

Automation:

Simulation of any Human work by a System or a Tool is known as Automation.

Advantages of Automation:

1. **Reliable-** Accuracy on actions which is performed n number of times also. Consistency is achieved.
2. **Repeatable-** We can use it for n number of times to execute. So we can also test how our application reacts when same action performed for n number of times.
3. **Reusable-** You can reuse the automated tests on different versions of an application.
4. **Faster-** Compared to Manual work its 10 times faster.
5. **Final Cost is reduced-** Testing can be done in a faster manner. So employees strength can be reduced

Disadvantages of Automation:

1. Extra Skill Set is required.
2. Initial cost is more.
3. Human errors will lead to major consequences if its not identified properly.

Different Automation Tools in Market:

1. Selenium
2. QTP- Quick Test Professional
3. WinRunner
4. SilkTest
5. Watir
6. RFT- Rational Functional Tester
7. Test Complete
8. Robotium

Different Performance Tools in Market:

1. Jmeter
2. Load Runner
3. Silk Performer
4. Rational performance tester

Different Test Management Tools in Market:

1. Test Director
2. Quality center
3. Test Manager
4. Bugzilla
5. Mantis

Test Cases that can be Automated

- Test cases that we want to execute on different browsers. Regression Test Cases.

- Test cases that we want to execute with Multiple set of Datas.

Test Cases that cannot be Automated

- Dynamically changing testcases.
- Performance testing related cases.
- UI related test cases.

Selenium

Selenium is an Open source automated testing tool which helps you to automate Functional Testing.

1. Selenium IDE (Integrated Development Environment)
2. Selenium RC/ Selenium 1
3. Selenium Webdriver/ Selenium 2

Selenium IDE

Selenium IDE was introduced as Selenese and later it is converted to Selenium IDE. It is developed by a company called Thought Works.

- Selenium IDE is a Record and Playback tool.
- IDE supports only Firefox Browser.
- Its an Inbuilt Addon for Firefox Browser.

How to Install and Configure Selenium IDE

Open your Firefox Browser and goto "Tools"-->Addons. You will get a New window opened. Search for "Selenium IDE". you will get Selenium IDE in the menu list. Click on "Install" button and "Restart Now" link. Your Selenium IDE will be installed.

