

Phase-End Project 1

Automating the HSBC Banking Application Using Cypress

Objective: To automate HSBC.co.in website test scenarios using Cypress.io framework.

Tools required: Visual Studio Code, Node.js, Cypress.io (version 10.0.0), and Cypress-Jsonpath

Prerequisites: Install Visual Studio Code, Node.js, and Cypress.io (version 10.0.0)

Steps to be followed:

1. Creating Cypress project in Visual Studio Code
2. Generating JSON file
3. Generating Cypress folder structure
4. Installing X-path for Cypress
5. Creating a new folder directory called 'pageobject'
6. Adding files that contain HTML page objects inside the pageobject directory folder
7. Adding all the test cases files inside the e2e folder directory
8. Copying the code provided for example.json in it
9. Running the project and testing the test cases

1. Creating Cypress project in Visual Studio Code

- 1.1 Users must create a folder named "Cypress Project" on their desktop
- 1.2 Open Visual Studio Code, click on the file, then click on the open folder, and select Cypress Project
- 1.3 Open the terminal in VS Code and install Cypress with the following command:
npm install cypress@10.0.0

```

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
● shivammundhrasi@ip-172-31-22-196:~/Desktop/Cypress project$ npm install cypress@10.0.0

changed 1 package, and audited 167 packages in 2s

28 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities

```

2. Generating JSON file

2.1 In VS code, write the following command to generate JSON file:

npm init -y

```

EXPLORER  ...  Get Started  X
CYPRESS PROJECT
package.json

Start  Walkthroughs
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
● shivammundhrasi@ip-172-31-22-196:~/Desktop/Cypress Project$ npm install cypress@10.0.0

up to date, audited 166 packages in 671ms

28 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
● shivammundhrasi@ip-172-31-22-196:~/Desktop/Cypress Project$ npm init -y
Wrote to /home/shivammundhrasi/Desktop/Cypress Project/package.json:

{
  "name": "cypress-project",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "keywords": [],
  "author": "",
  "license": "ISC"
}

○ shivammundhrasi@ip-172-31-22-196:~/Desktop/Cypress Project$

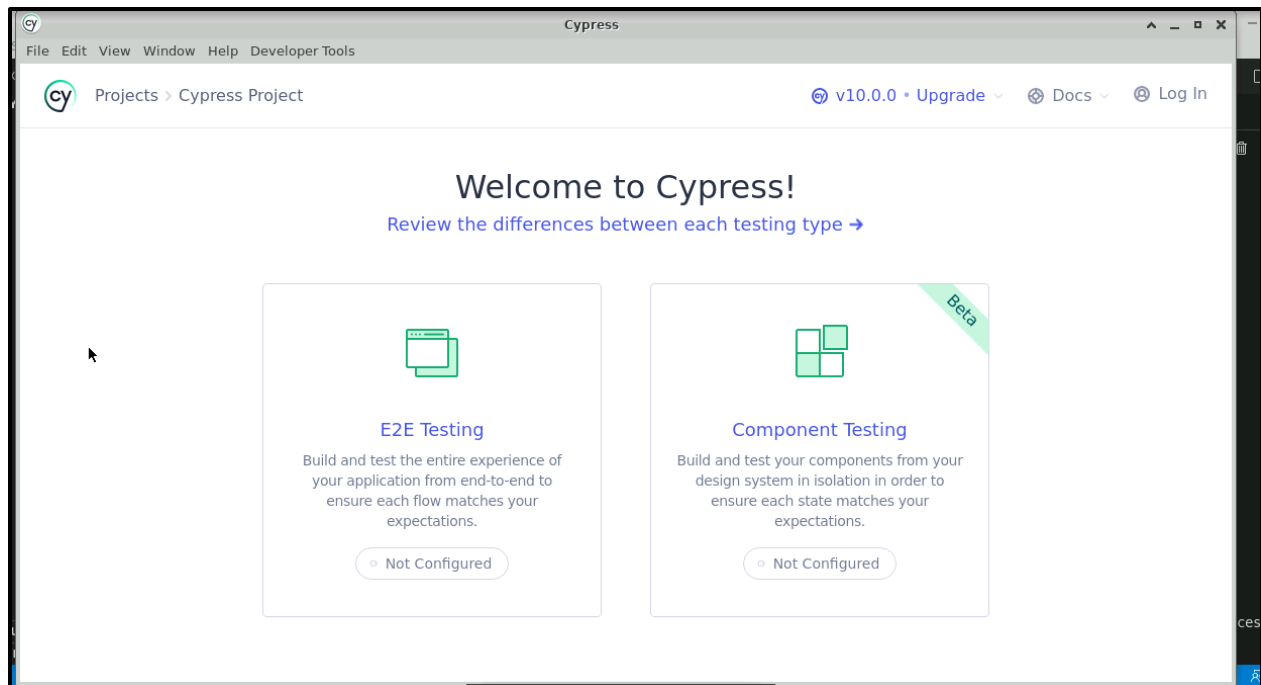
```

