



jBPM5

WORKFLOW ENGINE

tutorialspoint
SIMPLY EASY LEARNING

www.tutorialspoint.com



<https://www.facebook.com/tutorialspointindia>



<https://twitter.com/tutorialspoint>

About the Tutorial

Organizations throughout the world have been searching for a structured approach of designing their actions or transactions which can be transformed by implementing them using automated solutions.

jBPM is one such tool that helps business automation needs of an organization. This tutorial provides an overview of how to use jBPM 5 in practice.

Audience

This tutorial is designed for Java professionals who would like to understand the features and capabilities of jBPM in a simple and easily understandable way.

Prerequisites

You are expected to have a basic understanding of business processes and application of technology to automate manual processes.

Disclaimer & Copyright

© Copyright 2015 by Tutorials Point (I) Pvt. Ltd.

All the content and graphics published in this e-book are the property of Tutorials Point (I) Pvt. Ltd. The user of this e-book is prohibited to reuse, retain, copy, distribute, or republish any contents or a part of contents of this e-book in any manner without written consent of the publisher.

We strive to update the contents of our website and tutorials as timely and as precisely as possible, however, the contents may contain inaccuracies or errors. Tutorials Point (I) Pvt. Ltd. provides no guarantee regarding the accuracy, timeliness, or completeness of our website or its contents including this tutorial. If you discover any errors on our website or in this tutorial, please notify us at contact@tutorialspoint.com

Table of Contents

| | | |
|----|---|----|
| | About the Tutorial | i |
| | Audience | i |
| | Prerequisites | i |
| | Disclaimer & Copyright | i |
| | Table of Contents | ii |
| 1. | OVERVIEW | 1 |
| | What is a Business Process? | 1 |
| | What is jBPM? | 2 |
| | Features of JBPM..... | 2 |
| 2. | JBPM – ECLIPSE PLUGIN | 3 |
| 3. | JBPM – HELLO WORLD!..... | 8 |
| 4. | JBPM – COMPONENTS | 18 |
| | The Semantic Module..... | 18 |
| | The Process Engine | 18 |
| | Persistence and Transactions | 19 |
| | Audit/History Logs..... | 19 |
| 5. | JBPM – WORKFLOW COMPONENTS..... | 20 |
| 6. | JBPM – DRAW AND VALIDATE A WORKFLOW | 23 |
| 7. | JBPM – EXAMPLE | 32 |

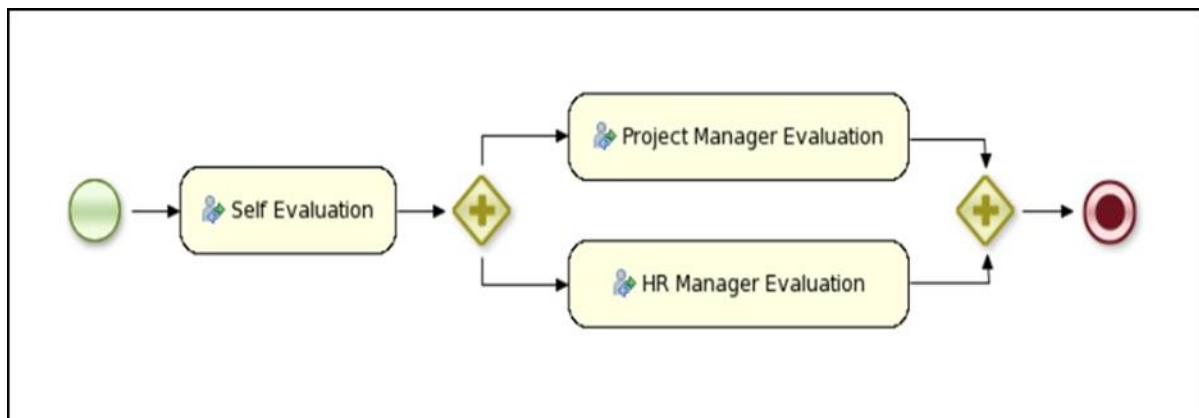
1.OVERVIEW

JBPM stands for "Java Business Process Management". It is a JBoss product which is an open source framework. Before moving further, let us first define a business process.

What is a Business Process?

By definition, a business process is a sequence of tasks that takes place in a repeatable order, executed by humans and/or systems to achieve a business goal. It describes the order (using a flowchart) in which a series of steps needs to be executed. A business process can significantly improve the visibility and agility of a business logic.

Let us take an example. The following screenshot depicts a workflow/flowchart that most IT professionals can relate to. It is a common process that is followed in most organizations to appraise the employees based on their performance.



A Typical Organizational Workflow

The process takes place in the following order:

1. Employees self-evaluate themselves and submit the report to their Project Managers.
2. Your performance is then evaluated by the Project Manager and the HR Manager. Based on the evaluation, they give the employees a rating.
3. The final rating or performance feedback is then relayed back to the employees.

This process is applicable for almost all the employees and hence, it is a very good example to understand a business process. It is a sequence of tasks and it happens in a particular order.

