Shri Ramdeobaba College of Engineering and Management Nagpur

Team members Name :

- B-14 Aniket Pardhi
- B-43 Harsh Agrawal
- B-47 Jatin Jangir

Subject-Software Engineering LAB

Practical no-10 C

Aim : - To understand the working of various testing tools (Selenium) which are currently in use in industry and use them for testing.

Testing performed :- Here we have performed web automation testing using selenium. The website which we have used contains a form with several fields. All the input and form fields are validated as filled correctly or not. Additionally we have added a new command to the webpage as an alert box which is also verified and output is also correctly displayed on the screen with a message showing execution complete. Commands such as click, open, select, set window size are verified successfully.

Introduction to referred tool : -

Selenium IDE (Integrated Development Environment) is an open source web automation testing tool under the Selenium Suite. Unlike Selenium WebDriver and RC, it does not require any programming logic to write its test scripts; rather you can simply record your interactions with the browser to create test cases. Subsequently, you can use the playback option to re-run the test cases.

Selenium comprises of four tools:

1. Selenium IDE
2. Selenium RC
3. Selenium WebDriver
4. Selenium Grid

Recording

IDE allows the user to record all of the actions performed in the browser. These recorded actions as a whole are the test script.

Playing Back

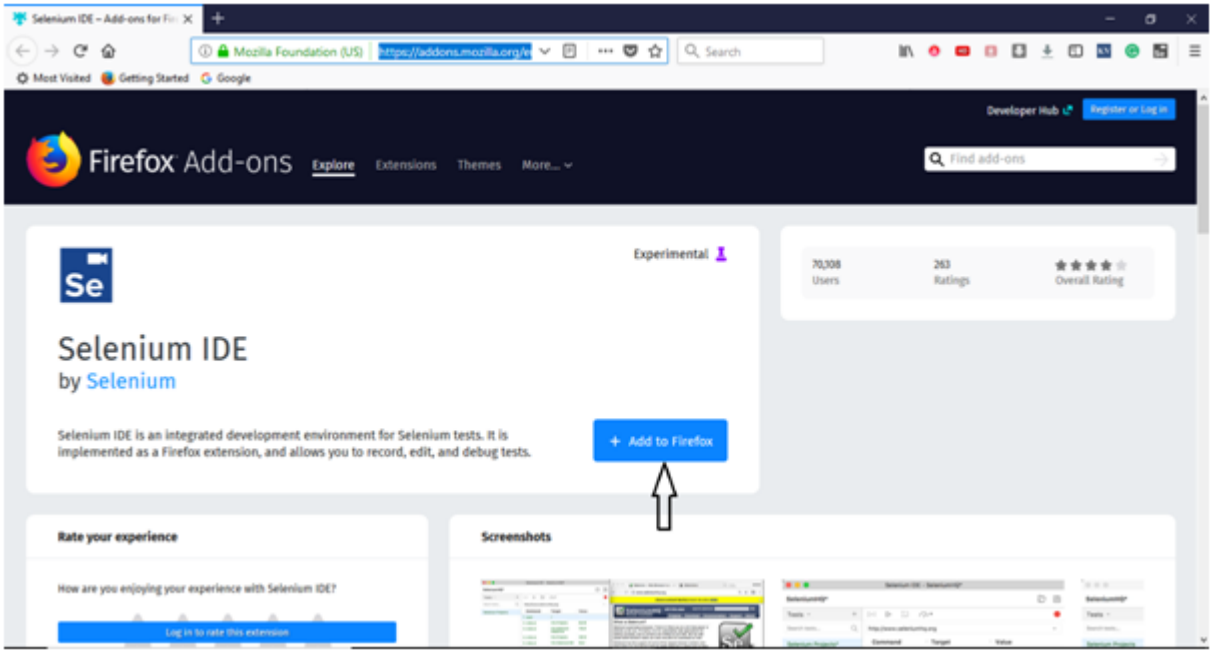
The recorded script can now be executed to ensure that the browser is working accordingly. Now, the user can monitor the stability and success rate.

Saving

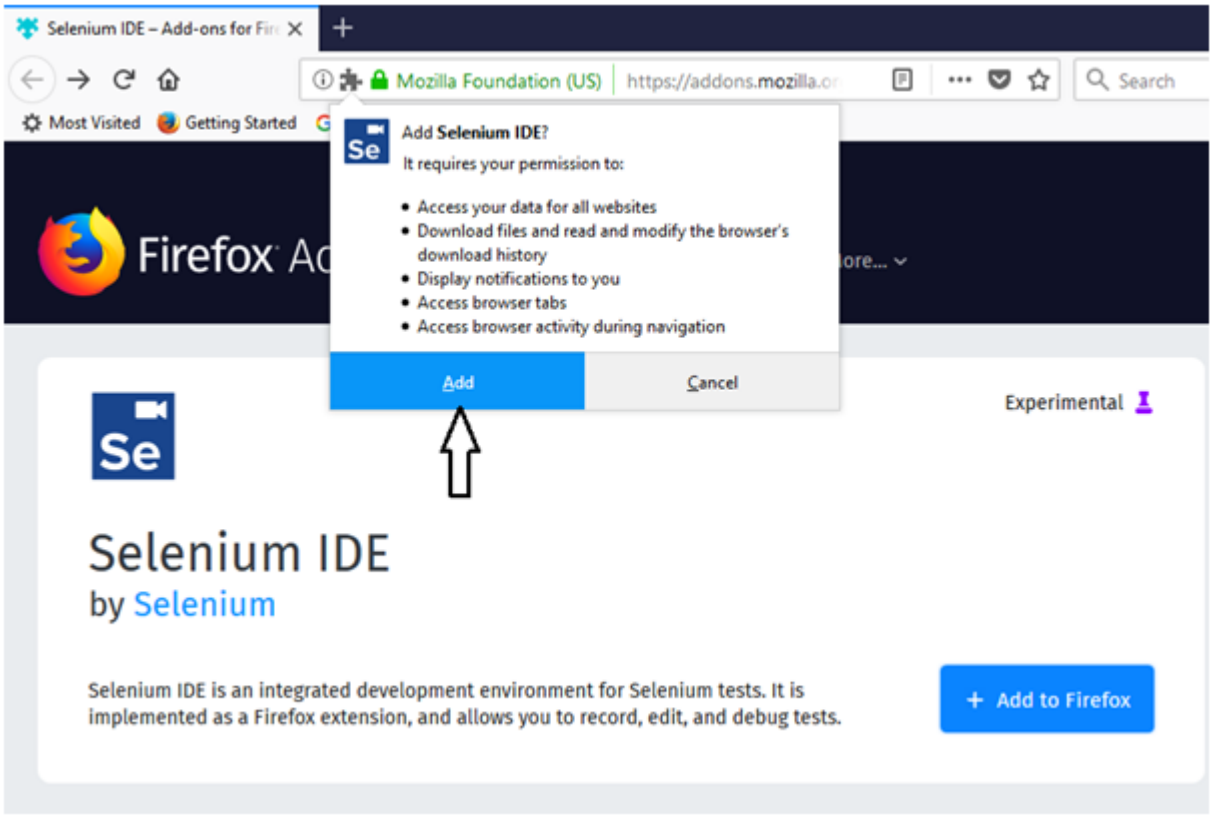
The recorded script is saved with a “.side” extension for future runs and regressions.

Selenium IDE Download and Install

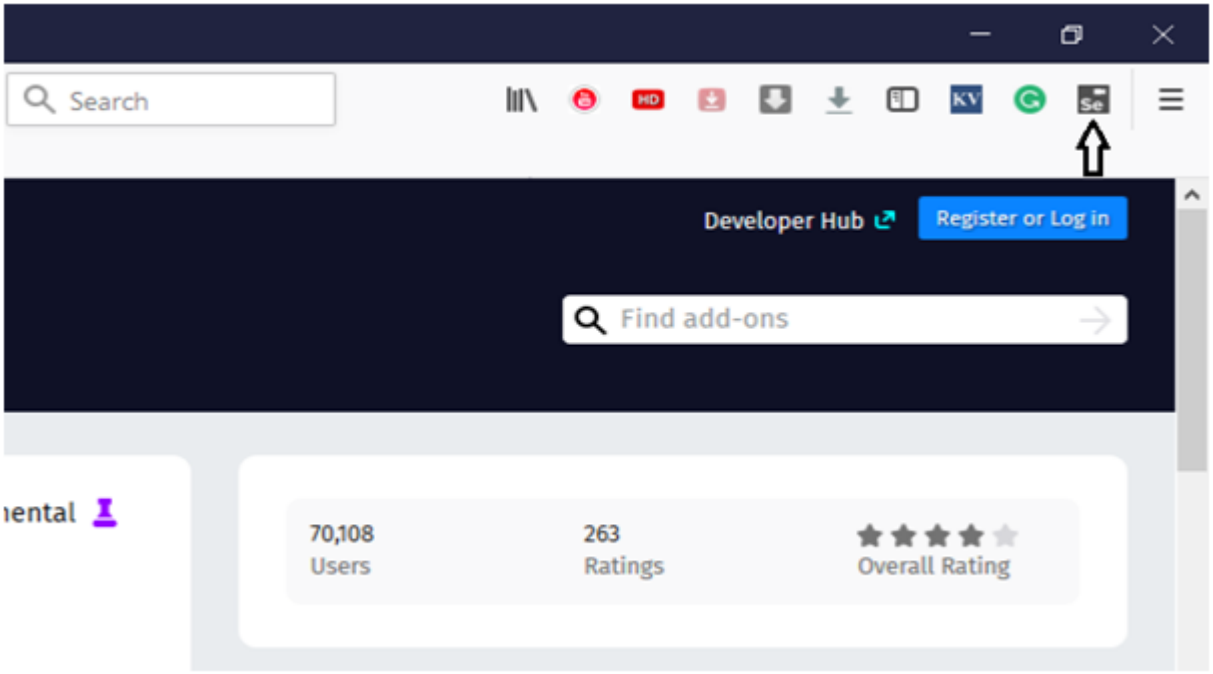
- Launch Mozilla Firefox browser.
- Open URL https://addons.mozilla.org/en-us/firefox/addon/selenium-ide/ . It will redirect you to the official add-on page of Firefox.
- Click on the "Add to Firefox" button.



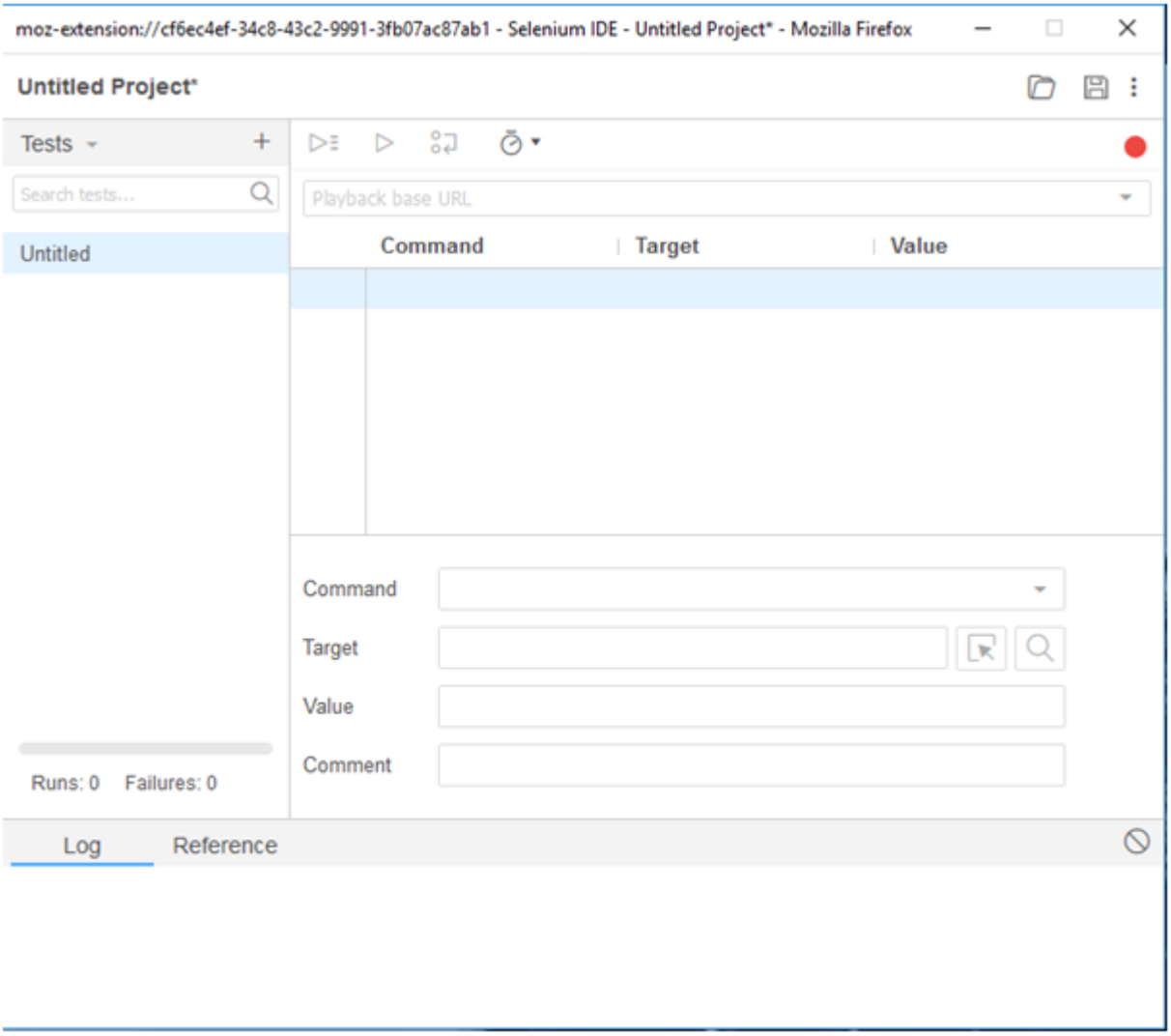
- A pop-up dialog box will appear asking you to add Selenium IDE as extension to your Firefox browser.
- Click on the "Add" button.



