

2016 IBM Continuous Engineering Open Labs

Target to better *LEARNING*

(NO COST - not a substitute for full training courses)

- Labs are self-paced with workbooks
- SMEs will be present to answer any questions
- Please register via ibmevents.info, or:

- **REGISTER: November 16 - 8:30 AM - 5:00 PM**

http://www.ibmevents.info/?action=evregister&event_id=169

REGISTER: November 17 - 8:30 AM - 5:00 PM

http://www.ibmevents.info/?action=evregister&event_id=170

Save the Date!

November 16 - 17, 2016
8:30 AM – 5:00 PM

The Queen Mary
1126 Queens Highway
Room Coronia (B Deck)
Long Beach, CA 90802

Choose from one or more of these Self-Paced, Hands-On Labs:

Internet of Things (IoT) Platform

- Turn your mobile phone into an IoT device

Requirements Management

- Lab IOT9661 DOORS Next Generation 6.0.1
- Rational Collaborative Requirements Definition with DOORS

Design Management

- Lab IOT9650 - Integrating Your System Design into the Development Lifecycle
- OMG SysML™ with IBM Rational Rhapsody and IBM Jazz™

Continuous Engineering

- Lab IOT9666 - The IBM Continuous Engineering Solution v6.0.1

Collaborative Lifecycle Management

- Lab DEV9310 - Quick Planner in IBM Collaborative Lifecycle Management v6.0

Report Management

- Lab IOT9667 - Cross lifecycle project analysis with RELM and JRS
- Lab DEV9311 - Insightful Reporting Using IBM Collaborative Lifecycle Management
- DMT 3722 - Learn to Use Rational Publishing Engine to Create Custom Reports from Rational DOORS Next Generation
- Publish Your Rational DOORS Requirements with RPE

Quality Management

- Rational Quality Manager

Agile Workflow Management

- Agile Development with Rational Team Concert
- Scale Agile Framework (SAFe)

Internet of Things (IoT) Platform

 **Turn your mobile phone into an IoT device (Duration: 2 hours)**

This workshop demonstrates the use of your Android™ or iOS™ mobile phone or tablet as an “internet of things” device, streaming real sensor data to a cloud-based application for analysis and display, and receiving commands in return. You will use an app on your phone that communicates with a cloud-based application that you will build using IBM Bluemix and the Watson IoT Platform service. The lab starts you off with Node-RED, but many other services are available for your experimentation.

IBM Watson IoT Platform is where you can set up and manage your connected devices, and is provided as a set of integrated Bluemix services. Bluemix is an environment to quickly create, deploy, and manage applications in the cloud. IBM Watson IoT Platform enables you to securely connect many types of devices from simple sensors to intelligent appliances and industrial components. With ease, you can develop and deploy your own custom enterprise-scale IoT solutions. The platform’s rich analytics and cloud-based connectivity provide you with the insights you need for market innovation and business transformation. In this hands-on workshop, your Android or iOS phone or tablet will be the IoT device. An app that is running on your device will publish its Accelerometer data (accel events), and this data will be received by another app that you build on the cloud using Bluemix. To show the ability for bidirectional communication with your connected IoT device, your cloud-resident app will respond to the device with commands (color commands) to change the background color of the IoT device’s screen.

Agenda	Products
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<ul style="list-style-type: none"> ✓ Lab 1 – Create an IoT App in Bluemix <ul style="list-style-type: none"> 1.1 Create an IoT App in Bluemix 1.2 Add a device that will send MQTT messages to the IoT Platform 1.3 Install and Configure the IoT Starter App 1.4 Verify that messages are being sent from your mobile phone to the IoT Platform 1.5 Process messages in a Node-RED flow 1.6 Create a Bluemix App to visualize sensor data 	<ul style="list-style-type: none"> ✓IoT Platform including MQTT Broker ✓Bluemix
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Requirements Management