3. Generating Cypress folder structure

3.1 To generate the folder structure, users, need to write the following command:

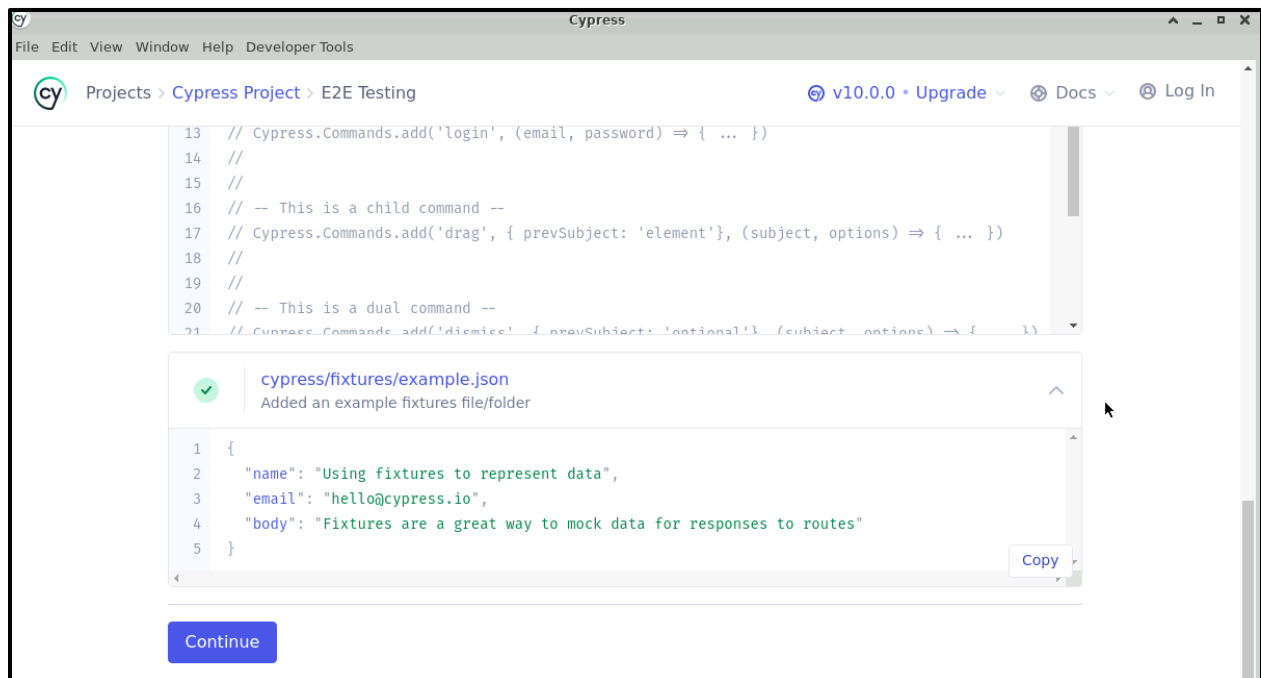
npm cypress open

3.2 This will generate a Cypress web browser.

