



# BRICS QUERY TOOL SELENIUM SCRIPTS USER GUIDE

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## Purpose

The purpose of the user guide is to provide users with instructions to access data within the Query Tool module using Selenium as an automated tool. See Analysis Tools and Download Location Table below.

For any issues the users encounter with the scripts, please contact the relevant Helpdesk Support.

## Installation

Prior to running the scripts, users should have the following installed on their system.

### Analysis Tools and Download Location

Analysis Tools	Download Location
Python	Anaconda Distribution Package <a href="https://www.anaconda.com/products/individual">https://www.anaconda.com/products/individual</a>
Jupyter Notebook or Jupyter Lab	The IDE will be part of the Anaconda Distribution Package
Selenium	Please do "pip install Selenium" in the terminal or within the Jupyter Notebook/Lab IDE
Easygui	Please do "pip install easygui" in the terminal or within the Jupyter Notebook/Lab IDE
Browser WebDriver	Please download and install browser webdriver you would like to use to navigate the website.  <b>Chrome:</b> <a href="https://sites.google.com/a/chromium.org/chromedriver/downloads">https://sites.google.com/a/chromium.org/chromedriver/downloads</a>  <b>Edge:</b> <a href="https://developer.microsoft.com/en-us/microsoft-edge/tools/webdriver/">https://developer.microsoft.com/en-us/microsoft-edge/tools/webdriver/</a>  <b>Firefox:</b> <a href="https://github.com/mozilla/geckodriver/releases">https://github.com/mozilla/geckodriver/releases</a> <i>From section: v0.26.0</i> <i>Download filename: geckodriver-v0.26.0-win64.zip</i>  Please note that this script does not include an automated webdriver installation for the Safari browser. For instructions on the Safari Webdriver please go to the URL: <a href="https://developer.apple.com/documentation/webkit/testing_with_webdriver_in_safari">https://developer.apple.com/documentation/webkit/testing_with_webdriver_in_safari</a>

