RiftSaw 2.0.0.Final

Getting Started Guide

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Installation

1.1. Overview

This chapter provides details of the pre-requisites for using the RiftSaw BPEL project, and how to install the engine into a JBossAS environment.

The examples distributed with RiftSaw are split into two categories, quickstarts that are pure BPEL that can run directly in the JBossAS server, and ESB based examples that require JBossESB. If you only want to use the pure BPEL examples, then JBossESB will not be required.

1.2. Prerequisites

1. JBossAS (version 5.1.0.GA or higher) **jdk6** version, available from http://www.jboss.org/jbossas, and please upgrade the web service stack to version 3.2.2.GA, as described in the following 'Upgrade web service for JBoss AS' section.
2. JBossESB (version 4.7.GA or higher), should download the **jbossesb-4.7.GA.zip**, available from http://www.jboss.org/jbossesb. This is only required to run the ESB/BPEL example.
3. RiftSaw (version 2.0 or higher), available from http://www.jboss.org/riftsaw
4. Ant, available from http://ant.apache.org

1.3. Installation Instructions

Note

If you have previously installed RiftSaw-2.0-M1, then you will need to undeploy this version using the *ant undeploy* command from the `install` folder of the M1 distribution. This is due to database schema changes.

1. Install JBossAS
   Unpack the JBossAS installation into the required location.
2. Install JBossESB
   This is only required if you want to run the ESB/BPEL examples.

   Unpack the JBossESB installation into a location alongside the JBossAS installation. Then follow the instructions in the JBossESB installation (install/readme.txt), to deploy JBossESB into the JBossAS environment.
3. Install the RiftSaw distribution

Unpack the RiftSaw distribution into a location alongside the JBossAS installation.

- Edit the **install/deployment.properties** file to update the JBossAS and JBossESB location settings.
- From the install folder, run: `ant deploy -Ddatabase=...` to deploy RiftSaw to JBossAS. The list of available databases, and how they should be configured, is explained in the following sub-section.
- If JBossESB has been installed, then run: `ant deploy-esb-examples` to install the BPEL/ESB examples into the JBossESB samples/quickstart folder.

To de-install the RiftSaw distribution,

1. Uninstall the RiftSaw distribution
   - From the install folder, run: `ant undeploy -Ddatabase=...` to remove RiftSaw from JBossAS. The database option should specify the same value used during installation of RiftSaw.
   - If JBossESB has been installed, then run: `ant undeploy-esb-examples` to remove the BPEL/ESB examples from the JBossESB samples/quickstart folder.

Tip

In the Hsql database environment, if you install the RiftSaw, we will copy the h2 library into JBoss AS server. But when you undeploy the RiftSaw, we won't delete it. The reason for doing this is because the JBoss ESB or jBPM will use the h2 database also, if we remove the h2 database in the undeployment process, we might cause JBoss ESB or jBPM start failed. So if you want to remove the h2 database, please go to the $JBossAS/server/${config} (like default)/lib, and then remove it manually.

1.3.1. Available databases and how to configure them

The following "in-memory" databases are available. If just evaluating the capabilities of RiftSaw, it is recommended that one of these options is used to reduce the time taken to get RiftSaw up and running.

1. hsql

Other databases available, that require further configuration details, include:

1. mysql
2. postgres
3. oracle
4. sqlserver

The configuration properties for these database options can be found in the `${RiftSaw}/db/jdbc` folder. These properties need to be specified before executing the `ant deploy -Ddatabase=...` command.

1.3.2. Upgrade web service for JBoss AS

If you want to upgrade the web service stack for JBoss AS, in the ${RiftSaw}/install folder, just run command as following: `ant deploy -Ddatabase=... -Dws.stack=... -Dws.version=...` It will help you download the web service stack, and then upgrade it for JBoss AS.

- Available ws.stack options are: 'native', 'cxf', 'metro'.
- Available ws.version options are: '3.2.1.GA', '3.2.2.GA'

Examples

2.1. Overview

This chapter provides a getting started guide to the examples. Further information on the individual examples can be found in the samples folder.

If using the Eclipse BPEL editor, bundled with JBoss Tools, then you can import the quickstart samples as Eclipse BPEL projects, by selecting the *import* menu item on the left navigation panel in Eclipse, and choosing the *General->Existing Projects into Workspace* option. Then select the individual sample you wish to import, or alternatively select the `${RiftSaw}/samples/quickstart` folder to select multiple (or all) samples for import. Please see the RiftSaw User Guide for information on how to deploy the BPEL samples to the server.

Before deploying any of the examples, you need to start the JBossAS server and ensure that RiftSaw has been installed. This can be achieved by testing whether the BPEL Console (as discussed in the User Guide) is available.

2.2. Quickstart Examples - Hello World

The BPEL example we are going to try out is the simple 'hello world' example. This is located in the `${RiftSaw}/samples/quickstarts/hello_world` folder.

