

ATTACK DEFENSE

by PentesterAcademy

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Name	Selenium: Automation with Browser Plugin
URL	https://attackdefense.com/challengedetails?cid=2342
Type	DevOps Basics: Testing

Important Note: This document illustrates all the important steps required to complete this lab. This is by no means a comprehensive step-by-step solution for this exercise. This is only provided as a reference to various commands needed to complete this exercise and for your further research on this topic. Also, note that the IP addresses and domain names might be different in your lab.

Challenge Description

Selenium is an open-source web application testing framework for automating functional tests.

Selenium IDE is an IDE (Integrated Development Environment) for Selenium tests. It is implemented as a Firefox/Chrome extension that allows a user to record, edit, and debug tests.

Selenium IDE extension is installed in the Firefox browser of the lab Kali (kali-gui) machine.

A WordPress (wordpress) instance is also present in the lab. The credentials provided below can be used to log in to the WordPress portal:

Username	Password
admin	@mY_W0rdPr3SS_p@ssw0rd@102938

Objective: Automate the following activities using the Selenium IDE.

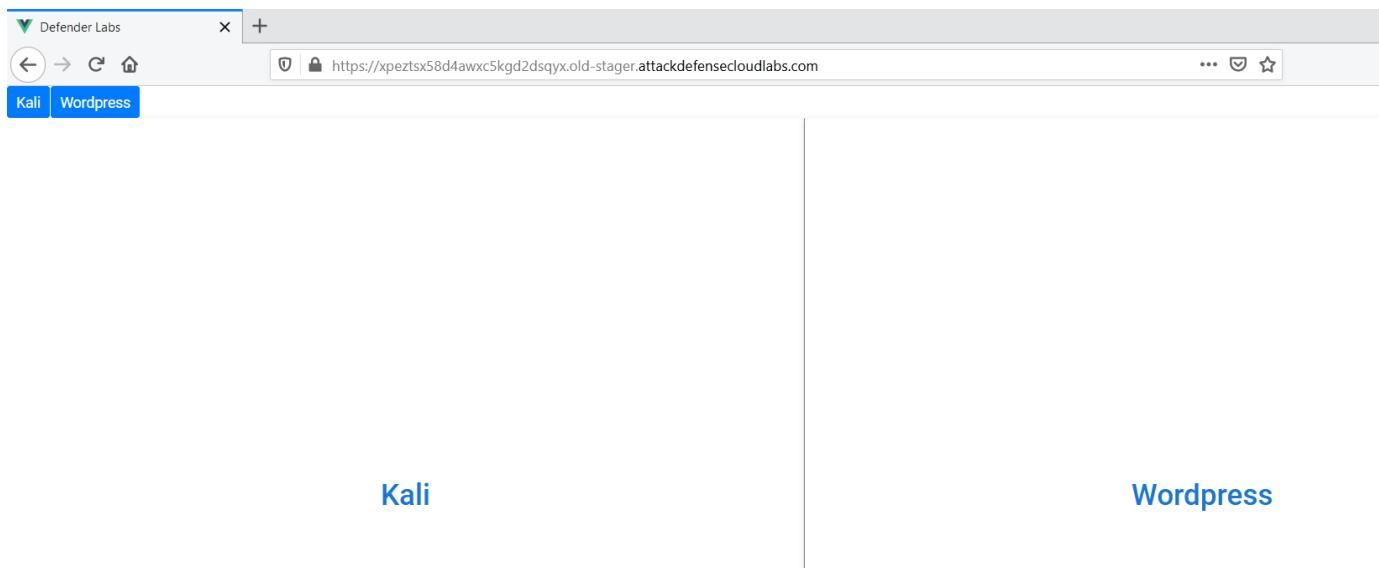
1. Login into WordPress portal as admin.
2. Add a new admin user to WordPress.
3. Publish a new post from the new admin user (created in the previous task)

Instructions:

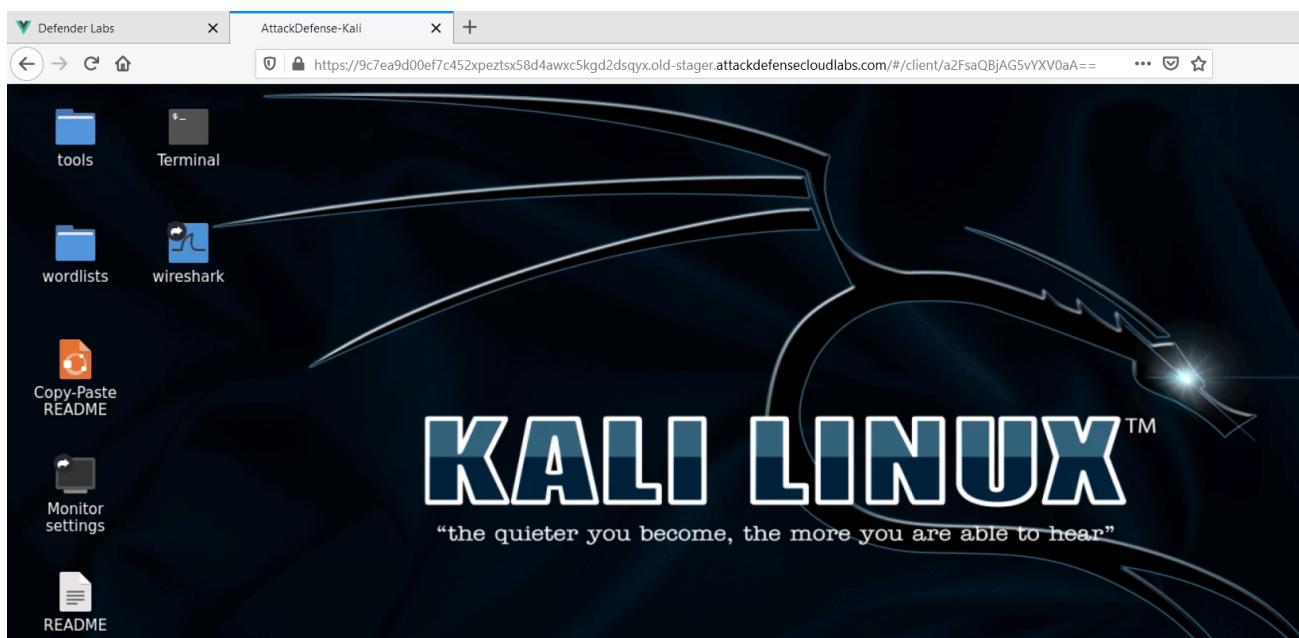
- The WordPress instance can be accessed on "wordpress"
- The selenium IDE test solution project is kept on the Desktop of the Kali machine (/root/Desktop/selenium-test.side)

