

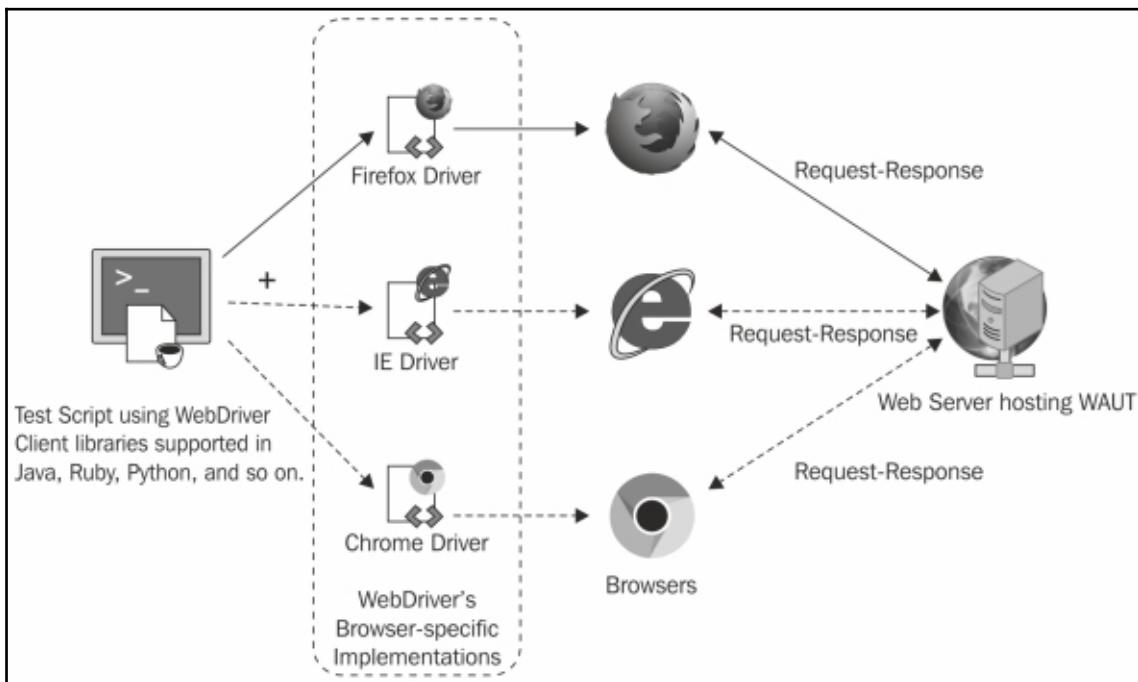
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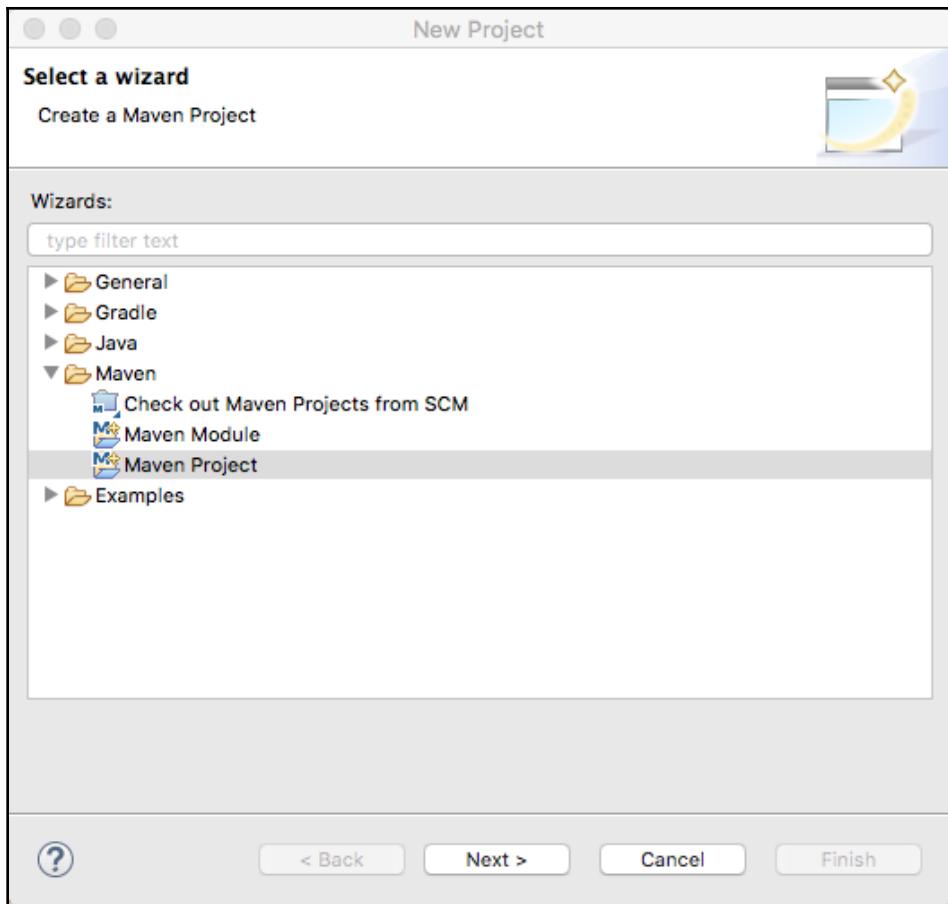
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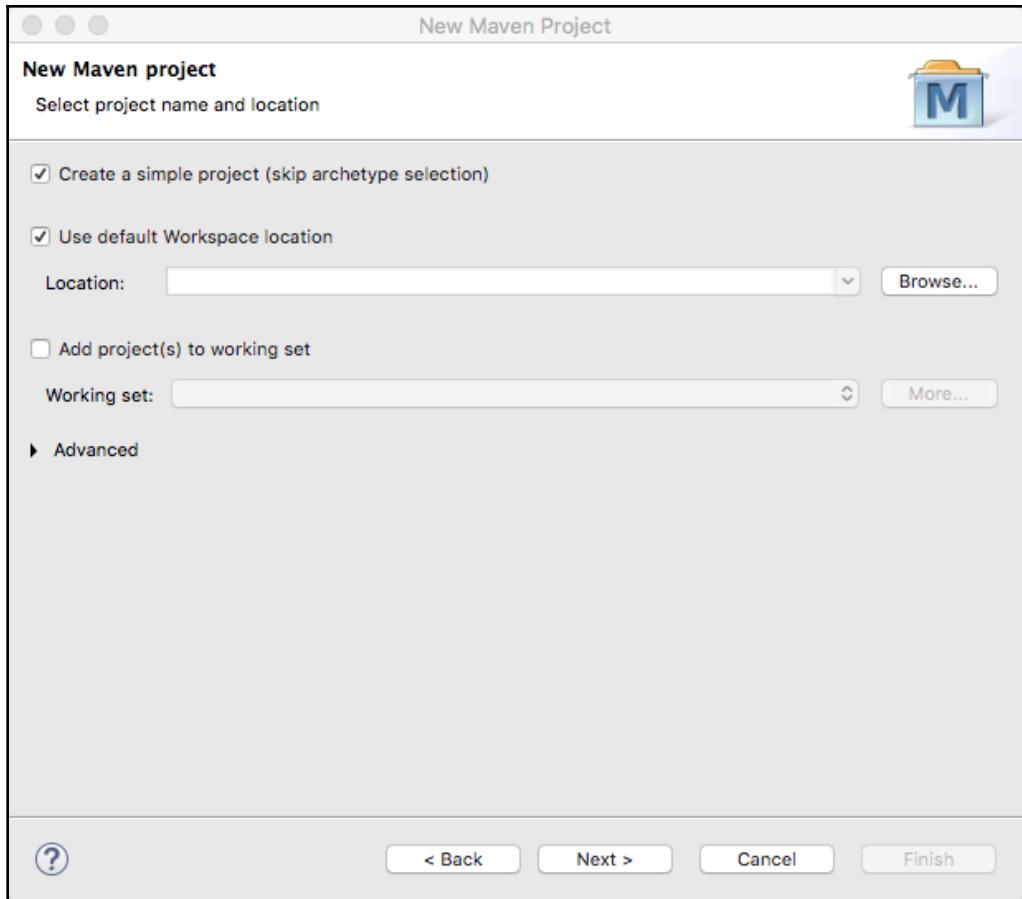
# 1

## cymon demo

### Chapter 01 : Introducing WebDriver and WebElements







New Maven Project

New Maven project

Configure project

Artifact

Group Id: com.example

Artifact Id: chapter1

Version: 0.0.1-SNAPSHOT

Packaging: jar

Name:

Description:

Parent Project

Group Id:

Artifact Id:

Version:

► Advanced

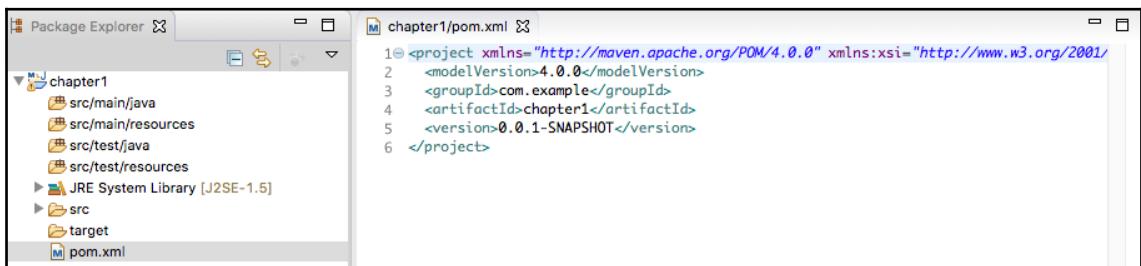
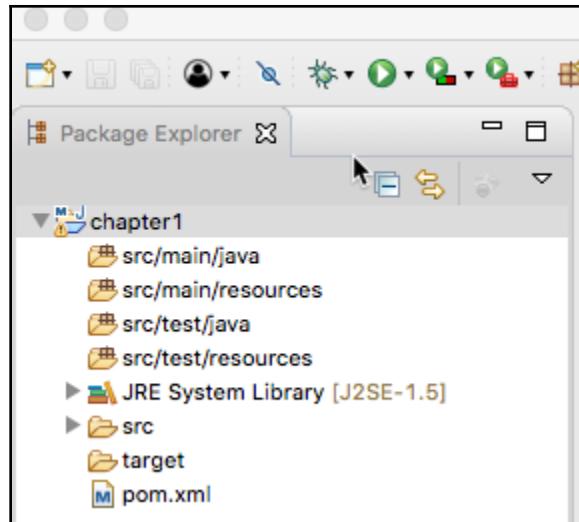
?

