Contents

My Questions

Lecture 100

My Marks

it.only('Open.. - only this test

xit('Open - not this test

Links

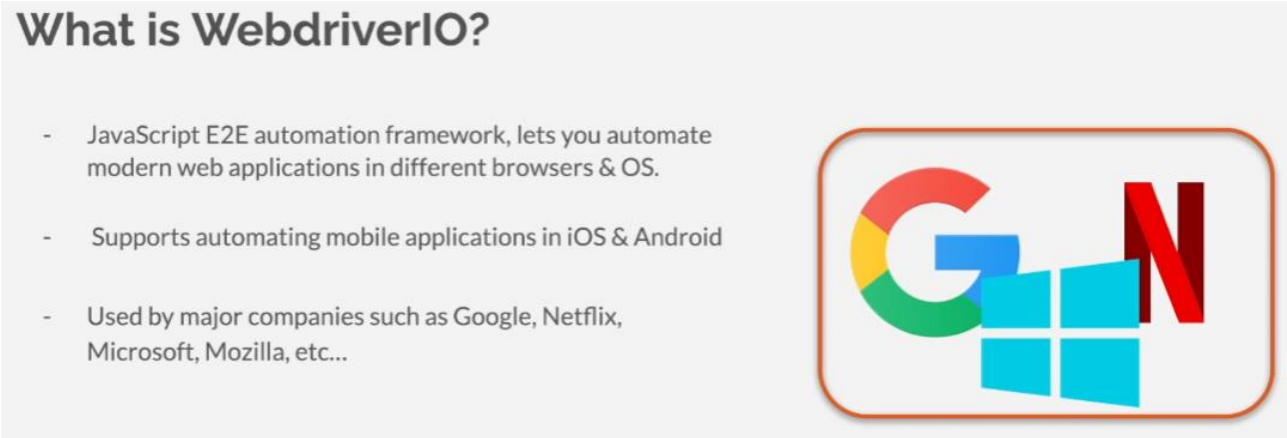
- https://webdriver.io/docs/api/expect-webdriverio/
- https://webdriver.io/docs/api/expect-webdriverio/#default-matchers
- https://jasmine.github.io/api/3.5/global.html#expect
- https://github.com/automationbro/webdriverio-course
-

see Lessons 35 & 36

Section 1

Lesson 3 What is WebdriverIO

- JS E2E automation framework



Why is it popular?

- Really easy to get started

```
$ npm install --save-dev @wdio/cli
$ npx wdio config --yes
$ npx wdio run
```

Why is it popular?

- Really easy to get started
- Easy readable code

```
// Click the Get Started button
await $('#get-started').click();
```

Why is it popular?

- Really easy to get started
- Easy readable code
- Front-end friendly
  - Write tests using JavaScript

Why is it popular?

- Really easy to get started
- Easy readable code
- Front-end friendly
  - Write tests using JavaScript
- Huge community support & actively maintained
- Open Source
  - Free to use for anyone (startups to enterprise)

Lesson 4 Getting Most out of the Course

Lesson 5 Discord Community

- https://discord.com/channels/1019379062013169734/@home

Lesson 8 Zipshare.com

- https://www.zipshare.com/

Section 2 Machine Setup

- Node
- VS Code installation
- Google Chrome
-

Section 3 WebdriverIO Setup & Installation

- codebase: https://github.com/dilpreetj/webdriverio-course

Lesson 13 WebdriverIO Project Setup

- npm init wdio ./path_to_new_project [npm init wdio ./wdio-course]
- this sigle command downloads the WebdriverIO CLI tool and runs a configuration wizard that helps to configure the test suite
- `To run your tests, execute:`
- `$ cd C:\coding\Udemy_WebdriverIO\wdio-course`
- `$ npm run wdio`
- `MUISTA PÄIVITTÄÄ CHROME-browser aloittaessasis (tarkista onko päivitystä)`