- Restart your Firefox browser.
- Go to the top right corner on your Firefox browser and look for the Selenium IDE icon.



- Click on that icon to launch Selenium IDE.



Selenium comprises of four tools:

1. Selenium IDE
2. Selenium RC
3. Selenium WebDriver
4. Selenium Grid

What is Selenium IDE?

Shinya Kasatani developed Selenium Integrated Development Environment (IDE) in 2006 as a Firefox plugin that helps create tests. IDE is an easy-to-use interface that records user interactions on the browser and exports them as a reusable script.

Advancements with New Selenium IDE

In 2017, Firefox upgraded to a new Firefox 55 version, which no longer supported Selenium IDE. Since then, the original version of Selenium IDE ceased to exist. However, Applitools rewrote the old Selenium IDE and released a new version recently.

This new version comes with several new advancements:

- Support for both Chrome and Firefox
- Improved locator functionality
- Parallel execution of tests using Selenium command line runner
- Provision for control flow statements
- Automatically waits for the page to load
- Supports embedded JavaScript code-runs
- IDE has a debugger which allows step execution, adding breakpoints
- Support for code exports

Working Principle of Selenium IDE

IDE works in three stages: recording, playing back and saving.

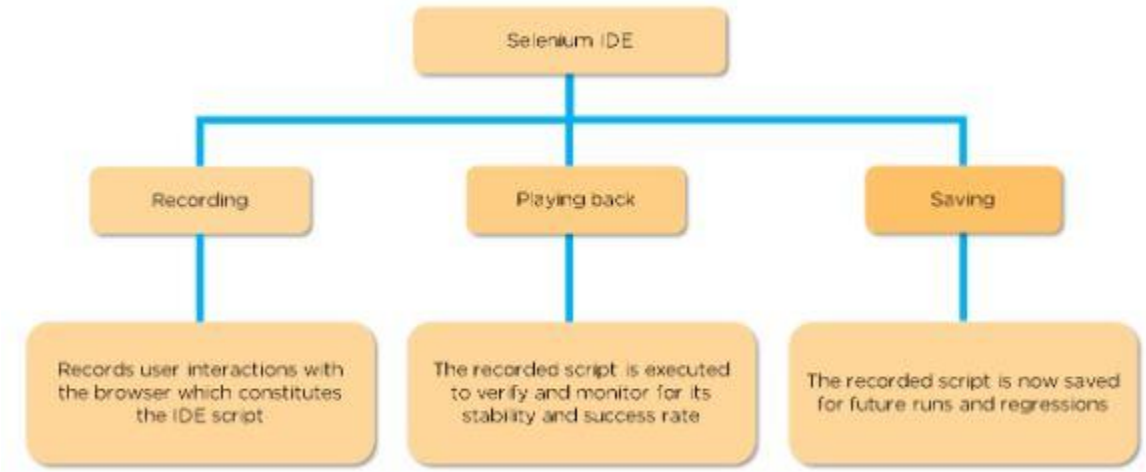


Fig: Selenium IDE working principle

In the next section, we'll learn about the three stages in detail, but before we begin, let's acquaint ourselves with the installation of IDE.

Recording

IDE allows the user to record all of the actions performed in the browser. These recorded actions as a whole are the test script.

Playing Back

The recorded script can now be executed to ensure that the browser is working accordingly. Now, the user can monitor the stability and success rate.

Saving

The recorded script is saved with a ".side" extension for future runs and regressions.

Installation of Selenium IDE

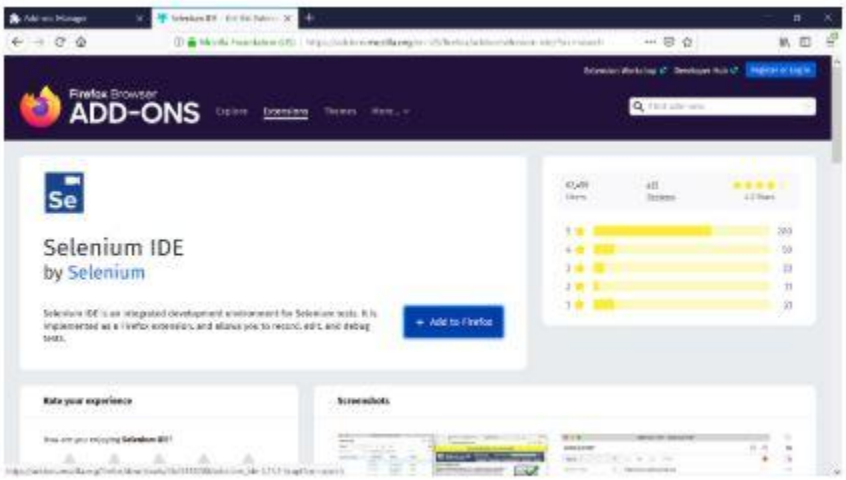
Step 1- Open the Firefox browser.

Step 2- Click on the menu in the top right corner.

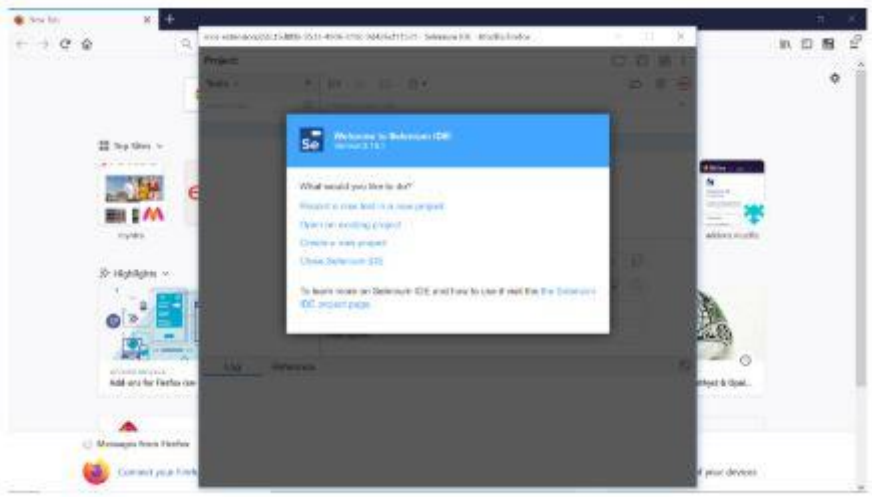
Step 3- Click on Add-ons in the drop-down box.

Step 4- Click on find more add-ons and type "Selenium IDE."

Step 5- Click on Add to Firefox



Once installed, the Selenium IDE icon appears on the top right corner of the browser. When clicked, a Welcome message appears.



Now that we went through the installation, let's create our first test. Consider the following use case for the tutorial:

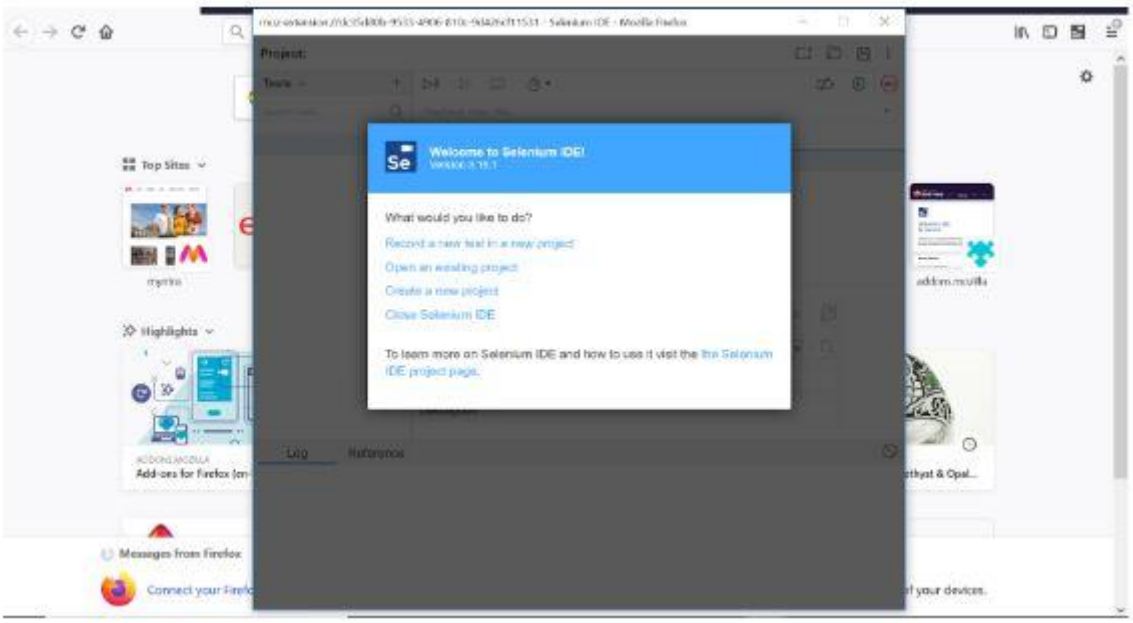
- Navigate to https://www.facebook.com
- Provide a dummy userID and password
- Log in with these credentials
- Assert title of the application

A Simple Demo

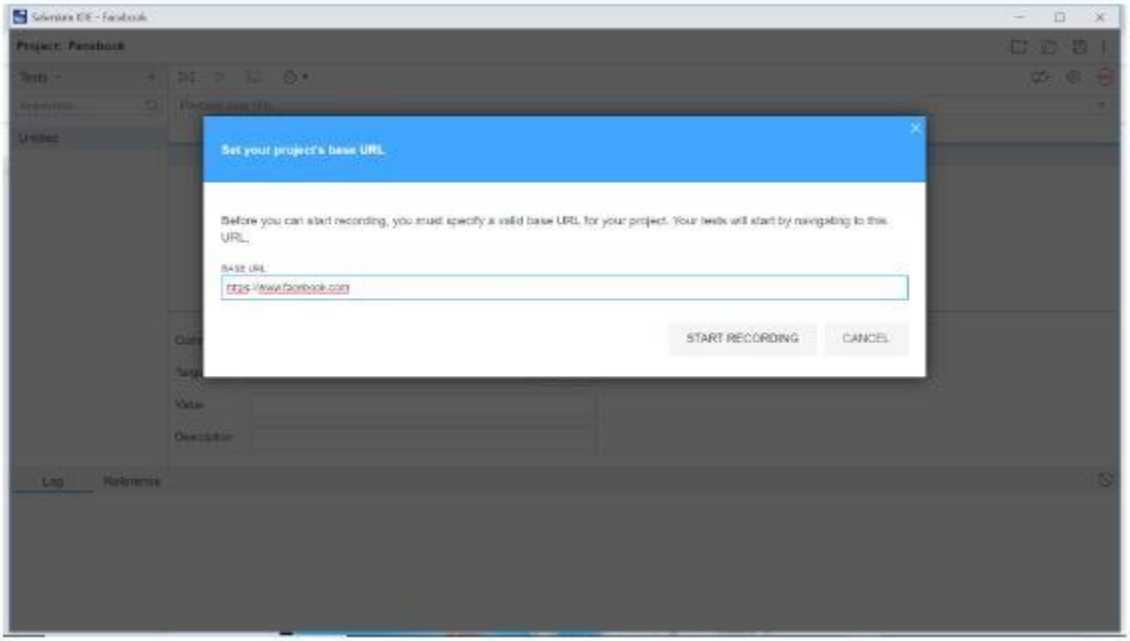
Recording

Step 1 - Launch your Firefox menu and open the Selenium IDE plugin.

