

Effective Methods of Software Testing Workshop

Course Length: 3 Days

Description

This workshop provides comprehensive coverage of the testing processes available to support the development and delivery of quality software. The focus is on integrated testing processes and procedures, which can be made a part of the software development. The course covers the principles, the processes and the documentation of software testing, verification and validation.

Objectives

At the completion of this course, the student will be able to:

- Establish clear scope, objectives and well-defined requirements for software testing.
- Apply appropriate software testing tools, techniques and methods for even more effective systems during both the test planning and test execution phases of a software development project.
- Understand and execute the necessary software testing steps per type of system or program to be developed or enhanced.
- Know and perform the process for system test planning, execution and reporting, which validates that the system meets requirements.
- Follow an effective, step-by-step process for identifying needed areas of testing, designing test conditions and building and executing test cases.
- Perform and/or oversee the necessary actions of software testing for effective quality assurance, quality control, audit and documentation of software-based systems.

Topics

- Software testing the state of the art
- The different levels and types of software testing
- Setting measurable test goals and objectives
- The traditional system development life cycle (SDLC) and key software testing points
- Different types of system life cycles and software testing strategies per type
- A step-by-step process for identifying detailed test conditions, designing test cases and building test data
- Maintenance and enhancement testing
- Testing packaged software
- Prototyping and contracting for software-testing considerations
- Testing additional types of systems
- Recording the results of testing
- Measurement of software testing
- Developing test reports
- Mandatory checklists, forms, logs and reports for effective software test planning and execution
- Software testing walk-throughs, inspections and reviews- Automated aids for software testing
- Procedures for identifying critical software attributes
- User/client driven computing test considerations
- People and resource considerations
- Management considerations for software testing and reliability



- Quality assurance, quality control and audit considerations
- Library and documentation considerations
- New standards for software testing
- New techniques and future considerations
- Getting started: building your own software testing action plan

Audience

This course is intended for any professional involved with or related to systems planning, analysis, requirements definition, design, construction, testing or maintenance of software. Also, any business analyst, quality assurance or audit personnel as well as key user/clients will find this workshop of both interest and value.

Course Outline

I. Background and Introduction

II. Software Testing the State of the Ark

III. The Different Levels and Types of Software Testing

IV. Setting Measurable Test Goals and Objectives

V. The Traditional Systems Development Life Cycle (SDLC) and Key Software Testing Points

- A. Where, when and what test plans need to be constructed
- B. Where and when test data needs to be developed
- C. Where and when software testing need to be conducted

VI. Different Types of System Life Cycles and Software Testing Strategies per Type

- A. Model testing
- B. Unit testing
- C. Integration testing
- D. System testing
- E. Volume testing
- F. User/client acceptance testing
- G. Sign-off and production

VII. A Step-By-Step Process for Identifying Detailed Test Conditions, Designing Test Cases and Building Test Data

- A. Population analysis
- B. Characterizing test conditions using the various transaction types
- C. Developing test conditions and expected results
- D. Decision tables and testing
- E. Code coverage
- F. Test scripting

VIII. Maintenance and Enhancement Testing

IX. Testing Packaged Software



X. Prototyping and Contracting for Software

A. Testing considerations

XI. Testing Additional Types of Systems

XII. Recording the Results of Testing

XIII. Measurement of Software Tests

XIV. Developing Test Reports

XV. Mandatory Checklists, Forms, Logs and Reports for Effective Software Test Planning and Execution

XVI. Software Testing Walk-through, Inspections and Reviews

XVII. Automated AIDS for Software Testing

XVIII. Procedures for Identifying Critical Software Attributes

XIX. User/Client Driven Computing Testing Considerations

XX. People and Resource Considerations

XXI. Management Considerations for Software Testing and Reliability

XXII. Quality Assurance, Quality Control and Audit Considerations

XXIII. Library and Documentation Considerations

XIV. New Standards for Software Testing

XV. New Techniques and Future Considerations

XVI. Getting Started: Building Your Own Software Testing Action Plan

XVII. Review and Evaluation

