

Rapid Development of XML Processes

Benefits:

- Quickly develop and debug process models
- No coding required
- World's first jxBears IDE

Features:

- Graphical editing of process model
- Import standard and custom jxBears classes
- Decoupled from run time engine implementations
- Validation of process model

Environment:

- Java
- Java Swing
- jxBears
- Standard XML libraries

Introduction

In the web services paradigm, a client typically formulates an XML-based request and sends it to a server for fulfillment. The server receives the request and performs all of the necessary processing. In most service oriented architectures (SOA), the server maps the request to a specific programming object or handler that contains the programming code to carry out the processing. This code usually parses the XML request for information, performs calculations, accesses a database, formats data, etc. Eventually a reply is created and sent back to the client. All of the processing is defined in the native programming language of the SOA architecture.

jxBears is a technology targeted to ease the development of XML processing. It combines the JavaBeans technology with XML to create a high level programming paradigm. The jxBears are linked together to create a process model that carries out the required processing such as branching, looping, formatting, data access, etc.

To ease the construction and testing of the process models, Wazee Group has developed the jxBears Navigator tool. This tool allows developers to graphically layout the jxBears, link the jxBears together, and then execute the process model for debugging purposes.

Background

Wazee Group has been using the jxBears technology on several projects since early 2002. The early process models were very simple (1-5 jxBears instances). As confidence in the technology grew, higher levels of automation were achieved with more capable models (100-150 jxBears instances with 248 as the largest to date). As the capability of the models increased, so did the complexity of the models, especially when the process had multiple possible navigational paths.

Early on, process charts were manually created in graphical editors to represent the jxBears models. As with most design-oriented documents, these charts were tedious to develop, they didn't represent all of the information, and they were not kept up to date.

To further advance the jxBears technology, Wazee Group has developed the first IDE for jxBears development. The jxBears Navigator allows the jxBears process models to be quickly and easily developed and debugged.

Features

The jxBears Navigator has the following features:

- Graphical editing of the jxBears process model
- Debugging capabilities via single step and breakpoint modes
- Import capability of custom jxBears classes
- Export of jxBears compliant process model
- Validation of jxBears models

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**Graphical editing of
jxBeans process models.**

**Debug the process model
by setting breakpoints or
single step execution**

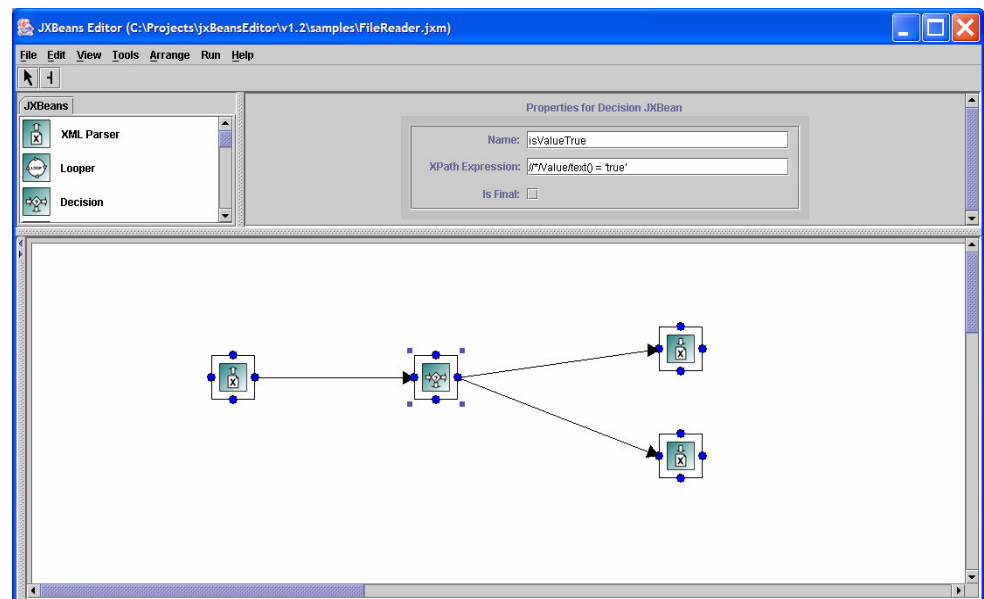
**Generate jxBeans models
that are independent of
run-time implementations**

Sample

The jxBeans Navigator allows graphical construction, editing, and debugging of the jxBeans process model. The user selects the desired jxBeans class from a list of standard classes or from a list of custom classes and drags the class to the main drawing area. Each instance of the jxBeans can be configured through the Configuration panel. The routing of the XML document from one jxBeans to another is specified by creating an unidirectional link from the source instance to the target instance.

The Navigator allows the user to debug the process model at any point in the process model. The user may set breakpoints and single step through the model. The current version of the document may be viewed as it proceeds through the process model.

A trivial jxBeans process model is shown in the Navigator tool below. There is a XML Parser jxBean that is configured to read from a file. This object reads the file, parses the data into an XML document, and passes the document to the second object, a Decision jxBean instance. The Decision jxBean is configured to evaluate an XPath expression and forward the document to one of two target jxBeans depending on the outcome. The last two objects are Serializer jxBeans. Each Serializer will write specific data to a file.



Summary

As our clients' businesses become more competitive, more dynamic, and more efficient, Wazee Group is challenged with providing IT solutions that increase performance of these businesses. We must deliver systems with broad capabilities within accelerated schedules and predictable budgets. The jxBeans technology has been key for Wazee Group's successes since early 2002. We expect tools such as the jxBeans Navigator to contribute to even greater successes in the future.

For more information on the jxBeans technology, please visit www.jxbeans.org.

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