Step 2 - Select "Record a test in a new project." Provide the name for your test.



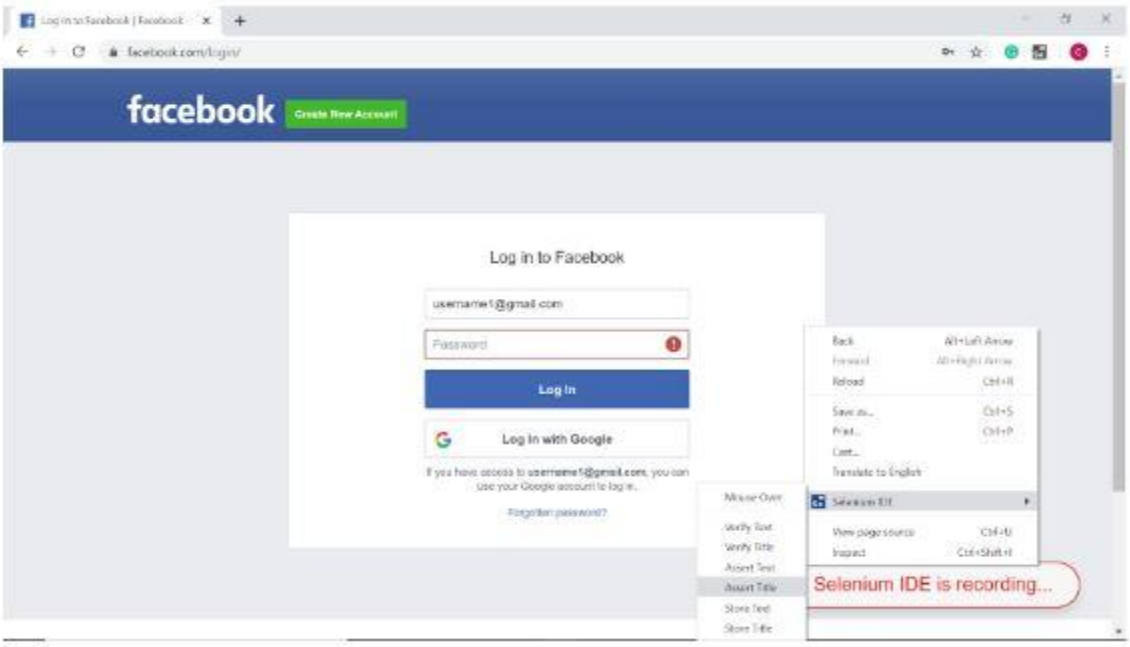
Step 3 - Provide a link to the Facebook webpage. The IDE starts recording by navigating to this web page. To continue, click on, OK.



Step 4 - Once the website opens, type “username1” in the username field and a dummy password for the password field.

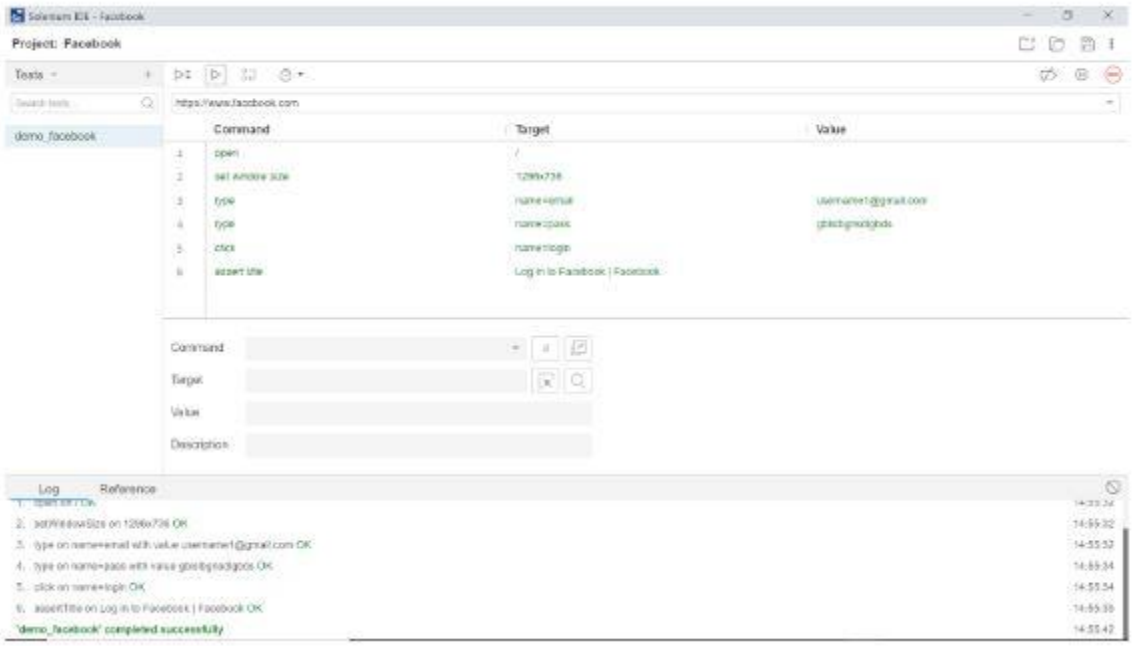
Step 5 - Click on “Log In.”

Step 6 - Now, we verify the title of our application. To do that, Right click>>Selenium IDE>>Assert title. As soon as this is done, a test step would be appended in the IDE editor.



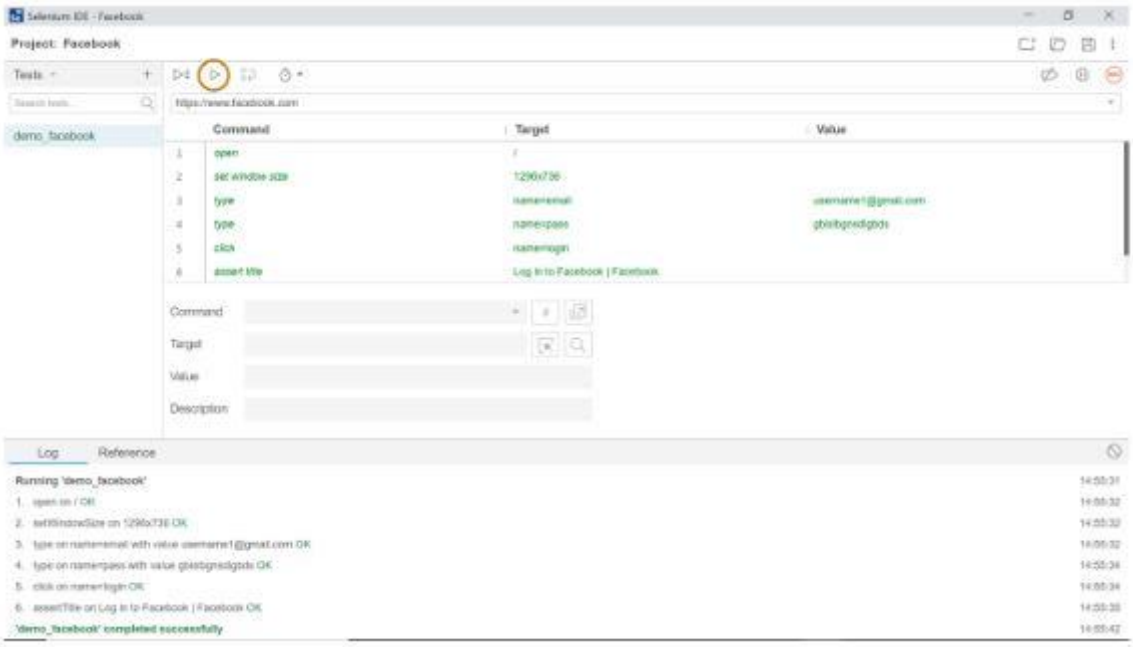
Now you can go back to the IDE editor and click on the Stop icon on the top right corner. With this, we've successfully recorded our test case.

Once the recording is stopped, the editor will look something like this:



Playing Back

Now that the recording is done, we can play it back to verify if the script executes correctly and the browser behaves accordingly. To do this, we can click on the play icon on the menu bar.



The commands successfully executed are color-coded in green, and the log at the bottom indicates any errors that occurred during the execution. If the script runs successfully, it indicates this by displaying a message.

Saving

Once the test script is successfully executed, you can then save it.

Once clicked, you can browse the location and save it in an appropriate folder. The project is stored with a ".side" extension — this can be used for future runs and regressions.

Re-usability of Test Scripts

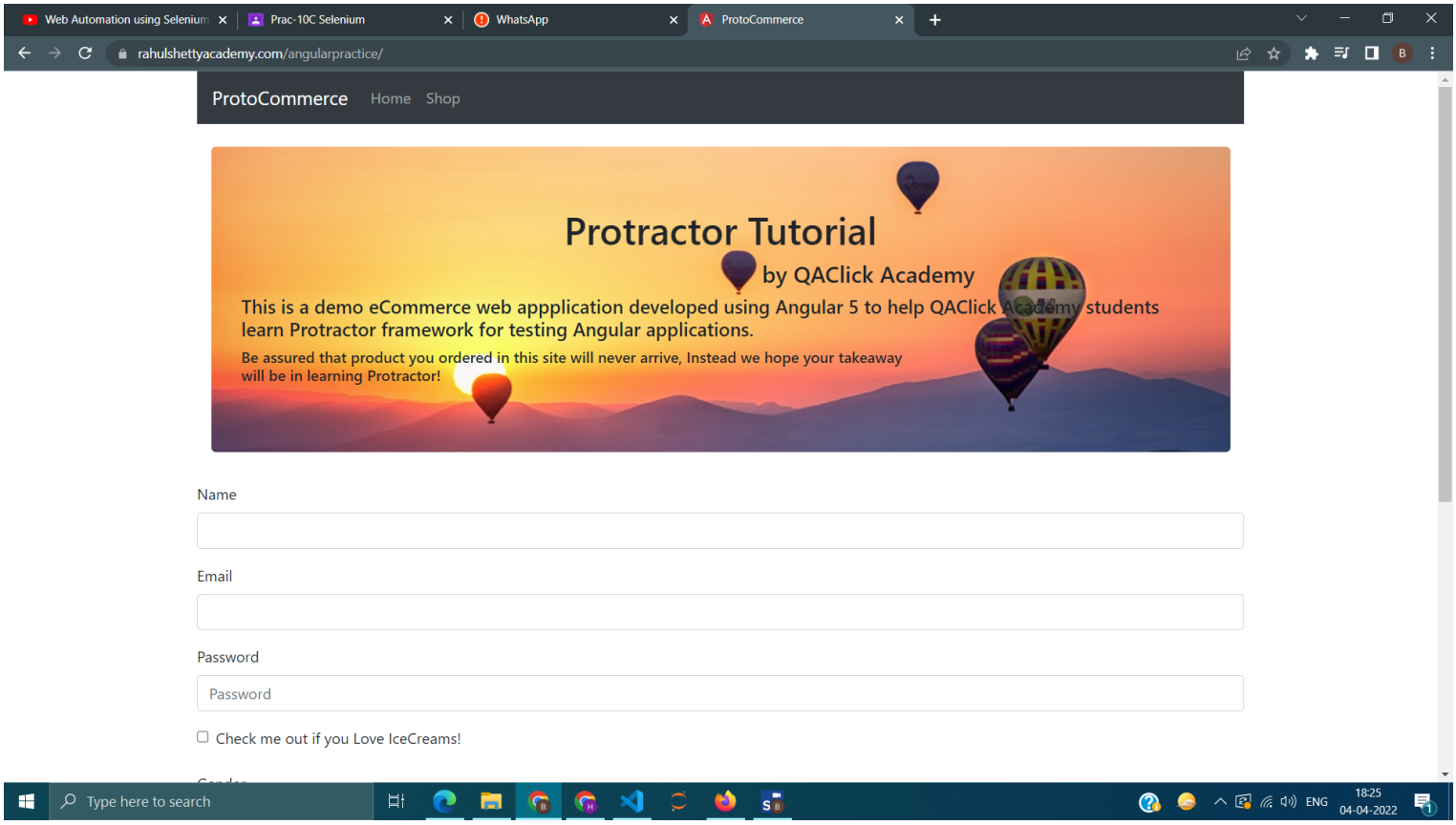
Many of the test scripts in the original version required signing into an application, creating an account, or signing out of an app. As you may see, this is redundant and a waste of time to recreate these test steps over and over. Thankfully, the new Selenium IDE allows one script to run another.

