



Quality Assurance (QA Testing)

From Yes-M Systems LLC

Length: Approx. 8-9 weeks/100+ hours

Audience: Students with or without IT experience or knowledge

Student Location: To students from around the world

Delivery Method: Instructor-Led – Live Training
Classroom and/or Online

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A. Course Summary

About this Course:

This 100+ hour course is designed to give students a solid knowledge in the role and responsibility of a QA Tester. Topics are reinforced with intense hands-on practices including in class exercises, projects, home works with homework feedbacks. This course is taught by experienced instructors who have over 20+ years of IT experience. During and after the regular course, students will get to attend mock interview sessions and resume preparation sessions.

This course will allow the students to understand various QA concepts (Quality Assurance, Testing) including:

- (i) Software development methodologies (waterfall, Agile)
- (ii) Scrum.
- (iii) Manual testing hands-on and related theory
- (iv) HP Automation Tools - Quality Center and Quick Test Pro (QTP)
- (v) Automation tool: Selenium WebDriver with Java
- (vi) Advanced Testing: Mobile Testing with Automation, SOAP UI, Web Services Testing with hands-on and SOA.
- (vii) Unix and SQL with hands-on
- (viii) BA concepts – User, Functional and Non-Functional.
- (ix) Interview Questions, mock interviews and resume Preparation sessions.

Projects/mini-projects/Hands-on sessions via class work and/or home work on the following topics:

- (i) Manual testing - Testing and Writing Test cases
- (ii) QTP
- (iii) Selenium with Java Programming
- (iv) Mobile Testing with Automation, Web Services and SOAP UI
- (v) Unix
- (vi) SQL Queries

AT COURSE COMPLETION

1. Perform the role of a QA Tester or Test Engineer or IT Tester
 - a. QA Testing (manual)
 - b. Writing SQL queries
 - c. Handle Unix commands
 - d. Mobile testing with Automation
 - e. Automation Testing using Selenium and Java
 - f. Automation testing using QTP
 - g. Database Testing