 **Lab IOT9661 DOORS Next Generation 6.0.1 (Duration: 3 – 4 hours)**

This workshop demonstrates how the IBM® Continuous Engineering solution can help companies reduce the time, cost, and risk of developing profitable products and systems. Participants of this Proof of Technology (PoT) will get hands on experience with the Requirements Management application of the IBM® Jazz™ platform. Over the course of the PoT, users will explore how integrated IBM tools support the product development lifecycle, decreasing cost and time to market by:

- Managing Requirements across the entire lifecycle and disciplines, from stakeholder requirements to system, software and hardware requirements, through to test.
- Enabling distributed teams to collaborate and communicate throughout the development lifecycle.
- Enabling projects to be managed effectively, by providing accurate visibility into project health status and team workloads.
- Automating traceability and auditability by managing artifacts and their inter-relationships across the lifecycle, empowering teams to deliver more value by removing manual tasks.

Agenda	Products
<ul style="list-style-type: none"> ✓ Lab 1 – RM Fundamentals with a Web Client ✓ Lab 2 – Dealing with Changes to Requirements ✓ Lab 3 – Importing ✓ Lab 4 – Reporting and Dashboard Widgets ✓ Lab 5 – Configuration Management of Requirements ✓ Lab 6 – Extension Exercises 	<ul style="list-style-type: none"> ✓ DOORS Next Generation 6.0.1

 **Rational Collaborative Requirements Definition with DOORS (Duration: 3 – 4 hours)**

Rational DOORS is a leading requirements management tool that makes it easy to capture, trace, analyze, and manage changes to information. Control of requirements is key to reducing costs, increasing efficiency, and improving the quality of your products.

Using the Rational DOORS family of products, you can optimize requirements communication, collaboration, and verification throughout your organization and across your supply chain.

Rational DOORS makes it easy for everyone in your organization and beyond to participate in and contribute to the requirements management process. This workshop will provide attendees with the opportunity to learn from IBM professionals and use DOORS and DOORS Web Access (DWA) hands-on in a Systems Engineering based example scenario.

Agenda	Rational Products
<ul style="list-style-type: none"> ✓ Lab 1 – Import User Requirements from existing documents ✓ Lab 2 – Create System Requirements and Traceability ✓ Lab 3 – Analyze Requirements ✓ Lab 4 – Verification of Requirements ✓ Lab 5 – Review Requirements, Baseline and Sign-off ✓ Lab 6 – Manage Changing Requirements and Impact Analysis 	<ul style="list-style-type: none"> ✓ Rational DOORS ✓ Rational DOORS Web Access

Design Management

 **Lab IOT9650 - Integrating Your System Design into the Development Lifecycle**
(Duration: 2 hours)

This lab will show some of the benefits of Integrating your System Design into the Development Lifecycle. Architectural analysis and design is an important part of a Systems Engineering process – and whether using SysML, DoDAF or UML in Rational Rhapsody, or simulating using Simulink models, the use of traceability links to relate the models to the requirements being analyzed and to the design requirements which result ensures that work is justifiable and the design decisions explained. By working through this lab, you will experience how to:

- Work with a model using the actively managed mode of configuration management, and using the Rhapsody profile for Systems Engineering
- Create, navigate, and analyze traceability links between design and requirements artifacts
- Make comments and mark-ups as part of a Rhapsody model review.

Systems engineers and software engineers typically use the Rhapsody desktop client to create and maintain models, while stakeholders and other product development roles use Rhapsody Design Manager to review models and create links between design artifacts and other artifacts.

Agenda	Products
<ul style="list-style-type: none"> ✓ Exercise 1: Exploring the Automated Meter Reader Model <ul style="list-style-type: none"> ✓ Exploring the Model using the Rhapsody Desktop Client ✓ Exploring the Model using Rhapsody Design Manager ✓ Exercise 1 Review ✓ Exercise 2: Adding Links to the Rhapsody Model <ul style="list-style-type: none"> ✓ Add a Link using the Rhapsody Desktop Client ✓ Add a Link using Rhapsody Design Manager ✓ Exercise 2 Review ✓ Exercise 3: Model Reviewing <ul style="list-style-type: none"> ✓ Model Reviewing Using the Rhapsody Desktop Client ✓ Model Reviewing Using Rhapsody Design Manager ✓ Exercise 3 Review 	<ul style="list-style-type: none"> ✓Rhapsody

 **OMG SysML™ with IBM Rational Rhapsody and IBM Jazz™ (Duration: 2 – 3 hours)**

The focus is model-based systems engineering (MBSE) using standards-based support for the OMG Systems Modeling Language™ (OMG SysML).

