

MANUAL TESTING



COURSE CURRICULUM

Introduction to Software Application and Fundamental of Testing

- Overview of Software Application Testing
- Why is testing necessary
- Software testing Principles
- Psychology of software testing
- Causes of Software Defects
- Terms used in Software Testing [Defect, Error, Bug, Failure etc..]
- Overview of SDLC [Software Development Life Cycle]
- Overview of Project Execution Lifecycle
- Overview of Project Lifecycle

Models of Software Engineering

- Waterfall Model
- Prototype model
- Spiral Model
- Incremental Model
- Iterative Model
- RAD (Rapid Application Development)
- V Model
- Agile Model

Quality Management System

- What is Quality Management System and It's need
- What is Quality Assurance
- What is Quality Control
- Review process and Types of Review Process
- Different Roles and Responsibilities of reviewers
- Walkthrough
- Inspection
- Code Review
- Peer Review
- Verification Vs Validation
- Static & Dynamic Testing techniques
- Quality Standard CMM, ISO, 6Sigma

Software Testing methodology

- White Box
- Black Box
- Grey Box

Levels of Software Testing

- Unit Testing
- Integration Testing
- System testing
- UAT

Testing Types/Approaches

- Smoke Testing
- Sanity Testing
- Re-Testing
- Regression Testing
- Ad-hoc and Exploratory testing
- Monkey & Gorilla Testing
- Alpha Testing
- Beta Testing
- Validation Testing
- Web Application Testing
- Accessibility Testing
- Recovery Testing
- System Compatibility
- Browser Compatibility Testing
- Cross Browser Testing
- Multiple Browser Testing
- Forward and backward compatibility
- Performance Testing
 - Load Testing
 - Stress Testing
 - Volume Testing
- Usability Testing
- Accessibility testing
- Security Testing
- Multilingual testing

Introduction of different Test Estimation techniques and Reporting techniques

- Test plans estimates and strategies
- Different test approaches
- Test progress, monitoring and control
- Configuration management
- Risk and testing
- Identifying test condition and design test cases
- Categories test design techniques
- Specification based or black box techniques
 - BVA
 - ECP
 - Decision table testing
 - State transition testing
 - Orthogonal array
- Structure based or white box testing techniques
 - Cyclomatic complexity
 - Basis path testing
 - CFG
 - Statement coverage
 - Branch coverage
 - Path coverage
- Experience based techniques
- Risk based Testing
- Choosing a test techniques
- Bug/defect lifecycle
- Defect Severity & Priority

Software Testing Life Cycle (STLC)

Practical session on Live/Inbuilt and real time Projects (Lab Session)

- Creation Of Test Plan
- Creation Of Test Scenarios, Test Cases
- Test case execution

- Bug tracking and reporting
- Implementation of testing optimization Techniques (ECP, BVA, Decision Table...)
- Overview of Test Metrics, creation and its importance
- Types of Test Metrics
- Traceability Metrics
- Test report preparation
- Test closure Report preparation

Real Time Process testing terminologies

- Test bed, Test Hardnesses, Test Suit, Test basis, Test artifacts, Different Environment(DEV,Test, Production), Requirements Volatility, Staging process, Build Process, Test Cycle, Re-spin, Test Efficiency, Hot fix, Patch,Base Line, Change request, Defect age, Defect clustering, Defect slippage, Impact Analysis,Defect root cause,Escalation process and more....

Agile Methodology

- Introduction to Agile Methodology &Agile Manifesto
- Overview of Different Agile methods
- When to Use Scrum vs. When to Use Traditional Methods
- Scrum Process
- Scrum Roles
- Scrum Team
- Time-Box Concept
 - Event 1: The Sprint
 - Event 2: Sprint Planning
 - Event 3: Daily Scrum
 - Event 4: Sprint Review
 - Event 5: Sprint Retrospective
- Product Backlog Grooming
- Scrum Artifacts
 - Artifact 1: Product Backlog
 - Artifact 2: Sprint Backlog
 - Artifact 3: Increment
 - Artifact 4: Definition of “Done”
 - Artifact 5: Monitoring Progress toward a Goal
 - Artifact 6: Monitoring Sprint Progress
- Agile Tracking, Scrum Meeting and Daily Stand-ups
 - Product Backlog Grooming

Agile Test Management and Bug tracking/Reporting with JIRA

- Introduction about Jira tool
 - What is an Issue?
 - What is a Project?
 - What is a Workflow
- Exploring the JIRA workspace
- Managing your user profile
- Navigating JIRA
- Creating an Issue
- Viewing Issues
- Editing Issues
- Transitions and Screens
- The Workflow Viewer
- Collaboration
- Search
- Detail View
- Configuring Filters
- Email Filter Results
- Standard & Custom Reports

Database Testing Introduction

- What is Database Application?
- Overview about database structure
- Introduction about deferent database types
- Understanding data storage
- Back end & front end Testing
- General Database Basics
- Essential elements needed for database testing
- writing test plan for database testing
- Organizing DB Testing approach
- writing test cases for database testing

Basic SQL

- Why should Test professionals know Structured Query Language?
- Writing the statement in SQL Plus
- Overview of DML , DDL, TCL,DCL
- DML : Insert , update , Delete , merge
- DDL : Create, Drop, Alter, Rename, Modify, Truncate
- TCL : Commit, Roleback, SavePoint

SQL Functions:

- Single Row Function / Multiple Row Function
- String Function , Number Function , Date and Time Function, General Function

Joining Tables

- Obtaining data from multiple tables
- Types of joins : Inner joins , Non-equi Join, Natural Join, ,Right outer join, Full outer Join

Operators: (data using Group Function)

- Arithmetic Operator
- Relational/Logical
- Like Operator

Constraints & View

- Not Null
- Unique
- Primary key

Aggregating data using group functions

- GROUP BY
- HAVING

Overview and concept Sub queries

- Single Row sub queries
- Multiple row Sub queries

Partners :



Java



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