The first step is to deploy the example to the running JBossAS server. This is achieved using the following command:

```
ant deploy
```

When the ant script indicates that it has completed successfully, the next step is to invoke the BPEL process we have just deployed.

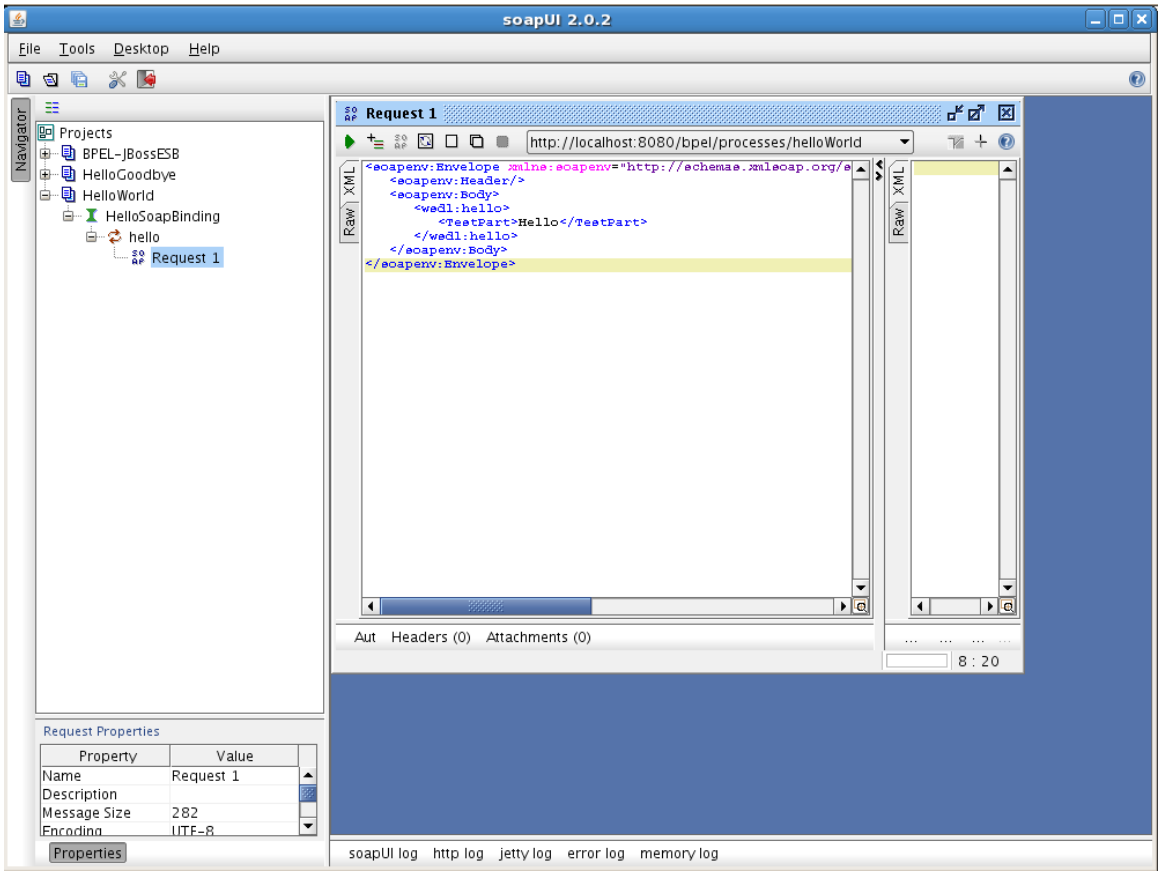
This can be achieved using either the supplied ant script,

```
ant sendhello
```

