Course Exercises Guide

IBM Case Foundation 5.2.1: Workflow Design Essentials

Course code F239 ERC 1.0

IBM Training

March 2016 edition

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Exercises description

Overview

This section provides some general information regarding the lesson exercises in this course.

Student system

Exercises in this course require that you have access to a student system on which is installed the software that you are learning.

- If you are taking this course as part of a self-paced online course (SPVC), you must start the student system that is provided by the SPVC provider.
- If you are taking this course as part of an instructor-led training (ILT) program, your instructor can show you how to access your student system.

Conventions used in this course

These guidelines can help you complete the exercises faster.

- Most exercises include required sections which should always be completed. It might be necessary to complete these sections before you can start later exercises. Some exercises might also include optional sections that you might want to complete if you have sufficient time and want an extra challenge.
- `Code font` indicates information that you must type.
- *Italics font* indicates a variable. Substitute a literal value where indicated.
- As you progress through the materials, the lesson instructions become less verbose. You can refer back to earlier examples of procedures if you forget the steps.
- Data tables are used throughout this course. After you learn to perform the steps of a procedure, you can complete the exercise by using the data they provide.
- If a value is not specified in a data table, then the value is already correctly configured by default. Do not change it.
- First-level numbered instructions, followed by second-level instructions are high-level instructions and details.

1+1=2 Example

In this example, if you know how to complete step 1, you do not need to read steps a) and b). You can proceed to step 2 instead.

1. Create am activity step named “Start.”
   a. Drag an activity step from the step palette onto the map area.
   b. In the step properties tab, enter the step name: Start.

Exercise 1. Create and save a workflow definition

Overview

Why is this lesson important?

You are implementing a workflow application. You must understand how to use the process design tool, Process Designer, in order to create a new workflow definition, add steps and routes to a workflow map, and save a workflow definition file.

Objectives

- Open Process Designer.
- Create steps and routes in a workflow map.
- Save a workflow definition.

Activities

"Create and save a workflow definition" on page 1-2

User accounts

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

Note

Passwords are always case-sensitive.

System start

Refer to Appendix A, "Start and Stop System Components," on page A-1 to start your system. Your system must be fully started before you attempt the lesson exercises.

1.1. Create and save a workflow definition

Introduction

This exercise gives you basic familiarity with the Process Designer application and teaches you how to create and save a new workflow definition file.

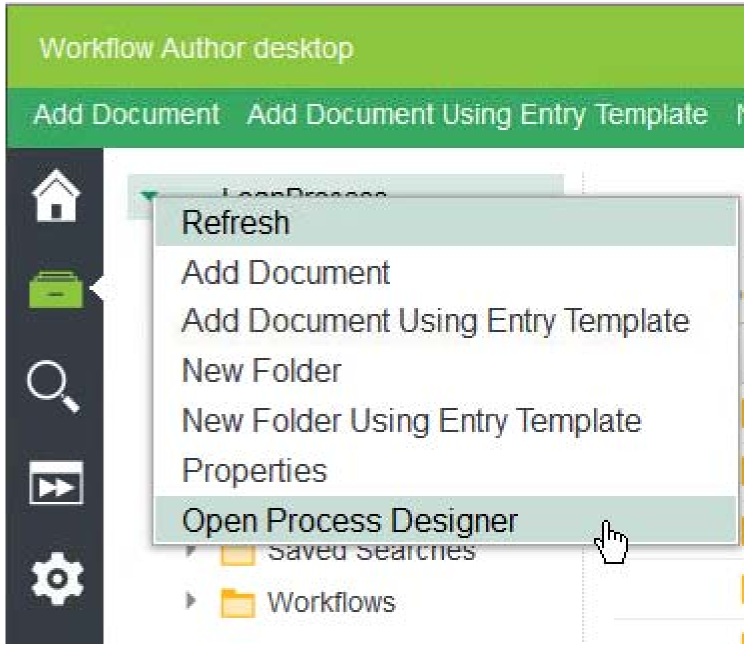
In this exercise, you are going to define a simple workflow that is used for processing a customer's loan application. You are going to build upon this simple loan process in subsequent units in this course.

Procedures

Procedure 1: Open Process Designer

1. Start Firefox.
2. Sign in to Workflow Author desktop as p8admin:
   - Open the bookmark named: **Workflow Author desktop**, or enter the following URL: http://ecmedu01:9080/navigator/?desktop=WorkflowAuthordesktop
   - User name: `p8admin`
   - Password: `IBMFileNetP8`
3. Right-click the LoanProcess object store.

4. Select Open Process Designer.



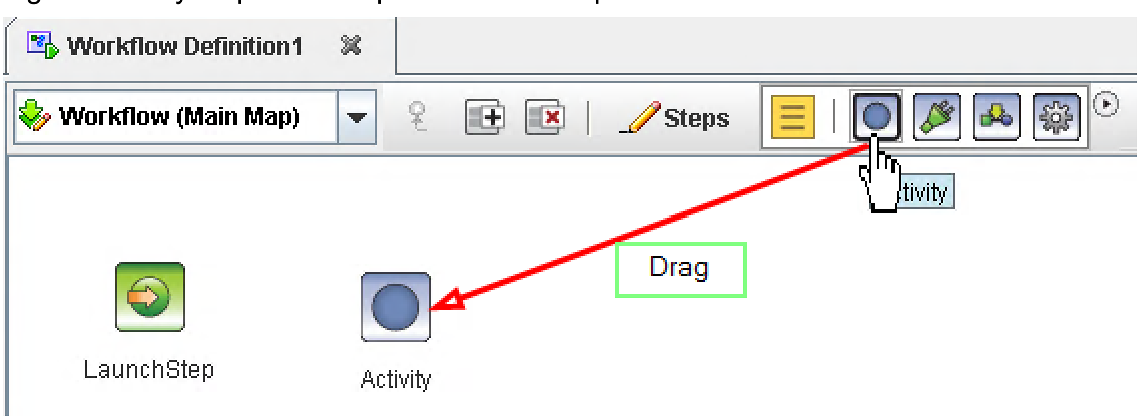
Procedure 2: Add steps

With Process Designer open, you can add steps to the main map. The steps represent actions to be completed by a person or an automatic process. The BPM Palette is open by default.

Hint

Hover the cursor over a step in the step palette to see a tooltip showing the step type.

1. Drag the activity step from the palette to the map.

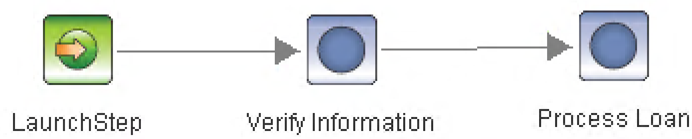


2. In the Activity tab, replace the default name in the Step Name field with the value `Verify Information`.
3. Drag another Activity step from the step palette and place it to the right of Verify Information.
4. Name this step `Process Loan`.

Procedure 3: Draw routes between steps.

1. Draw a route from the LaunchStep to Verify Information.
   a. Position the cursor over the right edge of LaunchStep until the route symbol appears.

   b. Drag the route to the middle of the Verify Information step.
2. Draw a route from Verify Information to Process Loan.
3. When you finish, the main map has three steps connected by routes.



Procedure 4: Save the workflow to the file system

Save the workflow definition periodically on the local file system to avoid losing work.

1. On the menu bar, click File > Save As.
2. Save the file in the **C:\Labs\Case Foundation 5.2.1Workflow Design** folder.
3. Name the file: `Loan_Workflow_Essentials`.pep.

Procedure 5: Save a workflow definition to an object store

When you are finished working on a workflow definition for a time, you can save it to the object store.

1. On the menu bar, click File > FileNet > FileNet Add New.
2. Complete the “Save the workflow definition to an object store” wizard.
   a. Browse to select the object store and folder as follows: LoanProcess > Workflows.
   b. Click Select.
   c. Click Next.
   d. Type `Loan Processing Workflow - Essentials` in the Document Title field.
   e. Click Finish.

Procedure 6: Close Process Designer

1. On the menu bar, click File > Close.
2. Select the “Cancel the checkout?” option and click OK.
3. Click File > Exit to close the Process Designer applet window.

Information

If you use File > Exit to close Process Designer, you are always prompted to save any unsaved changes before the application closes.

