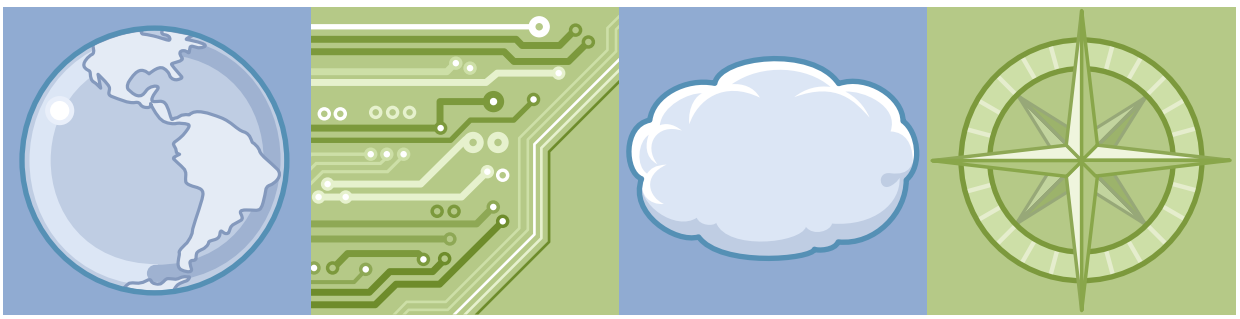
IBM Training

Student Exercises

IBM Case Foundation 5.2.1 Configure the Workflow System

Course code F231 ERC 1.0



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Unit 1. IBM Case Foundation 5.2.1: Configure the workflow system

Unit overview

Lessons

Unit dependencies

The activities in this unit must be performed in order.

This unit is independent of all other units.

Lesson 1.1. Workflow system concepts

Overview

Why is this lesson important?

As a workflow system administrator, you are responsible for defining and configuring the workflow system to run FileNet workflow applications.

As a workflow author, you design and implement FileNet workflow applications.

To do these tasks effectively, you need to understand what a workflow system is and what it provides to FileNet workflow applications.

Activities

Identify workflow system concepts: Written exercise

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

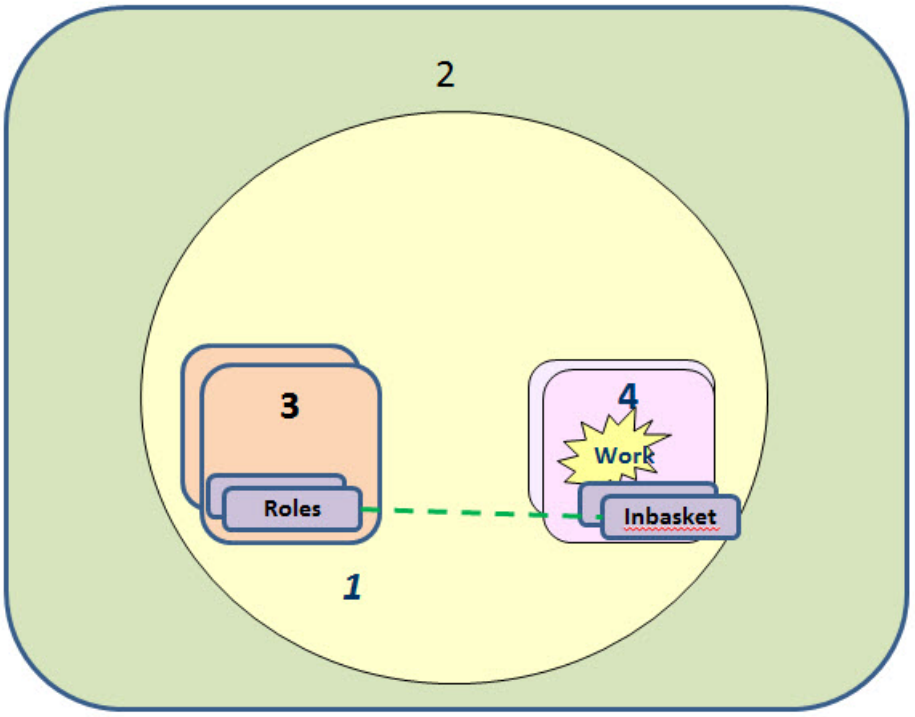
1. What is a workflow system?
   a. A logical structure that contains isolated regions.
   b. A database that contains isolated regions.
   c. A logical structure similar to an object store but used for processing workflows.
   d. Another name for an isolated region.
2. An object store can have multiple workflow system.

   True or **False**:
3. Which of the following components are contained in an isolated region? (Select all that apply)
   a. Queues
   b. Event logs
   c. Application Spaces
   d. Connection points
4. What is the function of a work queue?
   a. Stores work items that are waiting to process by more than one user or an automated process.
   b. Stores work items that are waiting to process by an individual.
   c. Stores workflows that are waiting to process by more than one user or an automated process.
   d. Allows the processing of a workflow step by an external entity.
5. What is the function of a roster? (Select all that apply)
   a. Keep track of work in progress.
   b. Provide an efficient way to locate specific active workflows.
   c. Store work items that are waiting to process by an individual.
   d. Allows the processing of a workflow step by an external entity.
6. When an isolated region is initialized, a number of default region objects are automatically created. (Select all that apply)
   a. DefaultRoster
   b. DefaultApplication
   c. DefaultIn-basket
   d. DefaultQueue

Identify workflow system components

Match the component name in the table to the component in the diagram.

Component Name
Queue
Isolated region
Application Space
Workflow system



Enter the component name, from the table, corresponding to the component number.

1. _____
2. _____
3. _____
4. _____

Lesson 1.2. Configure the workflow system

Overview

Why is this lesson important?

As a workflow system administrator, you are responsible for defining and configuring the workflow system to run FileNet workflow applications.

As a workflow author, you design and implement FileNet workflow applications.

To do these tasks effectively, you need to know how to create and configure a workflow system.

Activities

User accounts

	Type	User ID	Password
	Operating system	administrator	passw0rd
	P8 administrator	p8admin	IBMFileNetP8

Note

Passwords are always case-sensitive.

Prepare your system for the student exercises

Introduction

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

Procedures

Procedure 1: Start system components

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

Important

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

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

Note

For your convenience, the WebSphere Admin folder also contains:

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

- If you have issues with starting the system components, refer to Appendix B, "Start and Stop System Components".
- Minimize the WebSphere Admin folder.

Information

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

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

Procedure 2: Check system components

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

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

Hint

There is a bookmark in the Bookmarks menu under:

- *System Health > CE ping*

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

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

Hint

There is a bookmark in the Bookmarks menu under:

- *System Health > PE ping*

c. Log in as the P8 administrator.
   - Username: `p8admin`
   - Password: `IBMFileNetP8`

d. If both ping pages display successfully, close the browser and all the tabs.

3. Verify that the P8 Admin console desktop is functioning properly.

a. Open a Mozilla Firefox browser window.
b. Go to the URL: `http://ecmedu01:9080/navigator/?desktop=P8adminconsole`

Hint

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

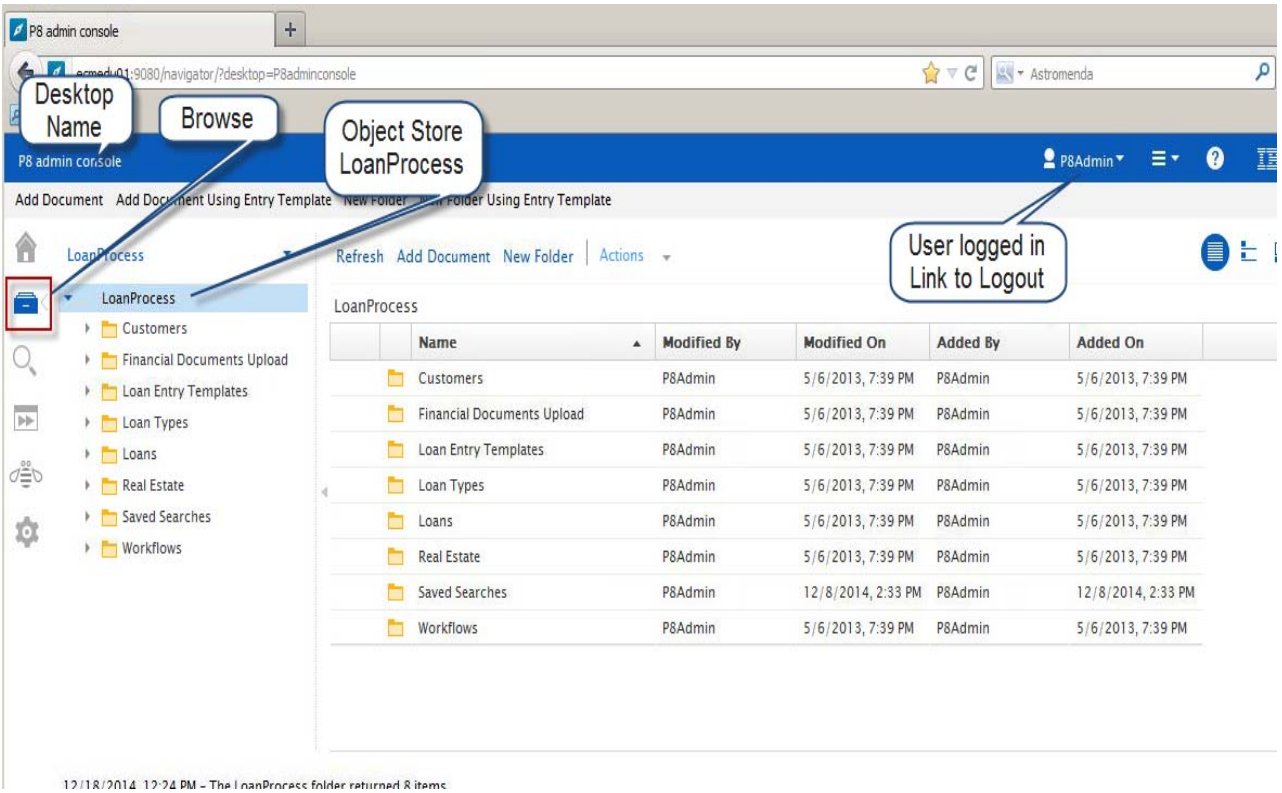
c. Log in as the P8 administrator.
   - Username: `p8admin`
   - Password: `IBMFileNetP8`

Note

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

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

You see a screen similar to:



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

- A database system. Your system uses the IBM DB2 database software. Every time a user logs in to the P8 Admin console desktop, the desktop configuration is loaded from the IBM Content Navigator DB2 database. This desktop is configured to browse the LoanProcess object store by default, which demonstrates that the database used by the Content Platform Engine is functional.
- A directory service to handle user authentication. Your system uses the IBM Tivoli Directory Server.

d. Log out of the P8 Admin console.

- On the upper right corner of the desktop, click **P8Admin** and select **Log Out**.
- Click **Log Out** to confirm.

4. Verify that the Workflow Author desktop is functioning properly.

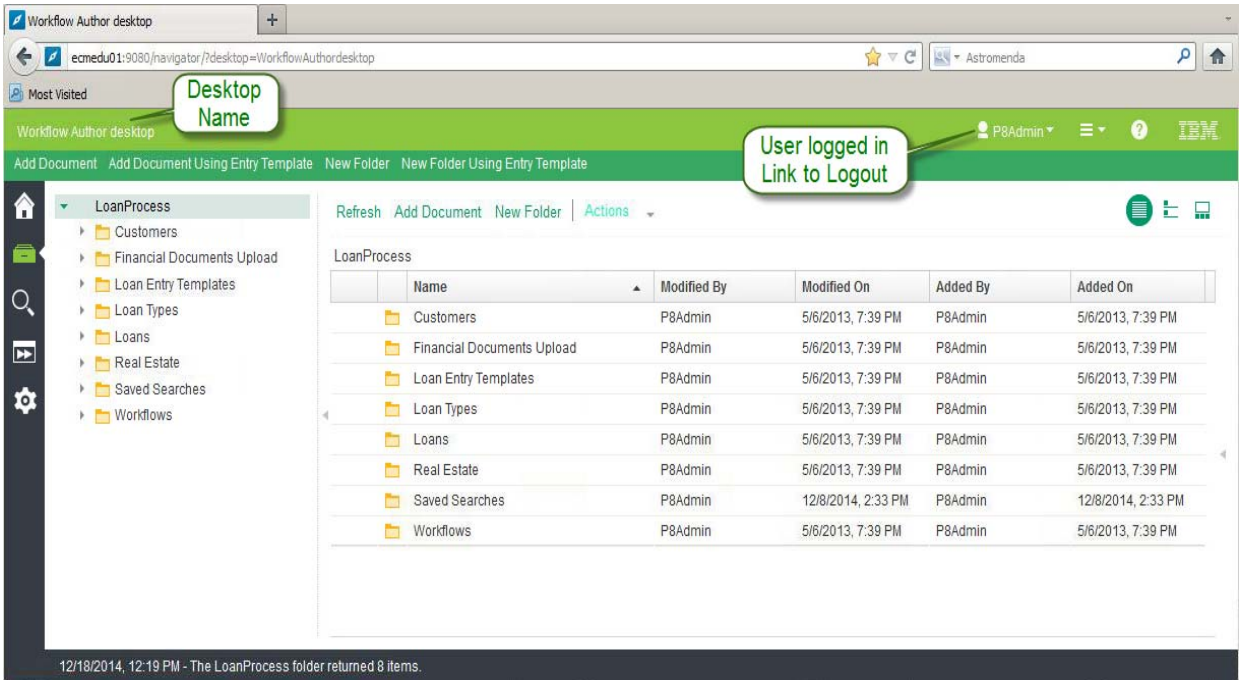
a. Go to the URL: `http://ecmedu01:9080/navigator/?desktop=WorkflowAuthordesktop`

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

b. Log in as a workflow author.

- Username: `p8admin`
- Password: `IBMFileNetP8`

A successful login to the Workflow Author desktop should look similar to:



c. Log out of the Workflow Author desktop.

   i. On the upper right corner of the desktop, click P8Admin and select **Log Out**.

   ii. Click **Log Out** to confirm.

d. Close the browser window and all the tabs.

Create a workflow system

Introduction

In this exercise, you create a new workflow system in the LoanProcessQA object store.

Procedures

Procedure 1: Create a workflow system

In this procedure, you create a workflow system in the LoanProcessQA object store with the Administration Console for Content Platform Engine.

1. Launch the Administration Console for Content Platform Engine.
   a. Open a Mozilla Firefox browser window.
      - Go to the URL: `http://ecmedu01:9080/acce`

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

   b. Log in as a P8 administrator.
      - Username: `p8admin`
      - Password: `IBMFileNetP8`
2. Create a workflow system.
   a. Click the **LoanProcessQA** object store to open it.
   b. Click **Administrative > Workflow System**.
   c. Click **New**, on the right pane.
   d. Use the data in the table to complete the first screen of the wizard.