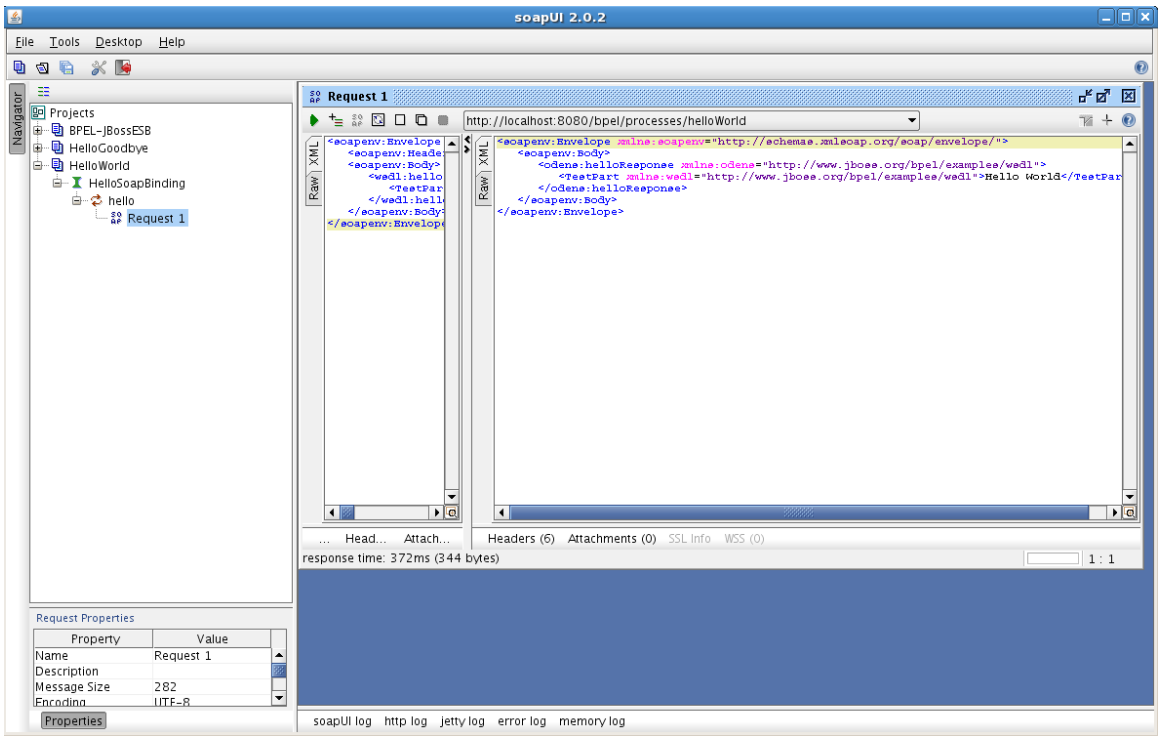
Or by using any SOAP client, such as SOAPUI (available from http://www.soapui.org/).

The WSDL definition is located in the `bpel` folder, and can be used to initialise the SOAPUI client. The service location is: http://localhost:8080/Quickstart_hello_worldWS.

An example message can be found in the `messages` subfolder.



When the message is submitted to the BPEL process, the response received is:



If you then wish to modify the example and deploy a new version, you will need to either update the 'version' property within the `build.xml`, or specify the version when performing the command, e.g.

```
ant -Dversion=2 deploy
```

and similarly when undeploying,

```
ant -Dversion=2 undeploy
```

Note

When modifying a previously deployed BPEL deployment, it will be necessary to either undeploy the previous version, or increment the version number. If you attempt to deploy a BPEL deployment unit with the same name as an already deployed unit, then the server will generate an exception.

Warning

Currently the version must be specified as a single integer value. Non-numeric values, such as versions expressed in a major.minor.incremental (maven style), will result in an exception when deployed to the server.

2.3. ESB Examples - ESB Invocation of Hello World

This quickstart example demonstrates how an ESB service can directly invoke a BPEL process running inside RiftSaw, as long as RiftSaw and the ESB are co-located in the same JVM, and the invoked BPEL process is deployed to the RiftSaw instance running co-located with the JBossESB.

If the ESB examples were deployed during the RiftSaw installation procedure, the example that we are going to try will be located in the `${JBossESB}/samples/quickstarts/bpel_helloworld` folder.

Also note that the quickstart described in the preceding section, located in the `${RiftSaw}/samples/quickstarts/hello_world` must still be deployed. If this example is not deployed, then please follow the instructions in the previous section to deploy the example.

The next step is to deploy the ESB service that will invoke this "hello world" BPEL process. This is achieved by performing the following command in the `${JBossESB}/samples/quickstarts/bpel_helloworld` folder.

```
ant deploy
```

Once the ESB service has been successfully deployed, then run the following command:

```
ant runtest
```

This command will send the text "Hello World via ESB to BPEL" to the ESB service, which will invoke the BPEL process, which in turn will append "World" to the text and echo it back until it is received by the client application.

For more information on the ESB to RiftSaw integration, please see the User Guide.

2.4. ESB Examples - Order Management

The ESB/BPEL example we are going to try out is the 'order management' example. When the ESB examples have been deployed, as described in the Installation chapter, then this example will be located in the `${JBossESB}/samples/quickstarts/webservice_esb_bpel` folder.

This example is different to the previous ESB example, in that it uses the BPEL process running inside RiftSaw as a Web Service. There is no direct invocation of the BPEL process.

