Web Automation Using Visual Studio 2014, C#, Nunit, Selenium and SpecFlow

Created by Pramita Winata
7 July 2017

Framework structure

Structure:
- SearchWorkflows project -> contains all test cases for LastSearch functionality
    - 4 Feature files each contain test cases per tab, e.g "Koop", "Huur"
    - TestSteps contains all implementation of each test step in all cases
    - Deafult.srprofile -> Test profile to configure after XX fails the test will stop
    - Pages contains implementation of the each webpage, in this case "Homepage"
- SupportLibraries project -> contains all functions that is general

Solution Explorer

Search Solution Explorer (Ctrl+;)

- Solution 'PramitaWinata' (2 projects)
  - SearchWorklows
    - Properties
    - References
    - Pages
      - AbstractPage.cs
      - HomePage.cs
      - App.config
      - Default.srprofile
    - Hooks.cs
    - HuurTests.feature
    - KoopTests.feature
    - NieuwbouwTests.feature
    - packages.config
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    - runtests.cmd
    - SpecRunTestProfile.xsd
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    - scripts
      - clearChromeLocalData.bat
    - Helpers.cs
      - Helpers
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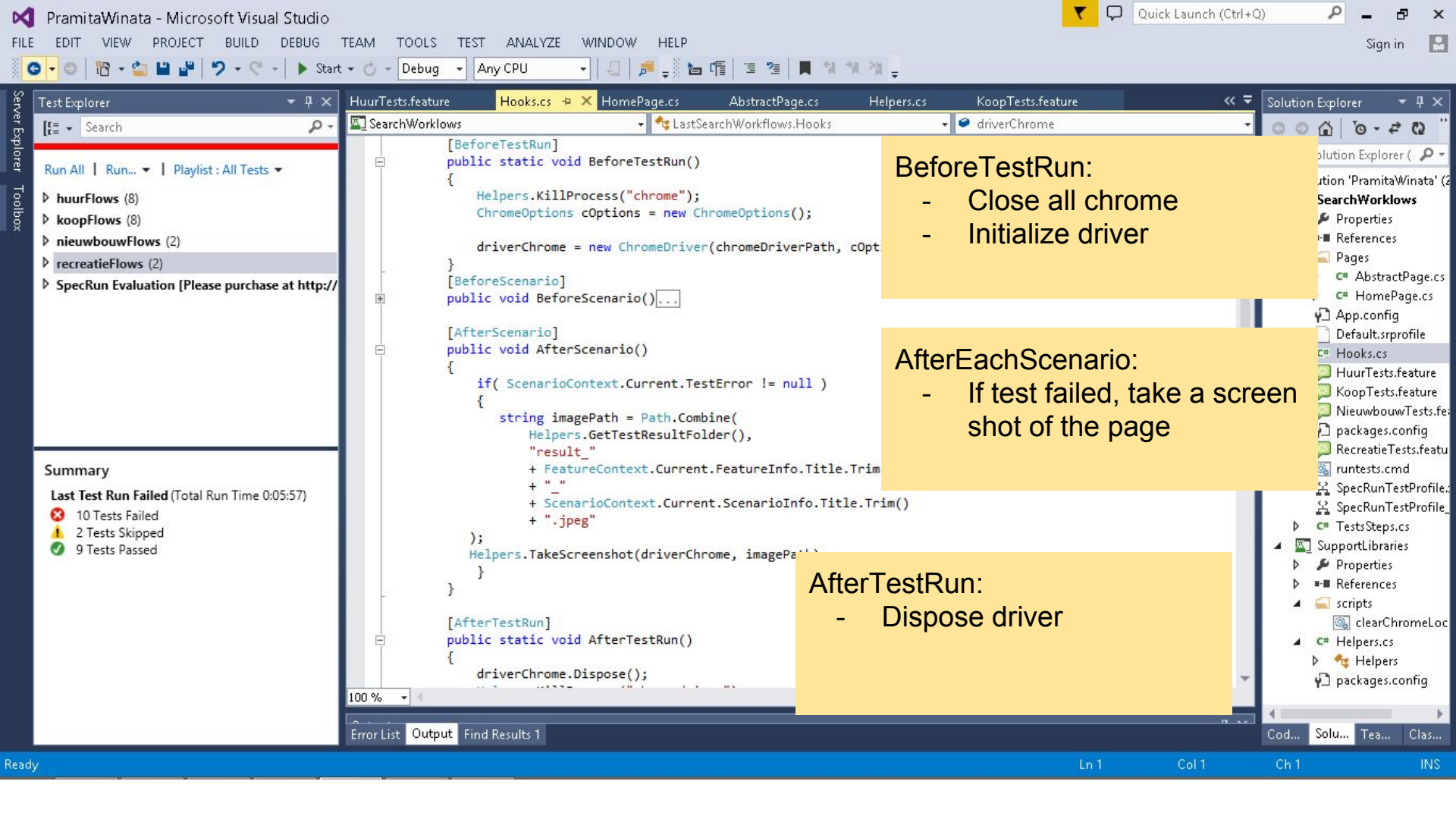Code Analysis Solution Explorer Team Explorer Class View

