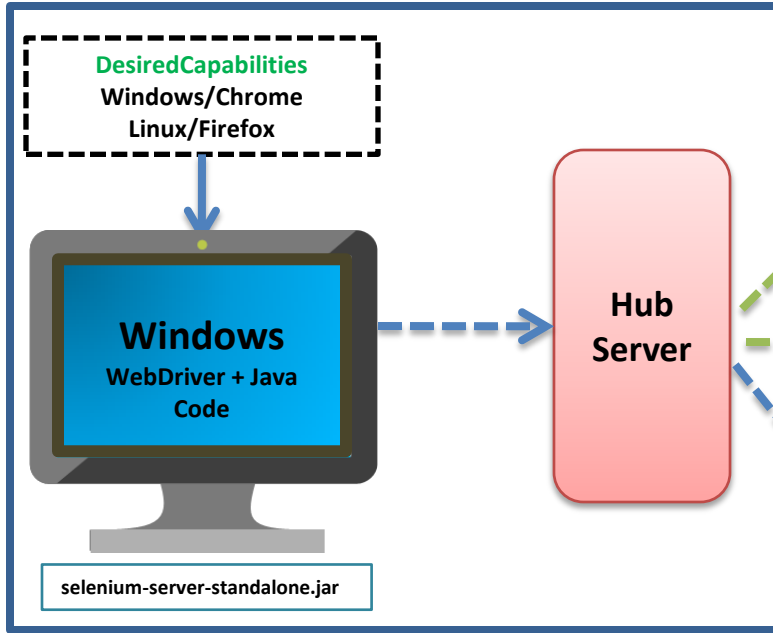


Selenium Grid

Remote Systems

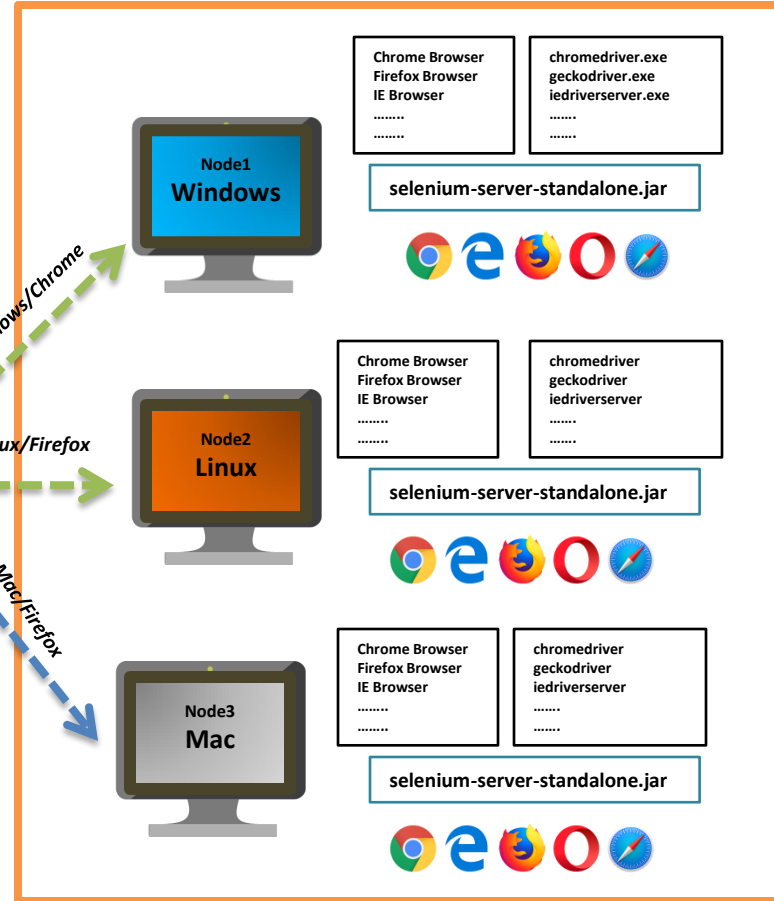
Local System



Windows/Chrome

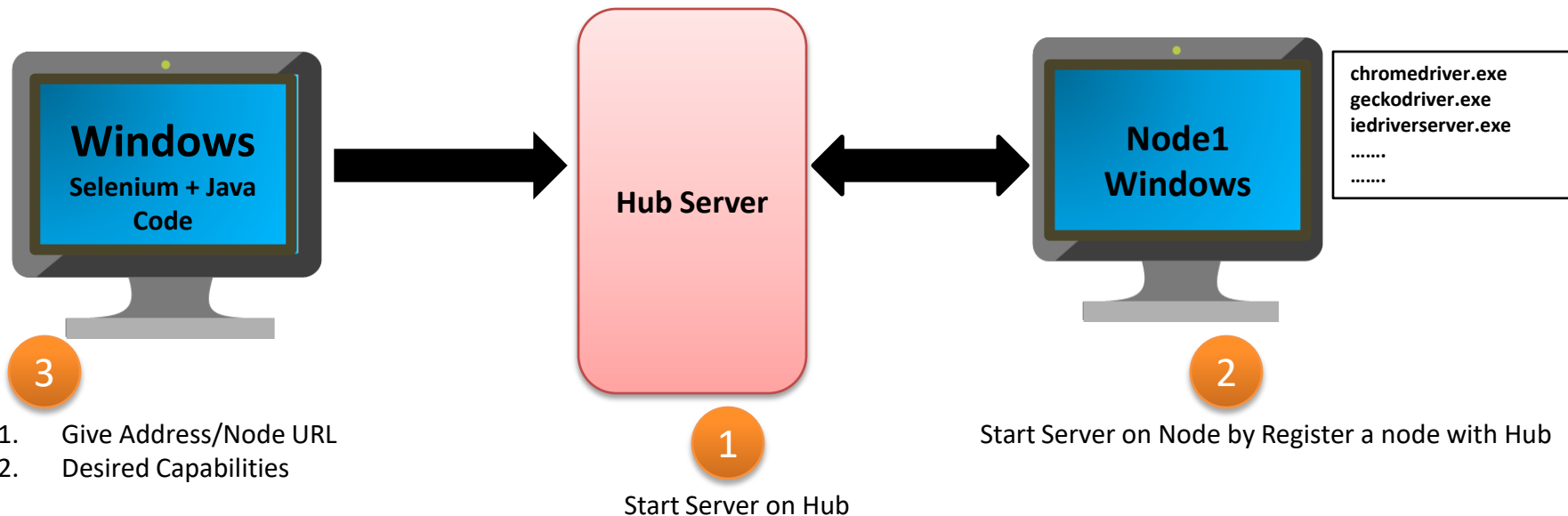
Linux/Firefox

Mac/Firefox



Local System

Remote System



```
java -jar selenium-server-standalone-3.9.1.jar -role hub
```

```
java -Dwebdriver.chrome.driver="C:\Drivers\chromedriver_win32\chromedriver.exe" -jar selenium-server-standalone-3.9.1.jar -role node -hub http://192.168.13.1:4444/grid/register/
```

Step1: Create Hub in your local system(Windows).