Lab Setup

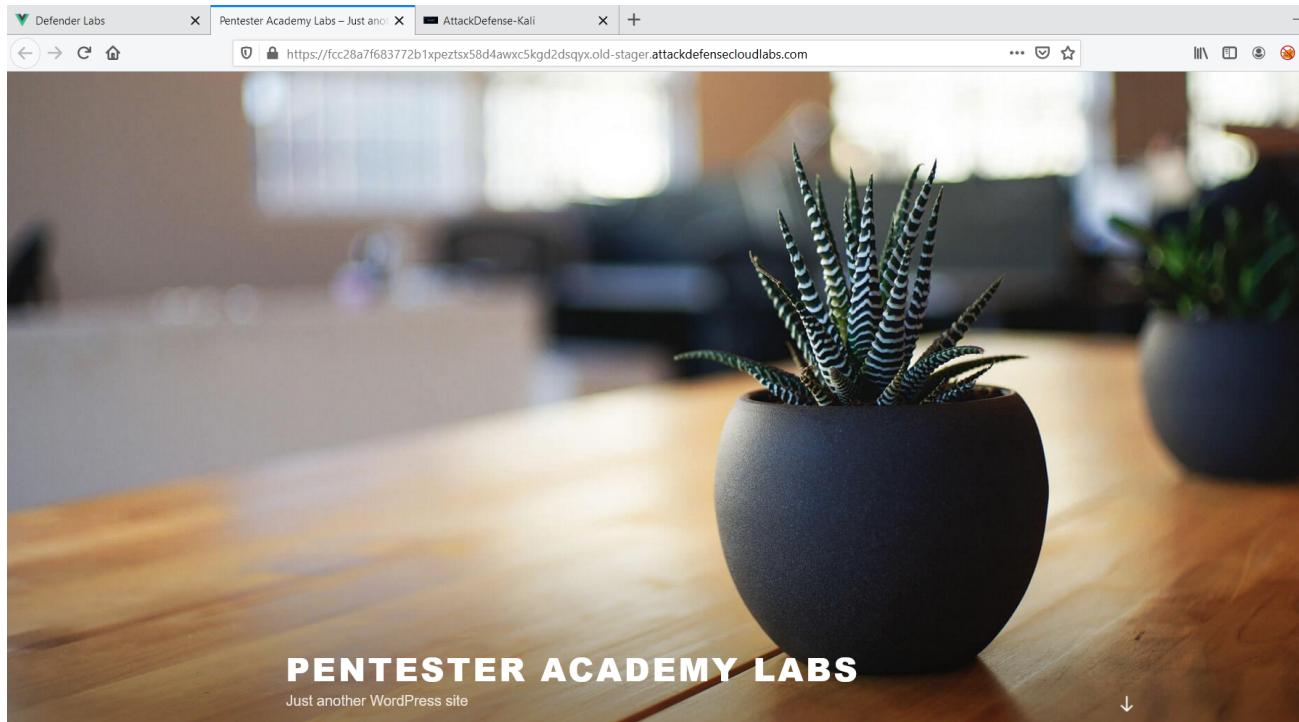
On starting the lab, the following interface will be accessible to the user.



On choosing (clicking the text in the center) left panel, a **Kali GUI instance** will open in a new tab.

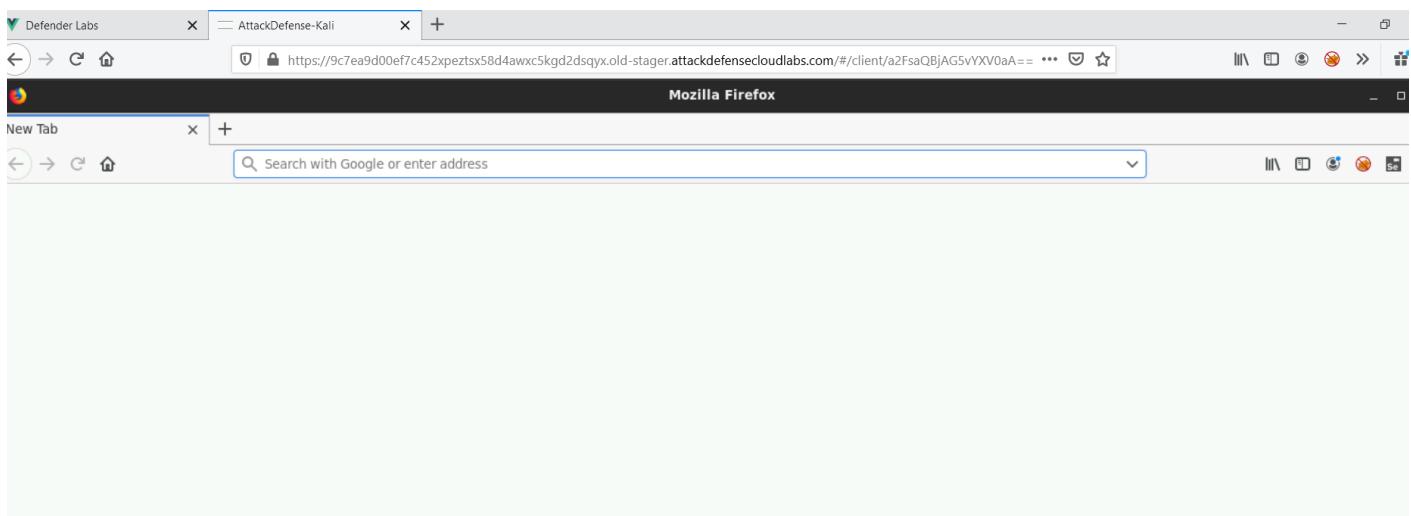


Similarly on selecting the right panel, a web UI of **WordPress** will open in a new tab.



