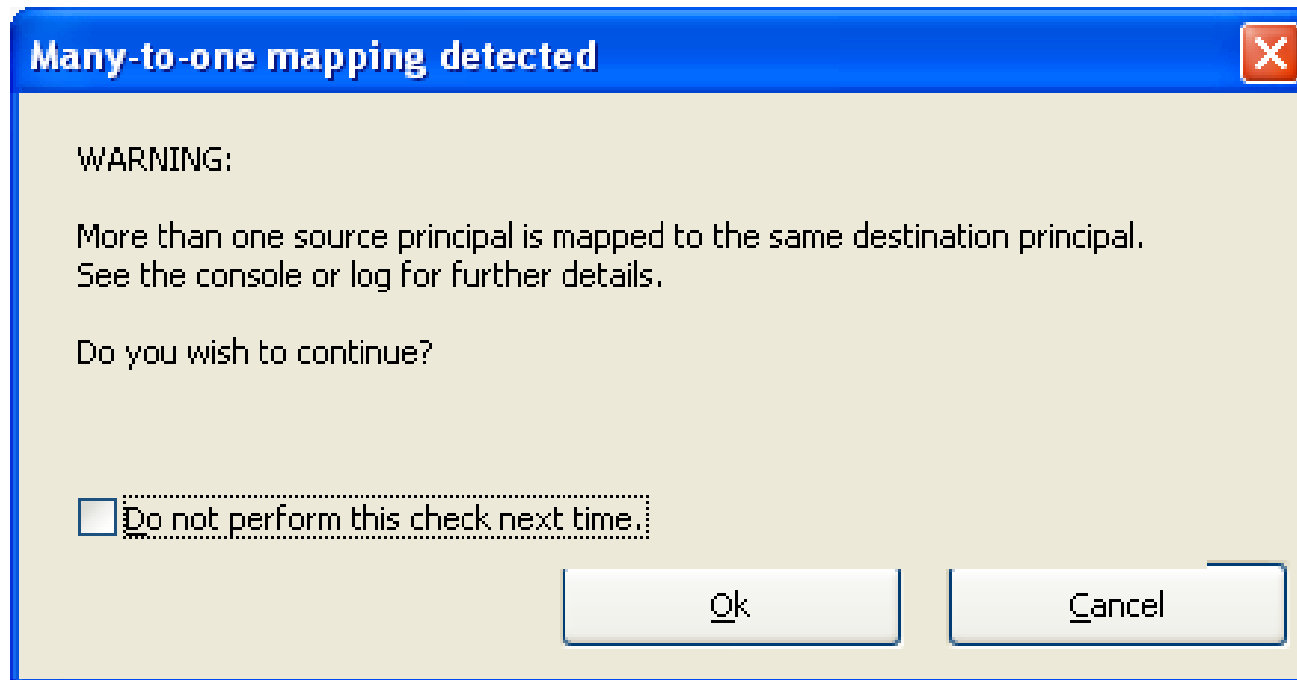
Once all the items are mapped it is time to Convert Assets you may get the above.

