

\*Includes fix for “E: This command can only be used by root”, Error starting Selenium JAR file, JavascriptException “Cannot read property ‘outerHTML’ of null”

Open Ubuntu and check for updates

```
mva456@DESKTOP-OE7HLB3:~$ sudo apt-get update
```

```
mva456@DESKTOP-OE7HLB3:~$ sudo apt-get install -y unzip xvfb libxi6 libgconf-2-4
```

Install OpenJDK

```
mva456@DESKTOP-OE7HLB3:~$ sudo apt-get install default-jdk
```

Install Google Chrome. Below command will fix “E: This command can only be used by root”.

```
mva456@DESKTOP-OE7HLB3:~$ sudo su
[sudo] password for mva456:
root@DESKTOP-OE7HLB3:/home/mva456# sudo curl -sS -o - https://dl-ssl.google.com/linux/linux_signing_key.pub | apt-key add
```

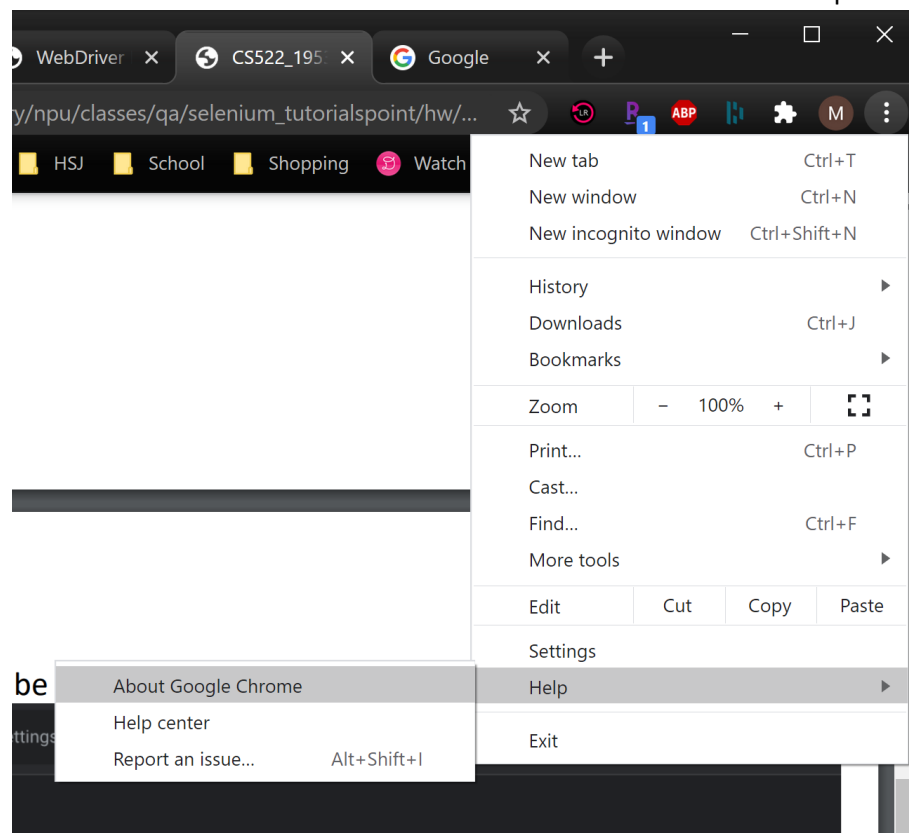
```
root@DESKTOP-OE7HLB3:/home/mva456# sudo echo "deb [arch=amd64] http://dl.google.com/linux/chrome/deb/ stable main" >> /etc/apt/sources.list.d/google-chrome.list
```

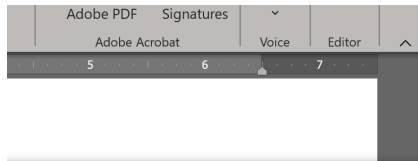
```
root@DESKTOP-OE7HLB3:/home/mva456# sudo apt-get -y update
```

```
root@DESKTOP-OE7HLB3:/home/mva456# sudo apt-get -y install google-chrome-stable
```