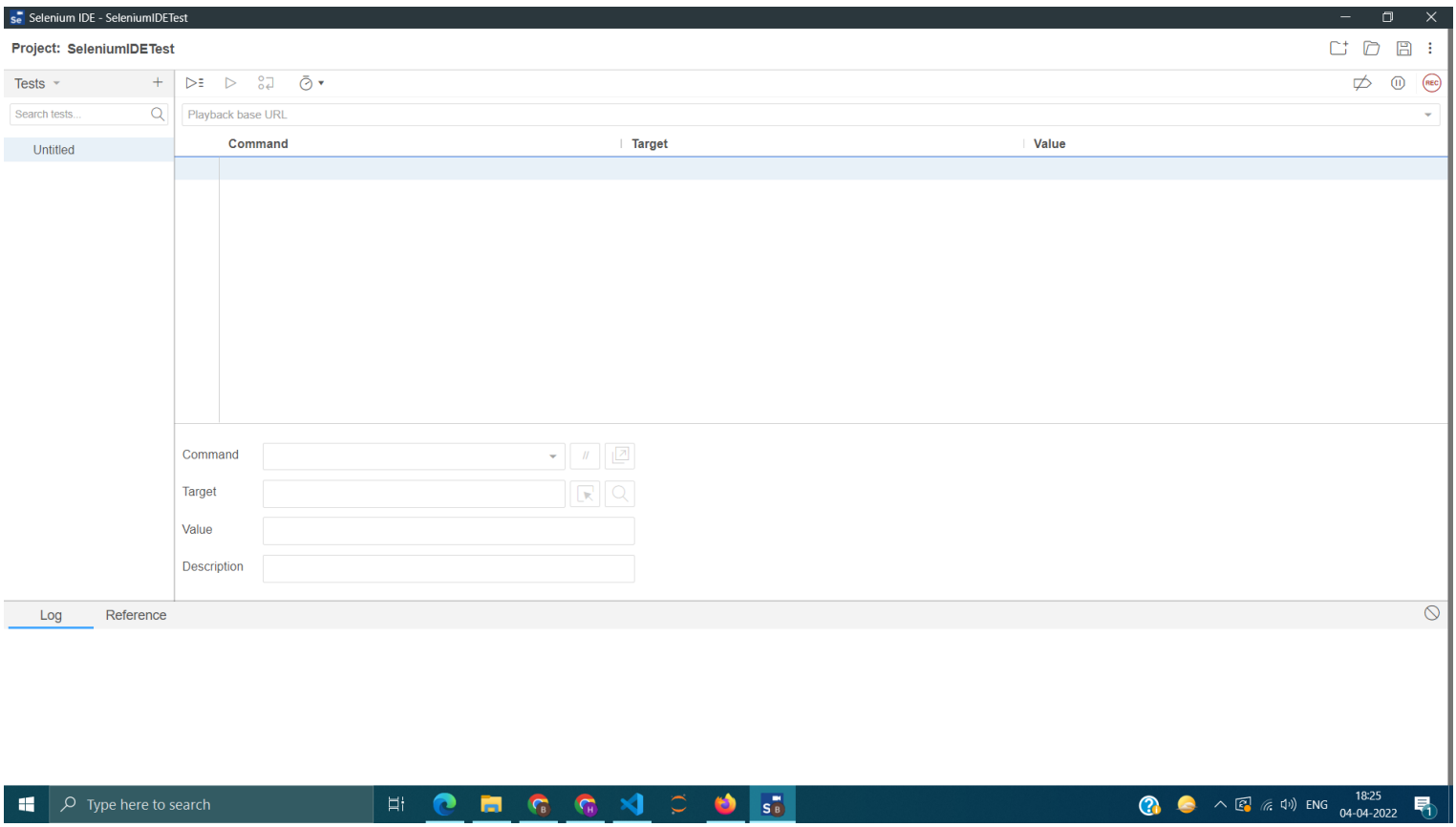
Performing web Automation testing using Selenium→

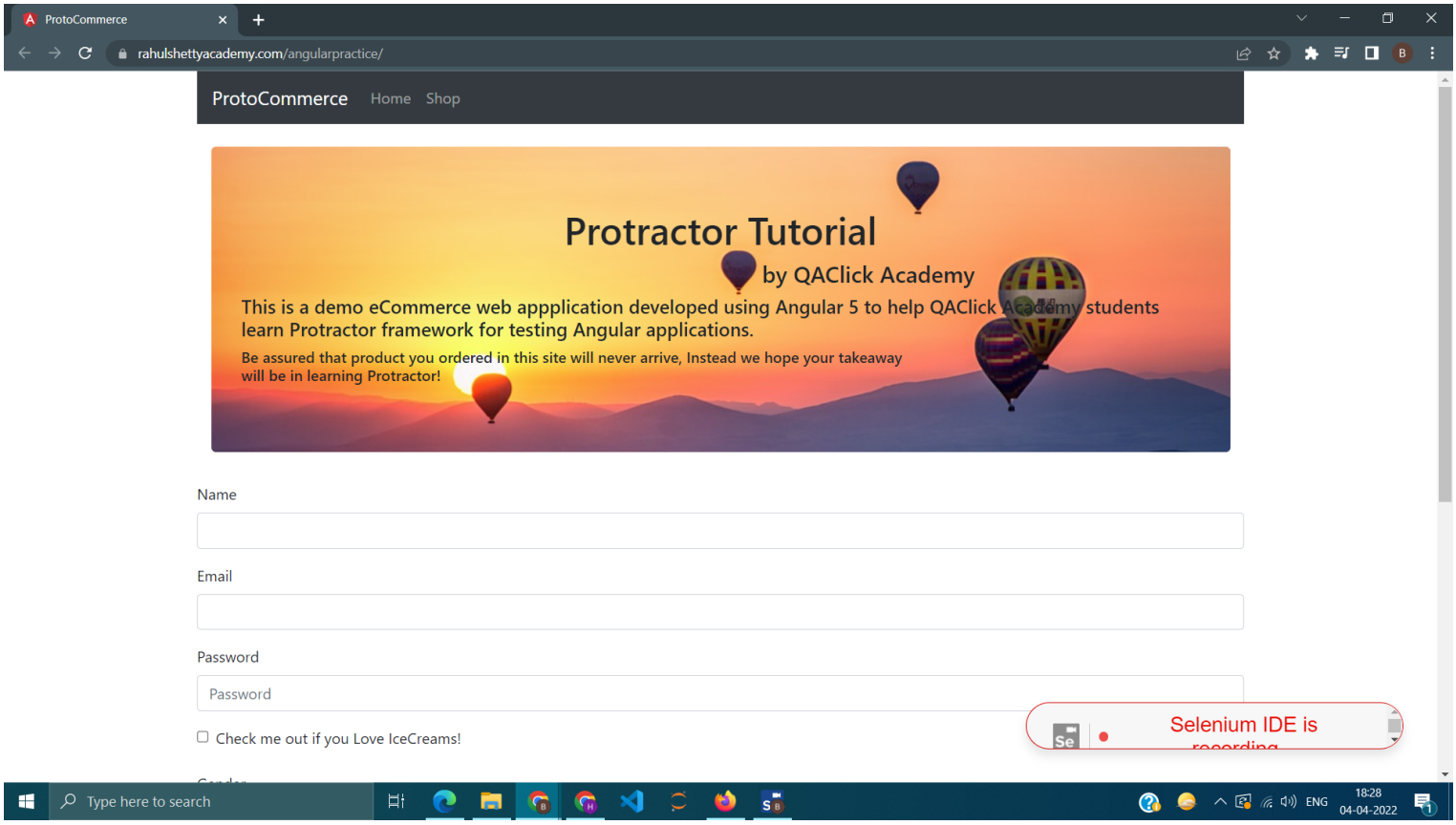
Website taken→ rahulshettyacademy.com/angularpractice/

This website contains a form with several input fields which need to be filled.

- Launch Firefox browser.
- Click on the Selenium icon present on the top right corner of your browser.
- It will launch the default interface of Selenium IDE.
- Go to your Firefox browser and open URL: https://www.testandquiz.com/
- Enter the project name as "Login Test".
- Enter the test case name as "Test Case 1".
- Click on the "Start Recording" button to start the recording of the test case.

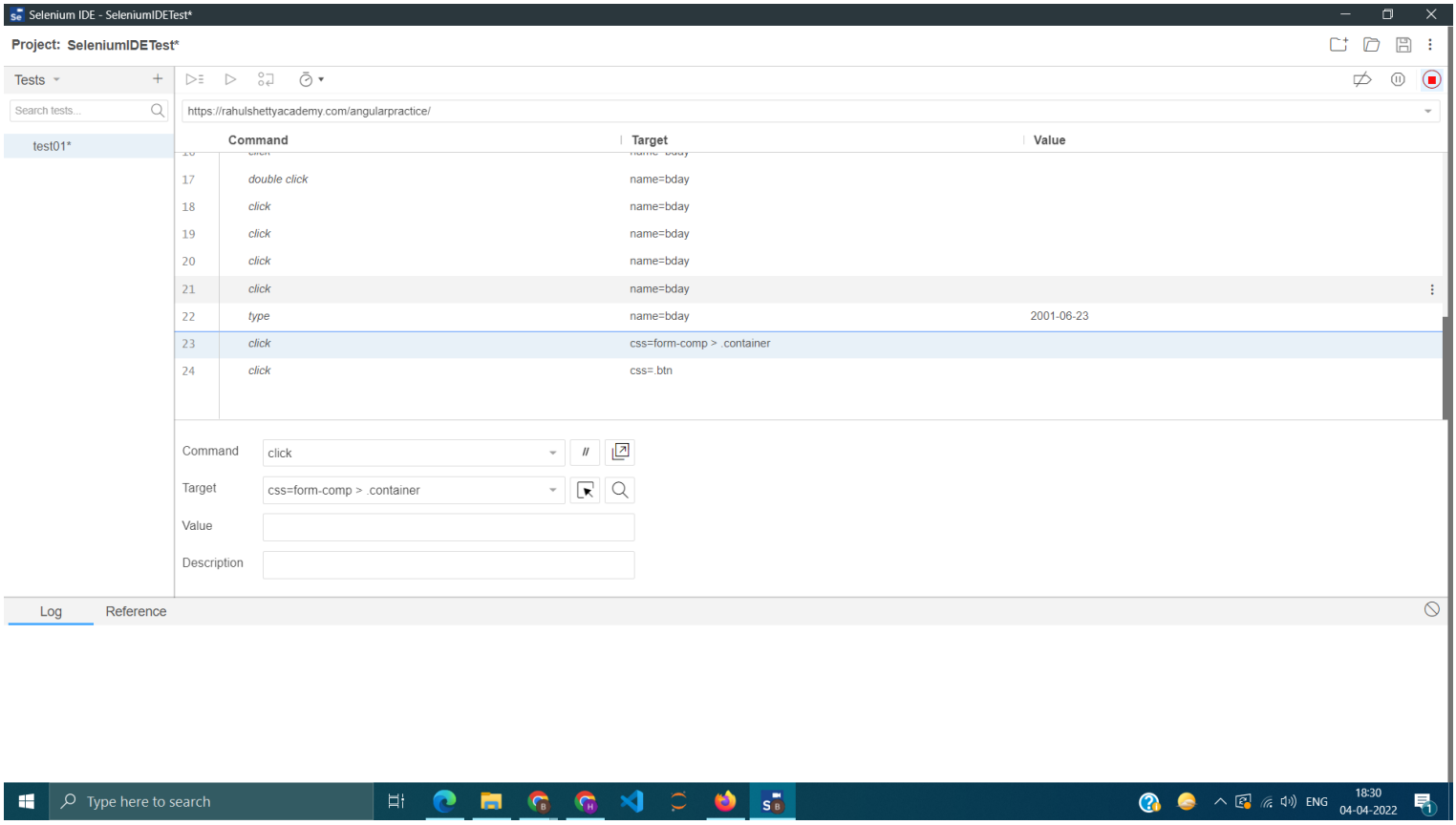

Web Automation using Selenium
Prac-10C Selenium
WhatsApp
ProtoCommerce
rahulshettyacademy.com/angularpractice/
ProtoCommerce
Home
Shop
Protractor Tutorial
by QAClick Academy
This is a demo eCommerce web appplication developed using Angular 5 to help QAClick Academy students learn Protractor framework for testing Angular applications.
Be assured that product you ordered in this site will never arrive, Instead we hope your takeaway will be in learning Protractor!
Name
Email
Password
Password
Check me out if you Love IceCreams!
Type here to search
ENG
18:25
04-04-2022

