

CANTATA

C Training Course Outline

Course Title	Cantata C Training Course
Versions covered	8.x and 9.x
Duration	2 Days
Location	Customer site
Format	Instructor-led lectures and hands-on lab exercises
Availability	Normally 2 weeks' notice required
Price	Contact your supplier



This document outlines the Cantata training course for users testing C code. It describes the format and agenda of the course, the training materials provided, and requirements at the customer site. Sufficient temporary Cantata licenses are provided for use with the training course.

Course Description

The Cantata Training Course significantly increases the productivity of development and test engineers performing unit and integration level testing of C code.

The course covers the use of the Cantata product with hands on examples and users own code.

After this course, students will be able to:

- > Streamline overall system verification
- > Use best practice unit and integration testing techniques

Course Format

- > Two-day instructor-led courses consisting of lectures and lab sessions
 - > Students gain hands-on experience with personal guidance from expert QA Systems instructors
 - > Students examine details of the Cantata tool, focussing on the intelligent testing techniques for efficient unit and integration testing
 - > Specific questions are addressed
 - > Lab sessions allow hands-on application of the course concepts with supplied examples
- NB – Courses can also be customised to meet specific requirements, please contact QA Systems to discuss these in advance.

Training Course Instructor

All Instructors are expert in the Cantata product. They are current developers of the tool, consultants or have previously been Cantata Technical Support Engineers.

Who Should Attend

- > C-code Developers
- > Test engineers
- > Quality Assurance personnel

Requirements

Training Classroom

- > Data Projector
- > 1 workstation per 2 students (at least 4gb of RAM) – with Cantata 9.x installed on each machine, as well as the training plug-in and source code (delivered by QA Systems once the training has been ordered)
- > A supported version of GCC compiler (please refer Cantata Release Note) for Linux users

Student Skills:

- > Basic understanding of C programming
- > Functional knowledge of UNIX or Windows
- > Notions of software testing

Materials Provided

Training Course Plug-in

- > Compatible with Cantata 9.x, which contains Eclipse Cheat Sheets
- > Lab Exercises source code

Training Presentation Slides

- > Supplied as PDF

Training Course certificate

- > Recorded qualification for each student
- > Signed by course instructor

Topics Covered

- > Cantata tool suite overview
- > Relevance of different types of testing
- > Applicable techniques for test planning
- > Code coverage & static metrics
- > Unit testing methodologies
 - Black-box
 - White-box
 - Parameterised Tests
 - Robustness testing
 - Automatic Test Generation
- > Integration testing methodologies
- > Testing objectives and specifications
- > Associations between functional requirements and test cases/scripts
- > Software design for testability techniques
- > Hardware and environmental considerations for testing

Technical Consultancy

Technical Cantata consultancy is available in addition to the structured Cantata Training Course. All Course Instructors are capable of providing more general consultancy on using the tool, integrating it into developer's workflow and mentoring a team. Please contact QA Systems for a price quotation for your specific, consultancy or testing work requirements.

Commercial Terms


For full commercial terms please request a formal price quotation from QA Systems.

AGENDA


Unless tailored to your specific requirements in advance, the Cantata training course will have the following agenda (typically from 9 AM to 5:00 PM each day).

Day 1

Introduction



- > Unit testing theory
- > Cantata test harness
-  Test Harness Lab

Stubbing with Cantata


- > Simulating calls
-  Stubbing C Lab

Lunch Break (1 hour)


Cantata in Eclipse

- > Using the Cantata IDE
-  Testing C Lab 1
-  Testing C Lab 2

Wrapping with Cantata

- > Intercepting calls
-  Wrapping C Lab

AutoTest

- > AutoTest use cases & capabilities
-  AutoTest C Lab


End of Day

Day 2


Q&A from Day 1

- > Discuss issues from Day 1

Coverage Analysis


- > Cantata Coverage analysis
-  Coverage analysis Lab

Integration Testing


- > Techniques for testing multiple units
-  Integration testing C Lab

Lunch Break (1 hour)


Robustness Testing

- > Table-driven testing
-  Robustness testing Lab

Global Data Testing

- > Verification of Global Data
-  Negative Testing Lab

Test Management and Maintenance

- > Cantata Test Projects
- > Cantata Code Change Analysis
- > Cantata Trace for Requirements Traceability
-  Cantata Trace Lab

Q&A session

- > Led by trainees anticipated needs

Course Review

- > Feedback questionnaire
- > Course Diploma signed and given

End of Day