Convert Assets
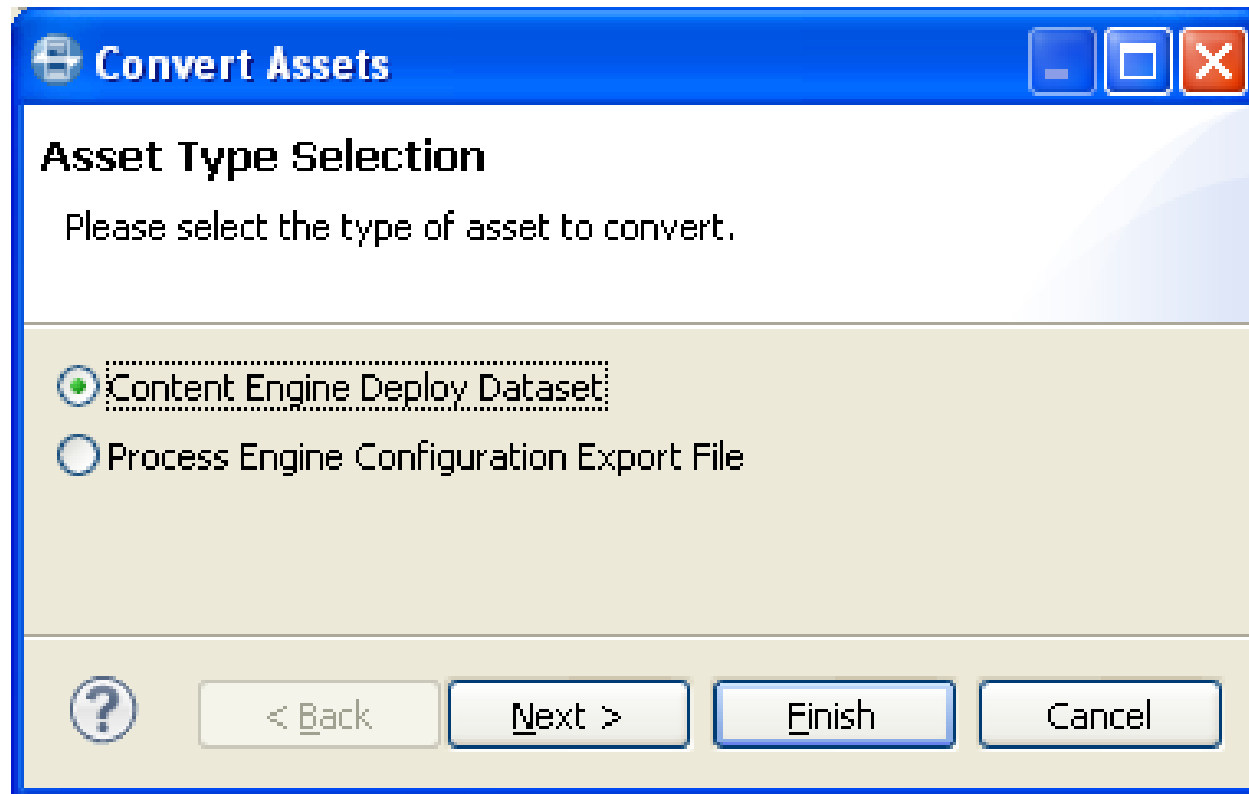
You should then see the above

Convert Assets

- We choose the first one and then are asked for the folder for the Source Deploy Dataset.

- And then the Output Folder for Converted Deploy Dataset.

- The output of this will be the export data modified to have the IDs of the Destination data – according to the maps.

- Any errors will show up in the console.

Analyze

- **Must choose whether this is Content Engine or Process Engine Change Impact Analysis**

- **Also need to choose the Deploy Dataset from the Convert step.**

- **You can stop the Analyze after a specific number of errors, this is useful to save time on first attempts as there will be errors.**

