**Selenium Grid Interview Questions**

**What is selenium Grid?**

Selenium Grid is used to run your automation tests on multiple platforms and browsers simultaneously.

**When to use Selenium Grid?**

Save time on execution: As mentioned above, if there are a number of test cases you have to execute and if you want to reduce the time of execution, you can use selenium Grid.

If you want to perform your testing on multiple platforms and multiple browsers, you can use selenium.

**Can you explain the architecture of Selenium Grid?**

Selenium Grid contains a hub and different nodes.

Hub:

* A hub is the central point where you load your tests into.
* There should be only one hub in a grid
* The hub will allocate the test cases based on the conditions mentioned and the automation will be done on the nodes.

Node:

* Nodes are the machines that you have allocated to the hub and the tests will be performed on the nodes.
* There can be one or more nodes in the grid.
* Nodes can be launched on multiple machines with different machines with different platforms and browsers.
* The machines running the nodes need not be the same platform as that of the hub.

**What are the advantages of Selenium Grid?**

It allows running test cases in parallel thereby saving test execution time.

It allows multi-browser testing

It allows us to execute test cases on multi-platform

**What is a hub in Selenium Grid?**

A hub is a server or a central point that controls the test executions on different machines.

**What is a node in Selenium Grid?**

Node is the machine which is attached to the hub. There can be multiple nodes in Selenium Grid.

**Explain how selenium Grid works?**

First Selenium Grid sent the tests to the hub and these tests will get redirected to Selenium Webdriver, which launch the browser and run the test. With entire test suite, it will run tests in parallel.

**How to run tests in multiple browsers in parallel? Is there any other option other than selenium grid?**

*public class BrowserLaunch {*  
*WebDriver driver=null;*

*// Pass parameter browser from testng.xml*  
*@Parameters(“browser”)*

*public void initiateBrowser(String browser){*

*// compare browser  information and then open respective browser*  
*if(browser.equals(“Firefox”))*  
*{*

*driver = new FirefoxDriver();*  
*}*

*else if*  
*{*

*\\set path to the IE driver*

*System.setProperty(“webdriver.ie.driver”, “\iexploredriver.exe”);*  
*driver =new InternetExplorerDriver();*  
*}*

*else*  
*{*

*\\set path to the  Chrome driver*

*System.setProperty(“webdriver.chrome.driver”, “\chromedriver.exe”);*  
*driver =new ChromeDriver();*  
*}*  
*}*

*//Now create ClassName class and call extend the above class*

*@Test*  
*public class ClassName extends BrowserLaunch{*

*public void Gmail(){*

*driver.get(“http://www.gmail.com”);*  
*}*  
*}*

**What is the component in Selenium-Grid which routes the selenese requests from the Test in Selenium-Grid?**

Selenium hub is the component in Selenium-Grid which routes the selenese requests from the Test.

**What is the default maximum number of browsers that can run in parallel on the node?**

Five is the default value assigned to a maximum number of browsers that can run in parallel on the node.

**What is the default port number assigned by the hub?**

4444 is the default port used by the hub.

**What is the primary purpose of Selenium-Grid?**

The primary purpose of Selenium-Grid is parallel Test Execution.

**How many hubs does selenium-grid have?**

The selenium-grid has only one hub which is the master of the network.

**How do I specify an environment while starting grid slave machine?**

We can specify an environment using “-Denvironment” while starting selenium grid slave machine.

Ex:

java -Dwebdriver.gecko.driver=”C:\Users\subbu\selenium\geckodriver.exe” -jar selenium-server-standalone-3.14.0.jar -role webdriver -hub [http://192.168.56.101:4444/grid/register -port 5566](http://192.168.56.101:4444/grid/register%20-port%205566) -host Host-Only adapter ip address

**How do you start a hub in Selenium Grid?**

By running the following command from command-line we can start hub in Selenium-Grid

*java -jar selenium-server-standalone-xxxx.jar -role hub*

**How do you start node in Selenium Grid?**

By running the following command from command-line we can start node in Selenium-Grid by using default parameters

*java -jar selenium-server-standalone-xxxx.jar -role webdriver  -hub http://localhost:4444/grid/register*

**How can we run test scripts on the Selenium-Grid?**

By using Desired capabilities and the RemoteWebDriver objects we can run test scripts on the Grid.

**How can we specify the browser and OS information in selenium-grid?**

DesiredCapabilities is used to set the browser type and the OS of our Node.

DesiredCapabilities capabilities = DesiredCapabilities.chrome();

capabilities.setBrowserName(“chrome”);

capabilities.setPlatform(Platform.WINDOWS);

**How the RemoteWebDriver object used in selenium-grid?**

RemoteWebDriver is used to select the Node on which we want to run our tests on a different machine.

How to configure hub in selenium grid?

Download Selenium Server Standalone jar file

Launch the command prompt and navigate to the location where we placed the Selenium server jar file.

Type the command at command prompt, java -jar selenium-server-standalone-xxx.jar -role hub

Open the browser and navigate to http://localhost:4444, to verify whether the hub is running or not.

**How to configure a node in selenium-grid?**

Download Selenium Server on all our node machines.

Go to Command Prompt and type IPCONFIG to find out the IP Address. Ex:http://192.168.1.164:4444

Open Command Prompt to register hub machine with Node Machine, type

java -jar selenium-server-standalone-3.3.1.jar -role node-hub

http://192.168.1.164:4444/grid/register-port 5555

After executing the command to return to the Hub and navigate the URL http://localhost:4444 or http://192.168.1.164:4444