Lesson 14 WebdriverIO Config Overview

Overview of wdio.conf.js

- baseURL,
- Specs,
- Cpabilities,
- Services,
- Framework,
- Reporter,
- Hooks

Section 4 Chrome 115+ Update Important

WebdriverIO v8.14.0+ Updates

- rm -rf node_modules package-lock.json
- npm i @wdio/cli@latest @wdio/local-runner@latest @wdio/mocha-framework@latest @wdio/spec-reporter@latest --save-dev
- in case updating older tests and conflicting with chrome browser drivers
- Chrome for testing: https://googlechromelabs.github.io/chrome-for-testing/

Section 5 Write Tests

Lesson 22 Write & Run first test

- Setup the folder structure
- Write a test for Home Page
    - Open URL & assert title (practice.automation.com)
- Run test: npx wdio

Lesson 23, 24 Fail test & Async

```
-   describe('Home', () => {
-       it('Open URL & assert title', async () => {
-           // Open URL
-           await browser.url('https://practice.sdetunicorns.com/');
-
-           // Assert title
-           await expect(browser).toHaveTitle('Practice E-Fail-Commerce Site –
    SDET Unicorns');
-           // await expect(browser).toHaveTitle('This is a random title');
-       })
-   })
```

Section 6 Working with Elements

Lesson 27 Finding Elements ($)

Lesson 28 & 29 Exercise using Xpath

```
await $('//img[@alt="Practice E-Commerce Site"]').click();
```

Lesson 30 Find Element & Get text

Lesson 31 Finding Multiple Elements

- note this, more challenging!

Lesson 33 Exercise: Contact & Blog Page

Section 7 Assertions

Lesson 35 WebdriverIO Expect Assertions

Advantages

- Built-in-assertions (no external lib needed)
- Built-in wait & retry capabilities
- see: webdriver vs cypress

Matchers

- Browser Matchers
- Element Matchers

- Network Matchers
- Default Matchers (Jest/Jasmine)

https://webdriver.io/docs/api/expect-webdriverio/

Lesson 36 Jest/Jasmine Assertions

In addition to the expect-webdriverio matchers you can use builtin Jest's expect assertions or expect/expectAsync for Jasmine.

- https://webdriver.io/docs/api/expect-webdriverio/#default-matchers
- https://jasmine.github.io/api/3.5/global.html#expect

Section 8: Waits

Lesson 37 Pause command

- pause() - pause the execution for X amount of time

Lesson 38 Common Wait commands

- waitForDisplayed() – to check if element is displayed on the screen
- waitForClickable() - to check if element can be clickable
- waitForEnabled() -to check if the input field is enabled
- waitForExist() – to check if element is present in the DOM

Lesson 39 waitUntil command

- waitUntil – to check for particular condition

Lesson 9 Upload & iFrame Tests

Lesson 40 Simple upload tests

- https://the-internet.herokuapp.com/upload
- display: none (for Choose File -button)

Lesson 41 Upload a Hidden Element

- https://practice.sdetunicorns.com/cart/
- https://online2pdf.com/ seach: input[type=file] -> class=””
- https://www.online-image-editor.com/ seach: input[type=file]
  ~~/* display: none;~~
- or `display: block;`
- https://jpg2png.com/ seach: input[type=file] -> class=”” or
  `/* visibility: hidden;`

Lesson 42 Working with iFrame

- https://practice.sdetunicorns.com/iframe-sample/
- see Questions I asked

Section 10 Debugging

- Using console.log, pront out the element(s) date
- Using browser.pause(), usually good to identify issues
- Using browser.debug(), all purpose debugging (increase mocha timeout)

Lesson 43 Console.log() & pause()

Lesson 44 Debug command

Section 11 Setup Framework

Lesson 46 Setup folder structure & Auto Completion

- setup folder structure: Tests, Pages, Data, Utils
- jsconfig.json file for autocompletion

Lesson 47 Babel setup

- setup Babel to use next-generation JS features
- https://webdriver.io/docs/babel/
- npm install --save-dev @babel/core @babel/cli @babel/preset-env @babel/register

Lesson 48 Linter

- https://www.npmjs.com/package/eslint-plugin-wdio
- `npm i eslint --save-dev`
- `npm install eslint-plugin-wdio --save-dev`