Solution

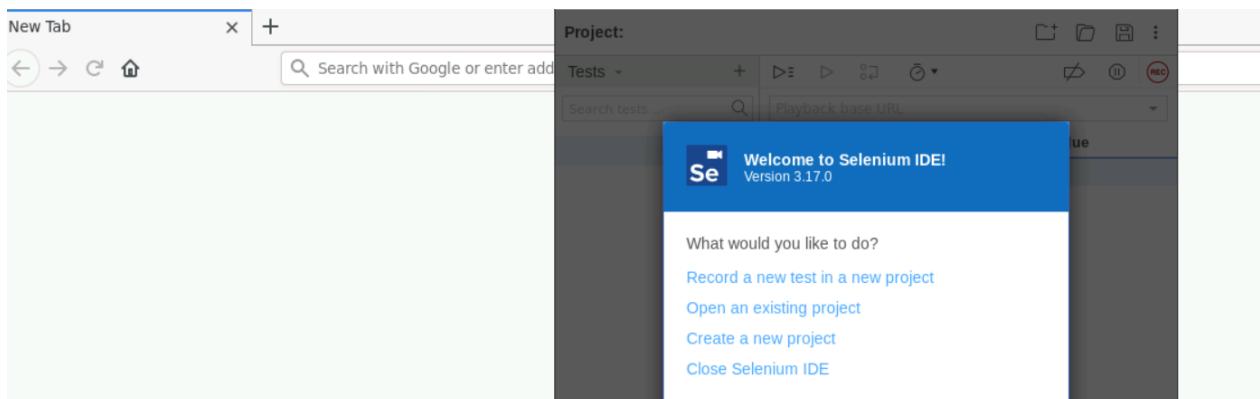
Step 1: Open firefox in the Kali GUI instance.



The Firefox has Selenium IDE installed as an extension. By using the extension a user can perform automated tests on the web application.

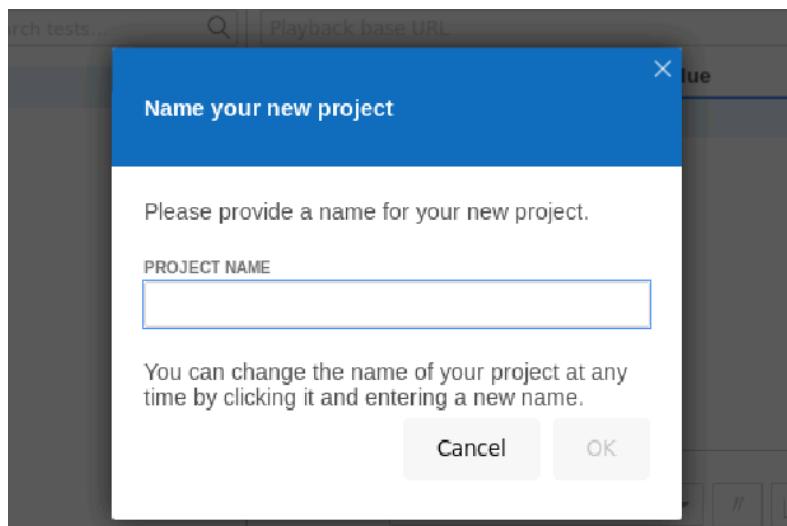
We will takes first task i.e. Login into WordPress portal as admin and learn how to create the test case using selenium IDE.

Step 2: Click on the Selenium IDE located at the top right bar.

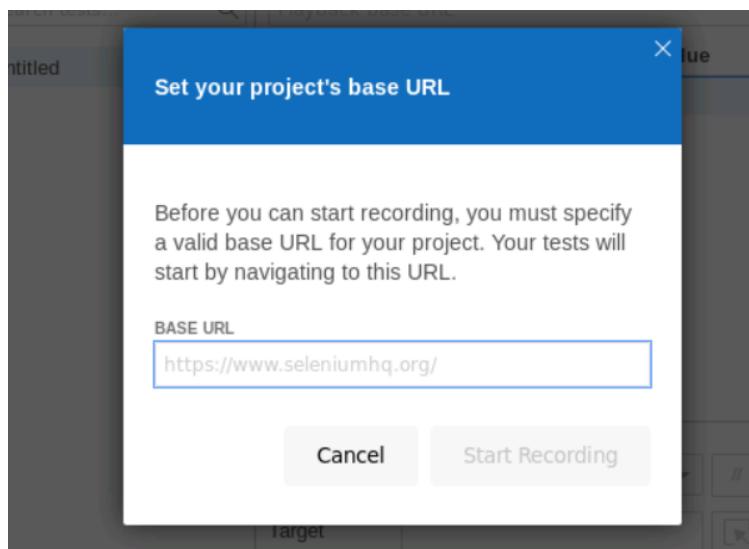


The extension will start and ask the user to select an existing project or to create a new one.