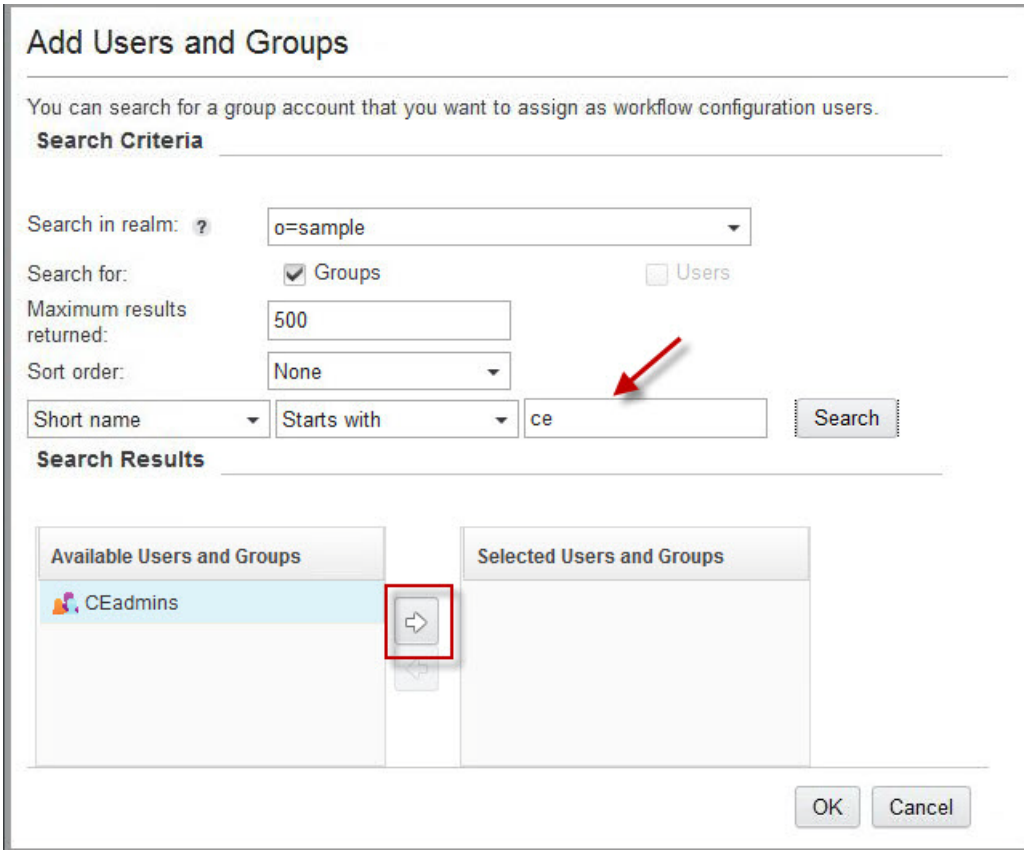
Screen	Field Name	Value
New Workflow System	Table Spaces: Data	CEDATA_TS

Note

You get a message that the workflow system administration group is required.

e. Select **CEadmins** for the Administration group.

- Click the **Browse** button.
- To the left of the **Search** button, enter ce, and click **Search**.
- Under **Search Results**, click the right arrow to move **CEadmins** from the **Available Users and Groups** to **Selected Users and Groups.**



- Click **OK**.

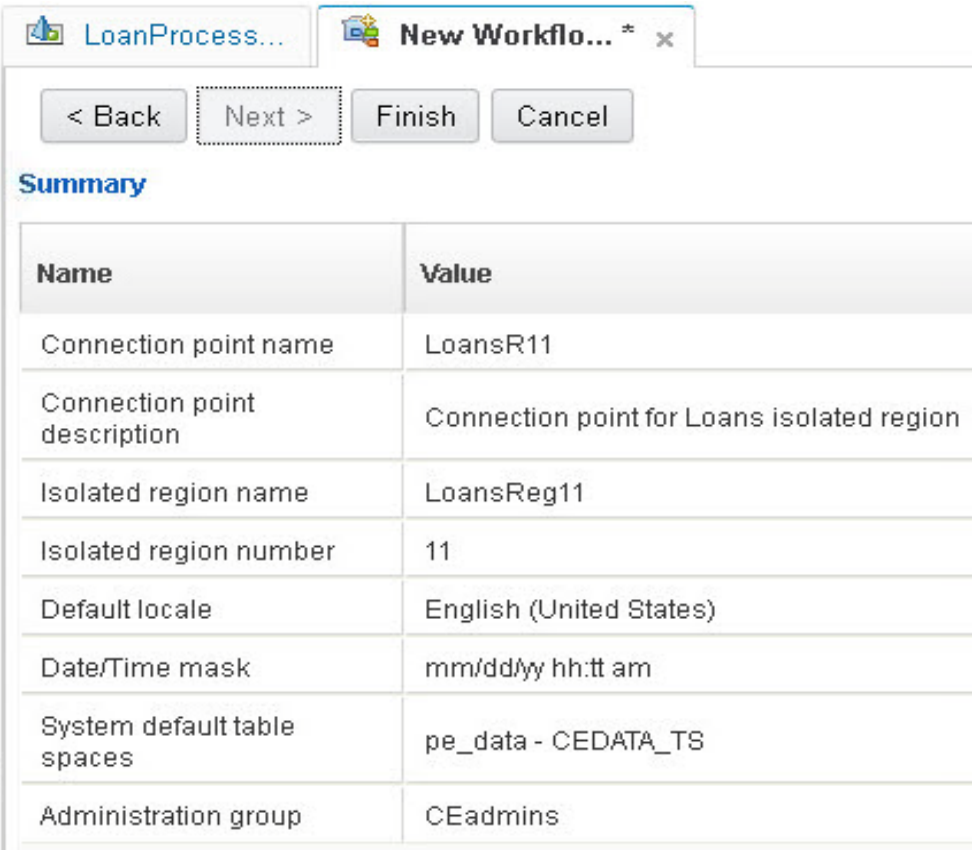
f. Click **Next** to move to the next screen of the wizard.

g. Use the data in the table to complete the rest of the wizard. Accept all other defaults.

Screen	Field Name	Value
Connection Point	Name	LoansR11
	Description	Connection point for Loans isolated region.
Isolated region	Display name	LoansReg11
	Isolated region number	11

- Click **Next** to advance to the next screen.
- At the **Specify Isolated Region Table Space** screen, click **Next**.

3. The Summary screen should look similar to:



4. Click **Finish** to complete the wizard and create the workflow system.
5. Make sure that you see **Success** displayed. Close the tab.

Procedure 2: Verify the workflow system that you created

In this procedure, you use the Administration Console for Content Platform Engine to verify the workflow system that you created in Procedure 1.

1. Verify the General properties of the workflow system.
   a. You are in the Administration Console for Content Platform Engine in the LoanProcessQA object store.
   b. Click **Administrative > Workflow System**.
      - Observe that the **General** tab includes the values you entered for the table space and the workflow system **Administration group**.
2. Verify the connection point of the workflow system.
   a. On the left, expand **Workflow System > Connection Points**.
      - Observe that the connection point you created is listed.
   b. Click the **LoansR11** connection point to open it.
      - Observe the Isolated region that it points to.
   c. Click the Properties tab to explore the properties.

d. Click the down arrow, to the right of any of the property values.

- Observe that you can Display or Edit the value of the property values that are not disabled. The disabled properties can be displayed or copied.

3. Verify the isolated region of the workflow system.

a. On the left, expand **Isolated Regions**.

- Observe that the isolated region you created is listed.

b. Click the **LoansReg11** isolated region to open it.

- Observe that the display name and the isolated region number are the values that you provided.
- Observe the additional information, for example the **Database connection**.

Information

The system populates the information, based on the object store where you created the workflow system.

c. Click the **Table Spaces** tab.
d. Observe that **CEDATA_TS** is the table space in use.

Information

Since you did not specify a different table space to use for the isolated region, it uses the same table space as the workflow system. It is suggested that the workflow system and the isolated region use the same table space.

e. Click the **Connection Points** tab.
f. Click **LoansR11** to open it.

- You are now in the **LoansR11** screen, as in Step 2c.

g. Click the **General** tab and click the isolated region, **LoansR11**.

4. On the left, click **Workflow System**.

a. Click the **Isolated Regions** tab.

b. Click **LoansReg11**.

c. Observe that you are now back in the isolated region, **LoansReg11** screen.

Information

As you can see, there are various ways to get to the same information. You will add a connection point, an isolated region, and isolated region objects in the next lesson.

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

Explore and configure the workflow system created

Introduction

In this exercise, you explore the workflow system that you created in the previous exercise. You configure a few of the workflow system properties.

Procedures

Procedure 1: Explore the workflow system

In this procedure, you explore the workflow system that you created in the previous exercise. You explore the different tabs and the workflow system properties that can be configured. In the next procedure, you will configure some of the workflow system properties.

1. Launch the Administration Console for Content Platform Engine.
   a. Open a Mozilla Firefox browser window.
      - Go to the URL: `http://ecmedu01:9080/acce`

   Tip: There is a bookmark called **ACCE**, in the Bookmarks menu.

   b. Log in as a P8 administrator.
      - Username: `p8admin`
      - Password: `IBMFileNetP8`
2. Open the **LoanProcessQA** object store.
3. Click **Administrative > Workflow System**.
4. Explore the General tab.
   a. Ensure that the General tab is selected.
   b. In the **Workflow System Security Groups** section, hover over the question mark, to the right of Configuration Group. You might need to click the question mark.
      - Read the information that is displayed and click the Learn more... link.
      - Read the IBM Knowledge Center topic that is displayed.
   c. Take a few minutes to explore other fields, and read the information that is provided.
5. Explore the **Runtime Options** tab.
   a. Click the **Runtime Options** tab.
      - Explore the settings that are defined by default.
      - Take a few minutes to review all the settings and read the information that is provided.

6. Explore the remaining tabs.
   a. Click each of the remaining tabs.
      - Notice the buttons and Actions available.
      - Read the introductory paragraph.
      - Explore the workflow system properties that can be configured and read the information that is provided.
      - Leave the administration console open for the next procedure.

Procedure 2: Configure the workflow system

In this procedure, you configure the Configuration Group and the default Web Application, with the Administration Console for Content Platform Engine.

1. In the Administration Console for Content Platform Engine, click **LoanProcessQA > Administrative > Workflow System**.
2. Set the workflow system security group for the **Configuration group** to **CEadmins**.
   a. Ensure that the General tab is selected.
   b. On the **Workflow System Security Groups: Configuration group** field, click **Browse**.
      - In the Add Users and Groups window, enter ce for the search criteria.
      - Move **CEAdmins** from **Available Users and Groups** to **Selected Users and Groups**.
      - Click **OK**.
   c. Click **Save**.
3. Modify the default Web Application configured.
   a. Click the **Web Applications** tab.
   b. Scroll down until you see **IBM Content Navigator**.
   c. Click the box to the left and click the option to specify it as the Default Application.
   d. Click **Save**.
4. Close the **LoanProcessQA** tab.
5. Leave the administration console open for the next exercise.

Create a database connection

Introduction

In this exercise, you add a DbExecute connection to an existing workflow system in the LoanProcess object store. The new database connection allows a workflow step to execute a stored procedure on an external database.

Procedures

Procedure 1: Create a DbExecute connection

In this procedure, you add a DbExecute connection to an external database.

1. In the administration console, open the **LoanProcess** object store.
   a. In the administration console, click the **P8Domain** tab.
   b. Under Object Stores, select **LoanProcess**.
2. Click **Administrative > Workflow System**.

Important

Make sure that you in the object store **LoanProcess**, not **LoanProcessQA**.

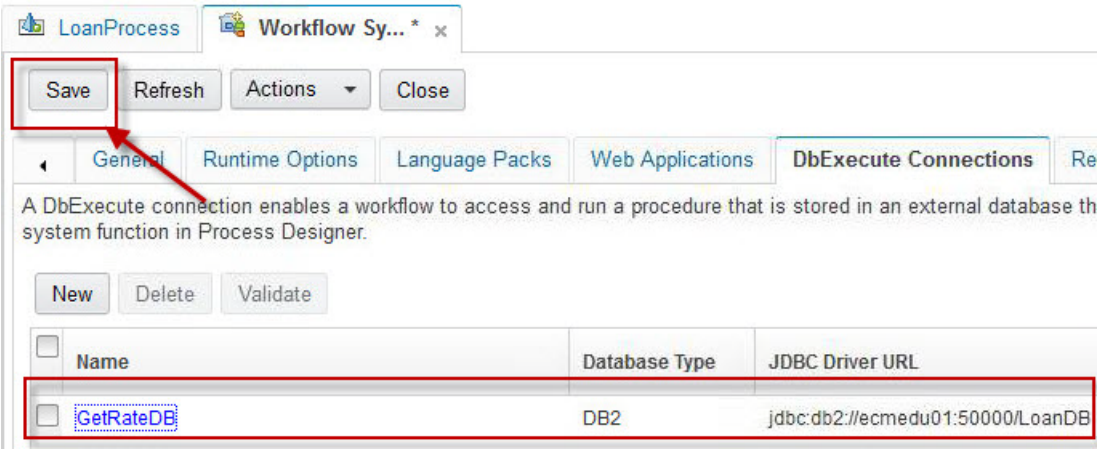
3. Click the **DbExecute Connections** tab.

4. Click **New**.

5. Use the data in the table to complete the wizard. The connection name, database name, and password must be entered exactly as shown in the table. The values are case-sensitive.

	Field	Value
	Connection name	`GetRateDB`
	Database type	`DB2`
	Database name	`LoanDB`
	Database host	`ecmedu01`
	Database port	`50000`
	Database user name	`dsrdbm01`
	Database password	`IBMFileNetP8`

6. Scroll to the bottom of the window and click **Validate**. Make sure that you get a message, that states that the validation of the database connection was successful. If not, review your entries and correct them.
7. Click **OK** to close the validation message window.
8. Click **OK** to add the connection.
9. Click **Save**, to save the connection.



10. Minimize the browser window.

11. Verify the database connection with vwtool.

Information

The command-line tool, vwtool is a powerful tool that can analyze and modify various components of a workflow system or isolated region.

a. Launch vwtool.
   - Double-click the **vwtool P8ConnP5.bat** shortcut on your desktop.

