

## Virtual Testing for Quality Assurance

4 Sessions

### Description

The Virtual Testing for Quality Assurance class offers training in the methods and procedures that the QA Testing Department and the business would use while they are engaged in the Integration, System and User Acceptance Testing Phases of an IT Project. The participants will learn the concepts and formal techniques to facilitate testing during the Integration, System and User Acceptance Test Phases for IT initiatives. The seminar focus is on:

- How to be an effective tester and what to look for when testing
- Inspection process and quality checking requirements documents
- How to write an effective Integration and System Test Approach
- How to use the Requirements and System Specifications Documents and Build Plan inputs for creating the test design deliverables
- Practice in identifying and writing Test Scenarios, Test Cases and Test Conditions for Integration, System and User Acceptance Testing
- How to perform Test Execution and Usability Testing

Each seminar participant receives a Seminar Handbook with sample templates, checklists, procedures guide and a case study solution set.

### Objectives

The objectives of this seminar are to:

- Learn the industry standards for Integration, System and User Acceptance Testing and how to apply them to your company's testing standards and deliverables
- Provide an understanding of the different testing techniques and methods and when to use them
- Learn how to participate in an inspection of requirements and system specifications documents
- Provide practical exercises using the testing techniques and methods to identify what to test
- Learn how to identify and write test scenarios, test cases and test conditions using requirements and system specifications deliverables for Integration, System and User Acceptance Testing
- Provide a case study for practice in how to write test approaches, test design deliverables, test scenarios, test cases, test conditions, defect tracking, defect write-ups and end of testing report

### Who Should Attend?

Those who will find this of value are the Test Managers, Test Leads, Test Designers, Test Executors, Solutions Leads, Requirements Analysts, Business Analysts, SMEs, Project Managers, Technical Leads and Developers.

### Curriculum & Schedule

#### Session 1 (1:00- 5:00 Eastern Time)

##### CLASS INTRODUCTION

- Purpose of the class
- Review class agenda

##### INTRODUCTION TO TESTING

- Purpose of testing
- Where does testing fit into the SDLC?

- Roles and Responsibilities

#### REQUIREMENTS INSPECTION

Review Charter and Project Requirements Deliverables

- Guidelines for Writing Effective Requirements
- Quality Measures for Requirements
- Techniques for Checking Requirements

#### TRACING REQUIREMENTS TO TESTING

Identifying and Tracing UAT Test Scenarios to Requirements for Testing

- What are test scenarios?
- How to identify the UAT Scenarios from the requirements
- **Exercise- Identifying UAT Scenarios for a case study**
- What is Requirements Tracing?
- Trace Test Scenarios to requirements and use cases
- Test Traceability Matrix

#### TESTING TOOL KIT

Techniques for how to be an effective tester and what to look for when testing

- Introduction to Integration, System Testing and Use Acceptance Testing- what to test, where to test, when to test
- Techniques for Testing- Black Box, White Box and Testing Methods
  - Black box- Domain Partitioning, Boundary Testing, Condition Coverage, CRUD, Error Guessing
  - **Exercise- Condition Coverage**
  - **Exercise- Error Guessing using a use case**
  - Black box- Domain Partitioning, Boundary Testing, Condition Coverage, CRUD, Error Guessing
  - White box- Activity and Decision Coverage
  - **Exercise- Activity and Decision Coverage for a workflow**

#### **Session 2 (1:00 pm – 5:00 pm Eastern Time)**

TESTING TOOL KIT (continued)

- Methods for Testing
  - User Interface Testing
  - Functional/Positive Testing
  - Negative Testing
  - Security/Entitlement Testing
  - Regression Testing
  - Parallel Testing
  - Stress/Performance Testing
  - Failure/Disaster Recovery Testing
  - Exploratory Testing

**Exercise- Using a case study, practice identifying what to look for when testing using the White Box Techniques, Black Box Techniques and Testing Methods.**

#### TEST PLANNING

Create the Test Strategy and Plans- Identify the scope and approaches.

- Incremental Testing Approach
- Test Plan Deliverables

- Components of the Test Strategy & Plan
- Boundaries of the test
- Determine and calculate the risks for a risk based testing strategy
- Identify what you are going to test
- Determine which types of testing and testing techniques to use
- Identify the test scenarios and resources that will be used
- **Exercise- Write a user acceptance and system test strategy and plan**

### Session 3 (1:00 pm – 5:00 pm Eastern Time)

#### TEST DESIGN

Mastering the Test Design (*Quality Assurance Participants only*)

- Purpose of the test design document
- Review the quality risks and issues
  - Identify if you are mitigating the risk
  - Is there enough coverage?
- Develop the Test Approach Parameters
  - Review the Test Strategy, Test Plans, Build Plan and the Risk Based Testing
  - Identify what the testing methods and techniques that will be used and why.
  - What are the test dependencies?
  - Identify special data needs.
- Identify what test scenarios, cases and conditions will be developed or needed.
- Additional support needed
- **Exercise- Using the case study, create a list of questions and factors to consider when creating the test design.**
- **Exercise- Write the Test Design Document for the case study.**
  - a. **Identify the component dependencies, system interfaces, test data, test set-up requirements, test scenarios, test cases, test conditions, risks and special conditions.**
  - b. **Identify what the test approach will be and why.**
- Traceability Matrix
- **Exercise- Quality Assurance Participants present the Test Design to the UAT participants for validation and approval (optional)**

### Session 4 (1:00 pm – 5:00 pm Eastern Time)

#### TEST DESIGN (continued)

Writing Effective Test Scenarios, Test Cases and Test Conditions

- Improving testability
- Components of the test scenario, test cases and test conditions template
- Tips for writing effective test scenarios and test cases
- Quality measures for critiquing test scenarios and test cases
- **Exercise- Using the test case template, identify and write test scenarios, test cases and test conditions for the case study.**
- Test scenarios and test case management

Writing Effective Test Scenarios, Test Cases and Test Conditions

#### TEST EXECUTION

Execute testing

- Managing dependencies
- Revision and test release management

- Test environment configuration
  - Test Tracking
    - Test execution metrics
    - Defect tracking
      - Testing
      - Defect Resolution
      - Closed/Failed Issues
      - Reporting
      - Escalation Procedures
  - Purpose of the End of Testing Report
  - **Exercise- Identify and write-up defects. Review the End of Testing Report.**
- Usability Testing
- What is usability?
  - Preparation for the Usability Test- Checklists and questions to check usability

#### SUMMARY/RECAP

- How will you use the techniques learned on your project?
- Evaluations