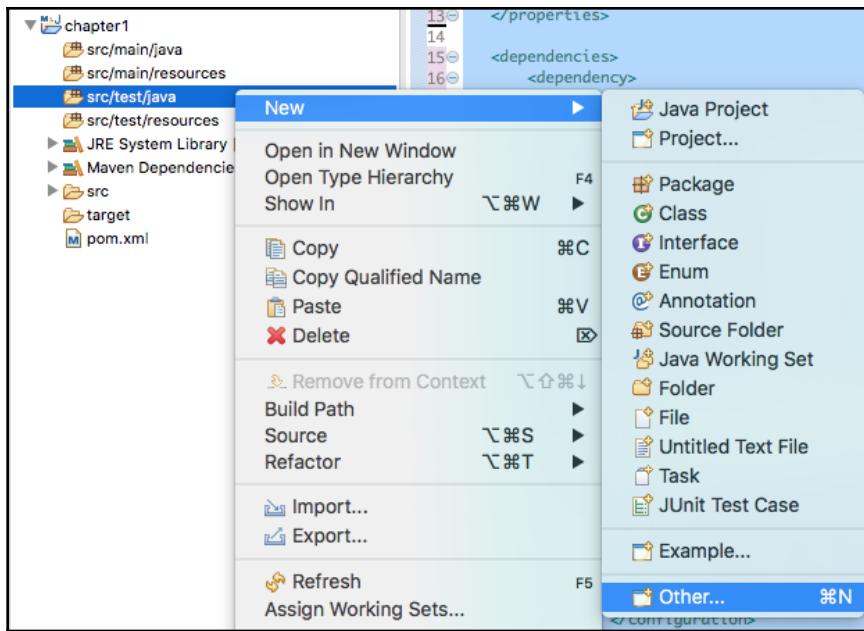
< Back

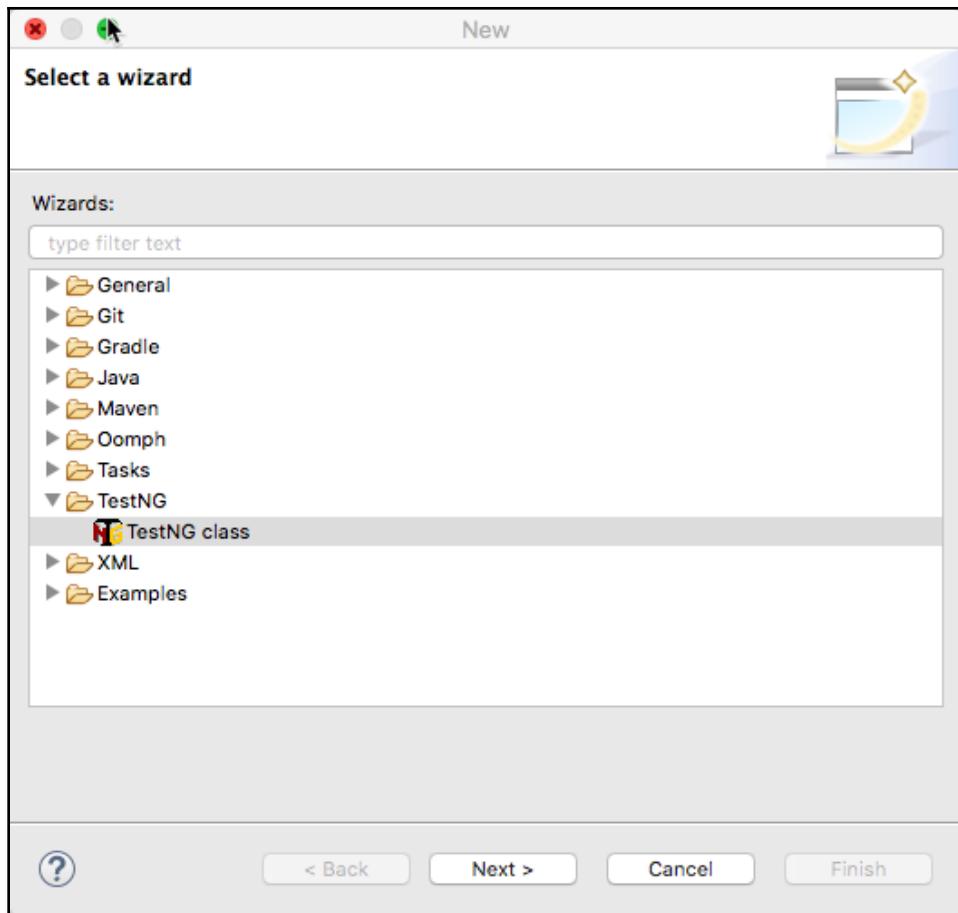
Next >

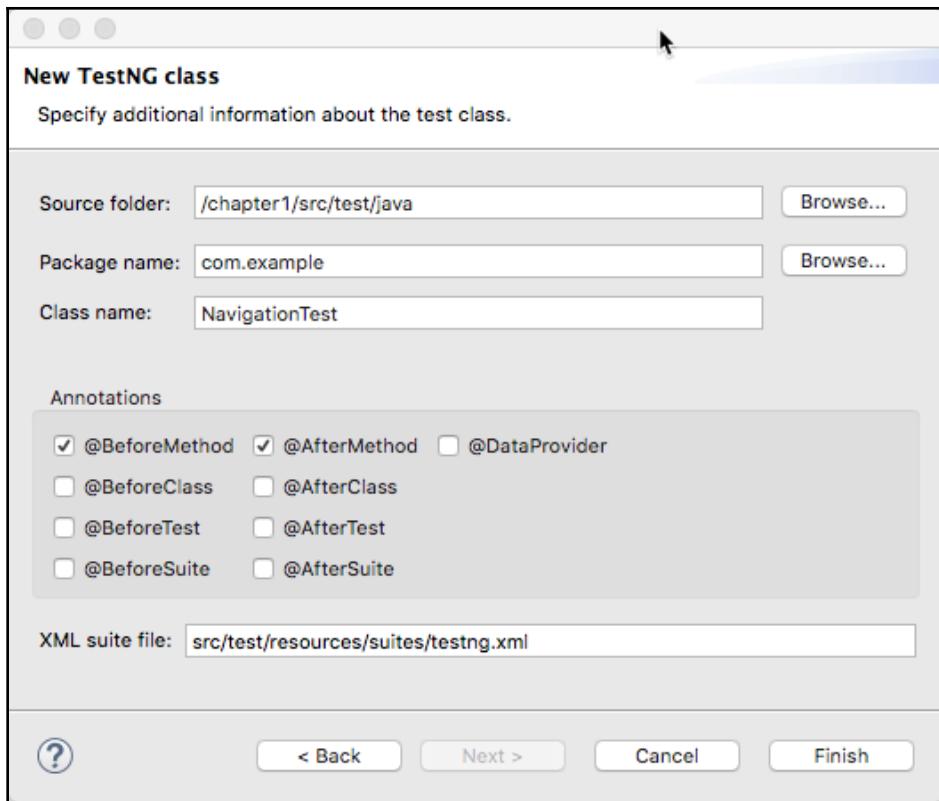
Cancel

Finish









The screenshot shows the Eclipse IDE interface. On the left, the Package Explorer view displays a project structure for 'chapter1'. It includes a 'src/main/java' folder, a 'src/main/resources' folder, a 'src/test/java' folder containing a 'com.example' package with a 'NavigationTest.java' file, and a 'src/test/resources' folder containing a 'testng.xml' file. Other visible items include 'JRE System Library [JavaSE-1.8]', 'Maven Dependencies', and 'src' and 'target' folders. On the right, the main editor window shows the Java code for 'NavigationTest.java':

```
1 package com.example;
2
3 import org.testng.annotations.Test;
4
5 public class NavigationTest {
6     @Test
7     public void f() {
8     }
9
10    @BeforeMethod
11    public void beforeMethod() {
12    }
13
14    @AfterMethod
15    public void afterMethod() {
16    }
17
18
19 }
20
```

```

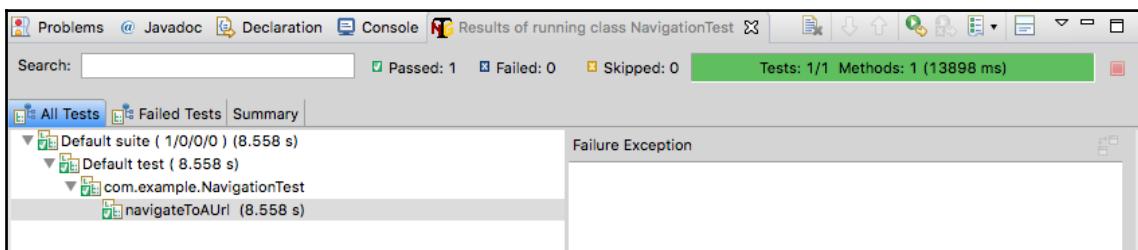
10 public class NavigationTest {
11
12     WebDriver driver;
13
14     @BeforeMethod
15     public void beforeMethod() {
16
17         // set path of Chromedriver
18         System.setProperty("webdriver.chrome.driver",
19             "./src/test/resources/chromedriver");
20
21         // initialize new WebDriver
22         WebDriver driver = new ChromeDriver();
23     }
24
25     @Test
26     public void navigateToAUrl() {
27
28         // navigate to the web site
29         driver.get("http://demo-store.com");
30
31         // Validate page title
32         Assert.assertEquals(driver.getTitle(),
33             "My Store");
34     }
35
36     @AfterMethod
37     public void afterMethod() {
38
39         // close and quit the browser
40         driver.quit();
41     }
42 }

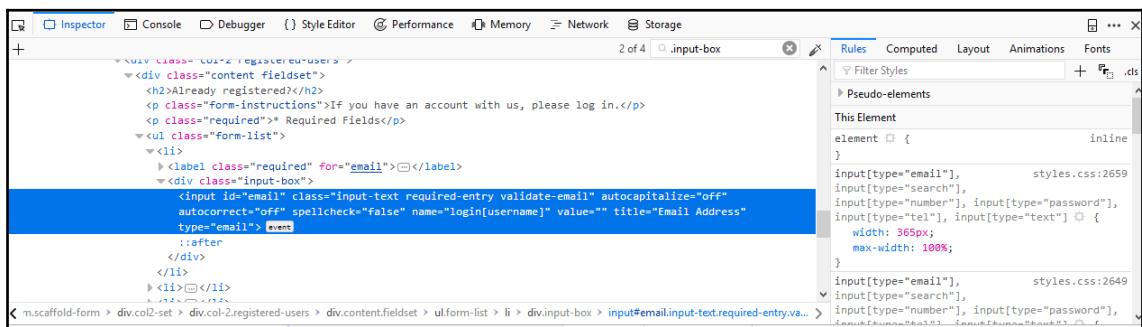
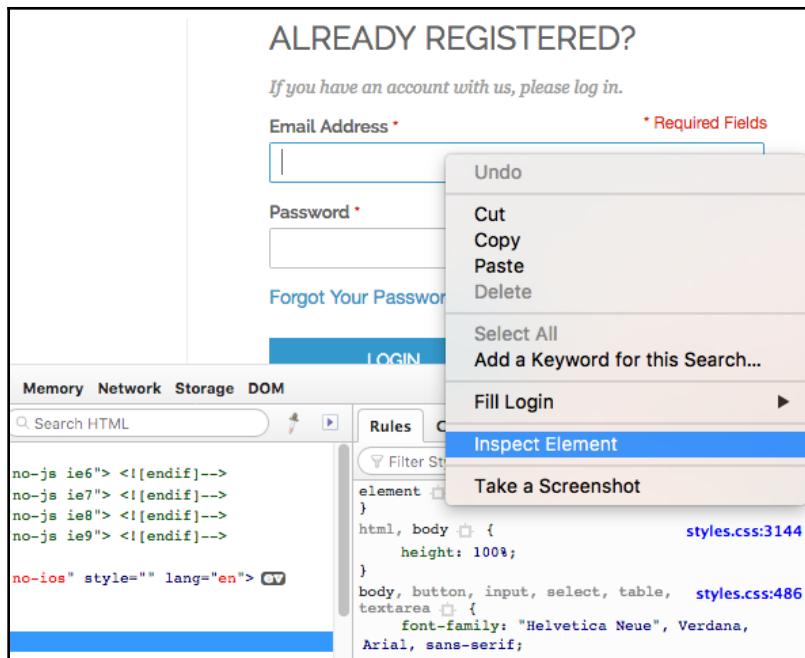
```

Problems: 1 warning, 0 others  
Warnings (1 item)

Outline:

- com.example.NavigationTest
  - driver : WebDriver
  - beforeMethod()
  - navigateToAUrl()
  - afterMethod()





**MADISON ISLAND**

WOMEN MEN ACCESSORIES HOME & DECOR SALE VIP

LOGIN OR CREATE AN ACCOUNT

NEW HERE?

