

Multiple Windows in selenium python

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Multiple Windows in Selenium python

There will be times when you will require to perform some testing, where the testing operations open a new browser/tab, a test case may need you to perform some tasks on the newly opened browser window/tab and return to the original window to perform the remaining tasks.

Even if the window/tab is currently on focus but still it is not an active window, so to perform some tasks, you need to switch to a new browser window/tab in selenium python.

Commands will affect the base window unless we switch our control to a new window/tab.

Previously tab and Windows are two different items, as tabs do not have any GUID. Now developers made tab and windows have GUIDs, so tabs and windows are treated as same in selenium python.

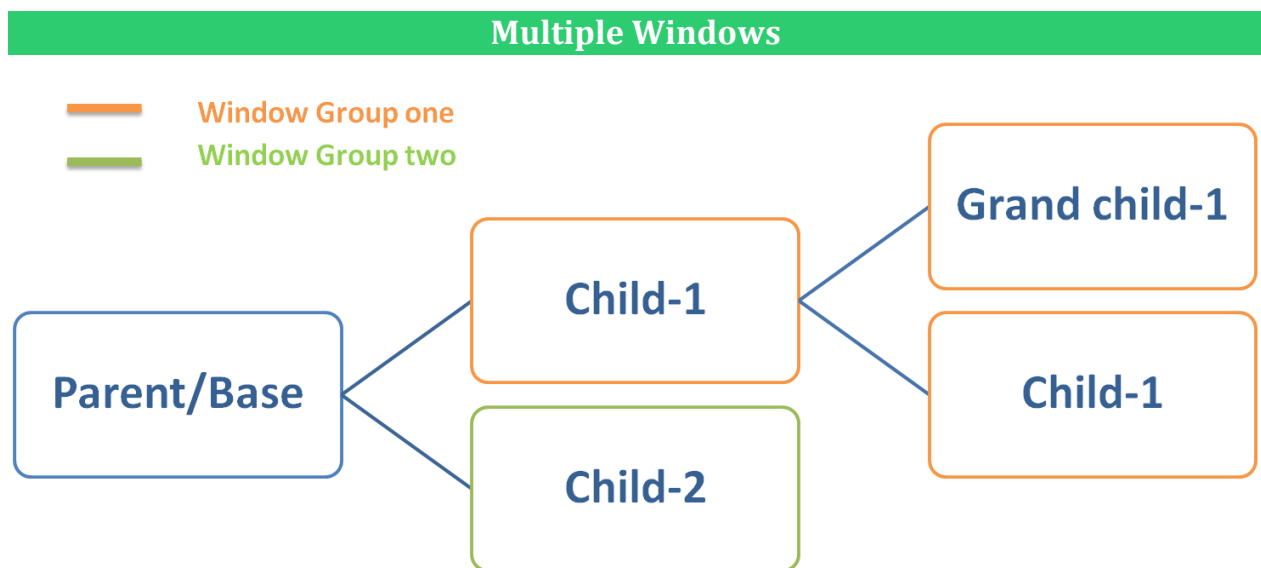
Situations when we are likely to deal with multiple windows:

- Filling forms may require selecting the date from a separately opened window
- Clicking on some link/button can open another window

- Handling Advertisement windows

Steps to handle multiple windows in python selenium (program below):

1. Open the browser and navigate to the required page
2. Find the current window's GuID (unique id), so we can return to this base window later
3. Click the link/button which opens the multiple windows
4. Get all the windows GuIDs,
5. Remove base window ID from the above received all ids if only two windows present
6. If more than two windows present then iterate and switch to each window and verify their title
7. If the title matches then break the loop (iteration), so we can perform operations
8. Close the window (optional, saves memory)
9. Return back to the base



The above image depicts multiple browser windows

- Our Application is opened on the Parent/Base window, the total number of windows is one.
- When clicking on a link/button our application opens two new windows along with the base window, now the total number of windows present is Three (base + child-1 + child-2).

- Now move to the Child-1 window and perform click on a button/link which opens another one more window along with the child-window, now the total number of windows is 4 (base + child-1 + child-2 + grandchild-1).
- We can perform an operation on the grandchild -1 window, and we can close all windows or specif windows.

If we perform the above operation manually, we may not find difficulty, but handling the above scenario is tricky in selenium python.

Commands to Handle window in python

GU ID: An unique string generated for each browser window opened.

```
8589934593
```

current_window_handle : returns the current(active) browser window's GU ID string.

```
driver.current_window_handle;
```

window_handles : returns GU ID of all the browser windows present at the moment, which are opened by the current driver.

```
driver.window_handles;
```