The Architect for Systems Engineers Edition of IBM Rational Rhapsody is used. Optional labs show how Rhapsody works in combination with IBM Rational Design Manager 5.0.

Later labs also show Open Services for Lifecycle Collaboration (OSLC) links can be made with Requirements Management (RM) tools. This approach is contrasted with the conventional approach of using the Rhapsody Gateway to synchronize requirements with a Rhapsody project.

Agenda

- ✓ Lab 1 – Explore the HSUV SysML Model
- ✓ Lab 2 – Requirements, Tables, Matrices, and Metrics
- ✓ Lab 3 – More on SysML Blocks, Ports and Parts (Optional)
- ✓ Lab 4 – Create a Rhapsody DM Project Area
- ✓ Lab 5 – Modifying a Project on the Design Manager Server
- ✓ Lab 6 – Create a Lifecycle Project that Includes Jazz/RM
- ✓ Lab 7 – Linking Modeling Elements to Jazz/RM

Products

- ✓Rhapsody Architect for Systems Engineers
- ✓Rational Design Manager 5.0
- ✓DOORS Next Generation

Continuous Engineering

 **Lab IOT9666 - The IBM Continuous Engineering Solution v 6.0.1 (Duration: 3 to 4 hours)**

This workshop demonstrates how the IBM Rational Continuous Engineering solution can help companies reduce the time, cost, and risk of developing profitable products and systems. Participants of this lab will get hands on experience with Rational Team Concert, DOORS Next Generation, and Rational Quality Manager to explore the linkage of artifacts across the development lifecycle. Participants will take on several development team roles, to navigate the relationships among requirements, change requests, development tasks, design artifacts, test cases, and test execution results. All of these capabilities are greatly automated when using the IBM Rational Continuous Engineering solution. Users will explore how integrated Rational tools support the product development lifecycle, decreasing cost and time to market by:

- Managing Requirements across the entire lifecycle and disciplines, from stakeholder requirements to system, software, and hardware requirements, through to test
- Incorporating Systems Engineering practice guidance and process enactment
- Enabling distributed teams to collaborate and communicate throughout the development lifecycle
- Enabling projects to be managed effectively, by providing accurate visibility into project health status and team workloads
- Automating traceability and auditability by managing artifacts and their inter-relationships across the lifecycle, empowering teams to deliver more value
- Using Configuration Management to work on a variant and to create a baseline across requirements and tests.

Agenda	Products
<ul style="list-style-type: none"> ✓ Lab 1 – Introduction to Continuous Engineering – Project Planning and Management ✓ Lab 2 – Overview of Global Configurations and Configuration Management ✓ Lab 3 – RM Fundamentals with a Web Client ✓ Lab 4 – Lifecycle Traceability Across the V Cycle ✓ Lab 5 – Creating a New Baseline Across Requirements and Tests 	<ul style="list-style-type: none"> ✓Rational Team Concert 6.0.1 ✓DOORS Next Generation 6.0.1 ✓Rational Quality Manager 6.0.1

Collaborative Lifecycle Management

 **Lab DEV9310 - Quick Planner in IBM Collaborative Lifecycle Management v6.0**
(Duration: 2 hours)

In this lab, you are a member of a development team that is working for a bank called JKE Banking. The bank already has a web presence, but it has been decided that this presence needs to be expanded to the mobile market. The solution is required rapidly, and so the developers who are working on this application must have some way to track their progress. They must know what deadlines are in place and who is responsible for developing the different parts of the application. Three developers are tasked to work on the application. It is also decided that development will follow the agile process, with a subset of complete work provided to the stakeholders on a cyclic basis (called releases). There is also a daily meeting of the team members to track progress (this meeting is called a scrum). Apart from developers, the team includes an administrative leader (called a scrum master), a product owner with the vision of what must go into the product, and a stakeholder, someone who requires the final application.