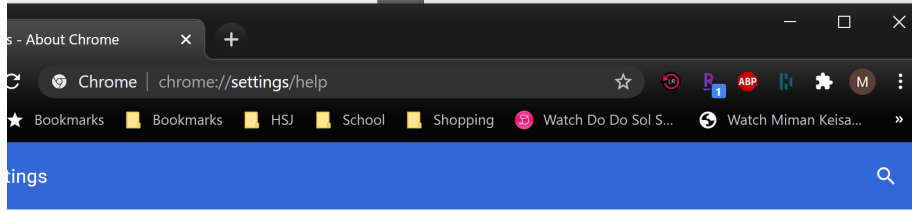
Install and configure ChromeDriver

Find out Chrome version and download ChromeDriver - WebDriver zip file

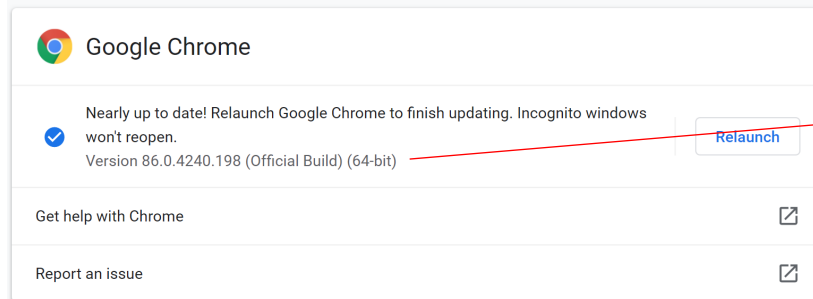




# ChromeDriver - WebDriver for Chrome

  
Search this site

About Chrome



## Downloads

### Current Releases

- If you are using Chrome version 87, please download [ChromeDriver 87.0.4280.20](#)
- If you are using Chrome version 86, please download [ChromeDriver 86.0.4240.22](#)
- If you are using Chrome version 85, please download [ChromeDriver 85.0.4183.87](#)
- For older version of Chrome, please see below for the version of ChromeDriver that supports it.

If you are using Chrome from Dev or

Unzip and save into your C drive. I saved it into C:\Chrome\_Driver.

```
19041-Microsoft, java.version: '11.0.8'
Driver Info: org.openqa.selenium.chrome.ChromeDriver
Capabilities {acceptInsecureCerts: false, applicationCacheEnabled: false, browserConnectionEnabled: false, browserName: chrome, chrome: {chromedriverVersion: 2.41.578700 (2fied5f9343c13..., userDataDir: /tmp/org.chromium.Chromium...), cssSelectorsEnabled: true, databaseEnabled: false, googchromeOptions: {debuggerAddress: localhost:57724}, handlesAlerts: true, hasTouchScreen: false, javascriptEnabled: true, locationContextEnabled: true, mobileEmulationEnabled: false, nativeEvents: true, networkConnectionEnabled: false, pageLoadStrategy: normal, platform: LINUX, platformName: LINUX, rotatable: false, setWindowRect: true, takesHeapSnapshot: true, takesScreenshot: true, unexpectedAlertBehaviour: , unhandledPromptBehavior: , version: 87.0.4280.66, webStorageEnabled: true}
Session ID: 1d72a5cedcad2858d2c1dea6a01febd6
at java.base/jdk.internal.reflect.NativeConstructorAccessorImpl.newInstance(Native Method)
at java.base/jdk.internal.reflect.NativeConstructorAccessorImpl.newInstance(NativeConstructorAccessorImpl.java:62)
at java.base/jdk.internal.reflect.DelegatingConstructorAccessorImpl.newInstance(DelegatingConstructorAccessorImpl.java:45)
at java.base/java.lang.reflect.Constructor.newInstance(Constructor.java:490)
at org.openqa.selenium.remote.ErrorHandler.createThrowable(ErrorHandler.java:214)
at org.openqa.selenium.remote.ErrorHandler.throwIfResponseFailed(ErrorHandler.java:166)
at org.openqa.selenium.remote.http.JsonHttpURLConnection.reconstructValue(JsonHttpURLConnection.java:40)
at org.openqa.selenium.remote.http.JsonHttpURLConnection.decode(AbstractHttpURLConnection.java:80)
at org.openqa.selenium.remote.http.JsonHttpURLConnection.decode(AbstractHttpURLConnection.java:44)
at org.openqa.selenium.remote.service.DriverCommandExecutor.execute(DriverCommandExecutor.java:83)
at org.openqa.selenium.remote.RemoteWebDriver.execute(RemoteWebDriver.java:548)
at org.openqa.selenium.remote.RemoteWebDriver.get(RemoteWebDriver.java:276)
at TestAdminSeleniumTest.main(TestAdminSeleniumTest.java:18)
mva456@DESKTOP-0E7HLB3:~$ ls
JUNIT_WORKSPACE  cs522  testing-6.8.7.jar
JUNIT            cs522-midterm  testing-6.8.7.jar.zip
TestAdminSeleniumTest.class  junit  testing-6.8.7.jar.zip.1
TestAdminSeleniumTest.java  pythonPath.py  training
chromedriver_linux64.zip  selenium-server-standalone-3.13.0.jar
course2tro-eth  selenium-server-standalone-3.13.0.jar.1
mva456@DESKTOP-0E7HLB3:~$ gedit TestAdminSeleniumTest.java
** (gedit:3527): WARNING **: 14:07:00.640: Set document metadata failed: Setting attribute metadata:gedit-position not supported
mva456@DESKTOP-0E7HLB3:~$ wget https://chromedriver.storage.googleapis.com/86.0.4240.22/chromedriver_linux64.zip
--2020-12-01 14:10:47-- https://chromedriver.storage.googleapis.com/86.0.4240.22/chromedriver_linux64.zip
Resolving chromedriver.storage.googleapis.com (chromedriver.storage.googleapis.com)... 2607:f8b0:4007:80f::2010, 142.250.68.16
Connecting to chromedriver.storage.googleapis.com (chromedriver.storage.googleapis.com)|2607:f8b0:4007:80f::2010|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 5456932 (5.2M) [application/zip]
Saving to: 'chromedriver_linux64.zip.1'
chromedriver_linux64.zip.1 100%[=====] 5.20M 9.31MB/s in 0.6s
2020-12-01 14:10:48 (9.31 MB/s) - 'chromedriver_linux64.zip.1' saved [5456932/5456932]
mva456@DESKTOP-0E7HLB3:~$
```

```
root@DESKTOP-0E7HLB3:/home/mva456# wget https://chromedriver.storage.googleapis.com/2.41/chromedriver_linux64.zip
```

```
mva456@DESKTOP-OE7HLB3:~$ unzip chromedriver_linux64.zip
mva456@DESKTOP-OE7HLB3:~$ sudo mv chromedriver /usr/bin/chromedriver
mva456@DESKTOP-OE7HLB3:~$ sudo chown root:root /usr/bin/chromedriver
mva456@DESKTOP-OE7HLB3:~$ sudo chmod +x /usr/bin/chromedriver
```

