AUTOMATION SOLUTION – S3 GROUP

S3 GROUP

Requirement

- Automate the testing of S3 Health Group home page
  - http://www.s3connectedhealth.com/
- Languages, use any one of the following: Java, C#, Ruby
- Use Selenium Framework
- Place the solution in GitHub

Solution: -

Solution in GitHub: - https://github.com/sashichotu4321/S3Group

Approach & Technology: -

- Understood the requirements and assessed the feasibility of creating the automation solution.
- Used Selenium Webdriver 3.0.0 drivers with SpecFlow framework and C# as programming language.
- Use HttpClient Request/Response for API's validation.
- Title of the home page (UI) and responses from the API (http://www.s3connectedhealth.com/) has been validated.
- Behaviour driven development approach and used Microsoft excel as test data input file, using SpecFlow+Excel plugin to integrate excel with the solution.
- Handle errors using exception handling techniques (try catch blocks).
- Using SepcRun as UnitTestProvider (App.config)
- Advanced reporting using SpecFlow+Runner. HTML file format with rich UI experience (Project Summary, Execution Summary, Timelines, Scenarios Summary and Step Details).

Tools & Technologies	Details
Operating system	Windows 10
Programming Language	C#
Automation tools	Selenium Webdriver v3.0.0
Automation framework	SpecFlow v2.1.0
Test Data Input	SpecFlow+Excel
Reporting methodology	SpecRunner inbuilt HTML reports
IDE	Visual Studio 2015
NuGet Packages	Selenium.WebDriver v3.0.0 Selenium.Support v3.0.0 Selenium.WebDriver.ChromeDriver v2.30.0.1 Selenium.InternetExplorer.WebDriver v3.4 NUnit v3.5.0 Newtonsoft.Json v10.0.2 (for API testing) SpecFlow v2.1.0 SpecFlow.Plus.Excel v1.4.2 SpecRun.Runner v1.5.2 SpecRun.SpecFlow v1.5.2
Browser	IE 11.0 and Chrome v58.0
Version Control Repository	GitHub

Test Coverage: -

The below listed validations had been covered in the solution provided.

- Validated title of S3 Group home page
- Validated ResponsePhrase, StatusCode and Version of the API

Scenarios Covered:-

UI Part -

Scenario#1:- (Execution Status - Passed)

1) Launch S3 Group website
2) Validate the title contains S3.
3) Exit the browser

API Part -

Scenario#2:- (Execution Status - Passed)

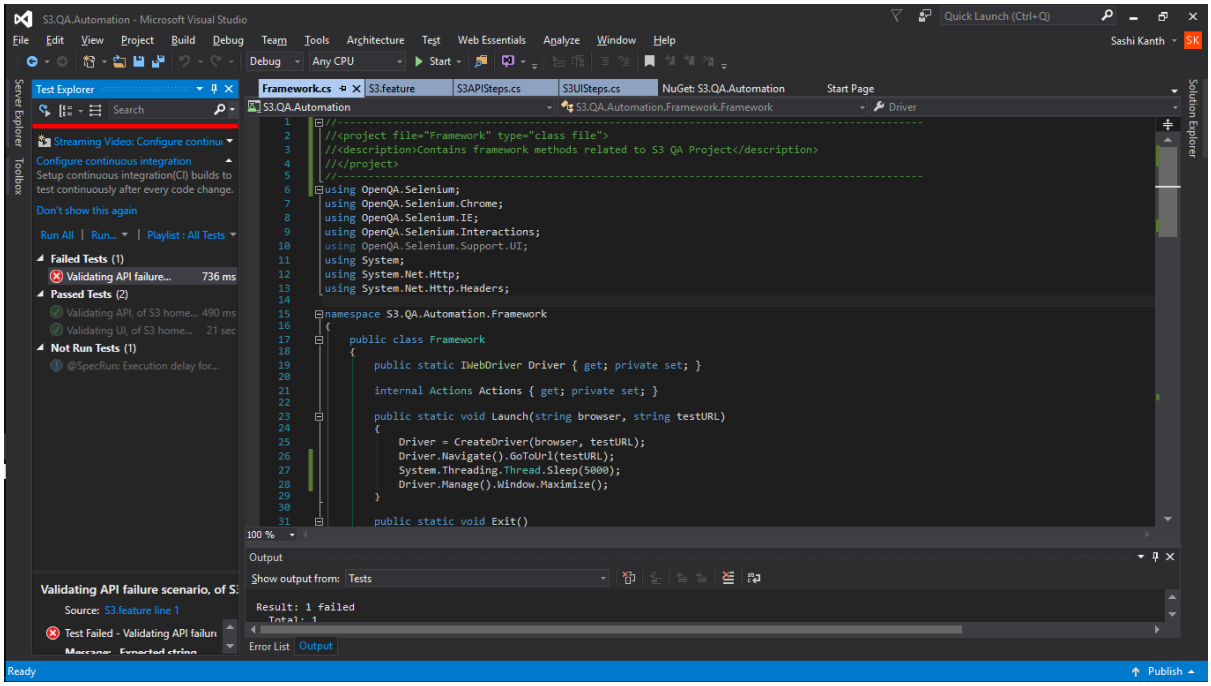
1) Access the "http://www.s3connectedhealth.com/" API
2) Validate that the StatusCode and Version from the responses is "OK" and "1.1" respectively