Hint

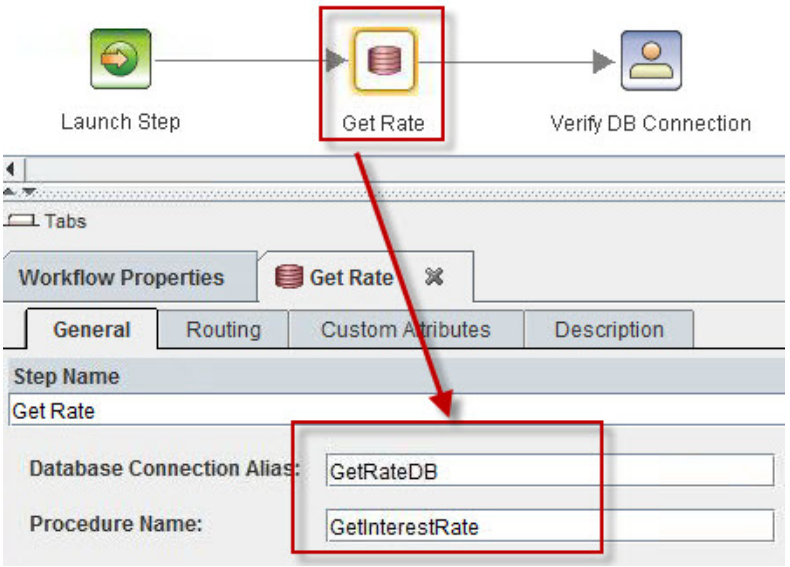
You might want to increase the Layout > Buffer Size Height on the command prompt window, for example to 300.

b. Type `listdbconfig *` followed by a carriage return.
c. Your output should look similar to:

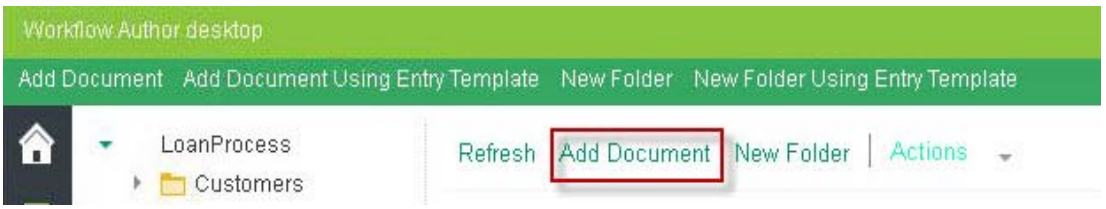
d. Type **quit** to exit vwtool.

Procedure 2: Test the database connection with a workflow application.

In this procedure, you add, transfer, and launch a simple workflow that contains a step, **GetRate** that calls the stored procedure, **GetInterestRate**, which uses the DbExecute connection, **GetRateDB**, that you created in Procedure 1.



1. Open the Workflow Author desktop.
   a. Maximize the browser window and open a new browser tab.
   b. In the bookmarks menu, select **Workflow Author desktop**.
2. Select the **Workflows** folder.
3. Add the workflow definition.
   a. Click **Add Document**.

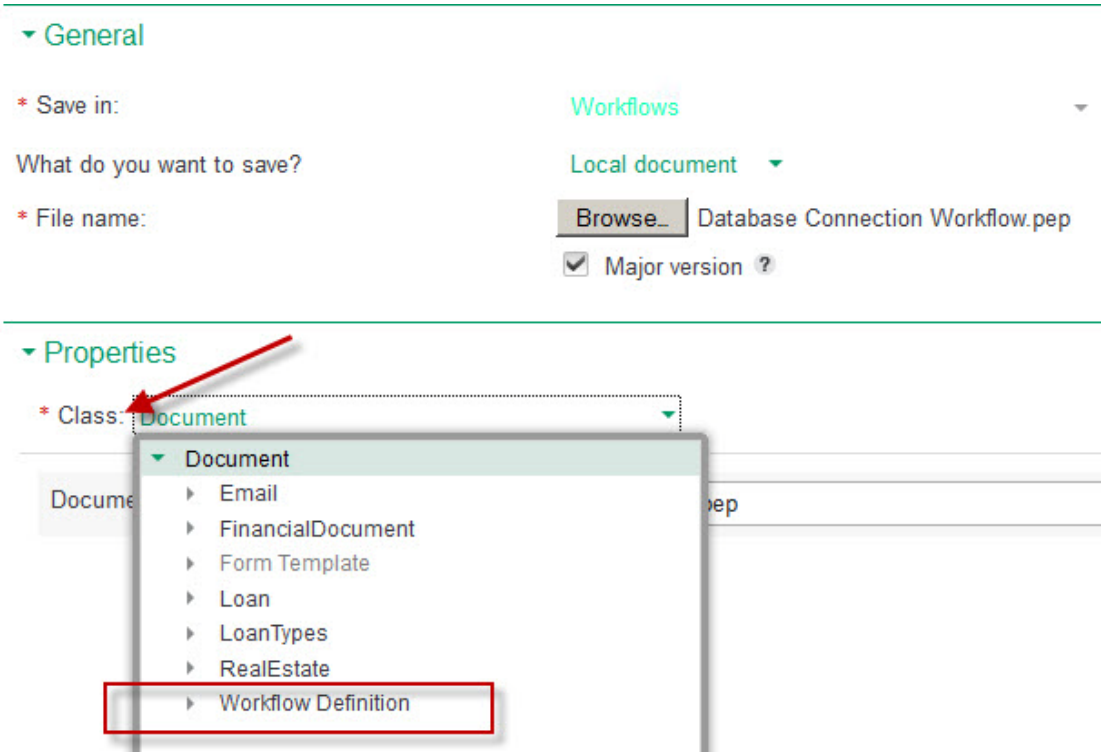


   b. Click **Browse** and go to the path:

`C:\Labs\Case Foundation 5.2.1 Administration\Configure workflow system`

   c. Select **Database Connection Workflow.pep**.

d. For the Class, select **Workflow Definition.**



e. Click **OK**.
f. Click **Add,** on the lower right.

4. Transfer the workflow.

a. Ensure that the **Database Connection Workflow** is selected, click **Actions > Workflow > Transfer Workflow**.
b. If the **Transfer Workflow Window** is displayed, accept the option to, **Use the workflow name**.

Information

If a workflow was transferred previously with the same name, the Transfer Workflow Window displays, providing you the option to use the same name or change the name.

c. Ensure that you see a message, on the lower left, that states, ***The workflow was transferred successfully***.

5. Launch the workflow.

a. Click **Actions > Workflow > Launch Workflow**.
b. The **Database Connection Test** window is displayed.

Information

The values for all the data fields in the workflow are prefilled for you. Notice that the interest_rate field has 0 as its value. In the workflow, the DbExecute system step, calls Get Rate, connects to the database, and retrieves data based on values that are provided in the work item.

c. Click the **Launch Workflow** link at the lower right.

6. Verify that the database stored procedure, **GetInterestRate**, was executed.
   a. On the Workflow Author desktop, open the Work view.
   b. Click **Customer**.

Information

If the database connection is functioning and the call to the stored procedure is successful, you see a work item labeled **Database Connection Test** in the Inbox.

c. Click the icon of the work item that is listed to open it.
   - The interest_rate displayed is **5.25**.

Information

The GetRate step, which uses the DbExecute connection, you created, to call the GetInterestRate stored procedure of the LoanDB database, returns the interest rate. The interest rate returned, is based on the values for loan_amount, large_loan and loan_term.

d. Click **Complete**.

7. Logout of the Workflow Author desktop.
8. Close all the browser windows and tabs.

Lesson 1.3. Create and configure an isolated region and region objects

Overview

Why is this lesson important?

As a workflow system administrator, you are responsible for defining and configuring isolated regions to support FileNet workflow applications.

As a workflow author, you design and implement FileNet workflow applications.

To do these tasks effectively, you need to know how to create and configure isolated regions and region objects.

Activities

- "Create a connection point and isolated region" on page 1-33
- "Create isolated region objects" on page 1-35

User accounts

	Type	User ID	Password
	Operating system	administrator	passw0rd
	P8 administrator	p8admin	IBMFileNetP8

Note

Passwords are always case-sensitive.

Create a connection point and isolated region

Introduction

In this exercise, you create a new connection point and its associated isolated region in the LoanProcess object store.

Procedures

Procedure 1, "Create a connection point," on page 1-33

Procedure 1: Create a connection point

In this procedure, you use the data in the table to create a new connection point and isolated region in the object store, **LoanProcess**. Step-by-step instructions are included, if you need them. Use default values for any items that are not listed in the table.

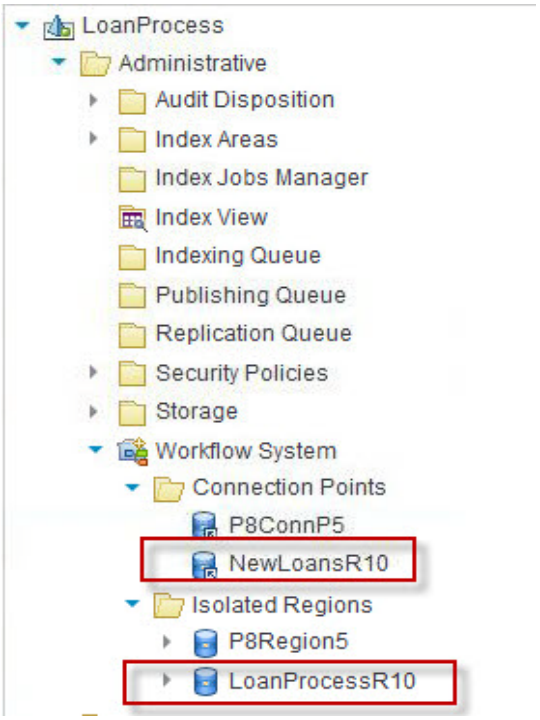
Item	Value
Connection Point Name:	`NewLoansR10`
Isolated region:	`Create new`
Isolated region name:	`LoanProcessR10`
Isolated region number:	`10`

1. Launch the Administration Console for Content Platform Engine.
   a. Open a Mozilla Firefox browser window.
      - Go to the URL: `http://ecmedu01:9080/acce`

   Tip: There is a bookmark called ***ACCE***, in the Bookmarks menu.

   b. Log in as a P8 administrator.
      - Username: `p8admin`
      - Password: `IBMFileNetP8`
2. Open the **LoanProcess** object store.
3. Expand **Administrative > Workflow System**.
4. Click **Connection Points**.
5. Click **New**.
6. Use the data in the table to complete the wizard. Accept the defaults for values that are not provided.
7. Make sure **Success** is displayed. Click **Close**.

8. When you are done you should see the new connection point and the new isolated region in the left navigation pane, similar to:



9. Leave the administration console open for the next exercise.

Create isolated region objects

Introduction

In this exercise, you create isolated region objects in the isolated region you created in the previous exercise. You must complete Exercise , "Create a connection point and isolated region" before starting this exercise. You create:

- A queue
- A roster
- An event log
- An application Space

Procedures

Procedure 1: Create a queue

In this procedure, you create a queue in the LoanProcessR10 isolated region.

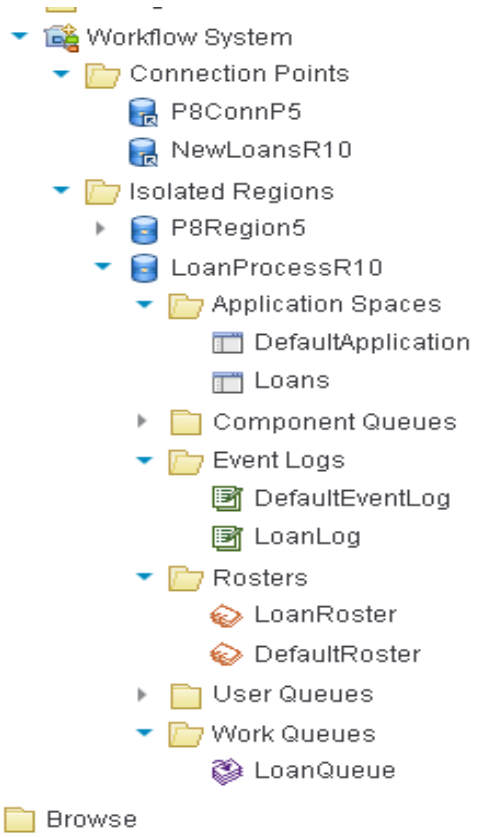
1. You should still be in the Administration Console for Content Platform Engine, logged in as the administrative user, p8admin.
2. Open the **LoanProcess** object store, if not already open.
3. Expand the isolated region, **LoanProcessR10**.
4. Click **Work Queues**.
5. Click **New**.
   a. **Name:** LoanQueue.
   b. Click **Next**.
   c. Click **Finish**.
   d. Close the **Success** window.

Procedure 2: Create a roster, event log, and application space

Use the data to complete the steps:

Item	Value
Roster Name:	LoanRoster
Event log Name:	LoanLog
Application Space Name:	Loans

1. Click **Rosters**, in the navigation pane.
   a. Click **New**.
   b. Complete the wizard with the data in the table.
   c. Close the **Success** window.
2. Repeat Step 1, clicking **Event Logs,** and **Application Spaces**.
3. When you are done, you see the new isolated region objects.



Procedure 3: Explore the isolated region objects with vwtool

In this procedure, you use the command-line tool, vwtool to validate the isolated region objects you created.

1. Launch the command-line tool, vwtool.
   a. Create a shortcut on the desktop to launch vwtool with the new connection point.
      - Copy and paste the vwtool P8ConnP5.bat shortcut, on the desktop and edit it, using notepad++.
      - Change the connection point from **P8ConnP5** to **NewLoansR10**.
      - Save and rename the shortcut to `vwtool NewLoansR10.bat`

Information

When you open vwtool, you must include the connection point that you want to connect to.

   b. Double-click **vwtool LoansR10.bat**.

2. Use the queueconfig command to explore the **LoanQueue** configuration.

Note

Beware, vwtool is case-sensitive.

   a. <vwtool::10> `queueconfig LoanQueue`
   b. What is the Queue type? _____
   c. What is the Physical table name? _____
   d. What is the Database view name? _____

3. Use the queueconfig command to explore the **Inbox** configuration.
   a. <vwtool::10> `queueconfig Inbox`
   b. What is the Queue type? _____
   c. What is the Physical table name? _____
   d. What is the Database view name? _____

4. Use the rosterconfig command to explore the **LoanRoster** configuration.
   a. <vwtool::10> `rosterconfig LoanRoster`
   b. What is the Schema name? _____
   c. What is the Physical table name? _____
   d. What is the Database view name? _____

5. Use the logconfig command to explore the **LoanLog** configuration.
   a. <vwtool::10> `logconfig LoanLog`
   b. What is the Schema name? _____
   c. What is the Physical table name? _____
6. Use the appspace command to explore the **Loans** configuration.
   a. <vwtool::10> appspace Loans
   b. What is the ID? _____

Information

Notice that the physical table names all have the format:

VW<*object_type*><*region#*>_<*table #*>

The database view names all have the format:

VWVR<*region #*>_<*region_object_name*>

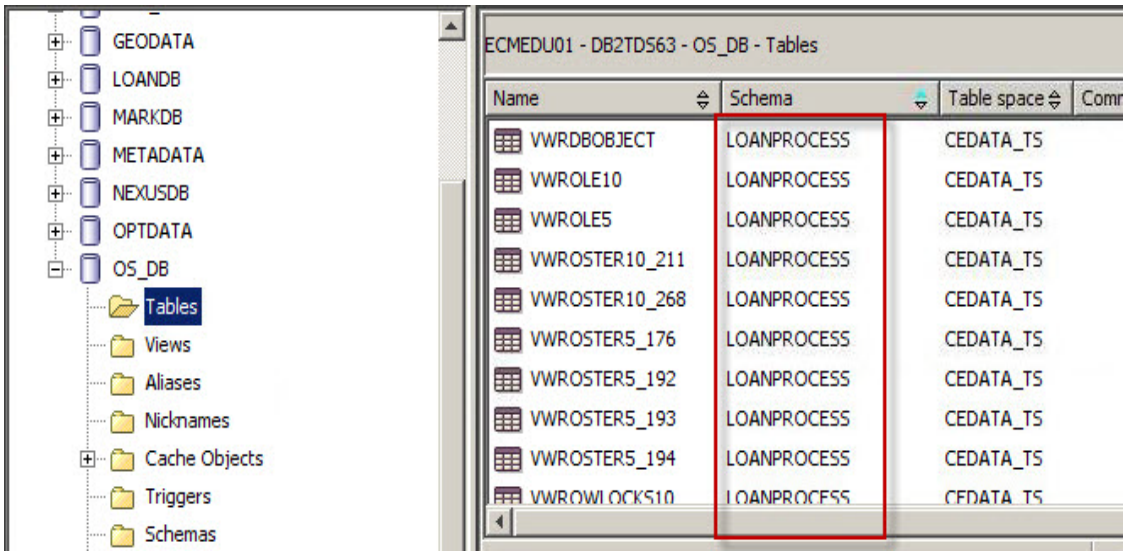
7. Leave the command prompt window open.