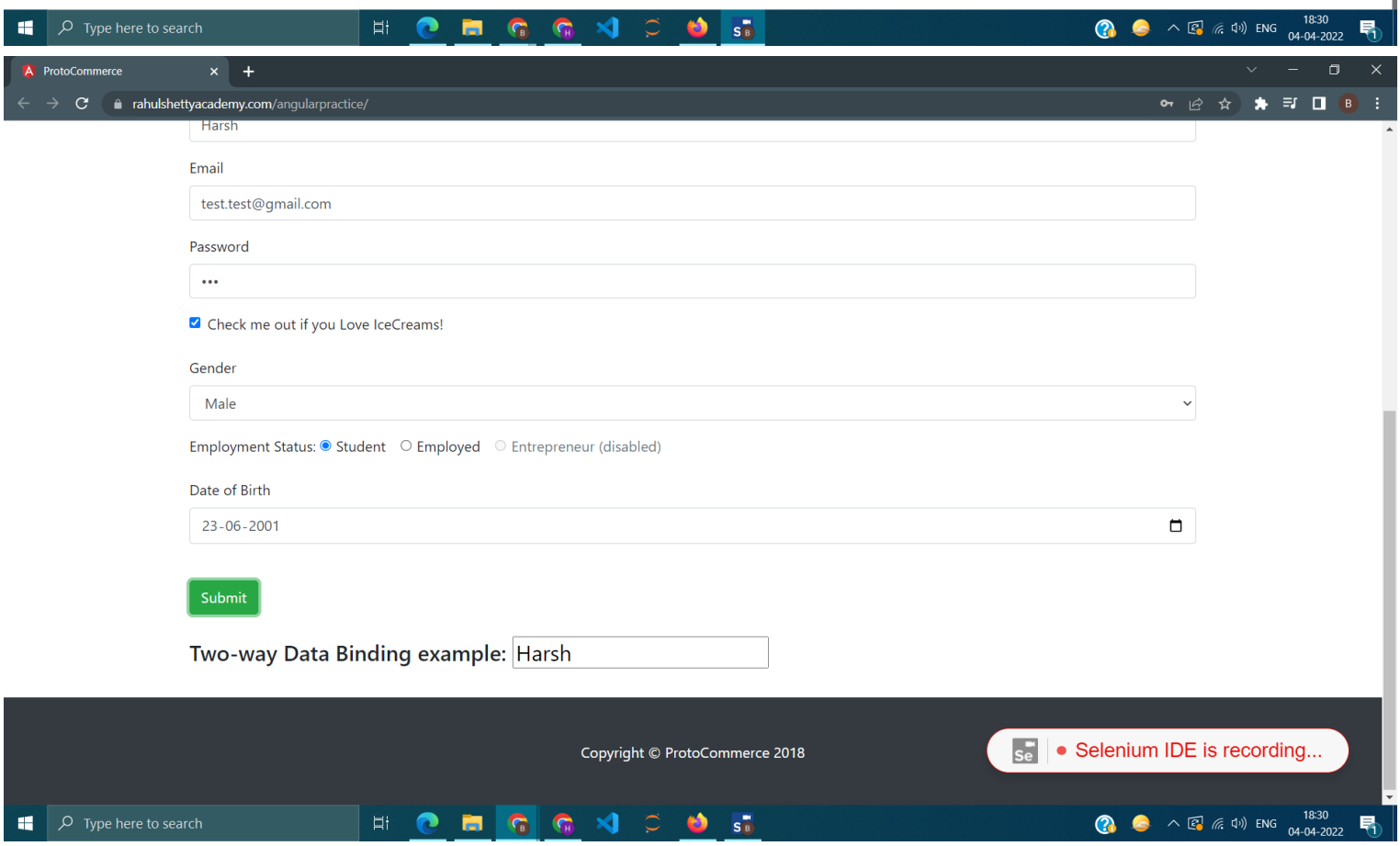

Selenium IDE - SeleniumIDETest
Project: SeleniumIDETest
Tests
Search tests...
Untitled
Playback base URL
Command
Target
Value
Command
Target
Value
Description
Log
Reference
Type here to search
ENG
18:25
04-04-2022

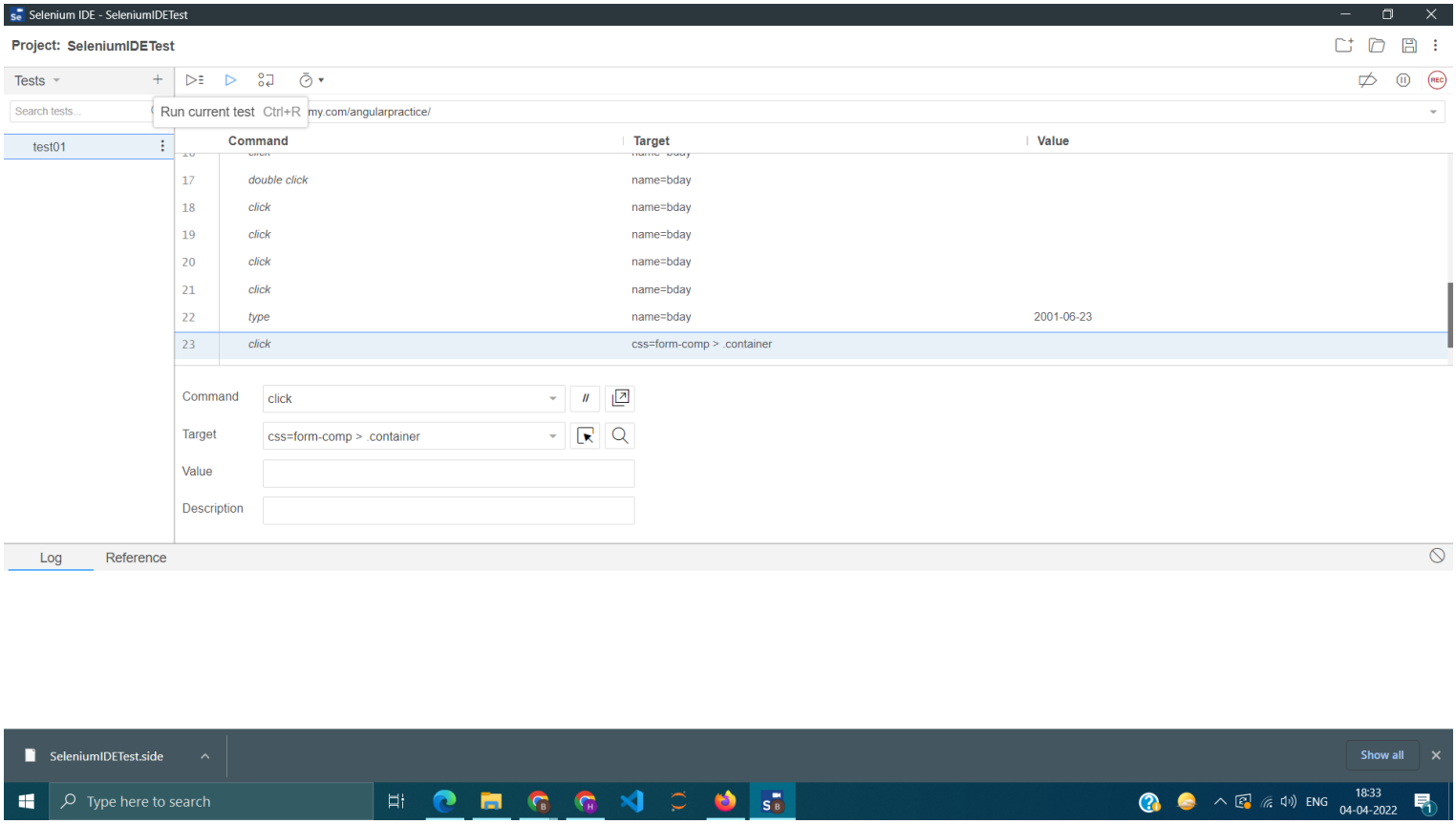


Playing Back

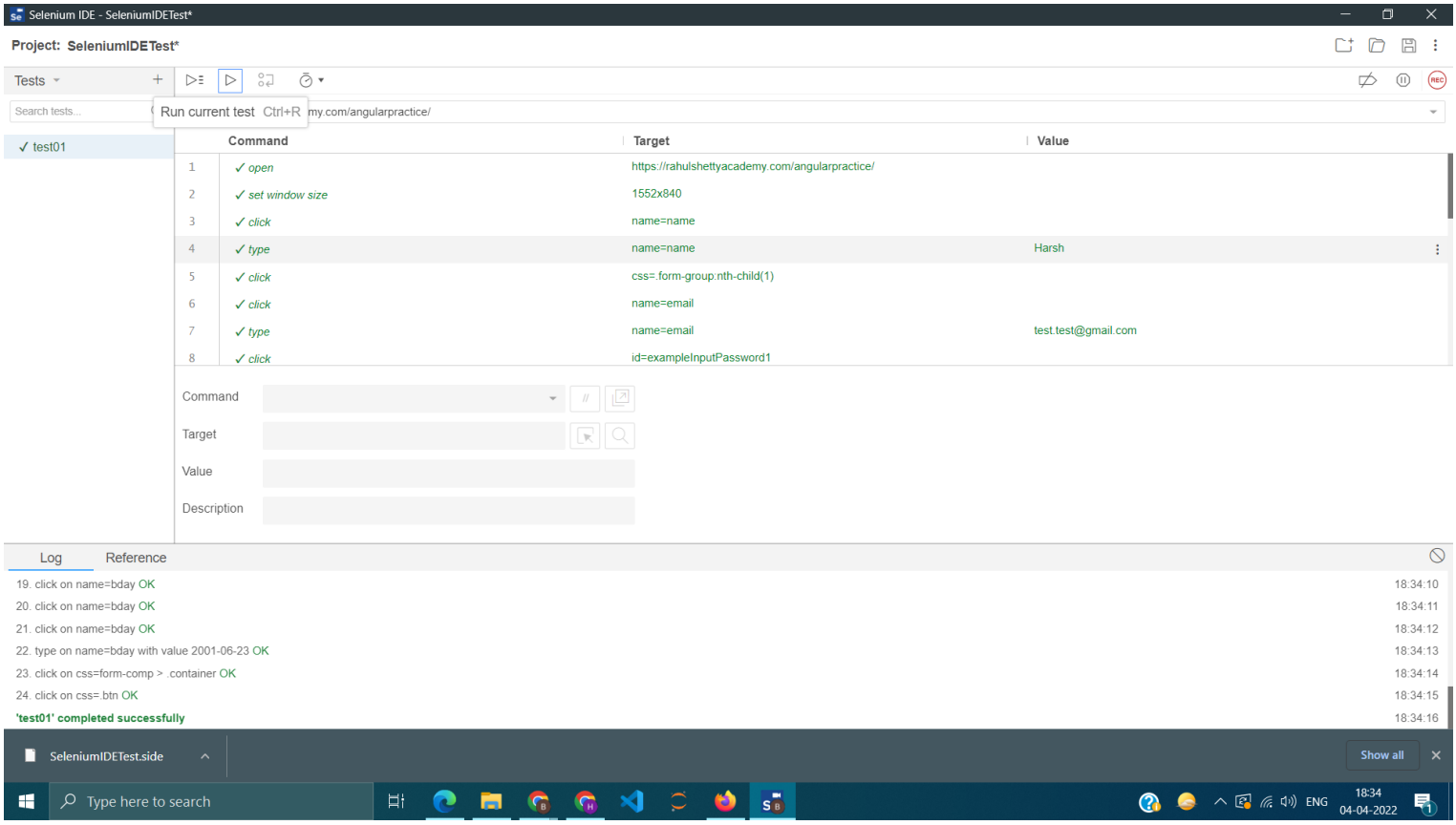
- Click on the "Run Current Test" button present on the toolbar menu of the IDE. It will execute all of your interactions with the browser and give you an overall summary of the executed test script.
- The Log pane displays the overall summary of the executed test scripts.
- Click on the save button present on the extreme right corner of the menu bar.
- Save the entire test suite as "Login Test".
- The test suite can be found at the location provided in the above steps.