What is jBPM?

Business process is a key concept to understand any organizational framework. A technology like jBPM helps in managing complex business processes in an efficient way. JBPM is a tool that can orchestrate a business process effectively. Generally, every enterprise-level application will have a sequence of tasks which are executed in a specific order and those processes can be orchestrated with the help of jBPM.

The beauty of jBPM is that it is similar to a flowchart. It can be easily understood by business analysts as well. jBPM can be embedded in a Java application and run as a service.

Features of JBPM

jBPM is a lightweight, open source, fully embeddable process engine written in Java. Its most notable features are listed below:

- jBPM executes business processes which are designed using the BPMN 2.0 specifications.
- jBPM can be fully integrated with Eclipse and similar IDEs to provide drag and drop support to create a workflow.
- jBPM has UI tools available to involve business analysts and users right from the design phase.
- jBPM supports persistence and transaction management with the help of JPA and JTA.
- One can define custom work item handlers to create a user-defined task which can be used as a component later on for other workflows.

2.JBPM – ECLIPSE PLUGIN

The following are the Prerequisites to install jBPM Plugin:

- Java 1.5 (or higher) SE JDK
- Eclipse 4.2 or any version and the jBPM plugin

As jBPM is written in Java, we will be covering how to add the desired plugins in this section. Considering maximum Java users use Eclipse, let us see how to add the jBPM plugin in Eclipse.

Download the binaries from the following link:

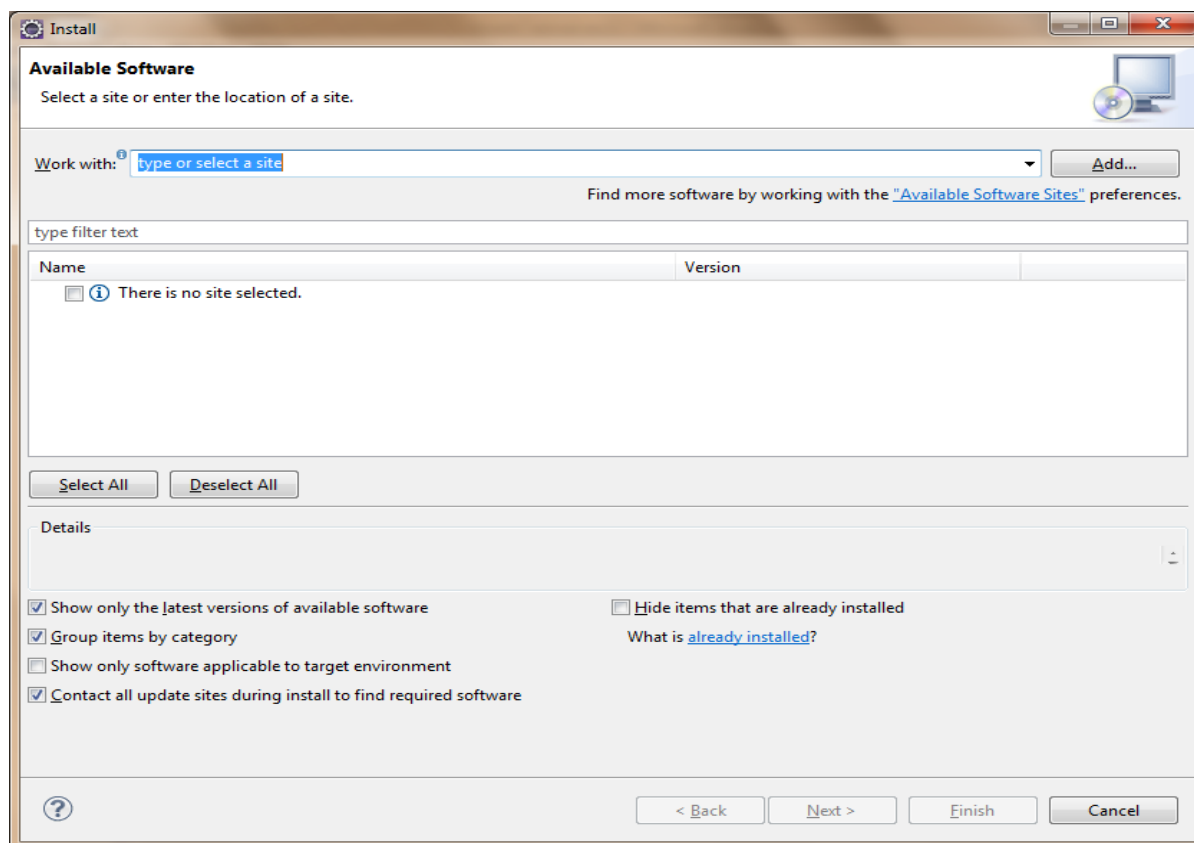
<http://download.jboss.org/drools/release/5.3.0.Final/>

Don't be confused on seeing Drools here. The same plugins are used for jBPM. If you already have installed Drools plugin, then you can skip the installation steps.

