

Selenium Grid

Selenium-Grid support distributed test execution

What is selenium Grid:

Selenium-Grid allows you run your tests on different machines against different browsers in parallel.

Why Selenium Grid:

To run the test against

- Multiple browsers and versions.
- Multiple runtime environments
- Multiple operating systems.

To reduce the test suite run time

HUB & NODE :



HUB

- Is a central point where you load test
- Only one HUB in Grid
- On HUB the test will be run

NODE

- It executes the tests that you loaded on the HUB
- Multiple NODEs in Grid
- NODEs can be on multiple machine with different platform and browser.

Setting up Selenium Grid:

- Step 1 - Download Selenium Standalone server <http://www.seleniumhq.org/download/>
- Step 2 - Launch the HUB

```
java -jar selenium-server-standalone-2.30.0.jar -role hub
```

- Step 3 - Verify HUB is up and running
- Step 4 - Launch the NODE

```
java -jar selenium-server-standalone-2.30.0.jar -role webdriver hub
```

```
http://192.168.1.2:4444/grid/register -port 5566
```

Grid Objects:

To design test scripts that will run on the grid, we need to use **DesiredCapabilities** and the **RemoteWebDriver** objects.

DesiredCapabilities is used to set the type of **browser** and **OS** that we will automate

RemoteWebDriver is used to set which node (or machine) that our test will run against.

Sample Script:

```
public class Demo_Grid1 {
    static String driverPath = "C:\\Selenium Lib\\";
    public static void main(String[] args) throws MalformedURLException {
        System.setProperty("webdriver.chrome.driver", driverPath+"chromedriver.exe");

        DesiredCapabilities capability = DesiredCapabilities.chrome();
        capability.setBrowserName("chrome");
        capability.setPlatform(Platform.ANY);

        WebDriver driver = new RemoteWebDriver(new
        URL("http://localhost:4444/wd/hub"), capability);
        try {
            driver.get("http://demo.opencart.com/");
            driver.manage().window().maximize();
            System.out.println(driver.getTitle());
        }
        catch (Exception ex){
            System.out.println("Hello");
        }
    }
}
```

