



# UI Automation. Selenium, TestNg, Java. Installation.



# What we need to start automation

- ❑ **Install Java SE Development Kit 8**
- ❑ **Install IntelliJ IDE**
- ❑ **Download Selenium**
- ❑ **Create a new project using IntelliJ IDE, add Selenium libraries to the project**
- ❑ **Download drivers (geckodriver, chromedriver, iedriver etc)**
- ❑ **Set Environment Variables**
- ❑ **Open any WEB application through Java to verify installation**

# JDK Installation

<https://www.oracle.com/technetwork/java/javase/downloads/index.html>

## Java SE Development Kit 8u181


You must accept the [Oracle Binary Code License Agreement for Java SE](#) to download this software.

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Product / File Description	File Size	Download
Linux ARM 32 Hard Float ABI	72.95 MB	<a href="#">jdk-8u181-linux-arm32-vfp-hflt.tar.gz</a>
Linux ARM 64 Hard Float ABI	69.89 MB	<a href="#">jdk-8u181-linux-arm64-vfp-hflt.tar.gz</a>
Linux x86	165.06 MB	<a href="#">jdk-8u181-linux-i586.rpm</a>
Linux x86	179.87 MB	<a href="#">jdk-8u181-linux-i586.tar.gz</a>
Linux x64	162.15 MB	<a href="#">jdk-8u181-linux-x64.rpm</a>
Linux x64	177.05 MB	<a href="#">jdk-8u181-linux-x64.tar.gz</a>
Mac OS X x64	242.83 MB	<a href="#">jdk-8u181-macosx-x64.dmg</a>
Solaris SPARC 64-bit (SVR4 package)	133.17 MB	<a href="#">jdk-8u181-solaris-sparcv9.tar.Z</a>
Solaris SPARC 64-bit	94.34 MB	<a href="#">jdk-8u181-solaris-sparcv9.tar.gz</a>
Solaris x64 (SVR4 package)	133.83 MB	<a href="#">jdk-8u181-solaris-x64.tar.Z</a>
Solaris x64	92.11 MB	<a href="#">jdk-8u181-solaris-x64.tar.gz</a>
Windows x86	194.41 MB	<a href="#">jdk-8u181-windows-i586.exe</a>
Windows x64	202.73 MB	<a href="#">jdk-8u181-windows-x64.exe</a>

# IntelliJ IDE Installation

<https://www.jetbrains.com/idea/download/#section=windows>



## Download IntelliJ IDEA

Windows macOS Linux

### Ultimate

Web, mobile and enterprise development

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Free trial

### Community

Java, Groovy, Scala and Android development

[DOWNLOAD](#) [.EXE](#)

Free, open-source

Version: 2018.2.4  
Build: 182.4505.22  
Released: September 18, 2018  
[Release notes](#)

[System requirements](#)  
[Installation Instructions](#)  
[Previous versions](#)

	Commercial	Open-source, Apache 2.0 <a href="#">?</a>
License		
Java, Kotlin, Groovy, Scala	✓	✓
Android <a href="#">?</a>	✓	✓
Maven, Gradle, SBT	✓	✓
Git, SVN, Mercurial, CVS, TFS	✓	✓

# Download Selenium Libraries

<https://www.seleniumhq.org/download>

**SeleniumHQ**  
Browser Automation

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## Downloads

Below is where you can find the latest releases of all the Selenium components. You can also find a list of [previous releases](#), [source code](#), and additional information for [Maven users](#) (Maven is a popular Java build tool).

### Selenium Standalone Server

The Selenium Server is needed in order to run Remote Selenium WebDriver. Selenium 3.X is no longer capable of running Selenium RC directly, rather it does it through emulation and the WebDriverBackedSelenium interface.

Download version [3.14.0](#)

To run Selenium tests exported from the legacy IDE, use the [Selenium Html Runner](#).

To use the Selenium Server in a Grid configuration [see the wiki page](#).

### The Internet Explorer Driver Server

This is required if you want to make use of the latest and greatest features of the WebDriver InternetExplorerDriver. Please make sure that this is available on your \$PATH (or %PATH% on Windows) in order for the IE Driver to work as expected.