If you click the Close button [X] in the upper right corner of the window, Process Designer closes immediately and you lose any unsaved changes.

End of exercise

Exercise review and wrap-up

In this exercise, you completed the following objectives:

- Open Process Designer.
- Create steps and routes in a workflow map.
- Save a workflow definition.

Exercise 2. Configure workflow properties

Overview

Why is this lesson important?

You are designing a workflow application. You must set the global properties for your workflow definition and use properties in steps. At runtime, users will see and update the properties.

You want to be able to find and track the loan process workflows separately from other workflows in the system. You assign a separate roster and event log.

You want the originator of a workflow to complete a later step. To do this, you must use the F_originator system field.

Objectives

- Set workflow properties
- Assign a roster and log
- Set step properties

Activities

Set workflow properties, on page 2-3

Set step properties, on page 2-5

User accounts

Type	User ID	Password
Operating system	administrator	passw0rd
Workflow system administrator	p8admin	IBMFileNetP8
LoanOperation	opal	filenet
LoanProcessor	pat	filenet

Note

Passwords are always case-sensitive.

Dependencies

To complete the exercises in this unit you must have completed the exercises in "Create and save a workflow definition" on page 1-2

2.1. Set workflow properties

Introduction

A workflow must have a name to be transferred. A workflow must have properties to provide meaning and context to users and systems. In this exercise, you add properties to the workflow in order to make the workflow transferable and useful.

Procedures

Procedure 1: Check out the workflow definition

1. Log on to Workflow Author Desktop.
   a. in Firefox, use the Workflow Author Desktop shortcut.
      - User name: `p8admin`
      - Pasword: `IBMFileNetP8`
2. Checkout the workflow that you saved in the exercise: "Create and save a workflow definition" on page 1-2.
   b. Open Process Designer.
   c. File > FileNet > FileNet Open/Checkout.
   d. Select LoanProcess > Workflows > Loan Processing Workflow - Essentials

Procedure 2: Set workflow properties

1. On the Workflow Properties - General tab, type a workflow name: `Loan Processing Workflow - Essentials`.
2. On the Workflow Properties - General tab, type subject: `Loan Processing Workflow - Essentials`.

Information

Users see the subject when they open the work item.

---

3. Add workflow data fields:
   a. Open the Workflow Properties - Data Fields tab.

b. Enter the following data in the columns as shown in the table.

Data Field Name	Type	Expression
customer_name	String	“”
interest_rate	Float	0.0
loan_amount	Float	0.0
loan_date	Time	systemtime()

Important

Press Enter at the end of each line to ensure that the entry is saved.

Procedure 3: Set the roster and event log settings

After you transfer the workflow, you cannot change the queue and roster settings. Make sure that you are using the correct queue and roster before you transfer the workflow for the first time.

1. Open the Workflow Properties - Advanced tab.
2. On the Roster menu, select LoanRoster.
3. On the Event Log menu, select LoanLog.
4. Leave Process Designer open for the next exercise.

2.2. Set step properties

Introduction

In this exercise, you use the workflow properties as parameters for the steps. You also set the step participants.

Procedures

Procedure 1: Set step participants

Activity steps are processed by participants. You can select a specific person as a participant, or you can assign a work queue. In a work queue, the work goes to the first participant to access the queue.

1. Set the participant on the **Verify Information** step to the **LoanProcessor** work queue:
   a. Select the Verify Information step.
   b. On the General tab, select the Work Queue options.
   c. Select the **LoanProcessor** queue from the menu.
2. Set the participant on the **Process Loan** step to the **LoanProcessor** work queue.

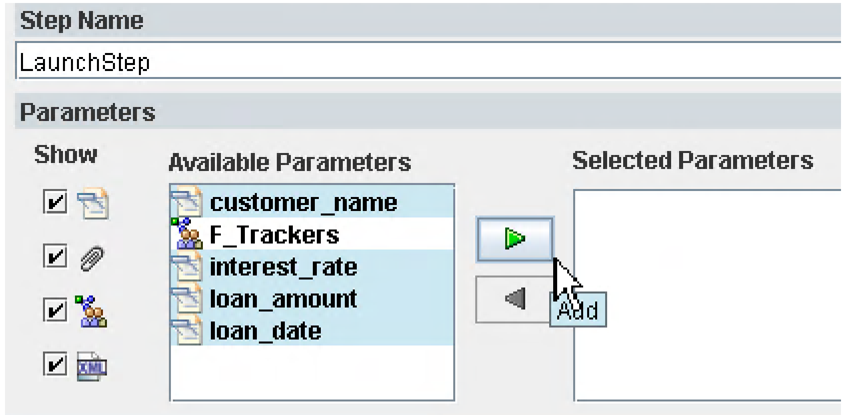
Procedure 2: Set step properties

In this procedure, you set step properties for the workflow steps. These settings determine how the step processor displays the properties to the user. Be sure to define permissions on each property according to whether users can edit or view them. The order of the properties determines the order in which the user sees them.

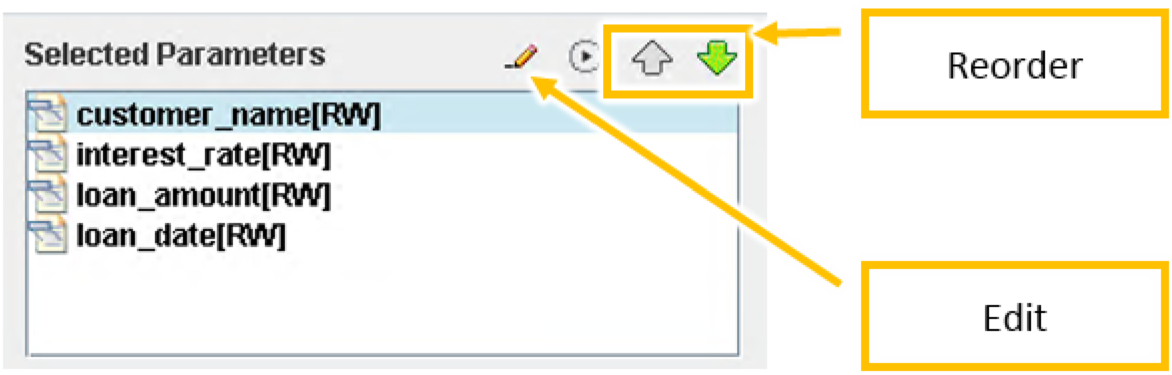
1. Select the Launch step.
2. Add step properties for the **Launch step**:
   a. Press the Control Key to select multiple parameters from the Available Parameters field.

Select these parameters
customer_name
interest_rate
loan_amount
loan_date

b. Click the Add button.



3. Use the Up and Down arrows above the Selected Parameters field to arrange the parameters in this order:



4. Set permissions on the parameters.
   a. Click the Edit button (the pencil icon).
   b. Edit the permissions as indicated.

Selected parameters	Access Rights
customer_name	Read/Write
interest_rate	Read/Write
loan_amount	Read/Write
loan_date	Read/Write

5. Select the **Verify Information** step.
6. Open the Parameters tab.

7. Using the data and the previous steps as a guide, add and configure the properties on the **Verify Information step**.

Selected parameters	Access Rights
customer_name	Read
interest_rate	Read/Write
loan_amount	Read
loan_date	Read/Write

8. Add and configure the properties on the **Process Loan** step.

Selected parameters	Access Rights
customer_name	Read
interest_rate	Read
loan_amount	Read
loan_date	Read

Procedure 3: Validate, transfer, and launch the workflow

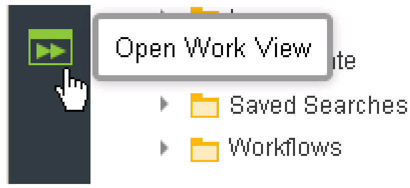
1. Validate the workflow definition:
   a. Click File > Validate Workflow Collection.
   b. If validation shows no errors, Click Close. Otherwise, check your work.
2. Transfer the workflow:
   a. Click File > Transfer Workflow Collection.
   b. Browse to and select LoanProcess > Workflows.
   c. Click Next.
   d. Enter the Document Title: `Loan Process - Essentials`.
   e. Click Finish.
   f. Click Close.
3. Close Process Designer
   a. Click File > Exit.
   b. Select Cancel the checkout.
   c. Click OK.
4. Launch the workflow:
   a. From the Workflow Author Desktop, browse to Loan Process > Workflows.
   b. Right-click the Loan Processing Workflow - Essentials.
   c. Click Workflow > Launch workflow.

d. Enter a customer name: `Lester Tester`.

e. Enter a non-zero loan amount: `100000`.

f. Click Launch Workflow.