Procedure 4: Explore the workflow system database tables

In this procedure, you use the database engine administration tool to explore the workflow system database tables, referenced by the physical table names in vwtool. You need the values for the physical table names from Procedure 3.

1. Launch the IBM DB2 Control Center.
   a. Start > All Programs > IBM DB2 > TDSV63DB2 > General Administration Tools > Control Center.
   b. Accept the Advanced view on the Control Center View window. Click **OK**.
2. Expand **All Databases > OS_DB**.
3. Click **Tables**, on the left. If a filter window is displayed, close it.

4. Ensure that the tables are sorted by schema name and you see **LOANPROCESS**.



5. Locate the physical table name for the LoanQueue.
   a. Explore the columns that are listed in the lower pane.
   b. Notice the values in the Name column.
6. Locate the physical table name for the LoanRoster.
   a. Explore the columns that are listed in the lower pane.
   b. Notice the values in the Name column.
7. Close the IBM DB2 Control Center.
8. Logout of the administration console and close the browser windows.
9. Close the command prompt window.

Lesson 1.4. Expose data fields

Overview

Why is this lesson important?

It is common for workflow applications to have user fields, for example, loan_id and customer_name. Some are used for internal processing and some need to be exposed to facilitate searching and tracking changes in the event logs.

As a workflow author or workflow system administrator, you need to know how to expose data fields in an isolated region.

Dependencies

In order to perform the activities in this lesson, you must complete the activities that are listed:

- Lesson 1.3: Create a connection point and isolated region.
- Lesson 1.3: Create isolated region objects.

Activities

- "Expose data fields" on page 1-43

User accounts

	Type	User ID	Password
	Operating system	administrator	passw0rd
	P8 administrator	p8admin	IBMFileNetP8

Note

Passwords are always case-sensitive.

Expose data fields

Introduction

In this exercise, you expose a few data fields in the LoanQueue, the LoanLog, and the LoanRoster that you created in Lesson 3.

Procedures

Procedure 1: Expose system fields to an event log

In this procedure, you expose the system field, F_ResponseCount, and the data field, customer_name, to the event log LoanLog.

1. Launch the Administration Console for Content Platform Engine and login as the P8 administrator.
    - Username: `p8admin`
    - Password: `IBMFileNetP8`
2. Open the **LoanProcess** object store.
3. Expand **Administrative > Workflow System > Isolated Regions > LoanProcessR10 > EventLogs**.
4. Click **LoanLog**.
5. Expose the system field, F_ResponseCount.
    a. Click the **System Fields** tab.
    b. Click **Add**.
    c. In the Add System Fields window, select **F_ResponseCount**.
    d. Click **OK**.
    e. Click **Save**.

Procedure 2: Expose user fields to a queue

In this procedure, you expose user fields to the work queue, LoanQueue.

1. Expand **Work Queues**.
2. Click **LoanQueue**.
3. Add user fields to the LoanQueue. Use the data in the table to complete the steps.

Work queue	Field name	Field type	Length (String fields only)
LoanQueue	customer_name	String	50
	loan_id	String	10
	loan_amount	Float	
	loan_date	Time	

   a. Click the **User Fields** tab.
   b. Click **New**.
   c. Use the data in the table to complete the New User Field window:
   d. Click **OK**.
   e. Repeat Steps 3b - 3d for each of the user fields in the table.
   f. Click **Save**.

Procedure 3: Copy existing user fields to other isolated region objects

After user fields are exposed in an isolated region object and saved, you can clone them to expose in any other object within the isolated region. In this procedure, you clone the user fields you exposed in the LoanQueue to expose them to the LoanLog, the LoanRoster and the user queues, Inbox and Tracker. When you clone a user field, you ensure that you are exposing the same user field and not creating a new user field.

Data

Region object	Field
LoanRoster	customer_name
	loan_amount
	loan_date
	loan_id
LoanLog	loan_id
Inbox	customer_name
	loan_amount
Tracker	customer_name
	loan_amount

1. Click **Rosters > LoanRoster**.
2. Expose the existing user fields.
   a. Click the **User Fields** tab.
   b. Click **Clone**.
   c. In the **Clone User Field** window, you can view the details of any user field by clicking the name.
   d. Use the information in the table to select the appropriate user fields.

Hint

You can either click them individually or click the selector box in the header to select them all.

   e. Click **OK**.
   f. Click **Save**.
3. Expand **EventLogs> LoanLog**.
4. Repeat Step 2.
5. Expand **User Queues > Inbox**.
6. Repeat Step 2.
7. Expand **User Queues > Tracker**.
8. Repeat Step 2.
9. Logout of the administration console.
10. Minimize the browser window.

Procedure 4: Verify the exposed user fields with vwtool

You can see the user fields that are exposed with the administration console. The command-line tool, vwtool, can also be used to verify the exposed user fields. One advantage of using vwtool, is that you can capture a hardcopy of the output, which can be sent to IBM support as part of troubleshooting an issue.

1. Launch vwtool.
   a. Double-click the ***vtwool NewLoansR10.bat*** shortcut that you created.
2. Use the queueconfig command to explore the **LoanQueue** configuration.

   <vwtool::10> queueconfig LoanQueue <carriage return>.

   a. Verify that the data fields that you defined for the queue are displayed.
   b. Record the Physical table name for the **LoanQueue**: _____

c. Record the Physical Field Name for the data fields that you defined:

- customer_name: _____
- loan_amount: _____
- loan_id: _____
- loan_date: _____

3. Minimize the vwtool command prompt window.

Procedure 5: Explore the workflow system database tables

In this procedure, you use the database engine administration tool to explore the workflow system database tables, referenced by the physical table names in vwtool. You need the values for the physical table names from Procedure 3.

1. Launch the IBM DB2 Control Center.
   a. **Start > All Programs > IBM DB2 > TDSV63DB2 > General Administration Tools > Control Center.**
   b. Click OK on the Control Center View window.
2. Expand **All Databases > OS_DB**.
3. Click folder icon for **Tables** on the left.
4. On the center pane, ensure that you are sorted by schema name and you see **LOANPROCESS**.
5. Locate the physical table name for the **LoanQueue**. (Refer to Procedure 4).
   a. Explore the Name column that is listed in the lower pane.
   b. Look for the user fields you added. You need to scroll to the bottom of the list.
6. Locate the physical table name for the LoanRoster.

Hint

To get the physical table name of the roster, maximize the vwtool command prompt window and enter, `rosterconfig LoanRoster <carriage return>`.

   a. Explore the Name column that is listed in the lower pane.
   b. Look for the user fields you cloned.
7. Minimize the IBM DB2 Control Center.

Information

When you query for work items in a later unit, these exposed fields are available to select in the Search Filter Criteria.

Lesson 1.5. Define indexes

Overview

Why is this lesson important?

The loan processors are complaining that it is taking a long time to search for work.

As a workflow system administrator, you need to define an index to make searching more efficient.

As a workflow author, it is important to understand what data fields make good indexes to ensure efficiency in the workflow application.

Dependencies

In order to perform the activities in this lesson, you must complete the activities that are listed:

- Lesson 1.3: Create a connection point and isolated region.
- Lesson 1.3: Create isolated region objects.
- Lesson 1.4: Expose data fields.

Activities

- "Define indexes" on page 1-49

User accounts

	Type	User ID	Password
	Operating system	administrator	passw0rd
	P8 administrator	p8admin	IBMFileNetP8

Note

Passwords are always case-sensitive.

Define indexes

Introduction

In this activity, you create simple and composite indexes for the queue, LoanQueue, workflow roster, LoanRoster, and event log, LoanLog.

Procedures

Procedure 1: Define indexes with exposed user fields

1. Maximize the browser window and log in to the Administration Console for Content Platform Engine as the P8 administrator.
   - Username: `p8admin`
   - Password: `IBMFileNetP8`
2. Open the **LoanProcess** object store.

Important

Composite indexes

For composite indexes with multiple keys, the sequence in which you specify the keys is important. Be sure to specify the index keys for the LoanQueue in the sequence that is listed in these instructions.

3. Define a composite index for the **LoanQueue**, with the data in the table.

Type of index	Region object	Index name	Index keys (in the order listed)
Queue index	LoanQueue	Customer_index	customer_name loan_id loan_amount

   a. Expand **Administrative > Workflow System > Isolated Regions > LoanProcessR10 > Work Queues**.
   b. Click **LoanQueue**.
   c. Click the **Indexes** tab

d. Click **New**.

- Type the index name, as shown in the table.
- In the **Available Fields** column, scroll down to the bottom. Use the shift key to select the three fields, **customer_name, loan_id loan_amount**, and click the right arrow to move them to the **Keys** column.
- In the **Keys** column, select **loan_id** and use the up arrow, to the right, to move it to the top of the list. The order must match the order that is listed in the table.
- Click **OK**.
- Click **Save**.

Important

Required field in roster index

A roster index must contain the F_WobNum field to ensure unique values for roster indexes. If this field is not included in your indexed fields, it is automatically added for you.

Required field in event log index

An event log index must contain the F_TimeStamp and F_SeqNumber fields to ensure unique values for event log indexes. If these fields are not included in your indexed fields, they are automatically added for you.

4. Define an index for the **LoanRoster** and the **LoanLog**.
   a. Repeat step 3, but use the values in the following table.
      - Notice the system fields that are automatically added.

Type of index	Region object	Index name	Index keys (in the order listed)
Roster index	`LoanRoster`	`Loan_index`	`loan_id`
Log index	`LoanLog`	`Loan_index`	`loan_id`

5. Logout of the administration console.
6. Close the browser window.

Procedure 2: View the indexes with vwtool

In this procedure, you use the command-line tool to view the indexes you created.

1. Maximize the command prompt window.
2. View the index that you created in the LoanQueue.
   a. At the <vwtool::10> prompt, type `queueconfig LoanQueue`.

b. Observe the index that you created (Customer_index) is displayed at the end of the report in the Logical Index Name column, and that its index keys are displayed in the Index Fields column.
c. Record the **Physical Index Name**. _____

3. View the index that you created in the LoanRoster.
   a. At the <vwtool::10> prompt, type `rosterconfig LoanRoster`.
   b. Observe the index that you created (Loan_index).
   c. Record the **Physical Index Name**. _____
4. View the index that you created in the LoanQueue.
   a. At the <vwtool::10> prompt, type `logconfig LoanLog`.
   b. Observe the index that you created (Loan_index).
   c. Record the **Physical Index Name**. _____
   d. Notice that it is a unique name, even though the index name, Loan_index is same.
5. Minimize the vwtool command prompt window.

Procedure 3: Explore the workflow system database tables

In this procedure, you use the database engine administration tool to explore the workflow system database tables, referenced by the physical table names in vwtool. You need the values for the physical table names from Procedure 2.

1. Maximize the IBM DB2 Control Center window.
2. Refresh the tables in order to see the changes.
   a. right-click **Tables,** on the left, and select **Refresh**.

Hint

For Steps 3 - 5, you might want to refer to the minimized vwtool, command prompt, window for the values of the physical table names of the isolated region objects and to verify the physical index name.

3. View the index for the LoanQueue.
   a. Select the physical table name for the **LoanQueue** (for example, VWQUEUE10_271).
   b. In the lower-right pane, click **Show Related Objects**.
   c. Click the **Indexes** tab.
   d. Verify that you see the Physical Index Name, for **Customer_index**, listed (for example, VW_IND55).
   e. Close the Show Related window.
4. View the index for the LoanRoster.
   a. Select the physical table name for the **LoanRoster** (for example, VWROSTER10_268).
   b. Repeat Steps 3b - 3e.

5. View the index for the LoanLog.
   a. Select the physical table name for the **LoanLog** (for example, VWLOG10_217).
   b. Repeat Steps 3b - 3e.
6. Close the IBM DB2 Control Center window.
7. Close the vwtool command prompt window.

Lesson 1.6. Configure in-baskets and roles

Overview

Why is this lesson important?

Users process work with a client application, for example an IBM Content Navigator desktop. A desktop requires that in-baskets and roles be defined for a workflow.

Workflow system administrators and workflow authors need to know how to create in-baskets and roles to allow for processing of workflow applications.

Dependencies

In order to perform the activities in this lesson, you must complete the activities that are listed:

- Lesson 1.3: Create a connection point and isolated region.
- Lesson 1.3: Create isolated region objects.
- Lesson 1.4: Expose data fields.
- Lesson 1.5: Define indexes.

Activities

User accounts

	Type	User ID	Password
	Operating system	administrator	passw0rd
	P8 administrator	p8admin	IBMFileNetP8

Note

Passwords are always case-sensitive.

Create and configure in-baskets

Introduction

In this exercise, you create and configure an in-basket in a work queue and an in-basket in a user queue.

Procedures

Procedure 1: Create and configure a work queue in-basket

In this procedure, you create and configure the in-basket, **NewLoans**, for the work queue, **LoanQueue**.

1. Launch the Administration Console for Content Platform Engine and login as the P8 administrator.
    - Username: `p8admin`
    - Password: `IBMFileNetP8`
2. Open the object store, **LoanProcess**.
3. Expand **Administrative > Workflow System > Isolated Regions > LoanProcessR10 > Work Queues**.
4. Click **LoanQueue**.
5. Click the **In-Baskets** tab.
6. Create an in-basket.
    a. Click **New**.
        - Name: `NewLoans`

b. Click the **Columns and Labels** tab.