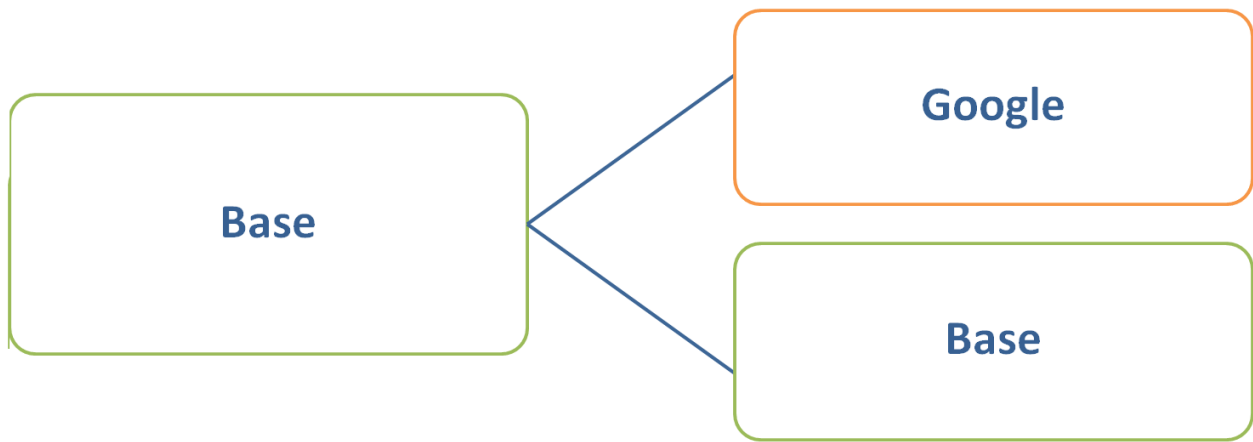
switch_to_window() : switches the control from the current browser window to the target browser window which has the specified GU ID.

```
driver.switch_to_window(guid);
```

Handle Two Browser Windows / Tabs python

Click the button to open a new window (google.com)

Please use Firefox as a browser to open the link in a new window; if you use chrome, the link may be opened in a new tab rather than a new window.



Steps to Handle Two Windows :

1. Open Chrome browser and Navigate

```
# open chrome browser
driver = webdriver.Chrome(executable_path=r'D:PATHchromedriver.exe')
# set implicit time to 30 seconds
driver.implicitlyWait(30);
# navigate to the url
driver.get("https:// windows-selenium-python");
```

2. Get the GU ID of the current (parent) window using the **current_window_handle**

```
# get the Session id of the Parent
parentGUID = driver.current_window_handle;
```

3. Click on the Open New Window button, the application opens a new window with Google page. Make the selenium python sleep for 5 seconds; otherwise, it may not find the newly opened tab.

```
# click the button to open new window
driver.find_element_by_id("two-window").click();
time.sleep(5000);
```

4. Get the GU IDs of the two windows (parent + google), using the **window_handles** present in the selenium python. Store the GU IDs in a Set Collection; this Set will have GU IDs of both parent and Child Browsers

```
# get the All the session id of the browsers
allGUID = driver.window_handles;
```

5. iterate the Set of GUID values, and if the value is parent value skip it if not switch to the new window

```
# iterate the values in the set
for guid in allGUID:
    # one enter into if block if the GUID is not equal to parent window's GUID
    if(guid != parentGUID):
        # todo
```

6. Switch to the window using the **switch_to_window()** method present in selenium python, pass the GU ID of the child browser to this method.

```
# switch to the guid
driver.switch_to_window(guid);
```

7. Find the search bar in Google.com and search for "success."

```
# search on the google page
driver.find_element_by_name("q").send_keys("success");
```

Close the Google tab/Window and return to the parent tab/browser window

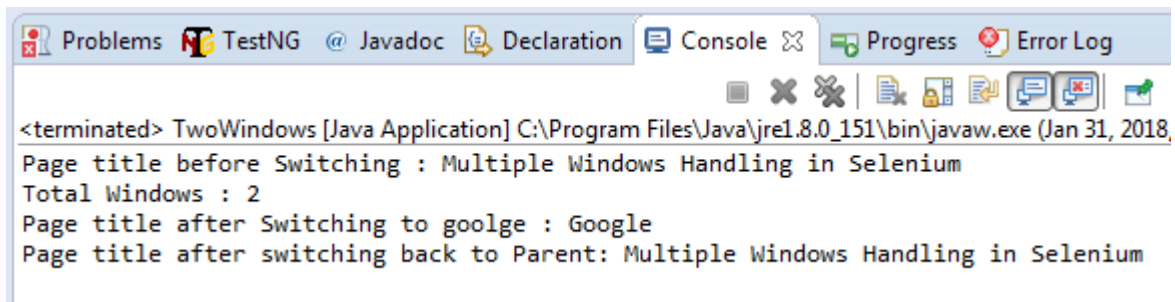
```
# close the browser
driver.close();
# switch back to the parent window
driver.switch_to_window(parentGUID);
```

Complete code for switching window may look like below

```
class TwoWindows(unittest.TestCase) :
    def test_browser_Window :
        # open chrome browser
        driver = webdriver.Chrome(executable_path=r'D:PATHchromedriver.exe')
        # set implicit time to 30 seconds
        driver.implicitlyWait(30)
        # navigate to the url
        driver.get("https://windows-selenium-python")
        # get the Session id of the Parent
        parentGUID = driver.current_window_handle
        # click the button to open new window
        driver.find_element_by_id("two-window").click()
        time.sleep(5000)
        # get the All the session id of the browsers
        allGUID = driver.window_handles
        # print the title of the page
        print("Page title before Switching : "+ driver.getTitle())
        print("Total Windows : "+allGUID.size())
        # iterate the values in the set
        for guid in allGUID:
            # one enter into if block if the GUID is not equal to parent
            window's GUID
            if(guid != parentGUID):
                # switch to the guid
                driver.switch_to_window(guid)
                # break the loop
                break

        # search on the google page
        driver.find_element_by_name("q").send_keys("success")
        # print the title after switching
```

```
print("Page title after Switching to goolge : "+ driver.getTitle())
time.sleep(5000)
# close the browser
driver.close()
# switch back to the parent window
driver.switch_to_window(parentGUID)
# print the title
print("Page title after switching back to Parent: "+
driver.getTitle())
```



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