Step 3: Select the “Record a new test in a new project” option

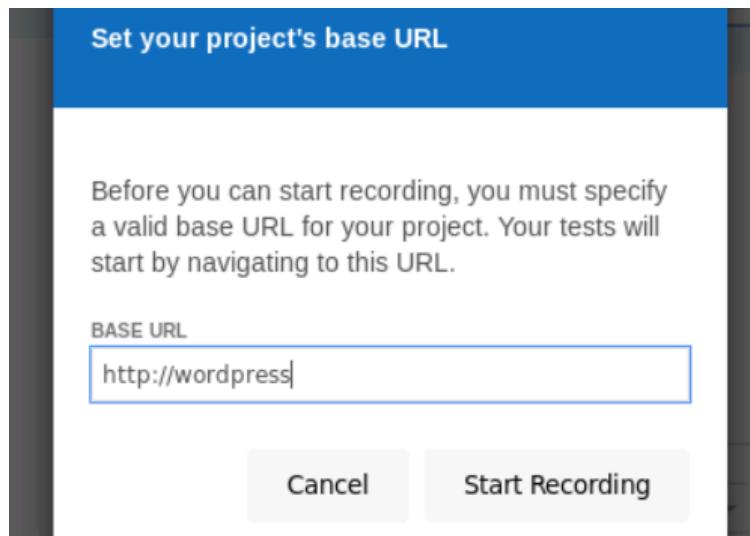


Enter a project name



Enter the target URL in the Base URL field

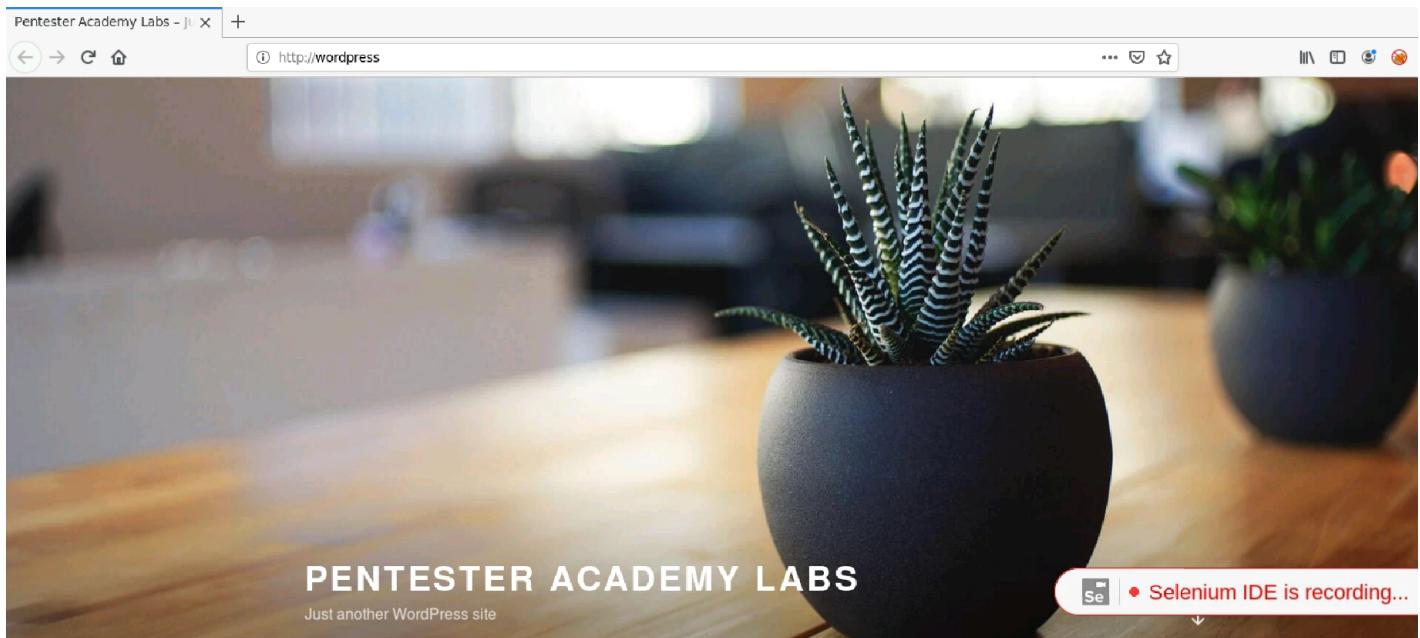
URL: <http://wordpress/>



Click on Start Recording

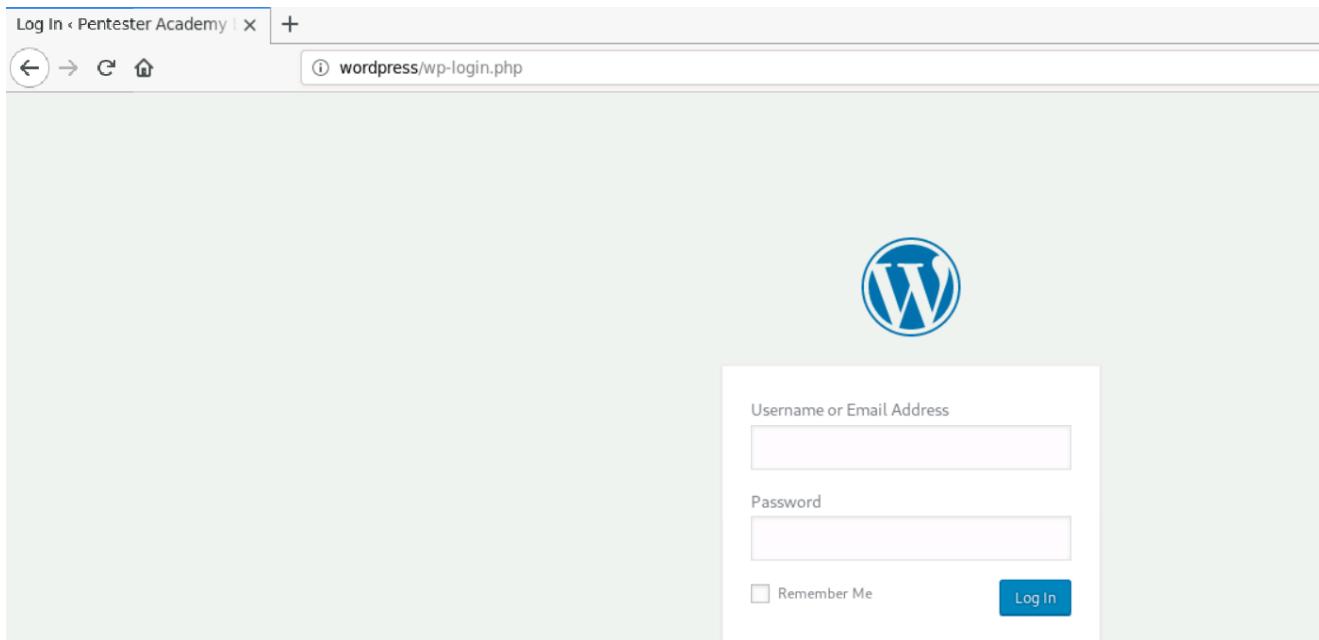
The screenshot shows the Selenium IDE interface. On the left, there is a browser window displaying the "PENTESTER ACADEMY LABS" WordPress site. The main area of the IDE shows a recorded test named "Untitled". The test table has three columns: "Command", "Target", and "Value". Below the table, there are input fields for "Command", "Target", "Value", and "Description". At the bottom of the IDE window, there is a status bar with the text "Selenium IDE is recording...".