java -jar selenium-server-standalone-3.9.1.jar -role hub

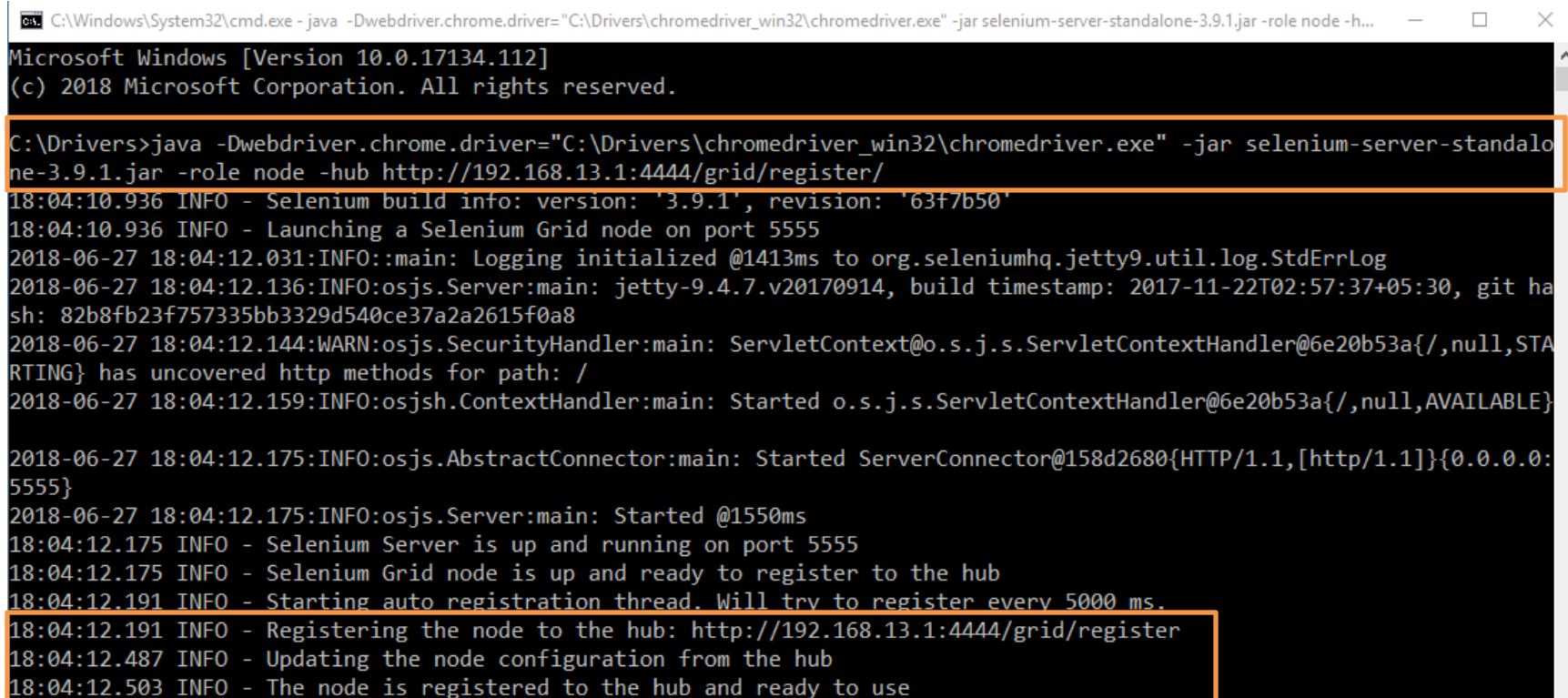
```
C:\Windows\System32\cmd.exe - java -jar selenium-server-standalone-3.9.1.jar -role hub

Microsoft Windows [Version 10.0.17134.112]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Drivers>java -jar selenium-server-standalone-3.9.1.jar -role hub
18:03:18.403 INFO - Selenium build info: version: '3.9.1', revision: '63f7b50'
18:03:18.404 INFO - Launching Selenium Grid hub on port 4444
2018-06-27 18:03:19.652:INFO::main: Logging initialized @1495ms to org.seleniumhq.jetty9.util.log.StdErrLog
2018-06-27 18:03:19.730:INFO:osjs.Server:main: jetty-9.4.7.v20170914, build timestamp: 2017-11-22T02:57:37+05:30, git hash: 82b8fb23f757335bb3329d540ce37a2a2615f0a8
2018-06-27 18:03:19.746:INFO:osjs.session:main: DefaultSessionIdManager workerName=node0
2018-06-27 18:03:19.746:INFO:osjs.session:main: No SessionScavenger set, using defaults
2018-06-27 18:03:19.746:INFO:osjs.session:main: Scavenging every 660000ms
2018-06-27 18:03:19.761:INFO:osjs.ContextHandler:main: Started o.s.j.s.ServletContextHandler@51b7e5df{/,null,AVAILABLE}
2018-06-27 18:03:19.777:INFO:osjs.AbstractConnector:main: Started ServerConnector@4c6e276e{HTTP/1.1,[http/1.1]}{0.0.0.0:4444}
2018-06-27 18:03:19.777:INFO:osjs.Server:main: Started @1623ms
18:03:19.777 INFO - Selenium Grid hub is up and running
18:03:19.777 INFO - Nodes should register to http://192.168.13.1:4444/grid/register/
18:03:19.777 INFO - Clients should connect to http://192.168.13.1:4444/wd/hub
18:04:12.487 INFO - Registered a node http://192.168.13.1:5555
```