5. Open the Work View.



6. Open Loan Processor > Loan Processor Inbasket.
7. Complete the Verify Information step.

a. Double-click to open the work item.

b. Verify the field values are correct, and that you can edit only the loan amount field.

c. Click Complete.

8. Complete the Process Loan step.

a. Double-click to open the work item.

b. Verify the field values are correct, and that no values are editable.

c. Click Complete.

9. Log out of Workflow Author desktop.
10. Close Firefox.

End of Exercise

Exercise review and wrap-up

In this exercise, you completed the following objectives:

- Set workflow properties
- Assign a roster and log
- Set step properties

Exercise 3. Explore workflow steps

Overview

Why is this lesson important?

This exercise gives you practice in working with workflow steps. You add a new system step to a prepared workflow definition. You set properties for a work queue step. You assign a step processor. You create and save a custom step palette, called My Palette.

Objectives

- Use a system step in a workflow.

Activities

Use a system step in a workflow, on page 3-2

User accounts

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

Note

Passwords are always case-sensitive.

3.1. Use a system step in a workflow

Introduction

This exercise provides you with practice using different workflow step types.

Procedures

Procedure 1: Open Process Designer

1. Start Firefox.
2. Sign in to Workflow Author desktop as p8admin:
3. Open the bookmark named: **Workflow Author desktop**, or enter the following URL: http://ecmedu01:9080/navigator/?desktop=WorkflowAuthordesktop
    - User name: `p8admin`
    - Password: `IBMFileNetP8`
4. Right-click the LoanProcess object store.
5. Select Open Process Designer

Procedure 2: Create a custom palette

You can create a custom palette to store the step types that you use most frequently. Though it is not a requirement, a custom palette can be convenient.

1. Drag the following steps from the palettes into the map area.

Palette	Step type
BPM Palette	Activity
BPM Palette	System
General System Palette	Assign
General System Palette	TerminateBranch

2. Add each step type to your custom palette:
    a. Right-click the step.
    b. Select Add to My Palette.

3. Save your custom palette:
   a. From the Palette menu, click the arrow.
   b. Select My Palette > Save As.
   c. Save the file in C:\Labs\Case Foundation 5.2.1 Workflow Design\mypalette
4. Click File > New to clear the map.

Procedure 3: Create a workflow with a system step

The System step in the BPM palette is a generic step that you can use for many different system functions. In this procedure, you create a simple workflow in which you configure a system step to change the subject that a user sees in the work queue. You are in Process Designer. The map area is empty.

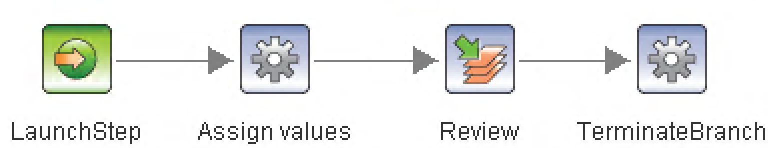
1. Edit the workflow properties.
   a. Workflow name: `Subject test`
   b. Subject: `Subject test`
2. On the Workflow Properties tab, add two data fields.

Data field name	Type
customer_name	String
loan_amount	Float

3. Add three steps to the workflow map a row, using this data.

Step	Step type	Name
1	System	Assign values
2	Activity	Review
3	System	TerminateBranch

4. Connect the steps in a line in the order indicated.
5. On the Review step, General tab, set the participant to the LoanOfficer work queue.
6. Verify that your workflow map resembles the following screen capture.



7. Add the two data fields to the Launch step and the Review step.
8. Configure the **Assign values** system step:
   a. Select the Assign values step.

b. On the General tab, move the Assign function to Selected Functions.

c. Double-click the Assign function to configure it

d. Type the data into the Assigned Parameters table as shown..

Name	Expression
F_Subject	“Loan for “+customer_name

Important

Field names are case-sensitive.

e. Press Enter after you type the assignment.

f. Click Close.

9. Configure the TerminateBranch system step.

a. Select the TerminateBranch step.

b. On the General tab, move the TerminateBranch function to Selected Functions.

Procedure 4: Validate, transfer, and test the workflow

1. Validate the workflow collection.

a. Click File > Validate Workflow Collection.

b. If validation failed, check your work and revalidate.

c. If validation was successful, click Close to continue.

2. Click File > Transfer the Workflow Collection.

a. Folder: LoanProcess\Workflows

b. Document Title: `Subject test`.

3. Exit Process Designer: Cancel the checkout.

4. Launch the Subject test workflow.

a. In Workflow Author desktop, browse to LoanProcess > Workflows.

b. Right-click the Subject test workflow.

c. Click Workflow > Launch Workflow.

d. Enter the following data.

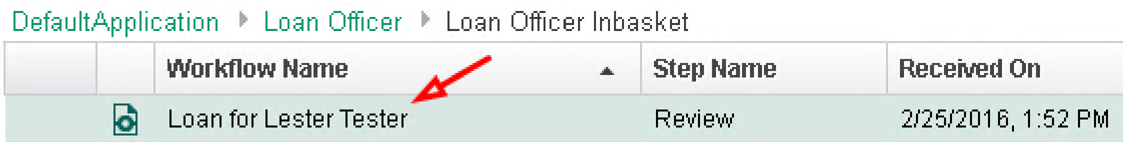
Property	Value
customer_name	Lester Tester
loan_amount	300000

   e. Click Launch Workflow.

5. Open the Work View.

6. Open the Loan Officer inbasket.

7. Verify that you see a workflow with the title Loan for Lester Tester.



8. Open and complete the work item.

Procedure 5: Make the workflow map more readable

Although you can use the generic System step to perform system functions, the specialize steps available from the General System palette make the workflow map easier to understand..

1. Open the Subject test workflow in Process Designer.

2. Open the General System Palette.

3. Drag an Assign step and a TerminateBranch step onto the map area.

4. Replace the two generic system steps in the workflow map with the new steps.

   a. Redraw the routes to include the new Assign and TerminateBrach steps.

   b. Configure the assignment parameters of the Assign step.

Name	**Expression**
F_Subject	“Loan for “+customer_name

5. Right-click to delete the generic system steps.

6. Confirm that your new workflow resembles the one in the screen capture.

Note

The new workflow map has identical functionality to the previous version, but is easier to read.

7. Validate the workflow. If validation succeeds, then you have finished this exercise. You do not need to transfer and test the workflow.

8. Close Process Designer, canceling the checkout.

9. Log out of Workflow Author desktop.

10. Close Firefox.

End of exercise

Exercise review and wrap-up

In this exercise, you completed the following objectives:

- Identify step types and their uses.
- Use a system step in a workflow.

Exercise 4. Build Expressions

Overview

In this lesson you practice using Expression Builder to create expressions that use literals, operators, and functions.

Why is this lesson important?

You are designing a workflow application. You need to use complex expressions including data fields and functions in your workflow routing conditions. You must use an expression to verify that a workflow attachment is assigned.

Objectives

- Use Expression Builder
- Build expressions to calculate property values
- Assign property values.

Activities

Explore Expression Builder, on page 4-2

Assign data fields, on page 4-11

User accounts

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

Note

Passwords are always case-sensitive.

4.1. Explore Expression Builder

Introduction

If you know how, you can type in expressions manually. However, creating expressions with Expression Builder is much easier. Expression Builder provides help with syntax and available parameters. In this exercise, you open and explore Expression Builder. You start with an existing workflow definition that has workflow properties and data fields defined in order to save time.