Agenda	Products
<ul style="list-style-type: none"> ✓ Add new item to Product Backlog ✓ Provide details and estimates for stories ✓ Rank high priority stories ✓ Add estimates for other high priority stories ✓ Reorder stories in the Product Backlog ✓ Select stories for the release ✓ Create a baseline for the release plan ✓ Refine Release Backlog ✓ Planning the sprint ✓ Decompose stories into tasks ✓ Review team workload for the Sprint 	<ul style="list-style-type: none"> ✓ Rational Team Concert 6.0.1

Report Management

✓ Lab IOT9667 - Cross lifecycle project analysis with RELM and JRS
(Duration: 3 to 4 hours)

Complex engineering projects typically create massive amounts of data using many different tools. Requirements, Designs, Testing Artifacts, CAD models, Bills of Materials – the list goes on and on. This lab explores how Rational Engineering Lifecycle Manager (RELM) and Jazz Reporting Services Report Builder (JRS) provide powerful new ways of exploring, locating, consuming and getting more value from that engineering data. Rational Engineering Lifecycle Manager helps teams make better use of engineering data for more effective engineering decisions and more efficient compliance with industry standards. RELM provides:

- Searching across all of the engineering data – regardless of the tool, database or repository
- Clear views of relevant and related engineering data that are simple to use
- Analysis of engineering data that shows the impact of changes
- An open architecture and federated data approach that lets you visualize and analyze engineering data

Jazz Reporting Services provides a powerful report builder that allows self-serve reporting – create and produce reports in a matter of minutes with a simple, graphical interface.

Agenda	Products
<ul style="list-style-type: none"> ✓ Lab 1 – Introduction to Continuous Engineering – Project Planning and Management ✓ Lab 2 – Overview of Global Configurations and Configuration Management ✓ Lab 3 – RM Fundamentals with a Web Client ✓ Lab 4 – Lifecycle Traceability Across the V Cycle ✓ Lab 5 – Creating a New Baseline Across Requirements and Tests 	<ul style="list-style-type: none"> ✓ Rational Engineering Lifecycle Manager ✓ Jazz Reporting Service

 **Lab DEV9311 - Insightful Reporting Using IBM Collaborative Lifecycle Management**
(Duration: 2 hours)

Jazz™ Reporting Service (JRS) provides practitioners with the ability to easily create their own reports in a powerful and easy to use interface (without requiring Cognos expertise). The JRS interface is designed to be intuitive without any technical knowledge of the underlying data warehousing technology. Users can create table based or graphical reports for one or more artifact types, specify conditions as well as the scope of the data which will be displayed. You can also control the formatting of results with an interactive preview. The resulting report can be run inside the JRS user interface and subsequently exported to Microsoft® Excel or Rational Publishing Engine, if desired. Alternatively the report can be added to a dashboard as a widget alongside the existing reports provided by CLM or the out of the box reports from JRS.

To manage these new reports, there is an explorer view that shows the reports stored in the JRS. The reports can be organized by tags, visibility and / or filtered through a text search. This is also a launch page for editing or duplicating existing reports shared by other team members.

