

Android Application Testing

1. Introduction of Testing

- Software bugs
- What to test
- Types of tests
 - Unit Tests
 - Integration tests
 - Functional or acceptance tests
 - Performance tests
 - System Tests
- Testing framework

2. Testing on Android

- Junit
- Android architecture
- Creating the Android Sample project
- Package explorer
- Running the project
- Debugging tests

3. Introduction to Mobile Automation

- Basic Terminology : Testing, Types of Testing, Manual/Automation
- What is Mobile Automation Testing
- Mobile Application Testing Tools
- Introduction to Appium
- Where Appium can be used
- Hybrid Apps, Native Apps and WebApps
- UIAutomator
- Appium VS Selendroid
- Drawbacks and Limitations

4. Appium Setup & Configurations

- **Configuring appium on real device**
- Why work on real device?
- Download and Configure Android on local machine
- Api levels & Android version
- supported API levels & Android versions
- API level for Android
- Android version in Phone
- Developer mode in Mobiles
- Debug level settings in Phone
- Connecting & detecting a phone
- Install Microsoft Dot Net framework
- Download Appium
- Configuring Various versioning API level requirements for Appium
- Starting Appium Server from Console
- Running Appium Program
- Installing Emulator in Eclipse
- Installing apps in Emulator via command prompt

5. Hybrid/Native Android Apps Test

- Required Capabilities for Appium and Android
- Concept of Apk file, AppCompatActivity and AppCompatActivity
- How to get Apk file, AppCompatActivity and AppCompatActivity for any application
- When Apk file necessary to test App?
- AppiumDriver and RemoteWebDriver classes
- Programme on invoking Apps
- Invoking app with package activity
- Example on package name and activity invoking
- Mobile Gesture Automation
- Testing native Apps like calculator, Contacts, Settings
 - Hybrid app features and ways to test them
 - Example on Hybrid app handling
 - Testing Book My show App

6. Locating Elements

- Concept of UI Automator
- FindElement and FindElementByAndroidUIAutomator
- Using UISelector Class in UIAutomator API
- Finding by Classname
- Detecting presence of Elements
- Building Xpaths
- Challenges faced in finding Elements and Workarounds
- Using Android UI Automator's UISelector() and its functions
- Waiting - Implicit and explicit waits

7. Testing WebApps

- Chrome browser configuration
- Using ADB Plugin
- Automating the chrome Browser
- Automating mobile specific websites
- Exercise on real device browser automation
- Automating Udemy site in mobile browser

8. Mobile Testing Framework

- Testng Framework
- Testng installation in eclips
- Testng Annotations
- Maven Configuration
- Creating Basic Maven project
- Running appium test in Maven

9. Data Driven Testing

- Configuring Apache poi
- Excel Api methods
- Programme for retrieving data from excel
- Programme for Updating data back to excel