COURSE ABSTRACT

Merative Cúram for Developers (ADE) 8.X

CUR090

Course Description

This training provides learners with a technical understanding of the Merative Cúram Application Development Environment (ADE).

A practical grasp of the Cúram ADE is essential for teams wishing to build Cúram-compliant solutions that provide high-quality citizen services. This course provides a solid grounding in the Cúram model-driven development approach and ADE. It presents an architectural overview of the Cúram application and introduces ADE features and tools for modeling, coding, building, and troubleshooting applications. During the course, learners will design and implement a simple end-to-end application using many ADE client and server features.

This training provides learners with the essential knowledge and hands-on skills required to use the Cúram ADE to implement Cúram solutions.

General Information

Delivery Method: Classroom (ILT) and self-paced with lab.

Audience: This course is intended primarily for developers and technical architects who will work on Cúram implementation projects. The course is also useful for anyone who needs a technical understanding of the Merative Cúram Platform, including testers and support engineers.

Topics: The course covers the following topics:

- Runtime and architectural review of Merative Cúram.
- Modeling Cúram class types and relationships using IBM Rational Software Architect Designer ® (RSAD).
- Developing web client applications using User Interface Metadata (UIM) and client navigation features.
- Implementing server features, including exception handling and validation.
- Basic troubleshooting using trace and debugging tools.

Learning Objectives: After completing the course, learners should be able to:

- Use features and tools in the Cúram ADE for the following tasks:
    - Model classes and relationships.
    - Implement server-side features.
    - Create client pages and navigation.
- Implement simple, end-to-end solutions using the Cúram model-driven development approach and development tools.
- Access and interpret developer guidelines contained in the Cúram product documentation.

Prerequisites: Learners should have a working knowledge of object-oriented concepts, Java, XML, SQL, and n-tier enterprise applications. The following course is recommended to gain a broad technical view of Cúram:

- *Merative Cúram Technical Overview*

Duration: 40 Hours (5 days ILT)

Skill Level: Intermediate

Version: This course was initially developed for Cúram 8.1.

Notes

The course duration gives learners an estimate of how much time they need to allocate to the course. The course duration does not specify the actual time required to complete the course, which varies by learner. The course agenda shows the schedule for a classroom (ILT) delivery. Additional time is allowed for daily reviews and exercise reviews. Learners taking this course in a self-paced environment should allow more time to complete exercises.

<u>Unit 1 - Cúram and ADE Overview</u>

Lesson 1 – Course Introduction
Duration: 10 minutes

Learning objectives: After completing this lesson, learners should be able to:

- List the course objectives.
- Outline the course format and resources.
- List sources of help.

Lesson 2 – Cúram Technical Review
Duration: 35 minutes

Learning objectives: After completing this lesson, learners should be able to:

- Provide an overview of the components of Merative Cúram:
    - The Cúram Platform.
    - Application Modules.
- Outline the runtime architecture used in Cúram for the client and server applications.
- Describe the product documentation that is provided with the Cúram application.

Exercise 1 – Access the Lab and Product Documentation
Duration: 30 minutes

Lesson 3 – Introduction to the Application Development Environment (ADE)
Duration: 55 minutes

Learning objectives: After completing this lesson, learners should be able to:

- Outline the model-driven development approach.
- Describe the elements and supporting tools in the development environment.
- List the client and server features.
- List the outputs from code generators.
- Describe the project directory structure.
- List common build commands.

Exercise 2 – Access the ADE
Duration: 30 minutes

<u>Unit 2 - Implementing Basic Create, Read, Update, Delete, and List (CRUDL) Features</u>

Lesson 1 – Server Fundamentals
Duration: 50 minutes

Learning objectives: After completing this lesson, learners should be able to:

- Describe Cúram class types.
- Describe how UML stereotypes are used in Cúram development.
- Outline the Cúram-generated class hierarchy.
- Outline how to model and write server-side code.

Exercise 3 – Read a Person (Server Side)
Duration: 60 minutes

Lesson 2 – Client Fundamentals
Duration: 45 minutes

Learning objectives: After completing this lesson, learners should be able to:

- Describe the benefits of using User Interface Metadata (UIM).
- Describe the UIM elements that control the look of a page.
- Define and use the following components:
    - Localization and externalizing strings
    - Common UIM elements.
- Describe the client generation process.
- Describe how to use the generated bean documentation.

Exercise 4 – Read a Person (Client Side)
Duration: 60 minutes

Lesson 3 – Adding Create Pages
Duration: 30 minutes

Learning objectives: After completing this lesson, learners should be able to:

- Define a create page to insert data to the database.
- Describe the purpose of the ACTION_SET and ACTION_CONTROL elements.
- Link between pages.
- List the typical steps for the Cúram development process.