Download version 3.14.0 for (recommended) [32 bit Windows IE](#) or [64 bit Windows IE](#)  
[CHANGELOG](#)

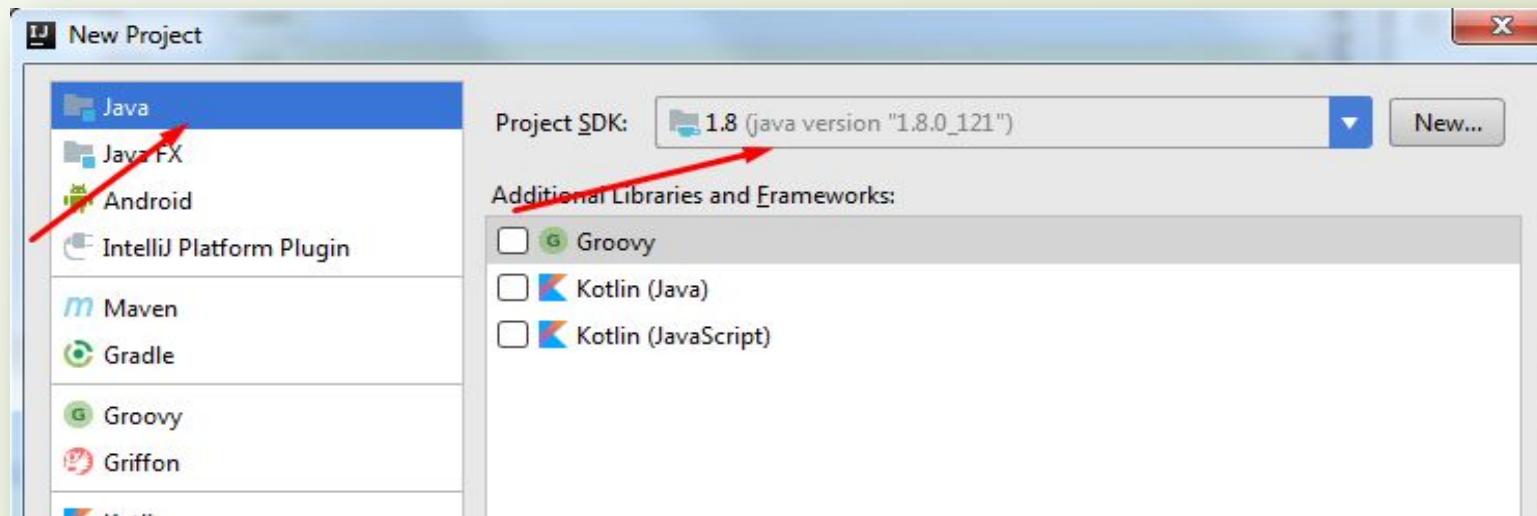
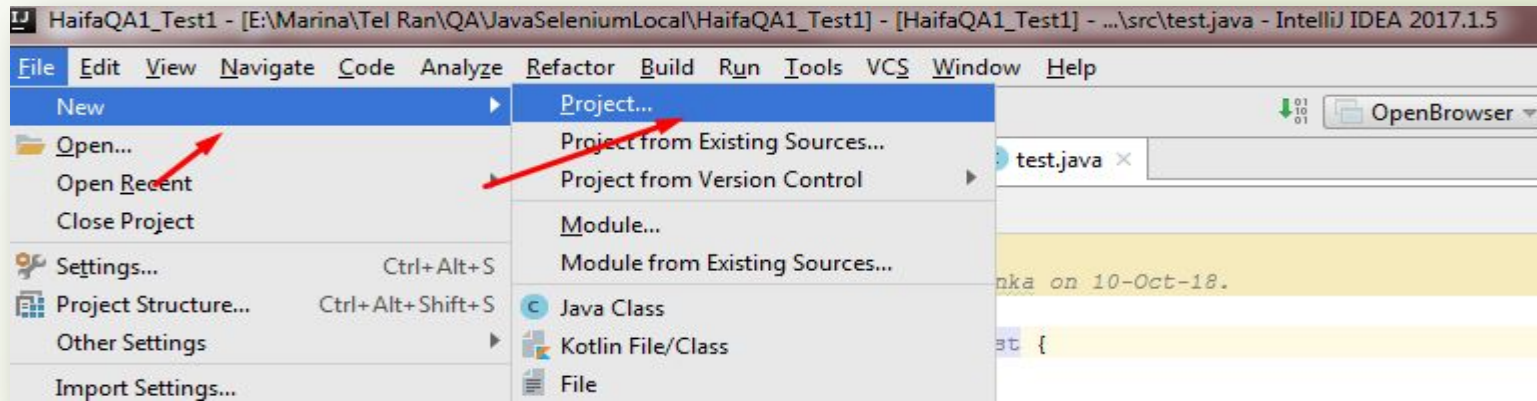
### Selenium Client & WebDriver Language Bindings