Step 4: Minimize the IDE bar and maximize the recording window



Scroll down to see more option

Step 5: Click on the Login button



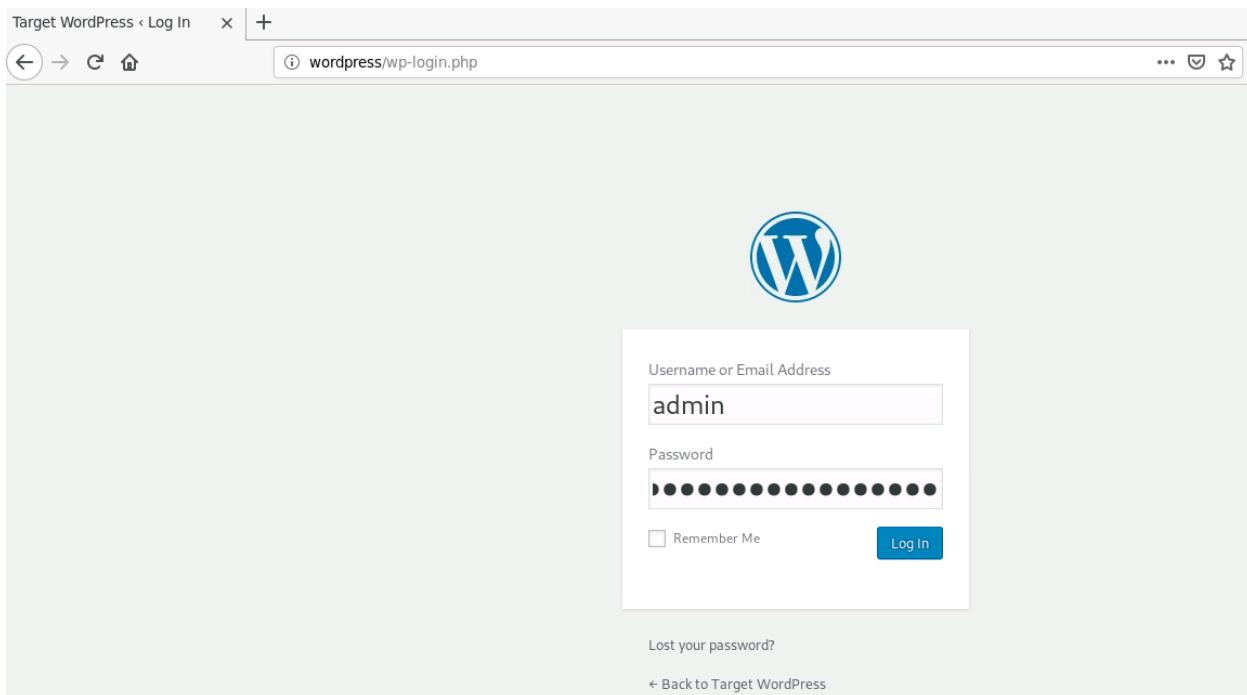
The screenshot shows a web browser window with the following details:

- Address bar: Log In < Pentester Academy | + | wordpress/wp-login.php
- Navigation icons: Back, Forward, Stop, Home.
- Content area:
 - A large blue WordPress logo at the top center.
 - A login form with fields for "Username or Email Address" and "Password".
 - A "Remember Me" checkbox and a "Log In" button.

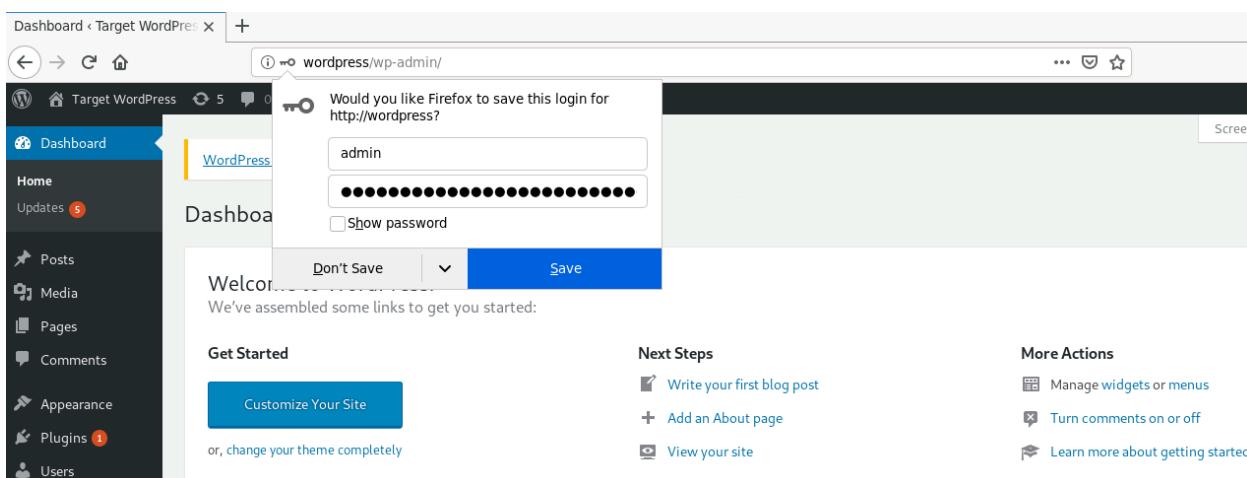
Step 6: Enter the login credentials which have been provided in the challenge description

Credentials:

- **Username:** admin
- **Password:** @mY_W0rdPr3SS_p@ssw0rd@102938



Press enter to login.



Login succeeded. Click on the 'selenium IDE' plugin icon located at the top right bar of the page.

