Cypress Introduction

1. Cypress is a front end web automation tool.
2. Used for modern web applications built on ReactJS, AngularJS etc.
3. Can automate any application which runs on browser.
4. Doesn't use Selenium and built on JavaScript. Uses JavaScript & TypeScript.
5. Its open source tool.
   5.1. TestRunner - Open
   5.2. Dashboard – Paid
6. Supports MochaJS framwork and for reporting, mocha reporters and cypress dashboard can be used.

Features

1. Time travel - We can traverse back of the execution, for eg. Previous step can be rerun while debug.
2. Debuggability - Easy to debug
3. Automatic/Built-In waits
4. Consistent results (Less Flakiness compared to Selenium)
5. Screenshots and Videos automatically captured
6. Cross browser testing (excludes Safari) – Locally or remotely

Limitations

1. Only web automation and not window based and mobile automation
2. Limited support of browsers
3. Supports only JS/TS
4. Reading/Writing data into file is difficult
5. Third party reporting tool integration is limited.

Prerequisites

1. NodeJS
2. VSCode

Environment Setup

1. Create a new folder for project and open in VSCode.
2. Open cmd/terminal, then execute below command.
   npm -i init → Creates package.json file
3. To install cypress
   npm install cypress –save -dev
4. To start cypress
   npx cypress open

NPM commands

1. **npm install cypress --save -dev**
2. **npx cypress open**
3. **npx cypress run --spec cypress/e2e/MyFirstTest.cy.js** //run cypress file (by default executes on electron browser)
4. **npx cypress --browser chrome run --spec cypress/e2e/MyFirstTest.cy.js //run cypress file** //run cypress file in specified browser in headless by default.
5. **npx cypress –browser chrome run --headed --spec cypress/e2e/MyFirstTest.cy.js //run cypress file** //run cypress file in specified browser

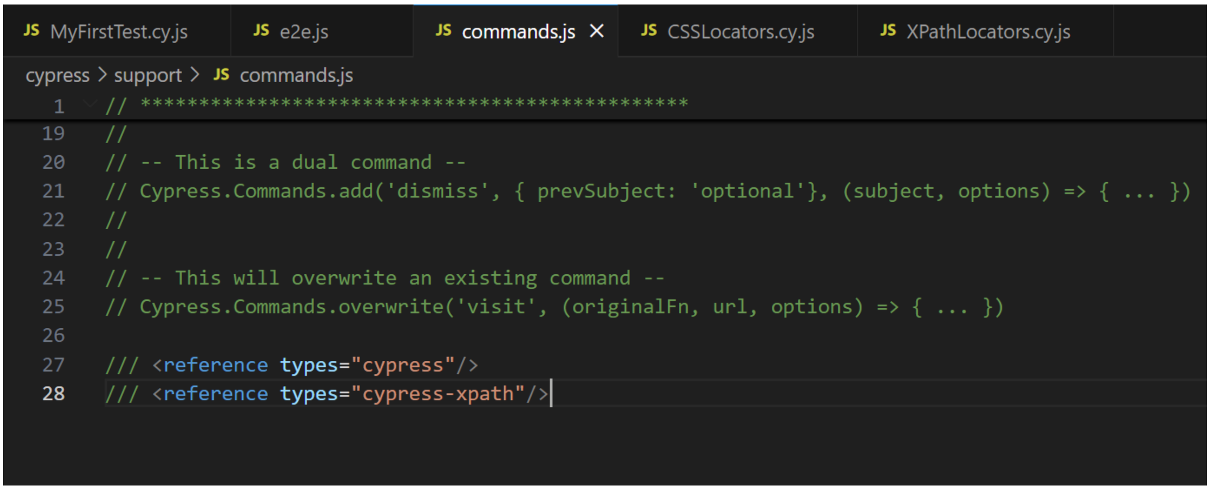
File Extension

cypress/e2e/spec.cy.js

File extension should be <FileName> followed by cy.js

Cypress commands references

To use commands in every script files, need to add reference in command.js file as below.



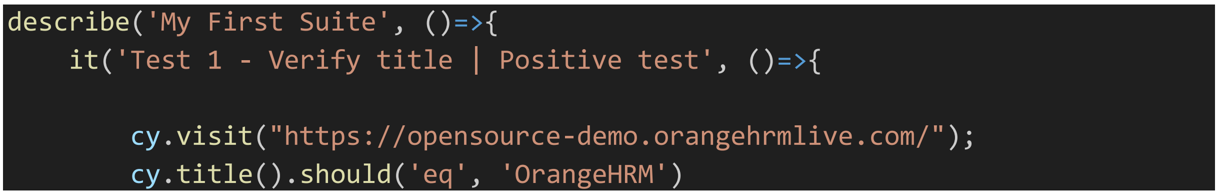
```
// ***********************************************
//
// -- This is a dual command --
// Cypress.Commands.add('dismiss', { prevSubject: 'optional'}, (subject, options) => { ... })
//
//
// -- This will overwrite an existing command --
// Cypress.Commands.overwrite('visit', (originalFn, url, options) => { ... })

/// <reference types="cypress"/>
/// <reference types="cypress-xpath"/>
```

Syntax

Describe -> Test Suite

It -> Tests



```
describe('My First Suite', ()=>{
    it('Test 1 - Verify title | Positive test', ()=>{

        cy.visit("https://opensource-demo.orangehrmlive.com/");
        cy.title().should('eq', 'OrangeHRM')
    })

    it('Test 2 - Verify title | Negative test', ()=>{
        cy.visit("https://opensource-demo.orangehrmlive.com/");
        cy.title().should('eq', 'OrangeHRM1')
    })
})
```

Locators

- **By default supports , CSS Selectors.**
- **By using cypress-xpath plug-in, Xpaths are supported.**

cy.get(Locator) method is used to identify web elements.

CSS Selector: tag is optional below

○ **tag id**	**Eg. cy.get("input#searchId") or cy.get("#searchId")**
○ **tag class**	**Eg. cy.get(".search_box_class")**
○ **tag attribute**	**Eg. cy.get("[name=search_box]")**
○ **tag class attribute**	**Eg. cy.get(".class[attribute='value']")**

CSS Selectors Sample snippet

```
describe("CSS Locators",()=>{

    it("CSSLocators",()=>{
        cy.visit("https://opensource-
demo.orangehrmlive.com/web/index.php/auth/login")

        cy.get("input[name='username']").type("Admin");
        cy.get("input[name='password']").type("admin123");
        cy.get("button[type='submit']").click();

        cy.get("button.oxd-glass-button[type='button']").should('be.visible')
    })
})
```

Cypress-xpath plugin to be installed to use Xpaths (Its deprecated now)

npm install -D cypress-xpath

In commands.js , need to add below reference to use cy.xpath

```
/// <reference types="cypress-xpath"/>
```

Snippet using xpath ,

```
describe("Xpath Locators",()=>{

    it("Xpath Locators",()=>{
        cy.visit("https://opensource-demo.orangehrmlive.com/web/index.php/auth/login")

        cy.xpath("//*[@name='username']").type("Admin");
        cy.xpath("//*[@name='password']").type("admin123");

        cy.xpath("//*[contains(@class,'login-button')]").click();

        cy.xpath("//*[contains(@class, 'orangehrm-upgrade-button')]").should('be.visible');
    })
})
```