

**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