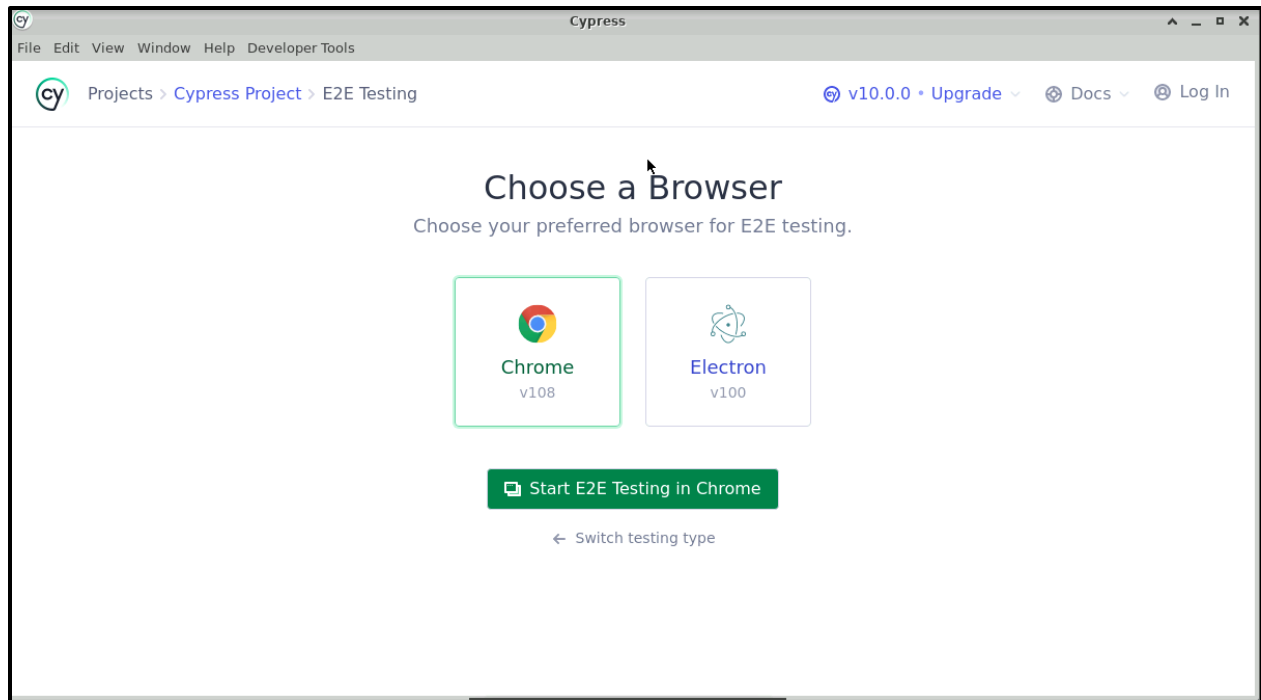


3.3 Now, click on E2E Testing

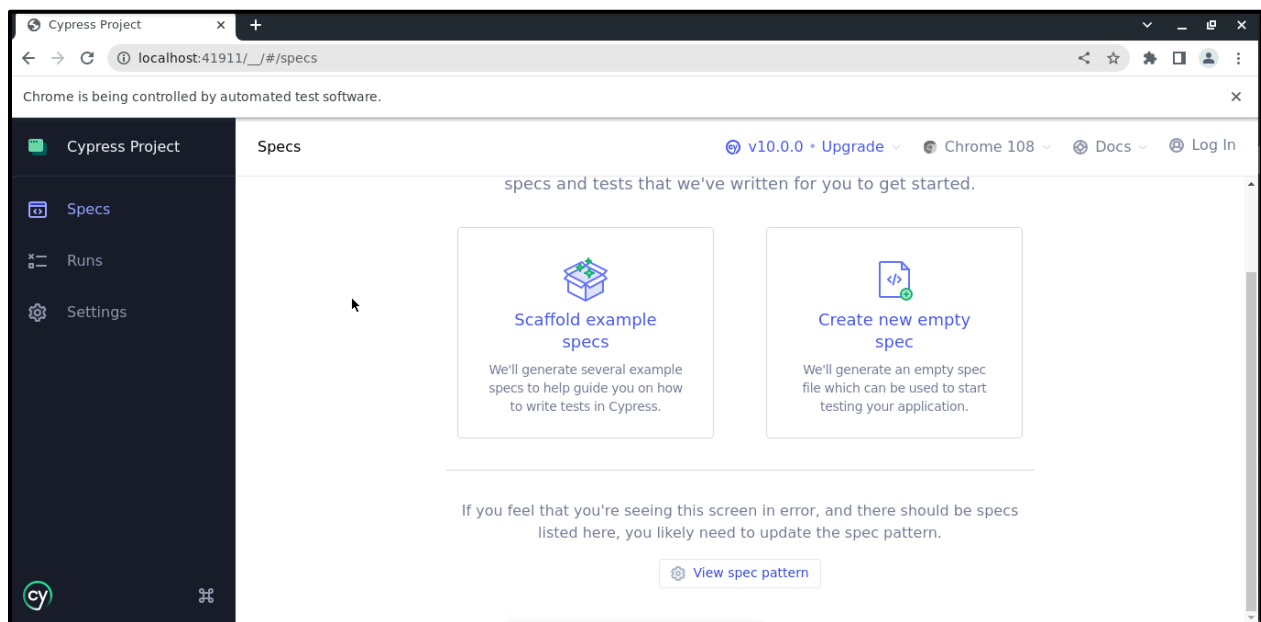
3.4 Click on Continue



3.5 Now, select the browser Chrome and click on Start E2E Testing in Chrome