Ready

Ln 1   Col 1   Ch 1   INS

Test Setup

PramitaWinata - Microsoft Visual Studio

FILE   EDIT   VIEW   PROJECT   BUILD   DEBUG   TEAM   TOOLS   TEST   ANALYZE   WINDOW   HELP

Quick Launch (Ctrl+Q)

Sign in

Debug   Any CPU   Start

Test Explorer

Search

Run All   Run...   Playlist : All Tests

▷ huurFlows (8)
▷ koopFlows (8)
▷ nieuwbouwFlows (2)
▷ recreatieFlows (2)
▷ SpecRun Evaluation [Please purchase at http://

Summary

Last Test Run Failed (Total Run Time 0:05:57)
❌ 10 Tests Failed
⚠️ 2 Tests Skipped
✅ 9 Tests Passed

HuurTests.feature   Hooks.cs   HomePage.cs   AbstractPage.cs   Helpers.cs   KoopTests.feature

SearchWorklows   LastSearchWorkflows.Hooks   driverChrome

```
            [BeforeTestRun]
            public static void BeforeTestRun()
            {
                Helpers.KillProcess("chrome");
                ChromeOptions cOptions = new ChromeOptions();

                driverChrome = new ChromeDriver(chromeDriverPath, cOpt
            }
            [BeforeScenario]
            public void BeforeScenario()...

            [AfterScenario]
            public void AfterScenario()
            {
                if( ScenarioContext.Current.TestError != null )
                {
                    string imagePath = Path.Combine(
                        Helpers.GetTestResultFolder(),
                        "result_"
                        + FeatureContext.Current.FeatureInfo.Title.Trim
                        + "_"
                        + ScenarioContext.Current.ScenarioInfo.Title.Trim()
                        + ".jpeg"
                    );
                    Helpers.TakeScreenshot(driverChrome, imagePa
                }
            }

            [AfterTestRun]
            public static void AfterTestRun()
            {
                driverChrome.Dispose();
```

100 %

Error List   Output   Find Results 1

BeforeTestRun:
- Close all chrome
- Initialize driver

AfterEachScenario:
- If test failed, take a screen shot of the page

AfterTestRun:
- Dispose driver

Solution Explorer

Solution Explorer (
Solution 'PramitaWinata' (2
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Pages

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HuurTests.feature   Hooks.cs   HomePage.cs   **AbstractPage.cs** ✕

SearchWorklows ▾   LastSearchWorkflows.Pages.. ▾   IsRobotVerificationExist() ▾

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using OpenQA.Selenium;
using System.Drawing.Imaging;
using OpenQA.Selenium.Support.PageObjects;

namespace LastSearchWorkflows.Pages
{
    public class AbstractPage
    {
        protected IWebDriver driver;
        private const string robotStr = "Robot";

        public AbstractPage(IWebDriver webDriver)...