In order to create scripts that interact with the Selenium Server (Selenium RC, Selenium Remote WebDriver) or create local Selenium WebDriver scripts, you need to make use of language-specific client drivers. These languages include both 1.x and 2.x style clients.

While language bindings for [other languages exist](#), these are the core ones that are supported by the main project hosted on GitHub.

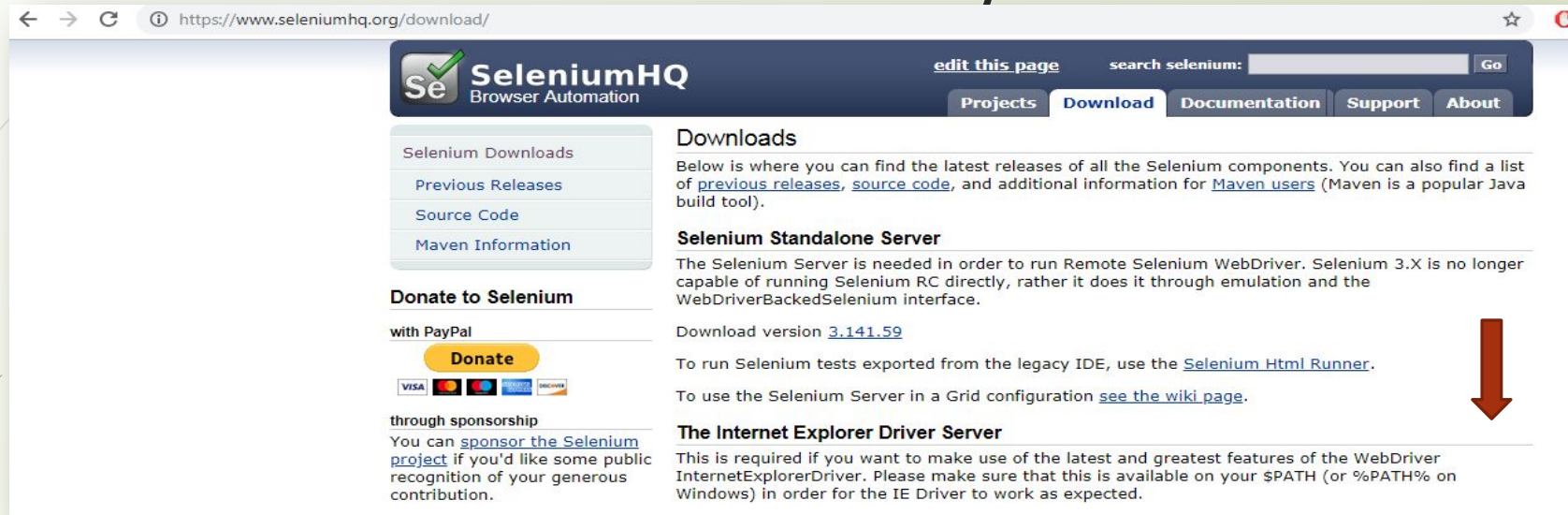
Language	Client Version	Release Date	<a href="#">Download</a>	<a href="#">Change log</a>	<a href="#">Javadoc</a>
Java	3.14.0	2018-08-02	<a href="#">Download</a>	<a href="#">Change log</a>	<a href="#">Javadoc</a>
C#	3.14.0	2018-08-02	<a href="#">Download</a>	<a href="#">Change log</a>	<a href="#">API docs</a>
Ruby	3.14.0	2018-08-03	<a href="#">Download</a>	<a href="#">Change log</a>	<a href="#">API docs</a>
Python	3.14.0	2018-08-02	<a href="#">Download</a>	<a href="#">Change log</a>	<a href="#">API docs</a>
Javascript (Node)	4.0.0-alpha.1	2018-01-13	<a href="#">Download</a>	<a href="#">Change log</a>	<a href="#">API docs</a>

