

AUTOMATE THE AUTOMATION OF API, LOAD, UI, SECURITY TESTING & CODE ANALYSIS without installing any tools

Directors



Alun Jones QC
Chairman



alun.jones@testenium.com

Areas: Public Law, International Business Crime,
Extradition, Data Protection Law



Dr Aras Arasilango BSc (Hons), PgD, PhD
Chief Executive Officer (CEO) / Founder



ceo@testenium.com

Areas: Artificial Intelligence, Cyber Security, Data
Science, Machine Learning, Deep Learning, QA, BI, C#,
JAVA, Python, PHP



Harikumar Santhibhavan
Chief Technology Officer



cto@testenium.com

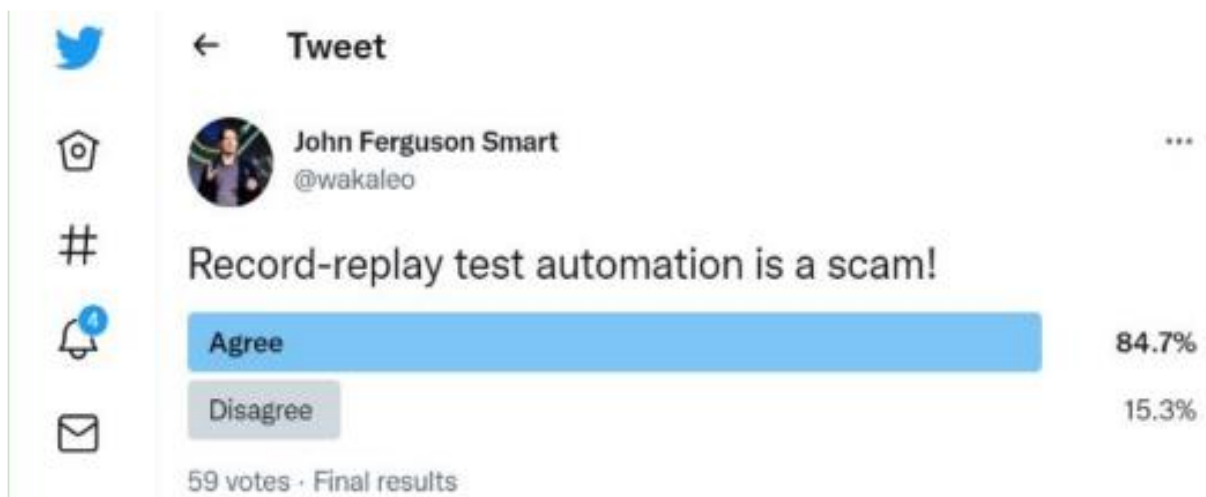
Areas: 5G Cloud Native Development, Microservices,
DevOps, Test Automation, AI-ML, Action centered
leadership, Program management, Innovation &
Change Management.

Problems with Test Automation

The industry is struggling to test applications without proper automation tools. Companies use improper testing tools such as record-replay, no-code/low-code and drag-and-drop. In software testing, the test engineer must prepare a test plan with expected results. For UI testing the elements' details must be provided by the developer to the test engineer to prepare a good test plan. Having got the test plan, the test engineer needs to prepare the test automation project and write the code.

Companies are spending a lot of time in writing the automation scripts, because the recording tools do not generate accurate automation scripts and will not find the wrong link text at all.

In fact, the record-replay test automation is rated as scam as per the following twitter post.



No-code/Low-code platforms also have many problems and are not good for test automation for the following reasons.

- **Lack of Customization:** Automation is processed in the background, leaving little to no opportunity for testers to modify the scripts.

- **Not REALLY Codeless:** Although scripts are created and structured automatically, instances can (and likely, will) arise that will require some manual coding. But it is impossible to modify the code as it is hidden. “**Codeless**” - This is misleading.
- **Maintainability is Challenging:** If tests weren’t designed to be reusable or modular, issues could arise in maintainability as the number of tests is continuously growing, and the application is continually changing.
- **Interoperability Issues:** No codeless test automation solution is universal, with either platform dependency or interoperability issues between multiple browsers and software support, leading to unexpected outcomes.
- **Bugs & Glitches:** Although computer-generated, it is not infallible and improper coverage can lead to bugs and glitches in the script. If that script is reusable and modular, that could lead to the recorded script playing back incorrectly or invalid test results.

The Problems with Manual Coding

- Human programmers cannot write the code faster than computers.
- Human programmers make mistakes in coding, but TESTENIUM generates 100% accurate code faster
- User needs to install software and testing tools for manual coding, but no tools necessary with TESTENIUM and it generates code
- User needs powerful computers to execute test projects, TESTENIUM executes on scalable cloud server.
- Creating projects, adding dependencies and writing code is time consuming, hence expensive, but TESTENIUM does all these automatically.

Problems with DevOps

Most of the companies have misunderstood the concept of software testing and the test automation. Some companies think that the DevOps platforms are good enough for testing.

DevOps presents new risks and cultural changes that create security challenges. Developers focus on velocity, not security when using DevOps. DevOps teams often adopt insecure practices outside of the purview of security teams. Such practices can include leaving secrets and credentials in applications and configuration files.

DevOps features don't facilitate interoperability or securely sharing secrets across tools, clouds, and platforms. DevOps approaches can make it difficult to adequately protect the secrets, because they cannot be monitored and managed in a consistent manner.