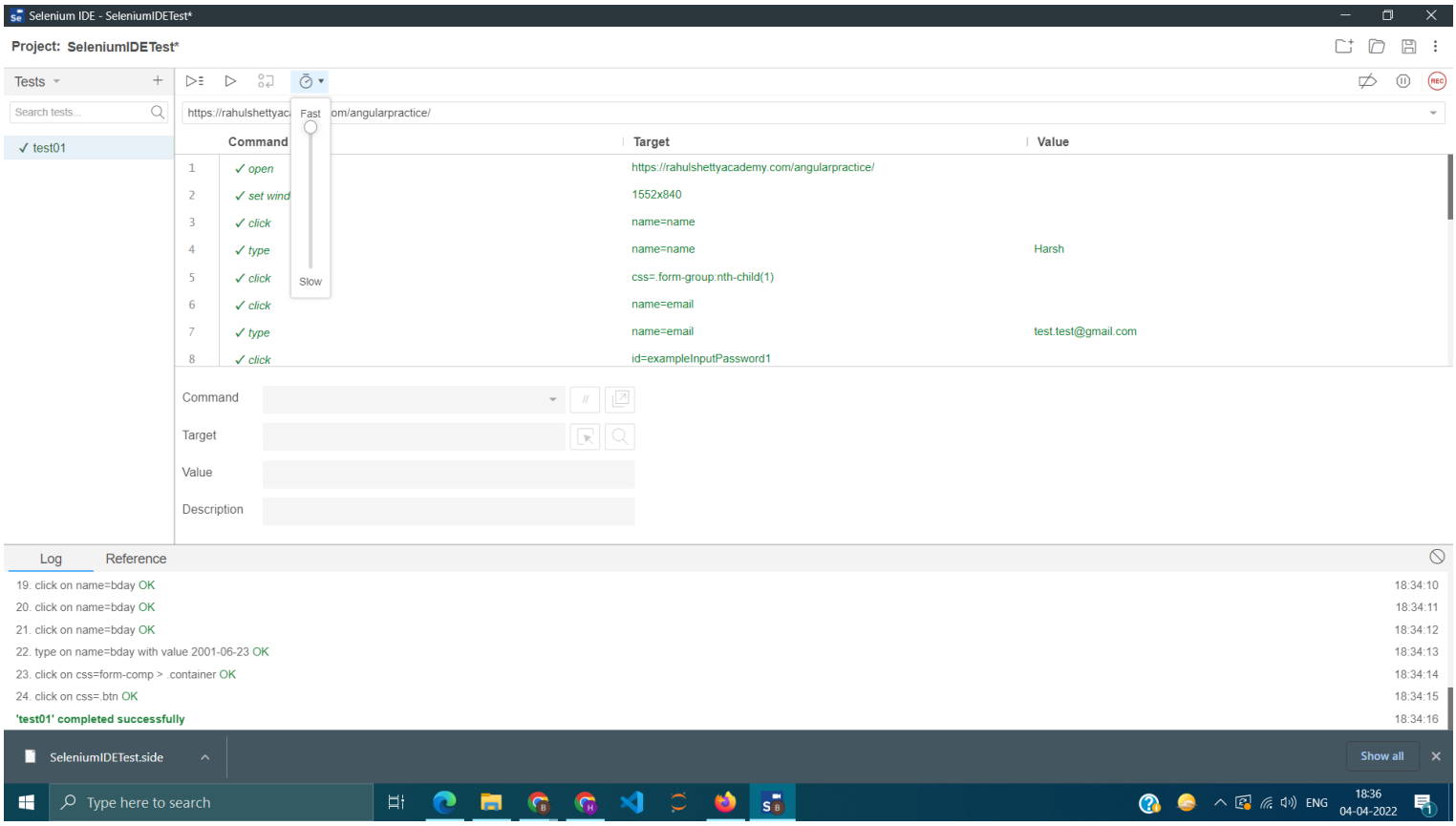

Selenium IDE - SeleniumIDETest*
Project: SeleniumIDETest*
Tests
Search tests...
test01*
https://rahulshettyacademy.com/angularpractice/
Command
Target
Value
17 double click name=bday
18 click name=bday
19 click name=bday
20 click name=bday
21 click name=bday
22 type name=bday 2001-06-23
23 click css=form-comp > .container
24 click css=.btn
Command click
Target css=form-comp > .container
Value
Description
Log
Reference


ProtoCommerce
rahulshettyacademy.com/angularpractice/
Harsh
Email
test.test@gmail.com
Password
Check me out if you Love IceCreams!
Gender
Male
Employment Status: Student Employed Entrepreneur (disabled)
Date of Birth
23-06-2001
Submit
Two-way Data Binding example: Harsh
Copyright © ProtoCommerce 2018
Selenium IDE is recording...

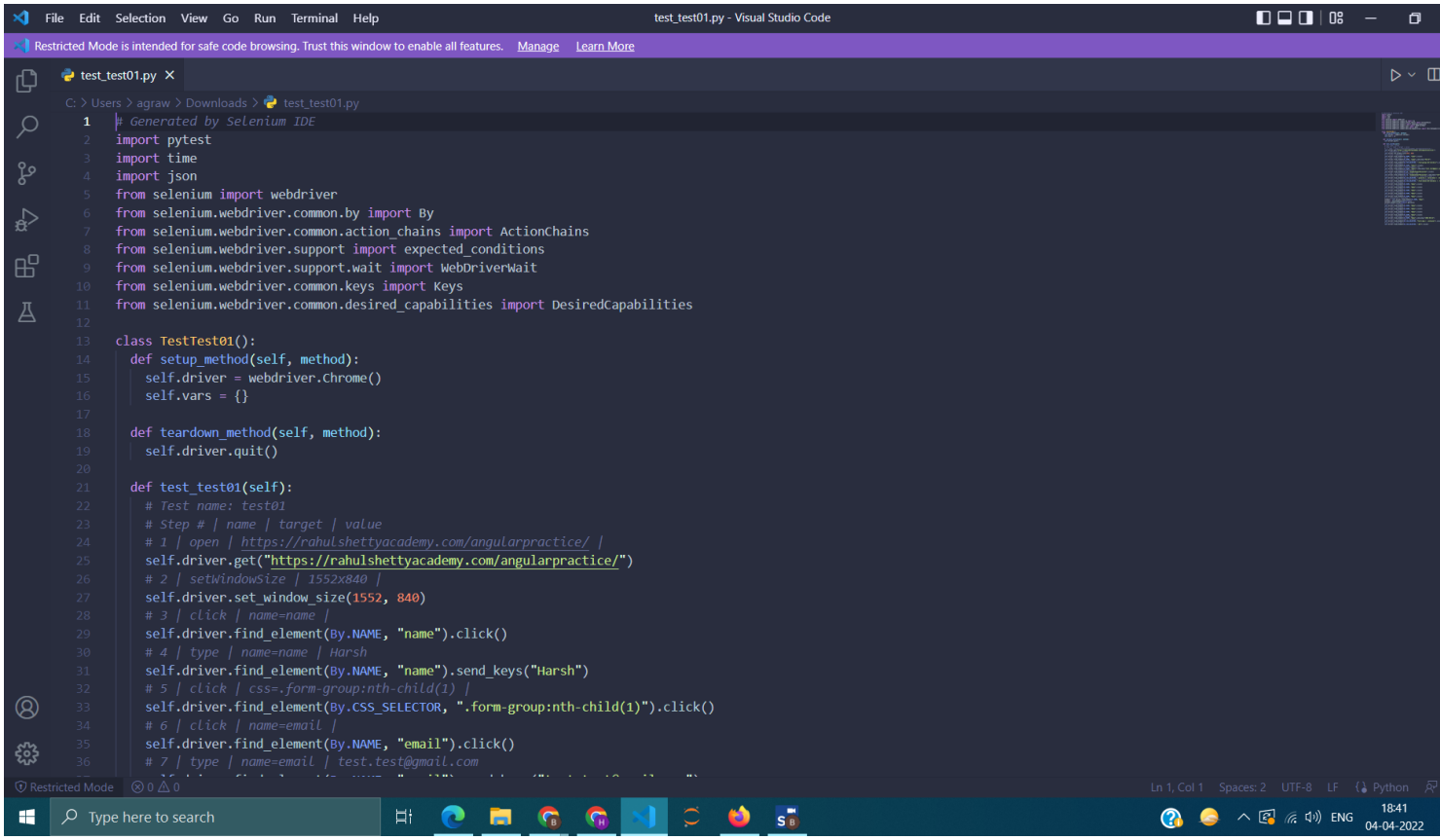

Selenium IDE - SeleniumIDETest
Project: SeleniumIDETest
Tests
Search tests...
Run current test Ctrl+R
my.com/angularpractice/
test01
Command
Target
Value
17 double click name=bday
18 click name=bday
19 click name=bday
20 click name=bday
21 click name=bday
22 type name=bday 2001-06-23
23 click css=form-comp > .container
Command click
Target css=form-comp > .container
Value
Description
Log
Reference