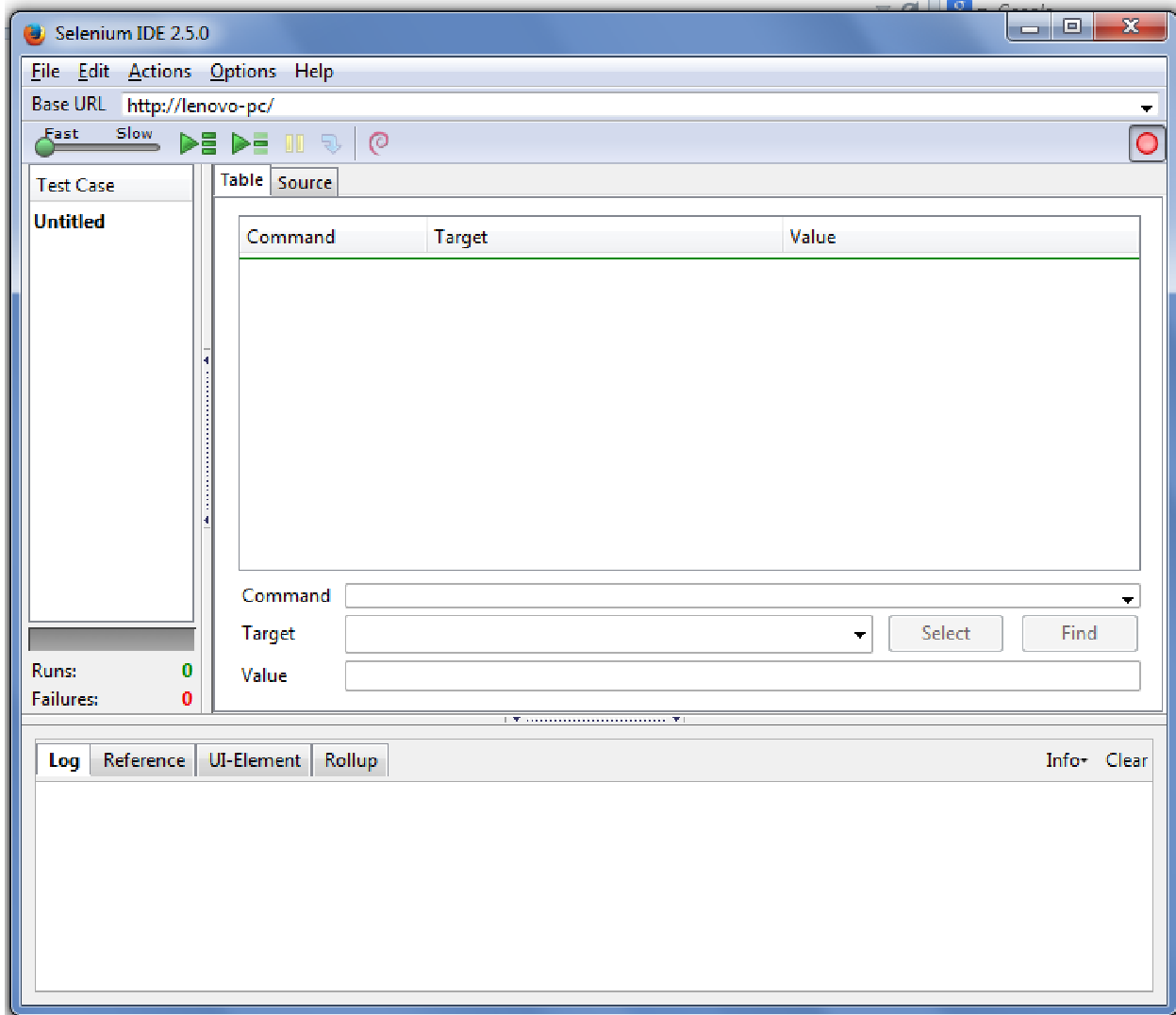
Confirm Selenium IDE is installed in your Browser

Open a New Firefox Browser and

- Check at the top right corner. You can see IDE icon.
- Goto Tools you can see IDE icon.