The Privileged credentials used in DevOps are targeted by cyber attackers. One of the biggest security challenges in DevOps environments is privileged access management. DevOps processes require the use of human and machine privileged credentials that are very powerful and highly susceptible to cyber-attacks. [Reference: <https://www.cyberark.com>].

SOLUTIONS BY TESTENIUM

Considering the above problems, TESTENIUM has developed a meta-automation platform to automate the automation of software testing by generating code without installing tools or writing the automation scripts. TESTENIUM also generates code for encrypted (secure) database applications within a second.

When a user creates an account, TESTENIUM creates SQL Server database engines and Oracle database schema dynamically, so that the user can access them online to store, access and process data. Also, TESTENIUM will automatically configure the user as a database

administrator. Normally, these procedures are done by human experts manually and repeatedly for every company and users. Hence, the industry spends a lot of money.

TESTENIUM platform has a meta-computing engine which generates code for various tasks such as test Automation, encryption, EXCEL comparison, and Blockchain testing. For UI and functional testing TESTENIUM generates code for Selenium, BDD, Microsoft Playwright, Cypress, TestCafe and Robot Framework.

WHY TESTENIUM IS GOOD FOR SELENIUM, PLAYWRIGHT, AND ROBOT FRAMEWORKS?

Some companies think Record-replay tools are good and some other companies think No-code/Low-code platforms are good. But these platforms have problems. Writing the code for test automation is very good, but it is time consuming and expensive. Again, without full source code, a test automation is useless, the project cannot be modified and extended as and when needed and it is impossible to manage.

First, TESTENIUM encrypts every piece of confidential information and files using dynamically created virtual unique encryption-keys for every user in the Cloud server and the keys are never stored in the server at all.

In TESTENIUM, a user can create a test project by simply providing the test plan, generate the complete test automation script, execute at scale on cloud, and produce reports without having programming skills, installing tools, or having a powerful computer. The following excel file shows how to prepare the TESTENIUM specific test plan for generating code for SELENIUM PAGE OBJECT MODEL. Using Excel, a project with maximum of 255 pages can be created. But TESTENIUM PAGE OBJECT BUILDER allows the user to create unlimited number of pages.

	A	B	C	D
1	Locator	Element	Function	Test Data
2	linktext	TESTING	mouseover	
3	xpath	//*[@id="menu-item-2178"]/a/span	click	
4	name	addon-2158-select-a-start-date-0	select	20/03/2023, 9.00 to 16.00, Mon to Wed
5	name	add-to-cart	click	
6	xpath	//*[@id="post-407"]/div/div/div/div/div/div/div/div[2]/form/div/a	click	
7		title	assert	Checkout
8	name	billing_first_name	type	Peter
9	name	billing_last_name	type	Smart
10	name	billing_address_1	type	123 London Rd
11	name	billing_city	type	London
12	name	billing_postcode	type	SW15 6FG
13	name	billing_phone	type	0712345678
14	xpath	//*[@id="terms"]	click	
15	id	place_order	click	
16				
17				
18				
19				
20				

PAGE OBJECT BUILDER

TESTENIUM has implemented a most innovative feature called **Page Object Builder (POB)** to generate the code for Selenium Page Object Model. Using POB, a user can easily provide the elements' details on the UI for any number of pages of the applications in a test automation project. The project also can be easily managed without integrating with third party test management tools like JIRA and version control system like GitHub. The table below shows all the projects in POB for user and allows the user to select a project previously executed, to view reports, edit the code or delete the project. Also, a user can select as many as projects to re-run them in parallel or in serial.

Selenium Project History

Project #	Test #	Title	Description	Report	Edit	Delete	Result	Build Time	ST	AMPT
9208	1	Hotmail Login	Testing Login function	Report	Edit	Delete	✓	2023-01-06 13:14:00		<input type="checkbox"/>
9203	1	Hotmail Login	Testing Login function	Report	Edit	Delete	✓	2023-01-06 12:14:18		<input type="checkbox"/>
9202	1	Hotmail Login	Testing Login function	Report	Edit	Delete	✓	2023-01-06 12:14:25		<input type="checkbox"/>
9192	1	Hotmail Login	Testing Login function	Report	Edit	Delete	✓	2023-01-06 12:14:16		<input type="checkbox"/>
9183	1	Hotmail Login	Testing Login function	Report	Edit	Delete	✓	2023-01-05 10:22:07		<input type="checkbox"/>
9179	1	Hotmail Login	Testing Login function	Report	Edit	Delete	✗	2022-12-22 11:02:59		<input type="checkbox"/>
9178	1	Hotmail Login	Testing Login function	Report	Edit	Delete	✗	2022-12-22 11:00:39		<input type="checkbox"/>
9177	1	Hotmail Login	Testing Login function	Report	Edit	Delete	✗	2022-12-22 10:53:50		<input type="checkbox"/>
9175	1	Hotmail Login	Testing Login function	Report	Edit	Delete	✓	2022-12-19 18:47:43		<input type="checkbox"/>
9174	1	Hotmail Login	Testing Login function	Report	Edit	Delete	✓	2022-12-14 08:11:15		<input type="checkbox"/>

Page 1 of 124

NEXT >>

The following is a screenshot of editing the POB project.