Scenario#3:- (Execution Status – Purposely Failed, to show how fail scenarios look in reports)

1) Access the "http://www.s3connectedhealth.com/" API
2) Validate that the Reason Phrase from the responses is "NOT OK"
3) Response from the API is "OK" and hence the test failed
4) I failed this test purposely to show the failed scenarios too.

Code Snippet: -

Please find the code snippet preview in the screenshot below.



Steps to build and execute the tests: -

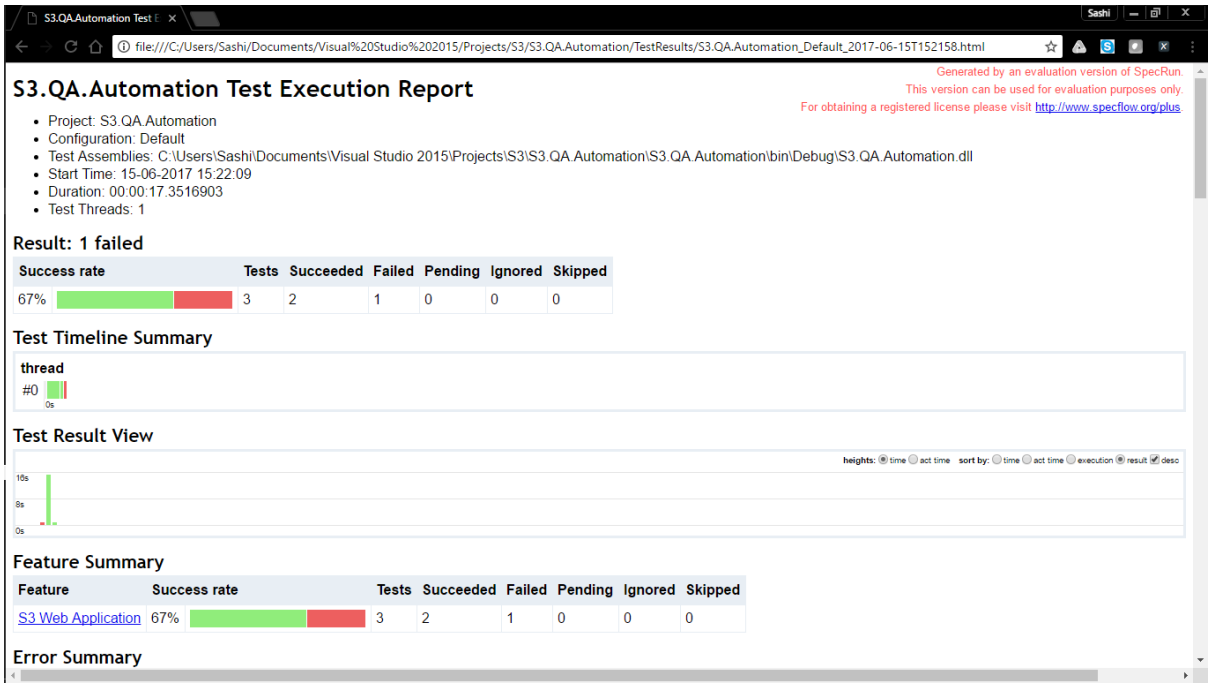
1. Checkout the solution from GitHub - https://github.com/sashichotu4321/S3Group.
2. Open the solution in Visual Studio IDE.
3. Go to Test-Windows-Test Explorer
4. Build the solution to get all the Nuget packages and dll's.
5. Right click the tests in the Test Explorer pane and click on Run tests.
6. After execution, click on the Report file link in Output Pane.
7. Reports can also be accessed from "TestResults" folder in solution.