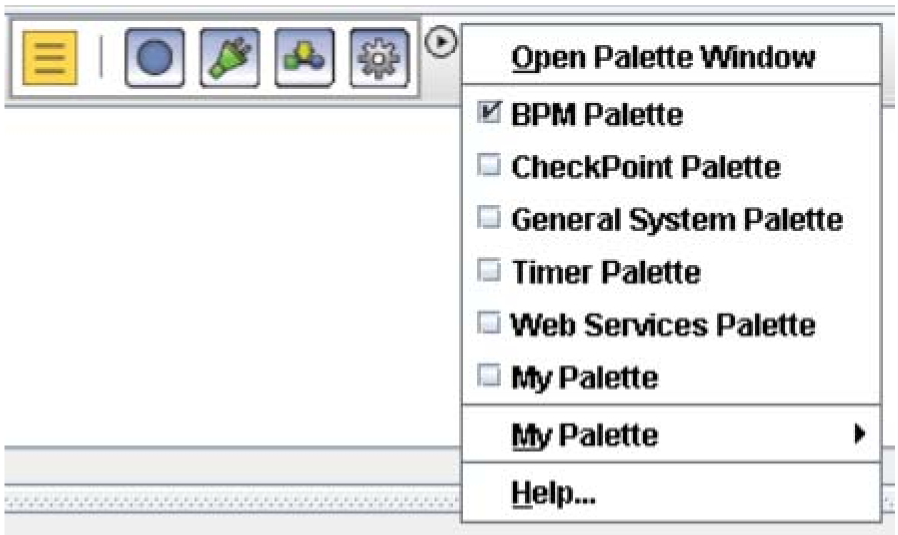
Procedures

Procedure 1: Exercise Preparation

To prepare for the exercise, you open a workflow and modify it. The workflow has defined properties and data fields that you can use.

1. Log on to Workflow Author desktop as p8admin.
2. Open Process Designer.
3. Open the Basic Loan Processing Workflow.
   a. Click File > Open >
   b. Browse to C:\Labs\ Case Foundation 5.2.1 Workflow Design
   c. Open **Basic Loan Processing Workflow.pep**
4. On the Workflow Properties tab, change the workflow name and subject:
   a. Workflow name: `Basic Loan Processing - Expressions`.
   b. Subject: `Basic Loan - Expressions`.
5. In the Data Fields tab, add a description to the LoanName.
   a. Enter the description: `Loan Name`.
   b. Press Enter.

6. Prepare the workflow definition.
   a. Right-click the Modify Info step.
   b. Click Delete.
   c. Delete the Verify Info step.
7. Drag an assign step between the Launch step and the Process Loan step.
   a. Click the arrow on the palette selection menu.
   b. Select the General System Palette.



   c. Drag an Assign step onto the map between the Launch step and the Process Loan step.

   d. Connect the Launch step to the Assign step.
   e. Connect the Assign step to the Process Loans step.

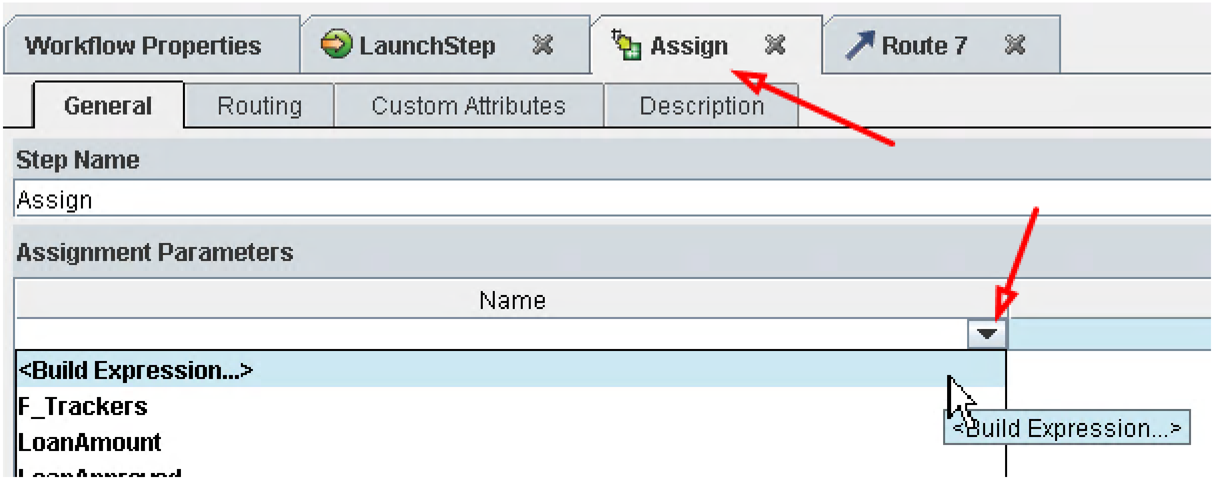
Procedure 2: Open Expression Builder

You can open Expression Builder from many locations.

1. Open Expression Builder.
   a. Select the Assign step.
   b. Click the first cell in the Name column of the Assignment Parameters table.

c. Click the menu arrow.

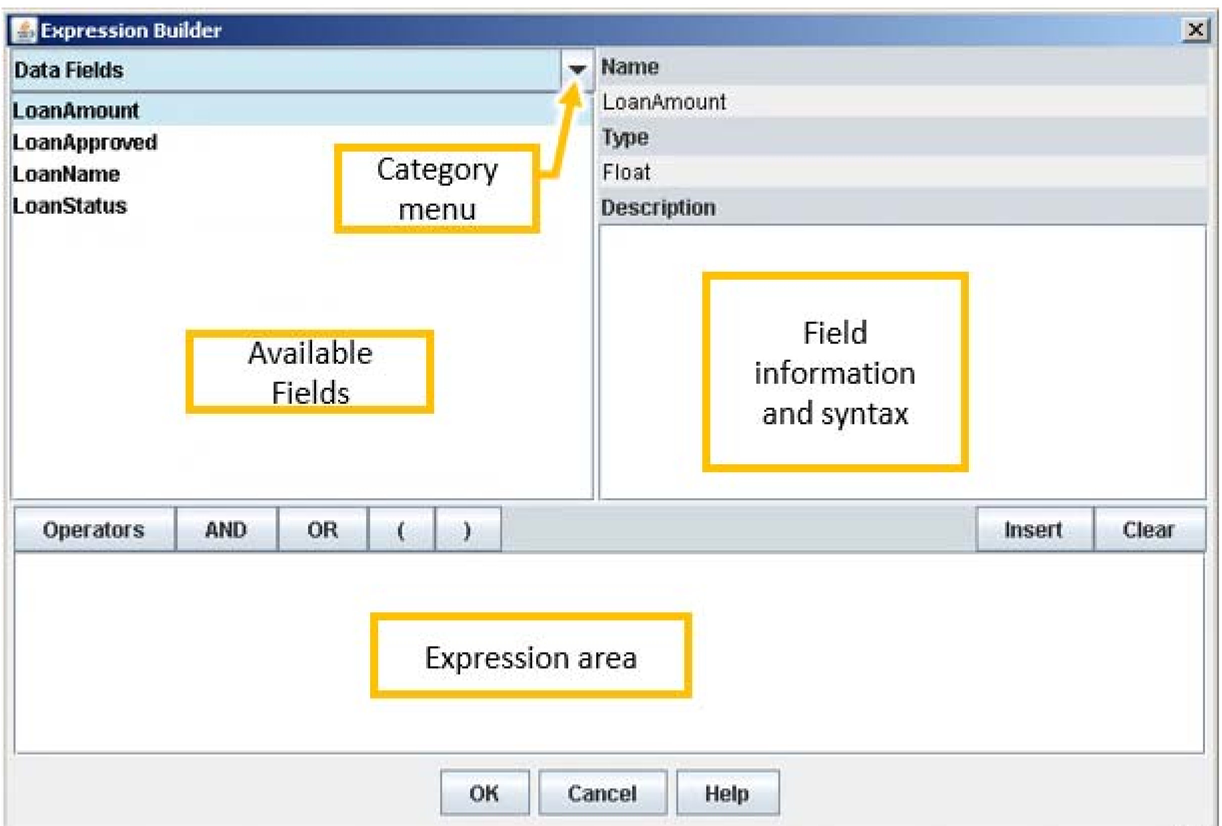
d. Select Build Expression.



Procedure 3: Explore Expression Builder

When you open Expression Builder, you see the available Data Fields. You can also select from different categories of fields that you can use.