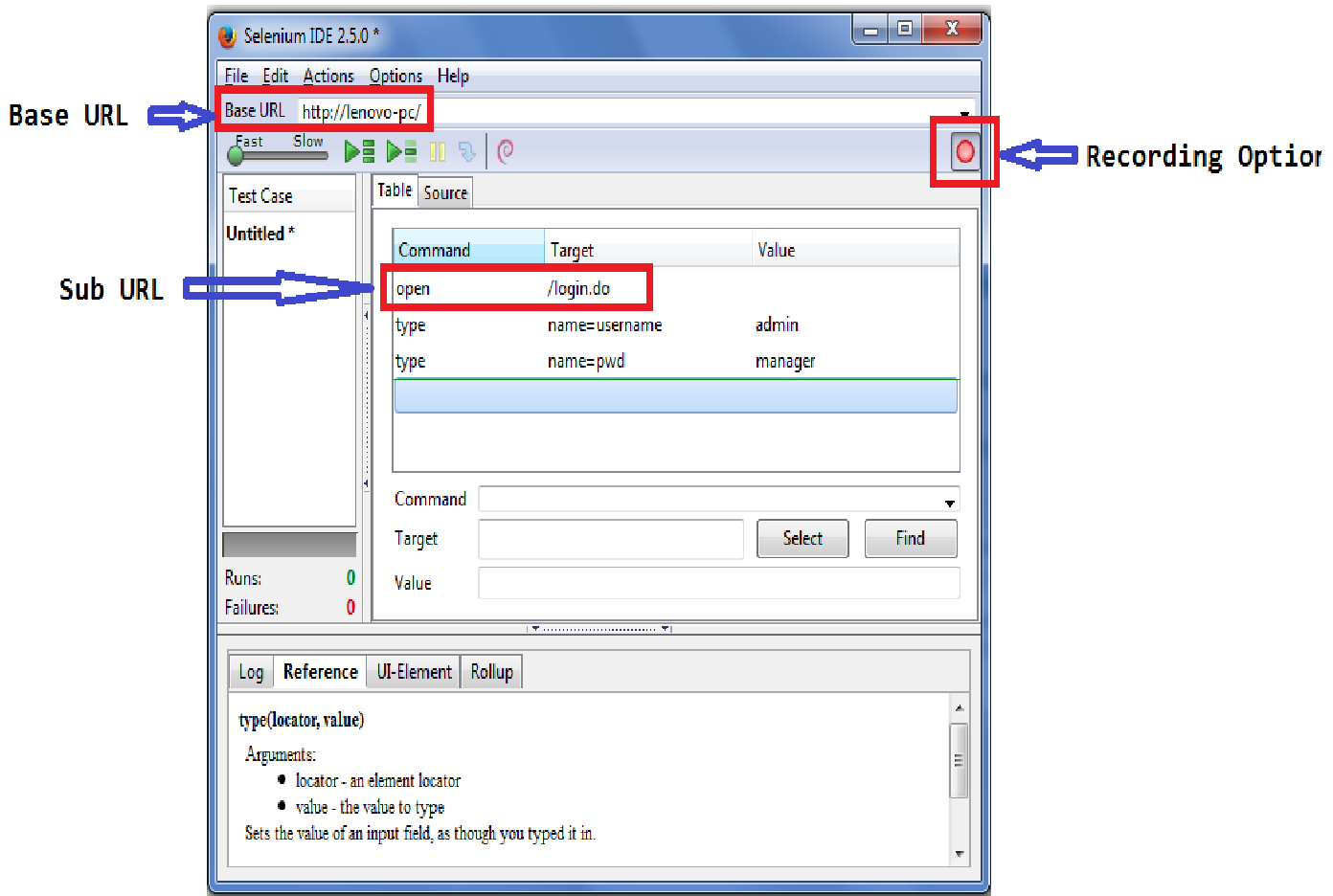
How Selenium IDE look

If you open the Selenium IDE you will see this window pop appears. This is the Selenium IDE tool to automate your application in your Firefox Browser



