



Training Course

- Intended for those that want to maximise their return on investment in the tool, and kick-start their unit and integration testing.
- The standard training course is delivered over 2 days in a classroom format, using the tool in a supplied Linux Virtual Machine. The course is based on a complete application with a number of sections which focus on different aspects of tool use.
- The course may be extended to an optional third day covering additional material.

Standard Course Outline

Unit Testing

Verification techniques for unit level testing.

Cantata++ Test Harness

Cantata++ directives for functional dynamic testing and their uses.

Cantata++ IDE

Cantata++ graphical integrated test environment facilities, configuration options and results.

Coverage Analysis Theory

Code coverage testing objectives, metrics, coverage analysis, and challenges for different stages of testing.

Cantata++ Coverage Analysis

Practical uses of Cantata++ code coverage analysis, including RuleSets, selective coverage, reporting and results filtering.

Interface and Integration Testing

Techniques for simulating (stubbing) and controlling (wrapping) interfaces to external objects and using Cantata++ for integration level testing.

Extended Course Outline

An Introduction to Testing

Assessment of different stages of code and application level verification and how to apply best practice techniques.

Design for Testability

Design stage techniques to make testing with Cantata++ easier and more productive.

Using Cantata++ Without Test Scripts

Code Coverage of tests not driven by Cantata++ and Wrapping outside a test Cantata++ test script.

Static Analysis

Source code metrics selection and use, reports and analysis.

Object Oriented Testing

Testing in the OO paradigm, polymorphism and test case re-use.

Testing on an Embedded Target

Cross-Platform testing complexities and Cantata++ solutions.

High Integrity Testing

Issues related to testing safety critical projects, the standards that apply and how to meet them.

Testing With Java

Use of JUnit tests and Cantata++ Java code coverage.

Valid for Cantata++ version 5.x
Last Updated: March 2008
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Requirements

- Attendees proficient in C or C++ as appropriate.
- Installation of Virtual Machine requires 8GB hard disk space and 1GB RAM
- 1 computer per 2 attendees
- Suitable classroom with data projector
- Catering for attendees and instructor

Availability

- Courses can be delivered for up to 10 attendees.
- IPL public training course schedule is available at the web site.
- IPL requires a minimum of 2 weeks notice for on-site training courses.
- The option Extended Day training may be taken separately from the Standard Course.
- Please refer to the Cantata++ V5.2 Price Guide for prices.

Contacts

IPL

IPL Software Products Group
Eveleigh House, Grove Street,
Bath BA1 5LR, UK

Tel: +44 (0) 1225 475000
Fax: +44 (0) 1225 444400
Email: tools@ipl.com
www.ipl.com/tools



Cantata++

Consultancy

- Intended for those that want more in-depth expertise to kick-start their use of Cantata++ with their own code.
- IPL is willing to sign a Non-Disclosure Agreement covering this activity.
- Some modules (indicated below with a *****) can be extended to multiples of a half day which allows the consultant to achieve more with the customer's code.

Consultancy Modules

- Unit Testing (C/C++) ***
Techniques and tips for kick-starting writing isolation tests with customers own code [requires presence of engineer with knowledge of the code to be tested].
- Integration Testing ***
Techniques and tips for kick-starting use of Cantata++ with software integration tests. Using Cantata++ components outside test scripts with customer's integration tests.
- Supporting System Testing**
Using Cantata++ components outside test scripts with customer's system tests.
- Automated Regression Testing ***
Setting up an automated regression testing suite with Cantata++ v5.x.
- Testing on Target ***
Why and how to do testing on target, stubbing/wrapping issues, hardware dependent layer testing issues. Using a supplied Cantata++ target port.
- Static Analysis**
When and how to use Static Analysis. Metric selection and assessment.
- Migrating From Previous Cantata/Cantata++ Versions to v5.x ***
Kick-starting the process of taking existing tests to Cantata++ v5.x.
- Migrating Existing Projects to Eclipse CDT ***
Importing existing projects to use Eclipse CDT Managed Make and Cantata++ issues.
- Integration with Configuration Management and Build System**
Integrating Cantata++ tests with customers SCM, Build Scripts etc.

Requirements

- Availability of project or team management to discuss consultancy objectives.
- Availability of example code for the consultant prior to the engagement on-site
- Most of the Consultancy Modules do not require a classroom format.

Availability

- IPL requires a minimum of 2 weeks notice for on-site consultancy engagements.
- IPL reserve the right to require a minimum engagement of 2 days where consultancy does not follow contiguously after a Training Course.
- Please refer to the Cantata++ V5.1 Price Guide for prices.

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