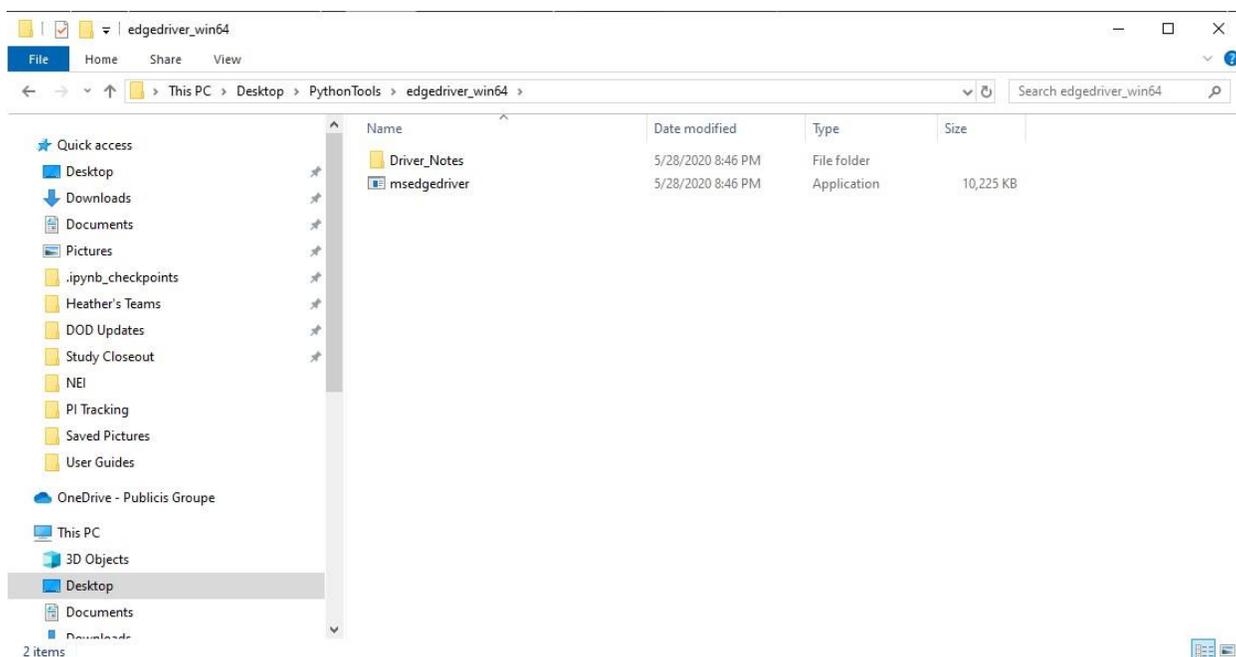
## Instance URLs

BRICS Instance	Authentication URL	Query Tool URL
NEI	<a href="https://brics.nei.nih.gov/cas/login?service=https%3A%2F%2Fbrics.nei.nih.gov%2Fportal%2Fj_spring_cas_security_check">https://brics.nei.nih.gov/cas/login?service=https%3A%2F%2Fbrics.nei.nih.gov%2Fportal%2Fj_spring_cas_security_check</a>	<a href="https://brics.nei.nih.gov/query/">https://brics.nei.nih.gov/query/</a>
cdRNS	<a href="https://cdrns.nih.gov/cas/login?service=https%3A%2F%2Ffitbir.nih.gov%2Fportal%2Fj_spring_cas_security_check">https://cdrns.nih.gov/cas/login?service=https%3A%2F%2Ffitbir.nih.gov%2Fportal%2Fj_spring_cas_security_check</a>	<a href="https://cdrns.nih.gov/query/">https://cdrns.nih.gov/query/</a>
FITBIR	<a href="https://fitbir.nih.gov/cas/login?service=https%3A%2F%2Ffitbir.nih.gov%2Fportal%2Fj_spring_cas_security_check">https://fitbir.nih.gov/cas/login?service=https%3A%2F%2Ffitbir.nih.gov%2Fportal%2Fj_spring_cas_security_check</a>	<a href="https://fitbir.nih.gov/query/">https://fitbir.nih.gov/query/</a>

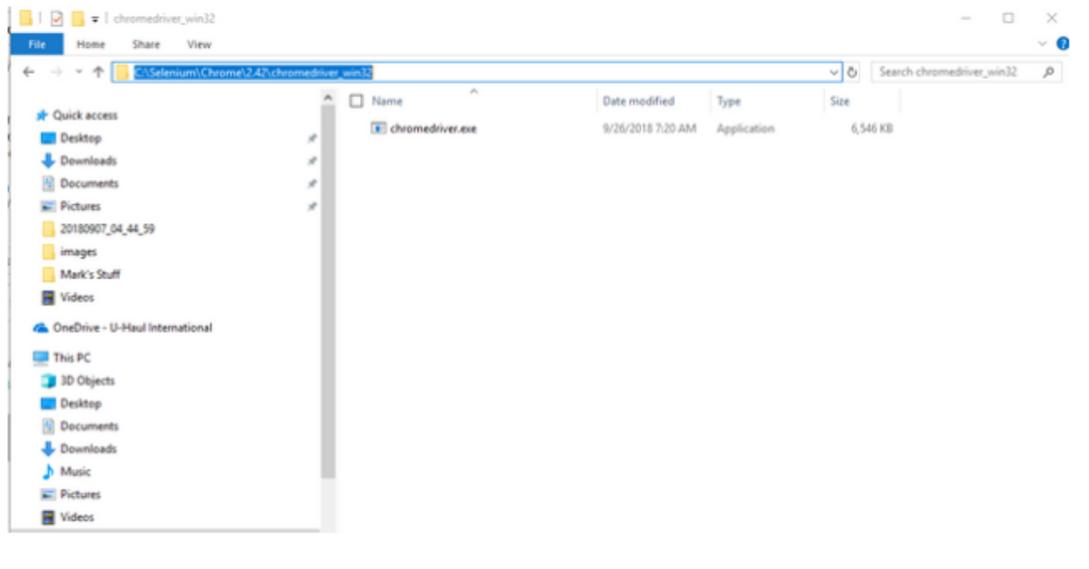
PDBP	<a href="https://pdbp.ninds.nih.gov/cas/login?service=https%3A%2F%2Fpdbp.ninds.nih.gov%2Fportal%2Fj_spring_cas_security_check">https://pdbp.ninds.nih.gov/cas/login?service=https%3A%2F%2Fpdbp.ninds.nih.gov%2Fportal%2Fj_spring_cas_security_check</a>	<a href="https://pdbp.ninds.nih.gov/query/">https://pdbp.ninds.nih.gov/query/</a>
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### Webdriver Installation

