# Phase – 5 Practice Project: Assisted Practice

## 14. Running Tests on Selenium Grid.

✓ **Running the Tests on Selenium grid**

- Open Eclipse
- Click on **Package** and navigate to **New** --> **Class**
- Give a valid Class name (example: GridTest)
- Check the **public static void main** checkbox and click on **finish**, which will create a blank Java class
- Write the desired capabilities in the class, which looks like

```
package testing.sidTesting;

import org.openqa.selenium.Platform;
import org.openqa.selenium.remote.DesiredCapabilities;

public class GridTest {

  public static void main(String[] args) {
    DesiredCapabilities cap = new DesiredCapabilities();
    cap.setBrowserName("chrome");
    cap.setPlatform(Platform.WIN10);
  }

}
```

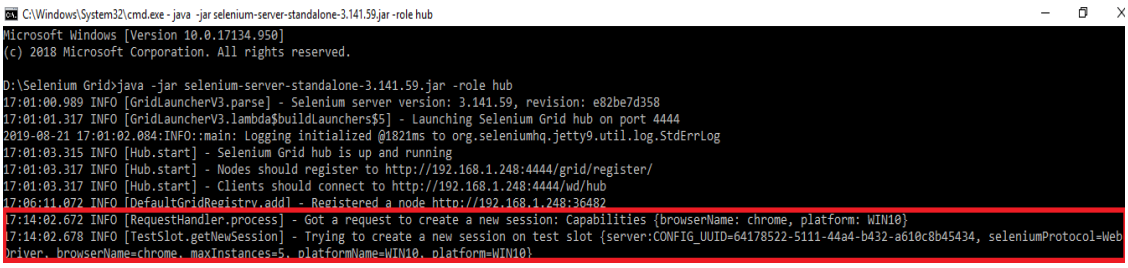
- Start the selenium grid hub in command prompt using **java -jar selenium-server-standalone-3.141.59.jar -role hub** command
- Start the selenium grid node in Command prompt using **java -Dwebdriver.chrome.driver="chromedriver.exe -jar selenium-server-standalone-3.141.59.jar -role node -hub** http://localhost:4444/grid/register command
- Go to eclipse and add a statement for remoteWebdriver, which has an implementation of WebDriver, should pass the hub port (http://192.168.1.248:4444/wd/hub), and DesiredCapabilities object as parameters
- Write Selenium code to open the browser and navigate to any web page (example: Google page)

```java
import java.net.URL;

import org.openqa.selenium.Platform;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.remote.DesiredCapabilities;
import org.openqa.selenium.remote.RemoteWebDriver;

public class GridTest {

  public static void main(String[] args) throws MalformedURLException {
    DesiredCapabilities cap = new DesiredCapabilities();
    cap.setBrowserName("chrome");
    cap.setPlatform(Platform.WIN10);


    URL url = new URL("http://192.168.1.248:4444/wd/hub");
    WebDriver driver = new RemoteWebDriver(url, cap);

    driver.get("https://www.google.com");
    System.out.println("Google Title: " + driver.getTitle());

    driver.close();
  }

}
```

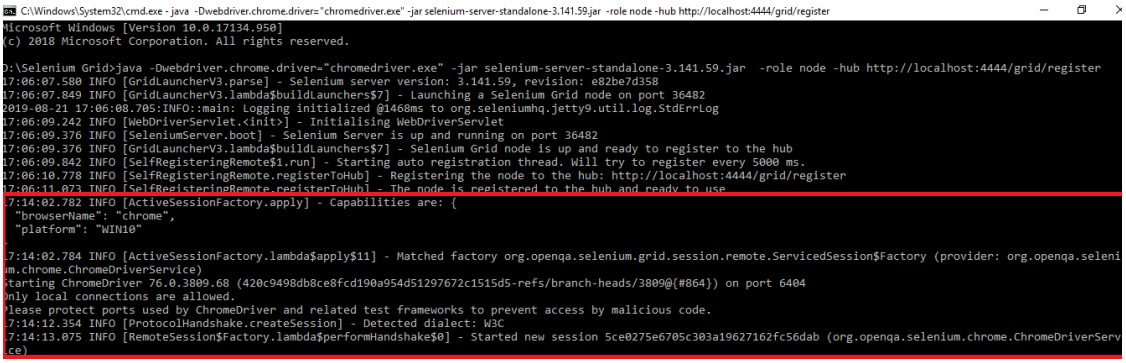
- Execute the Java program by right-clicking on the program and navigating to **Run As--> 1 Java Application**
- This is how it looks like in Eclipse console

```
Aug 21, 2019 5:14:13 PM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C
Google Title: Google
```

- We can see the capabilities passed through are displayed in both command prompts in server (hub) as well as in clients (node)
- Selenium grid hub in command prompt with desired capabilities looks like




- Selenium grid node in command prompt with desired capabilities looks like


C:\Windows\System32\cmd.exe - java -Dwebdriver.chrome.driver="chromedriver.exe" -jar selenium-server-standalone-3.141.59.jar -role node -hub http://localhost:4444/grid/register
Microsoft Windows [Version 10.0.17134.950]
(c) 2018 Microsoft Corporation. All rights reserved.
D:\Selenium Grid>java -Dwebdriver.chrome.driver="chromedriver.exe" -jar selenium-server-standalone-3.141.59.jar -role node -hub http://localhost:4444/grid/register
17:06:07.580 INFO [GridLauncherV3.parse] - Selenium server version: 3.141.59, revision: e82be7d358
17:06:07.849 INFO [GridLauncherV3.lambda$buildLaunchers$7] - Launching a Selenium Grid node on port 36482
2019-08-21 17:06:08.705:INFO::main: Logging initialized @1468ms to org.seleniumhq.jetty9.util.log.StdErrLog
17:06:09.242 INFO [WebDriverServlet.<init>] - Initialising WebDriverServlet
17:06:09.376 INFO [SeleniumServer.boot] - Selenium Server is up and running on port 36482
17:06:09.376 INFO [GridLauncherV3.lambda$buildLaunchers$7] - Selenium Grid node is up and ready to register to the hub
17:06:09.842 INFO [SelfRegisteringRemote$1.run] - Starting auto registration thread. Will try to register every 5000 ms.
17:06:10.778 INFO [SelfRegisteringRemote.registerToHub] - Registering the node to the hub: http://localhost:4444/grid/register
17:06:11.073 INFO [SelfRegisteringRemote.registerToHub] - The node is registered to the hub and ready to use
17:14:02.782 INFO [ActiveSessionFactory.apply] - Capabilities are: {
"browserName": "chrome",
"platform": "WIN10"
17:14:02.784 INFO [ActiveSessionFactory.lambda$apply$11] - Matched factory org.openqa.selenium.grid.session.remote.ServicedSession$Factory (provider: org.openqa.seleni
um.chrome.ChromeDriverService)
Starting ChromeDriver 76.0.3809.68 (420c9498db8ce8fcd190a954d51297672c1515d5-refs/branch-heads/3809@{#864}) on port 6404
Only local connections are allowed.
Please protect ports used by ChromeDriver and related test frameworks to prevent access by malicious code.
17:14:12.354 INFO [ProtocolHandshake.createSession] - Detected dialect: W3C
17:14:13.075 INFO [RemoteSession$Factory.lambda$performHandshake$0] - Started new session 5ce0275e6705c303a19627162fc56dab (org.openqa.selenium.chrome.ChromeDriverServ
ice)