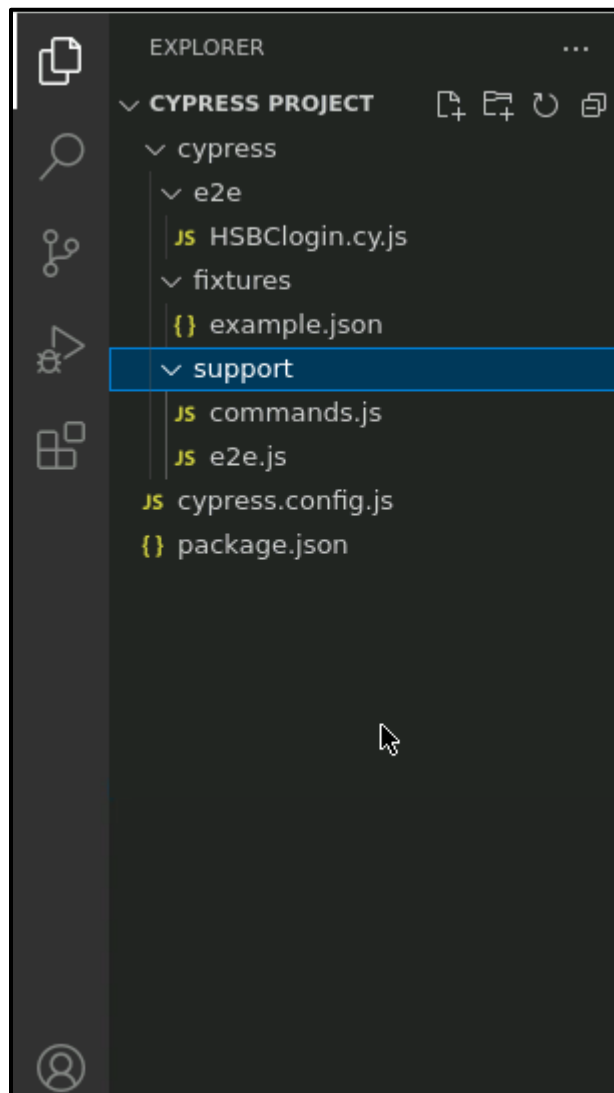


3.6 Click on Create new empty spec



3.7 Rename the spec as HSBCLogin.cy.json and click on Create spec

Note: Go back to the VS code, and users will be able to see the folder structure that is created.