Step2: Windows Node registration with Hub using Chrome

```
java -Dwebdriver.chrome.driver="C:\Drivers\chromedriver_win32\chromedriver.exe" -jar selenium-server-standalone-3.9.1.jar -role node -hub http://192.168.13.1:4444/grid/register/
```



```
C:\Windows\System32\cmd.exe - java -Dwebdriver.chrome.driver="C:\Drivers\chromedriver_win32\chromedriver.exe" -jar selenium-server-standalone-3.9.1.jar -role node -h...

Microsoft Windows [Version 10.0.17134.112]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Drivers>java -Dwebdriver.chrome.driver="C:\Drivers\chromedriver_win32\chromedriver.exe" -jar selenium-server-standalone-3.9.1.jar -role node -hub http://192.168.13.1:4444/grid/register/

18:04:10.936 INFO - Selenium build info: version: '3.9.1', revision: '63f7b50'
18:04:10.936 INFO - Launching a Selenium Grid node on port 5555
2018-06-27 18:04:12.031:INFO::main: Logging initialized @1413ms to org.seleniumhq.jetty9.util.log.StdErrLog
2018-06-27 18:04:12.136:INFO:osjs.Server:main: jetty-9.4.7.v20170914, build timestamp: 2017-11-22T02:57:37+05:30, git hash: 82b8fb23f757335bb3329d540ce37a2a2615f0a8
2018-06-27 18:04:12.144:WARN:osjs.SecurityHandler:main: ServletContext@o.s.j.s.ServletContextHandler@6e20b53a{/,null,STARTING} has uncovered http methods for path: /
2018-06-27 18:04:12.159:INFO:osjs.ContextHandler:main: Started o.s.j.s.ServletContextHandler@6e20b53a{/,null,AVAILABLE}

2018-06-27 18:04:12.175:INFO:osjs.AbstractConnector:main: Started ServerConnector@158d2680{HTTP/1.1,[http/1.1]}{0.0.0.0:5555}
2018-06-27 18:04:12.175:INFO:osjs.Server:main: Started @1550ms
18:04:12.175 INFO - Selenium Server is up and running on port 5555
18:04:12.175 INFO - Selenium Grid node is up and ready to register to the hub
18:04:12.191 INFO - Starting auto registration thread. Will try to register every 5000 ms.
18:04:12.191 INFO - Registering the node to the hub: http://192.168.13.1:4444/grid/register
18:04:12.487 INFO - Updating the node configuration from the hub
18:04:12.503 INFO - The node is registered to the hub and ready to use
```