- **Any errors will show up in the console, but you also have an option for a summary report to be displayed afterward in a browser.**
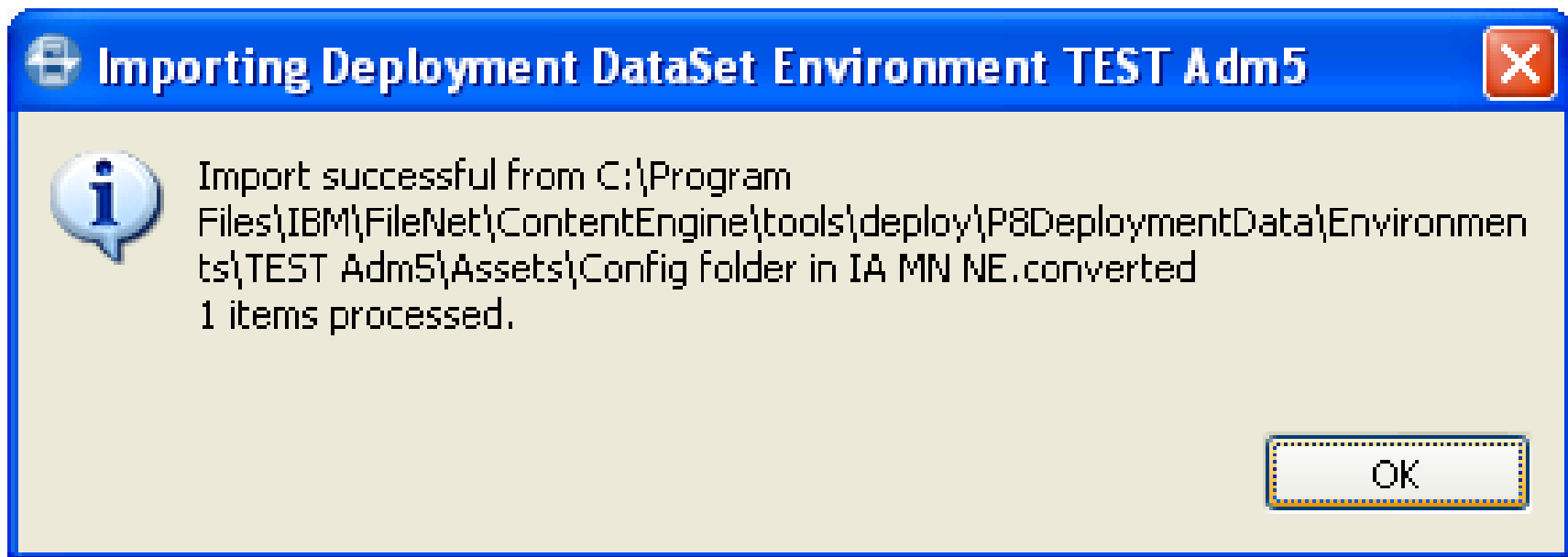
Import Assets

- **Select the Deploy Dataset.**

- **Storage Policy selection**

- **Options**

- **Next screen allows you to run scripts with the import, just like in Enterprise Manager**

Our Experience

- **If making changes to the export manifest, it is usually the best practice to delete and recreate a new one. Changes to include options and removal of items is not always reliable if modifying an existing manifest. Sometimes it is, sometimes not.**

- **Always double check the path in each step to make sure it is the path you want to export, convert, analyze or import.**

- **When moving all versions of search templates and policies, make sure the items referenced by previous versions exist in the Destination.**

Even if the Export, Convert and Analyze all work fine, might still get an error on import:

- WARN [pool-1-thread-1] imex.LoggingStream - The current import process is attempting to update system properties and the current user does not have security right to do this for object store IA. Some or all of this import may fail until the current user is assigned the "modify certain system properties" right on the object store.

- ERROR [pool-1-thread-1] imex.LoggingStream - Object has failed the import process because of an error classId=Folder&objectId={B6C45D5D-0A83-469E-A8F3-1018DDEE7DF4}&objectStore={B57D25F3-1F18-463D-8C2D-36589C3A8D77} Method failed because an object or property is read-only. Creator is a read-only property and cannot be updated at this time.

