

Practical 10
Software Testing and Quality Assurance
2CSDE80

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20BCE515



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AIM : To demonstrate testing of a mobile application.

Setting Up Selenoid

Step-1 : Make a folder name Selendroid in C drive



Step-2 : Paste the following jar files/folder in the Selendroid folder :

- selendroid-standalone
- selendroid-client
- selenium

Step-3 : Open Command Prompt at the Selendroid folder.

Step-4 : Make an apk of an android application.

Step-5 : After downloading the apk file, place it in the Selendroid folder.

Step-6 : Execute the commands in the command prompt.

- cd Selendroid
- java -jar selendroid-standalone-0.17.0-with-dependencies_fixed.jar
- java -jar selendroid-standalone-0.17.0-with-dependencies_fixed.jar -app "ConvertMilesToKmApp.apk"

Output :

```
Administrator: Command Prompt - java -jar selendroid-standalone-0.17.0-with-dependencies_fixed.jar
Microsoft Windows [Version 10.0.19043.1288]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\system32>cd ../../\

C:\>cd Selendroid

C:\Selendroid>java -jar selendroid-standalone-0.17.0-with-dependencies_fixed.jar
Nov 10, 2021 3:15:56 PM io.selendroid.standalone.SelendroidLauncher main
INFO: ##### Selendroid #####
Nov 10, 2021 3:15:56 PM io.selendroid.standalone.SelendroidLauncher main
INFO: ##### Configuration in use #####
Nov 10, 2021 3:15:56 PM io.selendroid.standalone.SelendroidLauncher main
INFO: io.selendroid.standalone.SelendroidConfiguration@49c2faae[
  port=4444
  timeoutEmulatorStart=300000
  supportedApps=[]
  verbose=false
  emulatorPort=5560
  deviceScreenshot=false
  selendroidServerPort=8080
  keystore=<null>
  keystorePassword=<null>
  keystoreAlias=<null>
  emulatorOptions=<null>
  keepEmulator=false
  registrationUrl=<null>
  proxy=<null>
  serverHost=<null>
  keepAdbAlive=false
]
```

```
Administrator: Command Prompt - java -jar selendroid-standalone-0.17.0-with-dependencies_fixed.jar
ase start the android tool and create emulators and restart the selendroid-standalone or plugin an Android hardware devi
ce via USB.
Nov 10, 2021 3:16:07 PM io.selendroid.standalone.server.SelendroidStandaloneServer start
INFO: Selendroid standalone server has been started on port: 4444
Nov 10, 2021 3:16:18 PM io.selendroid.standalone.io.ShellCommand exec
INFO: Executing shell command: C:\Users\Malhar\AppData\Local\Android\Sdk\build-tools\31.0.0\aapt.exe dump badging C:\Use
rs\Malhar\AppData\Local\Temp\resigned-android-driver7836959233577216305.apk
Nov 10, 2021 3:16:18 PM io.selendroid.standalone.io.ShellCommand exec
INFO: Shell command output
-->
```

```
localhost:4444/wd/hub/status
{"value":{"os":{"name":"Windows 10","arch":"amd64","version":"10.0"},"build":{"browserName":"selendroid","version":"0.17.0"},"supportedDevices":[],"supportedApps":
[{"mainActivity":"io.selendroid.androiddriver.WebViewActivity","appId":"io.selendroid.androiddriver:0.17.0","basePackage":"io.selendroid.androiddriver"}]},{"status":0}
```

```
Administrator: Command Prompt
C:\Selendroid>java -jar selendroid-standalone-0.17.0-with-dependencies_fixed.jar -app "ConvertMilesToKmApp.apk"
```

```
localhost:4444/wd/hub/status
{"value":{"os":{"name":"Windows 10","arch":"amd64","version":"10.0"},"build":{"browserName":"selendroid","version":"0.17.0"},"supportedDevices":[],"supportedApps":
[{"mainActivity":"io.selendroid.androiddriver.WebViewActivity","appId":"io.selendroid.androiddriver:0.17.0","basePackage":"io.selendroid.androiddriver"},
{"mainActivity":"com.example.convertmilestokm.MainActivity","appId":"com.example.convertmilestokm:1.0","basePackage":"com.example.convertmilestokm"}]},{"status":0}
```

Mobile Application Performance Testing Tools

Performance testing in mobile applications is different from web application performance testing. While testing mobile applications we need to consider the network conditions, packetloss, latency, the type of device that we are using like a smartphone or smart device and bandwidth.

1. BlazeMeter
 - a. Provides performance and load testing as a service
 - b. Can run all Jmeter Scripts
 - c. Cost depends on the requirements, has both free and paid plans
 - d. Easy to set up
2. Apptim
 - a. Evaluates the performance of native Android and iOS mobile apps while running them on real devices
 - b. Integrates well with JIRA
 - c. Cost depends on the requirements, has both free and paid plans
 - d. Easy to Navigate
3. Jmeter
 - a. Used to measure the performance of the mobile application in which it will record the request through a proxy
 - b. Platform independent and supports various server types and protocols
 - c. Free
 - d. Easy to set up and navigate
4. Experitest
 - a. Using SaaS provides for manual testing, performance testing, load testing, and monitoring for mobile applications
 - b. Support to all mobile OS, iOS, Android, Windows Phone, and Blackberry
 - c. Cost depends on the requirements, has both free and paid plans
 - d. Need a good understanding to operate
5. Gatling
 - a. Designed to be used as a load testing tool for analyzing and measuring the performance of a variety of services, with a focus on web applications, but can also be used for mobile
 - b. Scala based scripting
 - c. Free
 - d. Need a good understanding to operate