See question about Linter - Lesson 48

- npx eslint ./test/specs/contact.js
- npx eslint wdio.conf.js
-

Section 12 Page Object Model

Lesson 49 What is Page Object Model

- popular design patter, helps us to reduce code duplication & improves test maintenance

Lesson 50

- Create page objects for home.js
    - move selectors to HomePage
    - create page object methods for Home.js

Lesson51 What is Page Components

- divides pages into multiple components to build complex page object structures

Lesson 52 Setup Page Component for Navigation component

- made code changes and updated to GitHub

Lesson 53 Exercise: Setup POM model for Contact & Blog pages

- Create page objects for contact.js and blog.js
-

Lesson 54 POM Exercise Solution

- see GitHub: https://github.com/lasse1900/Udemy_webdriverIO

Section 13 Optimizing test Framework

Lesson 55 Hooks

- Helps setup & teardown of the tests
- reduce dependencies
- create hooks in home.js
    - Before hook
    - After hook
    - BeforeEach hook
    - AfterEach hook
- Global hooks
- setting window size in before hook

```
-       beforeTest: async function (test, context) {
-           browser.setWindowSize(1000,1000);
-       },
```

Lesson 56 Updated faker-js library

- `npm install @faker-js/faker --save-dev`
- https://github.com/faker-js/faker
- `import { faker } from '@faker-js/faker';`

Lesson 57 Randomizing test data

- tests shouldn't rely on existing / hard coded data
- Use faker.js to generate random data
    - email
    - name
    - Lorem ipsum text

```
-       logLevel: 'error',
→       logLevel: 'info',
```

Section 14 Organize Tests

Lesson 58 Group tests

- Group test specs in suites
    - run specific suites instead of running all
- Individual suites vs Multiple suites
- make changer to wdio.conf.js
- npx wdio --suite smoke

```
-       specs: [
-           // ToDo: define location for spec files here
-           './test/specs/**/*.js'
-       ],
-       // Patterns to exclude.
-       exclude: [
-           // 'path/to/excluded/files'
-       ],
-       // Define suites
-       suites: {
-           smoke: [
-               './test/specs/**/home.js',
-               './test/specs/**/contact.js'
-           ]
-       },
```

- npx wdio --suite smoke --suite component

```
-       // Define suites
-       suites: {
-           smoke: [
-               './test/specs/**/iframe.js',
-               './test/specs/**/contact-faker.js'
-           ],
-           component : [
-               './test/specs/**/nav.js',
-           ]
-       },
```

Lesson 59 Run & exclude selected tests

- Run / Exclude selected tests
    - using config file
    - using CLI
- npx wdio --spec test/specs/home.js

Exclude example

- npx wdio

```
-       specs: [
-           // ToDo: define location for spec files here
-           './test/specs/**/*.js'
-       ],
-       // Patterns to exclude.
-       exclude: [
-           // 'path/to/excluded/files'
-           './test/specs/**/nav.js',
-           './test/specs/**/contact.js'
-       ],
-       // Define suites
-       suites: {
-           smoke: [
-               './test/specs/**/home.js',
-               './test/specs/**/contact.js'
-           ],
-           component : [
-               './test/specs/**/nav.js',
-           ]
-       },
```

- now running all the test files excluding these two (10 all together)
- OR from CLI:
- npx wdio --exclude test/specs/nav.js --exclude test/specs/contactjs

Section 15 Parallel & Cross-browser Testing

Lesson 60 Setup parallel test execution

- Parallel testing: run tests on multiple instances
- maxinstances

Lesson 61 Note: Cross-browser Testing Update

- With the introduction of version 8 and beyond, there's no need for the selenium-standalone service