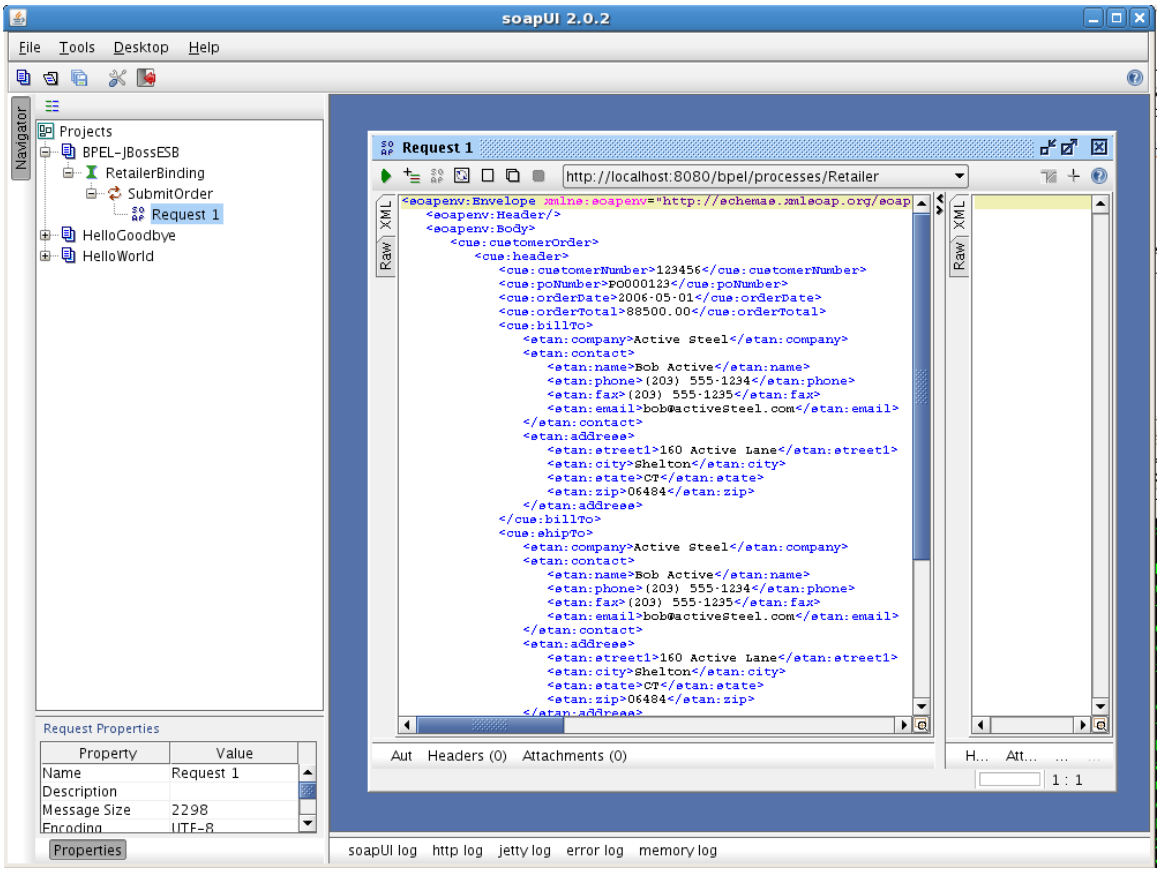
The first step is to deploy the example to the running JBossAS server. This is achieved using the following command:

```
ant deploy
```

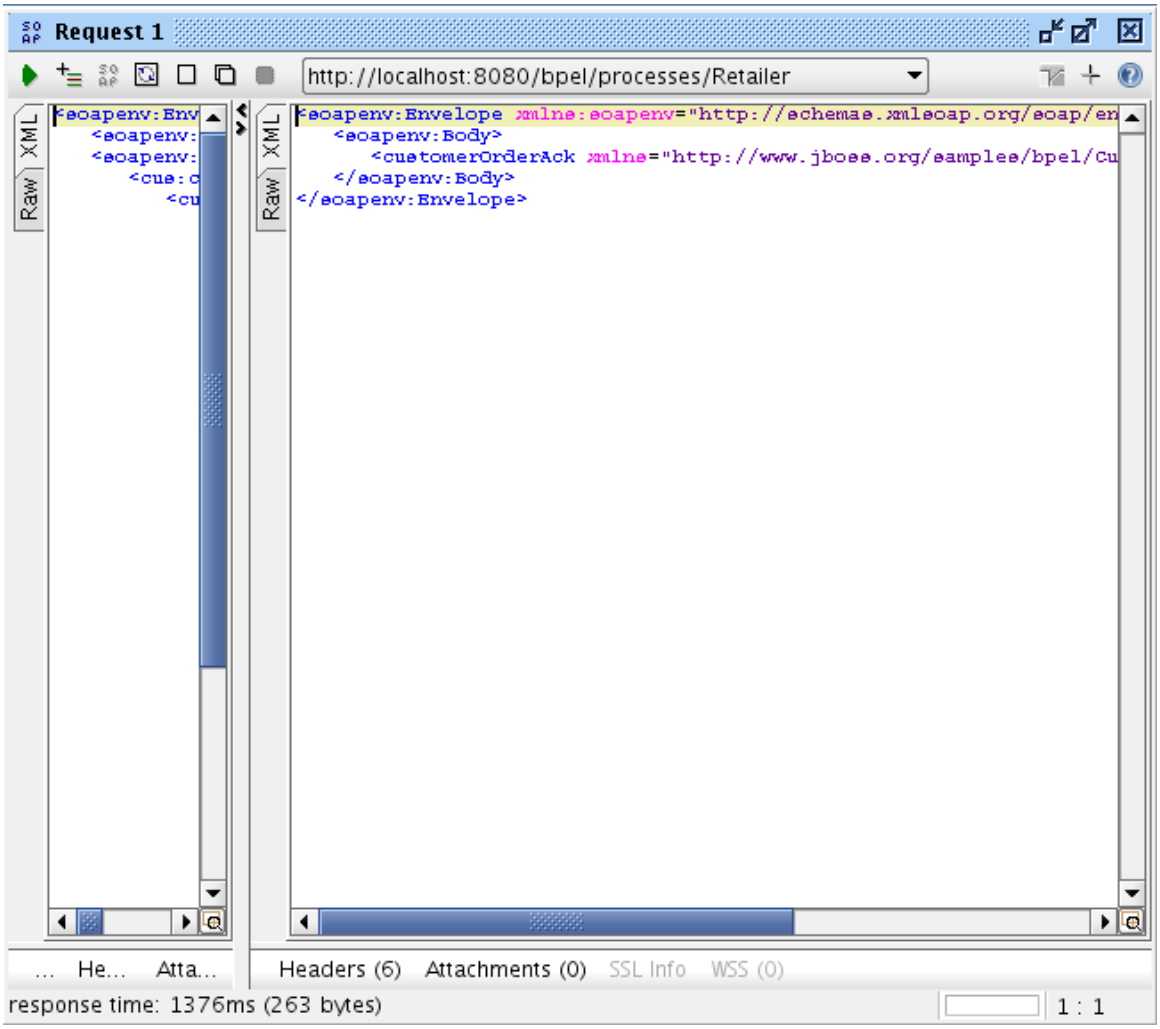
When the ant script indicates that it has completed successfully, the next step is to invoke the BPEL process we have just deployed. This can be achieved using any SOAP client, such as SOAPUI (available from http://www.soapui.org/).