1. Locate the Expression Builder interface elements..



2. Select each of the data fields and review the information shown in the information panel.

Note

The Loan Name description that you added is shown in the Description for the LoanName data field.

3. Select System Fields from the Category menu.
4. Explore the System Fields available to use in Expression Builder.
5. Select Functions from the Category menu.
6. Select an available function. Observe that functions provides operations and syntax.

Optional

Build some functions.

To get some experience with how the interface works, build some functions.

a. Select a function.
b. Select an operation.
c. Click Insert.
d. Read the text that is inserted. The syntax can be manually edited. Some arguments are optional, so they can be deleted.
e. Click Clear.
f. Explore other functions until you are ready to move on.

7. Click Cancel to close Expression Builder.
8. Save your workflow definition as: C:\Labs\Case Foundation 5.2.1 Workflow Design\Basic Loan Processing - Expressions.

Hint

Save your workflow definition locally from time to time. If your session times out, your work can be recovered from the local file system.

Procedure 4: Build expressions with literals and operators

In this procedure, you build some expressions with literals and operators. The Assign step of your workflow is currently selected. The Assignment Parameters table is empty.

1. Build the expression, LoanApproved = true
   a. Under Assignment Parameters, select LoanApproved for the name.

b. On the Expression column, click the ellipsis … to open the Expression Builder.

c. In the Expression Area type, true.

d. Click OK.

e. Press Enter to save the value.

2. Build the expression, LoanStatus = "Loan for "+LoanName+" is approved."

Note

Include spaces after “for” and before “is.” Do not include spaces between the other elements.

---

a. Under Assignment Parameters, select LoanStatus for the name.

b. On the Expression column, click the ellipsis (…) to open the Expression Builder.

c. In thession Area type, `"Loan for "+`

d. Select the data filed, **LoanName**, then click Insert.

e. In the Expression Area type:`+" is approved. "`

f. Click OK.

g. Press Enter to save the value.

3. Build the expression, LoanAmount = 300000 - 200000;

a. Select **LoanAmount** for the Name column.

b. In the Expression cell, type `300000-200000`

c. Press Enter to save the value.

Procedure 5: Test the workflow

1. Validate the Workflow Collection.
2. Transfer the Workflow Collection.

a. Location: LoanProcess > Workflows.

b. Document Title: `Basic Loan Processing - Expressions`

c. Leave Process Designer open.

3. Switch to Workflow Author desktop.
4. Open the Workflows folder.
5. Click Refresh.
6. Launch the workflow.

a. Right-click the workflow definition.

b. Click Workflow > Launch Workflow.

c. Enter the Customer Name: `Henry Higgins,` but leave the other fields blank.

7. Open the work item.
    a. Open Work View.
    b. Open the Loan Processor inbasket.
    c. Open the work item.
8. Verify the values that you assigned with the expressions.

Property	Value
LoanAmount	100000
LoanApproved	true
LoanStatus	“Loan for Henry Higgins is approved”

9. Complete the work item.

Procedure 6: Build a simple expression with functions

1. Return to Process Designer.
2. On the Workflow Properties > Data Fields tab, add two parameters of type Time
    - WorkflowLaunchTime
    - WorkflowStartingTime

Note

The parameter names do not include spaces.

3. Modify expressions in the Assign step.
    a. Select the Assign step.
    b. Use the Expression Builder to change the expression for LoanApproved so that the property is set to false if LoanAmount > 500000 and true otherwise. Use the function, if(bool_expr, expr2, expr3)

Hint

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Process applications concepts>Expressions>Functions>General functions

You can also refer to the table in Procedure 9, "Check your work," on page 4-9 to check your syntax.

4. Delete the row that sets the LoanAmount.

Procedure 7: Build an expression that uses a system field

1. Add a row and set WorkflowStartingTime.
2. Use Expression Builder to the set the value to the System Field, F_StartTime.

Procedure 8: Build a complex expression with nested functions

You can build expressions with nested arguments. In this example, you need to display a time value in a string field, so you must use the convert function on a time function. You need to create a function that adds 5 days to the current time, and then converts this time into a string.

Hint

The expressions are in different categories:

- Adddays is in the Functions > Time category.
- Systemtime is in the Functions > Time category.
- Convert is in the Functions > General category.

---

1. Click Ellipsis button on the LoanStatus Expression field to open Expression Builder.
2. Replace “ `is` approved.” with `" is in review. Expect a reply by "+`
3. Use the adddays function to add 5 days to the current system time.
   a. Select the Functions category.
   b. Select the Time functions.
   c. From the right panel, select the adddays function and then insert adddays.
   d. Delete the text after *no_of_days*. The text is for optional arguments that you not use in this exercise.
   e. Find the systemtime() function from the Time category list.
   f. Replace *time_expr* with the *systemtime()* function by inserting it.
   g. Replace *no_of_days* with 5.
4. Convert the adddays function to a string field.
   a. Place the cursor at the beginning of the expression area.
   b. Insert the convert expression.
   c. Use copy/paste (ctrl+c, ctrl+v) to replace *source_expr* with *adddays(systemtime(),5)*
   d. Replace the text: *type_name* with `string`.

Procedure 9: Check your work

Verify that your expressions match the table..:

Name	Expression
LoanApproved	if(LoanAmount>500000, false, true)
WorkflowStartingTime	F_StartTime
LoanStatus	"Loan for "+ LoanName+" is in review. Expect reply by "+convert(adddays(systemtime(),5),string)

Procedure 10:Validate, transfer, and test the workflow

1. Validate the workflow collection.
   a. If your new expressions produce errors, carefully check your work.
   b. Pay close attention to commas.
   c. Remember to press Enter on the row if you update your expression.
2. Transfer the workflow collection:
   a. Use the default workflow name.
   b. Add the workflow to LoanProcess > Workflows.
   c. Use the Document title: `Basic Loan Processing - Expressions`.
3. Close Process Designer. Cancel the checkout.
4. In Workflow Author desktop, go to Browse view, then go to LoanProcess > Workflows.
5. Launch two instances of the workflow using the following values.
   a. Launch Basic Loan Processing - Expressions.

Workflow	Property	Value
1	Customer name	Val Lobo
	Loan Amount	350000
2	Customer name	Rich Skyler
	Loan Amount	520000

6. Open the Loan Processor Inbasket.
7. Open the work items named Basic Loan - Expressions.

8. Verify the values.

Workflow	Property	Value
1	Customer name	Val Lobo
	LoanApproved	True
2	Customer name	Rich Skyler
	LoanApproved	False
Both	LoanStatus	Loan for xxx is in review. Expect reply by [5 days from now].

9. Complete both work items.

4.2. Assign data fields

Introduction

Workflow data fields typically exist only within the workflow instance, and so they cannot be used outside the workflow. Database fields are exposed for the purpose of using analytic tools, indexing, and searching. In this exercise, you use database fields in a workflow and assign values to them.

Procedures

Procedure 1, "Use a database (exposed) field," on page 4-11

Procedure 2, "Assign data fields after step execution," on page 4-12

Procedure 3, "Validate, transfer, and test the workflow," on page 4-12

Procedure 1: Use a database (exposed) field

Some database fields are already exposed on the LoanRoster and LoanLog. You find these fields after you change the workflow properties. You are logged in to Workflow Author desktop as p8admin.

1. Open Process Designer.
2. Open Basic Loan Processing Workflow.pep.
   - Location: C:\Labs\Case Foundation 5.2.1 Workflow Design\
   - File name: Basic Loan Processing Workflow.pep
3. Change the Workflow Name: `Basic Loan Processing-data fields`.
4. Change the subject: `Basic Loan - data fields`.
5. Change the Roster and Event log for the workflow.
   a. Under Workflow Properties > Advanced
   b. For the Roster, select LoanRoster.
   c. For the Event Log, select LoanLog.
6. Review the data fields that have been exposed.
   a. Click the Data Fields tab.
   b. Select the Exposed Data Fields button.

7. Add an exposed field to the workflow properties.
   a. Move loan_id to Selected fields.
   b. Click OK.
8. Use the Field Usage window to specify loan_id as a step parameter and assign access rights.
   a. Select the loan_id row.

   b. Click the Field Usage button.

   c. Add loan_id to LaunchStep with RW access.
   d. Add loan_id to Process Loan step, with RW access.
   e. Click Close.
   f. Press Enter after you edit any data fields.