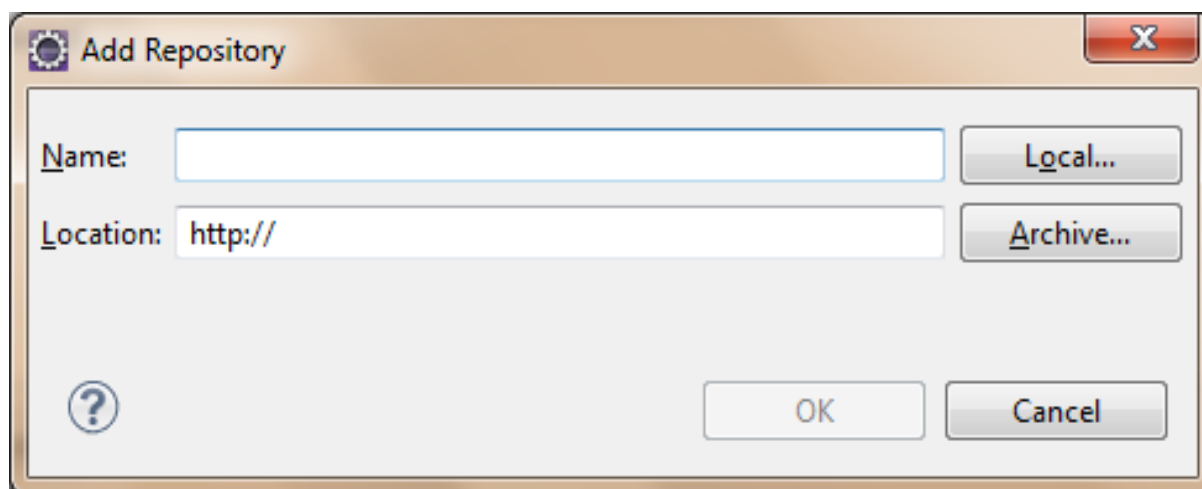
| Index of /drools/release/5.3.0.Final | | | |
|---|----------------------|-------------|--------------------|
| <u>Name</u> | <u>Last modified</u> | <u>Size</u> | <u>Description</u> |
|  Parent Directory | | - | |
|  drools-distribution-5.3.0.Final.zip | 16-Nov-2011 07:11 | 71M | |
|  drools-osgi-bundles-distribution-5.3.0.Final.zip | 21-Oct-2011 08:16 | 34M | |
|  drools-planner-distribution-5.3.0.Final.zip | 21-Oct-2011 08:18 | 24M | |
|  droolsjbpm-integration-distribution-5.3.0.Final.zip | 21-Oct-2011 08:23 | 77M | |
|  droolsjbpm-tools-distribution-5.3.0.Final.zip | 21-Oct-2011 08:26 | 56M | |
|  guvnor-distribution-5.3.0.Final.zip | 21-Oct-2011 08:48 | 364M | |

Apache Server at download.jboss.org Port 80

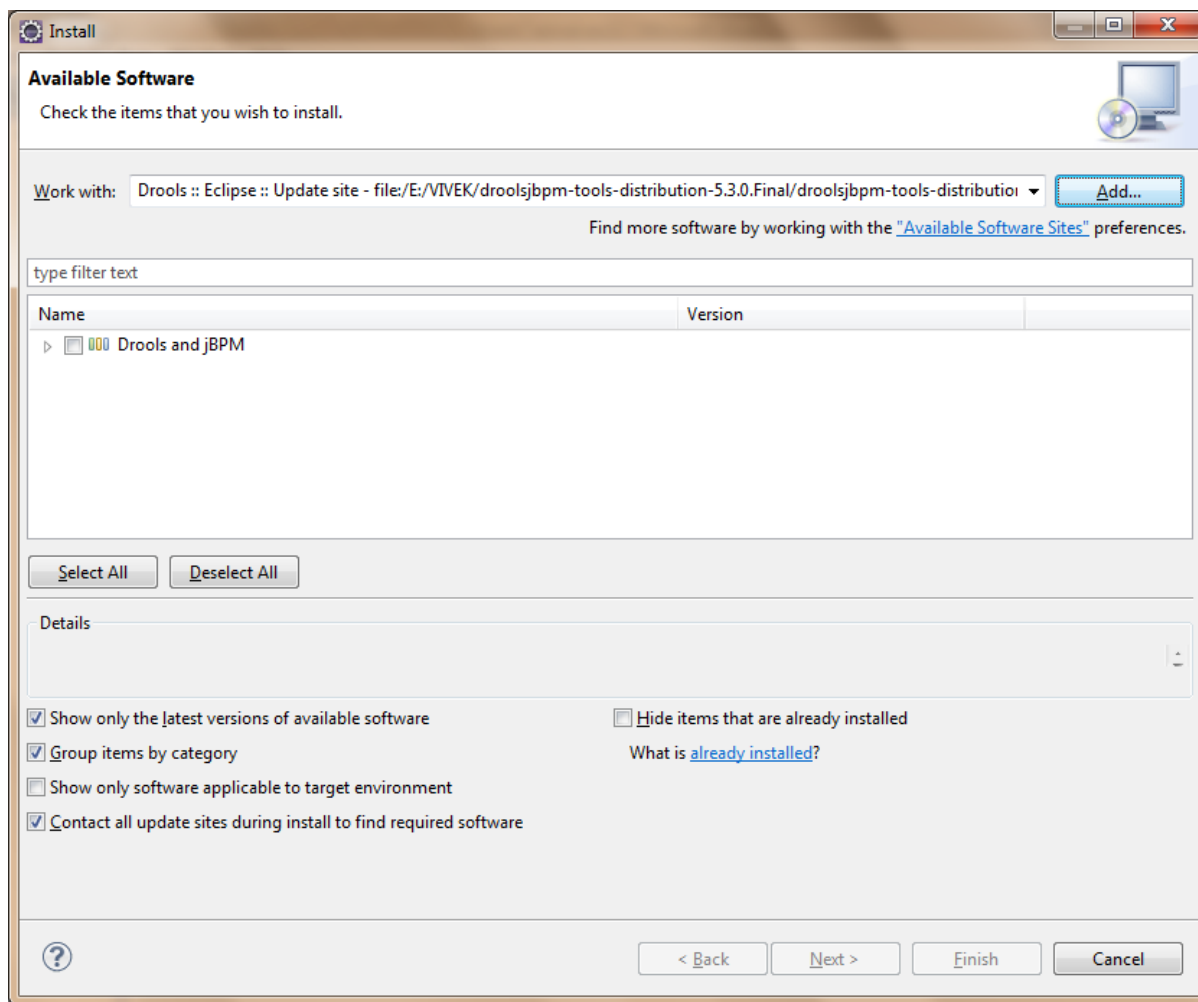
Extract it to your hard disk. Then, launch Eclipse and go to Help → Install New Software.