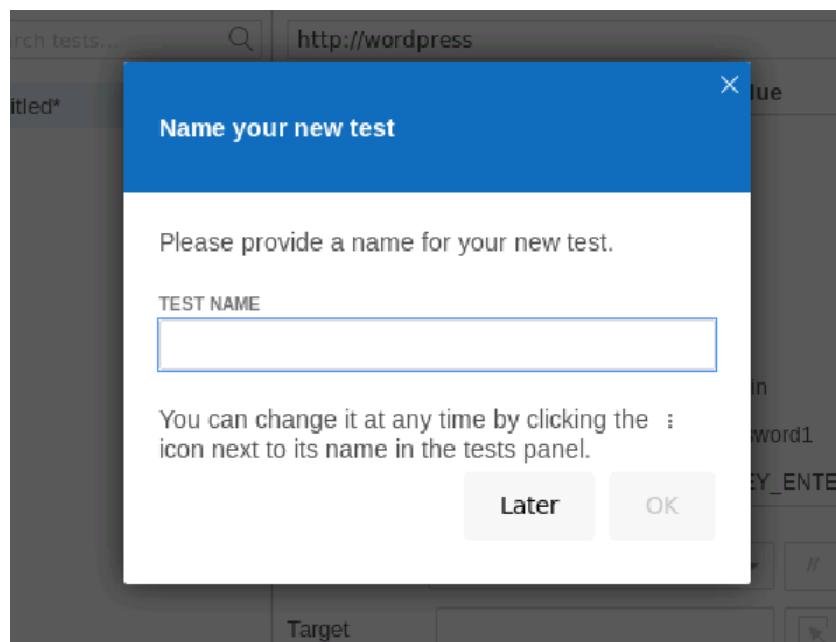
The screenshot shows a test recording interface with the following details:

- Project:** test*
- Tests:** Untitled*
- URL:** http://wordpress
- Commands:**

	Command	Target	Value
2	set window size	1536x694	
3	click	linkText=Log in	
4	click	css=.login	
5	click	id=user_login	
6	type	id=user_login	admin
7	type	id=user_pass	password1

- More Actions:** Manage v

Click on the Stop button to stop the recording



Enter any name to save the test.

The screenshot shows a test runner interface with a sidebar on the left containing a search bar and a list of tests. A single test titled "login*" is selected. The main area displays the test steps in a table:

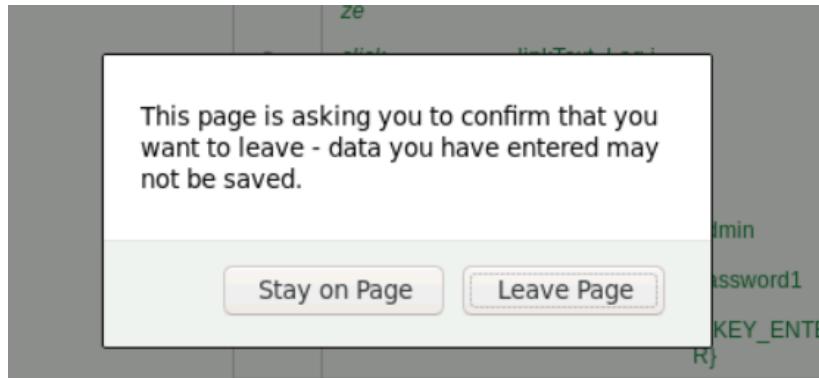
	Command	Target	Value
2	set window size	1536x694	
3	click	linkText=Log in	
4	click	css=.login	
5	click	id=user_login	
6	type	id=user_login	admin
7	type	id=user_pass	password1
8	send keys	id=user_pass	\$(KEY_ENTER)

Step 5: Logout of the WordPress and click on the “Run Current test” button.

The screenshot shows a split-screen view. On the left is the WordPress dashboard, which includes a header with navigation links, a sidebar with "Dashboard" and "Welcome to WordPress!", and a main content area with "Get Started" buttons. On the right is the test runner interface, showing the same test steps as the previous screenshot. The "Run current test" button is highlighted in blue.

The test was successful and this is how one can create tests using Selenium IDE. The same methodology can be used to create other tests. We have also provided the solution test file in the Kali machine.

Step 6: Logout and close the Selenium IDE

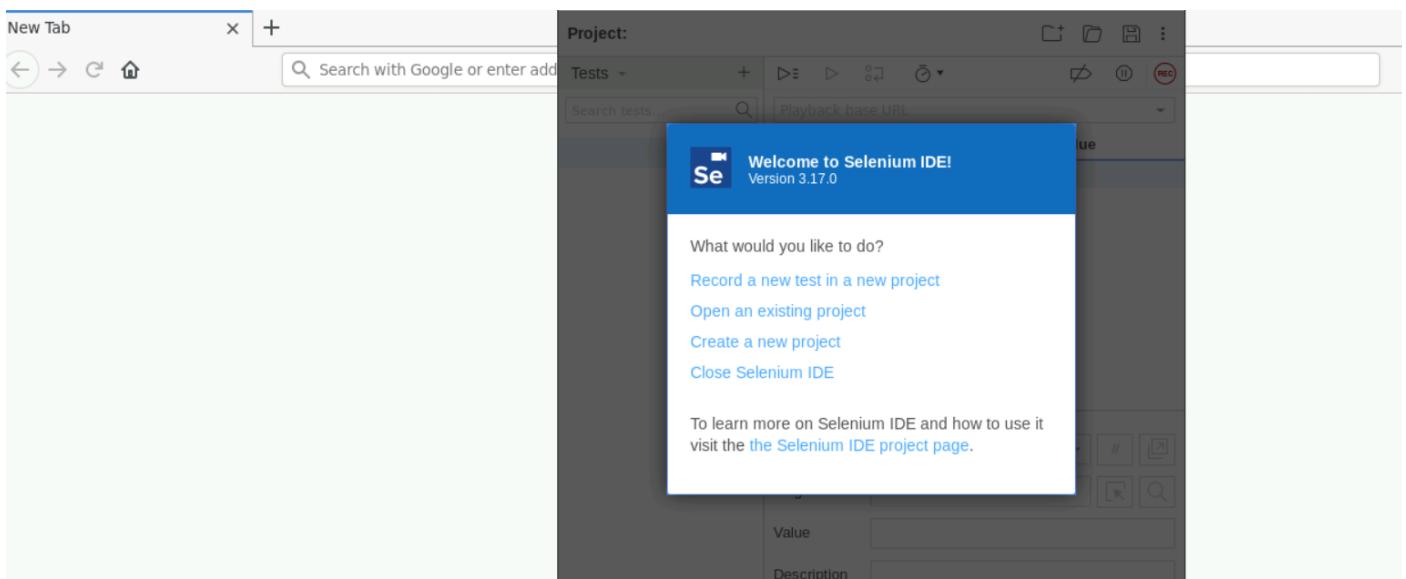


Logout from the application and click on the “Leave Page” option, This will close the firefox and selenium IDE.