Lesson 62 Cross-browser Testing

- Cross-browser testing: Run tests on multiple browsers
- https://webdriver.io/blog/2023/07/31/driver-management/ (not needed on versions beyond 8)
- ***you could try if it's possible to use selected versions of browser drivers***
- npx wdio --spec test/specs/nav.js
- npx wdio

```
    maxInstances: 10,
    //
    // If you have trouble getting all important capabilities together, check out
the
    // Sauce Labs platform configurator - a great tool to configure your
capabilities:
    // https://docs.saucelabs.com/reference/platforms-configurator
    //
    capabilities: [{

        // maxInstances can get overwritten per capability. So if you have an in-
house Selenium
        // grid with only 5 firefox instances available you can make sure that not
more than
        // 5 instances get started at a time.
        maxInstances: 5,
        //
        browserName: 'chrome',
        acceptInsecureCerts: true
        // If outputDir is provided WebdriverIO can capture driver session logs
        // it is possible to configure which logTypes to include/exclude.
        // excludeDriverLogs: ['*'], // pass '*' to exclude all driver session logs
        // excludeDriverLogs: ['bugreport', 'server'],
    },
    {
        maxInstances: 2,
        browserName: 'firefox'
    }
    ],
```

Section 16 Reporting

Lesson 63 Setup Allure Reporter

- **Spec Reporter**
- **Allure Reporter**
    - **Setup and Installation**
        - https://webdriver.io/docs/allure-reporter/
        - npm install @wdio/allure-reporter --save-dev
        - npm i allure-commandline
        -
    - **Generating report**
        - Generate via CLI
        - Generate programmatically.
        - **First** run test command, **secondly** run allure report
        - npx wdio --spec test/specs/blog.js
        - npx allure generate allure-results && npx allure open

        - npx allure open (open allure-results)
- Now you can run separate tests/suites e.g.
    - npx wdio --spec test/specs/blog.js
    - npx wdio --spec test/specs/home.js
    - and then run: *npx allure open*

Lesson 64 Customize Allure reports

- Supported Allure APIs
- npx wdio --spec test/specs/nav.js --spec test/specs/home.js
- npx allure open
- Customizing report

Lesson 65 Add Screenshot on failure

- made addition to wdio.conf.js-file

```
afterTest: async function(test, context, { error }) {
  if (error) {
    await browser.takeScreenshot();
  }
},
```

Section 17 Browser Stack

Try mobile

- https://www.youtube.com/watch?v=qLZArtTme8M
- https://www.youtube.com/watch?v=XSHifNNWML4

Lesson 66 Browser Stack Setup (sign up)

- https://automate.browserstack.com/dashboard/v2/builds

Lesson 67 Integrate BrowserStack with WebdriverIO

- https://webdriver.io/docs/browserstack-service/
- in case testing a local website: `browserstackLocal: true`

Lesson 68 Run tests in BrowserStack

- giving creds on command line

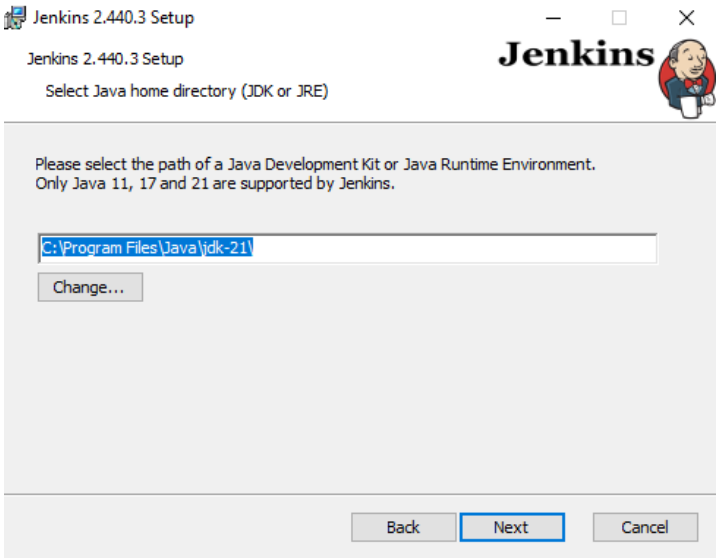
lauri@DESKTOP-S2JLDIN MINGW64 /c/coding/Udemy_WebdriverIO/Udemy_webdriverIO (main)