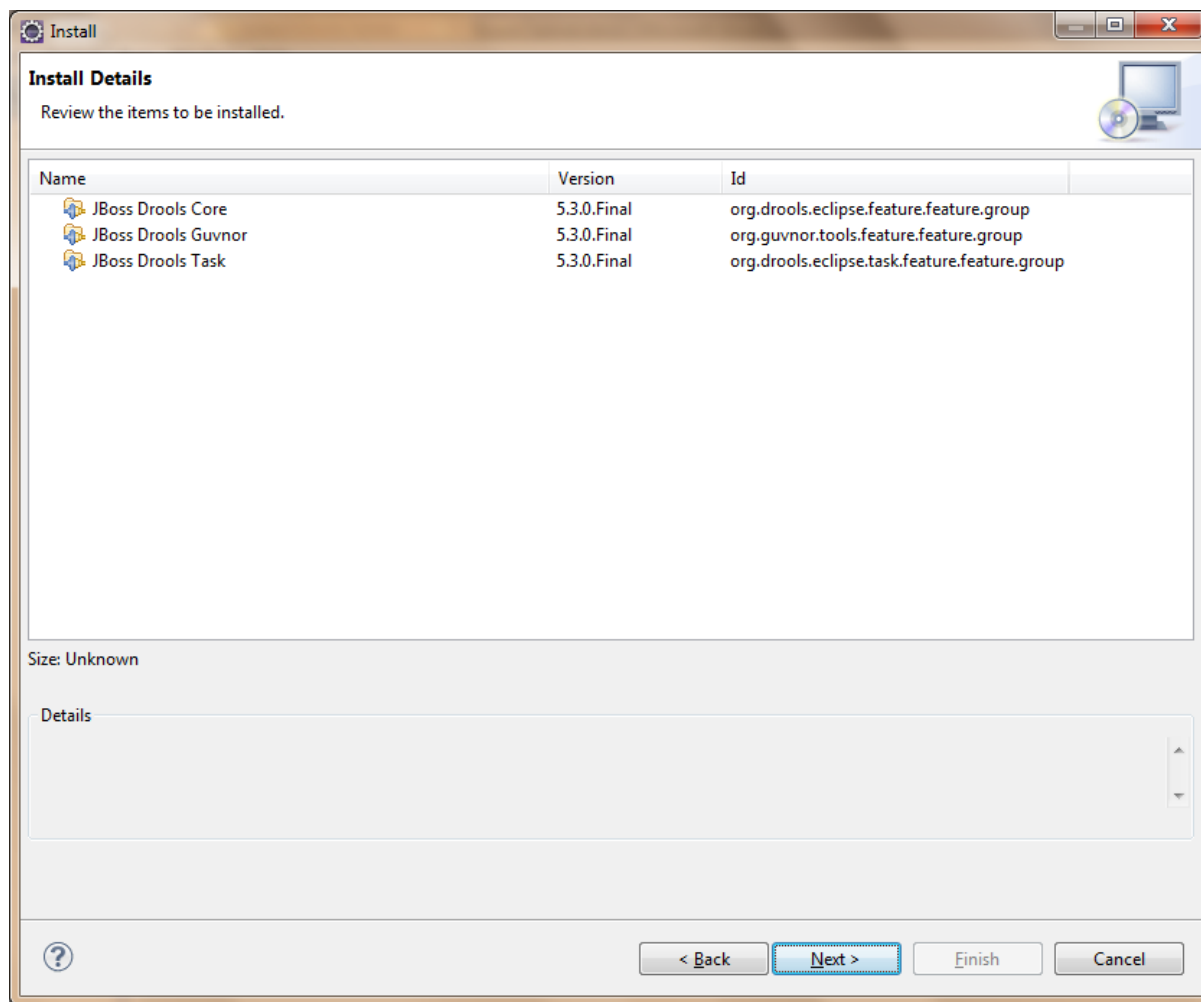
Click **Add Repository**:



