Description: Description: 5300_IBMpos

Developing Solutions with IBM Decision Server Insights V8.7

WB394 (Classroom)

ZB394 (Self-paced)

Course description

This course teaches you the main features of the Decision Server Insights component of IBM Operational Decision Manager Advanced V8.7. Decision Server Insights enables real-time, in-memory, rule-based, event-driven, and analytical decision making. You experience how to use analytics, time-based reasoning, and location-based reasoning to build a real-world solution that detects and responds to business situations. You also learn the key capabilities of Decision Server Insight's multi-agent architecture by developing several agents that are bound to a single entity for different purposes.

This course focuses on solution development, deployment, and testing. You learn how to implement the business logic that detects business situations and uses situational context to decide and take the next best action.

The course begins with an overview of the programming model for Decision Server Insights and the architecture for the Decision Server Insights runtime environment. You learn key terminology such as *event*, *entity*, *agent*, and *aggregate*. You learn about the analytic capabilities that provide the foundation for decisions results.

You also learn how to design a Decision Server Insights solution, model the business entities and events that you care about, and implement the business logic. You work with a realistic test client to test the behavior of your implementation after deployment.

For information about other related courses, visit the IBM Training website:

**ibm.com**/training

General information

Delivery method

Classroom or self-paced virtual classroom (SPVC)

Course level

ERC 2.0

Product and version

IBM Operational Decision Manager Advanced V8.7

Audience

This course is designed for developers.

Learning objectives

After completing this course, you should be able to:

* Describe the Decision Server Insights programming model and architecture
* Design and create a Decision Server Insights solution
* Define the business model for the events, entities, and concepts that are relevant to your domain
* Use global aggregates for calculations across all events or a population of entities
* Implement business logic with rule agents and rules to detect and respond to business situations
* Deploy solutions to the Insight Server runtime and test runtime behavior
* Explain Decision Server Insights integration capabilities

Prerequisites

Before taking this course, you should have:

* Experience with the Java programming language and object-oriented concepts
* Basic knowledge of Extensible Markup Language (XML)
* Basic knowledge of WebSphere Application Server Liberty profile

Duration

3 days

Skill level

Intermediate

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| Classroom (ILT) setup requirements | |
| Processor | Intel Xeon X7350 processor |
| GB RAM | 8 |
| GB free disk space | 120 available (not total disk space) |
| Network requirements | LAN / Internet |
| Other requirements | None |

Notes

The following unit and exercise durations are estimates, and might not reflect every class experience. If the course is customized or abbreviated, the duration of unchanged units will probably increase.

This course is a new course.

Course agenda

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| Course introduction  Duration: 30 minutes |

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| Unit 1. Introducing IBM Decision Server Insights V8.7  Duration: 1 hour and 30 minutes | |
| Overview | This unit introduces you to the Decision Server Insights programming model and architecture. |
| Learning objectives | After completing this unit, you should be able to:   * Describe Decision Server Insights and explain how it works * Introduce key terminology, including *entity*, *event*, *agent*, and *global aggregate* * Describe the Decision Server Insights architecture * Outline the user roles that are associated with Decision Server Insights |

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| Exercise 1. Getting started with Decision Server Insights  Duration: 45 minutes | |
| Overview | This exercise explores the installation and configuration of Decision Server Insights. |
| Learning objectives | After completing this exercise, you should be able to:   * Install Decision Server Insights with IBM Installation Manager * Prepare a workspace in Insight Designer * Set the debug port for your installation |

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| Unit 2. Designing Decision Server Insights solutions  Duration: 1 hour and 30 minutes | |
| Overview | This unit teaches you how to plan and design a Decision Server Insights solution. |
| Learning objectives | After completing this unit, you should be able to:   * Model a solution * Outline design factors * Describe the solution project |

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| Exercise 2. Creating a solution in Insight Designer  Duration: 15 minutes | |
| Overview | This exercise demonstrates how to create the solution project in Insight Designer. |
| Learning objectives | After completing this exercise, you should be able to:   * Create a solution project |

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| Unit 3. Creating the business model  Duration: 1 hour | |
| Overview | This unit teaches you how to create the business model definition file. |
| Learning objectives | After completing this unit, you should be able to:   * Describe the elements of a business model * Translate a UML diagram into a business model definition |

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| Exercise 3. Defining the business model  Duration: 1 hour | |
| Overview | This exercise covers how to create a business model. |
| Learning objectives | After completing this exercise, you should be able to:   * Create a business model definition file |