The WSDL definition is located in the `bpel` folder, and can be used to initialise the SOAPUI client. The service location is: http://localhost:8080/Webservice_esb_bpel_Retailer.

An example message can be found in the `bpel/sampleData` subfolder.

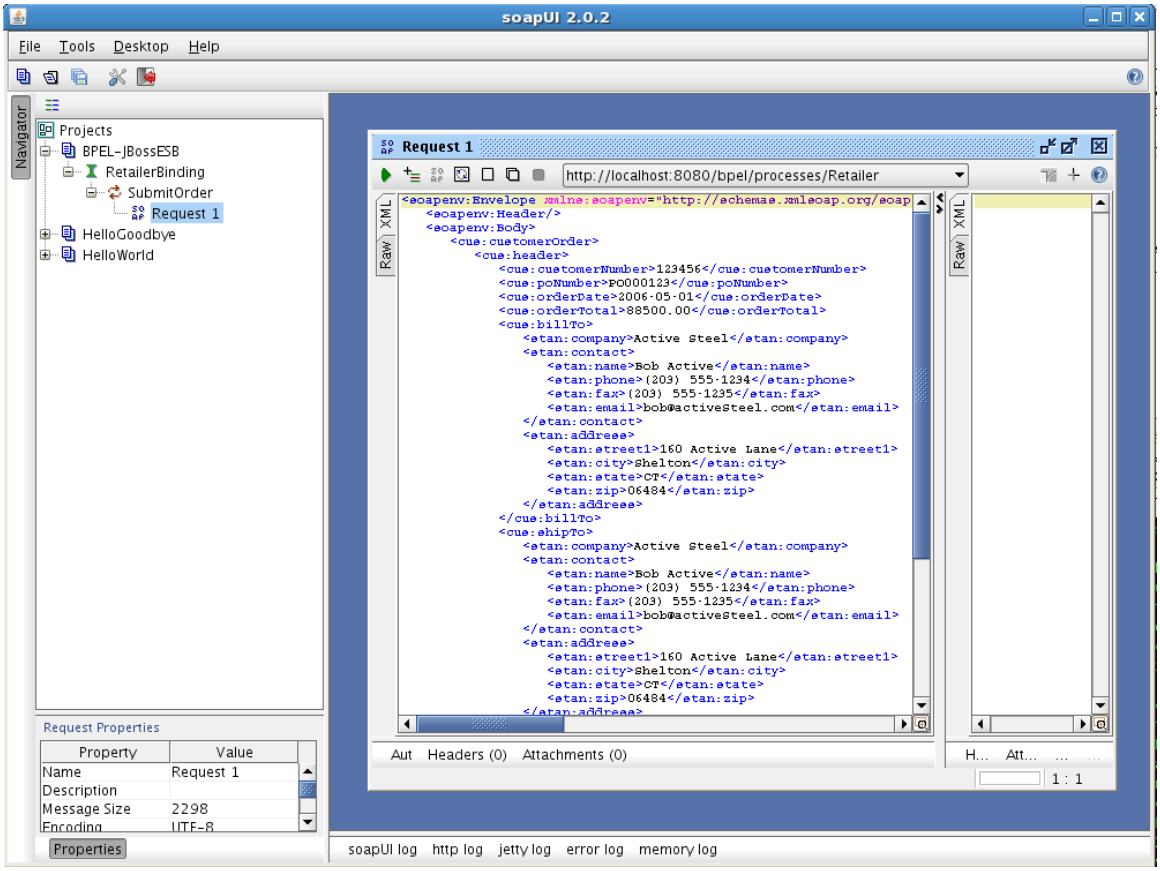


When the message is submitted to the BPEL process, the response received is:

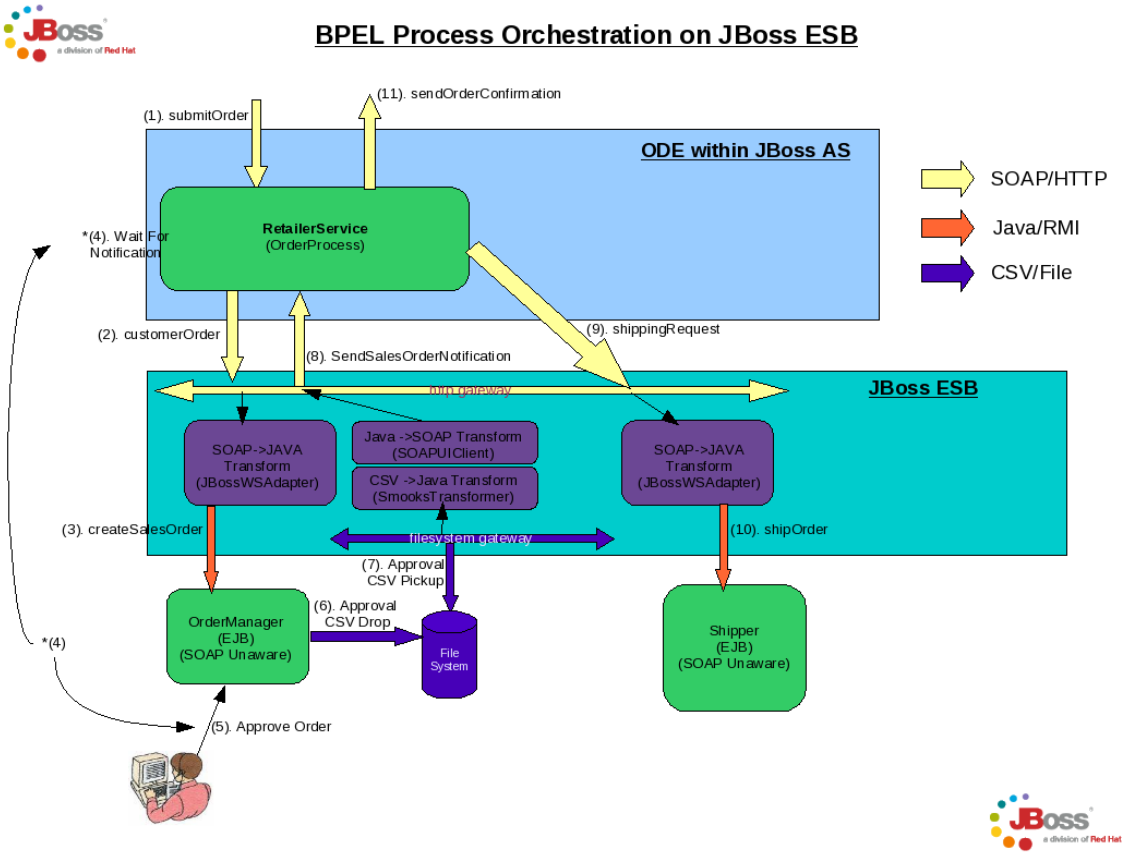


This is an acknowledgement that the order has been received, and is awaiting approval. At this point, you can access the BPEL console, to see that the BPEL process triggered by the request message is still active.

The next step is to access the order manager, located at: http://localhost:8080/order-manager.



Once the order has been approved, by pressing the *Approve* further processing will be triggered using ESB components, as outlined in the following diagram.