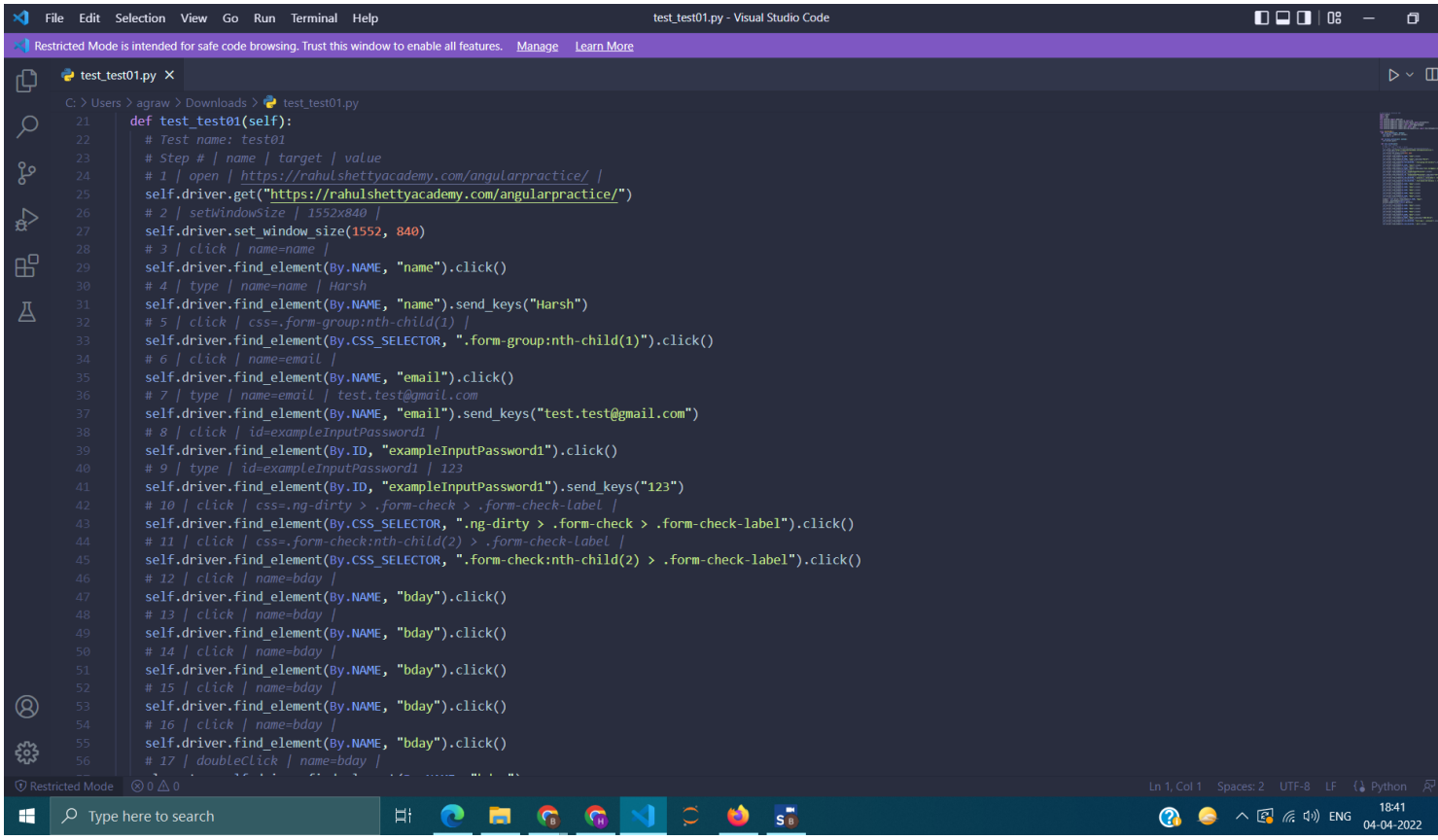
SeleniumIDETest.side
Show all
Type here to search
ENG
18:33
04-04-2022

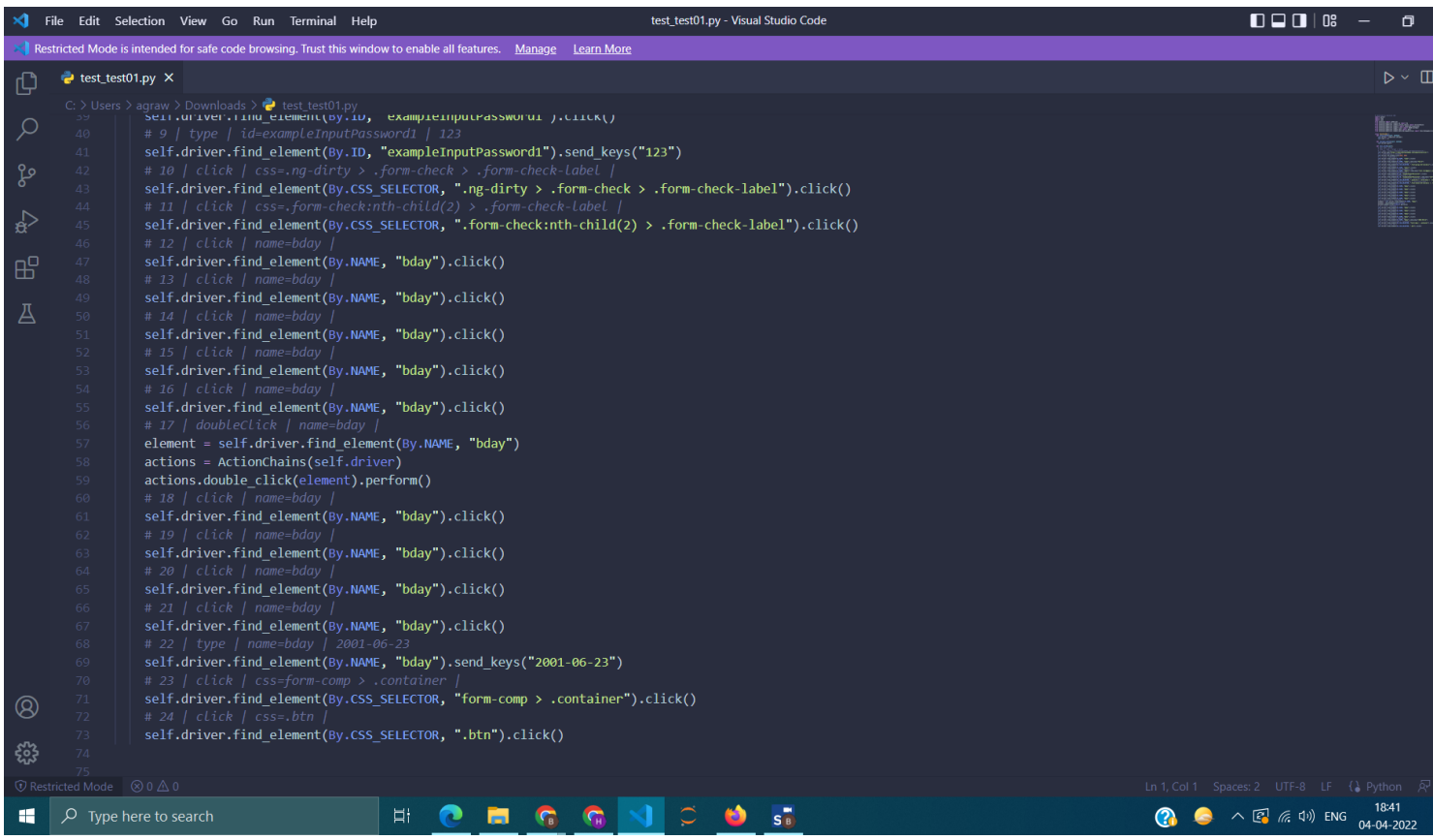




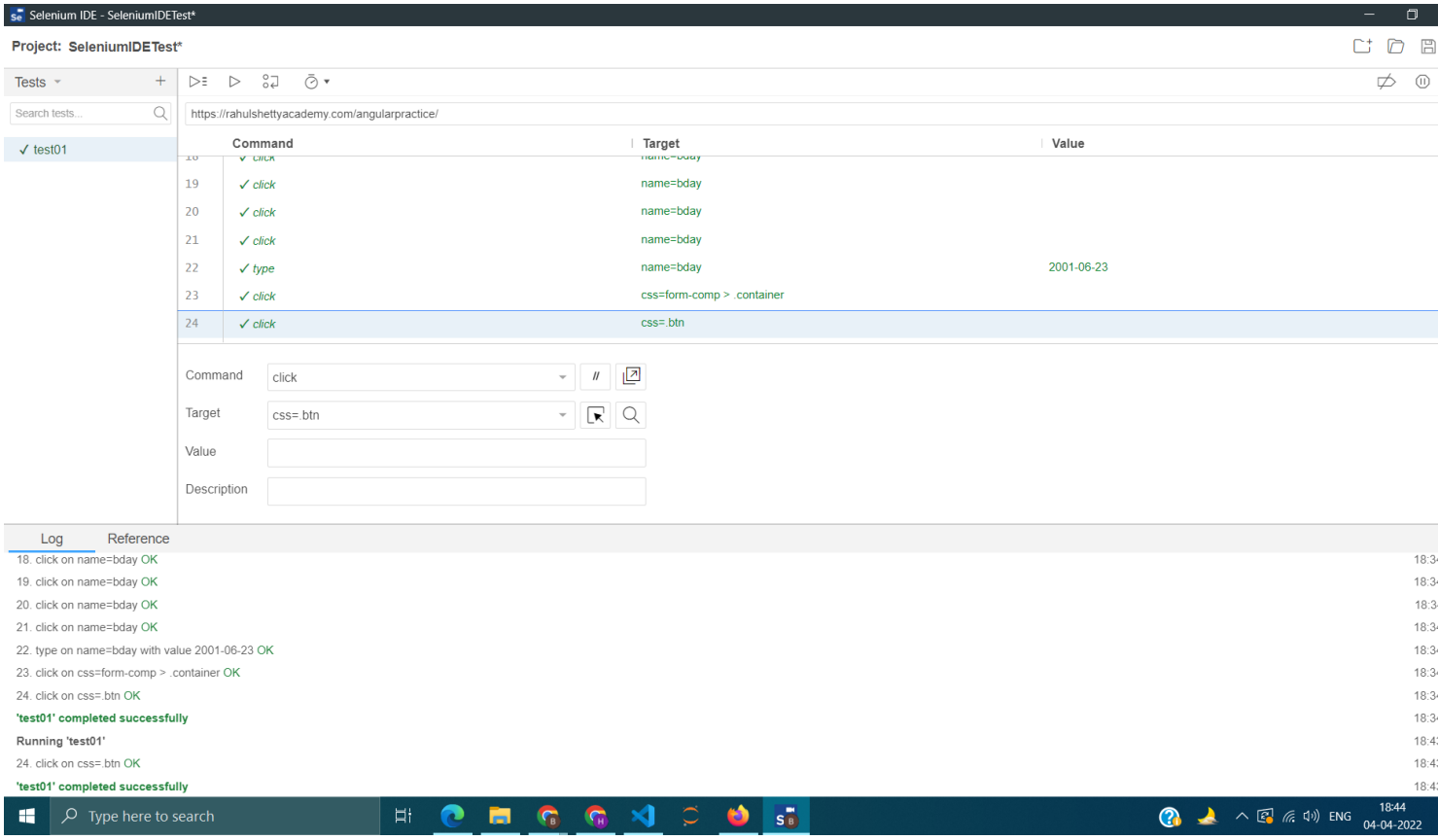
- We can download the code and save it in any programming language of our choice. Here we have saved the code in python language with file name set default as test_test01.py. The code contains the complete description of all the test cases with the required corresponding output. The form data is saved as key value pairs with driver find element to get the key and correspondingly send_keys to get the values which were filed by us during the recording.