Registration is free and easy!

- Faster checkout
- Save multiple shipping addresses
- View and track orders and more

CREATE AN ACCOUNT

ALREADY REGISTERED?

If you have an account with us, please log in.

Email \*

Password \*

\* Required Fields

Element Inspector showing the selected `<input id="email" ...>` element. The right panel displays its properties and styles:

```

Rules Computed Layout Animations Fonts
+ Filter Styles
+ Pseudo-elements
This Element
element { inline }
input[type="email"], input[type="search"], input[type="number"], input[type="password"], input[type="tel"], input[type="text"] {
    width: 365px;
    max-width: 100%;
}
input[type="email"], input[type="search"], input[type="number"], input[type="password"], ...

```

Inspector Console Debugger Style Editor Performance Memory Network Storage DOM

1 of 1

Element Inspector showing the selected `<input id="email" ...>` element. A context menu is open, with the 'XPath' option highlighted in the bottom right corner.

Edit As HTML  
Create New Node  
Duplicate Node  
Delete Node  
Attributes  
hover  
active  
focus  
Copy  
Paste  
Expand All  
Collapse  
Scroll Into View  
Screenshot Node  
Use in Console  
Show DOM Properties

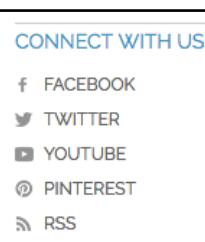
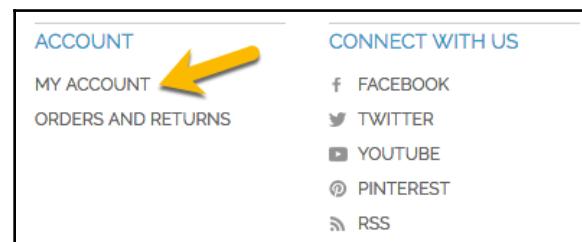
suggested XPath or CSS selector value to

The screenshot shows the Madison Island website's login page. At the top, there's a navigation bar with links for WOMEN, MEN, ACCESSORIES, HOME & DECOR, SALE, and VIP. On the right side of the header, there are links for ACCOUNT and CART, along with a search bar. Below the header, there are two sections: "LOGIN OR CREATE AN ACCOUNT" and "ALREADY REGISTERED?". The "ALREADY REGISTERED?" section contains a form with fields for "Email" and "Password". The "Email" field is highlighted with a blue border, indicating it is a required field. The developer tools' Inspect Element feature is open, focusing on the "Email" input field. The element is identified as `<input id="email" class="input-text required-entry validate-email" type="email">`. The "Computed" tab in the developer tools shows the following CSS rules for this input field:

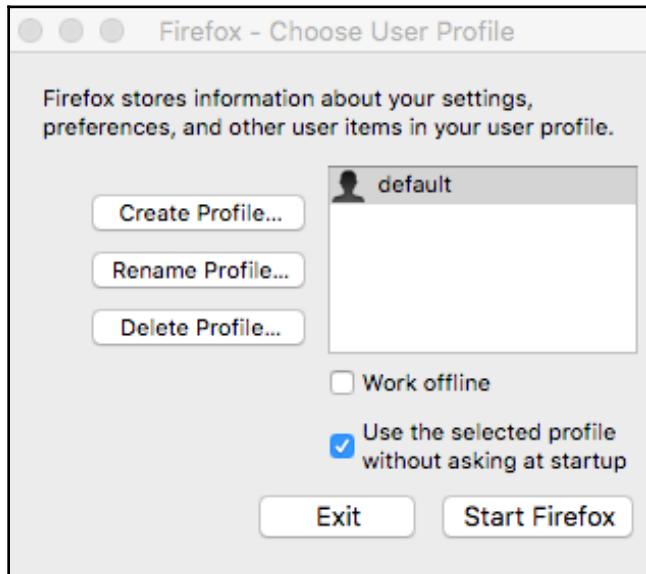
```

input[type="email"], input[type="search"], input[type="number"], input[type="password"], input[type="tel"], input[type="text"] {
    width: 365px;
    max-width: 100%;
}

```

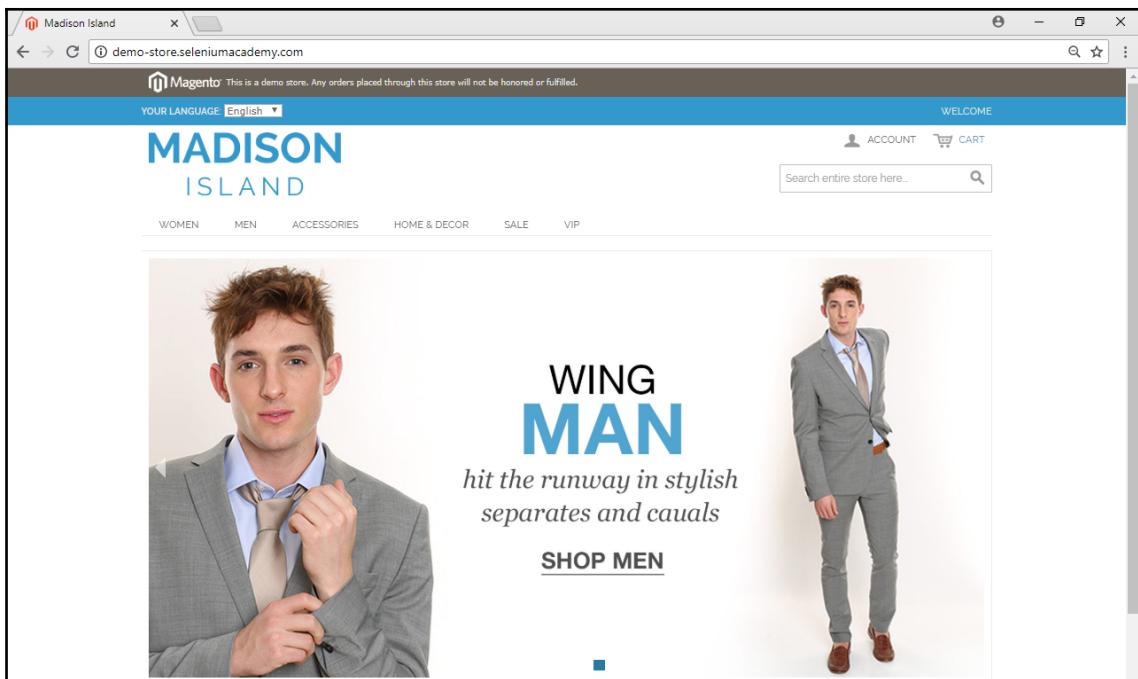
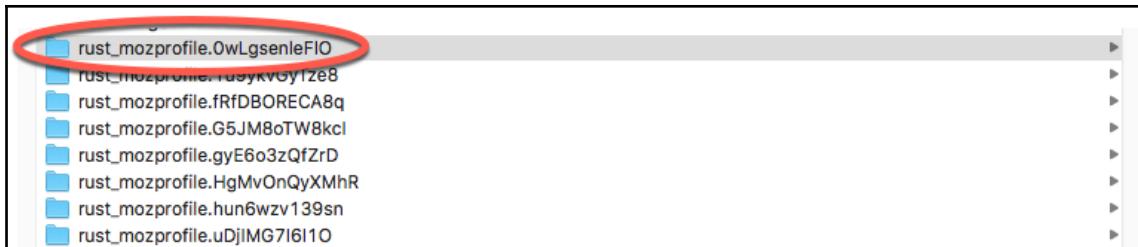


## Chapter 02: Working with Browser Drivers



The screenshot shows a Firefox browser window with two tabs open, both titled "Troubleshooting Information". The active tab's address bar shows "about:support". The main content area displays the "Troubleshooting Information" page. On the right side, there is a "Try Safe Mode" button with the sub-option "Restart with Add-ons Disabled...". Below this are two buttons: "Copy raw data to clipboard" and "Copy text to clipboard". A section titled "Application Basics" contains a table with various system details. One row in this table, specifically the "Profile Folder" row, has its value ("var/folders/zr/rdwhsjk54k5bj7yr34rfftrh000gn/T/trust\_mozprofile.0wLgsenleFO") circled in red.

Name	Firefox
Version	61.0.1
Build ID	20180704003137
Update History	Show Update History
Update Channel	release
User Agent	Mozilla/5.0 (Macintosh; Intel Mac OS X 10.13; rv:61.0) Gecko/20100101 Firefox/61.0
OS	Darwin 17.7.0
Profile Folder	Show in Finder var/folders/zr/rdwhsjk54k5bj7yr34rfftrh000gn/T/trust_mozprofile.0wLgsenleFO
Enabled Plugins	about:plugins
Build Configuration	about:buildconfig
Memory Use	about:memory
Performance	about:performance
Registered Service Workers	about:serviceworkers
Multiprocess Windows	1/1 (Enabled by default)
Web Content Processes	3/4

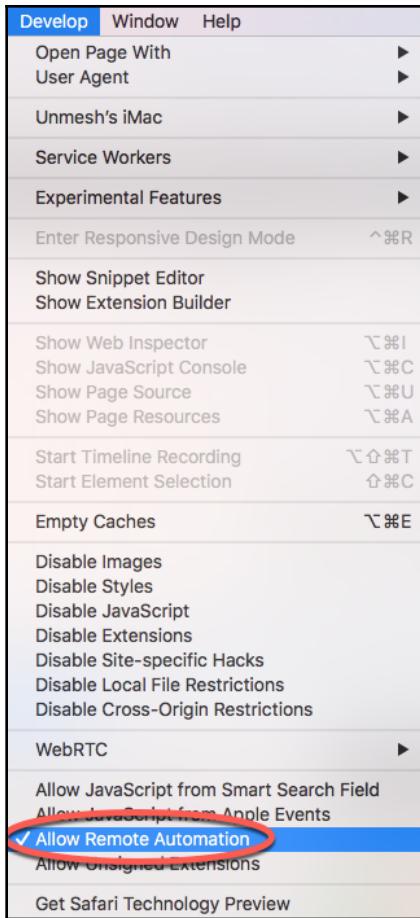


The screenshot shows a browser window displaying a Magento demo store. The URL is <http://demo-store.seleniumacademy.com/men.html>. The page features a banner for 'WING MAN' men's clothing. Below the banner is a green 'HOME & DECOR' button.