4. Installing X-path for Cypress

4.1 To generate X-path for Cypress, users need to write the following command:

npm install cypress-xpath

```

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

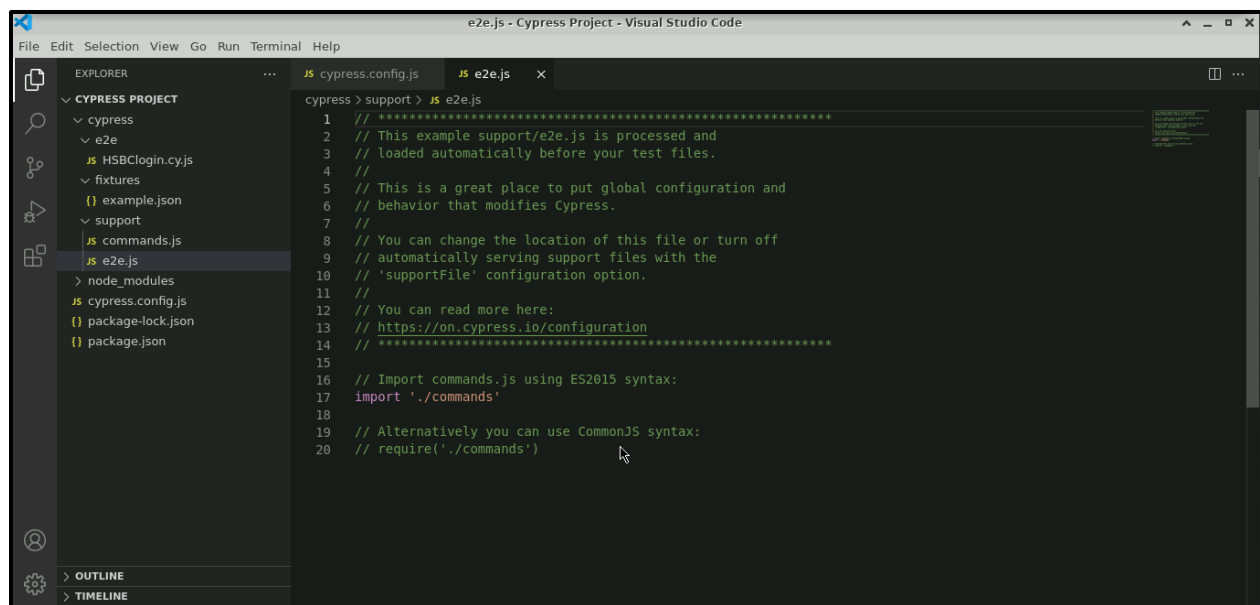
● shivammundhrasi@ip-172-31-22-196:~/Desktop/Cypress Project$ npm install cypress-xpath