        public bool IsRobotVerificationExist()...
    }
}
```

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Abstract class for WebPage
implementation

100 %

Output

Show output from: Tests

Report file: file:///C:\Users\Mita\Documents\TestAutomationWithCSharp-master\
Log file: file:///C:\Users\Mita\Documents\TestAutomationWithCSharp-master\Tes
========== Run test finished: 21 run (0:05:56.9275823) ==========
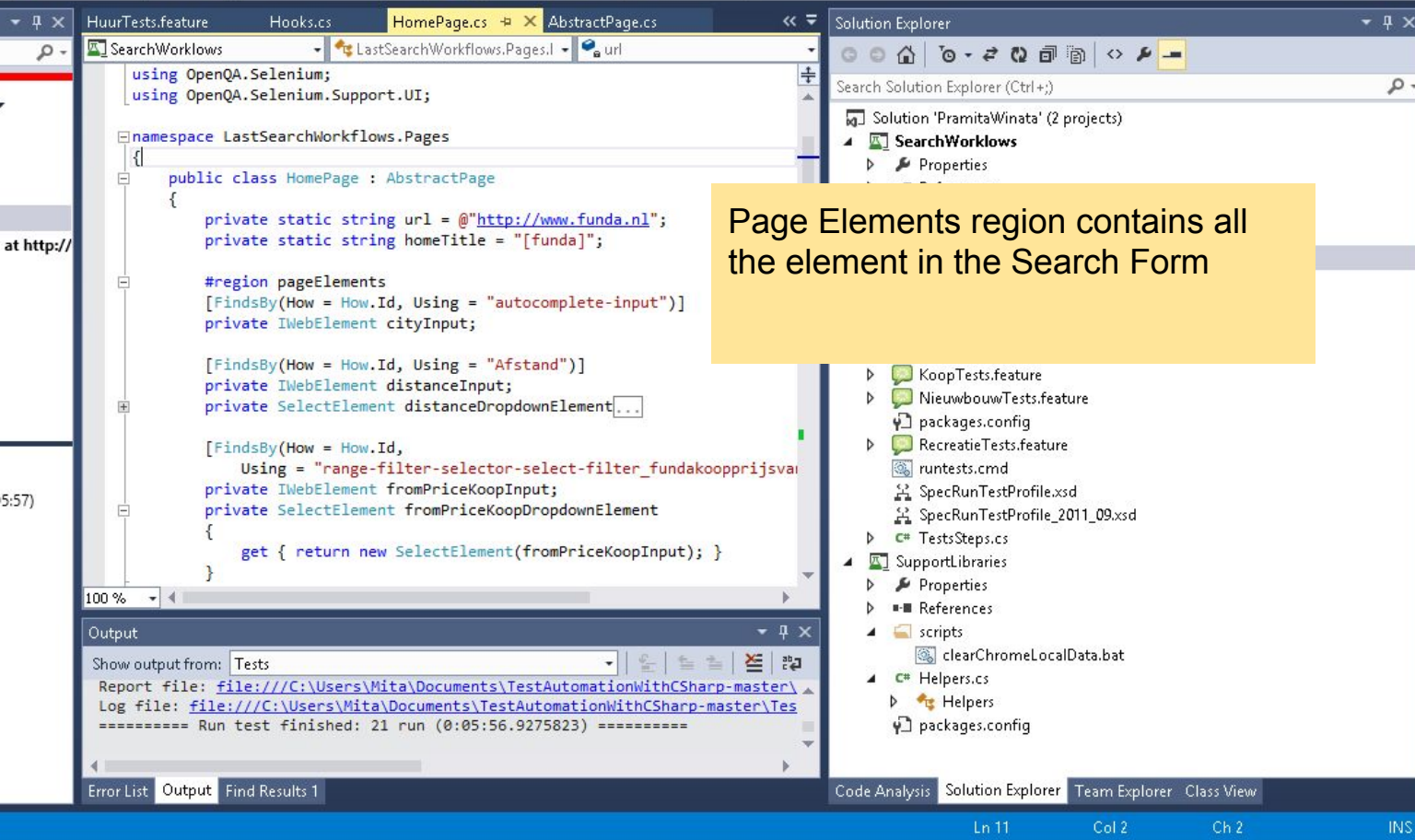
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    🗋 packages.config

Code Analysis   Solution Explorer   Team Explorer   Class View

Ready

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Start ▾   Debug ▾   Any CPU ▾

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HuurTests.feature   Hooks.cs   **HomePage.cs** ⊁ ✕ AbstractPage.cs

SearchWorklows ▾   LastSearchWorkflows.Pages.l ▾   url ▾