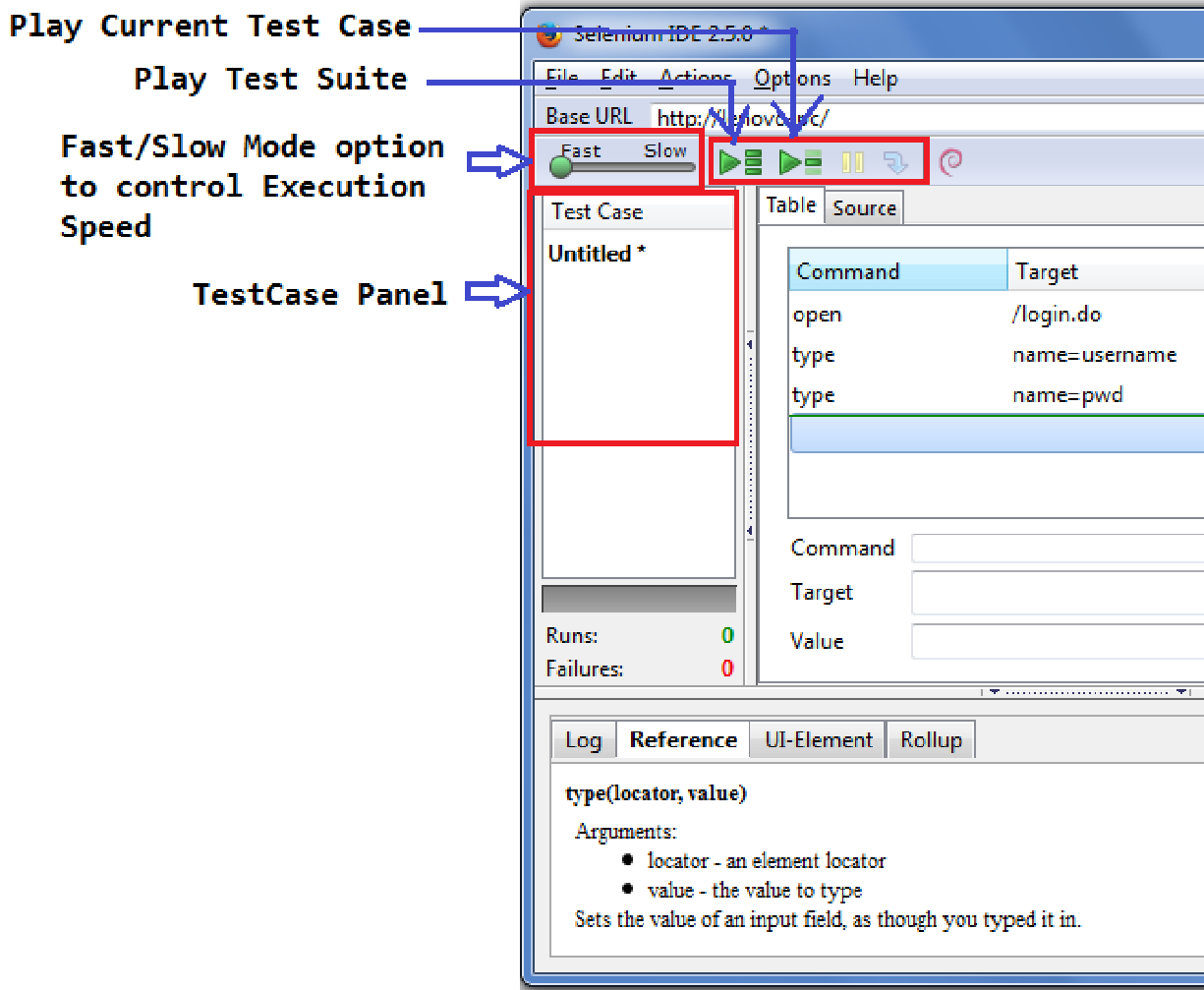
Elements in Selenium IDE

- **Base URL**- The main url of the Web application.
- **Sub URL**- The remaining url of the application.
 - **Eg: Total url**- <https://www.flipkart.com/account/login?from=header>
 - **Base url**- <https://www.flipkart.com/>
 - **Sub url**- /account/login?from=header
- **Record Option**- By default IDE opens with Recording mode. By clicking on that Red button we can Stop or Play back the Recording option.



- **Fast/Slow Mode**- It helps you to control the speed of the execution.
- **Test Case Pane**- All the Test Cases will be located under this Section.

- **Play Current Test Case**- It helps you to Run the Current Case which is Bolder in the Test Case Pane.
- **Play Test Suite**- All the Test Cases present in Test Case pane will be executed one by one in a Sequential order.



- **Command**- Action to be performed on the WebElement.
- **Target**- Gives the property info of the WebElement.

- **Value-** Value that need to pass on to the TextBox or DropDown.
- **Edit Pane-** You can Edit the Command, Target, Value info in this Pane.
- **Select-** Gets the property info of the WebElement
- **Find-** If the Property info is given in the Target. It highlights the WebElement in the WebPage.
- **Reference-** Gives you the detail info of the Command, target, Value of the Selected Scenario.