# Create a new project in IntelliJ IDE





# Download drivers (geckodriver, chromedriver, iedriver)



The screenshot shows the SeleniumHQ website's download page. The browser address bar displays 'https://www.seleniumhq.org/download/'. The page header includes the SeleniumHQ logo and navigation links for 'Projects', 'Download', 'Documentation', 'Support', and 'About'. A search bar is also present. On the left, there are links for 'Selenium Downloads', 'Previous Releases', 'Source Code', and 'Maven Information'. Below that is a 'Donate to Selenium' section with a 'Donate' button and logos for Visa, Mastercard, and PayPal. The main content area is titled 'Downloads' and contains sections for 'Selenium Standalone Server' and 'The Internet Explorer Driver Server'. A red arrow points to the 'Selenium Standalone Server' section.

[Selenium Downloads](#)  
[Previous Releases](#)  
[Source Code](#)  
[Maven Information](#)

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Download version [3.141.59](#)

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The screenshot shows the 'Third Party Drivers, Bindings, and Plugins' section of the SeleniumHQ website. It features the Subject logo and a link to download previous IDE versions. The text explains that Selenium can be extended through the use of plugins and provides a disclaimer that the listed plugins are not supported or endorsed by SeleniumHQ. A table lists various browser drivers with links to their latest versions, change logs, issue trackers, and implementation status. A red box highlights the 'Google Chrome Driver' row, and a red arrow points to it.

Download [previous IDE versions here](#).

## Third Party Drivers, Bindings, and Plugins

Selenium can be extended through the use of plugins. Here are a number of plugins created and maintained by third parties. For more information on how to create your own plugin or have it listed, consult the docs.

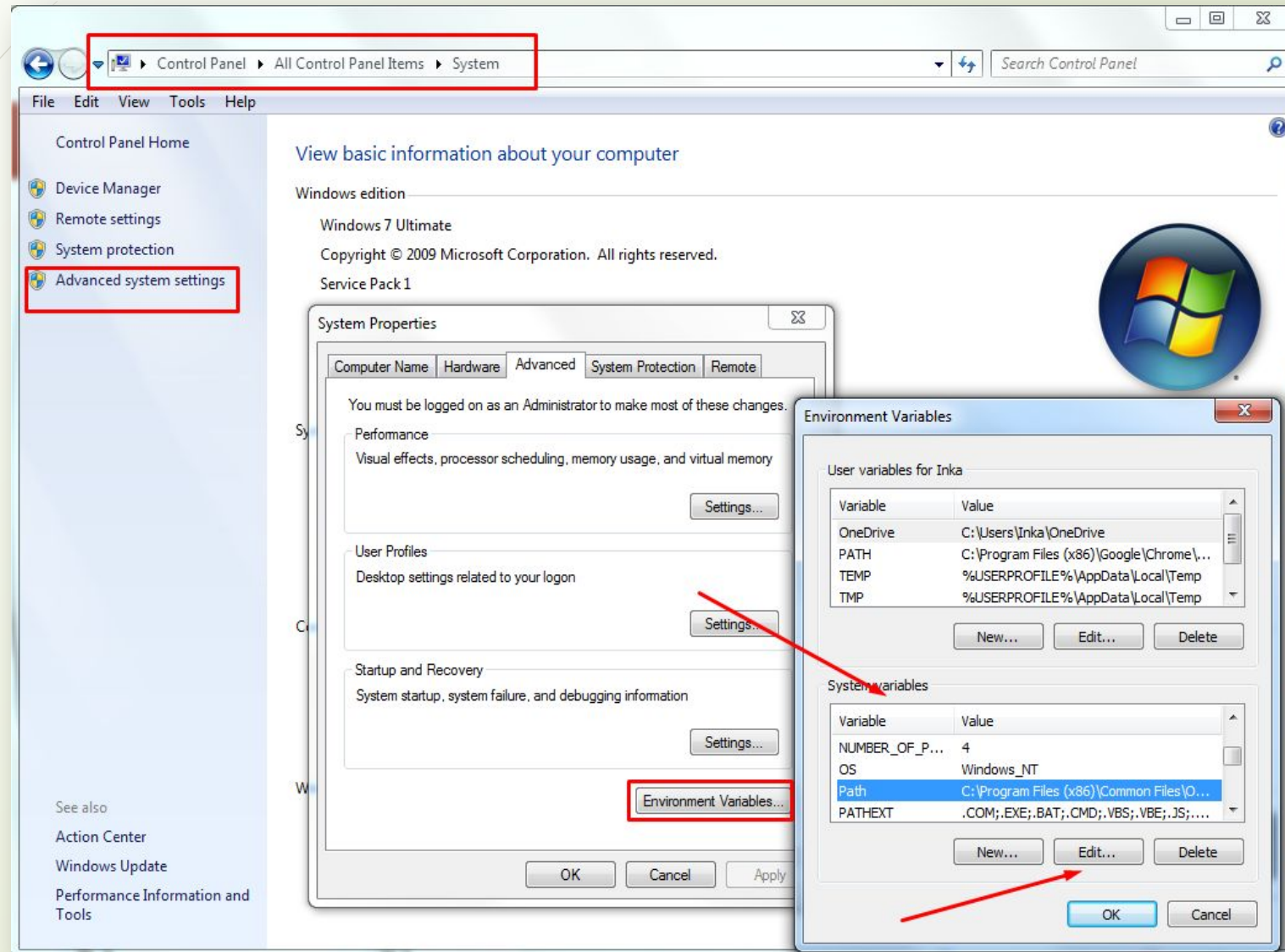
Please note that these plugins are not supported, maintained, hosted, or endorsed by the Selenium project. In addition, be advised that the plugins listed below are not necessarily licensed under the Apache License v.2.0. Some of the plugins are available under another free and open source software license; others are only available under a proprietary license. Any questions about plugins and their license of distribution need to be raised with their respective developer(s).