```
using OpenQA.Selenium;
using OpenQA.Selenium.Support.UI;

namespace LastSearchWorkflows.Pages
{
    public class HomePage : AbstractPage
    {
        private static string url = @"http://www.funda.nl";
        private static string homeTitle = "[funda]";

        pageElements

        pageActions
    }
}
```

100 %

Homepage classm extension of
AbstractPage classm contains two
regionsm i.e. page elements and
page actions

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Code Analysis   Solution Explorer   Team Explorer   Class View

Ready

Ln 11   Col 2   Ch 2

```
SearchWorklows    ▾    LastSearchWorkflows.Pages.I ▾    url

      using OpenQA.Selenium;
      using OpenQA.Selenium.Support.UI;

    □namespace LastSearchWorkflows.Pages
     {
    □      public class HomePage : AbstractPage
            {
                private static string url = @"http://www.funda.nl";
                private static string homeTitle = "[funda]";

    □          #region pageElements
                [FindsBy(How = How.Id, Using = "autocomplete-input")]
                private IWebElement cityInput;

                [FindsBy(How = How.Id, Using = "Afstand")]
                private IWebElement distanceInput;
    +          private SelectElement distanceDropdownElement...

                [FindsBy(How = How.Id,
                    Using = "range-filter-selector-select-filter_fundakoopprijsva
                private IWebElement fromPriceKoopInput;
    □          private SelectElement fromPriceKoopDropdownElement
                {
                    get { return new SelectElement(fromPriceKoopInput); }
                }
            }
```

Page Elements region contains all
the element in the Search Form

- ▣ Solution 'PramitaWinata' (2 projects)
  - ▲ ▣ **SearchWorklows**
    - ▷ 🔧 Properties
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Output   ▾ ⌷ ✕

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Code Analysis   Solution Explorer   Team Explorer   Class View

Ln 11   Col 2   Ch 2   INS

Tabs: HuurTests.feature | Hooks.cs | HomePage.cs | AbstractPage.cs

```csharp
namespace LastSearchWorkflows.Pages
{
    public class HomePage : AbstractPage
    {
        private static string url = @"http://www.funda.nl";
        private static string homeTitle = "[funda]";

        pageElements

        #region pageActions
        /// <summary> ...
        public HomePage(IWebDriver driver) : base(driver)
        /// <summary> ...
        public void OpenHomeURL()...
        /// <summary> ...
        public void OpenHomeURLonTab(string searchTab)...
        /// <summary> ...
        public bool IsHomepageOpen()...
        /// <summary> ...
        public void FillInSearchBar(
            string tab,string city,string radius,
            string fromPrice="",string toPrice= ""
            ) ...