B. Contact us for more details:

Company name: Yes-M Systems

Website: <http://myyesm.com>,

Phone numbers (USA): 678-643-7777, 678-248-0302, 732-619-2234

Phone number (India): 91-8220006968

FB, Google, Kudzu Reviews: <http://myyesm.com>

Facebook: <http://www.facebook.com/yesmsystems>

Youtube: <http://www.youtube.com/yesmsystems>

Quality Assurance (QA) Details

1. Introduction to System Development Methodologies

1.1. Waterfall method

1.1.1. Various phases will be covered in detail

1.1.1.1. Understand the role of a BA, QA

1.1.1.2. BA role in detail:

1.1.1.2.1. User Requirements

1.1.1.2.2. Functional Requirements

1.1.1.2.3. Non-Functional Requirements

1.1.1.3. Overview of SDLC phases

1.2. Agile [With JIRA tool]

1.2.1. Explain Agile

1.2.2. Scrum

1.2.2.1. Scrum Basics

1.2.2.2. Sprint

1.2.2.3. Product Backlog

1.2.2.4. Sprint Backlog

1.2.2.5. Burn down chart

1.2.2.6. Sprint Planning Meeting

1.2.2.7. Stand-up meeting.

1.2.2.8. Review Meeting

1.2.2.9. Retrospective meeting

2. Software Testing:

2.1. Software Testing Life Cycle

2.1.1. Test Plan Preparation

2.1.1.1. Test Case Design

2.1.1.2. What is testing? Why to test?

2.1.1.3. What is a test case?

2.1.1.4. How to develop test cases from IT requirements?

2.1.1.5. Test Case Design Techniques

2.1.1.6. Test Cases: In class 9 to 10 Manual Testing Exercises and Homework

2.1.1.7. Cover real-time applications.

2.1.2. Test Execution

2.1.3. Defect Reporting

2.1.3.1. What is Defect?

2.1.3.2. Bug Life Cycle

2.1.3.3. Defect Log Format

2.1.3.4. Understanding Priority and Severity

2.1.3.5. Example

2.2. Test Report preparation

2.3. Testing Types

2.3.1. White box testing

2.3.2. Blackbox testing

2.3.2.1. Functional

2.3.2.1.1. Smoke Testing

2.3.2.1.2. System Testing

2.3.2.1.3. End to End Testing

2.3.2.1.4. Regression Testing

2.3.2.1.5. Retesting

2.3.2.1.6. Concurrency Testing

2.3.2.1.7. Exploratory Testing

2.3.2.1.8. Compatibility Testing

2.3.2.1.9. User Acceptance (UAT) Testing

2.3.2.2. Non Functional Testing

2.3.2.2.1. GUI Testing

2.3.2.2.2. Performance testing

2.3.2.2.3. Security Testing

3. Test automation using Selenium IDE – Java and WebDriver

2.1 Selenium Introduction

- 3.1.1. Selenium History
- 3.1.2. Migrating to Web driver latest Version
- 3.1.3. Selenium 2.0 Web driver Architecture

3.2. Installations and Configurations with Java basics

- 3.2.1. Java Installation
- 3.2.2. Eclipse Installation, configuration
- 3.2.3. Selenium Jars download/Configuration
- 3.2.4. Brush up basic java concepts

3.3. Java OOPS Basics for Selenium

- 3.3.1. First Steps
 - 3.3.1.1. Introduction
 - 3.3.1.2. Creating Your First Java Project
 - 3.3.1.3. Exploring The IntelliJ Interface
- 3.3.2. Variables, Datatypes and Operators
 - 3.3.2.1. Introduction
 - 3.3.2.2. What Are Variables?
 - 3.3.2.3. Getting To Know Primitive Data Types - The Byte, Short, Int And Long
 - 3.3.2.4. Getting To Know Primitive Data Types - Float And Double
 - 3.3.2.5. Getting To Know Primitive Data Types - Char And Boolean
 - 3.3.2.6. Understanding Strings And Finishing Up Primitive Data Types
 - 3.3.2.7. Operators In Java
 - 3.3.2.8. More On Operators And Operator Precedence
- 3.3.3. Java Tutorial: Expressions, Statements, Code blocks, Methods and more
 - 3.3.3.1. Introduction
 - 3.3.3.2. Keywords And Expressions

- 3.3.3.3. Statements, Whitespace and Indentation (Code Organization)
- 3.3.3.4. Code Blocks And The If Then Else Control Statements
- 3.3.3.5. Methods In Java
- 3.3.3.6. Method Overloading
- 3.3.4. Control Flow Statements
 - 3.3.4.1. Introduction
 - 3.3.4.2. The switch statement
 - 3.3.4.3. The for Statement
 - 3.3.4.4. The while and do while statements
- 3.3.5. Naming Conventions and Packages. static and final keywords
 - 3.3.5.1. Naming Conventions
 - 3.3.5.2. Packages
 - 3.3.5.3. Scope
 - 3.3.5.4. Access Modifiers
 - 3.3.5.5. The static statement
 - 3.3.5.6. The final statement
- 3.3.6. Java Collections
- 3.4. Basic Concepts for first Webdriver program
 - 3.4.1.1. webdriver Interface explanation and Invoking Browser
 - 3.4.1.2. Basic Methods of Webdriver
 - 3.4.1.3. How to run tests in Google Chrome
 - 3.4.1.4. How to run tests in Internet Explorer
- 3.5. Locator Techniques & Tools used
 - 3.5.1.1. Preview Browser Addons overview to identify elements
 - 3.5.1.2. Preview Installing Firebug & Firepath Addons
 - 3.5.1.3. Locator Techniques : Xpath identification using Firepath, Name ,ID, ClassName, LinkText,-Handling links

- 3.5.2. ADVANCED WAYS-locating objects
 - 3.5.2.1. writing Customized xpath Using Attributes
 - 3.5.2.2. Writing customized xpath Using Tagnames Traversing
 - 3.5.2.3. Css Selectors locators

- 3.6. Techniques to automate Web UI
 - 3.6.1. Handle Dynamic dropdowns with Webdriver API
 - 3.6.2. Handling Static dropdowns with Select webdriver API
 - 3.6.3. Handling Checkboxes with webdriver API
 - 3.6.4. Handling Radiobuttons with Customized xpath
 - 3.6.5. Handling Radiobutton dynamically- real time examples
 - 3.6.6. Types of Alerts present and Methods to handle them
 - 3.6.7. Handling Java Alerts using Webdriver API
 - 3.6.8. Web Elements Validation
 - 3.6.9. End to End Practise Exercise