Loading Stored tests

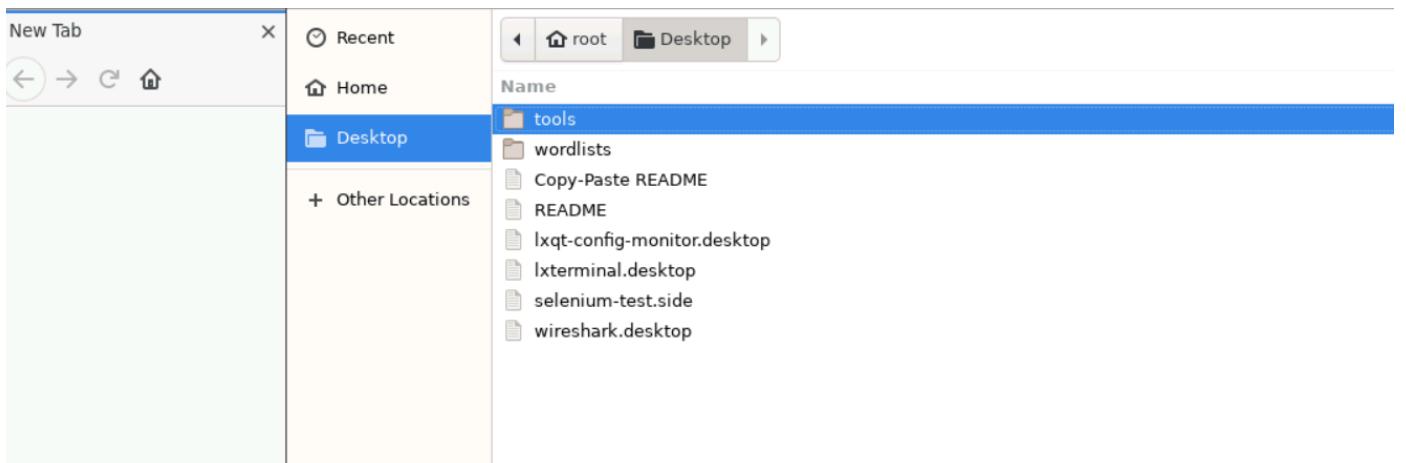
We have already recorded all three test cases. These test cases are stored on the Desktop of the Kali machine.

Step 7: Click on the Selenium IDE located at the top right bar.



The extension will start and ask the user to select an existing project or to create a new one.

Step 8: Select the “Open an existing project” option.



By clicking on the option, The extension will open a window to select the project which contains the testing code.

Step 9: Choose the “selenium-test.side” file. The selenium-test.side is the project file which is required by the IDE because it contains the code of the tests which has to be performed on the target.

Test	Step	Command	Target
Add Post	1	open	http://wordpress/wp-admin/
Add user	2	set window size	1536x694
Login Wordpress	3	open	http://wordpress/wp-login.php?action=lo...
Login Wordpress	4	click	linkText=login

Command: open
Target: http://wordpress/wp-admin/
Value: /

There are 3 available test cases which can be used to test the WordPress application.

Test Case 1 : Login into WordPress portal as admin (Test name: Login Wordpress)

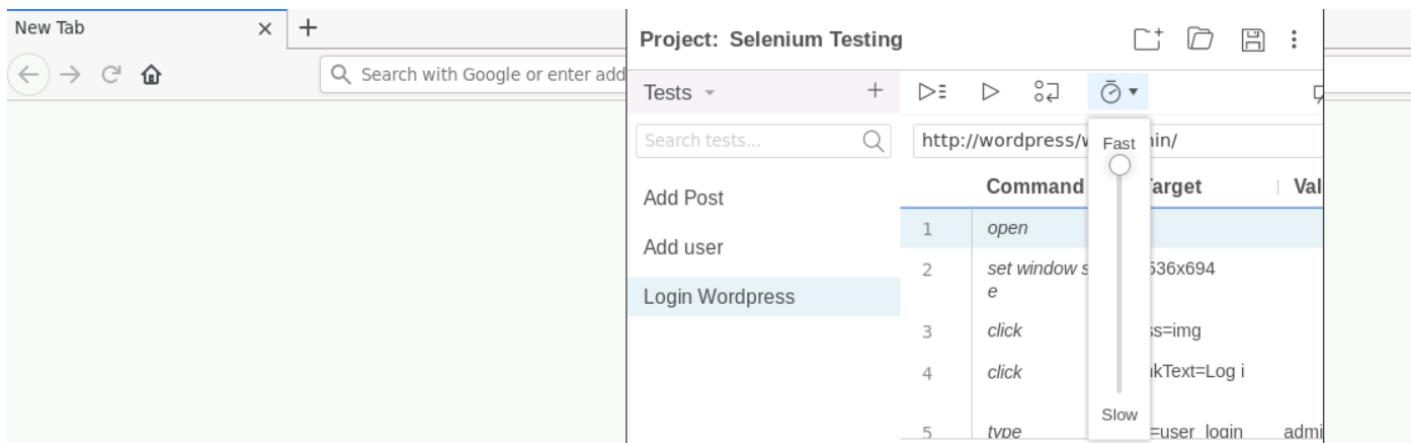
Step A: Select the “Login Wordpress” test case.