- Click **Add**, use the information in the table to specify the fields.
- To see the field F_Subject, you need to check **Show system fields**.

Selected Fields	Column Label	Sortable	Content Order
customer_name(String)	`Customer`	yes	`F_SortRule(F_locked + F_SortOrder)`
loan_id(String)	`Loan ID`	no	none
loan_amount(Float)	`Loan Amount`	yes	`F_SortRule(F_locked + F_SortOrder`
loan_date(Time)	`Loan Date`	no	none
System field: F_Subject	Accept the default	no	none

c. Click the **Optional Filters** tab.
d. Click **Add**.

- Select **customer_name**, and click **OK**.
  - Name: `Find Customer`
  - Operator: `like`
  - Display Name: `Find Customer`
- Click **OK**.

7. Click **Save**.

Procedure 2: Create and configure user queue in-baskets.

In this procedure, you create and configure the in-basket, **My work**, for the user queue, **Inbox**.

1. Expand **User Queues**.
2. Create an in-basket for the user queue, **Inbox**.
   a. Click the **Inbox** queue.
   b. Select the **In-Baskets** tab.
   - Click **New**.
     - Name: `MyWork`

c. Click the **Columns and Labels** tab.

- Click **Add**, use the information in the table to specify the fields.

Selected Fields	Column Label	Sortable	Content Order
customer_name(String)	Customer	yes	F_SortRule(F_locked + F_SortOrder)
loan_amount(Float)	Loan Amount	yes	F_SortRule(F_locked + F_SortOrder
System field: F_Subject	Accept the default	no	none

- Click **OK**.

d. Click **Save**.
e. Close the **User Queue: Inbox** window.

3. Create a tracker in-basket.

a. Click **User Queues**.
b. Click **Tracker**.
c. Repeat Steps 2b - 2d. For the in-basket name, type: Loan Status.

4. Leave the administration console open for the next exercise.

Create and configure roles

Introduction

In this exercise, you create and configure roles in an application space and you associate them to the in-baskets you created in the previous exercise.

Procedures

Procedure 1, "Create and configure roles," on page 1-59

Procedure 1: Create and configure roles

In this procedure, you create and configure the role, **Loan Processor,** and associate it to the in-basket, **NewLoans**.

1. Click **Application Spaces**
2. Click **Loans**.
3. Click the **Roles** tab.

Create the role, Loan Processor.

   a. Click **New**.
   b. Name: Loan Processor
   c. Click the **In-Baskets and Members** tab.
      - In the **In-Baskets** section, add the in-baskets, **NewLoans**, and **Loan Status**.
      - In the Members section, add the groups **Loan Processors** and **p8admins**.
   d. Click **OK**.
   e. Click **Save**.

4. Create the role, Clerk.
   a. Repeat Step 3, but use the data in the table:

	Name	In-Baskets	Members
	Clerk	MyWork Loan Status	olivia P8Admins

5. Log out of the administration console.
6. Close the browser window.

Lesson 1.7. Configure Content Navigator for workflow

Overview

Why is this lesson important?

An IBM Content Navigator desktop needs to be created and configured so users can process workflow applications.

Workflow system administrators and workflow authors need to know how to create an IBM Content Navigator desktop and configure it so that it can be used as a client application for workflow authoring and processing.

Dependencies

In order to perform the activities in this lesson, you must complete the activities that are listed:

- Lesson 1.3: Create a connection point and isolated region.
- Lesson 1.3: Create isolated region objects.
- Lesson 1.4: Expose data fields.
- Lesson 1.5: Define indexes.
- Lesson 1.6: Create and configure in-baskets.
- Lesson 1.6: Create and configure roles.

If you would like to complete the exercises in Lesson 1.7 without completing the exercises in Lessons 1.3 - 1.6 refer to Appendix , "Import the isolated region for Lesson 1.7," on page C-3

Activities

User accounts

	Type	User ID	Password
	Operating system	administrator	passw0rd
	P8 administrator	p8admin	IBMFileNetP8

Note

Passwords are always case-sensitive.

Create and configure a Content Navigator desktop for workflow

Introduction

In this exercise, you create and configure a Content Navigator desktop that uses the isolated region that you created and configured in Lessons 1.3 - 1.6. You configure the desktop for workflow, assigning it the application space that you created. You use the IBM Content Navigator administration tool to:

- Create a repository that points to the connection point, created in Lesson 1.3.
- Create a Content Navigator desktop that uses the new repository.
- Configure the desktop for workflow.

Procedures

Procedure 1: Create a Content Navigator repository

In this procedure, you create a Content Navigator repository to point to the connection point you created in Lesson 1.3.

1. Launch IBM Content Navigator administration tool.
   a. Open a Mozilla Firefox browser window.
   b. Go to the URL: `http://ecmedu01:9080/navigator/?desktop=admin`

Hint

There is a bookmark in the Bookmarks menu, *Content Navigator Administration*, for your convenience.

   c. Log in as a Content Navigator administrator.
      - Username: `p8admin`
      - Password: `IBMFileNetP8`
2. Click the **Repositories** node, click **New Repository**, and select **FileNet Content Manager**.

3. The **New Repository** wizard displays. Use the information in the table to complete the **General** tab, then click **Connect**.

	Tab	Item/Field	Value
	General	Display Name	`LoanR10`
		ID	`LoanR10`
		Server URL	`iiop://ecmedu01:2809/FileNetEngine`
		Object store symbolic name	`LoanProcess`
		Object store display name	`LoanProcess`

   a. Log in as the P8 administrator.

4. Assign the connection point to the repository.

   a. Click the **Configuration Parameters** tab.
   b. Set **Workflow connection point** to: `NewLoansR10:10`
   c. Set **Display Workflow definition class** to Yes.
   d. Click **Save and Close**.

5. Leave the administration tool open for the next procedure.

Procedure 2: Create a Content Navigator desktop

In this procedure, you create a Content Navigator desktop that uses the new repository.

1. Click the **Desktops** node, click **New Desktop**.
2. The **New Desktop** wizard displays. Use the information in the table to complete the wizard.

	Tab	Item/Field	Value
	General	Name	`Process Loans`
		ID	`ProcessLoans`
		Description	`Desktop for loan processing`
		Authentication: Repository	`LoanProcess`
	Repositories	Selected Repositories	`LoanR10` `LoanProcess`
	Layout	Default feature Default repository	`Browse` `LoanR10`

3. Click **Save and Close**.
4. Leave the administration tool open for the next procedure.

Procedure 3: Configure the desktop for workflow

In this procedure, you configure the desktop that you created for workflow.

1. Select the **Process Loans** desktop, that you created, and click **Edit**.
2. Use the information in the table to complete the desktop configuration.

Note

When you select the Repository in the Workflows tab, you are prompted to log in, use the P8 administrator credentials. You need to authenticate with the repository to be able to read the application spaces available in the repository.

	Tab	Item/Field	Value

	Layout:
	Browse Feature
		Feature Configuration:
		Default Repository
		Repositories
			
			`LoanR10`
			`LoanR10`
			`LoanProcess`

	Layout	Displayed Features	`Select the Work feature`

	Layout:
	Work Feature
		Feature Configuration:
		Default Repository
		Repositories
			
			`LoanR10`
			`LoanR10`
			`LoanProcess`

	Appearance	Application name	`Process Loans`
		Theme	`Custom: cordierite`
	Workflows	Repository	`LoanR10`
		Selected Application Spaces	`Loans`

3. Click **Save and Close**.
4. Leave the administration tool open for the next exercise.

Configure the desktop to open Process Designer and Process Tracker

Introduction

In this exercise, you register the process applets plug-in and configure the desktop to open the Process Designer and Process Tracker tools.

Procedures

Procedure 1: Register the process applets plug-in

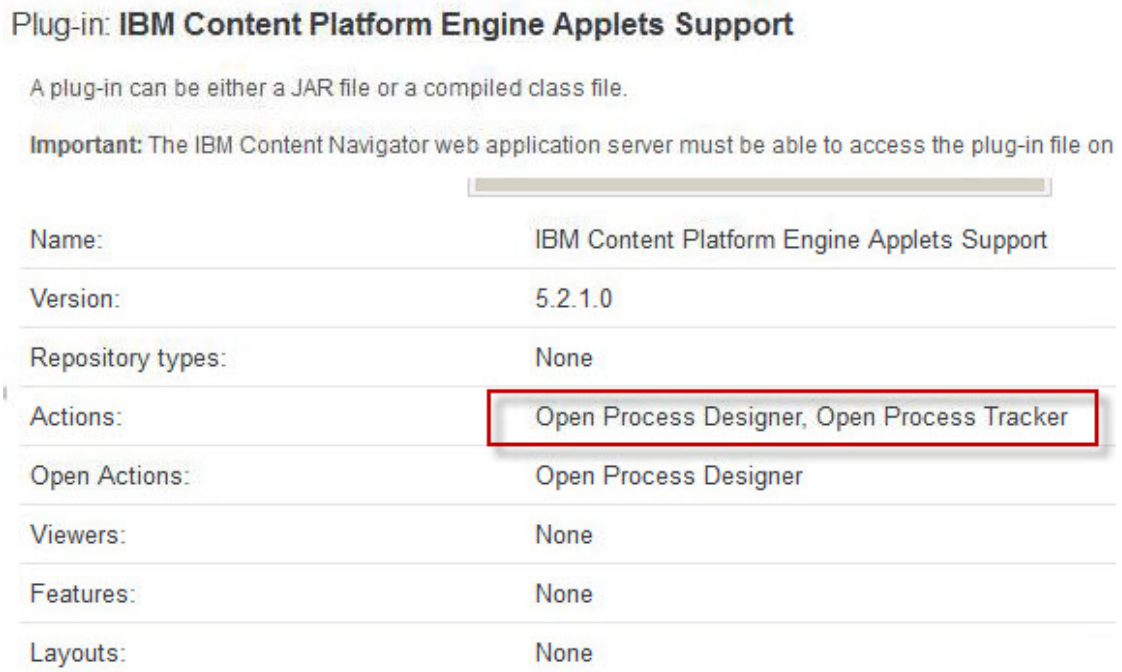
In this procedure, you register the process applets plug-in, **IBM Content Platform Engine Applets Support**. When you add the plug-in, you add the ability to configure menu items in the desktop to open the Process Designer and Process Tracker applets. You need to configure the plug-in only one time for each IBM Content Navigator application.

1. Register the process applets plug-in.
   a. On the IBM Content Navigator administration tool, click the node, **Plug-ins**.
   b. Click **New Plug-in**.
      - **JAR file path**: `http://ecmedu01:9080/peengine/plugins/CPEAppletsPlugin.jar`
      - Click **Load**.

Note

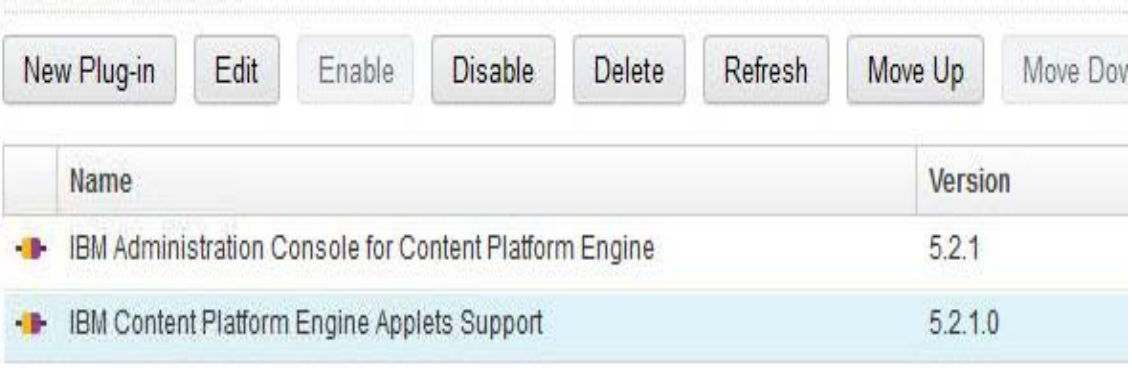
The plug-in was previously added, but you can add the plug-in again.

- Notice the two actions that are provided by the plug-in:



c. Click **Save and Close**.

2. You should see two plug-ins that are displayed.



Information

The IBM Administration Console for Content Engine (ACCE) plug-in adds the ACCE feature to a desktop. You can add the ACCE feature on desktops for users that have administrative access to the FileNet P8 repositories. On the student system, the P8 admin console desktop is configured with this feature. You click the bumble bee icon to select the feature.

3. Close the **Plug-ins** tab.
4. Leave the administration tool open for the next procedure.

Procedure 2: Configure menus to open Process Designer and Process Tracker

In this procedure, you create two new menus and add new actions to Open Process Designer and Open Process Tracker, with the Content Navigator application. You then configure the desktop to use the menus.

1. Add a menu item to Open Process Designer.
   a. Click the **Menus** node.
   b. Read the paragraph at the top.

Information

You copy an existing menu. You can use various menus. The description for the menu explains how the menu is used. For this exercise, you use the **Default repository folder context menu.**

   c. Type `repository` in the **Name contains** field, in the upper right corner, to search for the menu.
   d. Select the **Default repository folder context menu** and click **Copy**.
      - Name: `Custom repository folder context menu`
      - ID: accept default.
      - Move **Open Process Designer** to the **Selected** column.

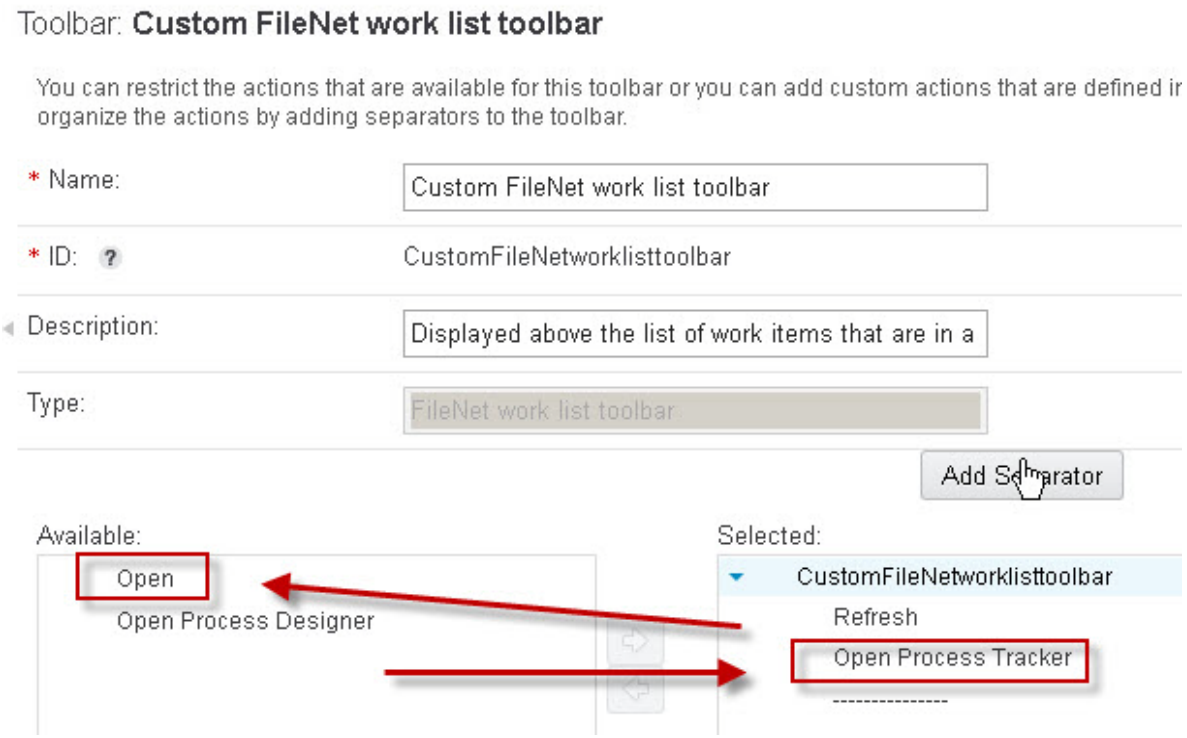
Note

You can choose to add a Separator or a Submenu. A separator adds a line where ever you add the separator. A submenu creates a submenu that you provide a label for. Useful for grouping menu actions.

   e. Click **Save and Close**.