Security for Object Store itself
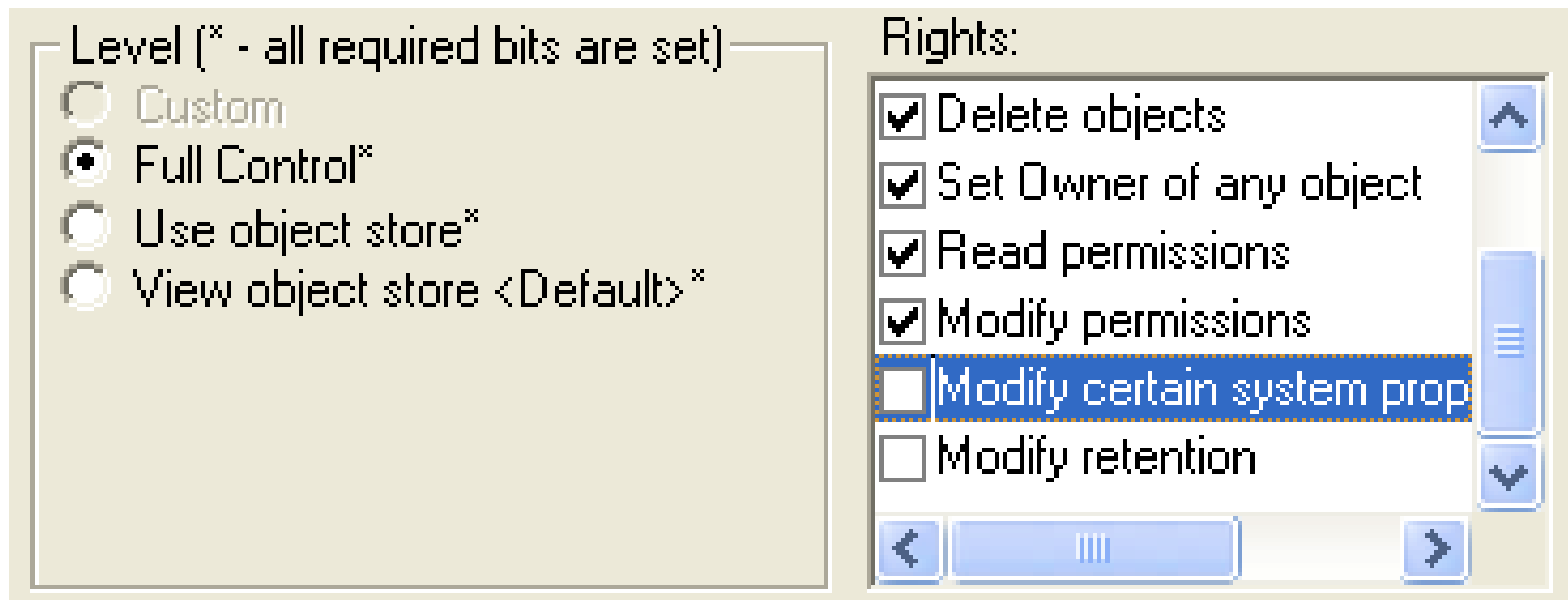
As you can see, Full Control does not give the last two Rights at the Object Store itself, must be custom.