Selenium Project Object Builder

Editing Project No: 9214

Test No: 1

Project Title:

Save

Project Description:

Save

Generate Code

Locator	Element	Function	Value	Update		
linktext	Sign in	click		Save	Insert	Delete
id	i0116	type	john@hotmail.com	Save	Insert	Delete
id	idSIButton9	click		Save	Insert	Delete
id	i0118	type	pass1223	Save	Insert	Delete
id	idSIButton9	click		Save	Insert	Delete
	page	assert	john@hotmail.com	Save	Insert	Delete
None	▼	None	▼	Add		

First Page 0 of pages 0 to 0

NEW PAGE ++

Using the above module, a user can create any number of pages of a Selenium Page Object Model for a test automation project and generate test automation scripts. The module also allows the user to add, delete, insert, and save records of elements in a page.

The following screenshot shows the generated test automation scripts.

Home Page

```
import org.openqa.selenium.WebElement;
import org.openqa.selenium.support.FindBy;
import org.openqa.selenium.support.How;
import org.openqa.selenium.interactions.*;
import org.openqa.selenium.support.PageFactory;
import org.openqa.selenium.TakesScreenshot;
import org.openqa.selenium.OutputType;
import java.io.*;
import java.util.*;
import org.apache.commons.io.FileUtils;
public class HomePage {
    private WebDriver driver;
    private static String PAGE_URL="https://hotmail.com";
    private static int counter=0;
    private static int ecounter=0;
    private String fileName;
    private String fileNameHtml;
    private String errorMessage;
    private File scrFile;
    @FindBy(how = How.LINK_TEXT, using = "Sign in")
    private WebElement Page0;
```

Page 0

```
import org.openqa.selenium.By;
import org.openqa.selenium.Alert;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.support.FindBy;
import org.openqa.selenium.support.ui.Select;
import org.openqa.selenium.interactions.*;
import org.openqa.selenium.support.How;
import org.openqa.selenium.support.PageFactory;
import org.openqa.selenium.TakesScreenshot;
import org.openqa.selenium.OutputType;
import java.io.*;
import java.util.*;
import org.apache.commons.io.FileUtils;
import static org.junit.Assert.*;
public class Page0 {
    private WebDriver driver;
    private static int counter=1;
    private static int ecounter=0;
    private String fileName;
```


Test Code

```
import static org.junit.Assert.*;
import org.junit.*;
import java.util.regex.Pattern;
import java.util.concurrent.TimeUnit;
import java.util.*;
import org.openqa.selenium.TakesScreenshot;
import org.openqa.selenium.OutputType;
import videorecord.*;
import org.monte.screenrecorder.ScreenRecorder;
import java.io.*;
import org.apache.commons.io.FileUtils;
import static org.hamcrest.CoreMatchers.*;
import org.openqa.selenium.*;
import org.openqa.selenium.interactions.*;
import org.openqa.selenium.support.ui.Select;
import jxl.*;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.support.PageFactory;
public class test2 {
    private VideoRecord videoRecord;
```

When the above project is executed on the cloud, the following reports will be generated.

Selenium Page Object Builder

Test Result

Project No: 9214 Project Title: WCC Form Filling

Project Description: Sign up for a Course

Test No: 13

Testenium Power Engine Version 1.0.1

© Copyright 2014

.....

Test

.....

JUnit version 4.12

.

Time: 8.685

OK (1 test)

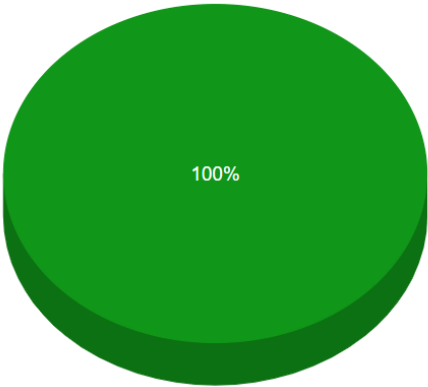
All Tasks [5]
Pass [5] : Fail [0]