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| Unit 4. Authoring the business logic  Duration: 2 hours | |
| Overview | This unit teaches you how to implement the business logic with rule agents. |
| Learning objectives | After completing this unit, you should be able to:   * Describe the structure of rule agents, Java agents, and predictive scoring agents * Implement business logic with rules * Explain how to implement time-based reasoning * Describe location-based tests * Define global aggregates |

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| Exercise 4. Creating a rule agent  Duration: 1 hour | |
| Overview | This exercise covers how to create agents, how to write agent descriptors that bind the agent to an entity, and how to write a rule that emits an event. |
| Learning objectives | After completing this exercise, you should be able to:   * Create a rule agent * Write an agent descriptor * Write a rule that emits an event * Create a Java agent |

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| Exercise 5. Writing and testing rules  Duration: 1 hour | |
| Overview | This exercise covers how to add a rule to an existing rule agent and deploy the solution for testing. |
| Learning objectives | After completing this exercise, you should be able to:   * Add a rule to a rule agent * Deploy a solution * Submit events through a test client to test rule behavior |

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| Exercise 6. Using global aggregates in rules  Duration: 1 hour | |
| Overview | This exercise shows you how to create global aggregates and use them in your rules to identify and respond to outliers. |
| Learning objectives | After completing this exercise, you should be able to:   * Create a global aggregate * Use global aggregates in rules * Use the REST API to view aggregates in your solution |

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| Exercise 7. Using event aggregates in rules  Duration: 30 minutes | |
| Overview | This exercise shows you how to use event aggregates to analyze a current transaction in comparison to historical transactions. |
| Learning objectives | After completing this exercise, you should be able to:   * Use event aggregates and aggregate functions in rules |

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| Exercise 8. Using time-based and location-based reasoning in rules  Duration: 30 minutes | |
| Overview | This exercise covers how to correlate time-stamped and geo-localized events. |
| Learning objectives | After completing this exercise, you should be able to:   * Use time facets to implement time-based reasoning in rules * Use location facets to implement spatial reasoning in rules |

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| Exercise 9. Testing for the absence of events  Duration: 30 minutes | |
| Overview | This exercise covers how to recognize when an event did not occur and respond in a timely manner. |
| Learning objectives | After completing this exercise, you should be able to:   * Test for the absence of events |

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| Unit 5. Deploying solutions  Duration: 1 hour | |
| Overview | This unit teaches you how to manage solution deployment. |
| Learning objectives | After completing this unit, you should be able to:   * Explain how to export and deploy solutions * Describe how to manage solutions through the solutionManager script |

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| Exercise 10. Deploying solutions  Duration: 30 minutes | |
| Overview | This exercise covers how to manage solution deployment with the solutionManager script. |
| Learning objectives | After completing this exercise, you should be able to:   * Export a solution as a deployable archive * Use solutionManager to deploy and undeploy solutions |

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| Unit 6. Testing solutions  Duration: 1 hour | |
| Overview | This unit teaches you how to test the implementation of your business logic. |
| Learning objectives | After completing this unit, you should be able to:   * Test solutions with the TestDriver API * Troubleshoot with the REST API * Troubleshoot with log analysis * Use Insight Inspector * Create testing exercises with Generic Client |

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| Unit 7. Modeling and defining connectivity  Duration: 1 hour | |
| Overview | This unit teaches you how to model and define connectivity for your solution. |
| Learning objectives | After completing this unit, you should be able to:   * Describe inbound and outbound connectivity for a solution |

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| Exercise 11. Defining connectivity for a solution  Duration: 30 minutes | |
| Overview | This exercise demonstrates how to define connectivity. |
| Learning objectives | After completing this exercise, you should be able to:   * Define inbound and outbound connectivity for a solution * Deploy connectivity |

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| Unit 8. Integrating Decision Server Insights  Duration: 1 hour | |
| Overview | This unit explores the integration capabilities of Decision Server Insights. |
| Learning objectives | After completing this unit, you should be able to:   * Describe the integration capabilities of Decision Server Insights * Explain the exchange event schemas between IBM Integration Bus and Decision Server Insights * Consume IBM MQ or IIB monitoring events * Create a predictive scoring agent |

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| Unit 9. Course summary  Duration: 30 minutes | |
| Overview | This unit summarizes the course and provides information for future study. |
| Learning objectives | After completing this unit, you should be able to:   * Explain how the course met its learning objectives * Access the IBM Training website * Identify other IBM Training courses that are related to this topic * Locate appropriate resources for further study |

For more information

To learn more about this course and other related offerings, and to schedule training, visit **ibm.com**/training

To learn more about validating your technical skills with IBM certification, visit **ibm.com**/certify

To stay informed about IBM training, visit the following sites:

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