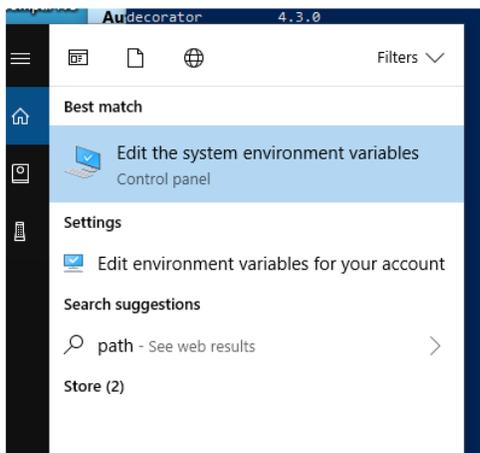
Once you have it downloaded the webdriver, right click on the zipped folder and extract the contents to the same location that contains the downloaded zipped folder. If preferred, you can create the suggested folder path as the image below or place the file somewhere else. When using the scripts, you will be prompted to provide the name of the browser to use and provide the folder path of the webdriver.



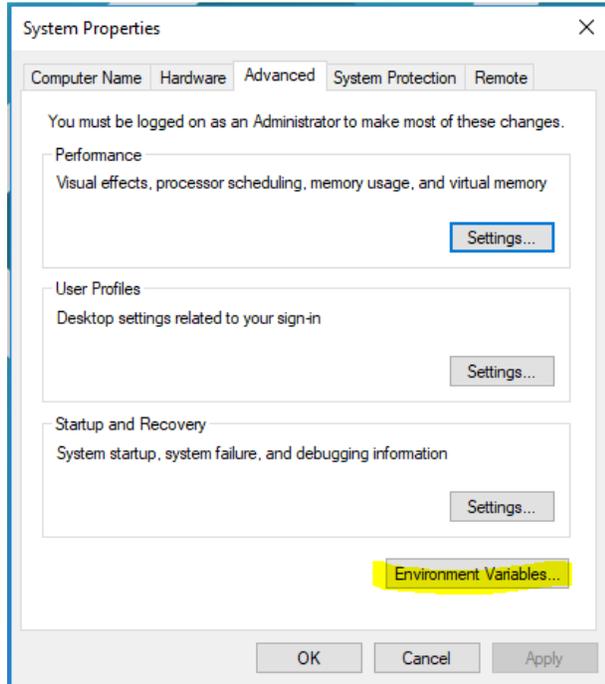
1. For the next step, add the executable webdriver to the system environment path. Copy the folder path to the webdriver.



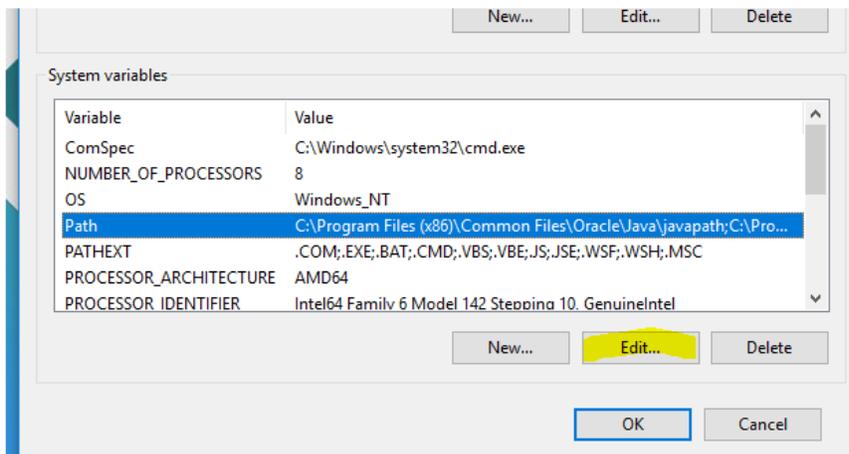
2. Search for and open the Environment Variables for your system by going into the Windows search and typing in "path", then select the option for "Edit the system environment variables".