Download PDF Report

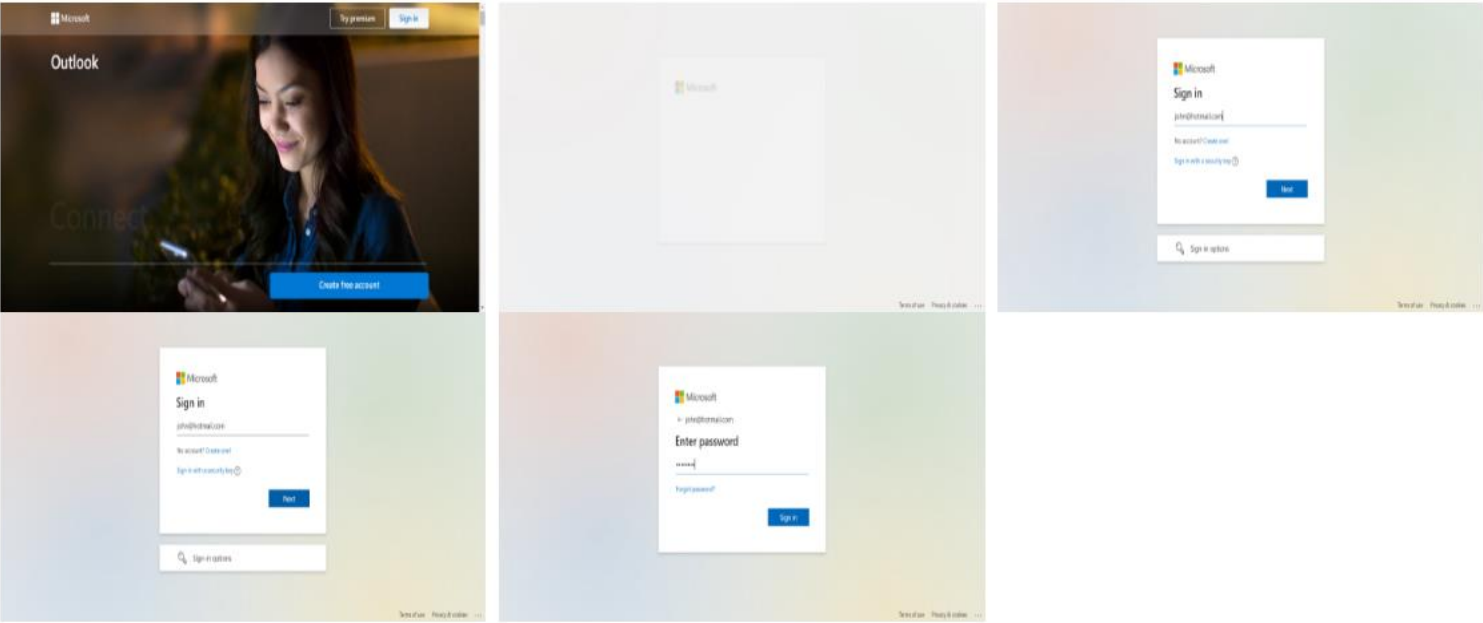
Overall Result

Test Result

● Passed



Screenshots



Exceptions

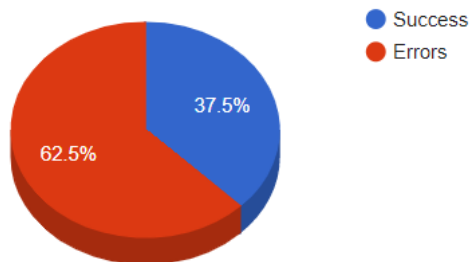
Pass / Fail Statistics



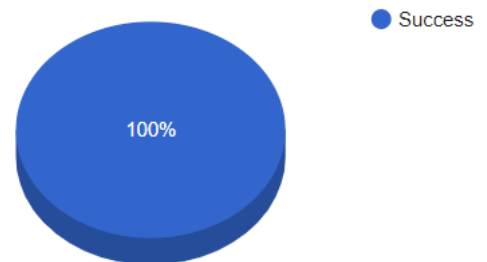
EDITING & RE-RUNNING THE PROJECT

Source code of the previously executed test automation project can be edited, and the test can be executed very easily in TESTENIUM. In this case, a next build version will be automatically created, and the results of both builds will be compared in a dashboard.

Test : Build 1 | Time Tested: 2023-01-09 17:52:26



Test : Build 2 | Time Tested: 2023-01-09 17:57:02



BLOCKCHAIN TEST AUTOMATION

Considering the problems in testing blockchain applications in the industry, TESTENIUM has developed a meta-automation platform to perform unit testing of Ethereum smart contract functions and code review of Blockchain applications.

A user can just upload a smart contract to perform unit testing and code coverage without installing any tool or writing test automation script.

New Project

Project No: 9232

Title:	<input type="text" value="Project 1"/>	Description:	<input type="text" value="Hello World"/>
Network ID	<input type="text" value="5777"/>	Server:Port	<input type="text" value="HTTP://127.0.0.1:8585"/>
Programming:	<input checked="" type="radio"/> Solidity	TestNet:	<input checked="" type="radio"/> Ganache

Contract Name:	<input type="text" value="HelloWorld"/>
Input Value:	<input type="text" value="1"/>
Expected Value:	<input type="text" value="Hello Universe"/>

Note:(Modify the contract file. File will be saved automatically when you Click the 'Next Contract' Button and 'Test Contracts' Button)

Contract No:1

```
pragma solidity >=0.5.16;

contract HelloWorld {
    string private greeting;

    constructor() public {
        greeting = "Hello Universe";
    }

    function getGreeting() public view returns(string memory) {
        return greeting;
    }
}
```



Automate at scale on Cloud

Autoscaling in the cloud can ensure organizations always have resources



Speech to Code Generation

Transforms any information into a data code, which holds the entire content



Next Generation Encryption

Provides users seamless experience to protect their documents easily

Migration Report

Compiling your contracts...
=====
> Compiling .\contracts\HelloWorld.sol
> Compiling .\contracts\Migrations.sol
> Artifacts written to C:\Users\arasaratnam\customers_010_9232\test_1\build\contracts
> Compiled successfully using:
- solc: 0.5.16+commit.9c3226ce.Emscripten.clang

Starting migrations...
=====
> Network name: 'development'
> Network id: 1673119295288
> Block gas limit: 30000000 (0x1c9c380)

1_initial_migration.js
=====

Deploying 'Migrations'

> transaction hash: 0x1d132b5661eae67ec102e8367b223bf75d585ee88de547e3f10dc4f10ca25857
> Blocks: 0 Seconds: 0
> contract address: 0x26A2a2F62A4B0cCCf530d24F72285a2C68aE63E5
> block number: 25
> block timestamp: 1673331228
> account: 0xD6E479c72CB90ff88D4689BCDB4146202C97057F
> balance: 999.966104080498803411
> gas used: 193243 (0x2f2db)
> gas price: 2.539984761 gwei
> value sent: 0 ETH
> total cost: 0.000490834275169923 ETH

