Lesson: Using components

Overview

Why is this lesson important to you?

You are designing an IBM FileNet BPM solution. You want to integrate a Java or a JMS component as a step in your workflow. The workflow administrator has configured the region data structures for the component. To accomplish your goal, you verify the existence of the Java or a JMS component queue and the status of Component Manager on the Process Engine. You use a component step in a workflow definition. You must test the workflow to verify the changes.

Activities

- Integrate a Java component in a workflow: Challenge
- Integrate a Java component in a workflow: Walkthrough

Lesson dependency

You must have successfully completed the previous lesson activities.

Requirements

The activities in this unit assume that you have access to the student system configured for these activities.

Virtual student system

Connect to your student system to complete these lab activities. See the Readme First file on the Materials tab if you need instructions to connect to the student system.

System startup and system check

IBM FileNet P8 software services on your student system must be started. If you have not already started the IBM FileNet P8 software on your system, do the procedures in *Appendix A: System startup and system check* before proceeding with the lessons in this unit.

Perform a system check whenever you start up an IBM FileNet P8 system or start working on a system that is in an unknown state. These activities assume that you have performed a system check when you begin an activity session.

User accounts

Type	User ID	Password
FileNet Workplace XT	p8admin	IBMFileNetP8

Note

Passwords are always case-sensitive. User names are not case-senitive. Many user names use only lowercase letters on the student system.

Integrate a Java component in a workflow: Challenge

Challenge

Start the Component Manager and all components for PELoanRegion. Modify the workflow collection that you saved in the previous lesson by replacing the Get Payment queue step with a component step using a Java component queue. Use the data in the tables to complete this activity.

Data

Item	Value
Workflow definition file	LoanProcess > Workflows > Loan Processing Collection - Database
New file name in the Object Store	LoanProcess > Workflows > Loan Processing Collection - Java Component

Get Payment Operations

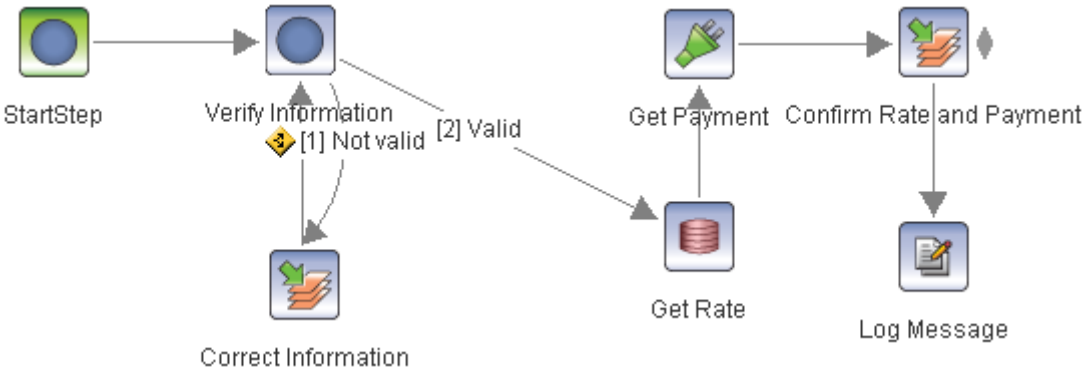
Name	Component
`getMonthlyPayment`	`LoanInfoCalculation`

Get Payment Operation Parameters

Name	Type	Expression
LoanAmount	Float	`loan_amount`
InterestRate	Float	`interest_rate`
LoanTerm	Integer	`loan_term`
MonthlyPayment	Float	`monthly_payment`

Verification

- You must launch and process the workflow through to completion.
- The Prepare Loan Map submap must look similar to the following diagram. This map contains a component step.



Integrate a Java component in a workflow: Walkthrough

Introduction

This exercise gives you practice in defining a workflow using component integration. You verify the operation parameters for an operation defined on a Java component queue. You use this queue operation to perform a step in the loan processing workflow collection.