2. Add a menu item to Open Process Tracker.
   a. Back in the **Menus** tab, search for `work.`
   b. Select the **Default FileNet work list toolbar** and click **Copy**.
      - Name: `Custom FileNet work list toolbar`
      - ID: accept default.
      - Move **Open Process Tracker** to the **Selected** column.
      - Move **Open** to the left, so that it is back in the **Available** column.

- On the **Selected** column, use the up arrow to adjust the position of **Open Process Tracker,** so that is right above the separator..



Information

You replace the default IBM Content Navigator **Open** button that displays only the history of a work item with, **Open Process Tracker**, which opens the full tracker applet. The order in the Selected list, determines the order that the menu items appear.

c. Click **Save and Close**.
d. Close the **Menus** tab.
e. Leave the administration tool open for the next procedure.

Procedure 3: Configure the desktop to use the menus.

In this procedure, you configure the desktop to use the two menus you created in the previous procedure.

1. Select the **Desktops** tab.
2. Configure the Process Loans desktop to use the new menus you created.
   a. Select the desktop **Process Loans** and click **Edit**.
   b. Click the **Menus** tab.

c. Search for the string `repository`.
   - Type `Ctrl + F, repository`. You see the search string at the lower left of the browser window.

d. On the **Repository folder context menu**, use the drop-down menu to select:
   - `Custom repository folder context menu`

e. Click **Save**.
f. Repeat Steps 2c - 2d, with these exceptions:
   - Search for the string: `FileNet work list`
   - Select: `Custom FileNet work list toolbar`

g. Click **Save and Close**.

3. Log out of the administration tool.
4. Leave the browser window open for the next exercise.

Test the New Loans Processing workflow

Introduction

In this exercise, you test the New Loans Processing workflow. The final culmination of the steps you completed in Lessons 1.3 - 1.7. You use the Process Loans desktop that you created to:

- Open Process Designer to add the workflow, New Loans Processing.
- Launch a few instances of the workflow.
- View and process work items and open the Process tracker.

Procedures

Procedure 1: Launch a few instances of the New Loans Processing workflow

In this procedure, you use the Process Loans desktop, that you created in the previous exercise to Open Process Designer to:

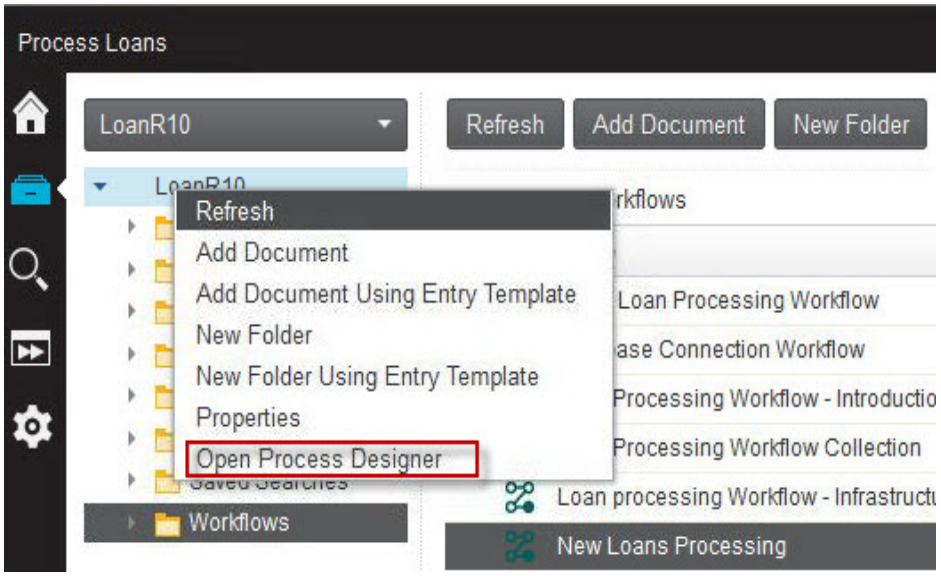
- Add, validate, and transfer the workflow, New Loans Processing.
- Launch a few instances of the New Loans Processing workflow.

1. Launch the Process Loans desktop.
   a. On the Mozilla Firefox browser window.
      - Go to the URL: `http://ecmedu01:9080/navigator/?desktop=ProcessLoans`

   Tip: You can bookmark this URL if you want, to make it easier to open in the future.

   b. Log in as the P8 administrator.
      - Username: `p8admin`
      - Password: `IBMFileNetP8`

2. Add the New Loans Processing workflow with the Process Designer.
   a. Right-click the second **LoanR10**, on the left, and select **Open Process Designer**.



Information

The new menu option is the result of the **Custom repository folder context menu** that you configured.

   b. Click **File > Open**.
   c. Browse to:

`C:\Labs\Case Foundation 5.2.1 Administration\Configure workflow system\`

   d. Select **New Loans Processing.pep**.

3. Validate and transfer the New Loans Processing workflow.
   a. Select **File > Validate Workflow Collection**.
      - Make sure that you get a message that says the workflow validation is successful.
   b. Select **File > Transfer Workflow Collection**.
      - Save the workflow to the LoanProcess object store.
        - Browse to **Loan Process > Workflows**, and click **Select**.
        - Document Title: `New Loans Processing workflow`
        - Click **Next**.
        - Accept the default security.
        - Click Finish.
      - Ensure that you get a successful transfer message.

4. Click **File > Close**, select **Cancel the checkout**.

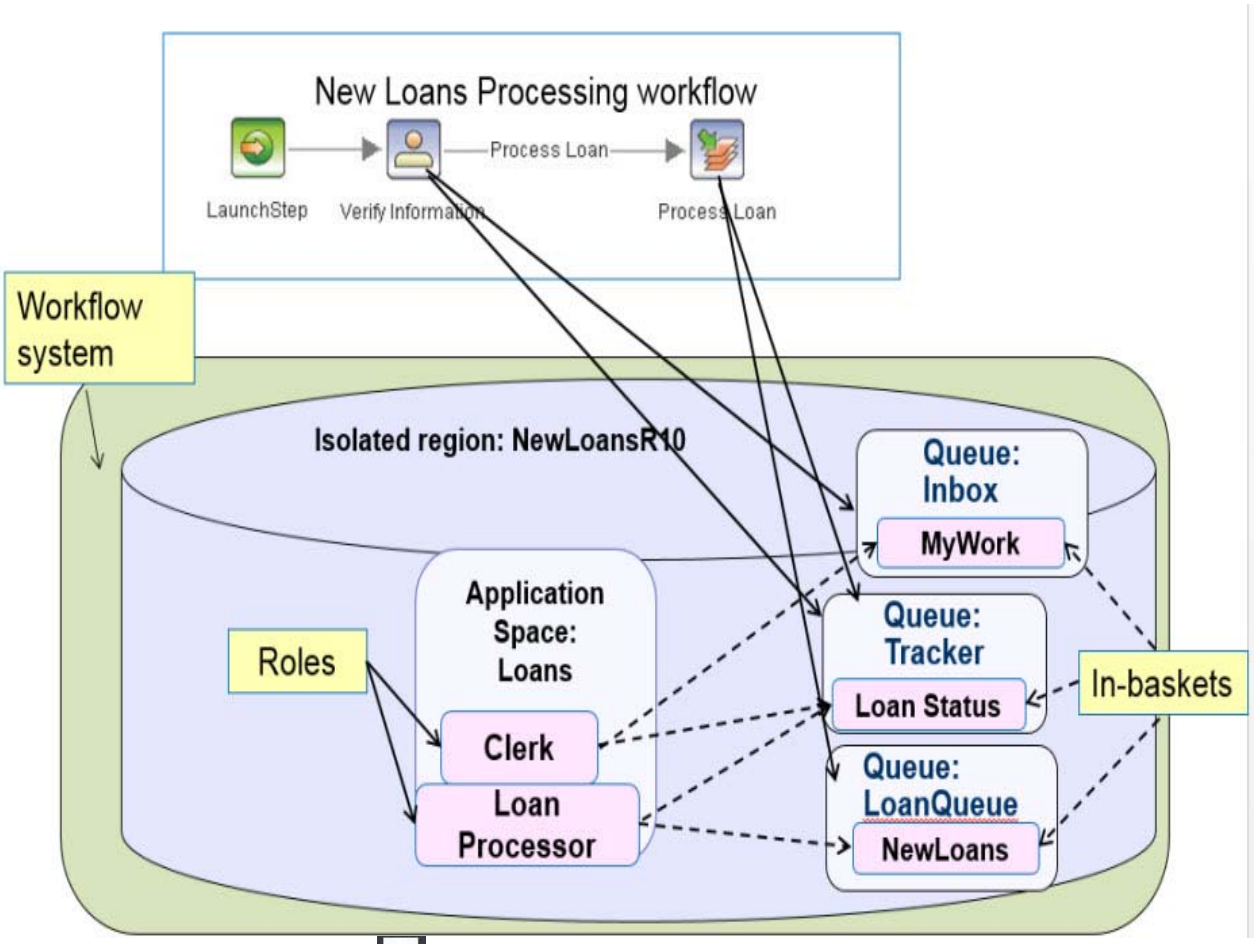
5. Exit the Process Designer.
6. Launch a couple of instances of the workflow.
   a. Open the **Workflows** folder.
   b. Select **New Loans Processing workflow**, click to the right of the name.
   c. Click **Actions > Workflow > Launch Workflow**.
      - customer_name: `Mary Miller`
      - loan_amount: `250000`
   d. Click **Launch Workflow**, lower right corner.
   e. Repeat Steps 6b - 6d, with the data:
      - customer_name: `Gregory Green`
      - loan_amount: `200000`
7. Leave the desktop open for the next procedure.

Procedure 2: View and process work items and open the Process Tracker

In this procedure you use the Content Navigator desktop that you created to:

- View and process work items in the workflow, **New Loans Processing**, that you launched.
- Open the Process Tracker from the tracker in-basket, **Loan Status**.

The diagram shows the workflow definition, **New Loans Processing.pep**, and the isolated region objects that are used when processing the workflow.



1. Switch to the Work view, 
2. Expand the role, **Clerk**, and click the in-basket **MyWork**.

Important

Notice the objects that you created:

- Roles: **Loan Processor** and **Clerk**
- In-baskets: **MyWork** and **Loan Status**

3. You see two work items listed.

4. Open one of the work items, enter any string for the **loan_id**, and click **Complete**.
5. Switch to the **Loan Processor** role.
6. Open the Process Tracker.
   a. Click the **Loan Status** in-basket.
   b. Notice the added menu item, **Open Process Tracker**. Click the button.

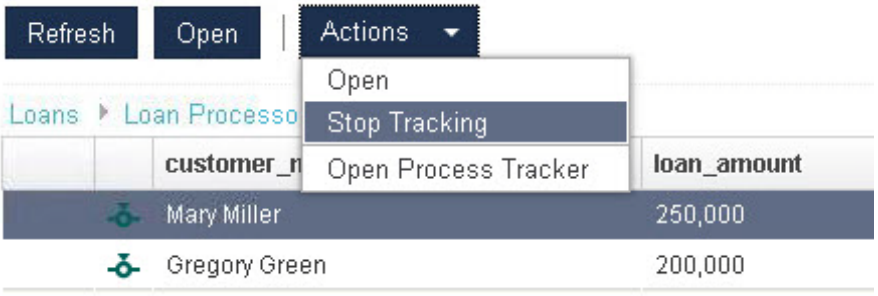
   c. Take a few minutes to explore the information that is displayed.
   d. Close the Process Tracker.

Procedure 3: Customize the desktop to provide multiple options for Process Tracker [Optional]

In this procedure, you customize the **Process Loans** desktop to provide the default **Open** button, which displays the work item history, and add an action menu option to **Open Process Tracke**r. The purpose of this procedure is to show you how easy it is to configure the desktops to provide the options you need for an application.

1. Launch the Content Navigator Administration tool.
   a. Open a new Firefox browser tab. Select Content Navigator Administration, from the bookmarks menu.
2. Select the **Menus** node, on the left.
3. Search for Enhanced, and edit the **Enhanced tracker in-basket context menu**.
   a. Notice that **Open Process Tracker** is already listed in the **Selected** column, under the dashed line.
   b. Click close.
4. Edit the desktop, **Process Loans**.
   a. Select the **Menus** tab.
5. Add the action to Open Process Designer to the menu.
   a. Search for `tracker` (use the browser search capability).
   b. Change **Default tracker in-basket context menu** to Enhanced `tracker in-basket context menu`.
6. Restore the default, **Open**, button to the FileNet work list toolbar.
   a. Search for `filenet`.
   b. Change **FileNet work list toolbar** to `Default FileNet work list toolbar`.
7. Click **Save**.
8. Refresh the desktop, **Process Loans**.
   a. Switch to the **Process Loans** browser tab.
   b. Click the browser refresh button to reload the desktop.

9. Verify the changes that you made to the menus.
   a. Open **Loan Processor > Loan Status**.
   b. Your menu toolbar looks as follows:



10. Click the **Open** to view the tracker history.
11. Click **Actions > Open Process Tracker** to open the full applet.
12. Close the Process Tracker, when you are done.
13. Log out of the desktop.
14. Close the browser window and any open tabs.

Lesson 1.8. Configure a web application and step processor

Overview

Why is this lesson important?

The Information Technology (IT) department requires corporate branding for workflow launch steps in a workflow. As the workflow system administrator, you need to configure a custom launch step processor so that the workflow author can use it in the workflow and meet the IT standards.