**Third Party Browser Drivers NOT DEVELOPED by seleniumhq**

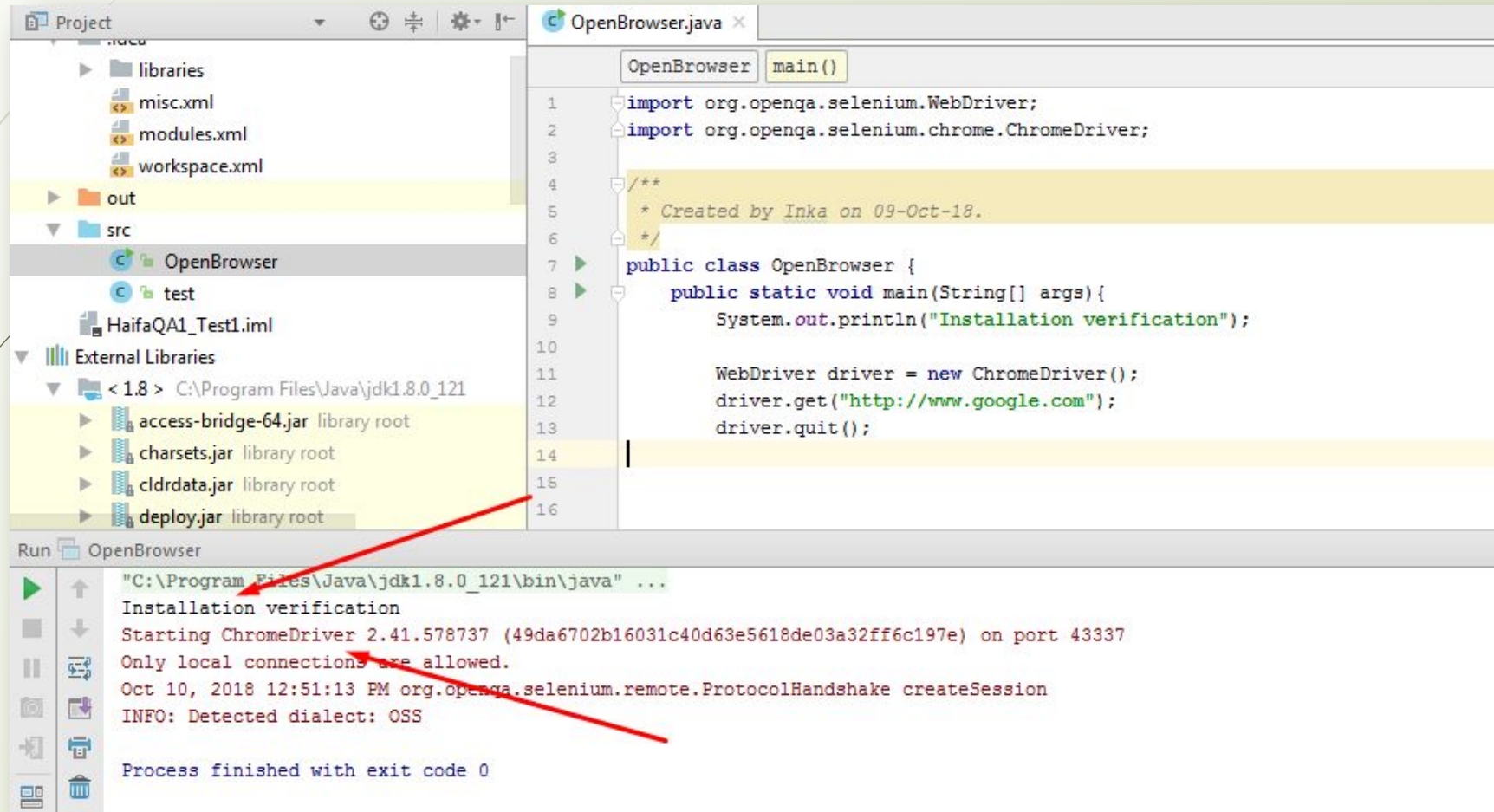
Browser	Latest	Change Log	Issue Tracker	Implementation Status
<a href="#">Mozilla GeckoDriver</a>	<a href="#">latest</a>	<a href="#">change log</a>	<a href="#">issue tracker</a>	<a href="#">Implementation Status</a>
<a href="#">Google Chrome Driver</a>	<a href="#">latest</a>	<a href="#">change log</a>	<a href="#">issue tracker</a>	<a href="#">selenium wiki page</a>
<a href="#">Opera</a>	<a href="#">latest</a>		<a href="#">issue tracker</a>	<a href="#">selenium wiki page</a>
<a href="#">Microsoft Edge Driver</a>			<a href="#">issue tracker</a>	<a href="#">Implementation Status</a>
<a href="#">GhostDriver</a>	(PhantomJS)		<a href="#">issue tracker</a>	<a href="#">SeConf talk</a>
<a href="#">HtmlUnitDriver</a>	<a href="#">latest</a>		<a href="#">issue tracker</a>	
<a href="#">SafariDriver</a>			<a href="#">issue tracker</a>	



# Set Variable Environments (JAVA\_HOME, Path)



# Verify Installation



The screenshot displays an IDE window with the following components:

- Project Explorer:** Shows a project structure with folders like `libraries`, `misc.xml`, `modules.xml`, `workspace.xml`, `out`, `src`, `OpenBrowser`, `test`, and `HaifaQA1_Test1.iml`. Under `External Libraries`, several JAR files are listed, including `access-bridge-64.jar`, `charsets.jar`, `cldrdata.jar`, and `deploy.jar`.
- Code Editor:** Shows the `OpenBrowser.java` file with the following code:

```
1 import org.openqa.selenium.WebDriver;
2 import org.openqa.selenium.chrome.ChromeDriver;
3
4 /**
5  * Created by Inka on 09-Oct-18.
6  */
7 public class OpenBrowser {
8     public static void main(String[] args){
9         System.out.println("Installation verification");
10
11         WebDriver driver = new ChromeDriver();
12         driver.get("http://www.google.com");
13         driver.quit();
14     }
15 }
16
```
- Run Console:** Shows the execution output for `OpenBrowser`. The command used is `"C:\Program Files\Java\jdk1.8.0_121\bin\java" ...`. The output includes:
  - `Installation verification`
  - `Starting ChromeDriver 2.41.578737 (49da6702b16031c40d63e5618de03a32ff6c197e) on port 43337`
  - `Only local connections are allowed.`
  - `Oct 10, 2018 12:51:13 PM org.openqa.selenium.remote.ProtocolHandshake createSession`
  - `INFO: Detected dialect: OSS`
  - `Process finished with exit code 0`