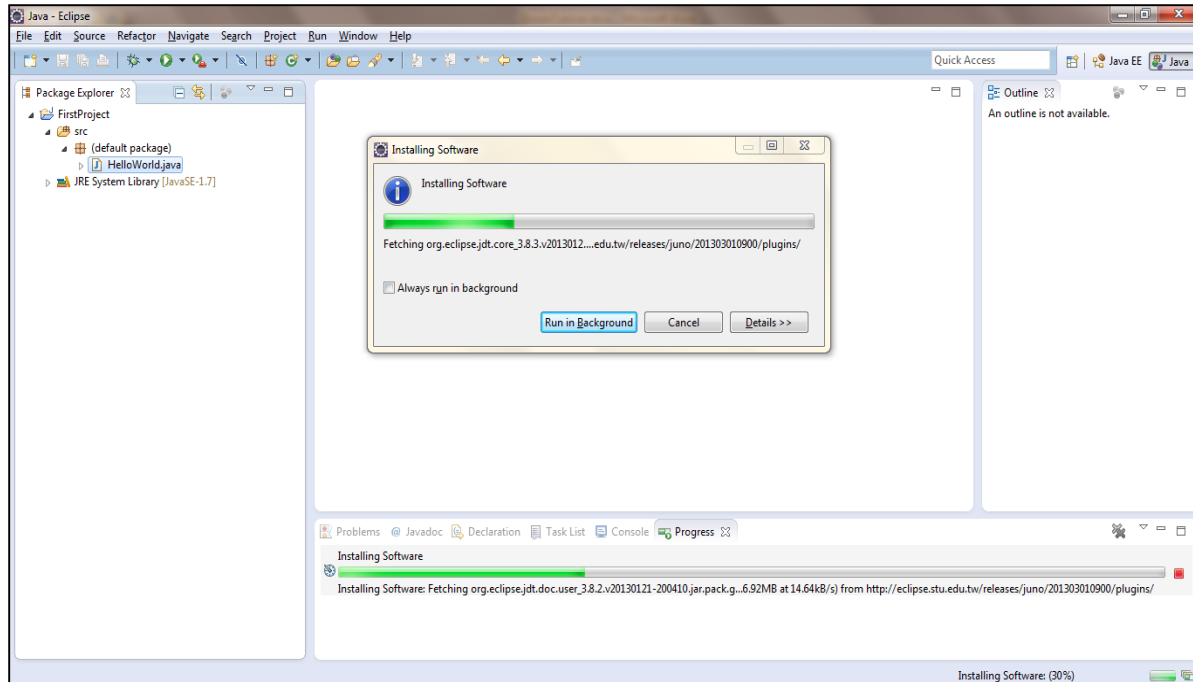
Click the **Local** button and then select ".../binaries/org.drools.update.site" (where you downloaded on your machine)



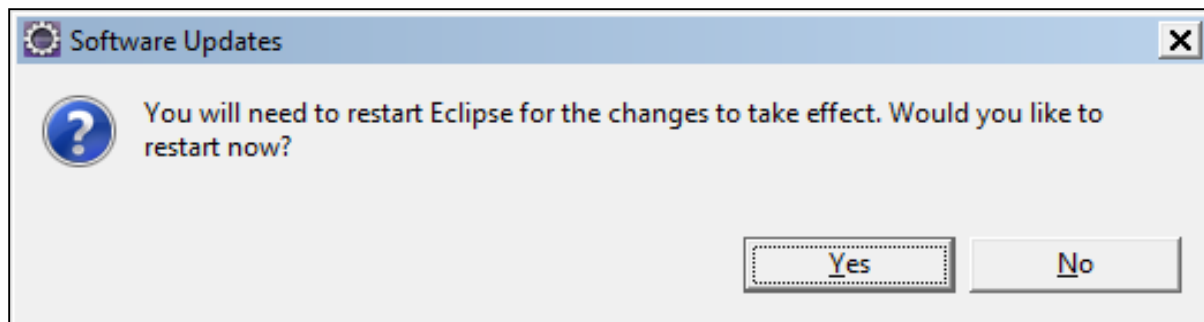
Select **Drools and jBPM** and then click the **Next** button.