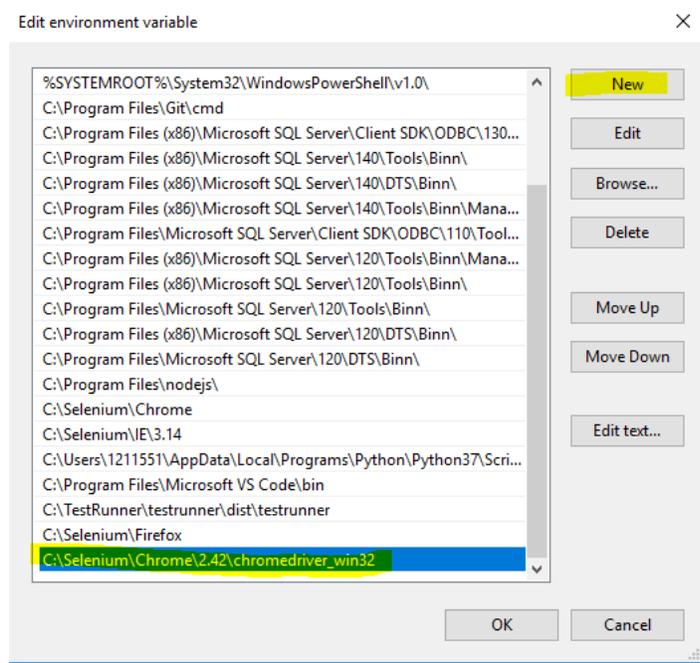
3. Select the Environment Variables button.



4. There are two panes, one for User variables and on the bottom is System variables. The webdriver path will be added to the System Variables. Hover over the line for "Path" and click on it to highlight it. Then select the "Edit" button.



5. Next click on the "New" button to insert a new line in the list. Paste the copied path for the webdriver. Then click "OK" on the open boxes to close them.



## How to run the Query Tool Scripts

**Before running the scripts please point to the correct URL for the system being accessed. instances.**

The scripts are written in the coding language Python and use the IDE Jupyter Notebook or Jupyter Lab.

1. Open Jupyter Notebook/Lab
  - a. Launch Jupyter from the Anaconda Navigator or from the terminal

Figure 1. Anaconda Navigator

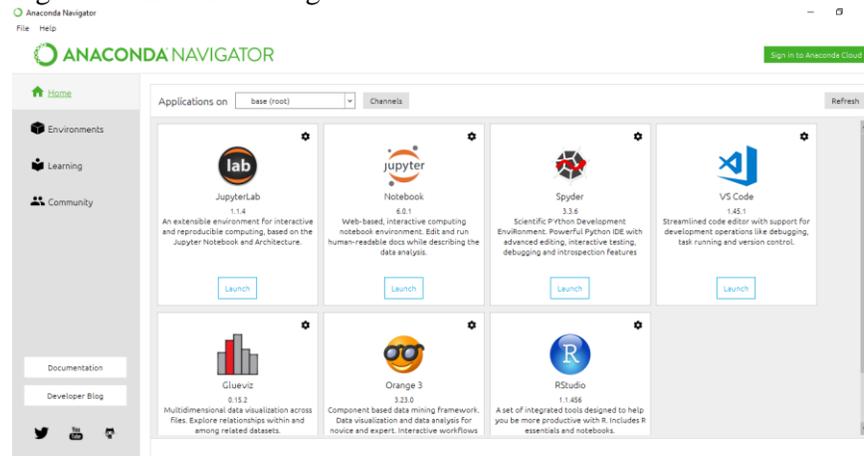
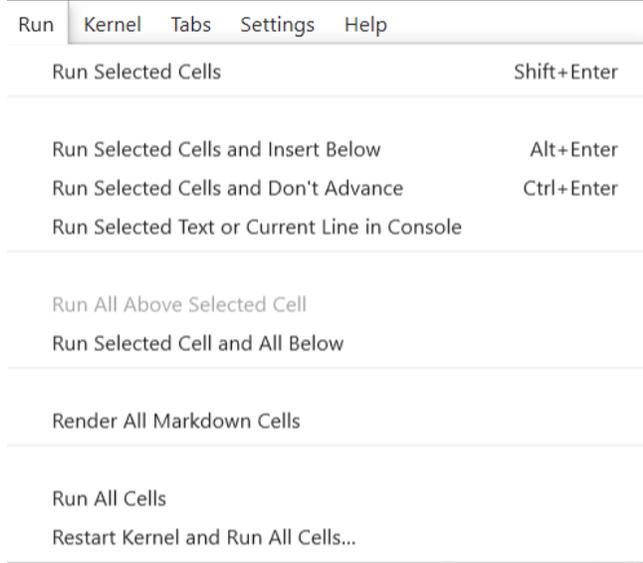