>$ BROWSERSTACK_USERNAME=@userKey BROWSERSTACK_ACCESS_KEY=@accessKey npx wdio --spec test/specs/contact.js

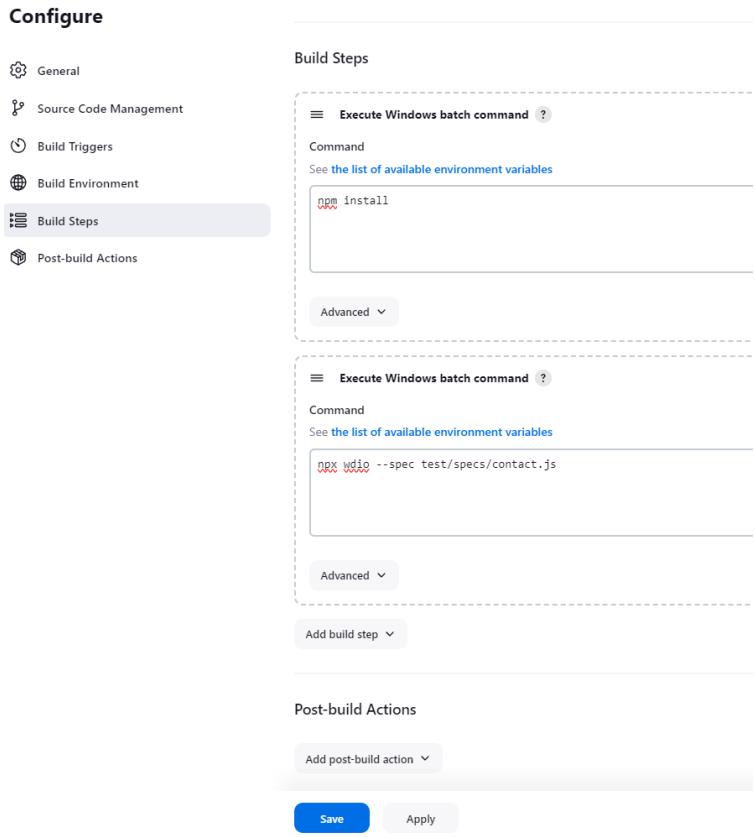
Section 18: Jenkins Integration

Lesson 70 Jenkins Setup (Windows)

- Local Setup
    - Windows Installer
    - See link below for Jenkins and Java
    - https://www.udemy.com/course/robot-python/learn/lecture/13764054#questions
    - Java 11 runtime environment needed – until 30.9.2024 see link below
    - https://www.jenkins.io/doc/book/platform-information/support-policy-java/
    - java -jar jenkins_2.war --httpPort=8086 (on the path where Jenkins.war file)
    - NOW Windows installation with the same port 8086
    - http://localhost:8086/
    - login: admin, admin
    -



Lesson 71 Setup Jenkins Job



Lesson 72 Run tests in Jenkins

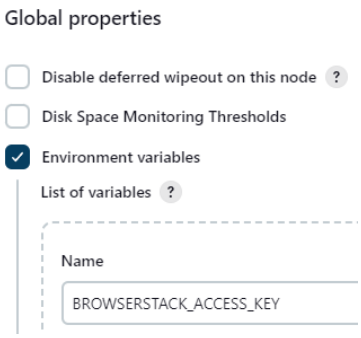
- [jenkins Build step 'Execute Windows batch command' marked build as failure]
- though test(s) get passes Windows throws an error, see below

```
 "spec" Reporter:
------------------------------------------------------------------
[chrome 124.0.6367.61 windows #0-0] Running: chrome (v124.0.6367.61) on windows
[chrome 124.0.6367.61 windows #0-0] Session ID: b36088e1a34acd827831d1019ad81d89e213eb8f
[chrome 124.0.6367.61 windows #0-0]
[chrome 124.0.6367.61 windows #0-0] » \test\specs\iframe.js
[chrome 124.0.6367.61 windows #0-0] Working with iFrame
[chrome 124.0.6367.61 windows #0-0]    ✓ iFrame test
[chrome 124.0.6367.61 windows #0-0]
[chrome 124.0.6367.61 windows #0-0] 1 passing (9s)


Spec Files:      1 passed, 1 total (100% completed) in 00:00:20

2024-05-09T10:42:48.367Z INFO @wdio/local-runner: Shutting down spawned worker
2024-05-09T10:42:48.628Z INFO @wdio/local-runner: Waiting for 0 to shut down gracefully
2024-05-09T10:42:48.628Z INFO @wdio/local-runner: shutting down
Build step 'Execute Windows batch command' marked build as failure
Finished: FAILURE
```