up to date, audited 2 packages in 480ms

found 0 vulnerabilities
○ shivammundhrasi@ip-172-31-22-196:~/Desktop/Cypress Project$ █

```

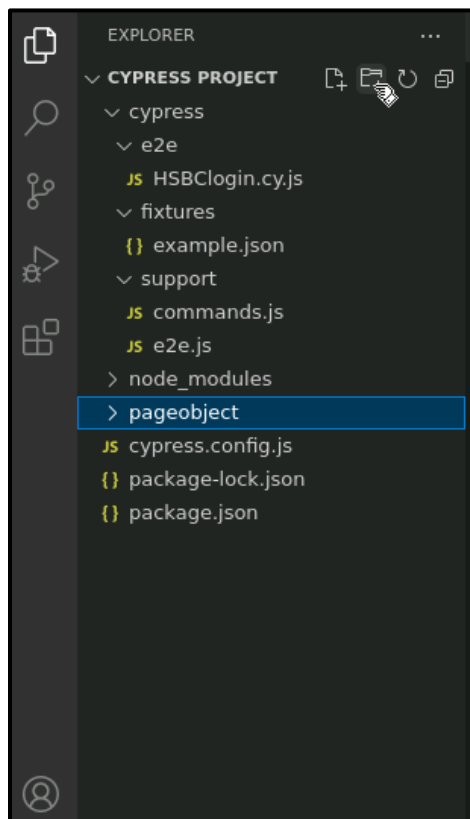
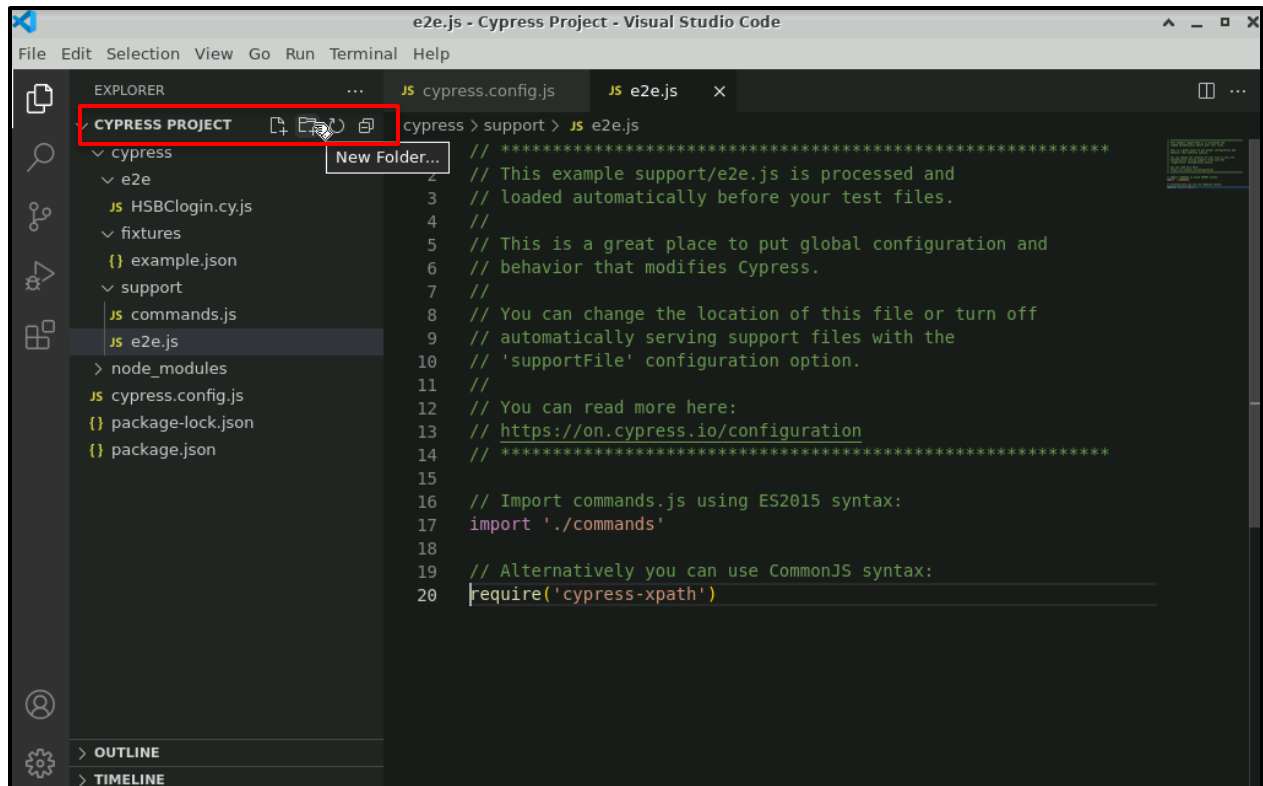
4.2 Open e2e.js from the support folder