The screenshot shows the Selenium IDE 2.5.0 interface with several annotations:

- Value to pass for TextBox or Dropdown:** Points to the 'Value' column in the table.
- Property info of an WebElement:** Points to the 'Target' column in the table.
- Action to perform on WebElement:** Points to the 'Command' column in the table.
- Helps to locate the WebElement in page:** Points to the 'Find' button.
- Helps to get property info of a WebElement:** Points to the 'Select' button.
- We can Edit the total info in this Pane:** Points to the edit pane below the table.
- Gives detail info of Selected Test Scenario:** Points to the 'Reference' tab in the bottom pane.

The table in the interface contains the following data:

Command	Target	Value
open	/login.do	
type	name=username	admin
type	name=pwd	manager
clickAndWait	id=loginButto	
verifyText	link=Logout	Logout
clickAndWait	link=Logout	

The edit pane below the table shows the following details:

Command	type
Target	name=username
Value	admin

The bottom pane shows the 'Reference' tab with the following information:

type(locator, value)

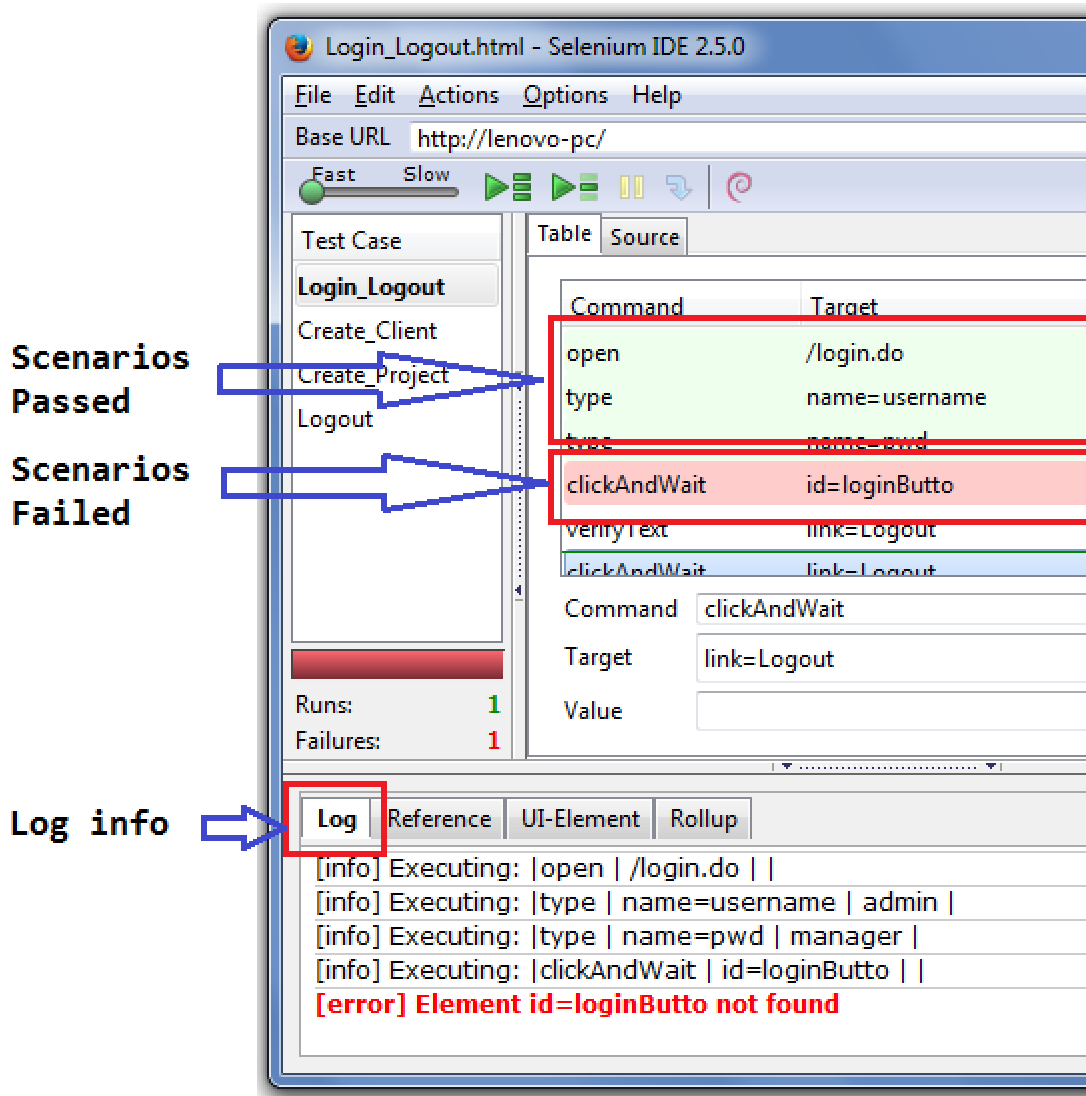
Arguments:

- locator - an element locator
- value - the value to type

Sets the value of an input field, as though you typed it in.

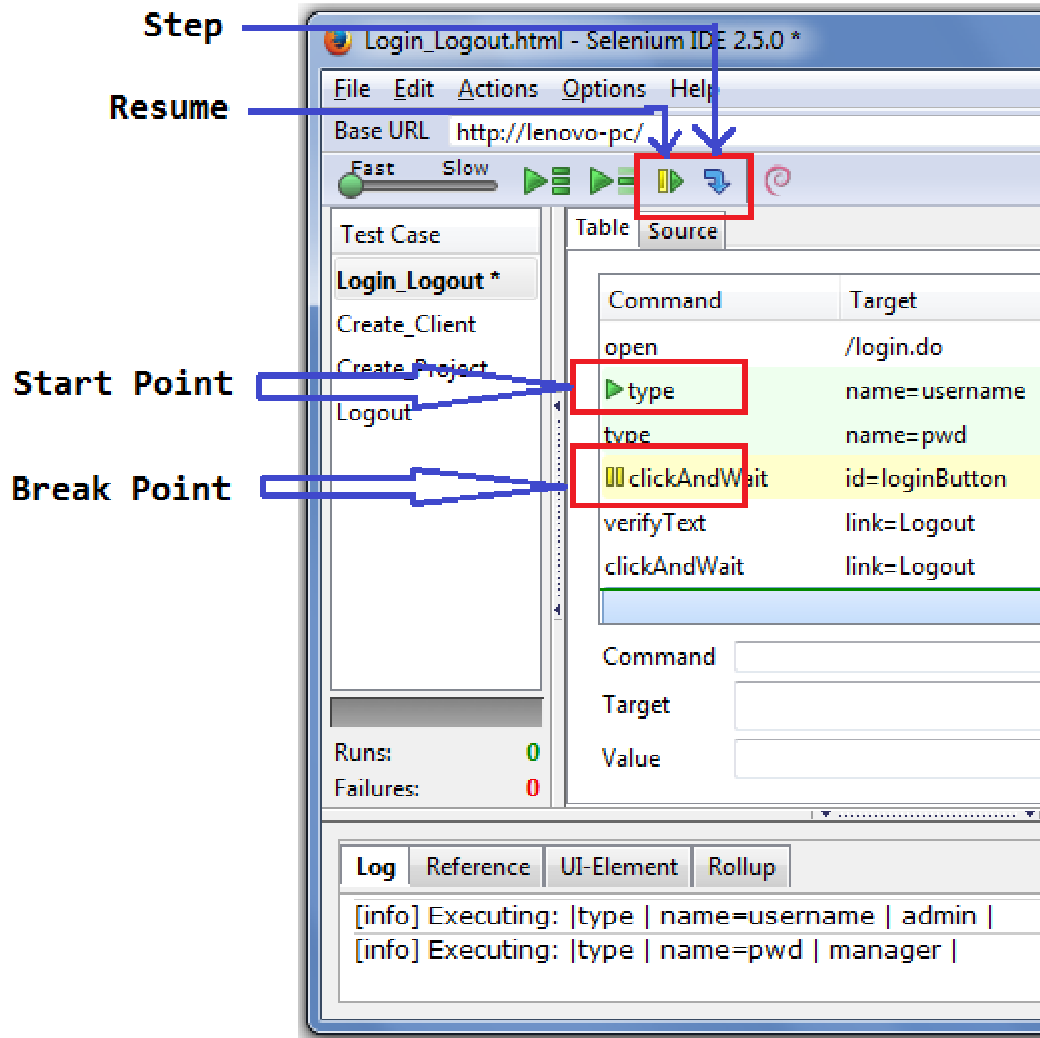
- **Scenarios Passed-** Scenarios which are succeeded will be displayed in Green Color.
- **Scenarios Failed-** Scenarios Failed will be displayed in Red Color.