> Saving migration to chain.
> Saving artifacts

> Total cost: 0.000490834275169923 ETH

2_deploy_contract.js
=====

Deploying 'HelloWorld'

> transaction hash: 0x577c3c1f4504ecbd75707fe482d436e217cec64a5e93e39bac4bdc9180325e1a
> Blocks: 0 Seconds: 0
> contract address: 0x8a28C25148A1b67165cb25B4faD4846A8c585650
> block number: 27
> block timestamp: 1673331228
> contract address: 0x8a28C25148A1b67165cb25B4faD4846A8c585650
> block number: 27
> block timestamp: 1673331228
> account: 0xD6E479c72CB90ff88D4689BCDB4146202C97057F
> balance: 999.965571918487051205
> gas used: 164467 (0x28273)
> gas price: 2.530683034 gwei
> value sent: 0 ETH
> total cost: 0.000416213846552878 ETH

> Saving migration to chain.
> Saving artifacts

> Total cost: 0.000416213846552878 ETH

Summary
=====
> Total deployments: 2
> Final cost: 0.000907048121722801 ETH

Test Result

92m 32m 1 passing90m (7s)

Smart Contract Coverage

0% Statements 0/2 100% Branches 0/0 0% Functions 0/2 0% Lines 0/2

File		Statements	Branches	Functions	Lines			
HelloWorld.sol	<div></div>	0%	0/2	100%	0/0	0%	0/2	0%

Code coverage

Code Analysis

```
1  pragma solidity >=0.5.16;
2
3  contract HelloWorld {
4      string private greeting;
5
6      constructor() public {
7          greeting = "Hello Universe";
8      }
9
10     function getGreeting() public view returns(string memory) {
11         return greeting;
12     }
13 }
14
```

Code coverage

generated by TESTENIUM LIMITED at Tue Jan 10 2023 06:43:00 GMT+0000 (Greenwich Mean Time)

REGRESSION TESTING

Whenever developers change or modify their software, even a small tweak can have unexpected consequences. **Regression Testing** is defined as a type of software testing to confirm that a recent program or code change has not adversely affected existing features. Regression Testing is nothing but a full or partial selection of already executed test cases that are re-executed to ensure existing functionalities work without errors. There are various ways a test case can be modified according to the changes in the applications. Also, number of related test cases can easily be grouped from the list of all the projects of a particular type and managed a regression packs. The following screenshot shows a number of regression packs created without much effort in TESTENIUM.

Pack ID	Project #	Test #	Title	Description	Report	Edit	Delete	Result	Build Time	ST
2	9202	1			Report	Edit	Delete	✓	2023-01-07 23:57:27	<input type="checkbox"/>
2	9216	1			Report	Edit	Delete	✓	2023-01-07 23:57:29	<input type="checkbox"/>
2	9217	1	Hotmail Login	Testing Login function	Report	Edit	Delete	✓	2023-01-07 23:57:24	<input type="checkbox"/>
1	9178	1			Report	Edit	Delete	✗	2023-01-07 23:50:08	<input type="checkbox"/>
1	9183	1			Report	Edit	Delete	✓	2023-01-07 23:49:22	<input type="checkbox"/>
1	9203	1			Report	Edit	Delete	✓	2023-01-07 23:49:20	<input type="checkbox"/>
0	9203	1			Report	Edit	Delete	✓	2023-01-07 23:49:20	<input type="checkbox"/>
0	9217	1	Hotmail Login	Testing Login function	Report	Edit	Delete	✓	2023-01-07 23:57:24	<input type="checkbox"/>

API TESTING

There are some tools in the industry for testing APIs. In some tools, handling the authentication/access token or authorization bearer token is much time-consuming and difficult. When the token is received, the user must copy and paste the token to another screen within a time limit. The user may be late for copying or make mistake in copying and pasting or set it not to expire.

