SELENIUM GRID

**Grid Components**:

**Hub:**

* Central point that will receive all the test request and distribute them to the right node
* Each node gets itself registered
* Console will show the registered nodes and its capabilities

**Console shows:**

The connected nodes and their:

* IP Address
* Browser and its maximum instances
* Execution status

**Node:**

Individual machine(physical/virtual) that registers to the node for test execution

Example: Airport-All domestic and International flights must register with airport.

**Syntax to start in command prompt:**

Java -jar selenium-server-standalone-2.43.1.jar -role hub -port 4444

**URL to see the console:**

http://<Hub IP Address/Server Name>:<port>/grid/console

**Capabilities**-Platform, Browser Name, [Version]

**Types**-Desired, Actual

|  |  |
| --- | --- |
| Desired Capabilities | Actual Capabilities |
| This is what you desire to? | This is what is available really? |
| You may wish to fly by what you wanted to? | You may get if there is matching flight else none |
| You wish to fly in any class on the given destination at schedule time? | If there is match with any class, then you get a flight |

Make use of Visgrid tool to set capabilities

**//Default settings**

Java -jar selenium-server-standalone-2.43.1.jar -role node 5555 -hub http://<Hun IP address or Server Name>:port/grid/console

**//specific capabilities settings**

-browser “browserName=<browser>,PLATFORM=<platform>,maxINstances=<number>”

SYNTAX:

**DesiredCapabilities dc = new DesiredCapabilities();**

**dc.serBrowserName(“firefox”);**

**dc.setPlatform(PLATFORM.LINUX);**

SYNTAX:

**Public RemoteWebDriver(java.net.URL remoteAddress, Capabilities desiredCapbilities)**

TO TAKE SNAPSHOT

* RemoteWebdriver does not implement the TakeScreenshot class
* If the driver does have the capabilities to take a screenshot
* Then Augmenter will add the TakeScreenShot methods to the instance

**WebDriver augmentedDriver = new Augmenter().augment(driver);**

**File screenshot = ((TakeScreenshot)augmentedDriver).getScreenshotAs(OutputType.FILE);**

NOTE:

* When desired capabilities meets the actual capabilities at the hub,the node is allocated and you are ready to run the script
* When desired capabilities does not have the matching actual capabilities at the hub, it throws the exception🡪You wait or change the expectation
* When desired capabilities have more than one node with matching actual capabilities, it assigns the first node

SAUCE LABS IS A CLOUD ENVIRONMENT WHICH HAS ALL POSSIBLE TEST ENVIRONMENTS

“http://SAUCE\_USERNAME:SAUCE\_API\_KEY@ ondemand.saucelabs.com:80/wd/hub”