- **Scenarios Executing-** Scenarios which are executing currently will be denoted in yellow Color.
- **Log-** Gives the detail info of the Scenarios executed. For Debugging it will be helpful.



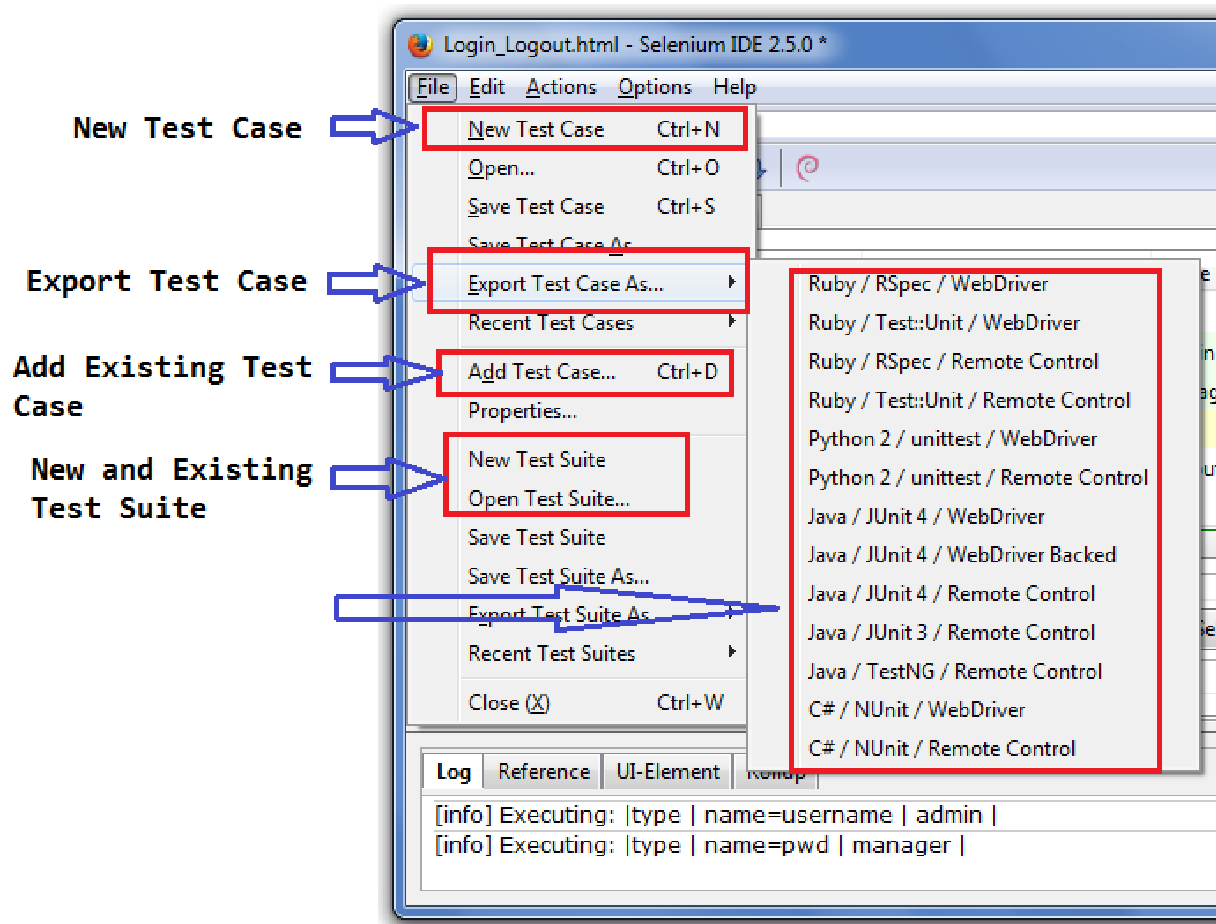
- **Start Point-** Omits the above scenarios and starts to execute the remaining lines of code from the Start Point
- **Break Point-** Pauses the execution where Breakpoint is present