- added BROWSERSTACK_USERNAME=@userKey BROWSERSTACK_ACCESS_KEY=@accessKey npx wdio to Jenkins through Conviguration, env variables (two separate variables) and run test succesfully (thogh Windows batch file througs error – some bug – HAVE to find out the reason)



Lesson 73 Integrate Allure report with Jenkins

- allure report seems to success within BrowserStack, but left blank left blank

Section 19: Automate Amazon Website (Sample Project)

Section 20: Common Interview Questions

Lesson 79 WebdriverIO questions

1) What is included in wdio.config.js -file? baseUrl, specs path, services, capabilities, hooks
2) Difference between $ vs $$: $$('ul li')[0] - $('ul li')
3) Advantages of using WDIO expect assertions (wait & retry capabilities)
4) How to add a custom wait condition? (wait for enabled, clickable, wait condition, wait until – (true or false condition)
5) How does async/await works? All WebdriverIO commands return a Promise and need to be awaited to get the result (otherwise all commands will run in parallel cause issues)

Lesson 80 Framework Questions

1) What are some of the common things to consider when setting up a framework? folder structure, pages (POM-model), helper libraries and utilities, test related stuff e.g. in data folder, dev experience e.g. JS with Babel, with linter, JS config – autocompletion, reporting.
2) What is Page Object Model? How to set it up in WebdriverIO? Design Ppattern to help reduce code duplication and helps with overall test maintenance. WDIO: Page classes store web elements and page related methods.
3) How to optimize your tests? hooks, remove data dependencies (not hard code data), use libraries as faker, parallel test execution to speed up tests
4) What is parallel test execution and how to set it up? Run on multiple browser session or instances, in WebdriverIO parallel testing is already set up via maxInstances
5) What is cross-browser testing and how to set it up? in capabilities section and within services section was needed selenium-standalone services NOT ANYMORE, but e.g. BrowserStack