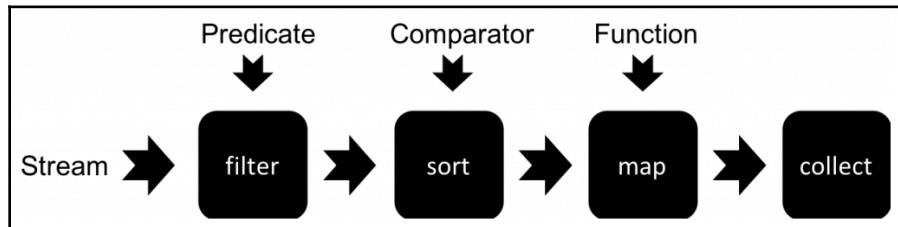
The browser's developer tools Network tab is open, with the 'Network' tab highlighted by a red circle. The list of requests shows a single entry:

- Name: demo-store.seleniumacademy.com
- Headers:
  - Accept-Encoding: gzip, deflate
  - Accept-Language: en-US,en;q=0.9
  - Cache-Control: max-age=0
  - Connection: keep-alive
  - Cookie: frontendarv1e0pu0qpsicarebl5aucdr3
  - Host: demo-store.seleniumacademy.com
  - Referer: <http://demo-store.seleniumacademy.com/men.html>
  - Upgrade-Insecure-Requests: 1
- User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/67.0.3396.99 Safari/537.36

A red circle highlights the User-Agent value in the Headers section.



## Chapter 03 : Using Java 8 features along with Selenium



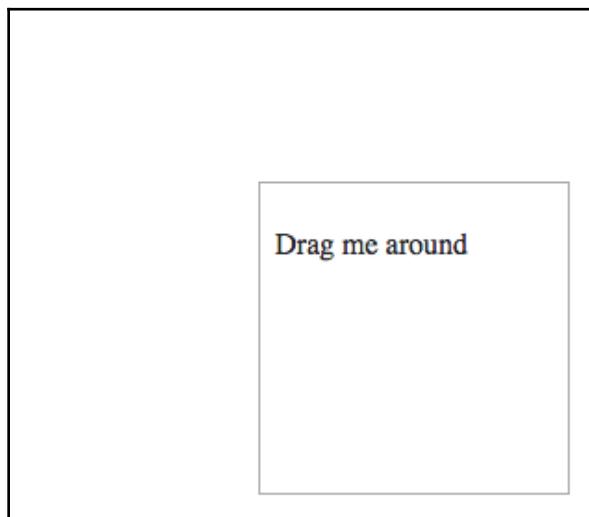
## Chapter 05: Exploring Advanced Interactions of WebDriver

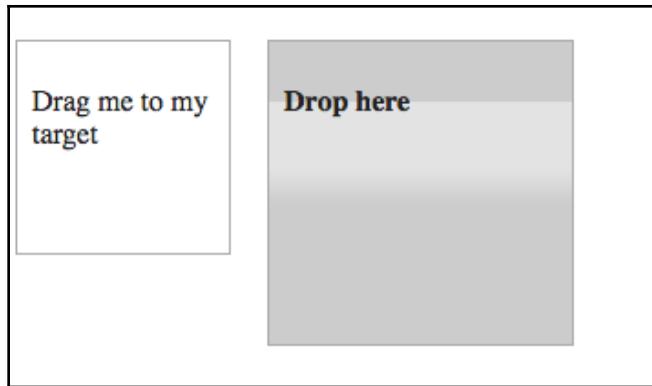
1	2	3	4
5	6	7	8
9	10	11	12

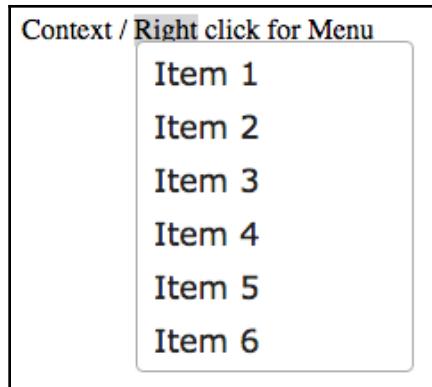
  

1	2	3	4
5	6	7	8
9	10	11	12

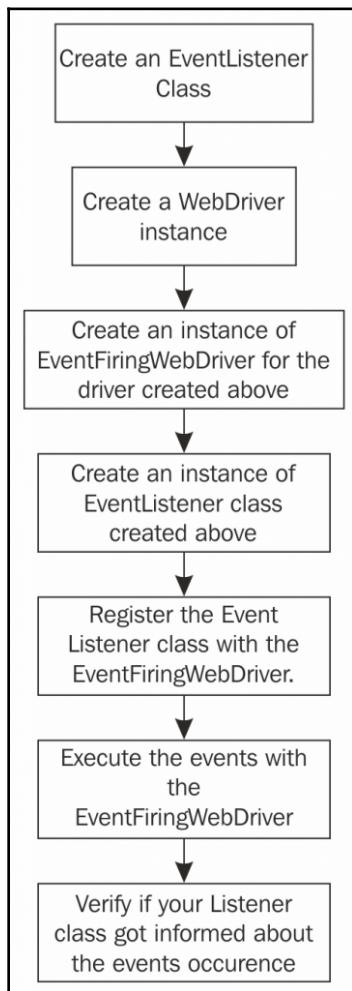
1	2	3	4
5	6	7	8
9	10	11	12



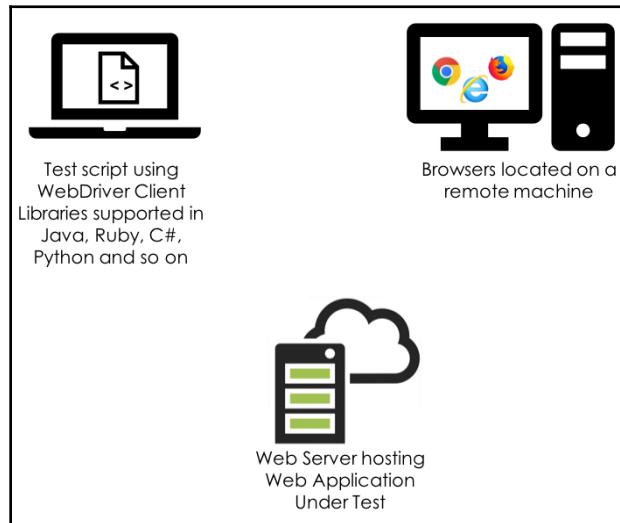
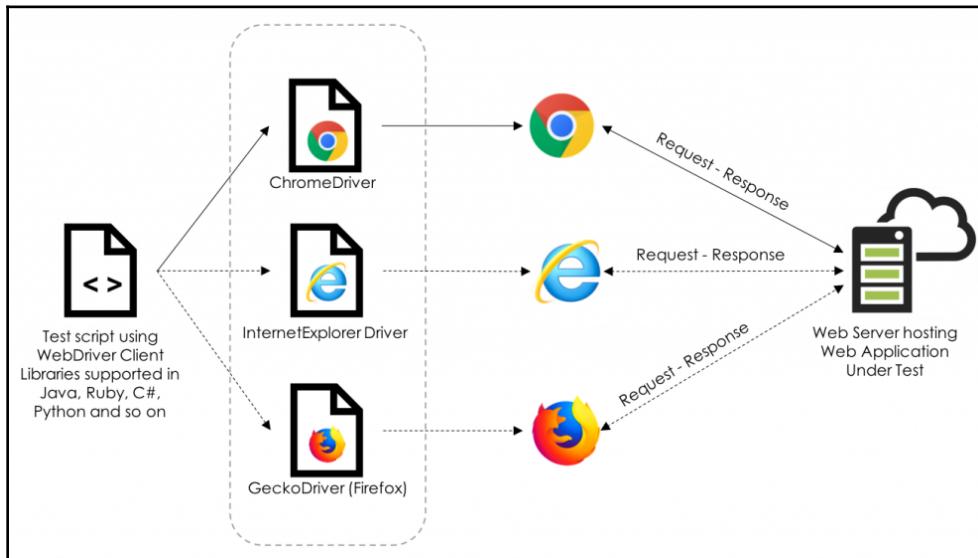




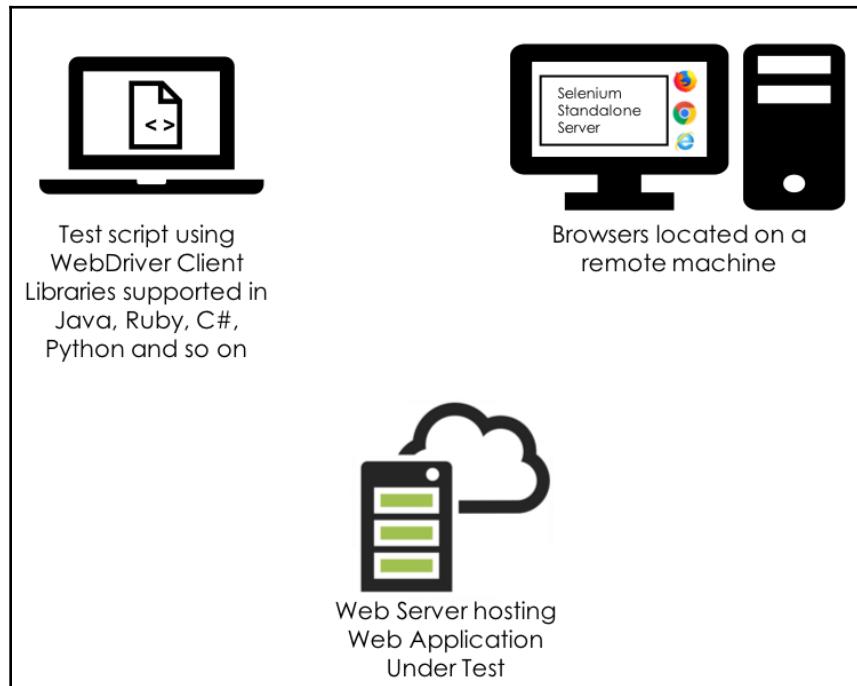
# Chapter 06: Understanding WebDriver Events