Procedure 1: Start Component Manager and components

1. On your Linux system, double-click the shortcut *Launch Process Task Manager for AE.WPXT*.

   Tip: Process Task Manager might take several seconds to start.

2. In the left pane of the Process Task Manager, select Application Engine.WPXT > Component Managers.
3. Expand the Component Managers node.
4. Select the PELoanRegion.ALL node found under Component Managers.
5. If PELoanRegion.ALL Component Manager is stopped (has a red X symbol next to it), click Start on the toolbar.
6. After clicking Start, wait until you see the message `Component Manager started`.
7. Verify that all components under the PELoanRegion.ALL Component Manager are started (do **not** have a red X symbol next to the name of the component).

   If necessary, start the PELoanRegion components.

8. Minimize Process Task Manager.

Procedure 2: View Java component queue properties

1. On your student Windows XP system, log in to FileNet Workplace XT using the p8admin user account listed in the "Lesson Overview" section.
2. View properties of a Java component queue.
   a. In Workplace XT, click Tools > Advanced Tools > Process Designer.
   b. Click View > Configuration.
   c. Expand the Component Queues node in the left pane.
   d. Right-click LoanInfoCalculation and click Properties.
   e. Click the Operations tab.
   f. Verify that the getMonthlyPayment operation is selected in the left pane.
   g. Notice the four operation parameters shown in the right pane: LoanAmount, InterestRate, LoanTerm, and MonthlyPayment.

You use these operation parameters in the next procedure when configuring a component step in the workflow.

h. Click Cancel to close the Component Properties window.

i. Right-click the Configuration tab located below the Process Designer toolbar and click Close.

Procedure 3: Use a Java component

In this procedure, you modify the loan processing workflow collection that you worked with in the previous activity. You replace a queue step with a component step that uses the LoanInfoCalculation component queue.

1. Open the workflow collection file you checked in to the object store.
   a. In Process Designer, click File > FileNet > FileNet Open/Checkout.
   b. Locate and select the following file:

      LoanProcess > Workflows > Loan Processing Collection - Database

   c. Select “Open As Checkout” and click Open.

Important

This workflow collection is the one that you built and saved to the object store in the previous lesson. If you did **not** successfully complete all steps in the previous lesson activity, then you must open the following starting file located on the local system:

C:\Labs\F145\Solutions\Components\
Loan Processing Collection - Components - Database solution.xpdl

   d. If necessary, explore the main workflow definition in the collection to refamiliarize yourself with the process flow.
      - The Process Loan and Complete Loan submap steps are assigned to the EMPTY MAP submap, which contains no steps.
      - In this activity, you work only with the Prepare Loan Map submap of the main workflow.

2. Modify the Workflow Name property.
   a. Click Workflow Properties.
   b. In the General tab, replace the Workflow Name property with the following value: `Loan Processing - Component`

3. Replace a queue step with a component step.
   a. On the maps toolbar, select Prepare Loan Map.
   b. Right-click the Get Payment step and click Change step type > Component step.

c. In Get Payment step properties General tab, click the Add icon located in the Operations section.

d. In the Operation Selection window, select the LoanInfoCalculation Component.

e. Select getMonthlyPayment.