For this application, just 'Modify certain system properties' needs to be selected.
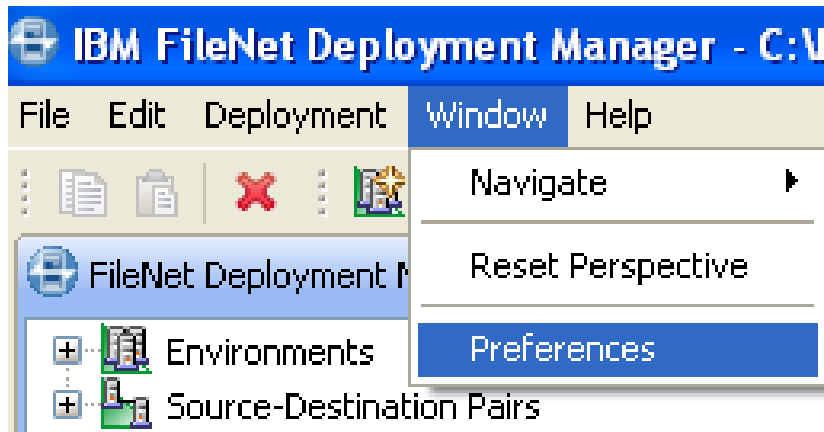
Go to the Window menu, choose Preferences and Uncheck the Enable FIPS 140-Ready Mode if you want to be able to save your password
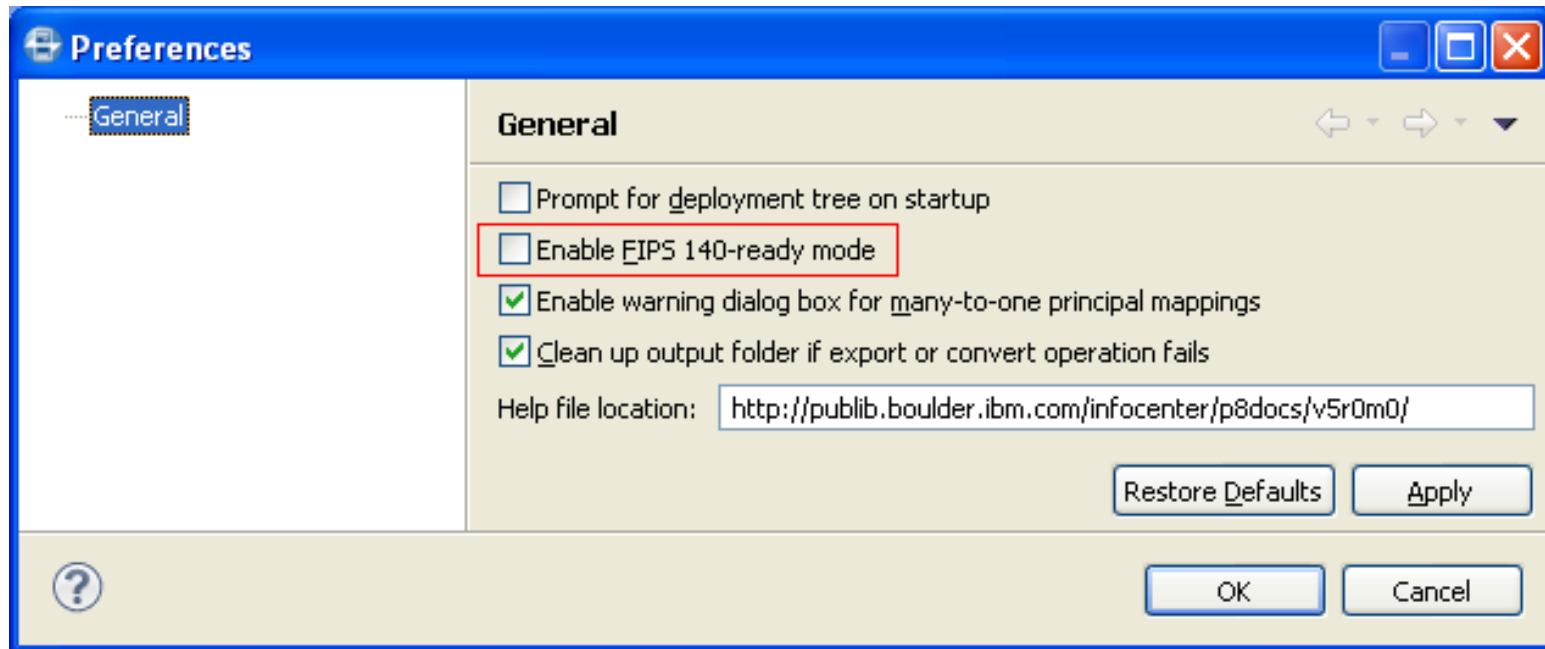
Command Line

- **Can easily issue all the GUI commands from a command line**

- **DeploymentOperation.xml file created from GUI and can be used from command line as well. It is found (by default) in:**

 C:\Program Files\IBM\FileNet\ContentEngine\tools\ deploy\P8DeploymentData\Temp\Run.2012.09.07.14.1 0.04

  (Substitute your date time stamp at the end or just look in the Temp directory for the latest one and open it up.)

- **In this directory will be the deployment.log and the DeploymentOperation.xml file from the GUI operation**

- **The xml in these files have a main tag that indicates the operation and then a set of tags for the parameters.**