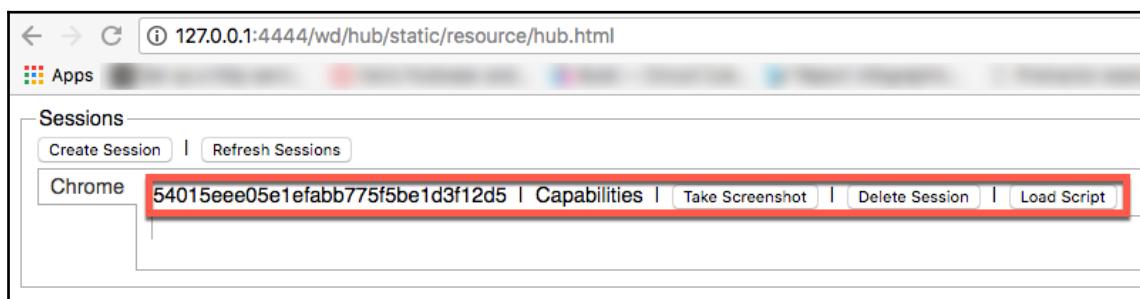
# Chapter 07 : Exploring RemoteWebDriver



```
1. java -jar selenium-server-standalone-3.12.0.jar (java)
upgundecha@Unmeshs-iMac ~ ~/Downloads ➔ java -jar selenium-server-standalone-3.
12.0.jar
16:27:41.623 INFO [GridLauncherV3.launch] - Selenium build info: version: '3.12.
0', revision: '7c6e0b3'
16:27:41.624 INFO [GridLauncherV3$1.launch] - Launching a standalone Selenium Se
rver on port 4444
2018-06-02 16:27:41.742:INFO::main: Logging initialized @443ms to org.seleniumhq
.jetty9.util.log.StdErrLog
16:27:42.044 INFO [SeleniumServer.boot] - Selenium Server is up and running on p
ort 4444
```



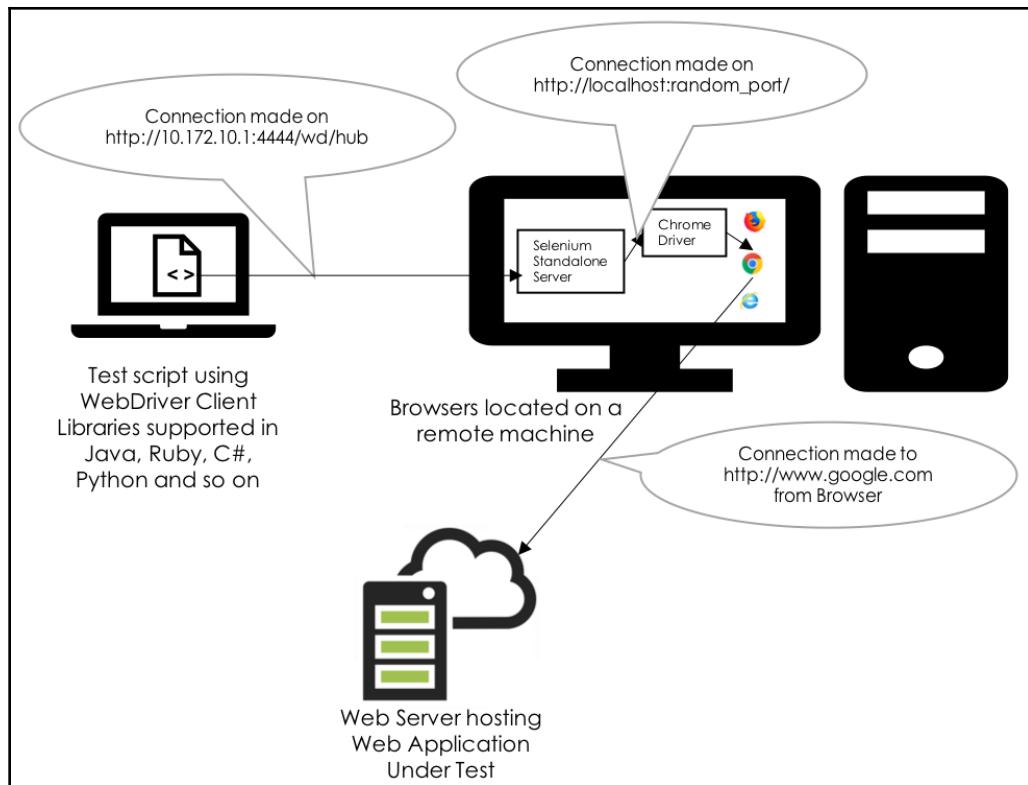
```
18:25:32.155 INFO [ActiveSessionFactory.apply] - Capabilities are: Capabilities {  
browserName: chrome}  
18:25:32.157 INFO [ActiveSessionFactory.lambda$apply$11] - Matched factory org.openqa.selenium.remote.server.ServicedSession$Factory (provider: org.openqa.selenium.chrome.ChromeDriverService)  
Starting ChromeDriver 2.38.552518 (183d19265345f54ce39cbb94cf81ba5f15905011) on port 3315  
Only local connections are allowed.  
18:25:52.564 INFO [ProtocolHandshake.createSession] - Detected dialect: OSS  
18:25:58.340 INFO [RemoteSession$Factory.lambda$performHandshake$0] - Started new session 3cb5c118e1a5b2bdd7bc568bf147beed (org.openqa.selenium.chrome.ChromeDriverService)
```



The screenshot shows the Cymon web application interface. At the top, there's a navigation bar with 'Sessions' (selected), 'Create Session', 'Refresh Sessions', and other session-related buttons. Below the navigation is a header for a specific session: 'Chrome 54015eee05e1efabb775f5be1d3f12d5 | Capabilities | Take Screenshot | Delete Session | Load Script'. The main content area displays the session's capabilities as a JSON object:

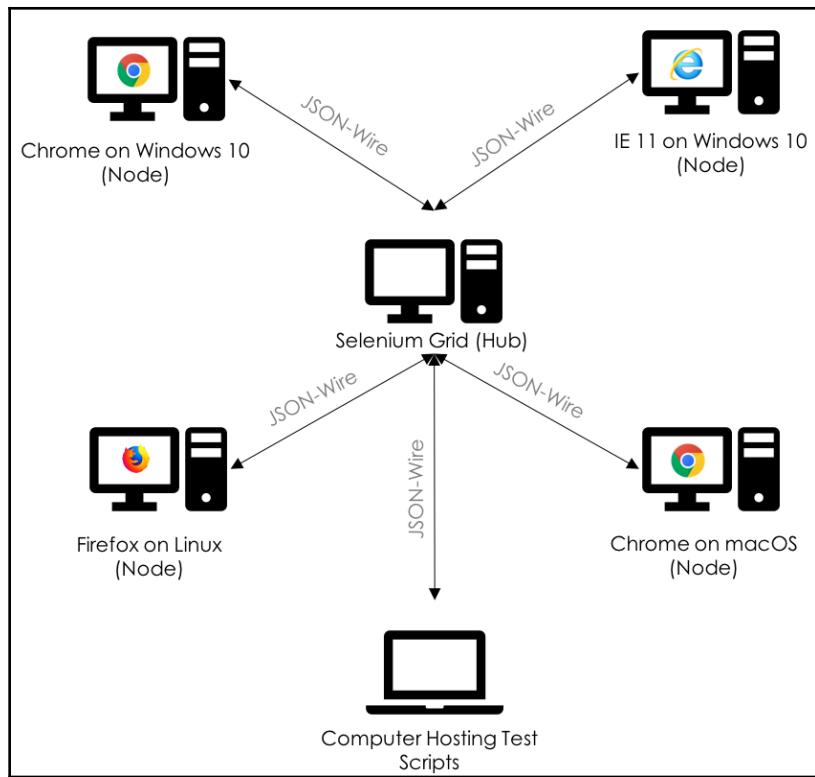
```
{  
  "a": {  
    "acceptInsecureCerts": false,  
    "acceptSslCerts": false,  
    "applicationCacheEnabled": false,  
    "browserConnectionEnabled": false,  
    "browserName": "chrome",  
    "chrome": {  
      "chromedriverVersion": "2.38.552518 (183d19265345f54ce39cbb94cf8",  
      "userDataDir": "/var/folders/zr/rdwhsjk54k5bj7yr34rffftrh0000gn/T"}  
  },  
  "cssSelectorsEnabled": true,  
  "databaseEnabled": false,  
  "handlesAlerts": true,  
  "hasTouchScreen": false,  
  "javascriptEnabled": true,  
  "locationContextEnabled": true,  
  "mobileEmulationEnabled": false,  
  "nativeEvents": true,  
  "networkConnectionEnabled": false,  
  "pageLoadStrategy": "normal",  
  "platform": "Mac OS X",  
  "rotatable": false,  
  "setWindowRect": true,  
  "takesHeapSnapshot": true,  
  "takesScreenshot": true,  
  "unexpectedAlertBehaviour": "",  
  "version": "66.0.3359.181",  
  "webStorageEnabled": true  
}  
}
```

At the bottom right of the JSON pane is a 'Close' button.