- 3.7. Techniques to automate ADVANCED Web UI
 - 3.7.1. Handling Ajax/Mouse Interactions
 - 3.7.2. Actions class-real time example
 - 3.7.3. Handling Multiple Windows
 - 3.7.4. Window Handle concepts-real time example
 - 3.7.5. Live Example on working with Child windows
 - 3.7.6. Handling ul li Tags in Selenium
 - 3.7.7. How to handle Frames?
 - 3.7.8. Frames Techniques-real time example

- 3.8. Real Time Exercises (end to end Programming)
 - 3.8.1. Test Cases- Practice Exercise
 - 3.8.2. Exercise 1.1-Limiting Webdriver scope
 - 3.8.3. Getting Count of links in the pages, sections
 - 3.8.4. Testcases-Practice Exercise-2
 - 3.8.5. Exercise 2.1-Dynamic data in Websites
 - 3.8.6. Exercise 2.2-Dynamic Links Handling
 - 3.8.7. Exercise 2.3-Validations & checkpoints

- 3.9. Practical problems and Methods to Handle them with Selenium

- 3.9.1. How to handle table Grids in webpage
- 3.9.2. Techniques used for table grid-Real time example
- 3.9.3. How to overcome Synchronization problems
- 3.9.4. Maximizing window and deleting cookies
- 3.9.5. Handling HTTPS certifications
- 3.9.6. How to troubleshoot if it is not invoking in firefox
- 3.9.7. Killing the Process and Cookies using Selenium
- 3.9.8. How to take Screenshots in Selenium
- 3.10. Data driving from Excel for feeding data
 - 3.10.1. what is Apace POI API & Download Instructions
 - 3.10.2. Excel API Methods explanation
 - 3.10.3. Program for Retrieving data from excel
 - 3.10.4. Program for Updating data back to excel
- 3.11. Overview on TestNG, Page Object, Keyword Driven, hybrid frameworks

4. Web Services Testing (SOAP UI)

- 4.1. Get to know about web services
 - 4.1.1. What is a Web Service?
 - 4.1.2. Types of web services
 - 4.1.3. SOAP
 - 4.1.4. REST
 - 4.1.5. UDDI
 - 4.1.6. Web Service Testing Process
- 4.2. Installation of SoapUI
 - 4.2.1. Installing SoapUI
- 4.3. Testing with SOAP UI
 - 4.3.1. Manual
 - 4.3.2. Automation
- 4.4. Working with SoapUI tool
 - 4.4.1. Creating Project
 - 4.4.2. Creating Test Suites
 - 4.4.3. Creating Test Cases
 - 4.4.4. Creating Test Steps

- 4.4.5. Saving the project
- 4.4.6. Importing the existing project
- 4.5. Creating & Reading properties at different levels
 - 4.5.1. Under Standing Properties
 - 4.5.2. Global Level Properties
 - 4.5.3. Project Level Properties
 - 4.5.4. Test Suite Level Properties
 - 4.5.5. Test Case Level Properties
 - 4.5.6. Test Step Level Properties
- 4.6. End Point & Its Parameterization
- 4.7. Property transfer
- 4.8. Assertions
 - 4.8.1. Contains
 - 4.8.2. Not Contains
 - 4.8.3. Xpath Match
 - 4.8.4. SOAP Response
 - 4.8.5. Valid HTTP status code
 - 4.8.6. Invalid HTTP Status code
 - 4.8.7. SOAP Fault
 - 4.8.8. Not SOAP Fault
 - 4.8.9. SLA etc
- 4.9. SOAP and REST based web services will be covered
- 4.10. Lab
 - 4.10.1. Instructor Driven Lab Exercises
 - 4.10.2. Interview Questions

5. Mobile Testing with Automation

- 5.1. Introduction to Mobile Application Testing
 - 5.1.1. Complexity of Mobile Applications and Testing
 - 5.1.2. Overview of Mobile Domain
 - 5.1.3. User Expectations
 - 5.1.4. Mobile Application Testing vs Traditional Application Testing
- 5.2. Installation