4.3 In the e2e.js file, users need to uncommand line 20 and rename it as: **require('cypress-xpath')**

5. Creating a new folder directory called pageobject

5.1 Click on the folder icon beside the project folder name, and create a folder named pageobject

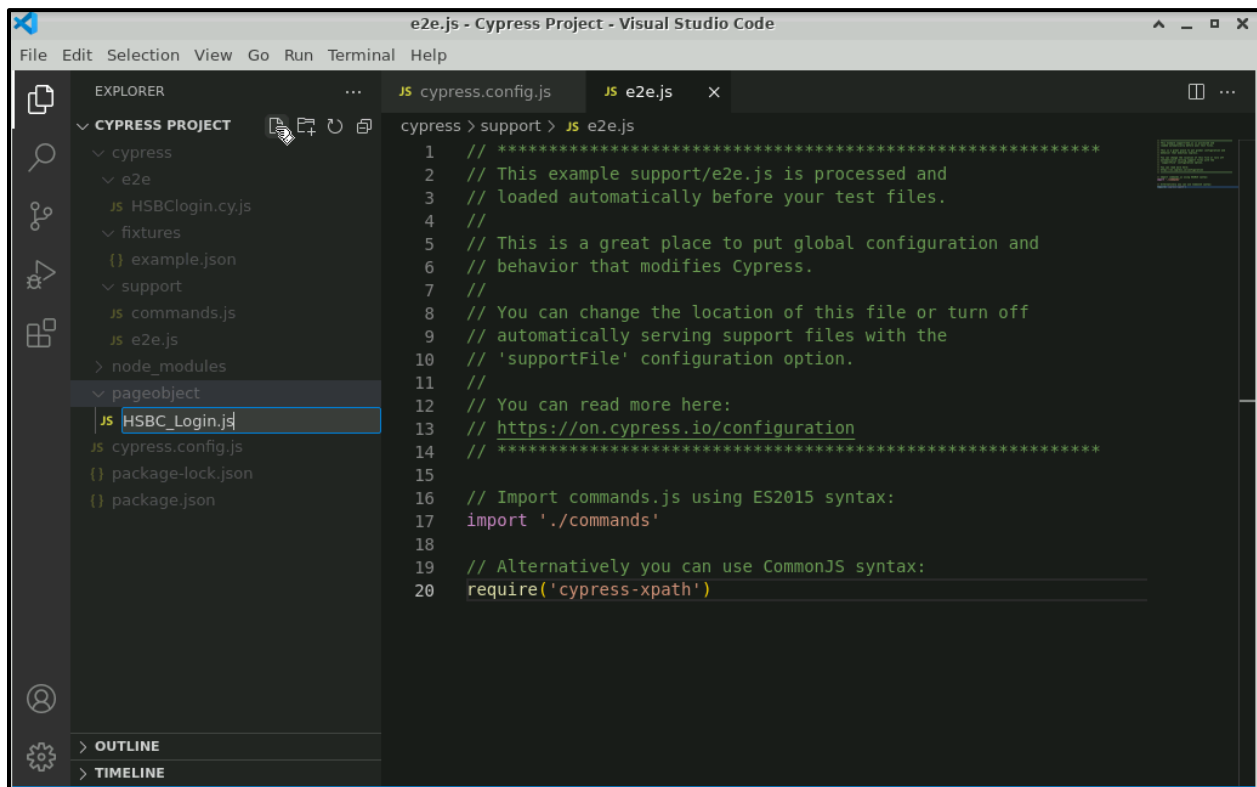


6. Adding files that contain HTML page objects inside the pageobject directory folder

6.1 Inside the pageobject folder, create all the following HTML page object files and paste the provided code:

HSBC_Login.js, HSBC_ATM.js, HSBC_creditCard.js

6.2 Create an HSBC_Login.js file inside the pageobject folder



6.3 Then, copy the following code and paste inside HSBC_Login:


```
class hsbcBank_Login_pageobject{

    hsbc_logo() {return cy.xpath("//img[@alt='HSBC India Bank']")[1]}
    signInButton() {return cy.xpath("//a[contains(.,'Log On')])[1]}
    Logonheader() {return cy.xpath("//h2/span[contains(.,'Log On')]")}
    ContinueButton() {return cy.get('#username_submit_btn')}
    usernameTextBox() {return cy.get('#username')}
    rememberMeCheckBox() {return cy.get('#rememberMe')}
    toolTipIcon() {return cy.xpath("//span[@class='icon icon-circle-help-solid help-
icon']}")}
    usernameHeader() {return cy.xpath("//h3/span[text()='Username']}")}
    Closebutton() {return cy.xpath("//span[@class='icon icon-delete']}")}
}
module.exports = new hsbcBank_Login_pageobject();
```

6.4 Similarly, create HSBC_ATM.js and HSBC_creditCard.js files and copy paste the following code in respective folders:

For **HSBC_ATM.js**:

```
class hsbcBank_ATM_pageobject{

    findBranchATM() {return cy.xpath("//a[contains(.,'Find your nearest HSBC branch or
ATM')])[2]}"}
    AtmBranchHeader() {return cy.xpath("//h1[contains(.,'Branches & ATMs')]")}
    BranchATMLocator() {return cy.xpath("//span[text()='Branch & ATM Locator']}")}
    ZipCodeOrCountrySearchBox() {return cy.get('#searchInput')}
    usernameTextBox() {return cy.get('#username')}
    searchDropDownOption() {return cy.xpath("//li[text()='India']}")}
    searchedATMFirstResult() {return cy.xpath("//h2[text()='Rajbhavan Road']}")}
    Showmoreresults() {return cy.xpath("//button[text()='Show more results']}")}
```

```

ATM2ndoptionTooltip() {return cy.xpath("//button//span[text()='2']}")
instagram() {return cy.xpath("//a[@class='social-image social-icon-instagram']}")
facebook() {return cy.xpath("//a[@class='social-image social-icon-facebook']}")

twitter() {return cy.xpath("//a[@class='social-image social-icon-twitter']}")
youtube() {return cy.xpath("//a[@class='social-image social-icon-youtube']}")
youtube() {return cy.xpath("//a[@class='social-image social-icon-youtube']}")
privacyLink() {return cy.xpath("//a[text()='Privacy Statement']}[2]}")
privacyHeader() {return cy.xpath("//h1[contains(.,'Privacy Statement')]")}
}
module.exports = new hsbcbank_ATM_pageobject();