Download required JAR files for Selenium

```
root@DESKTOP-OE7HLB3:/home/mva456# wget https://selenium-release.storage.googleapis.com/3.13/selenium-server-standalone-3.13.0.jar
root@DESKTOP-OE7HLB3:/home/mva456# wget http://www.java2s.com/Code/JarDownload/testng/testng-6.8.7.jar.zip
root@DESKTOP-OE7HLB3:/home/mva456# unzip testng-6.8.7.jar.zip
```

Run Chrome using Selenium Server. Make sure you enter the correct version number of the JAR file to avoid errors.

```
mva456@DESKTOP-OE7HLB3:~$ xvfb-run java -Dwebdriver.chrome.driver=/usr/bin/chromedriver -jar selenium-server-standalone-3.13.0.jar
13:15:54.491 INFO [GridLauncherV3.launch] - Selenium build info: version: '3.13.0', revision: '2f0d292'
13:15:54.495 INFO [GridLauncherV3$1.launch] - Launching a standalone Selenium Server on port 4444
2020-12-01 13:15:54.755:INFO::main: Logging initialized @794ms to org.seleniumhq.jetty9.util.log.StdErrLog
13:15:55.524 INFO [SeleniumServer.boot] - Selenium Server is up and running on port 4444
```

Open a new Ubuntu window and create a Java file to test Selenium on Google to search for I'm Feeling Lucky

Creating a variable for the string to search and pagesource will fix the JavaScriptException "Cannot read property 'outerHTML' of null"

```
mva456@DESKTOP-OE7HLB3:~/cs522$ gedit TecAdminSeleniumTest.java
```

```

import java.io.IOException;

import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeOptions;
import org.openqa.selenium.chrome.ChromeDriver;
import org.testng.annotations.Test;

public class TecAdminSeleniumTest {

    public static void main(String[] args) throws IOException, InterruptedException {
        System.setProperty("webdriver.chrome.driver", "/usr/bin/chromedriver");
        ChromeOptions chromeOptions = new ChromeOptions();
        chromeOptions.addArguments("--headless");
        chromeOptions.addArguments("--no-sandbox");

        WebDriver driver = new ChromeDriver(chromeOptions);

        driver.get("https://google.com/");

        Thread.sleep(1000);

        String strtosearch = "I'm Feeling Lucky";
        String pagesource = driver.getPageSource();
        if (pagesource.contains(strtosearch)) {
            System.out.println("Pass");
        } else {
            System.out.println("Fail");
        }
        driver.quit();
    }
}

```

Create classpath and compile

Make sure to temporarily disable your anti-virus to avoid getting stopped from running your java file

```

mva456@DESKTOP-OE7HLB3:~$ export CLASSPATH=".:selenium-server-standalone-3.13.0.jar:testng-6.8.7.jar"
mva456@DESKTOP-OE7HLB3:~$ javac TecAdminSeleniumTest.java
mva456@DESKTOP-OE7HLB3:~$ java TecAdminSeleniumTest
Starting ChromeDriver 87.0.4280.20 (c99e81631faa0b2a448e658c0dbd8311fb04ddbd-refs/branch-heads/4280@{#355}) on port 7502
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
Dec 01, 2020 3:42:27 PM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C
Pass

```

Reference:

<https://tecadmin.net/setup-selenium-chromedriver-on-ubuntu/>