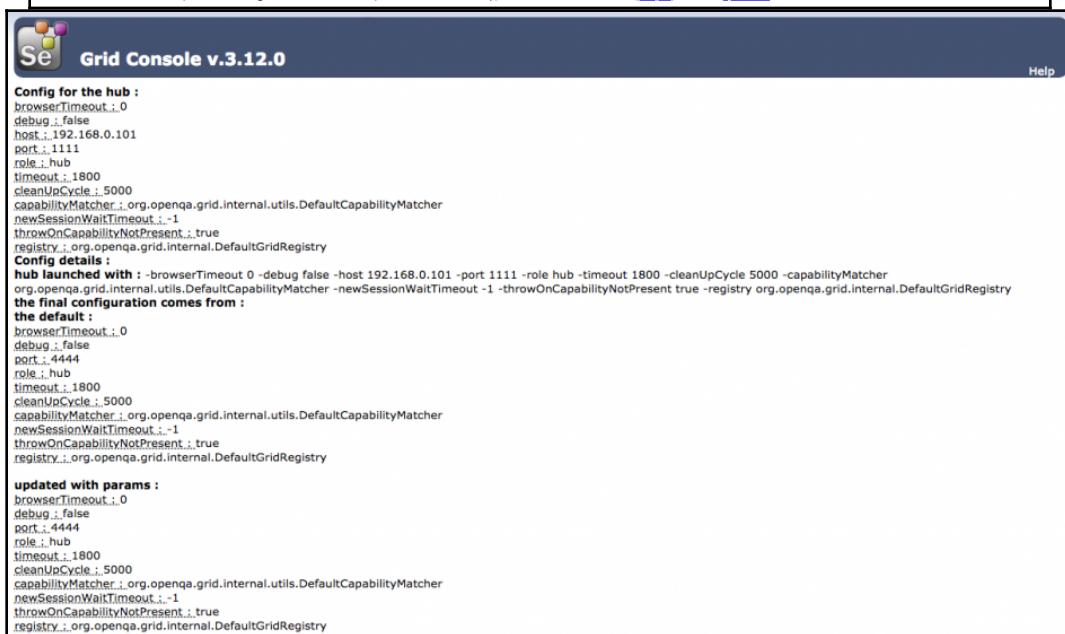


## Chapter 08: Setting up Selenium Grid

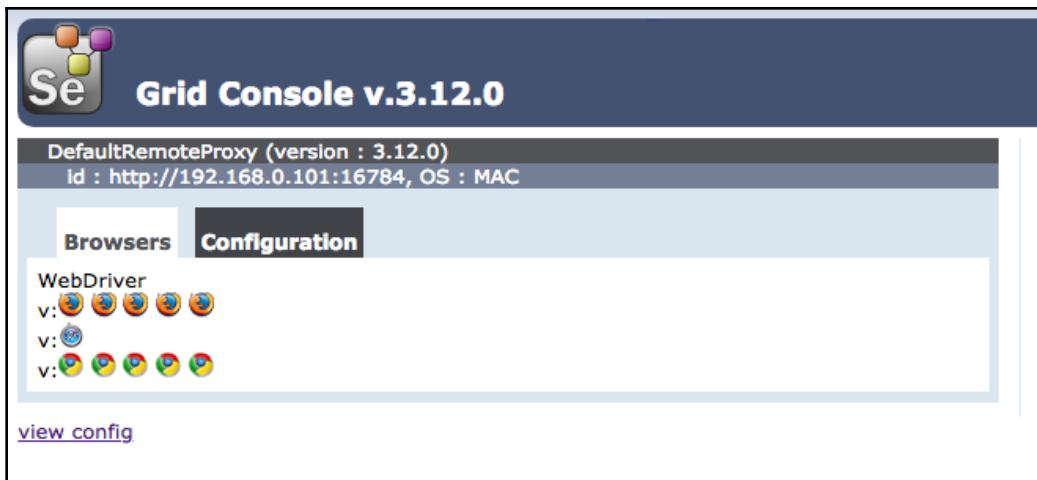
```
upgundecha@Unmeshs-iMac ~ ~/Downloads ➤ java -jar selenium-server-standalone-3.12.0.jar -help
Usage: <main class> [options]
Options:
  --debug, -debug
    <Boolean> : enables LogLevel.FINE.
    Default: false
  --version, -version
    Displays the version and exits.
    Default: false
  -browserTimeout
    <Integer> in seconds : number of seconds a browser session is allowed to
    hang while a WebDriver command is running (example: driver.get(url)). If
    the timeout is reached while a WebDriver command is still processing,
    the session will quit. Minimum value is 60. An unspecified, zero, or
    negative value means wait indefinitely.
  -config
    <String> filename : JSON configuration file for the standalone server.
    Overrides default values
  -host
    <String> IP or hostname : usually determined automatically. Most
    commonly useful in exotic network configurations (e.g. network with VPN)
  -jettyThreads, -jettyMaxThreads
    <Integer> : max number of threads for Jetty. An unspecified, zero, or
    negative value means the Jetty default value (200) will be used.
  -log
    <String> filename : the filename to use for logging. If omitted, will
    log to STDOUT
  -port
    <Integer> : the port number the server will use.
  -role
    <String> options are [hub], [node], or [standalone].
  -timeout, -sessionTimeout
    <Integer> in seconds : Specifies the timeout before the server
    automatically kills a session that hasn't had any activity in the last X
    seconds. The test slot will then be released for another test to use.
    This is typically used to take care of client crashes. For grid hub/node
    roles. cleanUpCycle must also be set.
```



```
upgundecha@Unmeshs-iMac ~ ~/Downloads ➤ java -jar selenium-server-standalone-3.12.0.jar -role hub -port 1111
11:55:33.681 INFO [GridLauncherV3.launch] - Selenium build info: version: '3.12.0', revision: '7c6e0b3'
11:55:33.684 INFO [GridLauncherV3$2.launch] - Launching Selenium Grid hub on port 1111
2018-06-10 11:55:34.243:INFO::main: Logging initialized @1093ms to org.seleniumhq.jetty9.util.log.StdErrLog
11:55:34.615 INFO [Hub.start] - Selenium Grid hub is up and running
11:55:34.616 INFO [Hub.start] - Nodes should register to http://192.168.0.101:1111/grid/register/
11:55:34.617 INFO [Hub.start] - Clients should connect to http://192.168.0.101:1111/wd/hub
```



```
ugundecha@Unmeshes-iMac ~ ~/Downloads ➤ java -jar -Dwebdriver.chrome.driver=chromedriver selenium-server-standalone-3.12.0.jar -role node -hub http://192.168.0.101:1111/grid/register
12:06:59.722 INFO [GridLauncherV3.launch] - Selenium build info: version: '3.12.0', revision: '7c6e0b3'
12:06:59.748 INFO [GridLauncherV3$3.launch] - Launching a Selenium Grid node on port 16784
2018-06-10 12:06:59.890:INFO::main: Logging initialized @621ms to org.seleniumhq.jetty9.util.log.StderrLog
12:07:00.086 INFO [SeleniumServer.boot] - Selenium Server is up and running on port 16784
12:07:00.086 INFO [GridLauncherV3$3.launch] - Selenium Grid node is up and ready to register to the hub
12:07:00.096 INFO [SelfRegisteringRemote$1.run] - Starting auto registration thread. Will try to register every 50
00 ms.
12:07:00.096 INFO [SelfRegisteringRemote.registerToHub] - Registering the node to the hub: http://192.168.0.101:11
11/grid/register
12:07:00.449 INFO [SelfRegisteringRemote.registerToHub] - Updating the node configuration from the hub
12:07:00.498 INFO [SelfRegisteringRemote.registerToHub] - The node is registered to the hub and ready to use
```



```
12:21:19.197 INFO [ActiveSessionFactory.apply] - Capabilities are: Capabilities {browserName: chrome, platform: MA C}
12:21:19.197 INFO [ActiveSessionFactory.lambda$apply$11] - Matched factory org.openqa.selenium.remote.server.ServicedSession$Factory (provider: org.openqa.selenium.chrome.ChromeDriverService)
Starting ChromeDriver 2.38.552518 (183d19265345f54ce39cbb94cf81ba5f15905011) on port 39474
Only local connections are allowed.
12:21:20.034 INFO [ProtocolHandshake.createSession] - Detected dialect: OSS
12:21:20.102 INFO [RemoteSession$Factory.lambda$performHandshake$0] - Started new session c9b6c5f5cf8f97312faadbedf56bbb73 (org.openqa.selenium.chrome.ChromeDriverService)
12:21:25.202 INFO [ActiveSessions$1.onStop] - Removing session c9b6c5f5cf8f97312faadbedf56bbb73 (org.openqa.selenium.chrome.ChromeDriverService)
```

```
12:21:19.181 INFO [RequestHandler.process] - Got a request to create a new session: Capabilities {browserName: chrome, platform: MAC}
12:21:19.182 INFO [TestSlot.getNewSession] - Trying to create a new session on test slot {server:CONFIG_UUID=4a2dbc4a-ae28-4398-897c-27ff56f71b99, seleniumProtocol=WebDriver, browserName=chrome, maxInstances=5, platformName=MAC, platform=MAC}
```

```
12:28:59.965 INFO [RequestHandler.process] - Got a request to create a new session: Capabilities {browserName: opera, platform: MAC}
12:28:59.966 INFO [RequestHandler.process] - Error forwarding the new session cannot find : Capabilities {browserName: opera, platform: MAC}
org.openqa.grid.common.exception.CapabilityNotPresentOnTheGridException: cannot find : Capabilities {browserName: opera, platform: MAC}
    at org.openqa.grid.internal.ProxySet.verifyAbilityToHandleDesiredCapabilities(ProxySet.java:153)
    at org.openqa.grid.internal.DefaultGridRegistry.addNewSessionRequest(DefaultGridRegistry.java:217)
    at org.openqa.grid.web.servlet.handler.RequestHandler.process(RequestHandler.java:111)
    at org.openqa.grid.web.servlet.DriverServlet.process(DriverServlet.java:86)
    at org.openqa.grid.web.servlet.DriverServlet.doPost(DriverServlet.java:70)
    at javax.servlet.http.HttpServlet.service(HttpServlet.java:707)
```

The screenshot shows the Grid Console interface. At the top, there's a logo with the letters 'Se' and a title 'Grid Console v.3.12.0'. Below the title, it displays 'DefaultRemoteProxy (version : 3.12.0)' and 'id : http://192.168.0.101:46213, OS : MAC'. There are two tabs: 'Browsers' and 'Configuration', with 'Configuration' being the active tab. Under 'Configuration', there's a section for 'WebDriver' with three entries, each preceded by a small icon: 'v:' (with a Firefox icon), 'v:' (with a Chrome icon), and 'v:' (with a Safari icon). At the bottom left, there's a link 'view config'.

The screenshot shows a 'Access Key' screen. It features a small icon of a clipboard with a key, followed by a text input field containing the value 'c6e7132c-ae27-4217-b6fa-'. Below the input field is a blue button labeled 'Generate a new access key'.

The screenshot shows a dashboard for automated tests. At the top, there are three tabs: 'Automated Builds', 'Automated Tests' (which is the active tab, indicated by a blue underline), and 'Manual Tests'. Below the tabs, the date 'Tuesday, Jun 30th' is displayed. A list of test results follows, starting with 'BMI Calculator Test' which was 'started a few seconds ago by @upgundecha'. To the right of the test name are several status indicators: a circular arrow icon, a lightning bolt icon, a 'X 10.9' icon, a '⌚ 7' icon, and a 'Running...' icon.

# Chapter 09 : The PageObject Pattern

The screenshot shows the WordPress admin dashboard under the 'Posts' section. The left sidebar includes links for Dashboard, Store, Posts (selected), All Posts, Add New, Categories, Tags, Copy a Post, Media, Links, Pages, Comments, Feedback, Appearance, Users, and Tools.

The main area displays a list of posts. At the top right of the list are buttons for Bulk Actions, Apply, Show all dates, View all categories (with a dropdown arrow), Filter, and a search bar labeled 'Search Posts'. A red box highlights the 'View all categories' button, and a red arrow labeled '4' points to it.