Procedure 2: Assign data fields after step execution

1. Open the Workflow > Data Fields tab.
2. Create two data fields

Data field name	Type	Expression
purchase_price	float	0.0
down_payment	float	0.0

3. Add the two workflow data fields to the LaunchStep.
4. Define an assignment after completion of LaunchStep.
   a. On the Workflow map, select LaunchStep.
   b. In the properties pane, click Assignments > After Completion.
   c. In the Name column select the LoanAmount field.
   d. Use Expression Builder to add the assignment: `purchase_price-down_payment`.
   e. Press Enter to save the assignment.
5. Define an assignment after completion for Verify Info step.
   a. Select the Verify Info Step.
   b. Click Assignments > After Completion.
   c. Under Field Assignments, select the field: LoanStatus
   d. Type, or use Expression Builder to add the assignment: `F_Comment`.

Procedure 3: Validate, transfer, and test the workflow

1. Validate the Workflow Collection.
2. Transfer the Workflow Collection.
   a. Location: LoanProcess > Workflows.
   b. Document Title: `Basic Loan Processing-Data fields`
3. File > Close, Cancel checkout.
4. Leave Process Designer Open.

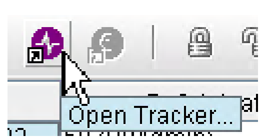
5. From the Workflow Author desktop, launch the workflow.
6. Complete the launch step with these values.

Property	Value
down_payment	30000
Customer Name	Larry Lines
loan_id	L123
purchase_price	300000

7. Open the Work View.
8. Complete the work item:
   a. Open the Loan Officer Inbasket.
   b. Open the work item.
   c. Verify that the loan amount is 270000
   d. Enter a comment: `This loan looks OK to me`.
   e. Click Info OK.
9. Use the loan_id field to find the work item.
   a. Open Process Administrator. In Process Designer, click Tools > Process Administrator.
   b. Search for work using these settings.

Item	Value
Look for	Workflows
In	Workflow Roster
Select one	LoanRoster
Search mode	Read only
Search field	loan_id
Operator	is equal
Value	L123

   c. Verify that your search returns the workflow.
10. Complete the workflow.
   a. Select the workflow, and then open the workflow in Tracker.



   b. Select the Process Loan step.
   c. Open the Fields tab.

   d. Verify that the LoanStatus field has the value: `This loan looks OK to me`.
   e. Click Tasks > Complete work.
   f. Select the Loan Processor role.
   g. Click OK.
   h. Click Yes.

11. Close Tracker
12. Close Process Designer. Cancel checkout.
13. Log out of Workflow Author desktop.
14. Close Firefox.

End of exercise

Exercise review and wrap-up

In this exercise, you completed the following objectives:

- Use Expression Builder
- Build expressions to calculate property values
- Assign property values.

Exercise 5. Launch workflows with subscriptions

Overview

Why is this lesson important?

You are implementing a workflow application. A workflow must be launched automatically when a certain incoming document is received. The document is then used in the workflow. To accomplish this scenario, you must create a workflow subscription to launch the workflow with an initiating attachment.

Objectives

- Create a workflow definition with an initiating attachment.
- Create a workflow subscription that automatically launches a workflow.
- Map properties from a document to workflow data fields.

Activities

Create a workflow subscription, on page 5-2

User accounts

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

Note

Passwords are always case-sensitive.

5.1. Create a workflow subscription

Introduction

In this exercise, you create a workflow subscription in Administration Console for Content Platform Engine.

Procedures

Procedure 1: Define an initiating attachment

1. Start Firefox.
2. Open Process Designer (see Procedure 1, "Open Process Designer," on page 1-2).
3. Open a workflow definition file.
   a. Click File > Open.
   b. Browse to C:\Labs\Case Foundation 5.2.1 Workflow Design
   c. Open Basic Loan Processing Workflow.pep.
4. Edit the workflow properties using the values indicated.

Property	Value
Workflow name	Basic Loan Processing Workflow - Subscriptions
Subject	Basic Loan with Subscription

5. Define an initiating attachment.
   a. Open the Workflow Properties > Attachments tab.
   b. Add an attachment, using the values indicated.

Property	Value
Name	loan_document
Value	<none>
Description	Loan application

   c. Press enter.

d. Click the Initiating Attachment button in the top right corner o the Attachments tab to designate the loan_document as an initiating attachment.

6. Select the Launch step.
7. On the General tab, verify that loan_document is listed as one of the Selected Parameters.
8. Add the loan_document as a parameter in both the Process Loan and Modify Info steps.

Procedure 2: Validate and transfer the workflow

Important

When you create a workflow subscription, that subscription is for a single version of the workflow. If you later transfer a new version of the workflow definition, the subscription must also be updated. This is the reason you must update and then transfer the workflow definition before you create the subscription.

1. Click File > Validate Workflow Collection
2. Click File > Transfer Workflow Collection.

Property	Value
Location	LoanProcess:\Workflows
Document Title	Basic Loan Processing Workflow - Subscriptions

3. Close Process Designer, canceling the checkout.
4. Log out of Workflow Author desktop.

Procedure 3: Inspect Loan document properties

You are going to map the Loan document properties between the document class and the workflow. Before you begin, familiarize yourself with the document class properties.

1. Log on to Administration Console for Content Platform Engine as p8admin:
   a. Use the ACCE bookmark: `http://ecmedu01:9080/acce`
   b. User name: `p8admin`
   c. Password: `IBMFileNetP8`
2. Open the LoanProcess object store.
3. Inspect the Loan document class property definitions:
   a. Go to Data Design > Classes > Document > Loan.

b. Open the Property Definitions tab.

c. Verify that you can find the following property definitions:

- CustomerName
- LoanAmount

Procedure 4: Create a workflow subscription

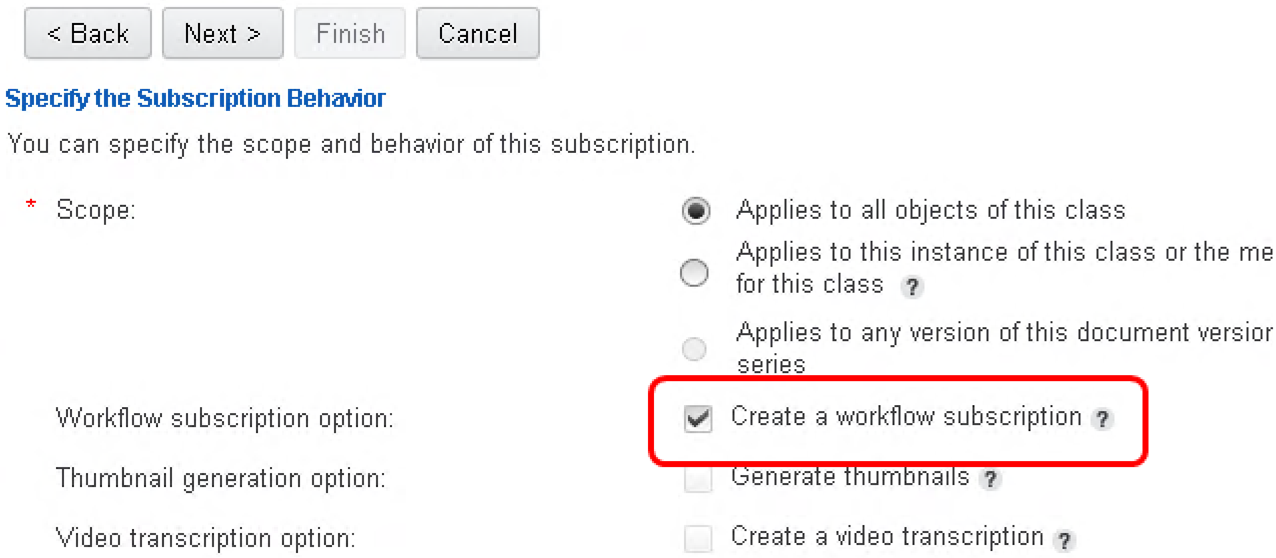
You can create a workflow subscription directly from the Actions menu of the document class.

1. On the Loan document class Properties page, click Actions > New Subscription.
2. Complete the wizard using the values provided.