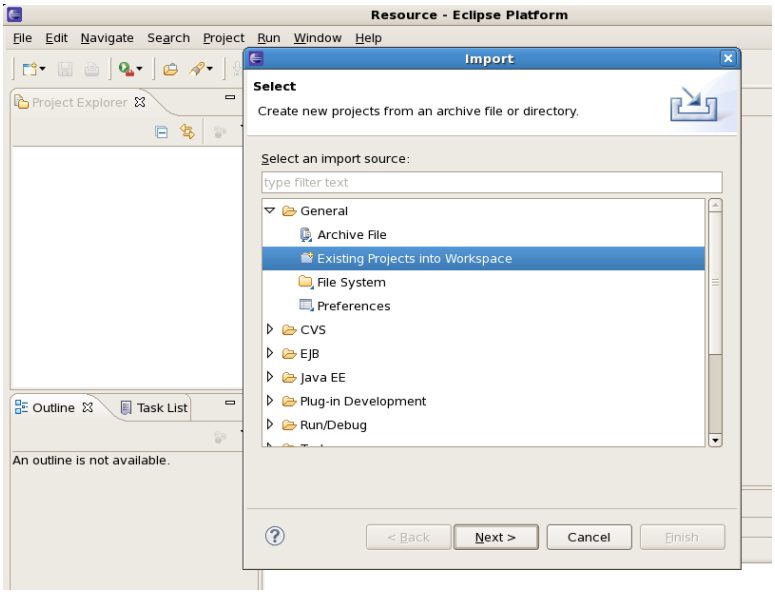


2.5. Importing Examples into Eclipse

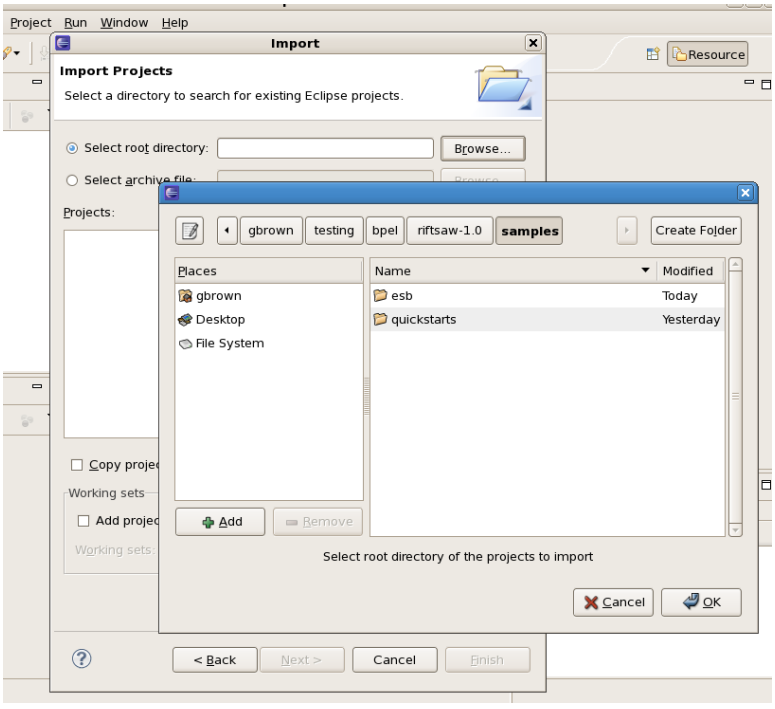
The quickstart examples, provided with the RiftSaw distribution, can be imported into an Eclipse environment as BPEL2.0 projects. This enables the BPEL and WSDL to be viewed using Eclipse based editors. Please see the JBoss Tools project for access to appropriate versions of these tools that work with the RiftSaw runtime engine.

1. Select the 'Import...' menu item, associated with the popup menu on the background of the left panal (Navigator or Package depending on perspective being viewed).

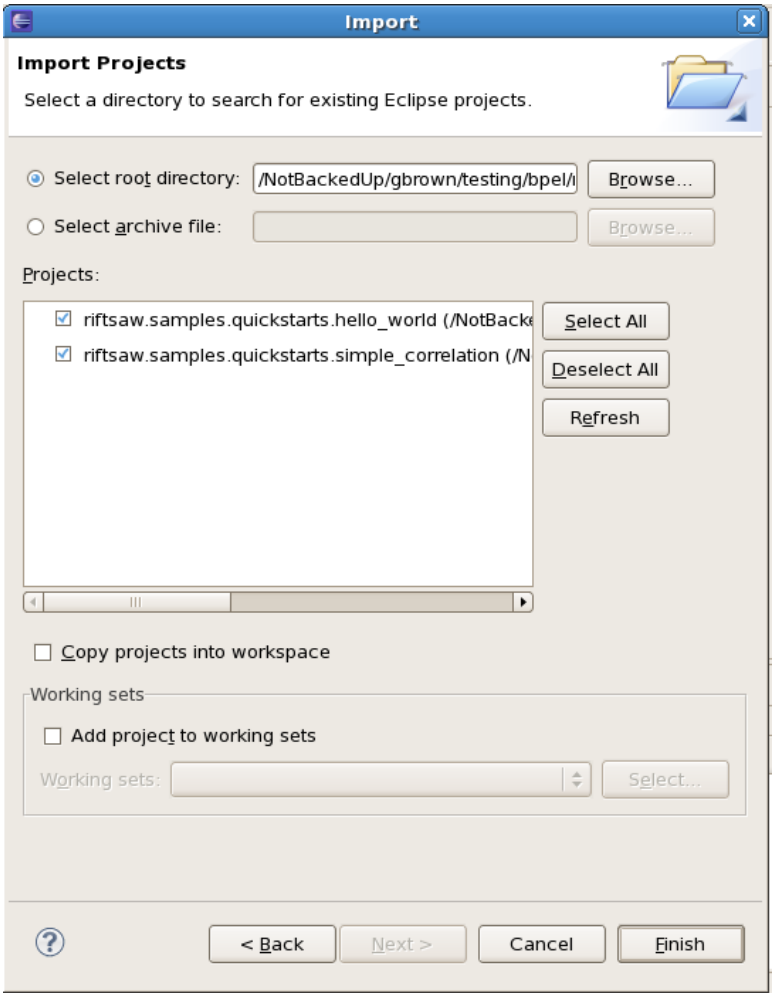
2. When the import dialog appears, select the *General->ExistingProject from Workspace* option and press the 'Next' button.