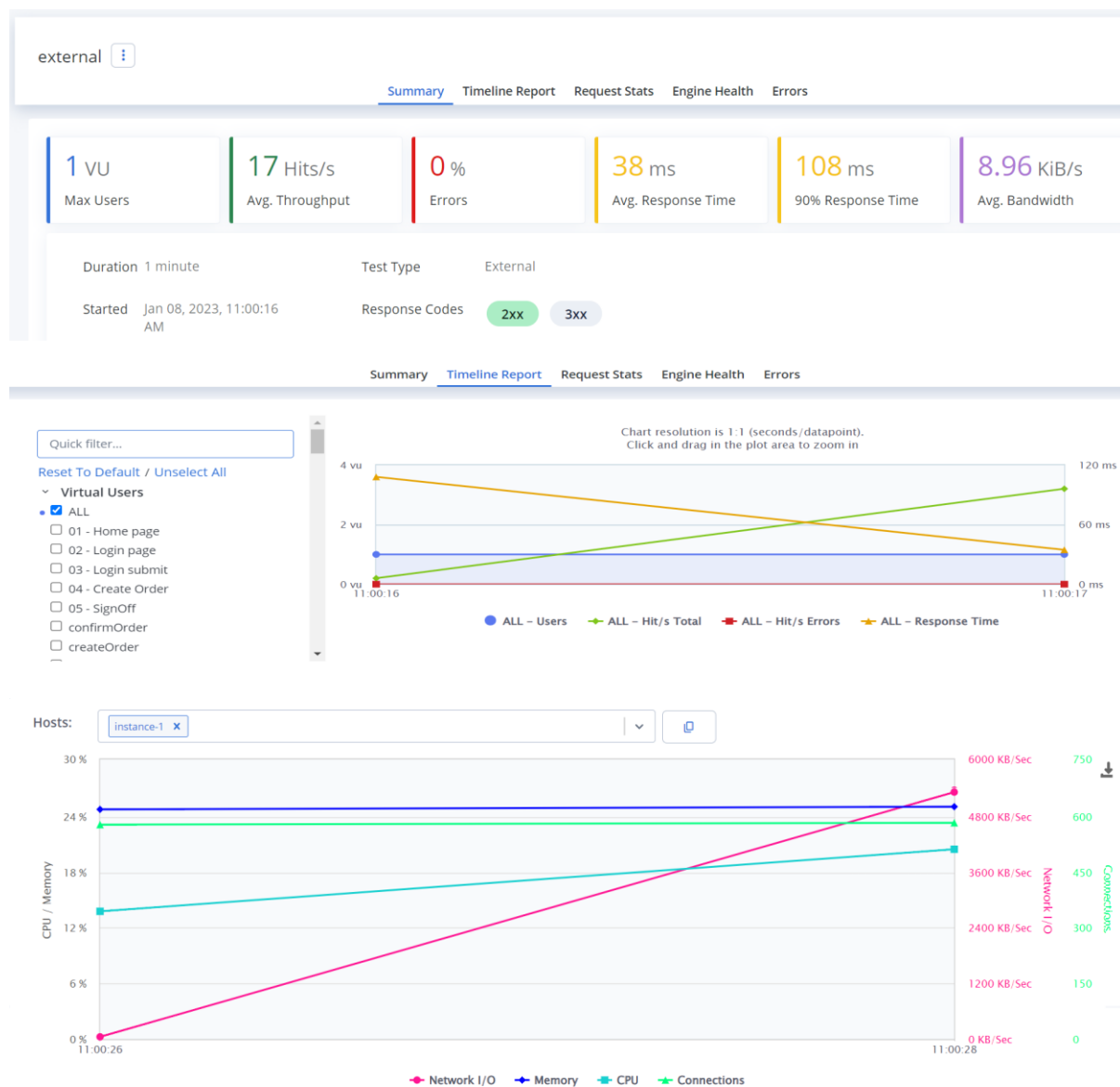
TESTENIUM dynamically handles the authentication token or access token **on the server without any configuration by the user, and the user does not need to configure OR copy and paste at all**. Whereas POSTMAN or SOAP UI handle the token on the client. Also, the user needs to install the tools such as SOAP UI or POSTMAN.

Hence, it is very secure and not time-consuming in TESTENIUM. Also, TESTENIUM can be extended for any other features which are not available at present in terms of API testing, if there is a requirement from the customers.

LOAD TESTING

Majority of the users run JMeter LOAD testing on laptops/client. Laptops/clients cannot perform better for LOAD testing due to lack of capacity and it can only support less than 10,000 virtual users. JMeter is recommended to create test project only, but not for executing the project on the Desktop/JMeter at all.

TESTENIUM assists users in executing the JMeter tests with JMX file on cloud/server with more virtual users and produces Blazemeter report, in addition to JMeter report.



SECURITY TESTING

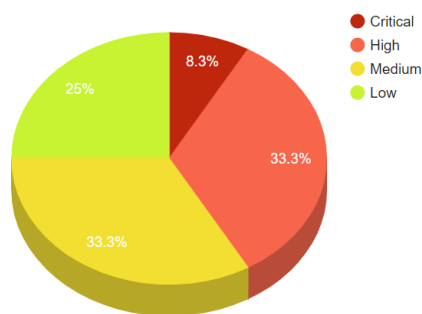
Application security testing (AST) is the process of making applications more resistant to security threats, by identifying security weaknesses and vulnerabilities in source code.

In TESTENIUM, a user can upload several projects together for scanning for vulnerabilities. TESTENIUM automatically performs all the steps, scans and produces reports with analytical graphs and with the remedy, without installing any tools.

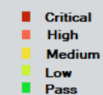
Application Security Vulnerability Reports

Project 1

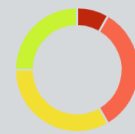
Severity Chart



Vulnerability Charts



Project 1



Project 2

Issues to fix by upgrading:

Upgrade commons-io:commons-io@2.6 to commons-io:commons-io@2.7 to fix

X Directory Traversal [Medium Severity][<https://security.snyk.io/vuln/SNYK-JAVA-COMMONSIO-1277109>] in commons-io:commons-io@2.6 introduced by commons-io:commons-io@2.6

Upgrade org.json:json@20090211 to org.json:json@20180130 to fix

X Denial of Service (DoS) [High Severity][<https://security.snyk.io/vuln/SNYK-JAVA-ORGJSON-2841369>] in org.json:json@20090211 introduced by org.json:json@20090211

Upgrade org.seleniumhq.selenium:selenium-java@3.7.1 to org.seleniumhq.selenium:selenium-java@4.0.0 to fix

X Information Disclosure [Low Severity][<https://security.snyk.io/vuln/SNYK-JAVA-COMGOOGLEGUAVA-1015415>] in com.google.guava:guava@23.0 introduced by org.seleniumhq.selenium:selenium-java@3.7.1 > com.google.guava:guava@23.0