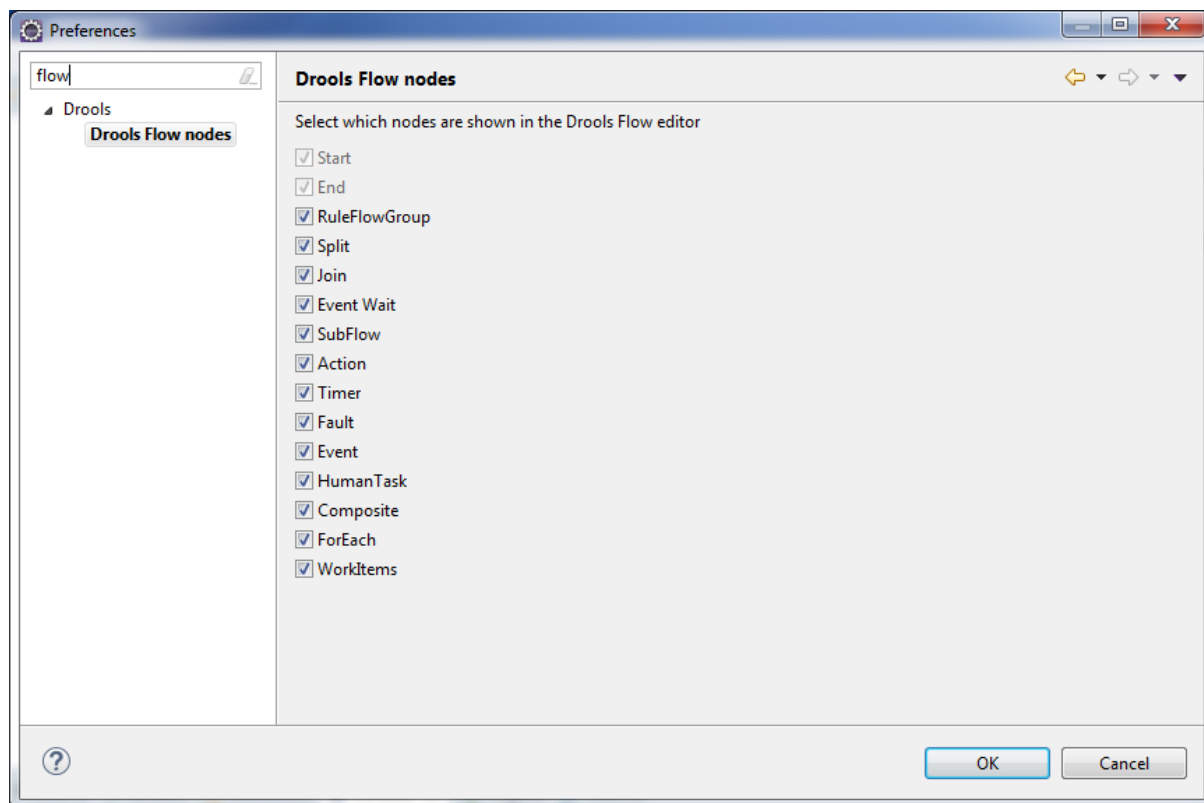
Again Click **Next** and select "I accept the terms of license agreement" and then click **Finish**. The software installation starts:



Post successful installation, you will get the following dialog box:



Click **Yes**. Eclipse restarts. Now, go to **Windows -> Preferences -> Drools -> Drools Flow Nodes**

