

**Drools Business Rule Management System**

**Course Number:** JAV-418  
**Duration:** 3 days

**Overview**

[Drools](https://www.drools.org/) is an open-source Business Rules Management Software (BRMS) written in Java.  This Drools Business Rule Management System training course teaches attendees how to write, refine, and deploy Drools rules.

**Prerequisites**

All students must have basic Java programming.

**Materials**

All Drool attendees receive comprehensive courseware.

**Software Needed on Each Student PC**

* A recent version of Windows, macOS, or Linux with at least 8 GB RAM
* JDK 8 or later
* The Java tool the students are likely to use after the class (Eclipse or IntelliJ IDEA are recommended)
* Other free software - please contact us if you have purchased this class

**Objectives**

* Understand what Drools is
* Understand Rules and the Rule Engine
* Work with the components in Drools
* Understand the architecture of Drools
* Write Drools code with real-time use cases
* Understand Stateful Vs Stateless sessions
* Understand the Drools language syntax

**Outline**

* Drools Introduction
  + What is a Rule-Based Engine?
  + Advantages of the rule engine
  + When not to use rule engine?
  + What is Drools?
  + Environment setup
  + First Drool program
  + Creating Drools project with Eclipse Plugin
  + Creating Rules-Based Maven Project from scratch
* Drools Rules
  + Rules basic structure
  + Rules writing
  + Rules syntax
  + Left-Hand Side (When) syntax
  + The Right-Hand side (then)
  + Declarative approach
  + Imperative versus Declarative implementation
  + Rules execution chaining
  + Atomicity of rules
  + Ordering of rules
  + Rule execution life cycle
  + Complex Rule and multiple Rule
  + Timers and Calendars
  + Defining our rules and facts
  + Translating rules into Drools Rule Language
  + Selecting proper facts
  + Basic operations and Drools specific operators
  + Basic accumulate functions (sum, max, etc.)
  + Intermediate calculations
  + Inserting new facts
  + Ordering rules
  + Backward chaining
  + Working with facts
  + Manipulating facts in code
  + Manipulating facts in rules
* Drools Runtime
  + KieModel and KieContainer
  + KieModel configuration (KieBases, KieSession, and stateless KieSession)
  + Stateless Knowledge Session
  + Stateful knowledge Session
* Improving Rule Syntax
  + Modifying the data in the working memory
  + The insert keyword
  + The modify and update keywords
  + The delete/retract keywords
  + Rule Attributes
  + Controlling which rule will execute
  + Splitting rule groups with agenda group
  + Other rule groups
  + Rule dates management
  + Special Drools operations
  + Boolean and numeric operations
  + Regex operations
  + Collections (contains, memberOf)
* Understanding KIE Sessions in Detail
  + Stateless and stateful Kie Sessions
  + Kie Runtime components
  + Globals
  + Way to parameterize the condition of a pattern
  + Way to improve new information in a session in LHS
  + Way to collect information from a session
  + Kie Base components
  + Functions
  + Custom operators
  + Custom accumulates functions
* Conclusion