Dependencies

In order to perform the activities in this lesson, you must complete the activities that are listed:

- Lesson 1.3: Create a connection point and isolated region.
- Lesson 1.3: Create isolated region objects.
- Lesson 1.4: Expose data fields.
- Lesson 1.5: Define indexes.
- Lesson 1.6: Create and configure in-baskets.
- Lesson 1.6: Create and configure roles.
- Lesson 1.7: Create and configure a Content Navigator desktop for workflow.
- Lesson 1.7: Configure the desktop to open Process Designer and Process Tracker.

Activities

- Deploy and configure a custom launch step processor, on page 1-81
- Test the custom step processor in a workflow, on page 1-87

User accounts

	Type	User ID	Password
	Operating system	administrator	passw0rd
	P8 administrator	p8admin	IBMFileNetP8

Note

Passwords are always case-sensitive.

Deploy and configure a custom launch step processor

Introduction

In this exercise, you deploy and configure a custom launch step processor. The developer informs you that the step processor is deployed as part of the navigator application and provides you with the steps that you need to follow.

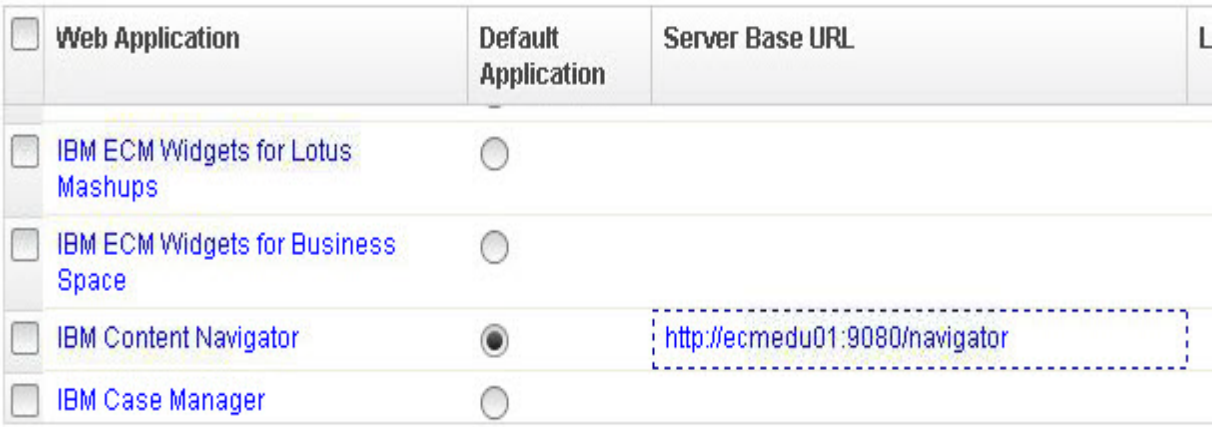
Procedures

Procedure 1: Verify required web application

The step processor that you need to configure, is deployed as part of the Content Navigator application. The path that you provide for the step processor is a relative path from the Server Base URL for IBM Content Navigator. You need to set the Content Navigator web application as the default web application in the isolated region and verify that the Server Base URL is correct.

1. Launch the Administration Console for Content Platform Engine and log in as the P8 administrator.
    - Username: `p8admin`
    - Password: `IBMFileNetP8`
2. Open the **Web Applications** tab for the isolated region.
    a. Open the **LoanProcess** object store.
    b. Click **Administrative > Workflow System > Isolated Regions > LoanProcessR10**.
    c. Click the **Web Applications** tab.
3. Scroll to the bottom of the web application list, and select **IBM Content Navigator** as the Default Application.
4. Set the Server Base URL.
    a. Click the cell for the **Server Base URL**, the **Edit Web Application** window displays.
    b. For the **Server Base URL**, type: `http://ecmedu01:9080/navigator`
    c. Click **OK**.

d. You should see:



e. Click **Save**.

5. Verify the web application configuration for the workflow system.

   a. Click **Workflow System** node.
   b. Click the **Web Applications** tab.
   c. Notice that IBM Content Navigator is set as the Default Application, but the Server Base URL is not set.

Information

The isolated region settings override the workflow system settings. Therefore, the Server Base URL from the isolated region web application configuration is used.

6. Log out of the administration console.

Procedure 2: Deploy the custom step processor

In this procedure, you deploy the custom step processor, following the steps the application developer provided.

Information

How to deploy the custom step processor.

The step processor is deployed as part of the IBM Content Navigator application on the WebSphere Application Server.

The step processor consists of three files. The table shows the file names and the path to save them.

	File name	path
	`stepprocessoredu.jsp`	Content Navigator deployment directory on the application server, <navigator deployment>
	`StepProcessorEDULayout.js`	<navigator deployment>\custom\widget\process
	`StepProcessorEDULayout.html`	<navigator deployment>\custom\widget\process\templates

1. Launch the WebSphere Integrated Solutions Console.
   a. Open the **WebSphere Admin** folder on the desktop.
   b. Double-click **Administrative console server1**, log in as the administrator.
      - Username: `p8admin`
      - Password: `IBMFileNetP8`
2. Stop the navigator application.
   a. Select **Applications > Application Types > WebSphere enterprise applications**.
   b. Select the web application, **navigator**.
   c. Click **Stop**.
   d. Minimize the WebSphere Integrated Solutions Console.

3. Copy the three files to the appropriate folders. The three files that you need to copy are in:

   `C:\Labs\Case Foundation Administration\Configure workflow system`

   a. Copy stepprocessoredu.jsp to the <*navigator deployment*> folder.

   The <*navigator deployment*> folder is at:

   `C:\Program Files\IBM\WebSphere\AppServer\profiles\AppSrv01\installedApps\P8Node01Cell\navigator.ear\navigator.war`

   b. Under the folder for the <*navigator deployment*>, create four subfolders, that result in the path:

      <*navigator deployment*>\custom\widget\process\templates

   c. Copy the two remaining files to the paths outlined in the table:

	File name	path
	`StepProcessorEDULayout.js`	<navigator deployment>\custom\widget\process
	`StepProcessorEDULayout.html`	<navigator deployment>\custom\widget\process\templates

4. Start the IBM Content Navigator application.

   a. Maximize the WebSphere Integrated Solutions Console.
   b. Select the **navigator** application.
   c. Click **Start** (it takes several minutes to start).
   d. Log out of the WebSphere Integrated Solutions Console.

Procedure 3: Configure the custom launch step processor

In this procedure, you register the custom launch step processor to make it available for use in a workflow.

1. Launch the Administration Console for Content Platform Engine and log in as the P8 administrator.

   - Username: `p8admin`
   - Password: `IBMFileNetP8`

2. Open the **Step Processors** tab for the isolated region.

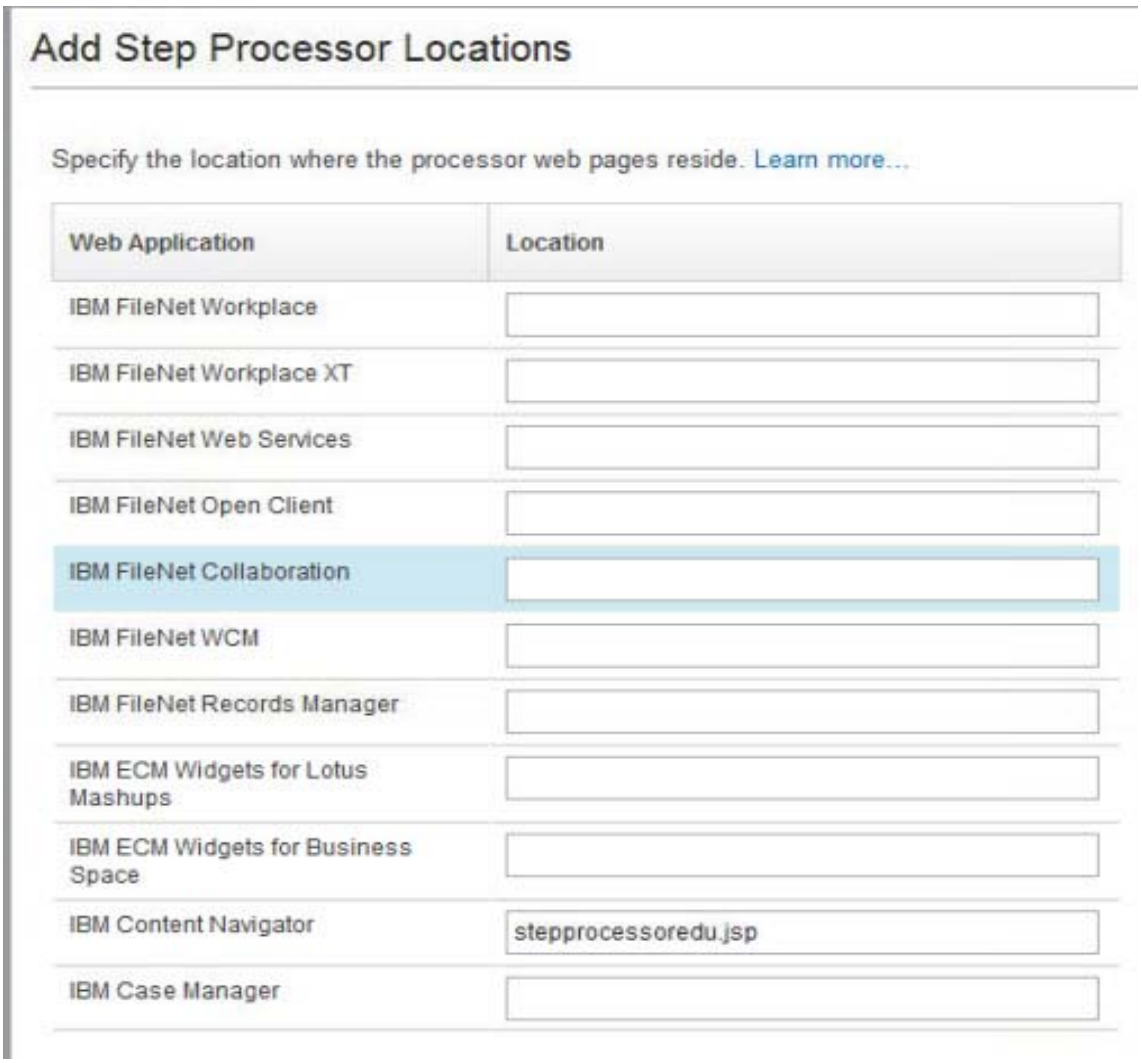
   a. Open the **LoanProcess** object store.
   b. Click **Administrative > Workflow System > Isolated Regions > LoanProcessR10**.
   c. Click the **Step Processors** tab.

3. Add the launch step processor.
   a. Click **Add**.
      - A new row is added to the bottom of the list. You see a check mark next to it. Use the values in the table to complete the fields

.

Type	Name	Language	Location	Width	Height
Step	Step Processor EDU	HTML	(See steps 3b - 3e)	1200	800

   b. Click **Enter a location link**.
   c. The **Add Step Processor Locations** window is displayed.
   d. Click the Location field for **IBM Content Navigator**, and enter `stepprocessoredu.jsp`.



   e. Click **OK**.
4. Click **Save**.
5. Log out of the administration console.
6. Leave the browser open for the next exercise.

Test the custom step processor in a workflow

Introduction

In this exercise, you test a workflow that uses the StepProcessorEDU launch step processor you configured in the previous exercise. You add, validate, and transfer the workflow, to make it available in the runtime environment. Finally, you launch the workflow to see the Step Process EDU launch step processor in action.

Procedures

Procedure 1: Add the workflow definition

1. Launch the Process Loans desktop.
   a. `http://ecmedu01:9080/navigator/?desktop=ProcessLoans`
   b. Log in as the P8 administrator.
2. Add the ProcessLoan workflow with the Process Designer.
   a. Right-click the second **LoanR10**, on the left, and select **Open Process Designer**.
   b. Click **File > Open**.
   c. Browse to:

   `C:\Labs\Case Foundation 5.2.1 Administration\Configure workflow system\`

   d. Select **ProcessLoan.pep**.
3. Validate the Workflow.
   a. Click **File > Validate Workflow Collection**.
      - Make sure that you get a message that says the workflow validation is successful.
4. Transfer the workflow.
   b. Click **File > Transfer Workflow Collection**.
      - Save the workflow to the LoanProcess object store.
        - Browse to **Loan Process > Workflows**, and click **Select**.
        - Document Title: `Process Loan workflow`
        - Accept the default security.
      - Ensure that you get a successful transfer message.
5. Click **File > Close**, select **Cancel the checkout**.

6. Close the Process Designer.
   a. Click **File > Exit**.
7. Leave the Process Loans desktop open for the next procedure.

Procedure 2: Launch the workflow to test the launch step processor

In this procedure, you launch the ProcessLoan workflow to validate the custom step processor, StepProcessorEDU.

1. Launch the Process Loans desktop.
   a. `http://ecmedu01:9080/navigator/?desktop=ProcessLoans`
2. Open the **Workflows** folder.
3. Launch the **Process Loan workflow**.
   a. Select the **Process Loan workflow**, click the name.
   b. Click **Actions > Workflow > Launch Workflow**.
   c. Enter the values in the table:

	Item/Field	**value**
	CustomerName	`Carol Cook`
	LoanAmount	`350000`
	Attachments tab: Loan Application	Add Document > From Local Directory: `C:\Labs\Case Foundation Administration\Configure the workflow system\ CarolCookLoan.pdf`

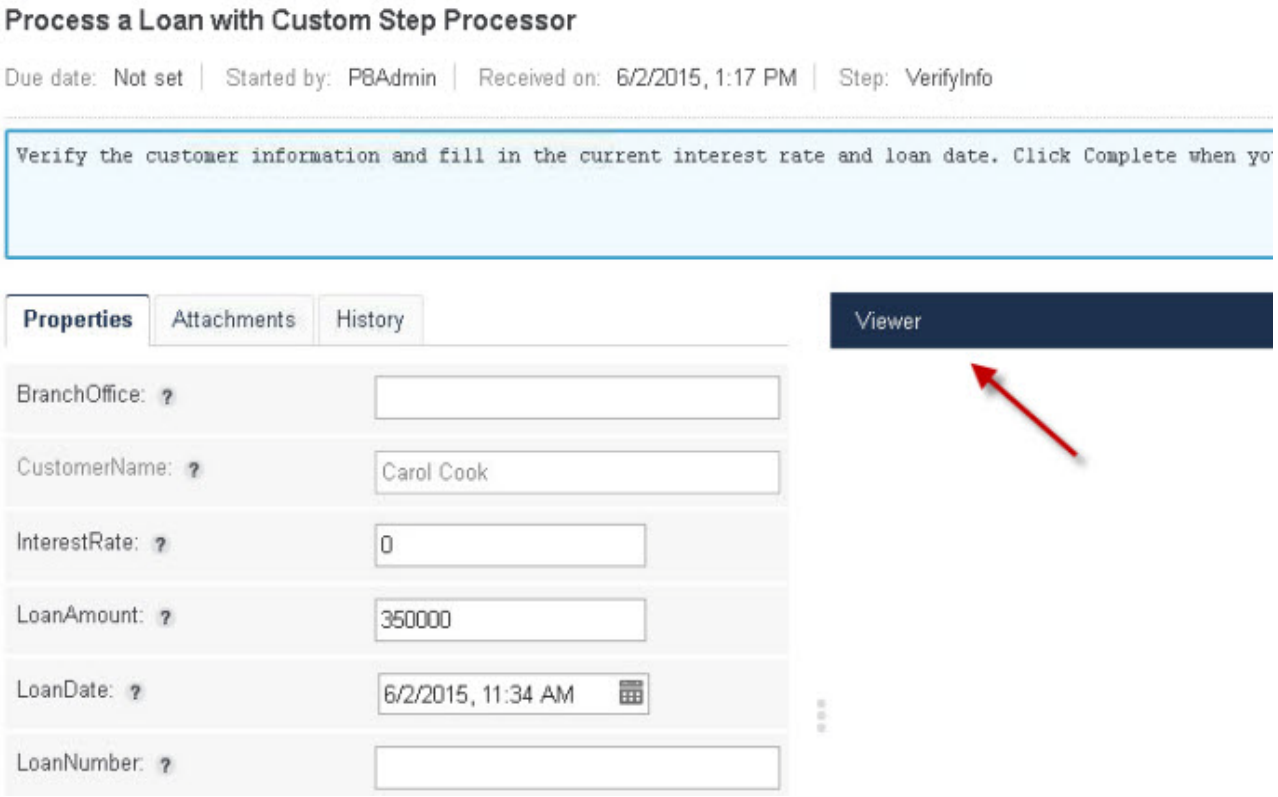
   d. Click **Launch Workflow**.
4. Switch to the **Work** view, click the  .icon.
5. Open the work item in the Clerk role.
   - Expand the **Clerk** role.
   - Click **MyWork**.