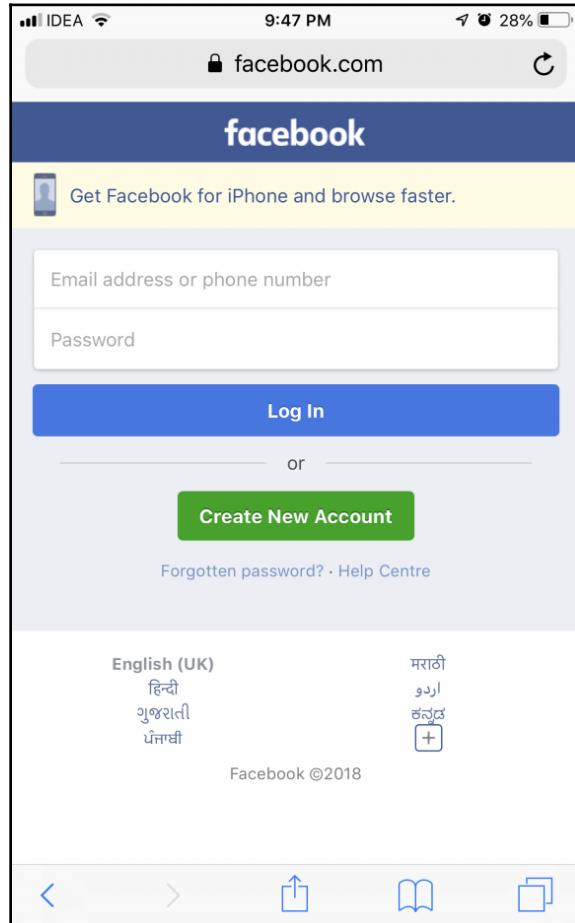
The post list table has columns for Title, Author, Categories, Tags, Stats, and Date. The first post, titled 'My First Post', has a red box around its title and a red arrow labeled '1' pointing to it. Below the post's title are 'Edit', 'Quick Edit', 'Trash', and 'View' buttons. A red arrow labeled '2' points to the 'Edit' button. The second post has a red box around its title and a red arrow labeled '3' pointing to it.

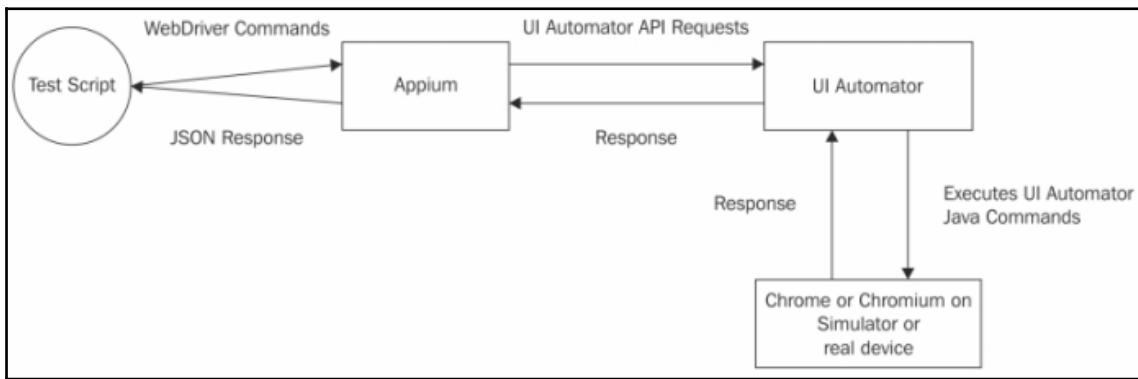
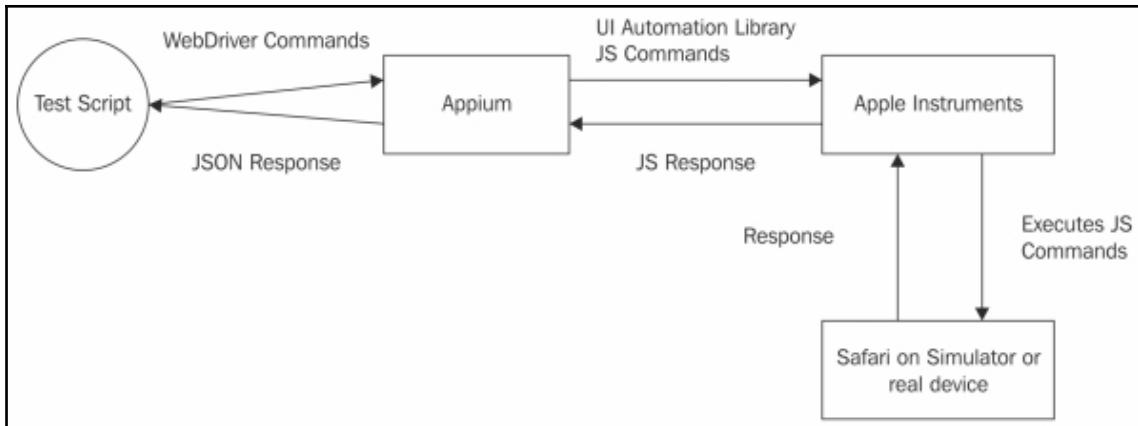
Annotations on the left side of the code editor:

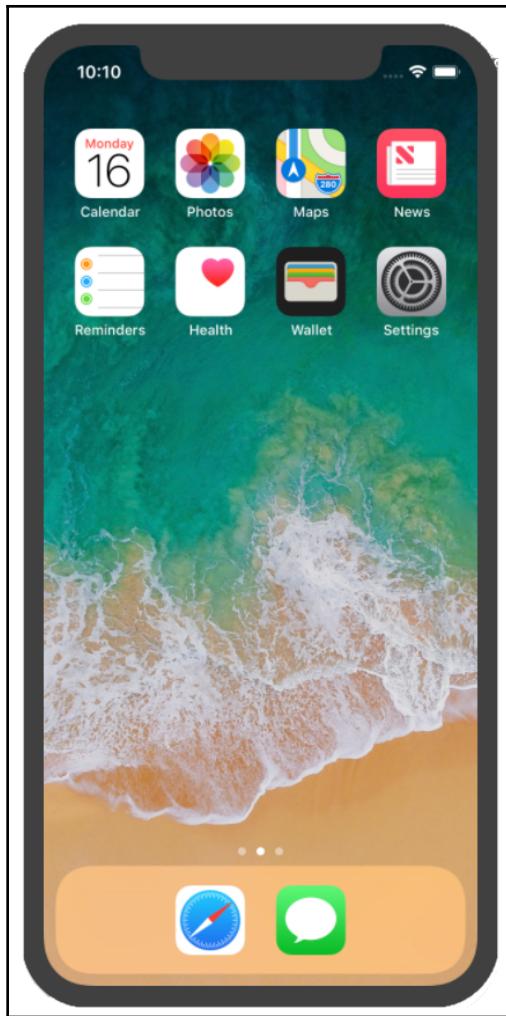
- Post 1: Points to the first row of the table.
- Post 2: Points to the second row of the table.
- Post 3: Points to the third row of the table.

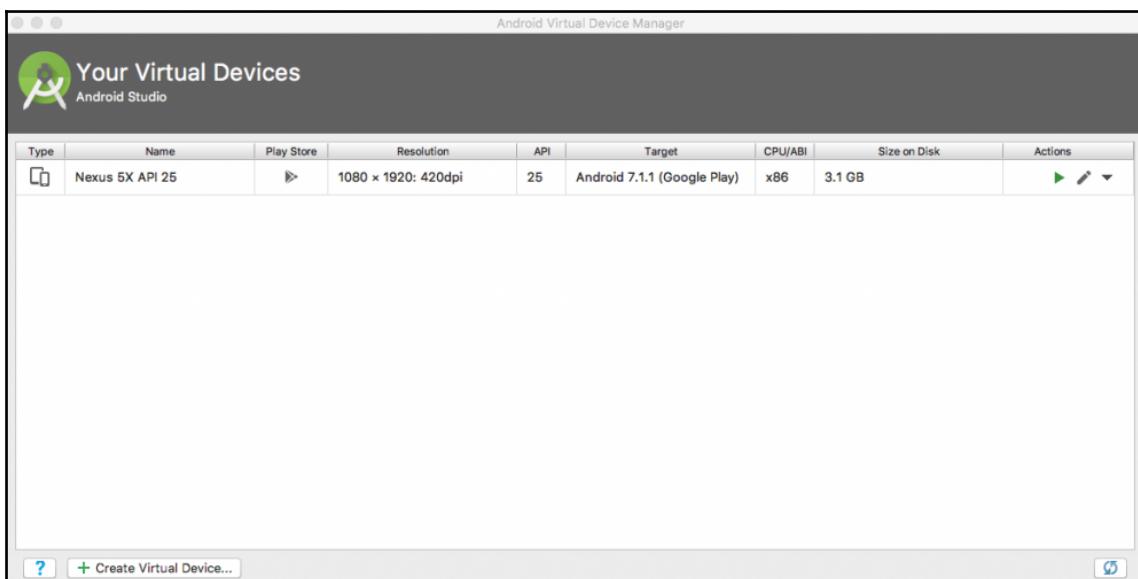
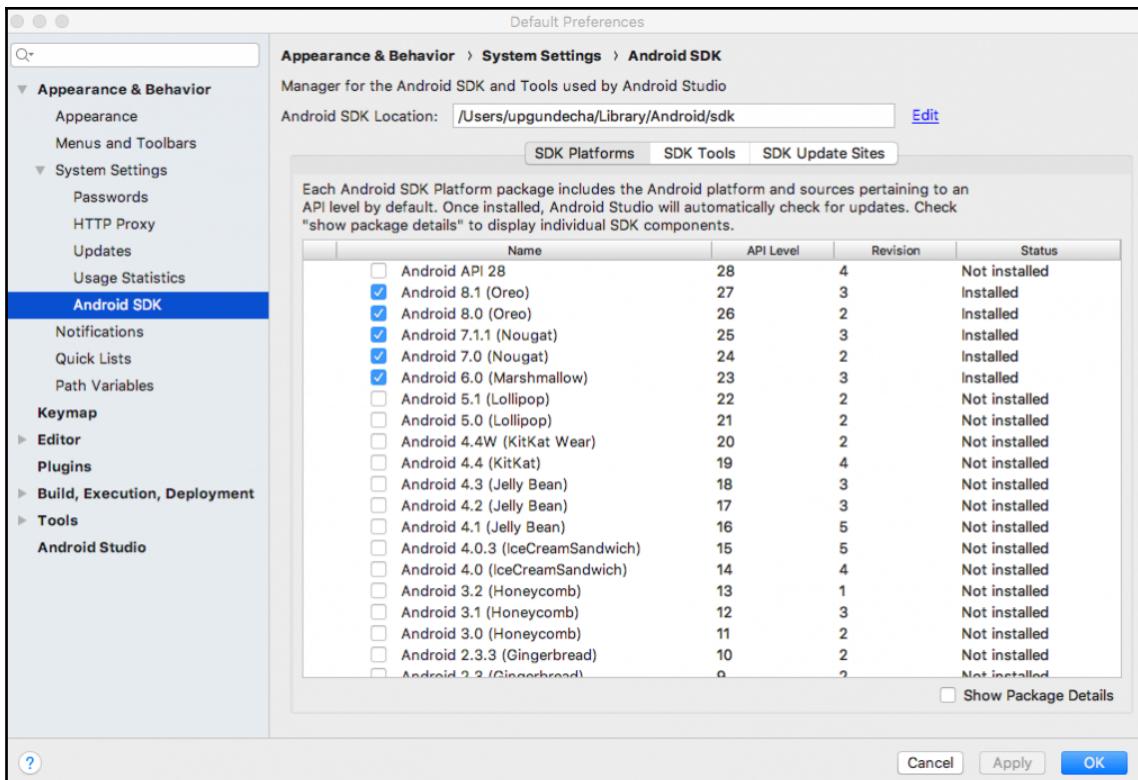
```
<table class="wp-list-table widefat fixed posts" cellspacing="0">
    <thead>
        <tr>
            <th>Title</th>
            <th>Author</th>
            <th>Categories</th>
            <th>Tags</th>
            <th>Stats</th>
            <th>Date</th>
        </tr>
    <tbody id="the-list">
        <tr id="post-46" class="post-46 type-post status-publish format-standard hentry category-uncategorized alternate iedit author-self" valign="top">
            <td>My First Post</td>
            <td>pageobjectpattern</td>
            <td>Uncategorized</td>
            <td>—</td>
            <td>0 0 0</td>
            <td>2013/11/03 Published</td>
        </tr>
        <tr id="post-44" class="post-44 type-post status-publish format-standard hentry category-uncategorized iedit author-self" valign="top">
            <td>My Second Post</td>
            <td>pageobjectpattern</td>
            <td>Uncategorized</td>
            <td>—</td>
            <td>0 0 0</td>
            <td>2013/11/03 Published</td>
        </tr>
        <tr id="post-31" class="post-31 type-post status-publish format-standard hentry category-uncategorized alternate iedit author-self" valign="top">
            <td>My Third Post</td>
            <td>pageobjectpattern</td>
            <td>Uncategorized</td>
            <td>—</td>
            <td>0 0 0</td>
            <td>2013/11/03 Published</td>
        </tr>
    </tbody>
</table>
```