X Information Exposure [Low Severity][<https://security.snyk.io/vuln/SNYK-JAVA-COMMONSCODEC-561518>] in commons-codec:commons-codec@1.10 introduced by org.seleniumhq.selenium:selenium-java@3.7.1 > commons-codec:commons-codec@1.10

X Deserialization of Untrusted Data [Medium Severity][<https://security.snyk.io/vuln/SNYK-JAVA-COMGOOGLECODEGSON-1730327>] in com.google.code.gson:gson@2.8.2 introduced by org.seleniumhq.selenium:selenium-java@3.7.1 > com.google.code.gson:gson@2.8.2

X Deserialization of Untrusted Data [Medium Severity][<https://security.snyk.io/vuln/SNYK-JAVA-COMGOOGLEGUAVA-32236>] in com.google.guava:guava@23.0 introduced by org.seleniumhq.selenium:selenium-java@3.7.1 > com.google.guava:guava@23.0

CODE COVERAGE

Code coverage is a software testing metric that determines the number of lines of code that is successfully validated under a test procedure, which in turn, helps in analysing how comprehensively a software is verified.

With TESTENIUM, a user can simply upload the source code with unit tests to get the coverage report without installing any tools.

Coverage Report - com.example.simple_one.Simple

Classes in this File	Line Coverage	Branch Coverage	Complexity
Simple	61% 13/21	54% 12/22	5.33

1	
2	
3	package com.example.simple_one;
4	
5	import java.util.Collection;
6	import java.util.Iterator;
7	
8	import org.slf4j.Logger;
9	import org.slf4j.LoggerFactory;
10	
11	3 public class Simple
12	{
13	
14	private static final Logger logger = LoggerFactory.getLogger(Simple.class);
15	
16	public int square(int x)
17	{
18	0 if (logger.isDebugEnabled())
19	{
20	logger.debug("x: " + x);
21	}
22	
23	3 int result = x * x;
24	
25	0 if (logger.isDebugEnabled())
26	{
27	logger.debug("result: " + result);
28	}
29	

BEHAVIOUR DRIVEN DEVELOPMENT (BDD)

Behaviour Driven Development is a software development approach that allows the business analyst to create test cases using a feature file with Gherkin statements. The BDD frameworks such a cucumber, specflow and lettuce generate code partially for given Gherkin statements, but the test engineer must implement the methods.

In TESTENIUM a user can provide the BDD feature file by typing or **dictating**. If the user has chosen voice, TESTENIUM converts the voice to Gherkin statements. Upon receiving the feature file, TESTENIUM platform will generate code 100% including the implementation of the methods automatically, saving time of trillions of test engineers. In

fact, there is no need of programmers or test engineers at all when using TESTENIUM.

TESTENIUM supports the following features.

- *Creates test automation project, adds dependencies, generates 100% complete and accurate test automation scripts, and creates comprehensive reports*
- *Allows the user to manage the test automation project (Test Management)*
- *Allows the user to edit the code and re-run the project as a new version*
- *UI & Functional testing using SELENIUM (JAVA, C#, Python), Microsoft Playwright (JAVA, C#, Python, JavaScript, TypeScript) and Robot Framework.*
- *API testing with automatic authentication token management*
- *Accelerated Massive Parallel Testing (AMPT)*
- *Creates **regression pack** when projects are grouped for AMPT*
- *Implements methods for BDD in JAVA automatic*
- *Collaborative working environment*
- *Jenkins and CI/CD Pipeline integration*
- *Unlimited Virtual Users for LOAD testing and gets Blazemeter report*
- *Automatic Blockchain unit testing on Ganache (TestNet) and code coverage*
- *Application Security and penetration testing without manually configuring any tools. Scans multiple projects in one go.*
- *Compares two Excel files within a second without manually configuring any tools*
- *Automatically creates SQL Server database engine and Oracle schema online for every user and configures the user as a database administrator when creating a user account.*
- *Maintains encrypted source code for security, so that NO hacker will enjoy the code generated by the user*

- *Provides a built-in Page Object Builder to provide test automation requirement and generates code for SELENIUM*
- *Converts Voice to Gherkin for BDD Feature file and automatically implements automation scripts*
- *Encrypts and decrypts series of files automatically without key-management*
- *Generates code for Searchable Encrypted Database Applications within a SECOND using TAMIL Meta-programming language.*

Cross Browser Test Automation

TESTENIUM is the first and only Meta-automation platform in the world that provides online infrastructure to create test project, generate code and implements steps in BDD (Behaviour Driven Development) and Page Object Model for Microsoft Playwright, Cypress and Selenium test automation in C#, Java, Python, JavaScript and TypeScript. TESTENIUM supports 100% online test databases (Oracle and SQL Server) for storing test data. With TESTENIUM you can test your code without any testing tools or programming language compilers installed in your computer. A user can even use iPad, Tablet or Smartphones to generate code for BDD.

For Playwright, Cypress, BDD and Selenium test automation, you do not have to install and configure any testing tools in your computer. All the tasks such as creating the projects, editing projects, adding dependencies, access to database, executing the test and creating reports are done in the TESTENIUM server.

**Robot framework testing with code generation comes FREE with
Selenium test automation**

Just upload the test plan in excel file **TESTENIUM will handle the rest**

How much can be saved using TESTENIUM?

