Following the steps to setup the Protractor With Typescript:

1. Create Folder 'ProtractorAutomation' and under this folder create sub folder name 'specs'

2. Navigate to your project folder ''ProtractorAutomation' and run the below command to install protractor locally.

npm install protractor

3.Run the below command to install type script globally.

npm install -g typescript

4. As we are using ‘Node.js’ and ‘Jasmine’ framework. We need to install ‘typings’ of node and jasmine.

Run the below commands to install ‘@types/jasmine’ and ‘@types/node’.

npm install @types/jasmine

npm install @types/node

5.Now create package.json in your Project folder 'ProtractorAutomation'

{

"name": "protractorautomation",

"version": "1.0.0",

"description": "Protractor Typescript automation framework",

"main": "config.js",

"dependencies": {

"protractor": "^5.4.1"

},

"devDependencies": {},

"scripts": {

"pretest": "npm run tsc",

"test": "protractor ConvertedJSFiles/config.js",

"tsc": "tsc"

},

"keywords": [

"Protractor",

"Typescript"

],

"author": "Vijay Motagi",

"license": "ISC"

}

Under “Script”: section, we have configured to run js files generated from Typescript. They will be generated under ConvertedJSFiles folder in your project.

6.Now, it’s time to configure typescript.

Create a below tsconfig.json file in your project folder.

{

"compilerOptions": {

"target": "es2015",

"module": "commonjs",

"moduleResolution": "node",

"sourceMap": false,

"declaration": false,

"removeComments": false,

"noImplicitAny": false,

"outDir": "ConvertedJSFiles",

"types": ["jasmine", "node"]

},

"include": [

"\*\*/\*"

],

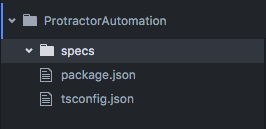
"exclude": [

"node\_modules"

]

}

Now folder structure is



7.Create FirstSpec.ts in ProtractorAutomation->specs.

FirstSpec.ts

import { ElementFinder, browser, by, element } from 'protractor';

describe('angularjs homepage todo list', function () { //Suite in Jasmine

it('should add a todo', function () { // Test in Jasmine

browser.get('https://angularjs.org'); // Entering application url in browser

// Enter text under TODO

element(by.model('todoList.todoText')).sendKeys('write first protractor test');

element(by.css('[value="add"]')).click(); // Clicks on 'Add' button

// Getting all Todo lists displayed

element.all(by.repeater('todo in')).then(function (todoList) {

// Asserting the TODO's count as 3

expect(todoList.length.toString()).toEqual('3');

todoList[2].getText().then(function (text) {

//Verifying newly entered TODO is added

expect(text).toEqual('write first protractor test');

});

});

});

});

We have used element, by, browser etc.. in our script. So we have imported required dependencies in first line.

8.Create the below config.ts file in ‘ProtractorAutomation’ folder.

config.ts

import { ProtractorBrowser, Config } from 'protractor';

export let config: Config = {

seleniumAddress: 'http://localhost:4444/wd/hub',

//This is for Multiple instances

// multiCapabilities: [{

// browserName: 'firefox'

// }, {

// browserName: 'chrome'

// }],

// This is for Single instance

capabilities: {

'browserName': 'chrome',

'chromeOptions': {

args: ['--disable-browser-side-navigation']

}

},

framework: 'jasmine',

specs: ['./specs/\*\*/\*.js','./specs/TestSuites/\*\*/\*.js'],

jasmineNodeOpts: {

defaultTimeoutInterval: 2500000

},

onPrepare: () => {

let globals = require('protractor');

let browser = globals.browser;

browser.manage().window().maximize();

browser.manage().timeouts().implicitlyWait(60000);

}

}

9. To run test cases

webdriver-manager start

npm test

10. To Debug typescript

Create .vscode folde and create file Launch.json file with following content

{

// Use IntelliSense to learn about possible attributes.

// Hover to view descriptions of existing attributes.

// For more information, visit: https://go.microsoft.com/fwlink/?linkid=830387

"version": "0.2.0",

"configurations": [

{

"type": "node",

"request": "launch",

"name": "Debug Typescript Program",

"program": "${workspaceRoot}/node\_modules/protractor/bin/protractor",

"args": ["${workspaceRoot}/ConvertedJSFiles/config.js"]

}

]

}