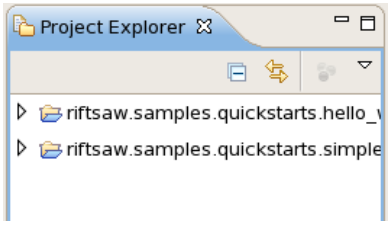
3. Ensuring that the 'Select root directory' radio button is selected, press the 'Browse' button and navigate to the `${RiftSaw}/samples` folder, then press 'Ok'.



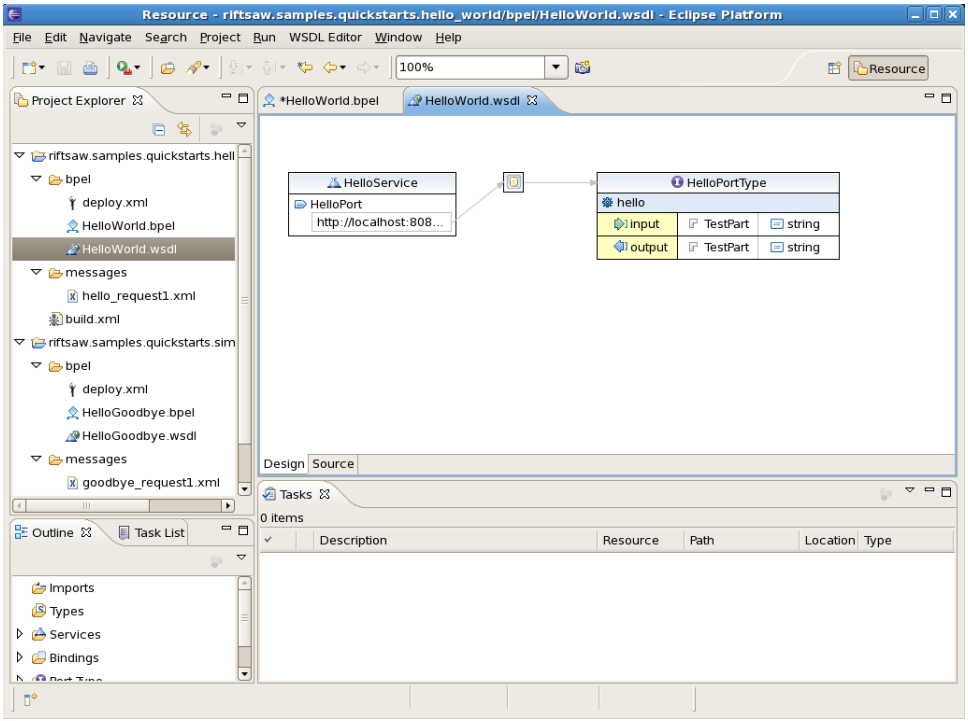
4. All of the Eclipse projects contained within the `samples` directory structure will be listed. Press the 'Finish' button to import them all.



Once imported, the Eclipse navigator will list the sample projects:



Once imported, the BPEL and WSDL artifacts can be viewed by double-clicking the appropriate files.


Resource - riftsaw.samples.quickstarts.hello_world/bpel/HelloWorld.wsdl - Eclipse Platform
File Edit Navigate Search Project Run WSDL Editor Window Help
100%
Resource
Project Explorer
riftsaw.samples.quickstarts.hell
bpel
deploy.xml
HelloWorld.bpel
HelloWorld.wsdl
messages
hello_request1.xml
build.xml
riftsaw.samples.quickstarts.sim
bpel
deploy.xml
HelloGoodbye.bpel
HelloGoodbye.wsdl
messages
goodbye_request1.xml
*HelloWorld.bpel
HelloWorld.wsdl
HelloService
HelloPort
http://localhost:808...
HelloPortType
hello
input
TestPart
string
output
TestPart
string
Design
Source
Tasks
0 items
Description
Resource
Path
Location
Type
Outline
Task List
Imports
Types
Services
Bindings