- **Resume-** Executes the remaining lines of code after Pause.
- **Step-** Step by Step execution will be done. Helps for Debugging the Program.



- **To Create New Test Case-** Goto File→ New TestCase or Right Click on Test Pane and click on New Test Case

- **To Open Existing Test Case-** Goto File→Open **or** Goto File→Add Test Case **or** Right Click on Test Pane and click on Add Test Case. Your Test case will be loaded in the Test case Pane.
- **To Create New Test Suite-** Goto File→Export Test Case→ Java/Junit4/WebDriver, if you want the Test case as Java format
- **To Open Existing Test Suite-** Goto File→Open Test Suite and browse the test Suite from your Folder. The Total Testcases from your Test Suite will be loaded in the Test case Pane.



Important Actions in IDE

- **open-** Opens the combination URL of Base and Sub URL on the Web page.
- **type-** Used to give Values to the Text Box or Drop Down.
- **click-** Clicks on the Webelement.
- **clickAndWait-** Clicks on the WebElement and waits for the page to Load.
- **VerifyText-** Checks whether the respective text is present on the Webpage, and executes the remaining lines of code even if it pass or fail.

- **VerifyElementPresent**- Checks whether the respective Element is present on the Webpage, and executes the remaining lines of code even if it pass or fail.
- **AssertText**- Checks whether the respective text is present on the Webpage, and stops the remaining lines of code if it fails.
- **AssertElementPresent**- Checks whether the respective Element is present on the Webpage, and stops the remaining lines of code if it fails.
- **VerifyTitle**- Checks whether the title of the Webpage is present.
- **WaitForText**- Wait till the Text appears on the Webpage and execute the remaining lines of Code.
- **WaitForTitle**- Wait till the Title of the Webpage comes and it executes the remaining lines of Code.
- **WaitForElementPresent**- Wait till the Element appears on the Webpage and execute the remaining lines of Code.

Default Timeout-

The default timeout of IDE for the page to load is 30sec. If we need to change Goto→ Options→ Options. You will get a Window Popup opened. Click on **General** tab and on **Default TimeOut** textbox . Give the timeout in millisecs.

User Extension File-

By default IDE doesn't support for While loops. So we need to add a User extension file [sideflow.js](#) to support it.

Steps to Download sideflow.js file

Browse for [selenium ide flow control](#) in Google Search. Click on the link 51elliot.blogspot.com/2008/02/selenium-ide-goto.html . In that page click on the link <https://github.com/darrenderidder/sideflow>.

Now on the Redirected page, search for Download Zip button and click on it to Download. After downloading Extract the File. We will get [sideflow-master](#) folder. Open the folder to check [sideflow.js](#) file.

Add the User Extension file in IDE

Goto→ Options→ Options. You will get a Window Popup opened. Click on **General** tab, Now click on Browse button under [Selenium Core extensions \(user-extensions.js\)](#). Browse the sideflow.js file under the Downloaded folder and click on OK. Now close the Selenium IDE and open again. Now we can use **while** loop conditions in our IDE.

General Tab

Default Time Out

User Extension.js to be added