To automate testing projects companies need to have compilers, testing tools and libraries installed on the computer and then write automation scripts. In this case a computer must have powerful memory (at least 16 GB) to launch the IDE for writing code and executing the projects. This is same for even if a company connects to third party execution platforms such as BrowserStack, SauceLabs or LambdaTest. Writing test automation scripts takes a long time. Before writing the code, the test engineer needs to have all the elements' details in hand. These platforms only execute the projects created by the clients and charge fee for execution and reports. Whereas, TESTENIUM does not charge fee for execution at all. TESTENIUM charges fee for code generation only, because user does not need to write the code or use wrong recorders or no-code solutions.

To automate testing project using TESTENIUM, companies only need to have the elements' details in hand. The user can simply connect to TESTENIUM and enter the elements' details on a Page Object Builder of TESTENIUM or upload in Excel file. To do this the user does not have to have any compiler, testing tools or library installed on the computer. Therefore, time taken for installing the software and for writing the code is saved hugely. In our assessment from the previous customers, one user is enough to perform four test engineers' work.

Therefore, for an example, if a company spends \$400,000 per year for 4 test engineers without using TESTENIUM platform, more than \$300,000 can be saved by using TESTENIUM. Salary for a user of TESTENIUM can be less than the salary of a Test Engineer. Therefore, a company may save over 75% of the testing expenses.

As TESTENIUM grows and gains popularity and other improper tools lose reputation in the future, TESTENIUM will save around \$25 billion per year of the testing expenses of the world.

Testenium Reviews from hSenid, Sri Lanka

From Saraji Dhanushka

To Dr Aras Arasilango BSc (Hons), PhD, MISoBL <ceo@testenium.com>

Date Today 06:10

We have written reviews for the Testenium tool based on our experience so far. Please refer to them below.

Testenium is one of the best test automation tool that we can use for various automation activities within one platform. Either functional or non-functional testing you are expecting to perform, it will be covered if you have Testenium. It is a far better, efficient tool for Automation testing I have ever seen. Our team started using Testenium a few months back, and the results are amazing..

(Saraji Dhanushka - Associate QA Lead, hSenid Business Solutions)

Testenium is an effective online automation platform for testing that can be used to login from a web browser without using other tools. I think using testenium we can reduce the time for writing the automation scripts manually and can do the execution faster than before. So I think it's a very effective and useful online automation platform for testing ever. Also I have worked with Dr Aras Arasilango quite some time and he is very helpful and an amazing person to work with.

(Uwini Nimaya - Quality Assurance Engineer, hSenid Business Solutions)

-- An innovative automation platform --

I would like to say that testenium is the most innovative automation platform in the market so far. It lets testers do all kinds of testing at one place. Before using Testenium we had to spend more time on setting up the environment, coding, executing. Testenium makes our lives easier. It saves most of our time on unnecessary work. I must mention the dedication of Dr. Aras. When we have an issue regarding the tool or any other testing issues, he connects with us without any delay and solves the problem. So I want to thank him in advance for his support and making our testing life easier.

(Hirushi Sedara - Quality Assurance Engineer, hSenid Business Solutions)

The Testenium is a good tool to test web Applications via Online Platform. Doesn't need any additional installations to add up to the computer system like any other Testing software tools. The Most advantageous part in the Testenium tool is API testing. It is the easiest API testing tool compared to the any other API tools I used to be worked with. And Selenium testing is also very quick and easy, compared to any other softwares. It is reducing lots of time for scripting and executions rather than before.

Can recommend this online platform Automation tool for anyone. I think this is the best tool for online Automation testing. And also Big Thank you for the Supportive and Helpful person Dr. Aras Arasilango who supported us all the time regarding issues along with the Testenium tool and any other testing issues.

(Hansani Gunasekara - Associate Quality Assurance Engineer, hSenid Business Solutions)

Thank You,
Best regards,

Saraji Hewagamage
Associate QA Lead



www.hSenidBiz.com

Technology Partners



Having experienced the benefit of saving money using TESTENIUM platform for test automation, companies have decided to setup outsourcing business in partnership with TESTENIUM to deliver fastest returns to companies for less costs.

Business Development Partners



Academic & Training Partners





One day workshop conducted for Eastern University, Sri Lanka by Dr Aras on 2nd Nov 2022

TESTENIUM has signed an MOU with Eastern University, Sri Lanka to offer MSc in Meta-computing and related topics. TESTENIUM is setting up the world's first meta-computing research lab at Eastern University, Sri Lanka.



Workshop on Platform for next-generation cybersecurity conducted at BMS Engineering College, Bangalore, India by Siva, Hari and Dr Aras



**TRAINING + INTERNSHIP
FULL STACK SOFTWARE TESTING**

Live Project, Live Sessions, Placement Assistance, Offer Letter, Internship Certificate, Training Certificate

Limited seats available

contact us +91 9916863769 cald@medhatech.in

TESTENIUM has partnered with Centre for Advanced Learning & Development (CALD), India to offer training in next generation Cybersecurity and Full-stack Software Testing which includes the following levels.

- Manual Testing
- Test Automation with SELENIUM, BDD & Microsoft Playwright
- Meta-Automation with TESTENIUM

Next-generation Cybersecurity includes Encryption without Key-management. Multiple documents and files can be easily encrypted and decrypted by simply uploading to TESTENIUM platform.



US Business news

Technology Elite Awards 2019

Testenium Limited
Most Innovative Online Test Automation Platform 2019 &
Best E-Commerce Software Testing Experts 2019

Trusted by many businesses



Next Generation Meta-automation Platform

Automate any task faster and get reports within hours using
Testenium Meta-automation platform



ceo@testenium.com

Thank You