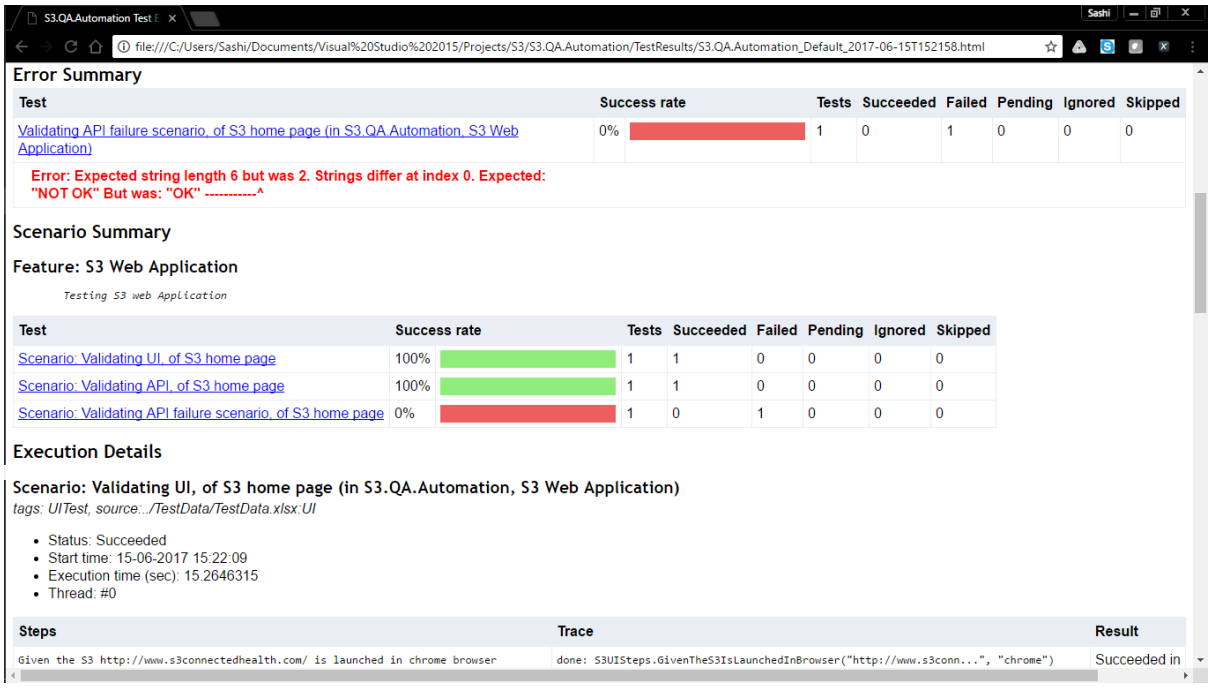
Report: -

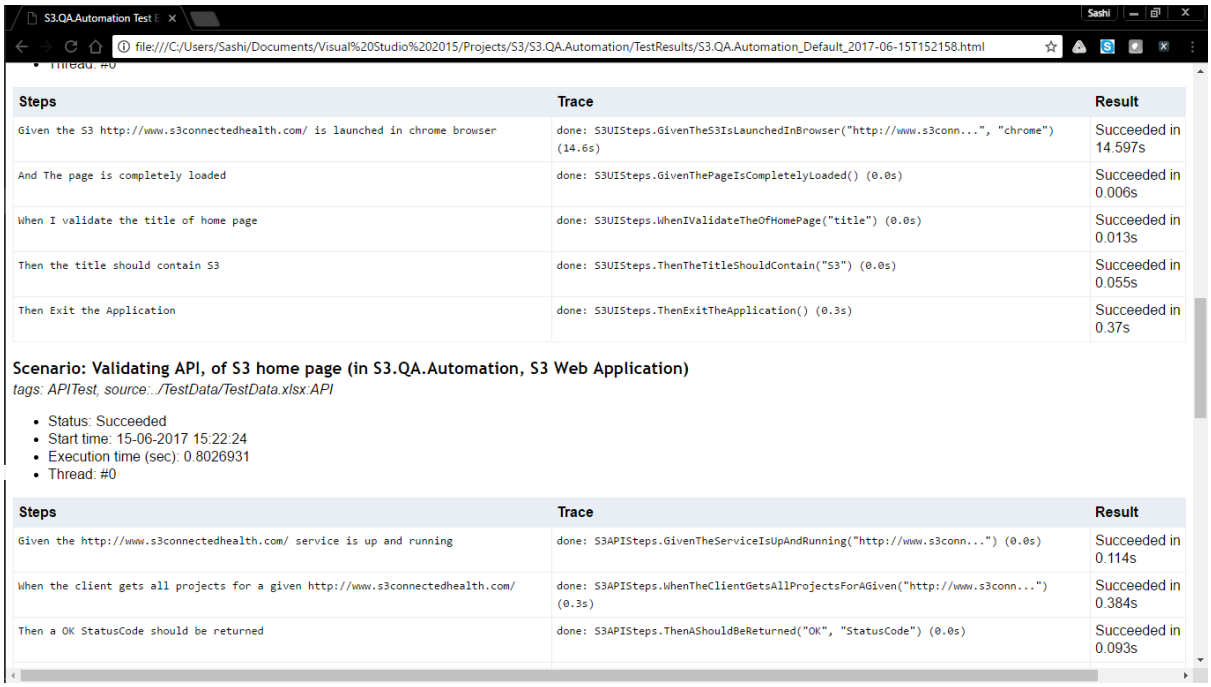
The report shows the following details

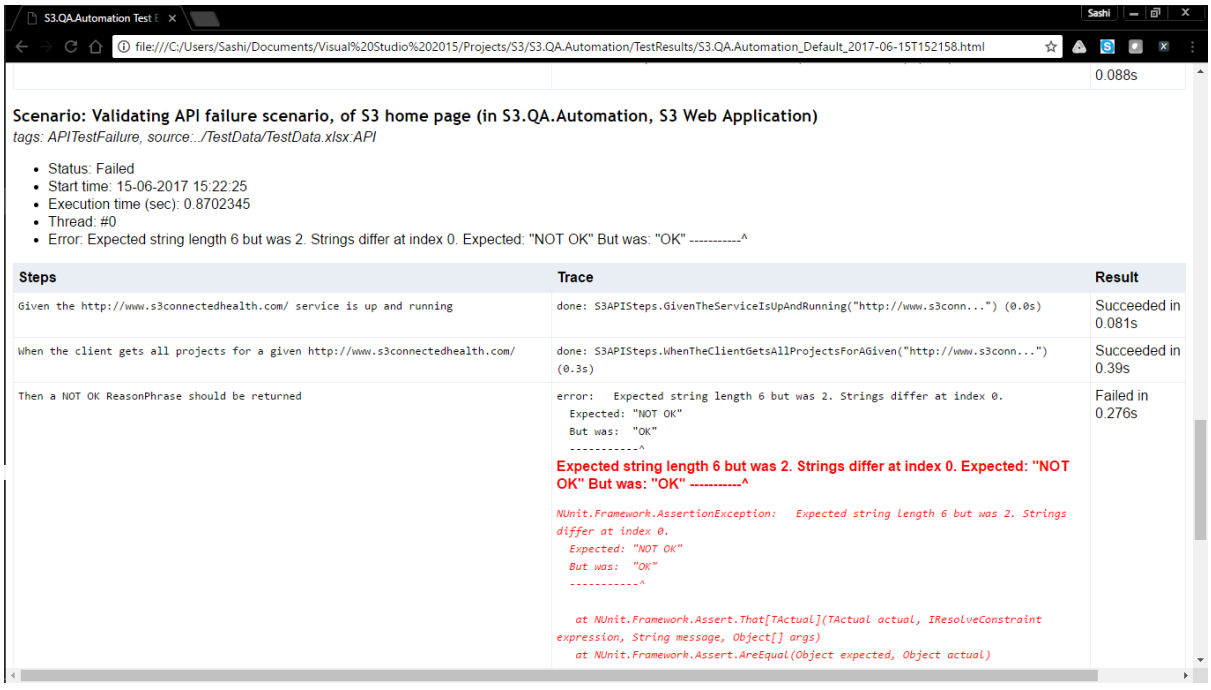
- Project Summary
- Results
- Test Timeline Summary
- Test Results View
- Feature Summary
- Error Summary
- Scenario Summary
- Execution Details
- Steps

Reports Snapshot: - (Path-<Solution>/TestResults)


S3.QA.Automation Test E
Sashi
file:///C:/Users/Sashi/Documents/Visual%20Studio%202015/Projects/S3/S3.QA.Automation/TestResults/S3.QA.Automation_Default_2017-06-15T152158.html
S3.QA.Automation Test Execution Report
Generated by an evaluation version of SpecRun.
This version can be used for evaluation purposes only.
For obtaining a registered license please visit http://www.specflow.org/plus
Project: S3.QA.Automation
Configuration: Default