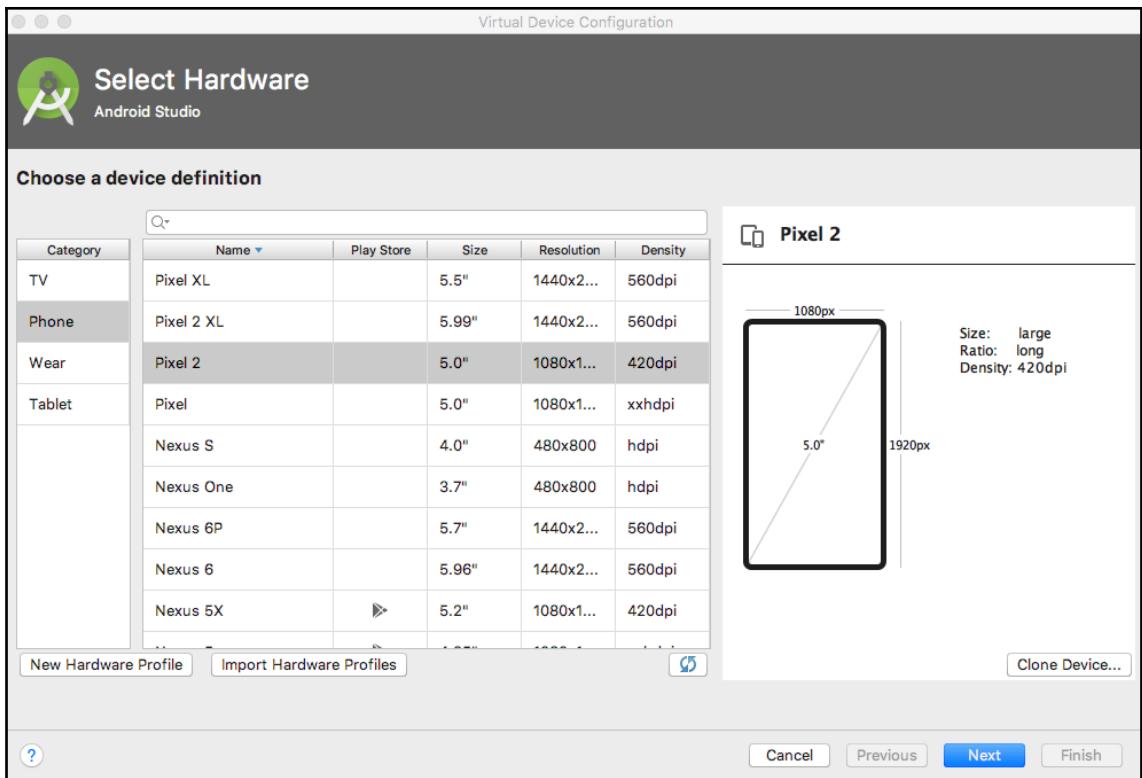
# Chapter 10: Mobile Testing on iOS and Android using Appium

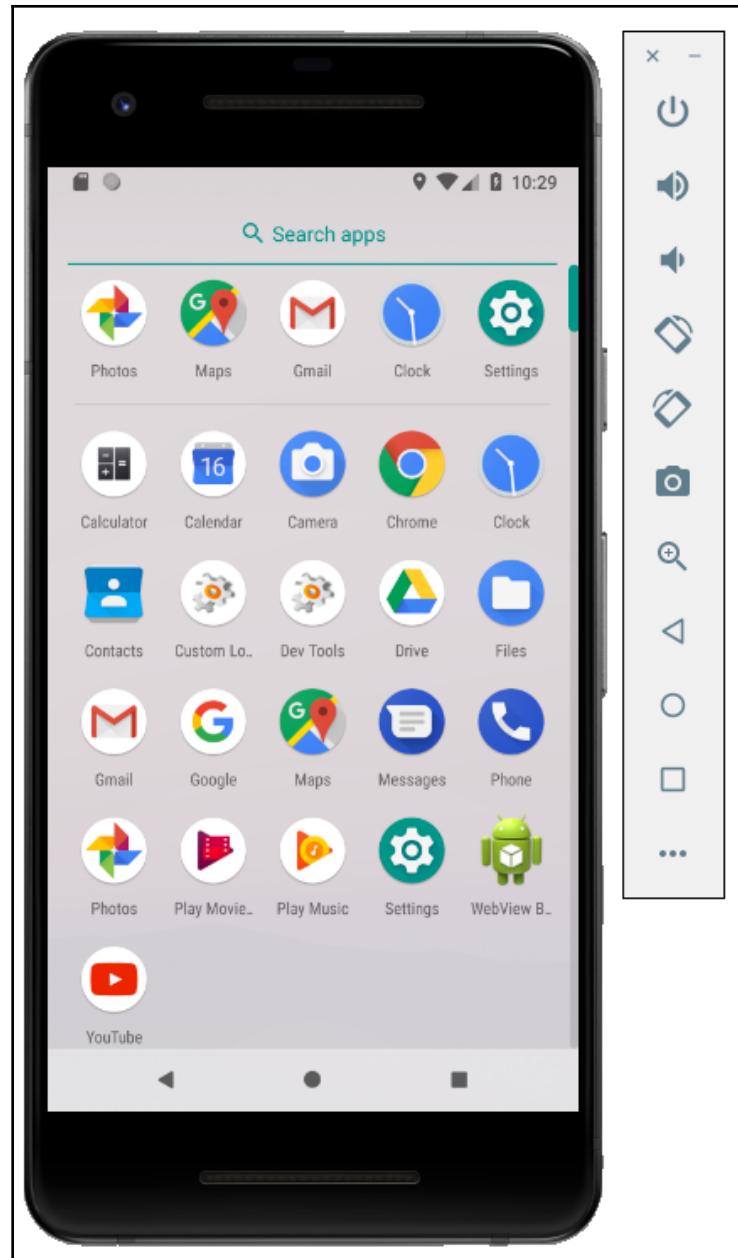


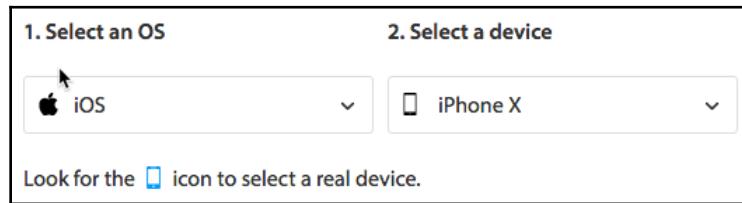












```
import org.openqa.selenium.By;
import org.openqa.selenium.Platform;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.remote.DesiredCapabilities;
import org.openqa.selenium.remote.RemoteWebDriver;

import java.net.URL;

public class JavaSample {

    public static final String USERNAME = "████████";
    public static final String AUTOMATE_KEY = "████████";
    public static final String URL = "https://" + USERNAME + ":" + AUTOMATE_KEY + "@hub-cloud.browserstack.com/wd/hub";

    public static void main(String[] args) throws Exception {

        DesiredCapabilities caps = new DesiredCapabilities();
        caps.setCapability("browserName", "iPhone");
        caps.setCapability("device", "iPhone X");
        caps.setCapability("realMobile", "true");
        caps.setCapability("os_version", "11.0");

        WebDriver driver = new RemoteWebDriver(new URL(URL), caps);
        driver.get("http://www.google.com");
        WebElement element = driver.findElement(By.name("q"));

        element.sendKeys("BrowserStack");
        element.submit();

        System.out.println(driver.getTitle());
        driver.quit();
    }
}
```

BrowserStack Automate

Check out our New REST API, which now includes the ability to update your Project, Build and Session names. [Find out more](#)

iPhone X, iOS 11.2

Status: Completed

Session ID: [REDACTED]

Started: 15:00 UTC 23 Jul 2018

Duration: 34 secs

Real device: iOS iPhone X

Local testing: False

User name: [REDACTED]

Capabilities: Input Capabilities  Browser Capabilities

Visual Logs

iPhone X, iOS 11.3 35m ago

iPhone X, iOS 11.3 36m ago

iPhone X, iOS 11.2 37m ago

iPhone X, iOS 11.3 39m ago

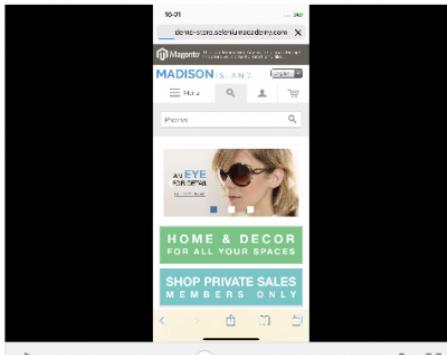
iPhone X, iOS 11.2 43m ago

iPhone X, iOS 11.2 1h ago

Text Logs

Start	Duration	Action
00:00	15	Starting Browser
00:15	2	Open URL <a href="http://demo-store.seleniumacademy.com/">http://demo-store.seleniumacademy.com/</a>

Raw Logs



0:02 / 0:04

# Chapter 11: Data Driven Testing with TestNG

A screenshot of a Microsoft Excel spreadsheet titled "searchWords". The spreadsheet contains the following data:

	A	B	C	D
1	searchWords	items		
2	phones	3		
3	music	5		
4	iphone 5s	0		
5				
6				

# Index