Information

The user fields, which are defined in the Process Loan workflow, have different names than the user fields exposed in the work queue, LoanQueue. Therefore the only field that shows a value is the system field F_Subject.

- Open the work item that has the F_Subject field set to, "**Process a Loan with Custom Step Processor**."

6. Notice how the viewer is displayed in the same window as the properties.



7. Type, San `Diego` in the BranchOffice field, and complete the step.
8. Log out of the Process Loans desktop.
9. Close the browser window.

Appendix A. Solutions to exercises

This appendix contains the answers to exercises.

Lesson 1.1 Identify Workflow system concepts: Checkpoint

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

1. What is a workflow system?

   a. A logical structure that contains isolated regions.

   b. A database that contains isolated regions.

   c. A logical structure similar to an object store but used for processing workflows.

   d. Another name for an isolated region.

   Answer = a

2. An object store can have multiple workflow system.

   True or **False**: **Answer = False**

3. Which of the following components are contained in an isolated region? (Select all that apply)

   a. Queues

   b. Event logs

   c. Application Spaces

   d. Connection points

   Answer = a, b, and c

4. What is the function of a work queue?

   a. Stores work items that are waiting to process by more than one user or an automated process.

   b. Stores work items that are waiting to be process by an individual.

   c. Stores workflows that are waiting to process by more than one user or an automated process.

   d. Allows the processing of a workflow step by an external entity.

   Answer = a

5. What is the function of a roster? (Select all that apply)

   a. Keep track of work in progress.

   b. Provide an efficient way to locate specific active workflows.

   c. Store work items that are waiting to process by an individual.

   d. Allows the processing of a workflow step by an external entity.

   Answer = a and b

6. When an isolated region is initialized, a number of default region objects are automatically created. (Select all that apply)

   a. DefaultRoster

b. DefaultApplication

c. DefaultIn-basket

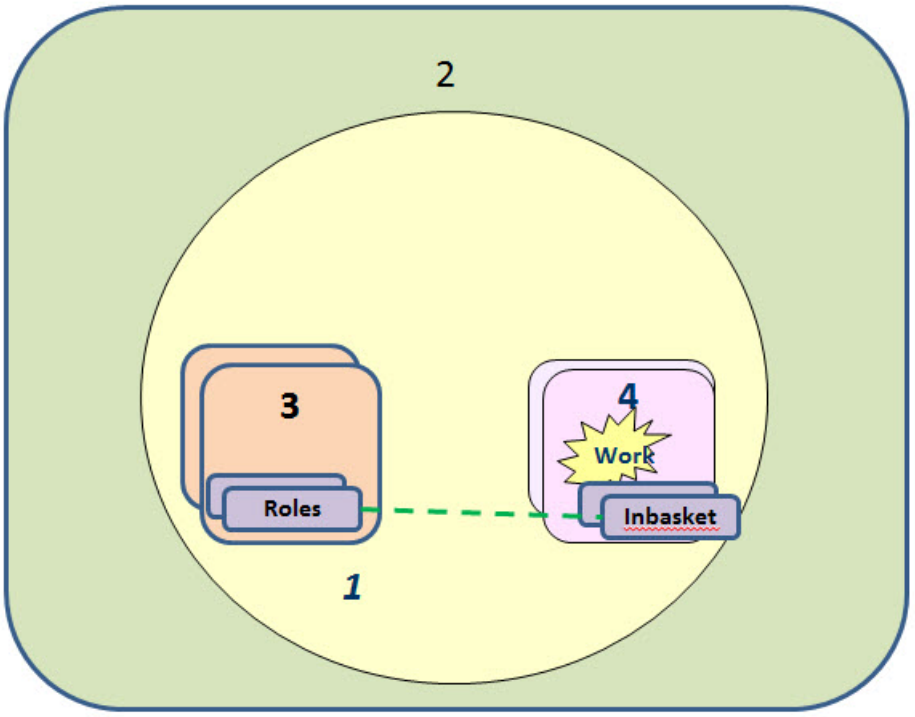
d. DefaultQueue

Answer = a and b

Lesson 1.1 Identify workflow system components: Checkpoint

Match the component name in the table to the component in the diagram.

Component Name
Queue
Isolated region
Application Space
Workflow system



Enter the component name, from the table, corresponding to the component number.

1. __**Isolated region**__
2. __**Workflow system**__
3. __**Application space**__
4. __**Queue**__

Lesson 1.3 Create isolated region objects

Procedure 3: Explore the isolated region objects with vwtool

In this procedure, you use the command-line tool, vwtool to validate the isolated region objects you created.

1. N/A
2. N/A
3. Use the queueconfig command to explore the **LoanQueue** configuration.
   a. <vwtool::10> `queueconfig LoanQueue <carriage return>.`
   b. What is the Queue type? ___**Process**_____
   c. What is the Physical table name? __**VWQueue10**_***217***_(the number varies)_
   d. What is the Database view name? __**VWVQ10**_**LoanQueue**_____
4. Use the queueconfig command to explore the **Inbox** configuration.
   a. <vwtool::10> `queueconfig Inbox <carriage return>.`
   b. What is the Queue type? ___**User centric**_____
   c. What is the Physical table name? ___**VWQueue10**_***199*** (number varies)_____
   d. What is the Database view name? ___**VWVQ10**_**Inbox**_____
5. Use the rosterconfig command to explore the **LoanRoster** configuration.
   a. <vwtool::10> `rosterconfig LoanRoster <carriage return>.`
   b. What is the Schema name? ____**LoanProcess**____
   c. What is the Physical table name? ___**VWRoster10**_***268*** (number varies)_____
   d. What is the Database view name? ___**VWVR10**_**LoanRoster**____
6. Use the logconfig command to explore the **LoanLog** configuration.
   a. <vwtool::10> `logconfig LoanLog<carriage return>.`
   b. What is the Schema name? ___**LoanPRocess**____
   c. What is the Physical table name? ___**VWLog10**_***217***____
7. Use the appspace command to explore the **NewLoans** configuration.
   a. <vwtool::10> `appspace NewLoans<carriage return>.`
   b. What is the ID? ___***217***_____

Lesson 1.4 Expose data fields

Procedure 4: Verify the exposed user fields with vwtool

You can see the user fields that are exposed with the administration console. The command-line tool, vwtool, can also be used to verify the exposed user fields. One advantage of using vwtool, is that you can capture a hardcopy of the output, which can be sent to IBM support as part of troubleshooting an issue.

1. N/A
2. N/A
3. Use the queueconfig command to explore the **LoanQueue** configuration.

<vwtool::10> queueconfig LoanQueue <carriage return>.

   a. Verify that the data fields that you defined for the queue are displayed.
   b. Record the Physical table name for the **LoanQueue**: _____
   c. Record the Physical Field Name for the data fields that you defined:
      - customer_name: **_customer_name_**
      - loan_amount: **__loan_amount_**
      - loan_id: **__loan_id____**
      - loan_date: **__loan_date_____**

Lesson 1.5 Define indexes

Procedure 5: View the indexes with vwtool

In this procedure, you use the command-line tool to view the indexes you created.

1. N/A
2. View the index that you created in the LoanQueue.
   a. At the <vwtool::10> prompt, type queueconfig LoanQueue.
   b. Observe the index that you created (Customer_index) is displayed at the end of the report in the Logical Index Name column, and that its index keys are displayed in the Index Fields column.
   c. Record the **Physical Index Name**. ____**VW**_**IND*81***__(number varies)___
3. View the index that you created in the LoanRoster.
   a. At the <vwtool::10> prompt, type rosterconfig LoanRoster.
   b. Observe the index that you created (Loan_index).
   c. Record the **Physical Index Name**. ____**VW**_**IND*79***_(number varies)__
4. View the index that you created in the LoanQueue.
   a. At the <vwtool::10> prompt, type logconfig LoanLog.
   b. Observe the index that you created (Loan_index).
   c. Record the **Physical Index Name**. _____**VW**_**IND*77***__(number varies)_
5. Leave the vwtool window open for the next procedure.

Appendix B. Start and Stop System Components

Appendix Overview

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

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

List of procedures:

Procedure 1: Start system components

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

Important

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

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

Note

For your convenience, the WebSphere Admin folder also contains:

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

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

Information

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

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

Procedure 2: Check system components

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

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

Hint

There is a bookmark in the Bookmarks menu under:

- *System Health > CE ping*

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

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

Hint

There is a bookmark in the Bookmarks menu under:

- *System Health > PE ping*

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

Procedure 3: Stop system components

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

Appendix C. Troubleshooting

Appendix Overview

This appendix contains issues and resolutions for:

WebSphere Application Server error log

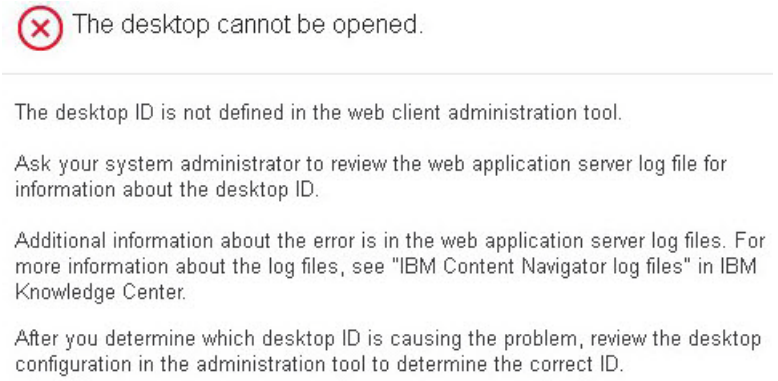
The IBM Content Navigator and Content Platform Engine applications are web applications that run on the WebSphere Application Server. If you encounter issues that are not covered in the issues, listed in the appendix, review the WebSphere Application Server error log.

1. Open the WebSphere Admin folder on the desktop.
2. Right-click **server1 WAS logs** and select, **Open in new window**.
3. Right-click **SystemOut.log** and select, **Edit with Notepad++**.
4. Scroll to the bottom and look for any stack traces. See whether you can figure out the cause of the issue from the exception reported.

IBM Content Navigator Desktop issues

Issue

You attempt to launch a Content Navigator desktop and you get the error:



Cause

Content Navigator cannot find the desktop, identified by the desktop ID.

Resolution

Verify the URL that you entered to launch the desktop. Ensure that the desktop ID, following the equal sign is not misspelled, for example:

```
http://ecmedu01:9080/navigator/?desktop=ProccessLoans
```

The desktop ID, has an extra c in the name; it should be, ProcessLoans.

Issue

The P8 admin console or the Workflow author desktops appear to hang with Loading Desktop.

Cause

The first time a desktop is launched; it has to load the Java applications. Once the Java cache is populated, subsequent desktop launches are faster.

Resolution

Be patient. It can take a few minutes for the desktop to open and display the login prompt.

Issue

You open an IBM Content Navigator desktop and do not get a login prompt.

Cause

The cookies are stale.

Resolution

Close the browser window and open a new browser window. Open the desktop again. If the login prompt does not display; clear the browser cache and open the desktop again.

Administration Console for Content Platform Engine issue

Issue

You are working with the Administration Console for Content Platform Engine successfully. You get a message that states that you must be a member of the Process Administrators group.

Cause

The desktop was open for a long time, which can cause a session authentication timeout.

Resolution

Log out of the Administration Console for Content Platform Engine and close the browser window. Open a new browser window and open the Administration Console for Content Platform Engine.

Process Designer tool issue

Issue

You open the Process Designer tool for the first time and you see a blank screen; it appears to be hung.

Cause

The first time that you open the Process Designer tool, all the Java applications need to be loaded into the Java cache.

Resolution

Be patient. The tool can take a few minutes to display.

Issue

You open the Process Designer tool from the Workflow Author desktop and you get screen that shows the plug-in is vulnerable and should be updated.

Cause

Mozilla Firefox is protecting against the Padding Oracle On Downgraded Legacy Encryption (Poodle) threat.

Resolution

Click the *Activate Java Platform SE 7 U* link, and select *Allow and Remember*.

Import the isolated region for Lesson 1.7

If you want to do the exercises in Lesson 1.7 without completing the Lessons in 1.3 - 1.6 or you encountered issues in the previous labs, follow the steps to import the isolated region.

1. Launch the Administration Console for Content Platform Engine.
2. Open the object store, **LoanProcess**.
3. Create the connection point, **NewLoansR10** and associate it with the isolated region, **LoanProcessReg10**, region number **10**.
   a. If the connection point and the isolated region exist, then initialize the isolated region.
4. Open the Process Configuration Console.
   a. Right-click the **Workflow System** node and select **Configure Workflow Settings**.
   b. Connect to the isolated region NewLoansR10(10).
5. Import the isolated region configuration.
   a. Right-click the **NewLoansR10(10)** node and select **Import from XML file**.
   b. Browse to:

   C:\Labs\Case Foundation 5.2.1 Administration\Configure workflow system\Export

   c. Select **NewLoansR10_export.xml**
   d. Leave the **Import Type** set to **Merge**.
   e. Click **Import**.
6. Close the Process Configuration Console.
7. Log out of the administration console.

8. Close the browser.

You can proceed with the Lesson 1.7 exercises.