Test Assemblies: C:\Users\Sashi\Documents\Visual Studio 2015\Projects\S3\S3.QA.Automation\S3.QA.Automation\bin\Debug\S3.QA.Automation.dll
Start Time: 15-06-2017 15:22:09
Duration: 00:00:17.3516903
Test Threads: 1
Result: 1 failed
Success rate Tests Succeeded Failed Pending Ignored Skipped
67% 3 2 1 0 0 0
Test Timeline Summary
thread
#0
0s
Test Result View
heights: time act time sort by: time act time execution result desc
10s
8s
0s
Feature Summary
Feature Success rate Tests Succeeded Failed Pending Ignored Skipped
S3 Web Application 67% 3 2 1 0 0 0
Error Summary


S3.QA.Automation Test E
Sashi
file:///C:/Users/Sashi/Documents/Visual%20Studio%202015/Projects/S3/S3.QA.Automation/TestResults/S3.QA.Automation_Default_2017-06-15T152158.html
Error Summary
Test Success rate Tests Succeeded Failed Pending Ignored Skipped
Validating API failure scenario, of S3 home page (in S3.QA.Automation, S3 Web Application) 0% 1 0 1 0 0 0
Error: Expected string length 6 but was 2. Strings differ at index 0. Expected: "NOT OK" But was: "OK" ----------^
Scenario Summary
Feature: S3 Web Application
Testing S3 web Application
Test Success rate Tests Succeeded Failed Pending Ignored Skipped
Scenario: Validating UI, of S3 home page 100% 1 1 0 0 0 0
Scenario: Validating API, of S3 home page 100% 1 1 0 0 0 0
Scenario: Validating API failure scenario, of S3 home page 0% 1 0 1 0 0 0
Execution Details
Scenario: Validating UI, of S3 home page (in S3.QA.Automation, S3 Web Application)
tags: UITest, source:../TestData/TestData.xlsx:UI
Status: Succeeded
Start time: 15-06-2017 15:22:09
Execution time (sec): 15.2646315
Thread: #0
Steps Trace Result
Given the S3 http://www.s3connectedhealth.com/ is launched in chrome browser done: S3UISteps.GivenTheS3IsLaunchedInBrowser("http://www.s3conn...", "chrome") Succeeded in