Test	Step	Command	Target
Add Post	1	open	/
Add user	2	set window size	1536x694
Login Wordpress	3	click	css=img
Login Wordpress	4	click	linkText=Log in
Login Wordpress	5	type	id=user_login admin

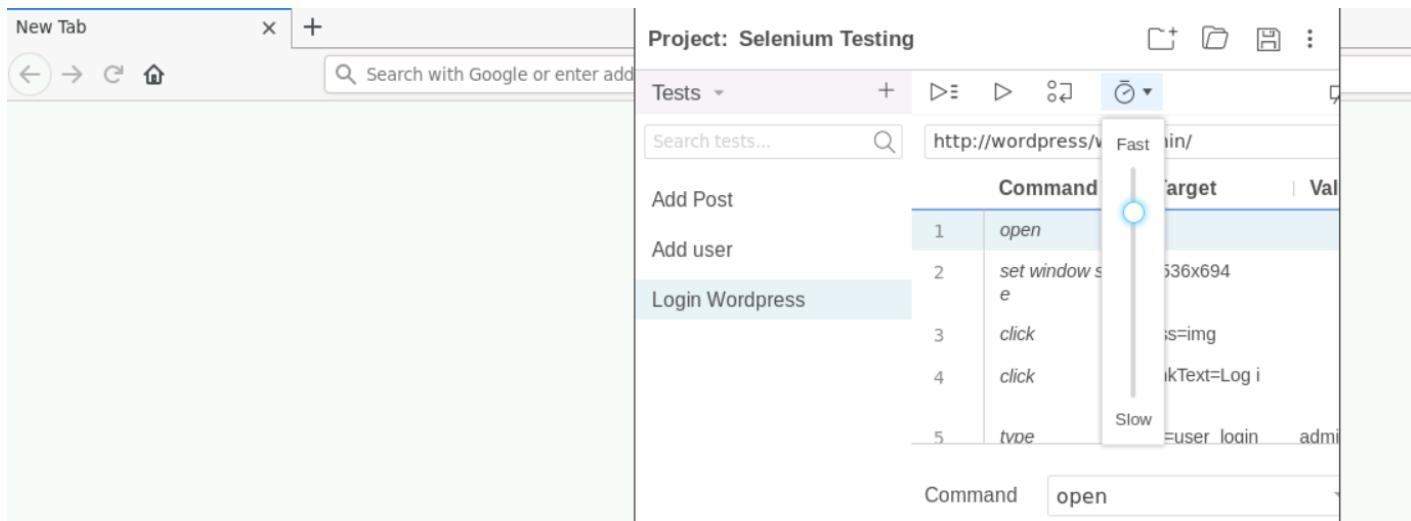
Command: open
Target: /
Value: admin

The test code is in the form of step numbers.

Step B: Adjust the Speed of the tests to check the results thoroughly. Click on the Stopwatch icon.



Reduce the Timer to see the test at normal speed.



Step C: Click on the “Run current test” button located above the URL bar.

The screenshot displays a Firefox browser window with two tabs open. The left tab, titled 'Dashboard < Target WordPress', shows the WordPress dashboard with a 'Please update now' notice about version 4.9.7. The right tab, titled 'moz-extension://3566...ting* - Mozilla Firefox', shows the 'Project: Selenium Testing*' interface. This interface includes a table of test steps:

	Command	Target	Value
Add Post	2	set window size	1536x694
Add user	3	click	css=img
	4	click	linkText=Log in
Login Wordpress*	5	type	id=user_login admin
	6	type	id=user_pass @mY_WOrdP r3SS_p@ssw Ord@102938
	7	send keys	id=user_pass \${KEY_ENTER}

The test was successful as the web application was logged in successfully as user admin.

Note: Please also notice that the user can see this test running in the browser window.

Test Case 2: Add a new admin user to WordPress (Test name: Add User)

Step A: Click on the “Add User” test case. This test case will create an admin user in the wordpress website.

The screenshot shows a dual-pane interface. On the left is the WordPress dashboard with a 'Welcome to WordPress!' message and various site management links. On the right is a Selenium test editor titled 'Project: Selenium Testing' showing a sequence of test steps for 'Add user'.

Test Step	Command	Target	Value
1	open	http://wordpress/wp-admin/	
2	set window size	1536x694	
3	click	css=.wrap	
4	click	css=.menu-icon-users > .wp-menu-name	

Step B: Click on the “Run current test” button located above the URL bar.

The screenshot shows a dual-pane interface. On the left is the 'Users' page of WordPress, displaying a list of users including 'admin' and 'user2'. On the right is a Selenium test editor titled 'Project: Selenium Testing' showing a sequence of test steps for creating a new user.

Test Step	Command	Target	Value
14	click	id=role	
15	select	id=role	label=Administrator
16	click	css=option:nth-child(5)	
17	click	id=createusersub	

The Test case has successfully created an admin user “user2” with password “password1”.

Test Case 3: Publish a new post from the new admin user (Test name: Add Post)

Step A: Click on the “Add Post” test case. This test case will first log out the admin user and log in as user2 followed by creating a post with Sample Post as the title.

The left window shows the WordPress admin interface for 'Users'. It displays two users: 'admin' (Administrator) and 'user2'. A message at the top says 'New user created. [Edit user](#)'. The right window shows the 'Project: Selenium Testing' interface with a table of tests. The first test, 'Login Wordpress', includes four steps: 'open http://wordpress/wp-admin/' (Command), 'set window size 1536x694 (Target)', 'open http://wordpress/wp-login.php?action=lo... (Value)', and 'click linkText=login (Command)'.

Test	Command	Target	Value
Add Post	open	http://wordpress/wp-admin/	
Add user	set window size	1536x694	
Login Wordpress	open	http://wordpress/wp-login.php?action=lo...	
	click	linkText=login	

Step B: Click on the “Run current test” button located above the URL bar.

The left window shows a published WordPress post titled 'PENTESTER A' with the URL 'http://wordpress/2020/09/18/sample-post/'. The right window shows the 'Project: Selenium Testing' interface with a table of tests. The last three tests (17, 18, 19) show successful interactions with the post publish button: 'mouse over' (Command), 'css=.editor-post-publish-button (Target)', and 'linkText=Sample Post (Value)'. The status for these tests is 'Success'.

Test	Command	Target	Value	Status
17	mouse over	css=.editor-post-publish-button		Success
18	click	css=.editor-post-publish-button		Success
19	click	linkText=Sample Post		Success

The post has been successfully created by the user2 account.

Learnings

Perform Selenium Tests on the web application using the Selenium IDE.