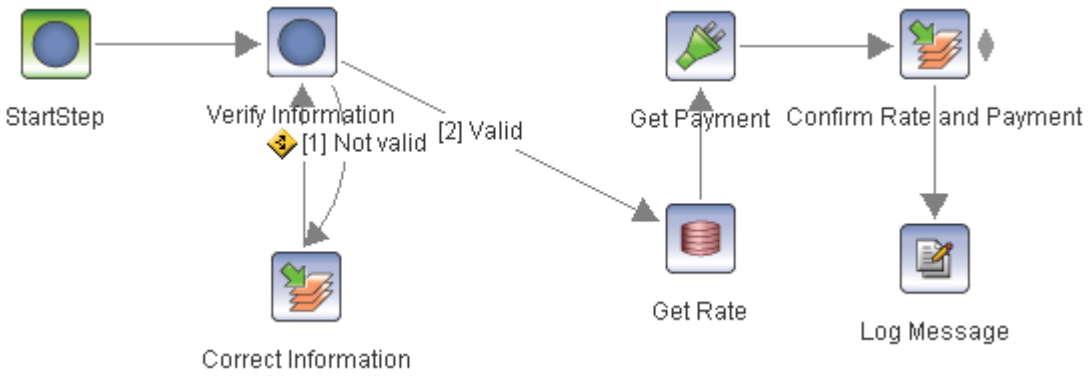
f. Click OK.

g. Use the following information to assign the Operation Parameters.

Tip: Notice that the Name and Type columns are already completed for you.

Name	**Type**	**Expression**
LoanAmount	Float	`loan_amount`
InterestRate	Float	`interest_rate`
LoanTerm	Integer	`loan_term`
MonthlyPayment	Float	`monthly_payment`

4. Verify that your Prepare Loan Map submap looks similar to the following diagram. This diagram shows the Prepare Loan Map submap containing a component step.



5. Launch and check in the workflow definition to the object store.

a. Validate the workflow collection and correct validation errors, if any.

b. Click File > Launch Main Workflow.

c. When prompted, complete the “Checkin Workflow Definition” wizard using the following information.

- Document Title: `Loan Processing Collection - Java Component`
- Security: <Accept default values.>

6. Complete the Launch Step processor.

a. In the Launch Step window, click Data Fields.

b. In the Data Fields view, type the following values in the fields.

- customer_name: `Cary Jacob`
- down_payment: `165000.`
- loan_date: <a future date and time>
- loan_id: `C987`
- loan_term: `30`
- purchase_price: `835000.`

c. In the Attachments view, assign an attachment of your choice to loan_document.

d. Click Launch.

7. Use Process Administrator to locate the work item for the Loan Processing - Component workflow.

a. In Process Designer, select Tools > Process Administrator.

b. Construct and execute a filtered search of LoanRoster by using the loan_id exposed field and the data in the following table.

Search criteria	**Value**
Look for	Work Items
In	Workflow Roster
Select one	LoanRoster
Search mode	Edit (all fields)
Criteria	`loan_id = 'C987'`

c. Verify that your work item appears in the results pane and is waiting in the LoanCustomer queue.

8. Verify that the component step was executed.

a. In the results pane, select the row containing the work item in the LoanCustomer queue.

b. Click Open Tracker on the results pane toolbar.

c. Use the Workflow History and map area to verify that the Get Payment step was completed.

d. Select the Confirm Rate and Payment step.

e. In the Properties pane Fields tab, verify that the value of the monthly_payment field is non-zero.

The LoanInfoCalculation component executed at the Get Payment step. The component calculated the monthly_payment based on the input of the loan_amount, interest_rate, and loan_term.

f. Close Process Tracker.

9. Complete processing of the work item.
   a. In the Process Administrator results pane, select the row containing the work item in the LoanCustomer queue.
   b. Click Open Step Processor on the results pane toolbar.
   c. Click Complete.
   d. Click Find Now to reexecute the roster search of LoanRoster.
   e. In the results pane, select the row containing the work item in the LoanUnderwriter queue.
   f. Click Open Step Processor on the results pane toolbar.
   g. Click Complete.
   h. Click Find Now to reexecute the roster search of LoanRoster.
   i. Verify that the work item is no longer listed in the results pane.

      The Loan Processing - Component workflow is complete.
10. Close all applications.
   a. Close Process Administrator.
   b. Return to Process Designer.
   c. If you have not already done so, check in your final version of the workflow definition. Otherwise, close the file and cancel the checkout.
   d. Exit Process Designer.
   e. Log out of Workplace XT and close the browser.