



Course Name Fundamentals of Rational Rhapsody

Course Duration 25 Hours

About Technology

IBM® Rational® Rhapsody® family provides collaborative design and development for systems engineers and software developers creating real-time or embedded systems and software. Rational Rhapsody helps diverse teams collaborate to understand and elaborate requirements, abstract complexity visually using industry standard languages (UML, SysML, AUTOSAR, DoDAF, MODAF, UPDM), validate functionality early in development, and automate delivery of innovative, high quality products.

Rational Rhapsody Designer for Systems Engineers enables a Model Based Systems Engineering (MBSE) approach with SysML for visualization of complex requirements and model execution for early validation of requirements, architectural trade off analysis and mitigation of project risks.

- Integrated requirements and modeling environment using industry standard SysML or UML diagrams
- Dynamically analyze and execute SysML parametric diagrams to assist in trade study analysis
- Simulation executes the model to help validate architecture and behavior including activity diagram execution using token passing semantics
- Full lifecycle traceability and analysis from requirements to design
- Static model checking analysis helps improve design consistency
- Automates tedious tasks with systems engineering toolkit
- Capture systems of systems with additional DoDAF, MODAF and UPDM Add On
- Includes configuration management interface support with advanced graphical difference and merging capabilities for parallel development
- Automate documentation across product lifecycle with Rational Publishing Engine integration
- Collaborative development with integration with the Jazz- based IBM® Rational® Team Concert solution through Eclipse
- Automate validation testing with Rational Rhapsody TestConductor Add On including Rational Quality Manager integration

About Course

This course teaches the fundamental techniques required to start using the Unified Modeling Language (UML2) and the Systems Modeling Language (SysML) to build a basic model in IBM Rational Rhapsody. Through the use of hands-on exercises, you create a small model and get started using visual modeling and Rational Rhapsody. The course uses a small Vending Machine design to show how UML can be practically applied. The essential Rational Rhapsody diagrams for structural and behavioral modeling are created in the exercises. In this course, you use Rational Rhapsody to build a model of a vending machine. The material is broken into six labs, starting with basic requirements and showing how you can transition from functionality-describing use cases to an object-oriented software design. You execute and test the model and add subsystem interfaces. For this course, you use Rational Rhapsody in C++ Version 7.5.2 and one of the following compilers: Cygwin 1.5, 1.7, Microsoft Visual C++ 6.0 SP3, or Microsoft Visual Studio .NET 2005, 2008.

Upon completion of the course, students will be able to:

- Identify key concepts in UML and SysML
- Start a new Rational Rhapsody project
- Create and edit different types of diagrams
- Use the Rational Rhapsody browser and Features dialog
- Locate and review Rational Rhapsody properties

- Navigate a project
- Generate a report
- Verify a model
- Identify subsystem interfaces

Target Audience

This instructor-led, classroom course is intended for the following audience:

- Systems and software engineers new to IBM Rational Rhapsody
- Program or project managers
- Development team leads
- Software testers

Students of:

- CS/IT ECE/EEE Engineering – 1st / 2nd Year
- MCA – 1st Year
 - BCA/ BSC – 1st year

Pre-requisites

Knowledge of Object Oriented Analysis and Design, and C++ or C, is helpful but not required.

Contents

This course covers the following topics:

- UML2 and SysML overview
- Basic Rational Rhapsody tool usage (hands-on exercise)
- Starting a project
- Creating and editing diagrams
- Using browser and features dialog
- Rational Rhapsody properties
- Project navigation
- Generating a report
- Model verification
- Subsystem interfaces

Follow on courses

- IBM CE - Fundamentals of Embedded Software development using IBM Rational Rhapsody (C++)
- IBM CE - Fundamentals of Embedded Software development using IBM Rational Rhapsody (Java)