Quality Assurance (QA) Course 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
1.2.2.10. Sprint Closer

2. Software Testing
2.1. Software Testing Life Cycle and Manual Testing
2.1.1. Test Plan Preparation
2.1.2. Test Case Design
2.1.3. What is testing? Why to test?
2.1.4. What is a test case?
2.1.5. How to develop test cases from IT requirements?
2.1.6. Test Case Design Techniques
2.1.7. Test Cases: In class 9 to 10 Manual Testing Exercises and Homework
2.1.8. Cover real-time applications.
2.1.9. Test Execution
2.1.10. Defect Reporting
2.1.10.1. What is Defect?
2.1.10.2. Defect Life Cycle
2.1.10.3. Defect Log Format
2.1.10.4. Understanding Priority and Severity
2.1.10.5. 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
3.1 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. Preview Browser Addons overview to identify elements
3.5.2. Preview Installing Firebug & Firepath Addons
3.5.3. Locator Techniques : Xpath identification using Firepath, Name, ID, ClassName, LinkText,-Handling links
3.5.4. ADVANCED WAYS-locating objects
3.5.4.1. writing Customized xpath Using Attributes
3.5.4.2. Writing cutomizedxpath Using Tagnames Traversing
3.5.4.3. 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 ADVANCNED 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 int the pages,sections
3.8.4. Test cases-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. Overview on TestNG, Page Object, Keyword Driven, hybrid frameworks

4. API/Web Services Testing (SOAP UI and Post Man)
4.4. SOAP UI
4.4.1. Get to know about Web Service?
4.4.1.1. What is a Web Service?
4.4.1.2. Types of web services
4.4.1.3. SOAP

4.4.2 REST
4.4.2.1 UDDI
4.4.2.2 Web Service Testing Process

4.4.3. Installation of SoapUI
4.4.3.1. Installing SoapUI

4.4.4. Testing with SoapUI
4.4.4.1. Manual
4.4.4.2. Automation

4.4.5. Working with SoapUI tool
4.4.5.1. Creating Project
4.4.5.2. Creating Test Suites
4.4.5.3. Creating Test Cases
4.4.5.4. Creating Test Steps
4.4.5.5. Saving the project
4.4.5.6. Importing the existing project

4.4.6. Creating & Reading properties at different levels
4.4.6.1. Under Standing Properties
4.4.6.2. Global Level Properties
4.4.6.3. Project Level Properties
4.4.6.4. Test Suite Level Properties
4.4.6.5. Test Case Level Properties
4.4.6.6. Test Step Level Properties

4.4.7. End Point & Its Parameterization

4.4.8. Property transfer

4.4.9 Assertions
4.4.9.1. Contains
4.4.9.2. Not Contains
4.4.9.3. Xpath Match
4.4.9.4. SOAP Response
4.4.9.5. Valid HTTP status code
4.4.9.6. Invalid HTTP Status code
4.4.9.7. SOAP Fault
4.4.9.8. Not SOAP Fault
4.4.9.9. SLA etc

4.4.10. SOAP and REST based web services will be covered

4.4.11. Lab
4.4.11.1. Instructor Driven Lab Exercises
4.4.11.2. Interview Questions

4.5 POST MAN
4.5.1 What is Postman?
4.5.2 Why Use Postman?
4.5.3 How to use Postman
4.5.4 Working with GET Requests
4.5.5 Working with POST Requests
4.5.6 How to Parameterize Requests
4.5.7 How to Create Postman Tests
4.5.8 How to Create Collections
4.5.9 How to Run Collections using Collection Runner

5. JIRA
5.4 JIRA – Introduction
5.5 JIRA tool registration (Trail Version)
5.6 JIRA – Dashboard
5.7 Managing Product backlog
5.8 Sprint Creation
5.9 Managing Sprint Backlog
5.10 Creating sub tasks
5.11 Sprint Progress and logging work
5.12 Reporting defects

6. Mobile Testing with Automation
6.4 Introduction to Mobile Application Testing
6.4.1 Complexity of Mobile Applications and Testing
6.4.2 Overview of Mobile Domain
6.4.3 User Expectations
6.4.4 Mobile Application Testing vs Traditional Application Testing