Step	Field	Value
Name and Describe the Subscription	Display Name	Simple Loan Process Autolaunch
Specify the subscription behavior	Applies to all objects in the class.	Selected
	Create a workflow subscription	Selected
Select the Triggers	Triggers	Creation Event
Specify Workflow Information	Workflow Definition	Basic Loan Processing Workflow - Subscriptions
	Version	1 (or latest)

Important

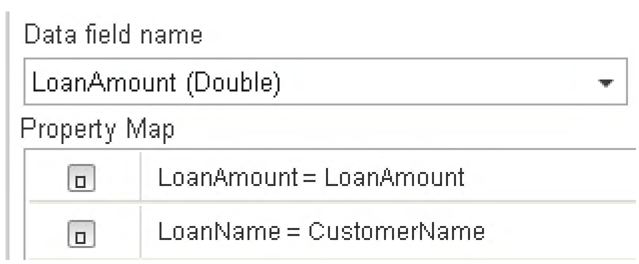
Ensure that you select the workflow subscription option.



3. Build a property map using the values provided, click the Add button to add each mapping..

Data field name	Property name
LoanName (String)	CustomerName (String)
LoanAmount (Double)	LoanAmount (Double)

4. Verify that your property mapping is correct.

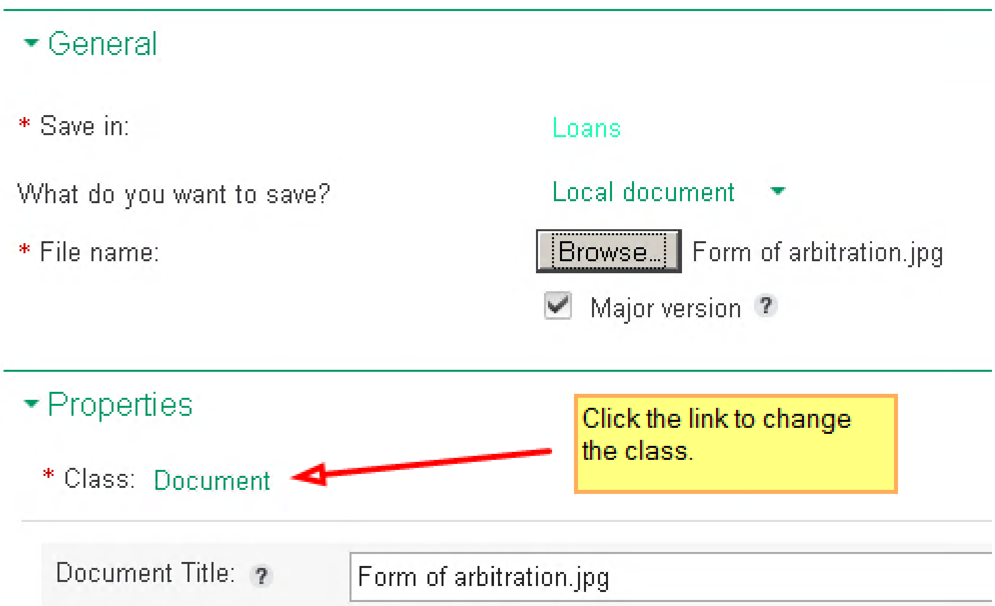


5. Click Next.
6. On the Specify Additional Options page, click Next.
7. On the Summary page, click Finish.
8. Close the Success message.
9. Log out of Administration Console.

Procedure 5: Test the subscription

When you add a loan document to the LoanProcess object store, a workflow launches.

1. Log on to Workflow Author Desktop.
   a. in Firefox, use the Workflow Author Desktop shortcut.
      - User name: `p8admin`
      - Pasword: `IBMFileNetP8`
2. Open the Loans folder on the LoanProcess object store.
3. From the Loans folder, click Add Document.
4. Select the file to add:
   a. Click Browse.
   b. Select any file from Documents > sample documents to add.
5. Select the document class.
   a. In the Properties area, click the Class: Document link.



   b. Select the Loan class.
   c. Click OK.
6. Set Loan property values using the data provided (leave all other fields blank).

Property	Value
CustomerName	Otto Launch
LoanAmount	300000

7. Click Add (in the bottom right corner).

8. Verify that the workflow launched.
   a. Open the Work View.
   b. Open the Loan Officer Inbasket.
   c. Open the Basic Loan with Subscription work item.
   d. Verify that the values for LoanAmount and LoanName match the document property values.
   e. Click Info OK.
   f. Open the Loan Processor Inbasket.
   g. Complete the Basic Loan with Subscription work item.
9. Log out of Workflow Author desktop.
10. Close all browser windows.

End of exercise

Exercise review and wrap-up

In this exercise, you completed the following objectives:

- Created a workflow definition with an initiating attachment.
- Created a workflow subscription that automatically launches a workflow.
- Mapped properties from a document to workflow data fields.

Appendix A. 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 image, ensure that the Windows 7 Operating System completes starting all the services. 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).

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 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. Click the Bookmarks menu and select, System Health > CE ping
      i. URL for Ping Page: `http://ecmedu01:9080/FileNet/Engine`

   Because the Content 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.

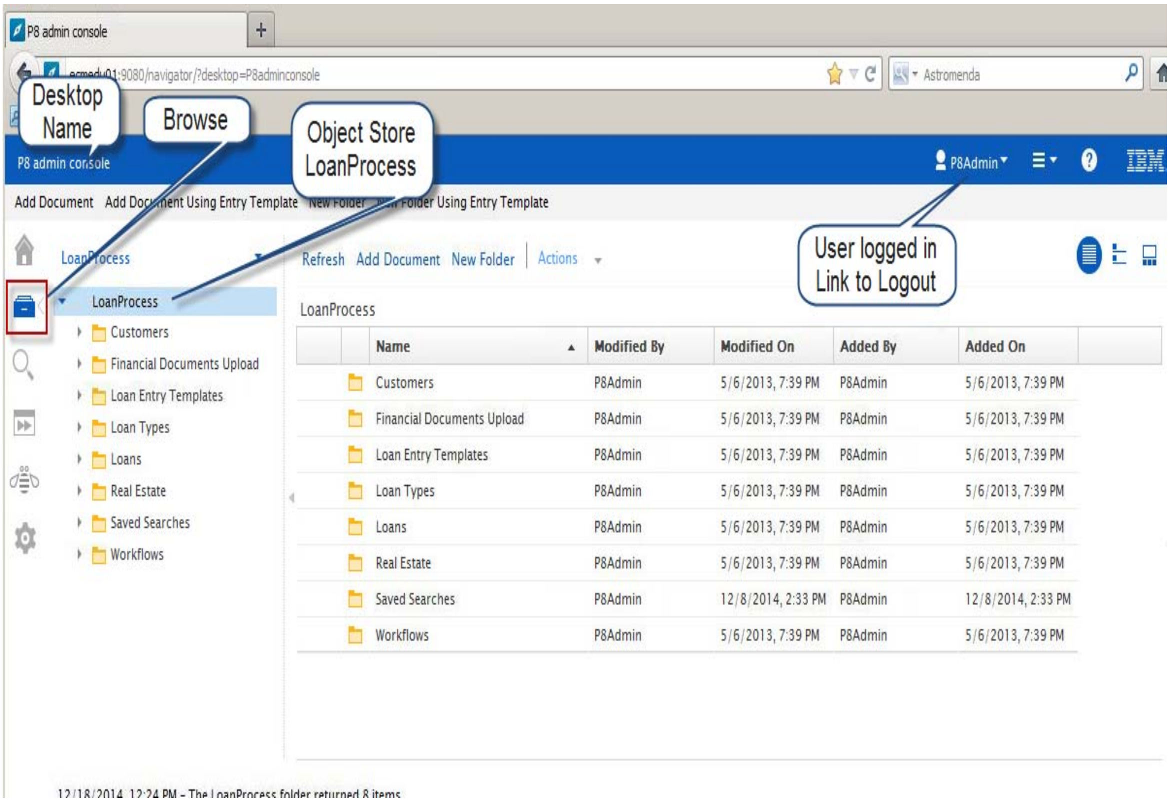
2. Verify that the Content Platform Engine process Services are functioning properly.
   a. Open a new browser tab.
   b. Click the Bookmarks menu and select, System Health > PE ping
      i. URL for Ping Page: `http://ecmedu01:9080/peengine/IOR/ping`

   c. 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. Click the Bookmarks menu and select, P8 Admin console
      i. URL for desktop: `http://ecmedu01:9080/navigator/?desktop=P8adminconsole`

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

A successful login to the P8 Admin console desktop opens to 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. Logout of the P8 Admin console.