Exercise 5 – Add a Create Page
Duration: 70 minutes

Lesson 4 – Adding Search Pages
Duration: 25 minutes

Learning objectives: After completing this lesson, learners should be able to:

- Describe the server-side tasks for returning multiple records.
- Describe the client-side tasks for viewing multiple entries in a table.

Exercise 6 – Add a Search Page
Duration: 60 minutes

Lesson 5 – Adding Modify Pages
Duration: 20 minutes

Learning objectives: After completing this lesson, learners should be able to:
- Describe the modify stereotype operations.
- Describe the 'pattern' for UIM modify pages:
  - Combining SERVER_INTERFACEs
  - Multiple connections in a FIELD

Exercise 7 – Add a Modify Page
Duration: 65 minutes

Exercise 8 – Case Study: Design
Duration: 40 minutes

Unit 3 - Enhancing the Application

Lesson 1 – Code Tables
Duration: 30 minutes

Learning objectives: After completing this lesson, learners should be able to:
- State the purpose of code tables.
- Explain how to define code tables.
- Describe the outputs from the ctgen target.
- Describe how to access code tables from your code.

Exercise 9 – Implement Code Tables
Duration: 40 minutes

Lesson 2 – Data Manager
Duration: 15 minutes

Learning objectives: After completing this lesson, learners should be able to:
- Outline how the Data Manager imports and exports data.
- List the inputs to the Data Manager.
- Describe the Data Manager configuration file.
- Describe the structure of DMX files.

Exercise 10 – Import and Export Data
Duration: 30 minutes

Lesson 3 – Application Navigation
Duration: 50 minutes

Learning objectives: After completing this lesson, learners should be able to:

- Recognize the areas of the UI and the elements that can be displayed in the application frame.
- Relate the UI configuration files to the navigation features.

Exercise 11 – Configure Application Navigation
Duration: 100 minutes

Unit 4 - Implementing Features for Robustness

Lesson 1 – Exception Handling
Duration: 25 minutes

Learning objectives: After completing this lesson, learners should be able to:

- Describe how applications use exceptions to log errors.
- Describe how to add localizeable messages by using the message catalog.
- Explain how to add exception arguments.

Exercise 12 – Add Exception Handling
Duration: 40 minutes

Lesson 2 – Validation
Duration: 25 minutes

Learning objectives: After completing this lesson, learners should be able to:

- Explain the different types of validation in Cúram.
- Implement modeled validations.
- Explain the purpose of the Informational Manager for server validation.

Exercise 13 – Implement Modeled and Server-Side Validations
Duration: 80 minutes

Lesson 3 – Testing & Troubleshooting
Duration: 35 minutes

Learning objectives: After completing this lesson, learners should be able to:

- Outline the support provided for JUnit testing.
- Use the Cúram test framework to write JUnit tests.
- Describe Cúram features for troubleshooting.
- List basic troubleshooting tips.

Exercise 14 – Perform Testing and Tracing
Duration: 40 minutes

<u>Unit 5 - Additional Server Features</u>

Lesson 1 – Modeling Operations
Duration: 30 minutes

Learning objectives: After completing this lesson, learners should be able to:

- Describe and use the following modeling techniques:
    - Code Packages.
    - Stereotyped operations.
    - Handcrafted SQL.
- Review the processing types supported in Cúram.

Exercise 15 – Implement the Non-Standard Stereotype
Duration: 60 minutes

Lesson 2 – Modeling Associations
Duration: 20 minutes

Learning objectives: After completing this lesson, learners should be able to:

- Describe and use the following modeling techniques:
    - Indices.
    - Foreign Keys.
    - Aggregations.
    - Assignments.

Exercise 16 – Use Assignment and Aggregation
Duration: 40 minutes

Lesson 3 – Additional Modeling Features
Duration: 20 minutes

Learning objectives: After completing this lesson, learners should be able to:

- Use exit points.
- List the additional class stereotypes.
- Generate unique IDs.

Exercise 17 – Add Packages, Exit Points, and Unique IDs
Duration: 60 minutes

Unit 6 - Additional Client Features

Lesson 1 – Additional Client Features
Duration: 40 minutes

Learning objectives: After completing this lesson, learners should be able to:
- Define additional UIM features for pages.
- Outline how to add logic to your UIM pages using JSP scriptlets and the CONDITION element.
- List out-of-the-box domain specific controls or widgets.
- Outline the Cúram features for developing custom widgets.

Exercise 18 – Add a Select List and Online Help (Optional)
Duration: 45 minutes

Unit 7 - Course Conclusion

Exercise 19 – Case Study: Implementation
Duration: 180 minutes

Lesson 1 – Course Summary
Duration: 15 minutes

Learning objectives: After completing this lesson, learners should be able to:
- Review the objectives of the course.
- List the next options for Cúram training.

Appendix

Learning objectives: After reviewing the appendix, learners should be able to:
- Outline specialized server and client features.
- List tips for using build commands.
- List tips for selecting entity operations.