Agenda	Products
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<ul style="list-style-type: none"> ✓ Exercise 1 - Exploring the RPE Desktop Interface ✓ Exercise 2 - Create a requirements document ✓ Exercise 3 - Creating a traceability document with RPE ✓ Exercise 4 - Creating a traceability doc with RPE & JRS ✓ Exercise 5 - Formatting a document ✓ Exercise 6 - Create a test plan document from RQM ✓ Exercise 7 - Create a sprint document from RTC ✓ Exercise 8 - Create a traceability doc with RPE / JRS ✓ Exercise 9 - Exploring the RPE Web UI ✓ Exercise 10 - Create and run a custom report in the RPE Web UI 	<ul style="list-style-type: none"> ✓ Jazz Reporting Service 6.0 and 6.0.1 ✓ Rational Publishing Engine ✓ DOORS Next Generation 6.0.1 ✓ Rational Quality Manager 6.0.1 ✓ Rational Team Concert 6.0.1
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✔ DMT 3722 - Learn to Use Rational Publishing Engine to Create Custom Reports from Rational DOORS Next Generation (Duration: 2 – 3 hours)

Publishing Engine automates document generation from Rational solutions and select third-party tools. You can use Rational Publishing Engine to automate the generation of documents for ad hoc use, formal reviews, contractual obligations or regulatory compliance. Built-in capabilities extract data from a range of data sources to help reduce manual work and risk of errors. Rational Publishing Engine provides:

- Documents and reports-generate high-quality documents with flexible formatting as well as composite reports containing data from multiple sources.
- Outputs-support multiple output formats and concurrent document generation to multiple target formats from a single template.
- Templates-include predefined templates and provide a graphical template editing environment for custom report design.
- Data sources-extract data from a single source or combine data from multiple sources.

Agenda	Products
<ul style="list-style-type: none"> ✓ Logging on ✓ Verify Jazz team server availability ✓ Logging on Rational DOORS Next Generation ✓ Report template creation ✓ Include report template into DNG 	<ul style="list-style-type: none"> ✓ Publishing Engine ✓ DOORS Next Generation

 **Publish Your Rational DOORS Requirements with RPE (Duration: 2 – 3 hours)**

This is your opportunity to learn about Rational Publishing Engine (RPE) and take it for a hands-on test drive. The objective of this Workshop is to demonstrate how RPE helps your projects meet business goals, satisfy customer needs, and address applicable regulations and standards, to help customers achieve greater value and performance from their global investments in software.

RPE can be used to generate documents with data from different sources (System Architect, DOORS, Focal Point, Rhapsody, and the Jazz family tools) and to different output formats like Word, PDF, HTML and XSL-FO. The lab exercises are designed to give the student an introduction to the RPE application using data from a Rational DOORS project.

This Workshop consists of three lab exercises. The student is to follow the related lab workbook at your own pace. The work book instructs the student how to perform various tasks within RPE with the intention of the student becoming more familiar with RPE’s functions and capabilities using Rational DOORS data. The student is encouraged to ask questions and get assistance whenever necessary.

Agenda	Rational Products
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<ul style="list-style-type: none"> ✓ Lab 1 - Document Generation from the DOORS Client ✓ Lab 2 – Modify a Document Specification ✓ Lab 3 – Add Traceability Matrix to Requirements Document Template 	<ul style="list-style-type: none"> ✓ Rational DOORS ✓ Rational Publishing Engine
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Quality Management

 **Rational Quality Manager (Duration: 3 – 4 hours)**

IBM® Rational® Quality Manager is a web-based, centralized test management hub for business-driven software quality. It is an environment for software decision makers and quality professionals who seek a collaborative and customizable solution for test planning, workflow control, tracking and metrics reporting. Designed with distributed teams in mind, the web interface allows team collaboration regardless of location, providing real time project status and communication to all team members.

This workshop dives into the Quality Professional role in the Rational Collaborative Lifecycle Management (CLM) solution powered by Jazz. Experience how IBM Rational Quality Manager may be used to perform quality management activities such as test planning, test authoring, test execution and test reporting - including test progress and coverage analysis. Explore Rational Quality Manager's role in CLM by linking test assets to Rational Requirements Composer requirements and Rational Team Concert development work items delivering traceability across your software development process.