- 5.2.1. Appium
- 5.2.2. Android Studio SDK
- 5.2.3. XCode installation for iOS.
- 5.3. Different Types of Mobile Applications
 - 5.3.1. Native
 - 5.3.2. Web
 - 5.3.3. Hybrid
- 5.4. Challenges in Mobile Application Testing
 - 5.4.1. Mobile Platforms
 - 5.4.2. Mobile Browsers
 - 5.4.3. Customers
 - 5.4.4. Interfaces
- 5.5. Mobile Application Development Platforms
 - 5.5.1. Ios
 - 5.5.2. Android
- 5.6. Mobile Testing Types
 - 5.6.1. Emulators, Simulators, Real Devices
 - 5.6.2. Manual vs Automation
 - 5.6.3. Baseline Testing Criteria for Android/iOS
 - 5.6.4. Functional/UI Testing
 - 5.6.5. Hands-On: Web App Testing Using Firefox/Chrome Emulator
 - 5.6.6. Hands-On: Native App Testing Using Android Emulator
- 5.7. Mobile Application Testing Strategy
 - 5.7.1. Defining Requirements
 - 5.7.2. Testing Scope
 - 5.7.3. Use cases
 - 5.7.4. Test Levels
 - 5.7.5. Testing Techniques
 - 5.7.6. Test Data
 - 5.7.7. Target Devices
 - 5.7.8. Test Environment
 - 5.7.9. Test Automation
 - 5.7.10. Risks

5.8. Mobile Application Testing Tools

5.8.1. Android Tools

5.8.2. IOS Tools

5.9. Mobile Application Testing –Important Skills for Testers

5.9.1. Interview Questions

6. QTP

6.1. Introduction to QTP

6.1.1. Version

6.1.2. License

6.1.3. Environments supported

6.1.4. Browsers Supported

6.1.5. Languages Supported

6.1.6. Stages in Quick Test

6.1.7. creating tests

6.1.8. Running Tests

6.1.9. Analyzing Results

6.1.10. Panes and views

6.2. Recording Modes

6.2.1. Normal

6.2.2. Analog

6.2.3. Low-level

6.3. Working with Objects including managing test objects.

6.3.1. How QTP Identify Objects

6.3.2. What is object repository

6.3.3. Types Of object Repositories

6.3.3.1. Local

6.3.3.2. Shared

6.4. Checkpoints

6.4.1. Standard

6.4.2. Text

6.4.3. Text Area

6.4.4. Database

6.4.5. Bitmap

- 6.4.6. Accessibility
- 6.4.7. XML
- 6.5. Output Values
 - 6.5.1. Standard
 - 6.5.2. Text
 - 6.5.3. Text Area
 - 6.5.4. Database
 - 6.5.5. XML
- 6.6. Actions (Modularization)
 - 6.6.1. What is an Action
 - 6.6.2. Types of Actions
 - 6.6.2.1. Reusable
 - 6.6.2.2. Non-Reusable
 - 6.6.2.3. External
- 6.7. Using Parameterization (Data Driven Testing)
 - 6.7.1. Data Table
 - 6.7.2. Environment Variable
 - 6.7.3. Random Number
- 6.8. Descriptive Programming
 - 6.8.1. By creating properties collection object for the description.
 - 6.8.2. By giving the description in form of the string arguments.
- 6.9. Virtual Objects
- 6.10. Handling timing related Issues
 - 6.10.1. Synchronization Point
 - 6.10.2. Wait
- 6.11. Lab
 - 6.11.1. Instructor Driven Lab Exercises
 - 6.11.2. Homework Exercises
 - 6.11.3. QTP Interview Questions