Figure 2. Terminal

Type in "jupyter notebook" or "jupyter lab" then press ENTER

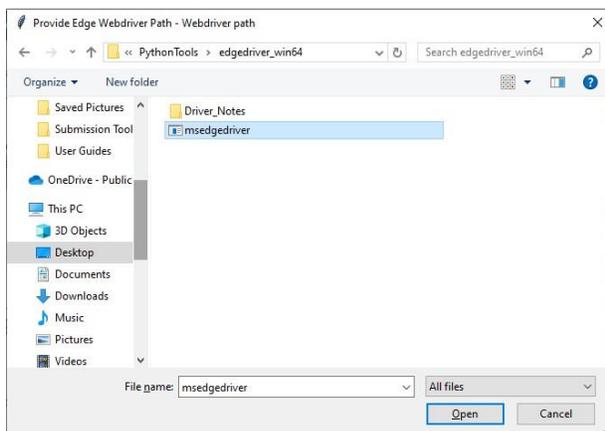


2. Navigate to the script you will like to run.
3. Run the script and follow the prompts in the notebook.
  - a. To start the script, click on the Run Option or Cells, then" Run All Cells."



4. The script will require information from the user:
  - a. The browser to be used.
  - b. The webdriver for the browser.
  - c. User's Credentials to log into the User Portal to access Query Tool (**Please make sure you have permissions to the Query Tool Module**)
  - d. Requested inputs for the query.

Figure 1: Prompt for requesting a webdriver path.



## TroubleShooting and FAQs

1. User credentials
  - a. Please make sure to enter your correct user credentials. If the user credentials are not correct, the remaining part of the script will not run and will produce errors.
2. Issue with webdriver
  - a. Please make sure you have downloaded the webdriver that is compatible with the version of the browser.
3. One of the cells is not executing the code and task.
  - a. If there are issues with the automation for one of the cells, please rerun the cell. If that issue does not work, please contact the Operations helpdesk.

## Scripts

Below are the scripts that can be used. Please note that these scripts can be modified as needed for the system you are accessing. As an example replace the form names in the script provided with the form name you are using to query.

Script Name	Description
Selenium_Case1	From the join of the two form structures, eyeGeneDemographics, and eyeGeneGenomics, provide the GUIDs with one gene and one or more gene variant types.
Selenium_Case2	The purpose of the script is to provide the list of GUIDs from the eyeGeneGenomics form structure that has one gene and one or more gene variant types
Selenium_Case3A	The purpose of the script provides the GUIDs for a gene but does not include a gene variant type.
Selenium_Case3B	The purpose of the script provides the GUIDs with multiple genes and gene variant type.
Selenium_GenesandExcludeGeneVariant	The purpose of the script provides the list of GUIDs with two genes and a gene variant type but excludes additional gene variant type.
Selenium_Genevarianttype	The purpose of the script is to provide the list of GUIDs with two genes and a gene variant interpretation type
Selenium_GUIDsnotinGenomics	The purpose of this script is to return the GUIDs that exist in the eyeGeneDemographics data, but not in the eyeGeneGenomics data.

Selenium_GeneIndicator	The purpose of this script is to return all GUIDs that have two genes and the gene indicator is "yes".
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