Agenda	Rational Products
<ul style="list-style-type: none"> ✓ Lab 1 - Test Management ✓ Lab 2 - Test Planning ✓ Lab 3 - Test Construction ✓ Lab 4 - Test Execution ✓ Lab 5 - Test Reporting 	<ul style="list-style-type: none"> ✓ Rational Quality Manager V4.0 ✓ Rational Functional Tester (optional) ✓ Rational Team Concert (limited)

Workflow Management

 **Agile Development with Rational Team Concert (Duration: 3 – 4 hours)**

Rational Team Concert helps organizations build better software and products with an all-in-one Agile development environment for teams, which includes agile, formal and hybrid planning and reporting, all on a common platform.

- Agile your way – Scrum, waterfall or hybrid; adapt planning to meet your team needs and rhythm
- Friction free communication by smart linking of tasks, code changes, builds and releases as you work
- Live dashboards - write code not status reports – live web based dashboards tell everyone the story
- Empower developers - Fix goofs, juggles tasks, patch in seconds, easily add or remove features
- Runs anywhere – open platform - Works with your existing tools and data for incremental adoption

Agenda

Rational Products

- ✓ Lab 1 – Customer Collaboration
 - ✓ 1.1 Understanding & contributing to changing project & delivery status
 - ✓ 1.2 Submitting new requests / relating needs
- ✓ Lab 2 – Managing Commitments & Aligning Project Goals
 - ✓ 2.1 Collaborate on customer needs
 - ✓ 2.2 Manage project priorities and guide delivery goals
 - ✓ 2.3 Share and manage project deliverables with team
- ✓ Lab 3 – Maximizing success and guiding execution
 - ✓ 3.1 Understand changing project dynamics
 - ✓ 3.2 Manage the teams product backlog
 - ✓ 3.3 Manage teams release backlog and plan the next sprint
 - ✓ 3.4 Guide sprint planning and execution
- ✓ Lab 4 – Delivering the product
 - ✓ 4.1 Developer planning and management
 - ✓ 4.2 Development in-context collaboration
 - ✓ 4.3 Developing and delivering software as a team with RTC
 - ✓ 4.4 Understanding and assessing impact of changes
 - ✓ 4.5 Delivery and sharing changes with the team and project

✓ Rational Team Concert V4.0

 **Scale Agile Framework (SAFe) (Duration: 2 to 3 hours)**

Enterprise scaled agile methodologies describe an approach for orchestrating the planning and execution of software or product delivery across an organization. While teams are happily executing, ideas are constantly coming into the portfolio. Some of these ideas require immediate attention while others can sit until the next planning cycle. The portfolio must process these ideas quickly to know which is which so that important stuff doesn't fall through the cracks. In this workshop, we show how an idea comes into the line of business and then is triaged to drive change in the next delivery of an application. Ideas can come from anyone anywhere and might be:

- A business requirement based on market change
- A customer requirement
- An issue identified in production
- A new business initiative to drive the market differentiation

The real questions are:

- How can we respond to urgent business or customer needs without interrupting the teams that are executing?
- How do we do this using a lean approach that must consider work-in-progress limits and employ economic thinking to truly understand the importance of each idea?

The workshop focuses on SAFe's Kanban system as the best practice approach to use when an idea is born.

Agenda	Products
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<ul style="list-style-type: none"> ✓ Act 1: A Line-of-Business Responds to an Urgent Business Requirement <ul style="list-style-type: none"> ✓ Scene 1: Stakeholder Submits Urgent Business Request ✓ Scene 2: The Portfolio Team Monitors & Assesses Feedback ✓ Scene 3: Adjust Plans Based on Feedback ✓ Scene 4: Communicate Change to Impacted Programs ✓ Act 2: Orchestrate Delivery to Close the Feedback Loop <ul style="list-style-type: none"> ✓ Scene 1: Assess Feedback and Prepare to Respond ✓ Scene 2: Coordinate Changes and Adjust Plans ✓ Scene 3: Communicate Changes & Report on Status of Delivery 	<ul style="list-style-type: none"> ✓ DOORS Next Generation 6.0.1 ✓ Rational Team Concert 6.0.1 ✓ Rational Quality Manager 6.0.1
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