        /// <summary> ...
```

100 %

Page Actions region contains all the action for Search Form

Output

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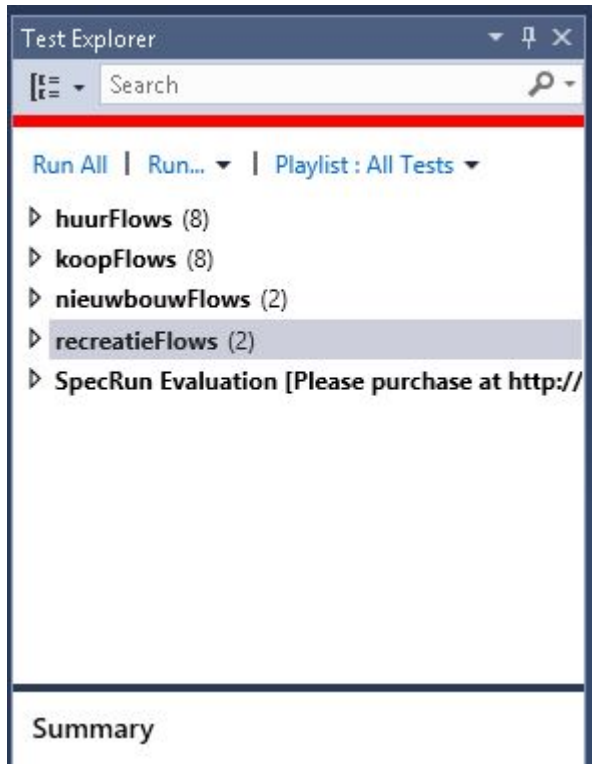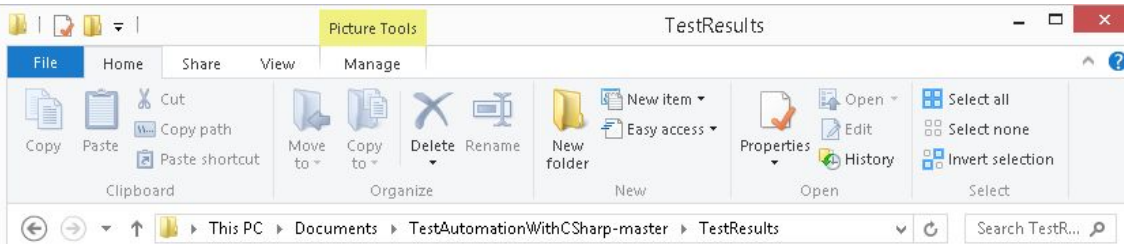Code Analysis | Solution Explorer | Team Explorer | Class View

Ln 11   Col 2   Ch 2   INS

Helper class

Functions that is general is put in the Helper Class under SupportLibraries project

Test Cases

Total Test Cases created. For more details on the test cases of each flow , please open the solution or on the zip attached in %root%/Tests)
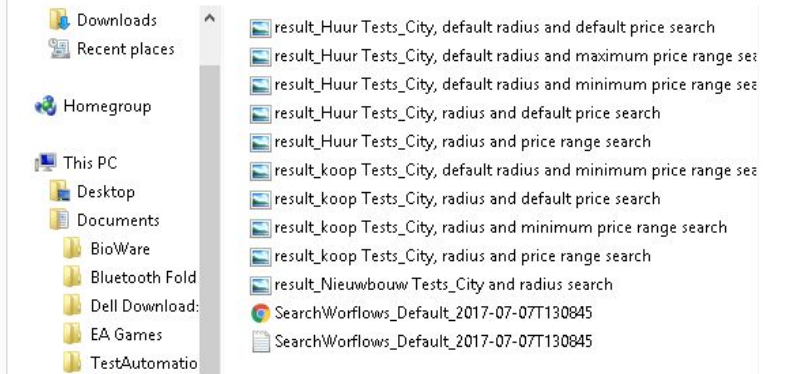
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Summary

Pramita Winata - Web Automation Using Visual Studio 2014, C#, Nunit, Selenium and SpecFlow

Test Results and Logging

TestResults will be stored in %root%/TestResult. It contains:
- HTML report
- Log
- Screenshots for all failing test cases

More automation?

Please visit my public repository:
https://github.com/MitaWinata

Thank you :)