7. SQL and Advanced SQL

- 7.1 Introduction to SQL
 - 7.1.1 SQL
 - 7.1.2 Database

- 7.1.3 Table, Rows and Columns
- 7.1.4 Data Types
- 7.1.5 Primary Key, Alternate/Secondary Keys/NOT NULL/UNIQUE/CHECK and Foreign Keys
- 7.2 Statements:
 - 7.2.1 SQL
 - 7.2.2 Select and Select *
 - 7.2.3 Column Alias, Null Value, Arithmetic Expressions
 - 7.2.4 Concatenation Operator(||), Literal, DISTINCT
 - 7.2.5 Where
 - 7.2.6 Order By (Desc, Asc)
 - 7.2.7 And & OR, Like
 - 7.2.8 Not
 - 7.2.9 IN
 - 7.2.10 Not In
 - 7.2.11 Insert, Update, Delete
 - 7.2.12 DESCRIBE
- 7.3 Advanced SQL with Oracle
 - 7.3.1 SQL commands:
 - 7.3.2 Update, Delete
 - 7.3.3 Create, Alter, Drop
 - 7.3.4 Truncate, Select with various operators,
 - 7.3.5 Count, Sum, Distinct,
 - 7.3.6 Order by, Group by, Having
 - 7.3.7 Working With Dates
 - 7.3.8 Sub Query
 - 7.3.9 Introduction to Joins
 - 7.3.9.1 Inner Join
 - 7.3.9.2 Self Join
 - 7.3.9.3 Outer Joins – Left/Right/Full
 - 7.3.10 Hands on all above with Oracle APEX online
- 7.4 Why QA professionals need to know SQL basics
 - 7.4.1 Sample queries for data verification
 - 7.4.2 acquiring test data
 - 7.4.3 SQL Injection attack
 - 7.4.4 What to test in Relational DB apps

8. Quality Center tool

8.1 Introducing Quality Center

- 8.1.1 The Quality Center Testing Process
- 8.1.2 Starting Quality Center
- 8.1.3 The Quality Center Window

8.2 Specifying Releases and Cycles

- 8.2.1 Defining Releases and Cycles
- 8.2.2 Viewing Releases and Cycles

8.3 Specifying Requirements

- 8.3.1 Defining Requirements
- 8.3.2 Viewing Requirements
- 8.3.3 Modifying Requirements

8.4 Planning Tests

- 8.4.1 Developing a Test Plan Tree
- 8.4.2 Designing Test Steps
- 8.4.3 Copying Test Steps
- 8.4.4 Calling Tests with Parameters
- 8.4.5 Creating and Viewing Requirements Coverage

8.5 Running Tests

- 8.5.1 Defining Test Sets
- 8.5.2 Adding Tests to a Test Set
- 8.5.3 Running Tests Manually
- 8.5.4 Viewing and Analyzing Test Results

8.6 Adding and Tracking Defects

- 8.6.1 How to Track Defects
- 8.6.2 Adding New Defects
- 8.6.3 Updating Defects

9. Agile and JIRA

9.1 JIRA

- 9.1.1 JIRA – Introduction
- 9.1.2 JIRA tool registration(Trail Version)
- 9.1.3 JIRA - Dashboard

- 9.1.4 Managing Product backlog
- 9.1.5 Sprint Creation
- 9.1.6 Managing Sprint Backlog
- 9.1.7 Creating sub tasks
- 9.1.8 Sprint Progress and logging work
- 9.1.9 Reporting defects
- 9.1.10 Sprint Closer

10. Unix and Shell Scripting [Optional topic]

- 10.1 Introduction to Unix
- 10.2 Telnet/Putty/WinSCP
- 10.3 Unix Architecture
- 10.4 Files and Processes
- 10.5 Directory Structure
- 10.6 Paths - Absolute/Relative
- 10.7 Commonly used UNIX Commands + Hands on
- 10.8 Vi/Vim Editor Commands + Hands-on Editing
- 10.9 Hands on with shell scripting

11. Interview and Resume preparations

- 11.1 HR Questions
- 11.2 General IT
- 11.3 QA questions
- 11.4 Resume preparations, Mock Interview, Job Placement Help

Disclaimer: Yes-M Systems and/or their instructors reserve the right to make any changes to the syllabus as deemed necessary to best fulfil the course objectives. Students registered for this course will be made aware of any changes in a timely fashion using reasonable means.

C. About Yes-M Systems:

- a. Established in 2005 (Atlanta, GA, USA), 13+ Years in business.
- b. A+ accreditation from US Better Business Bureau
(<http://www.bbb.org/atlanta/business-reviews/internet-consultants/yes-m-systems-in-duluth-ga-27431372>)
- c. Received the “Best of 2012”, “Best of 2013”, “Best of 2014”, “Best of 2015”, “Best of 2016” and “Best of 2017” awards from US-based Kudzu. Reviews and Awards can be viewed via <http://myyesm.com>
- d. Trained close to 7000+ students from all over the world.
- e. Experienced, passionate and committed trainers
- f. IT Training in various technologies including Java, Dot Net, SAP, Oracle, QA, BA etc. (See Courses We offer section for more information)
- g. Professional guidance/help with resumes and interview preparations.
- h. Recruiter help with marketing/jobs
- i. Certification at the end of the training.