PEtALS Workflow Demo

This document explain how install and use the petals-workflow demonstrations.

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The petals-workflow demonstrations use Bonita SE, RMI BC and Bonita hooks in order to interact with the workflow engine Bonita. The workflow is a maintenance process. Two versions exist: Stock demo and Stock & Resupply demo.

Chapter 1. Installation

1.1. Jonas and Bonita

The demonstration uses the workflow engine Bonita 3.0 with Jonas 4.8.5. To download and install Bonita, see http://bonita.ow2.org.

Install the needed files in Bonita:

1. Extract the folder `bonita-resources` from the demo archive (`petals-workflow-distribution-1.0-stock-demo.zip` or `petals-workflow-distribution-1.0-stock-resupply-demo.zip`).
2. Copy the files `PetalsAutomaticHook.java` and `PetalsManualHook.java` to the folder `$BONITA_HOME/src/resources/hooks/hero/hook`.
3. Replace the file `$BONITA_HOME/build.xml` by `bonita-resources/build.xml` (add the ant target `petalsConfig`).
4. Create the folder `$BONITA_HOME/src/resources/petals`.
5. Copy the file `bonita-resources/petals-hook.properties` to the folder `$BONITA_HOME/src/resources/petals`.
6. Copy the jar `bonita-resources/petals-bc-rmi-1.0-SNAPSHOT.jar` to the folder `$BONITA_HOME/lib/ext`.
7. Copy the jar `bonita-resources/petals-hook.jar` to the folder `$BONITA_HOME/lib/ext`.
8. From the folder `$BONITA_HOME`, use the command "`ant configPetals`". This target will copy in Jonas the previous files and will deploy the Petals hooks.

Add the demonstration users in Bonita:

1. Log in the Bonita web page http://localhost:9000/jiapAdmin/Welcome.do with the administrator bsoa (password bsoa).
2. Display the users database: Menu "Administrator > Users management", and in the page click on the link "dsrlm_jiap_1".
3. Click on the "Users" tab.
4. Click on the "New user" button.
5. Write "stockUser" in the field "Connection login" and fill the other fields. The roles list can be empty (the roles JIAPUSER and BONITAUSER are automatically added).
6. Repeat this process for adding the user "resupplyUser".

Load the process models:

1. Log in the Bonita web page http://localhost:9000/jiapAdmin/Welcome.do with the administrator bsoa (password bsoa).
2. Import the XPDL file: Menu "Conceptor > Load XPDL", and in the page click on browse, select the file "`bonita-resources/Demo1_en_1.0.xpdl`" placed in the demo archive and click on the "Import" button.
3. Repeat this process with the file "`bonita-resources/Demo2_en_1.0.xpdl`".

Chapter 2. Stock Demo

2.1. Presentation

The process involves two users in order to carry out a task of checking the stock level and resupply if needed. The checking of the stock level is an automatic activity: Bonita uses the `PetalsAutomaticHook` to ask a Petals service knowing the stock level. Depending the answer of this service, Bonita starts or not a resupply activity.

Features enhanced:

- Using a Petals service in an automatic activity of a Bonita workflow.

2.2. Petals services

The demonstration uses a Petals network with the following components and services:

Table 2.1. Petals Components

Component	Version
petals-bc-rmi	1.0
petals-se-stock	1.0

Table 2.2. Service Assemblies

SA	Version
sa-rmi	1.0
sa-stock	1.0

Note

The Jonas server and the Petals service sa-rmi have to run on the same host.

2.3. Deployment

1. Install a Petals connector (this demo has been tested with Petals 2.1.1).
2. Unzip the archive `petals-workflow-distribution-1.0-stock-demo.zip`.
3. Check the Petals JMX RMI port and host in the `build.xml` file, lines 33 and 34: it must be the same as the Petals `conf/topology.xml` file.
4. Start Petals.
5. Use the deployment script in the `petals-workflow-stock-demo` folder: run the default ant target "`deploy`".

2.. Using the demonstration

1. Log in the Bonita web page http://localhost:9000/jiapAdmin/Welcome.do with the user stockUser.
2. Instanciate the process PetalsStockDemo : Menu "User > To start > PetalsStockDemo", then in the page click on the "Creation" button.
3. Start the AskAvailability activity: Menu "To do > PetalsStockDemo > AskAvailability", then in the page click on the button in the column "Action", facing the new instance.

4. Treat the AskAvailability activity: on the displayed page, write the concerned item id and the amout. Submit the form. The simulated stock contains these items:

Table 2.3. Stock content (file StockEngine.java)

equipmentId	amount
1	50
2	10
3	1
4	0

   If the identifiant is not in the previous table or if the amout is too big, the Resupply activity starts. Then the item is present in the stock and the workflow goes directly to the Replacement activity (go to step 9).

5. Log out: click on the x button, at the top right of the page.

6. Log in with the user resupplyUser.

7. Start the Resupply activity: Menu "To do > PetalsStockDemo > Resupply", then in the page click on the button in the column "Action".