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

 ii. Click Log Out to confirm.

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

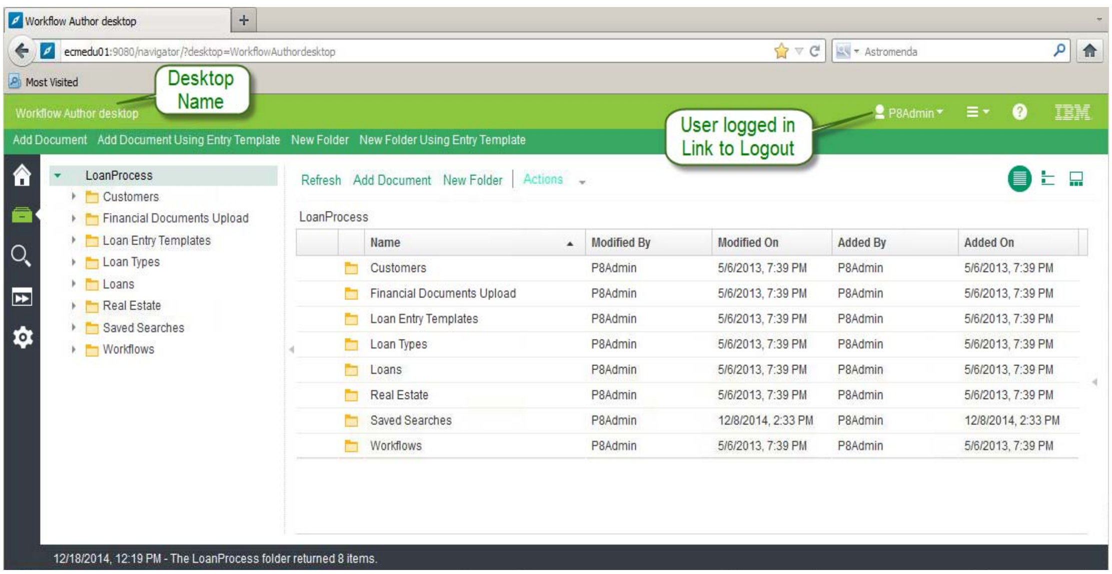
   a. Open a Mozilla Firefox browser window.
   b. Click the Bookmarks menu and select, Workflow Author desktop

      i. URL for desktop:
      `http://ecmedu01:9080/navigator/?desktop=WorkflowAuthordesktop`

   c. Log in in as a workflow author.

      - Username: p8admin
      - Password: IBMFileNetP8

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



   d. Logout 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.

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.
3. Wait for the command window to disappear (Can take several minutes).

Appendix B. Troubleshooting

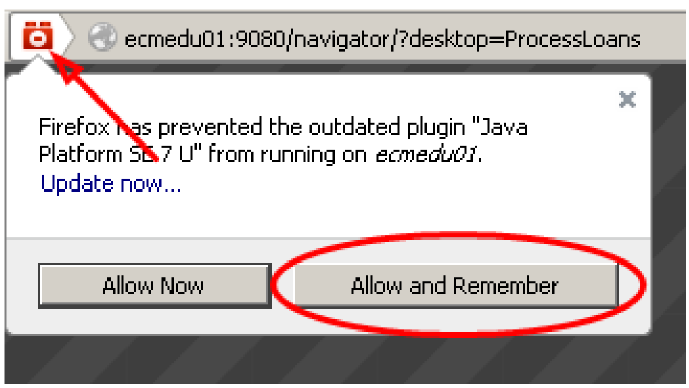
Appendix Overview

This appendix contains issues and resolutions.

Java plugin error

Some Content Platform Engine applications run as Java applets. When you launch them for the first time, you might see a Java plugin error. If you see a Java plug-in error message,

1. Click the red icon in the address bar.
2. Select Allow and Remember.



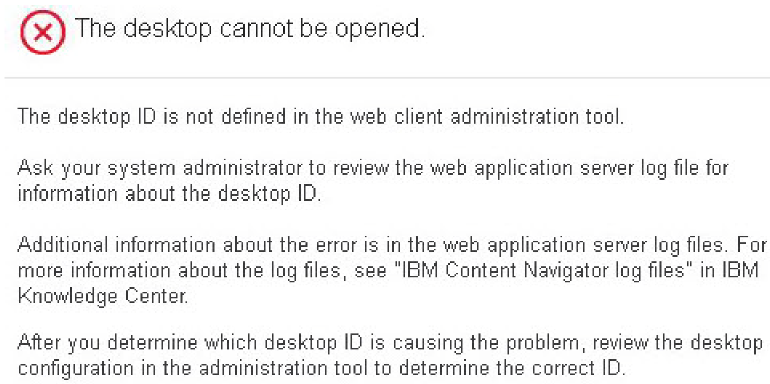
WebSphere Application Server error log

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 this guide, 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 issues

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.

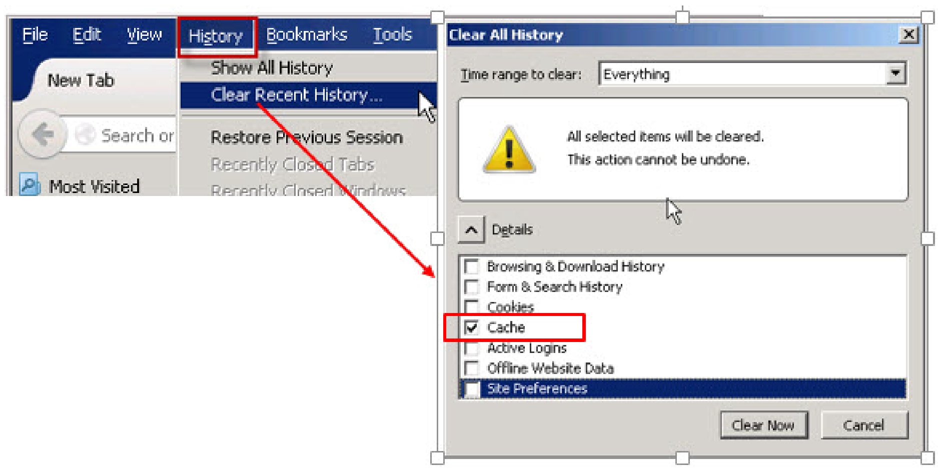
Issue: You have a browser tab open to the Administration Console for Content Platform Engine (ACCE). You refresh the tab, expecting to get a login prompt and nothing happens.

Cause

When you have ACCE and an IBM Content Navigator (ICN) desktop open in the same browser session, ICN attempts to share the logon credentials. Confusion occurs if you use different credentials for ACCE and the ICN desktop.

Resolution

Clear the browser cache.



On occasion it might be necessary to clear the cookies.

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 issues

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*.

Issue: You attempt to validate a workflow, but you get a very large number of validation errors that cannot be resolved.

Cause

The security session on the Content Platform Engine has timed out. The Process Designer application remains open, but is disconnected from the Content Platform Engine.

Resolution

Save your workflow definition to the file system. Close all browser windows. Reopen your saved workflow definition in Process Designer.

Technotes

http://www.ibm.com/support/docview.wss?uid=swg27043131

http://www.ibm.com/support/docview.wss?uid=swg21963021

http://www.ibm.com/support/docview.wss?uid=swg21882893

Component Queue issues

Issue: You update a component queue adapter property with ACCE. The component behaves as if the change was not made, even though the updated value is displayed correctly. The issue occurs with component queue security updates as well.

Cause

There is a known bug in releases before IBM Case Foundation 5.2.1.3.

Resolution

There are multiple methods to resolve the issue. If you do not have the fix pack installed, you can:

- In Administration Console for Content Platform Engine, stop the component queue and save. Start the component queue and save.
- Repeat the update by using Process Configuration Console, then commit the changes.

IBM Training