**JBPM and Drools**

**Duration: 15 Hours**

**Lab setup**

1. JDK 1.8

2. Eclipse 2019 JEE or STS 4 0r above

3. Tomcat 9

4.  [**Drools 7.47.0.Final**](http://docs.jboss.org/drools/release/6.4.0.Final/drools-docs/html/DroolsReleaseNotesChapter.html)

5. https://download.jboss.org/drools/release/7.47.0.Final/org.drools.updatesite/:: Eclipse :: Update site - http://download.jboss.org/drools/release/7.3.0.Final/org.drools.updatesite/

6. Spring boot 2.x

7. Internet connection

RAM : 8GB minimum

PreRequisite

Java Knowledge

**Day 1 – 3 Hours**

**Module-1 JBPM overview, Drools overview**

* What is JBPM?
* What is Drools?
* Community projects Vs Enterprise projects
* Eclipse integration
* JBPM console
* JBPM components
* Getting started
* Downloads
* Prerequisites
* Quick tour
* Knowledge API
* Base API
* Runtime manager
* Remote API
* Sample code

**Module-2 Installation**

* Installation
* Configuration
* Getting started
* Examples
* Eclipse editor integration
* Q & A

**Module-3 Elements, Properties and API**

* BPMN 2.0 – overview
* Specifications
* Elements
* FLOW elements
* Events
* Events sub types
* Example- terminate end event
* FLOW elements- Activities
* Tasks
* Gateways
* Boundary events
* Connecting elements
* Data elements
* Swim lanes and Artifacts
* Workbench- Process designer sections
* Process properties
* Task properties
* Human interactions
* Task service API
* Sample project creation with complete explanation

**Day 2 -- Hours**

**Module-4 JBPM external integration, Process management, Remote API factory, Spring boot**

* JBPM external integration
* Workbench integration
* Sample Web Application
* Architecture of integration
* Creation of sample process
* Eclipse
* Business process
* Git repositories
* Import the project
* Maven plug-in connectors setup
* New claim submission
* Remote API factory
* Common constants
* Authoring
* Deployment
* Process management
* Tasks
* Embedded Mode Setup

**Day 3 – 3Hours**

**Module-5(a) Exception Handling**

* Signal event
* How to create new project
* Eclipse
* Sub-process
* Exception Handling
* Looping
* Time event

**Module-5(b) Drools introduction, Business Rule task, Sample Business process using Drools**

* Drools introduction
* Production rule systems
* Pattern
* Rule engine
* Difference between a JAVA method and Rule
* Rule integration within Business Process
* Business Rule task
* Rule flow graph
* Setting up Eclipse
* Sample drools project Hello World
* Sample claims process
* Sample Business process using Drools

**Day 4 – 3 Hours**

**Module-6 Persistence & Transaction**

* Persistence & Transaction
* Why persistence & transaction
* Persistence
* Internal working of persistence
* JBPM DB model
* JBPM persistence entities
* JBPM persistence & Transaction Dependencies
* JBPM persistence API
* Kie session

**Day 5 - 3 Hours**

**Module-7 Drools – Traditional programming v/s Declarative programming,Batch Executor**

* Drools – Traditional programming v/s Declarative programming
* Advantages and disadvantages of Drools
* When NOT to use a Rule Engine
* KIE
* Stateless session
* Claim validation example
* Stateless session example
* Batch Executor
* Stateful session
* Stateful session example
* Cross products
* License example

**Module-8 Overview of Work item**

* Overview of Work item
* External interactions
* Work item in JBPM6
* Out of the Box work item handlers
* Service task example, configuration and execution
* Custom work item
* Custom work item example
* Hands on exercise

**Module-9 Execution control-Agenda Rule set**

* Execution control-Agenda
* Meaning of Agenda
* Execution Control – Rules matches & control
* Execution control-conflict resolution
* Decision table
* When & when not to use decision table
* Rules set part
* Understanding decision table
* Rule set attributes
* Rule table attributes

**Module 10-Rule & Function**

* Rule templates
* Rules authoring using workbench
* Data enumeration
* Guided rule
* Guided rule template
* Guided decision table
* Decision table spreadsheet
* Functions in Drools
* Type declaration
* Demo

**Project work**

**Project1-JBPM web app**

**Project2-JBPM-Persistence**

**Project3-JBPM-domainspecificnode**

**Project4-DecisionTable**

* Decision Table
* Parts Of Decision Table
* Creation of Test Tax Rule