8. Treat the Resupply activity: on the displayed page, write "`true`" as value for the property "`available`". Submit the form.

9. Log out: click on the x button, at the top right of the page.

10. Log in with the user stockUser.

11. Start the Replacement activity: Menu "To do > PetalsStockDemo > Replacement", then in the page click on the button in the column "Action".

12. Treat the Replacement activity: on the displayed page, write "`true`" as value for the property "`done`", in order to confirm the reception of the item. Submit the form.

Chapter 3. Stock & Resupply Demo

3.1. Presentation

The process is the same as the Stock demo, except the resupply activity. In the first demo, this task is done manually with a Bonita form. In this demo, the `PetalsManualActivityHook` is used for controling the stop and start of the activity by Petals.

First, the Bonita hook call the FileTransfer service, who will write a file on the disk with all the workflow state data, including the item id and the amount. A supply application can read this file, check the demand, change the variable "`available`" (equals `true` if the supply was done, `false` if not), then will write an answer file in the specified folder. This file will be automatically detected by the Petals component FileTransfer. His content will be send to the Supply service, who will use the Bonita SE to interact with the workflow. The activity "Resupply" will be automatically terminated and the variable "`available`" will be updated. If the item is available, the workflow will go to the next activity (Replacement).

Features enhanced:

- Using a Petals service in an automatic activity of a Bonita workflow.
- Using a Petals service in a manual activity of a Bonita workflow.
- Changing the state of a workflow by the Bonita Service Engine (setting the properties of an activity and terminating an activity).

3.2. Petals services

The demonstration uses the following components and services:

Table 3.1. Petals components

Component	Version
petals-bc-rmi	1.0
petals-bc-filetransfer	1.5
petals-se-bonita	1.0
petals-se-supply	1.0
petals-se-stock	1.0

Table 3.2. Service Assemblies

SA	Version
sa-rmi	1.0
sa-bonita-provide	1.0
sa-supply	1.0
sa-stock	1.0
sa-request-resupply-provide	1.0
sa-response-resupply-consume	1.0

Table 3.3. Exemple of repartition of services between two Petals connectors

Stock connector	Resupply connector
sa-stock	sa-supply
sa-rmi	sa-bonita-provide
	sa-request-resupply-provide
	sa-response-resupply-consume

Note

The Jonas server and the Petals service sa-rmi have to run on the same host.

Service Units configuration:

The following Service Units have a configuration who depends of the environment of execution:

- sa-request-resupply-provide : `address`
- sa-response-resupply-consume : `address`, `output-dir`
- su-bonita-provide : `rmi-url`, `loginContextName`, `login`, `password` / `role` (see documentation of Bonita SE)

For changing these values, edit the `jbi.xml` files and compile the Service Assemblies.

3.3. Deployment

1. Install two Petals connectors (this demo has been tested with Petals 2.1.1).

   

   Note

   You can also use a standalone Petals connector and deploy all the services in the same Petals.

2. Unzip the archive `petals-workflow-distribution-1.0-stock-resupply-demo.zip`.
3. Check the Petals JMX RMI port and host in each `build.xml` files, lines 33 and 34: it must be the same as the associated Petals `conf/topology.xml` file.
4. Start the Petals Stock connector.
5. Use the deployment script in the `petals-workflow-stock-resupply-demo/stock-connector` folder: run the default ant target "`deploy`".
6. Start the Petals Resupply connector.
7. Use the deployment script in the `petals-workflow-stock-resupply-demo/resupply-connector` folder: run the default ant target "`deploy`".

3.4. Using the demonstration

1. Log in the Bonita web page http://localhost:9000/jiapAdmin/Welcome.do avec l'utilisateur stockUser.
2. Instanciate the process PetalsStockAndResupplyDemo: Menu "User > To start > PetalsStockAndResupplyDemo", then in the page click on the "Creation" button.
3. Start the AskAvailability activity: Menu "To do > PetalsStockAndResupplyDemo > AskAvailability", then in the page click on the button in the column "Action", facing the new instance.
4. Treat the AskAvailability activity: on the displayed page, write the concerned item id and the amout. Submit the form. If the item is not in the stock (see the stock demo table), the Resupply activity starts.

5. If necessary, treat the Resupply activity. The goal is to simulate a business application who read files writen by the Petals FileTransfer in the reception folder of `sa-request-resupply-provide` then who write the edited files in the answer folder of `sa-response-resupply-consume`. Open the file corresponding to the current workflow instance (in the reception folder). Edit the "`available`" tag: replace "`false`" by "`true`". Save this file in the answer folder. It will be detected by the FileTransfer service. This service will call the Bonita service in order to terminate the current Resupply activity.

6. Start the Replacement activity: Menu "To do > PetalsStockAndResupplyDemo > Replacement", then in the page click on the button in the column "Action".

7. Threat the Replacement activity: on the displayed page, write "`true`" as value for the property "`done`", in order to confirm the reception of the item. Submit the form.