



JRules 6 for Developers

Exams Composition and Study Guidelines

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JRules 6 for Developers Certification

The JRules 6 for Developers certification exams are targeted at software architects and developers who have studied the JRules 6 product and gained practical experience through the design and implementation of business rule management systems with JRules.

Their knowledge and experience of the product can be evaluated and recognized with three different exams, Bronze, Silver and Gold, requiring an increasing level of competency on the JRules concepts, technology and tools.

Candidates are tested on their ability to demonstrate their knowledge of:

- The fundamental concepts underlying the product.
- The concept of operations established between the product modules.
- The technical features of the product and their practical use.

Study Documents

The sole source of material and reference needed to study for the JRules for Developer exams are documents published by ILOG and publicly available to its JRules customers.

- For the Bronze exam, all the necessary technical knowledge can be found in the JRules for Developer training material (ILOG JRules 6.x for Developers Training Workbook). The questions contained in the exam are derived from the content of the training material alone.
- For the Silver and Gold exam, the needed knowledge is found in the JRules for Developer training material and also the JRules documentation (ILOG JRules 6.x Documentation).

Prerequisites

There is no formal prerequisite for either of the JRules for Developer exam. However, since the content of the Bronze exam is strongly rooted in the JRules for Developer training, it is recommended that the candidates have attended the ILOG instructor-led training.

For the Silver and Gold exams, although a given period of practice of the product does not need to be officially demonstrated, the level of technical details touched by some questions virtually requires that the candidate has had significant hands-on exposure to the product to properly answer them.

Questions Format

The exams are all composed of a series of Multiple Choice Questions. The format of the questions is one of the following:

- **True / False questions**, where the candidate is asked to answer True or False to a question.
- **Single Response questions**, where the candidate is proposed a list of 2 to 5 possible options and must choose the one that correctly answers a question or properly completes a statement. The response is considered correct and brings one point to the candidate, if the selected option is the expected one. Otherwise, the response does not bring any point to the candidate.
- **Multiple response questions**, where the candidate is proposed a list of 2 to 5 options and must choose the subset of these options that apply to the question. The question text may state the expected number of options that should be selected or may just ask to select all options that apply. The response is considered correct and brings one point to

the candidate if the set of selected options matches exactly the expected one. Otherwise, the response does not bring any point to the candidate.

Exam scoring counts counts one (1) point for each question that s answered correctly an zero (0) point for a question that is answered incorrectly or left unanswered.

Exam Test Domains

Below is a list of the different JRules domains that are covered by the certification exams. Note that this list is indicative and should not be considered exhaustive by the prospective candidate.

Creating Rule Projects

- Understand the set-up of a rule project with its different properties (rule variables, ruleset properties, ruleset extractors, categories, project references).
- Define a BOM from a XOM (Java and XML Schemas).
- Design a BOM (verbalizations, BOM to XOM mapping mechanisms, refactoring, automatic variables, domains definition, internationalization).
- Define and manage rule templates.
- Write and use queries.

Writing Rules

- Write BAL rules (structure: definitions, conditions, actions, else part).
- Write Decision Tables (interface with spreadsheets, gap and overlap warnings and errors, preconditions, empty and disabled cells, locking).
- Write Decision Trees.
- Understand the rule consistency checking mechanism.
- Understand technical rules and IRL rules syntax.

Orchestrating Ruleset Execution

- Define a ruleflow and its different components (rule task, function task, flow task, transitions, initial/final actions).
- Understand the rule selection mechanisms during execution: agenda filter, dynamic select, task ordering strategies, rule overriding, hierarchical properties, rule priorities.

Executing Rules and Optimizing Execution

- Understand rulesets, rule apps and how they are organized.
- Know the different engine algorithms (Rete, Sequential, Fastpath), their respective properties and behavior.
- Know the specific features of these algorithms such as hashing, code density, etc...
- How pattern matching works for the Rete algorithm, the components of the engine (agenda, context, working memory) and their role.

JRules Modules

The goal of the questions on the different JRules modules is to check that the candidate has a general knowledge of the RES, RS, RSM, RTS modules and their concept of operation. The questions in this section are general and high level. A candidate with working knowledge of the

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modules and who has used them in the context of a simple project should be able to answer those questions.

JRules API

Questions on the API aim to check whether the candidate knows the role and utilization of some key classes for:

- XML binding.
- Rule engine management.
- Rule Studio API.

Exams Composition

The total number of questions per exams and the exam duration are the following:

<i>Exam</i>	<i>Total Number of Questions</i>	<i>Exam Duration</i>
Bronze	60	60 minutes
Silver	60	60 minutes
Gold	100	60 minutes

Note that the overall session includes 10 minutes to get accustomed with the test platform, the time allocated to the actual exam (see above table) and 20 minutes to review questions and provide feedback (you cannot change your answer during the post-exam review).

The table below gives the repartition of the questions between the different domains.

<i>Test Domain</i>	<i>Bronze</i>	<i>Silver</i>	<i>Gold</i>
Creating Rule Projects	24	23	38
Writing Rules	13	10	11
Orchestrating Ruleset Execution	3	5	7
Executing Rules and Optimizing Execution	12	11	23
RS	1	1	2
RTS	4	2	6
RES	2	2	5
RSM	1	4	4
JRules API	0	2	4
Total	60	60	100

Table 1: Question Repartition by Domain

The table below gives the representation of the different domains (in percentage, rounded up, of the number of questions).

<i>Test Domain</i>	<i>% of Exam</i>		
	Bronze	Silver	Gold
Creating Rule Projects	40%	38%	38%
Writing Rules	22%	17%	11%
Orchestrating Ruleset Execution	5%	8%	7%
Executing Rules and Optimizing Execution	20%	18%	23%
RS	2%	2%	2%
RTS	7%	3%	6%
RES	3%	3%	5%
RSM	2%	7%	4%
JRules API	0%	3%	4%

Table 2: Question Repartition by Domain (percentage)

Required Mastery

Exam scoring counts counts one (1) point for each question that s answered correctly an zero (0) point for a question that is answered incorrectly or left unanswered.

The table below shows the minimum number of questions which should be answered correctly to pass the exam (Raw Mastery) and the corresponding percentage of correct answers it represents (Mastery Level).

<i>Exam</i>	<i>Total Number of Questions</i>	<i>Raw Mastery</i>	<i>Mastery Level</i>
Bronze	60	45	75%
Silver	60	41	68%
Gold	100	68	68%

Question Samples

The following questions are sample certification questions. They are given here as an illustration of the structure of the questions and the proposed answers. They should not be used as a reference for the difficulty of the questions that are asked during the actual certification exams.

Which of the following is the function of the methods provided by the IlrXmlDefaultSchemaDriver class?

Translate an XML schema into an execution object model.

Serialize and deserialize XML data to IlrXmlObject instances.

Assert XML objects into the rule engine instance.

Obtain rule execution results from the rule engine instance when dealing with IlrXmlObject instances.

A category is:

A list of business rules to synchronize with Rule Team Server which share a common BOM and goal.

A Rule Team Server role shared between Rule Team Server and Rule Studio.

An identifier that can be applied on business classes and members and filtered in business rules.

A business rule property describing the type of the rule artifact.

One of the possible rule engine optimization is to use finders. What is the purpose of finders?

To speed up the execution of rules and reduce the number of combinations that must be evaluated using hash tables

To make use of hash tables to improve the performance of equality tests. This dramatically reduces the number of combinations that must be evaluated

To speed up the execution of rules by providing application-specific code as a substitute for certain rule conditions

To make use of hash tables to improve the performance of equality tests in the form of class methods