S3.QA.Automation Test E
Sashi
file:///C:/Users/Sashi/Documents/Visual%20Studio%202015/Projects/S3/S3.QA.Automation/TestResults/S3.QA.Automation_Default_2017-06-15T152158.html
Thread: #0
Steps
Trace
Result
Given the S3 http://www.s3connectedhealth.com/ is launched in chrome browser
done: S3UISteps.GivenTheS3IsLaunchedInBrowser("http://www.s3conn...", "chrome") (14.6s)
Succeeded in 14.597s
And The page is completely loaded
done: S3UISteps.GivenThePageIsCompletelyLoaded() (0.0s)
Succeeded in 0.006s
When I validate the title of home page
done: S3UISteps.WhenIValidateTheOfHomePage("title") (0.0s)
Succeeded in 0.013s
Then the title should contain S3
done: S3UISteps.ThenTheTitleShouldContain("S3") (0.0s)
Succeeded in 0.055s
Then Exit the Application
done: S3UISteps.ThenExitTheApplication() (0.3s)
Succeeded in 0.37s
Scenario: Validating API, of S3 home page (in S3.QA.Automation, S3 Web Application)
tags: APITest, source:../TestData/TestData.xlsx:API
Status: Succeeded
Start time: 15-06-2017 15:22:24
Execution time (sec): 0.8026931
Thread: #0
Steps
Trace
Result
Given the http://www.s3connectedhealth.com/ service is up and running
done: S3APISteps.GivenTheServiceIsUpAndRunning("http://www.s3conn...") (0.0s)
Succeeded in 0.114s
When the client gets all projects for a given http://www.s3connectedhealth.com/
done: S3APISteps.WhenTheClientGetsAllProjectsForAGiven("http://www.s3conn...") (0.3s)
Succeeded in 0.384s
Then a OK StatusCode should be returned
done: S3APISteps.ThenAShouldBeReturned("OK", "StatusCode") (0.0s)
Succeeded in 0.093s


S3.QA.Automation Test E
Sashi
file:///C:/Users/Sashi/Documents/Visual%20Studio%202015/Projects/S3/S3.QA.Automation/TestResults/S3.QA.Automation_Default_2017-06-15T152158.html
0.088s
Scenario: Validating API failure scenario, of S3 home page (in S3.QA.Automation, S3 Web Application)
tags: APITestFailure, source:../TestData/TestData.xlsx:API
Status: Failed
Start time: 15-06-2017 15:22:25
Execution time (sec): 0.8702345
Thread: #0
Error: Expected string length 6 but was 2. Strings differ at index 0. Expected: "NOT OK" But was: "OK" ----------^
Steps
Trace
Result
Given the http://www.s3connectedhealth.com/ service is up and running
done: S3APISteps.GivenTheServiceIsUpAndRunning("http://www.s3conn...") (0.0s)
Succeeded in 0.081s
When the client gets all projects for a given http://www.s3connectedhealth.com/
done: S3APISteps.WhenTheClientGetsAllProjectsForAGiven("http://www.s3conn...") (0.3s)
Succeeded in 0.39s
Then a NOT OK ReasonPhrase should be returned
error: Expected string length 6 but was 2. Strings differ at index 0.
Expected: "NOT OK"
But was: "OK"
----------^
Expected string length 6 but was 2. Strings differ at index 0. Expected: "NOT OK" But was: "OK" ----------^
NUnit.Framework.AssertionException: Expected string length 6 but was 2. Strings differ at index 0.
Expected: "NOT OK"
But was: "OK"
----------^
at NUnit.Framework.Assert.That[TActual](TActual actual, IResolveConstraint expression, String message, Object[] args)
at NUnit.Framework.Assert.AreEqual(Object expected, Object actual)
Failed in 0.276s