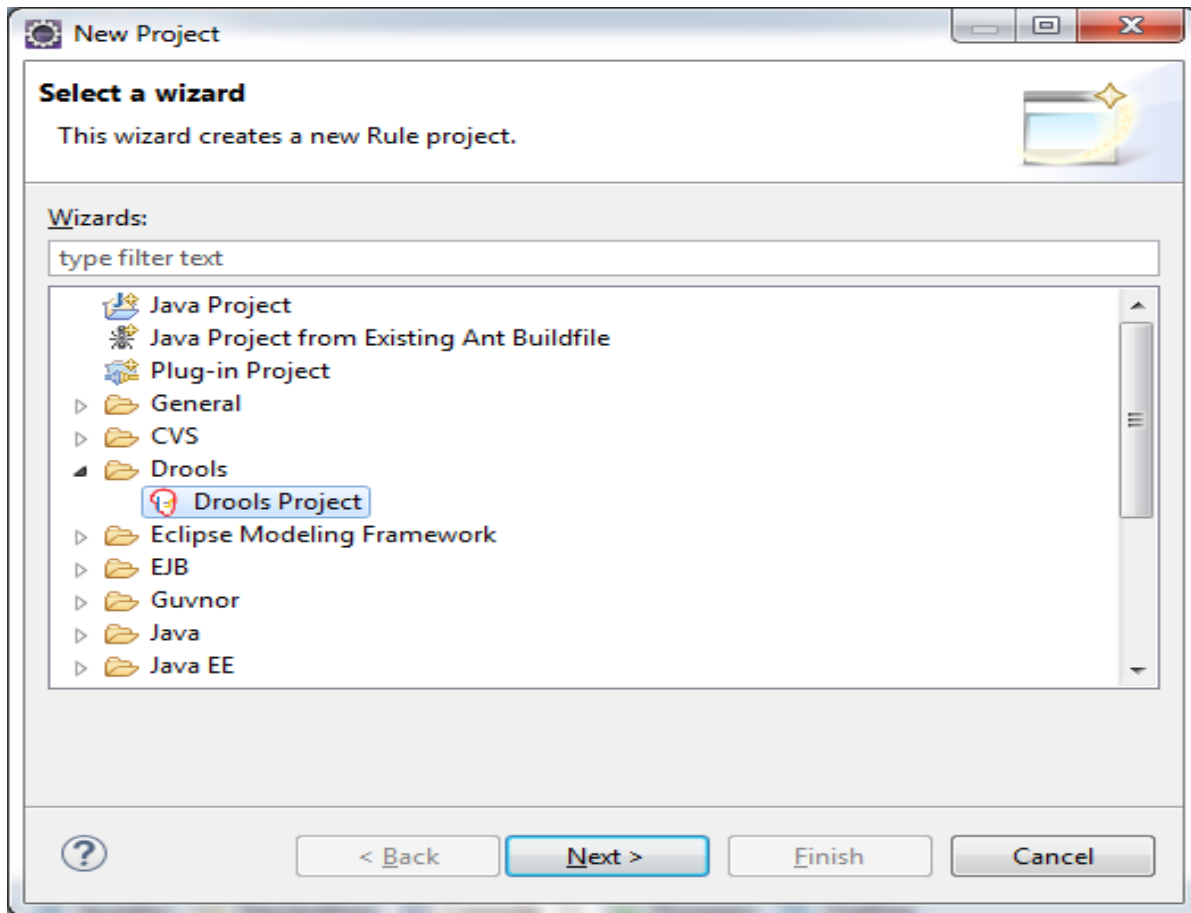


If you are able to see the nodes as shown in the above screenshot, it proves that the plugins were successfully installed. Now we are ready to write our first jBPM program.

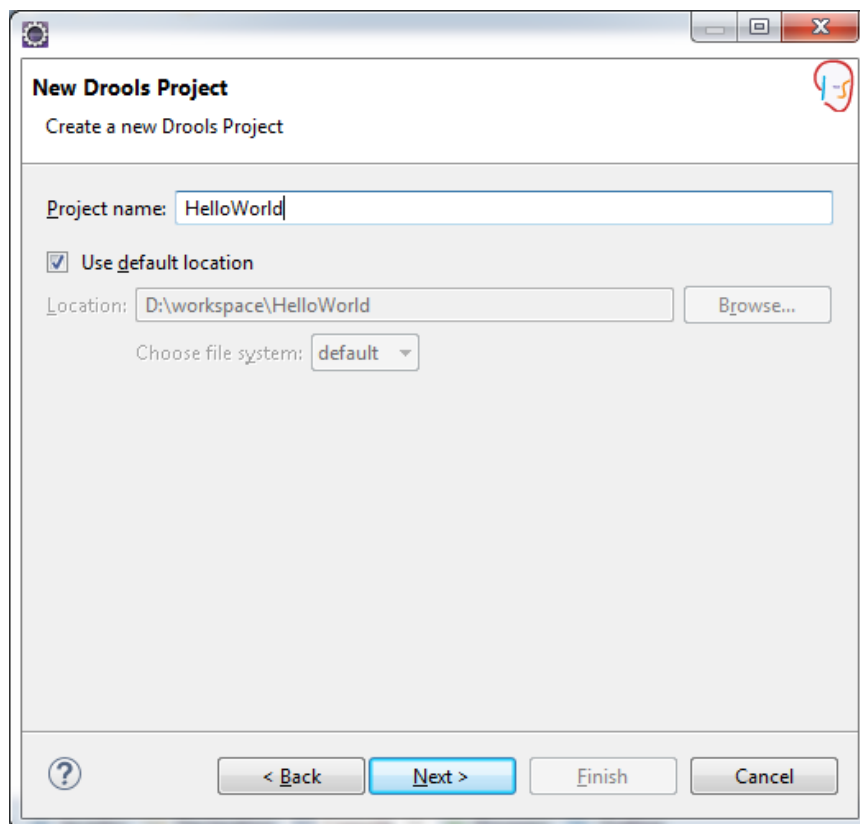
3.JBPM – HELLO WORLD!