Command Line

- **CEExport.xml is the filename and operation shown below:**

```
1   <DeploymentOperation deploymentTreeLocation="C:\Program Files\IBM\FileNet\ContentEngine\tools\
2   deploy\P8DeploymentData" version="4.5.1">
3
4       <CEExport deleteDestinationFilesOnError="true">
5           <Environment>p1fnae3m ADM 4 FN5 PROD</Environment>
6
7           <ExportManifest>C:\Program Files\IBM\FileNet\ContentEngine\tools\deploy\P8DeploymentData
8           \Environments\p1fnae3m ADM 4 FN5 PROD\Assets\ExportManifests\IA Classes.xml</ExportManifest>
9
10          <DeployDataSet>C:\Program Files\IBM\FileNet\ContentEngine\tools\deploy\P8DeploymentData
11          \Environments\p1fnae3m ADM 4 FN5 PROD\Assets\IA Classes</DeployDataSet>
12
13      </CEExport>
14
15  </DeploymentOperation>
```

Command Line

- **ConvertCEExportDataset.xml is the filename and operation shown below:**

```
1   <DeploymentOperation deploymentTreeLocation="C:\Program Files\IBM\FileNet\ContentEngine\tools
2   \deploy\P8DeploymentData" version="4.5.1">
3       <ConvertCEExportDataset deleteDestinationFilesOnError="true">
4           <Pair>Prod2Test</Pair>
5           <SourceDeployDataset>C:\Program Files\IBM\FileNet\ContentEngine\tools\deploy\
6           P8DeploymentData\Environments\p1fnae3m ADM 4 FN5 PROD\Assets\IA Classes</SourceDeployDataset>
7
8           <ConvertedDeployDataset>C:\Program Files\IBM\FileNet\ContentEngine\tools\deploy
9           \P8DeploymentData\Environments\t2fnae3m ADM 4 FN5 TEST\Assets\IA Classes.converted
10          </ConvertedDeployDataset>
11
12      </ConvertCEExportDataset>
13  </DeploymentOperation>
```

Command Line

- **CEImport.xml is the filename and operation shown below:**

```xml
<DeploymentOperation deploymentTreeLocation="C:\Program Files\IBM\FileNet\ContentEngine\tools
\deploy\P8DeploymentData" version="4.5.1">

    <CEImport deleteDestinationFilesOnError="true" importUpdateOption="UpdateIfNewer">
        <Environment>t2fnae3m ADM 4 FN5 TEST</Environment>
        <DeployDataSet>C:\Program Files\IBM\FileNet\ContentEngine\tools\deploy\P8DeploymentData
        \Environments\t2fnae3m ADM 4 FN5 TEST\Assets\IA Classes.converted</DeployDataSet>
        <StoragePolicy type="DefaultOnClassOnDestination">
            <ID/>
        </StoragePolicy>
        <ImportSecurity value="true"/>
        <ImportOwner value="false"/>
        <ImportObjectId value="true"/>
        <UseOriginalTimestamps value="false"/>
        <Scripts>
        </Scripts>
    </CEImport>
</DeploymentOperation>
```

Command Line

- **The batch file I use looks like this to combine export, convert and import in one step to save time. I tried to combine the XML tags into one file but it did not work so I combine the calls in one batch file, can be literally three lines:**

```
C:\Progra~1\IBM\FileNet\ContentEngine\tools\deploy\
deploymentmanager.exe -o CEExport.xml -p pwd

C:\Progra~1\IBM\FileNet\ContentEngine\tools\deploy\
deploymentmanager.exe -o ConvertCEExportDataset.xml -p pwd

C:\Progra~1\IBM\FileNet\ContentEngine\tools\deploy\
deploymentmanager.exe -o CEImport.xml -p pwd
```

- **I would still recommend doing the ValidateCEExportXML operation before the CEImport unless you are very sure there are no errors.**

Wish List

- **Export objects from more than one Object Store at a time. One to Many and Many to Many.**

- **Be able to map object elements more granularly than the Object Store ID. We use search templates a lot and those are dependent on folder ids. Also, we use attachments in workflows and those are referenced by id and not path as well.**

- **After import, put the total created/updated/ignored in the summary box**

- **Don't auto collapse Tree view when adding or deleting an export**

- **Allow folders in the Export Manifest directory to be seen in the tree view to keep things organized.**

- **Add a tag in the Operation file to allow overwrite if file already exists. This is a question that can be answered from the GUI but I could not find the switch in the file and had to manually clear the files before running the operation from the command line.**

Thank You!

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