6.5 Installation
6.5.1 Appium
6.5.2 Android Studio SDK
6.5.3 XCode installation for iOS.

6.6 Different Types of Mobile Applications
6.6.1 Native
6.6.2 Web
6.6.3 Hybrid

6.7 Challenges in Mobile Application Testing
6.7.1 Mobile Platforms
6.7.2 Mobile Browsers
6.7.3 Customers
6.7.4 Interfaces
6.8 Mobile Application Development Platforms
6.8.1 Ios
6.8.2 Android

6.9 Mobile Testing Types
6.9.1 Emulators, Simulators, Real Devices

6.9.2 Manual vs Automation
6.9.3 Baseline Testing Criteria for Android/iOS
6.9.4 Functional/UI Testing
6.9.5 Hands-On: Web App Testing Using Firefox/Chrome Emulator
6.9.6 Hands-On: Native App Testing Using Android Emulator

6.10 Mobile Application Testing Strategy
6.10.1 Defining Requirements
6.10.2 Testing Scope
6.10.3 Use cases
6.10.4 Test Levels
6.10.5 Testing Techniques
6.10.6 Test Data
6.10.7 Target Devices
6.10.8 Test Environment
6.10.9 Test Automation
6.10.10 Risks

6.11 Mobile Application Testing Tools
6.11.1 Android Tools
6.11.2 IOS Tools

6.12 Mobile Application Testing –Important Skills for Testers
6.12.1 Interview Questions

7. SQL and Advanced SQL
7.4 Introduction to SQL
7.4.1 SQL
7.4.2 Database
7.4.3 Table, Rows and Columns
7.4.4 Data Types
7.4.5 Primary Key, Alternate/Secondary Keys/NOT NULL/UNIQUE/CHECK and Foreign Keys

7.5 Statements:
7.5.1 SQL
7.5.2 Select and Select *
7.5.3 Column Alias, Null Value, Arithmetic Expressions
7.5.4 Concatenation Operator(||), Literal, DISTINCT
7.5.5 Where
7.5.6 Order By (Desc, Asc)
7.5.7 And & OR, Like
7.5.8 Not
7.5.9 IN
7.5.10 Not In
7.5.11 Insert, Update, Delete
7.5.12 DESCRIBE

7.6 Advanced SQL with Oracle
7.6.1 SQL commands:
7.6.2 Update, Delete
7.6.3 Create, Alter, Drop
7.6.4 Truncate, Select with various operators,
7.6.5 Count, Sum, Distinct,
7.6.6 Order by, Group by, Having

7.6.7 Working With Dates
7.6.8 Sub Query
7.6.9 Introduction to Joins
7.6.9.1 Inner Join
7.6.9.2 Self Join
7.6.9.3 Outer Joins – Left/Right/Full
7.6.10 Hands on all above with Oracle APEX online

7.7 Why QA professionals need to know SQL basics
7.7.1 Sample queries for data verification
7.7.2 acquiring test data
7.7.3 SQL Injection attack
7.7.4 What to test in Relational DB apps

8. GROOVY
8.4 Script Editors
8.5 Groovy Script Library
8.6 Modifying Script File
8.7 Static Method
8.8 SOAPUI Environment variables
8.9 XML Interaction
8.10 JSON Interaction
8.11 SOAPUI Properties and Project Variables

9. DevOps
9.4 What is DevOps
9.5 Why Dev Ops is needed?
9.6 Version Control System (GIT)
9.7 Git Hub
9.8 SVN
9.9 Continuous Integration and Continuous Deployment
9.10 Jenkins
9.11 Travis

10. Cucumber
10.1 Section 1: Introduction to BDD

10.2 Section 2: Cucumber BDD Basics
10.2.1 Getting started with Cucumber – Adding Jars
10.2.2 Adding Eclipse Cucumber Plugin
10.2.3 Creating a Feature File
10.2.4 Creating Step definition and runner files
10.2.5 Adding Multiple scenarios in a Feature
10.2.6 Adding Parameterization
10.2.7 Creating Multiple Features and Step files
10.2.8 Adding List and Data tables
10.2.9 Adding Background

10.3 Section 3: Cucumber Options
10.3.1 Features, Glue and Monochrome
10.3.2 Adding Tags
10.3.3 Adding Hooks
10.3.4 Adding tagged Hooks
10.3.5 Pretty Format Feature

10.4 Section 4: Cucumber Reporting
10.4.1 Generating Cucumber Reports

10.5 Section 5: Integrating Selenium WebDriver with Cucumber
10.5.1 Adding Selenium APIs
10.5.2 Creating the feature file
10.5.3 Creating automation steps
10.5.4 Fixing sync issues and adding validations

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

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