Here in this chapter, we will write our first program "Hello World" using jBPM. Follow the steps given below:

Go to File -> New -> Drools Project:

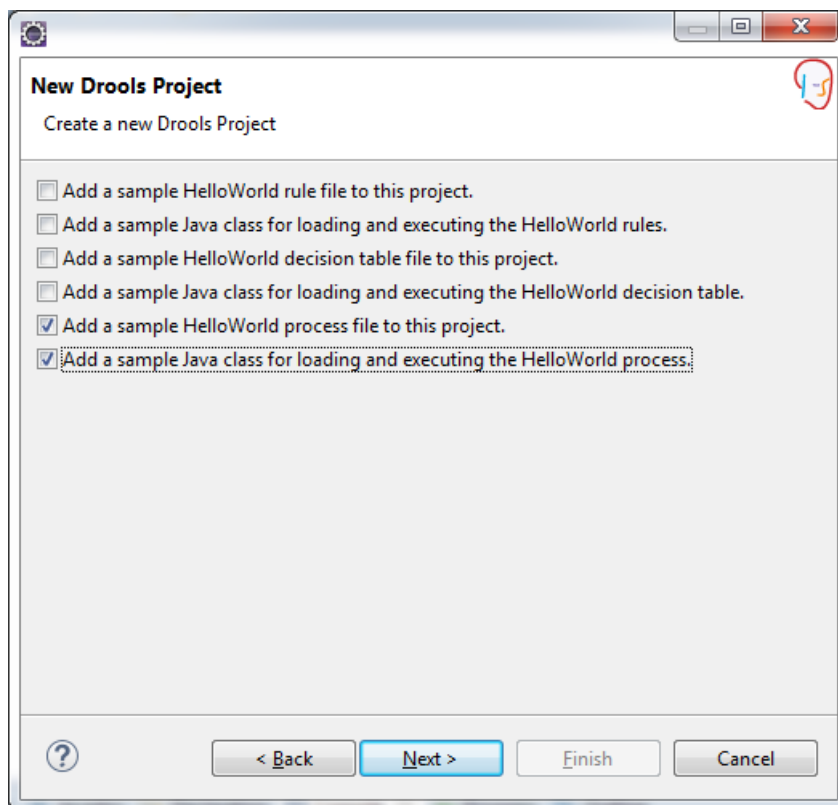


Click **Next**. Give an appropriate name for the first project : "HelloWorld" in our case.

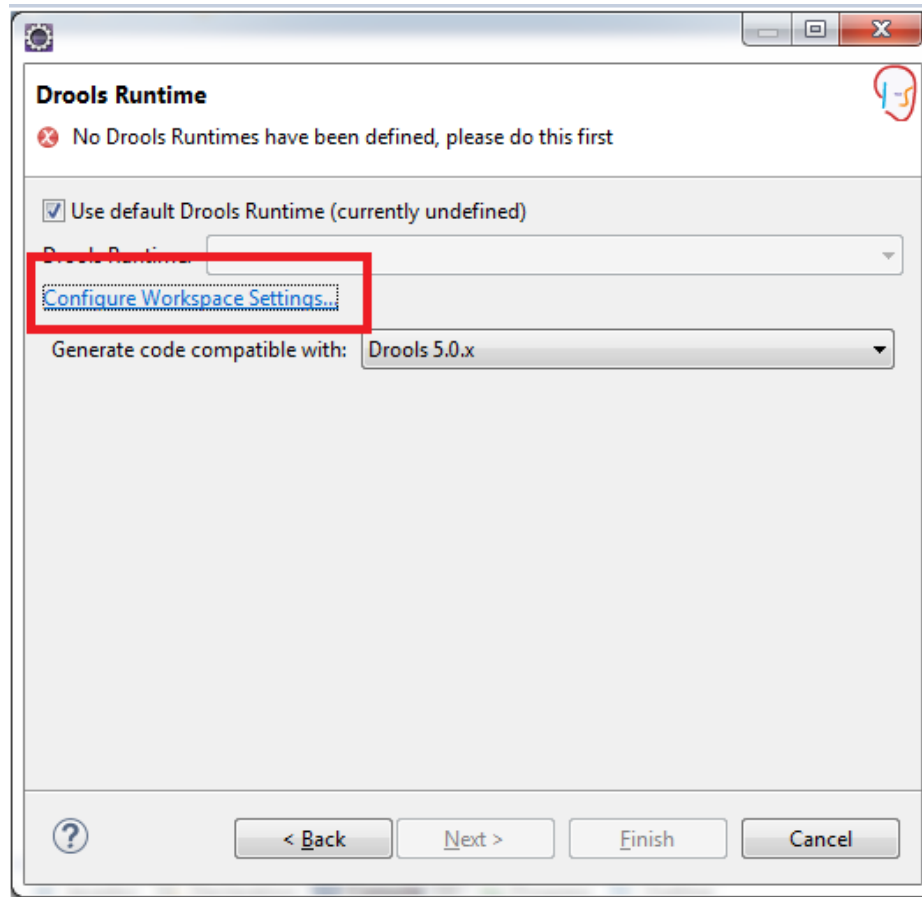


Click **Next**. Select the bottom two checkboxes, viz:

- Add a sample HelloWorld process file to this project
- Add a sample class for loading and executing HelloWorld process



Click **Next**. Click Configure Workspace Settings (marked red in the following screenshot):



Click the **Add** button:

End of ebook preview
If you liked what you saw...
Buy it from our store @ <https://store.tutorialspoint.com>