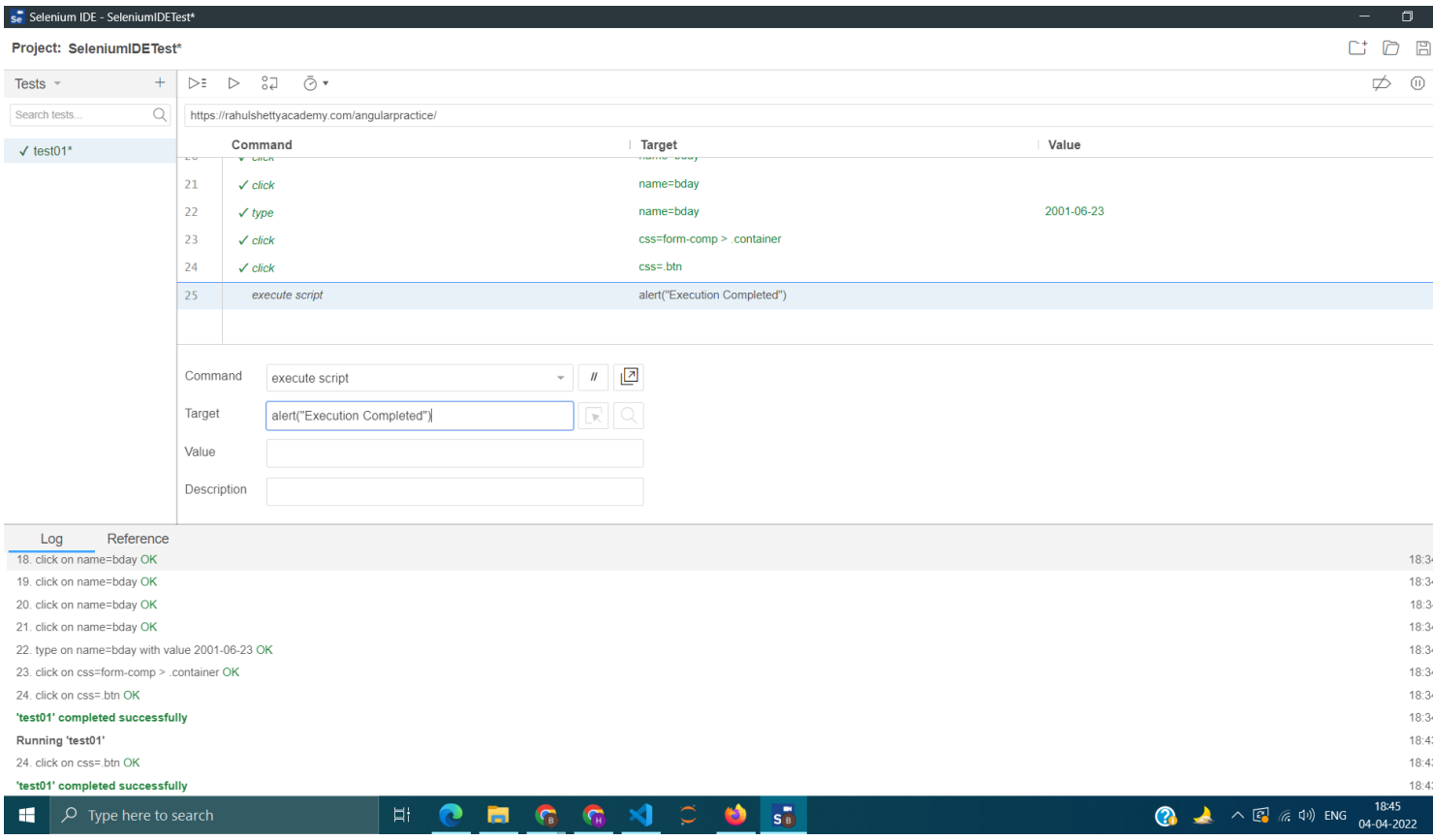

File Edit Selection View Go Run Terminal Help
test_test01.py - Visual Studio Code
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More
test_test01.py
C: > Users > agraw > Downloads > test_test01.py
# Generated by Selenium IDE
import pytest
import time
import json
from selenium import webdriver
from selenium.webdriver.common.by import By
from selenium.webdriver.common.action_chains import ActionChains
from selenium.webdriver.support import expected_conditions
from selenium.webdriver.support.wait import WebDriverWait
from selenium.webdriver.common.keys import Keys
from selenium.webdriver.common.desired_capabilities import DesiredCapabilities
class TestTest01():
def setup_method(self, method):
self.driver = webdriver.Chrome()
self.vars = {}
def teardown_method(self, method):
self.driver.quit()
def test_test01(self):
# Test name: test01
# Step # | name | target | value
# 1 | open | https://rahulshettyacademy.com/angularpractice/ |
self.driver.get("https://rahulshettyacademy.com/angularpractice/")
# 2 | setWindowSize | 1552x840 |
self.driver.set_window_size(1552, 840)
# 3 | click | name=name |
self.driver.find_element(By.NAME, "name").click()
# 4 | type | name=name | Harsh
self.driver.find_element(By.NAME, "name").send_keys("Harsh")
# 5 | click | css=.form-group:nth-child(1) |
self.driver.find_element(By.CSS_SELECTOR, ".form-group:nth-child(1)").click()
# 6 | click | name=email |
self.driver.find_element(By.NAME, "email").click()
# 7 | type | name=email | test.test@gmail.com
Restricted Mode
Ln 1, Col 1 Spaces: 2 UTF-8 LF Python
Type here to search
ENG
18:41
04-04-2022

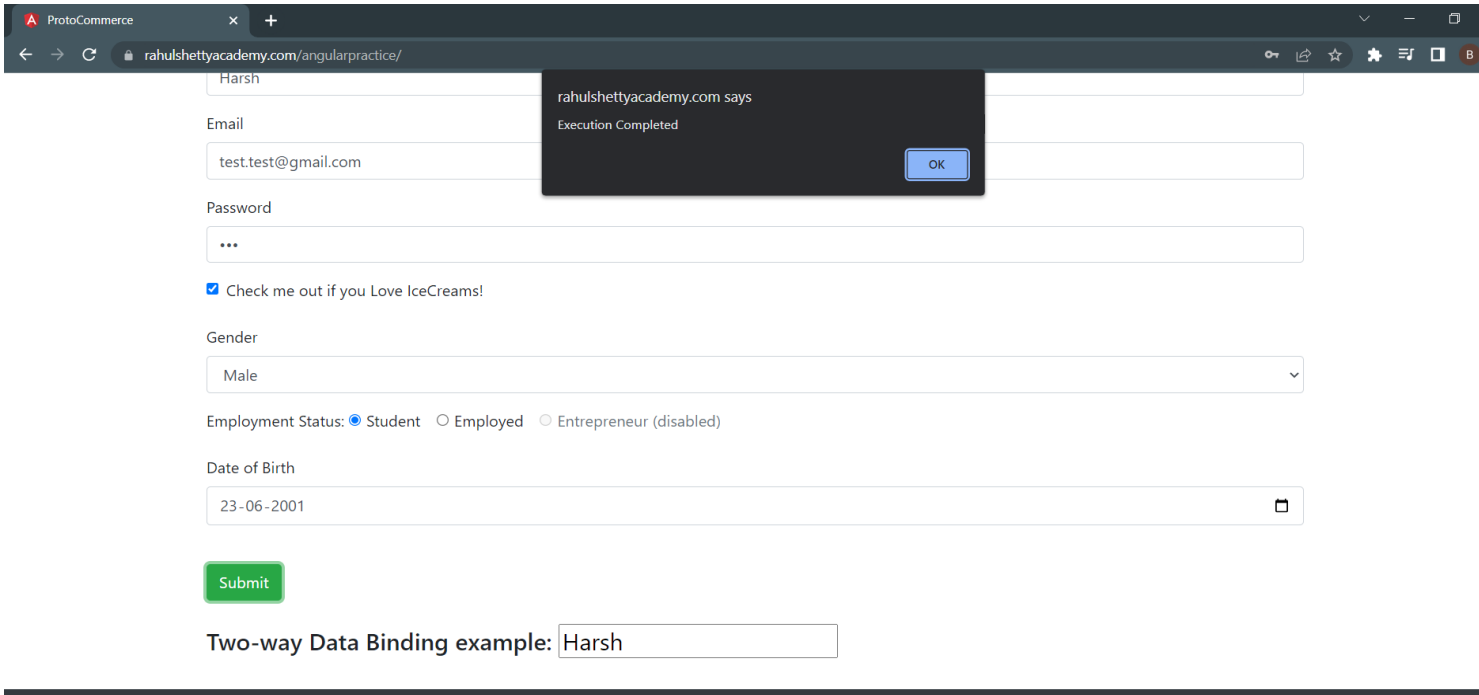


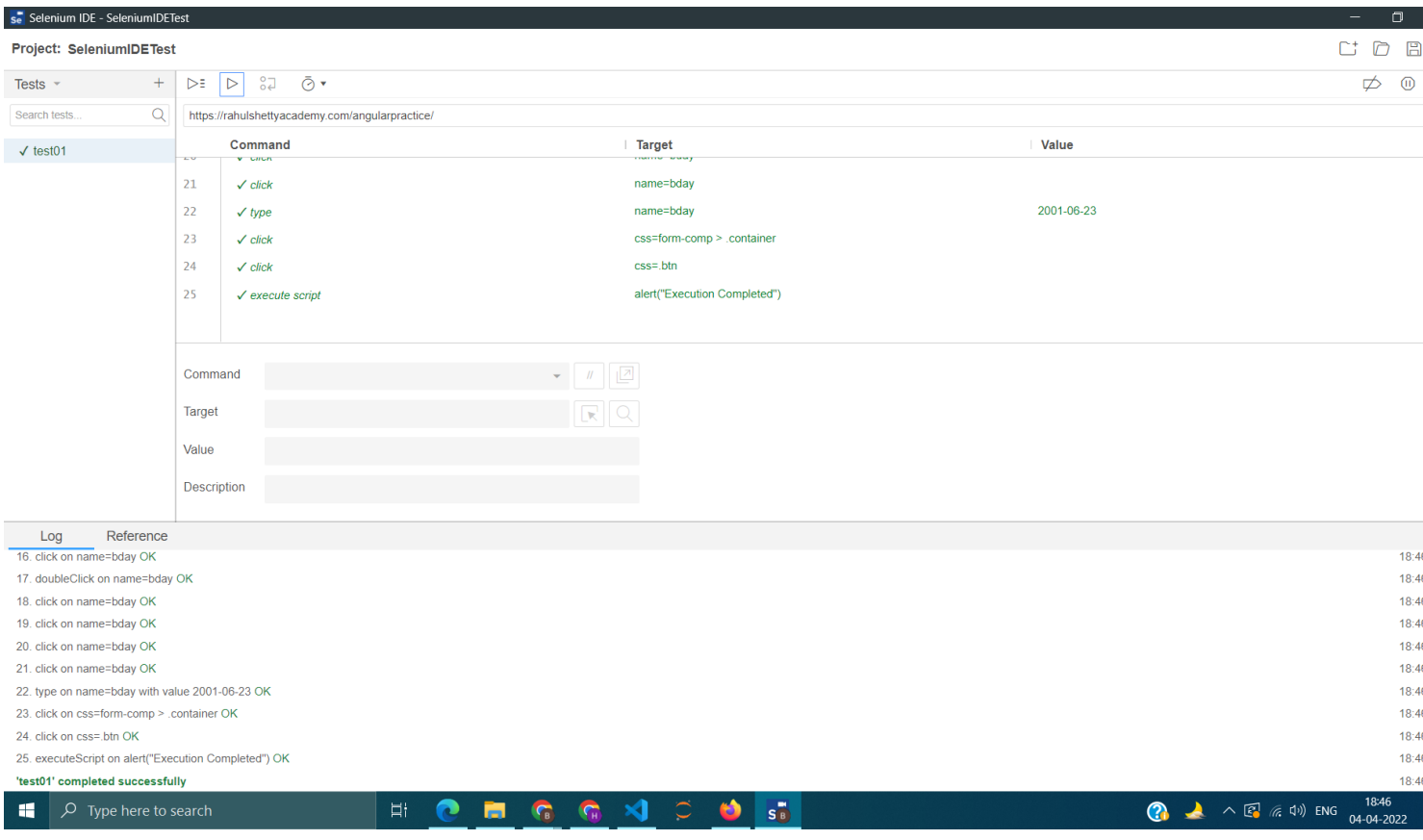


- We can add a new command to the list of commands provided with the proper description of target, value and description. Here everything would be done in the javascript programming language. The command name is execute script and target is an alert box with a message saying execution completed. Now this command would also be executed when the recording would be run again.


Selenium IDE - SeleniumIDETest*
Project: SeleniumIDETest*
Tests
Search tests...
test01
https://rahulshettyacademy.com/angularpractice/
Command
Target
Value
19 click name=bday
20 click name=bday
21 click name=bday
22 type name=bday 2001-06-23
23 click css=form-comp > .container
24 click css=.btn
Command click
Target css=.btn
Value
Description
Log
Reference
18. click on name=bday OK
19. click on name=bday OK
20. click on name=bday OK
21. click on name=bday OK
22. type on name=bday with value 2001-06-23 OK
23. click on css=form-comp > .container OK
24. click on css=.btn OK
'test01' completed successfully
Running 'test01'
24. click on css=.btn OK
'test01' completed successfully
Type here to search
ENG
18:44
04-04-2022


Selenium IDE - SeleniumIDETest*
Project: SeleniumIDETest*
Tests
Search tests...
test01*
https://rahulshettyacademy.com/angularpractice/
Command
Target
Value
21 click name=bday
22 type name=bday 2001-06-23
23 click css=form-comp > .container
24 click css=.btn
25 execute script alert("Execution Completed")
Command execute script
Target alert("Execution Completed")
Value
Description
Log
Reference
18. click on name=bday OK
19. click on name=bday OK
20. click on name=bday OK
21. click on name=bday OK
22. type on name=bday with value 2001-06-23 OK
23. click on css=form-comp > .container OK
24. click on css=.btn OK
'test01' completed successfully
Running 'test01'
24. click on css=.btn OK
'test01' completed successfully
Type here to search
ENG
18:45
04-04-2022





All the test cases are passed successfully with additional test cases added.

THE END!!