Check whether the hub is running with One Node using a browser

- <http://localhost:4444/grid/console>



Ubuntu Linux Node registration with Hub using Firefox

```
java -Dwebdriver.gecko.driver="/home/pavan/Drivers/geckodriver" -jar selenium-server-standalone-3.9.1.jar -role node -hub  
http://192.168.13.1:4444/grid/register/
```

```
pavan@ubuntu: ~/Drivers
File Edit View Search Terminal Help
pavan@ubuntu:~/Drivers$ java -Dwebdriver.gecko.driver="/home/pavan/Drivers/geckodriver" -jar selenium-server-standalone-3.9.1.jar -role node -hub http://192.168.13.1:4444/grid/register/
08:12:38.662 INFO - Selenium build info: version: '3.9.1', revision: '63f7b50'
08:12:38.664 INFO - Launching a Selenium Grid node on port 5555
2018-06-27 08:12:41.247:INFO::main: Logging initialized @6549ms to org.seleniumhq.jetty9.util.log.StdErrLog
2018-06-27 08:12:41.900:INFO:osjs.Server:main: jetty-9.4.7.v20170914, build timestamp: 2017-11-21T13:27:37-08:00, git hash: 82b8fb23f757335bb3329d540ce37a2a2615f0a8
2018-06-27 08:12:42.029:WARN:osjs.SecurityHandler:main: ServletContext@o.s.j.s.ServletContextHandler@7c729a55[/,null,STARTING] has uncovered http methods for path: /
2018-06-27 08:12:42.052:INFO:osjs.ContextHandler:main: Started o.s.j.s.ServletContextHandler@7c729a55[/,null,AVAILABLE]
2018-06-27 08:12:42.227:INFO:osjs.AbstractConnector:main: Started ServerConnector@4c8e938f[HTTP/1.1,[http/1.1]]{0.0.0.0:5555}
2018-06-27 08:12:42.228:INFO:osjs.Server:main: Started @7530ms
08:12:42.228 INFO - Selenium Server is up and running on port 5555
08:12:42.228 INFO - Selenium Grid node is up and ready to register to the hub
08:12:42.391 INFO - Starting auto registration thread. Will try to register every 5000 ms.
08:12:42.392 INFO - Registering the node to the hub: http://192.168.13.1:4444/grid/register
08:12:42.757 INFO - Updating the node configuration from the hub
08:12:42.793 INFO - The node is registered to the hub and ready to use
```

Check whether the hub is running with Two Nodes Windows & Linux

The screenshot displays the Grid Console v.3.9.1 interface in a web browser. The browser's address bar shows `localhost:4444/grid/console`. The interface is divided into two main sections, each representing a different node.

Left Node (Windows):

- Header: **Grid Console v.3.9.1**
- Status: **DefaultRemoteProxy (version : 3.9.1)**
id : `http://192.168.13.1:5555`, OS : mixed OS
- Tab: **Configuration**
- WebDriver: v: [Icons for various browsers]
- Link: [view config](#)

Right Node (Linux):

- Header: **Grid Console v.3.9.1**
- Status: **DefaultRemoteProxy unknown version, Connect to 192.168.13.137:5555 [/192.168.13.137] failed: connect timed out**
id : `http://192.168.13.137:5555`, OS : LINUX
- Tab: **Configuration**
- WebDriver: v: [Icons for various browsers]

The right node's status indicates a connection failure to the specified IP and port, which is highlighted by an orange box in the image.

Commands

- Step1: Create Hub in your local Windows system.

```
java -jar selenium-server-standalone-3.9.1.jar -role hub
```

- Step2: Register your remote node with Hub (Windows/Chrome)

```
java -Dwebdriver.chrome.driver="C:\Drivers\chromedriver_win32\chromedriver.exe" -jar selenium-server-standalone-3.9.1.jar -role node -hub http://192.168.13.1:4444/grid/register/
```

- Check Hub is running with One Windows Node on browser

<http://localhost:4444/grid/console>

- Step3: Register your remote node with Hub (Linux/Firefox)

```
java -Dwebdriver.gecko.driver="/home/pavan/Drivers/geckodriver" -jar selenium-server-standalone-3.9.1.jar -role node -hub http://192.168.13.1:4444/grid/register/
```

- Check Hub is running with Two Nodes Windows & Linux

<http://localhost:4444/grid/console>

Test case

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

import java.net.MalformedURLException;
import java.net.URL;

public class Grid_SetUp {
    public static WebDriver driver;

    public static void main(String[] args) throws MalformedURLException, InterruptedException{

        String URL = "http://facebook.com";
        String Node = "http://192.168.13.1:4444/wd/hub"; //The URL will be IP Address of Hub Machine + Hub Port + /wd/hub
        DesiredCapabilities cap = DesiredCapabilities.firefox();
        cap.setBrowserName("firefox");
        cap.setPlatform(Platform.LINUX);
        driver = new RemoteWebDriver(new URL(Node), cap);

        driver.get(URL);
        Thread.sleep(5000);
        driver.quit();
    }
}
```