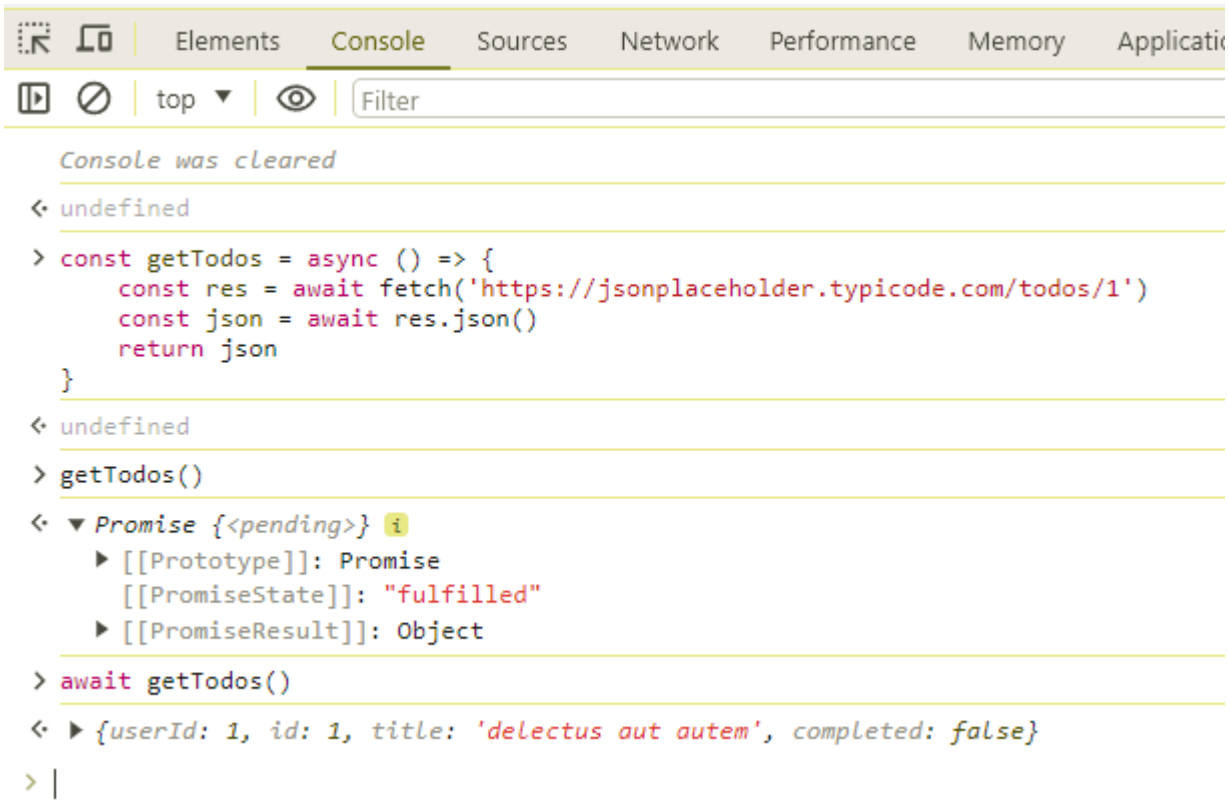
Section 21 Wrap up

Section 22 JavaScript Basics

```
const getTodos = async () => {
   const res = await fetch('https://jsonplaceholder.typicode.com/todos/1')
   const json = await res.json()
   return json
}

getTodos()

await getTodos()
```



with [Shift + Enter] you can add a line to chrome console

Section 23 Quick HTML and CSS refresher

Lesson 97 HTML Overview

- https://replit.com/@automationbro/Introduction-to-HTML-CSS#index.html

Lesson 98 CSS Overview

Lesson 99 HTML DOM

Lesson 100 Custom CSS Selectors

- https://gist.github.com/magicznyleszek/809a69dd05e1d5f12d01

List of Selectors

- id (#id)
- Class (.class)
- Attribute (h1)
- Custom CSS (input[type=”submit”])

Custom CSS Selector

- Attribute selectors
  - Exact, contains, begins with, etc..
- Contextual selectors
  - Descendant, child, sibling etc..
- Pseudo-class selectors
  - a:link, p:hover etc..
- Pseudo-class for siblings:
  - First-child, only-child, first-of-type etc..

p[class='paragraph'] a

- https://practice.sdetunicorns.com/
- #navigation>li>a:first-child
- #navigation>li>a:last-child
- [id="blog-link"]
- .main-menu .linkback a:last-child
- .main-menu .linkback a:nth-child(2)
- a[href="index.html"]
- a[href^="index"]
- a[href$="html"]
-

Lesson 101 How to use XPath

What is XPath

- XML path to navigate through HTML DOM
- Syntax
  - Xpath = //tagname[@Attribute=’Value’]

- Types of XPath
    - Absolute (never use)
    - /html/body//div[2]/div/[1]/div/h4[1]/b/html[1]/body[1]
- Relative
    - //tagname[@Attribute='Value']

List of Selectors

- Basic Xpath (//input[@type=’submit’]
- Contains (//*[contains(@href, ‘index’)])
- Or & And (//*[@href, ‘index.html’ and @role=’menuitem’])
- Starts with (//a[starts-with(@href,’index’)])
- Text (//a[text()=’About’])

Examples to HomePage:

//img[@src="https://cdn.pixabay.com/photo/2017/02/01/22/02/mountain-landscape-2031539_960_720.jpg"]

//*[contains(@href,'index')]

//*[@href='index.html' and @role='menu-item']

//a[starts-with(@href,'index')]

//a[text()='Backup']