```

For **HSBC_creditCard.js**:

```

class hsbcbank_CC_pageobject{

    bankingmenuLink() {return cy.xpath("//span[text()='Banking']}[1]").invoke('show')}
    credit_card() {return cy.xpath("//h2[text()='Credit Cards']}[1]}")
    credit_card_header() {return cy.xpath("//h1[contains(.,'Credit cards')]")}
    credit_card_ApplyBTN() {return cy.xpath("//div[@class='A-PNL-RW-ALL']//a[contains(.,'Apply now')]")}
    total_cc_count() {return cy.xpath("//div[@class='sm-12']/div[@class='productModule']//img")}
    first_cc_image() {return cy.xpath("//div[@class='sm-12']/div[@class='productModule']//img)[1]}")
    first_cc_header() {return cy.xpath("//div[@class='sm-12']/div[@class='productModule']//h2)[1]}")
    comparecards() {return cy.xpath("//div[@class='sm-12']/div[@class='productModule']}[1]//span[text()='Compare cards']}")
    findoutmore() {return cy.xpath("//div[@class='sm-12']/div[@class='productModule']}[1]//span[text()='Find out more']}")
}

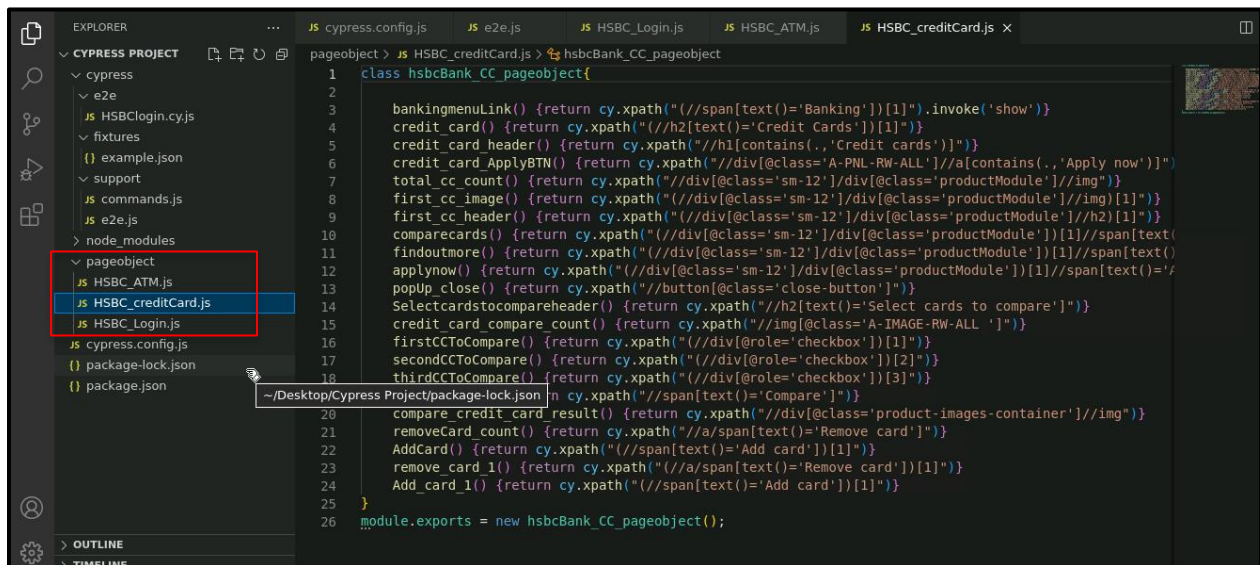
```

```

    applynow() {return cy.xpath("//div[@class='sm-12']/div[@class='productModule']")[1]//span[text()='Apply now']}")
    popUp_close() {return cy.xpath("//button[@class='close-button']}")
    Selectcardstocompareheader() {return cy.xpath("//h2[text()='Select cards to compare']}")
    credit_card_compare_count() {return cy.xpath("//img[@class='A-IMAGE-RW-ALL ']}")

    firstCCToCompare() {return cy.xpath("//div[@role='checkbox']")[1]}
    secondCCToCompare() {return cy.xpath("//div[@role='checkbox']")[2]}
    thirdCCToCompare() {return cy.xpath("//div[@role='checkbox']")[3]}
    compare_BTN() {return cy.xpath("//span[text()='Compare']}")
    compare_credit_card_result() {return cy.xpath("//div[@class='product-images-container']//img")}
    removeCard_count() {return cy.xpath("//a/span[text()='Remove card']}")
    AddCard() {return cy.xpath("//span[text()='Add card']")[1]}
    remove_card_1() {return cy.xpath("//a/span[text()='Remove card']")[1]}
    Add_card_1() {return cy.xpath("//span[text()='Add card']")[1]}
}
module.exports = new hsbcBank_CC_pageobject();

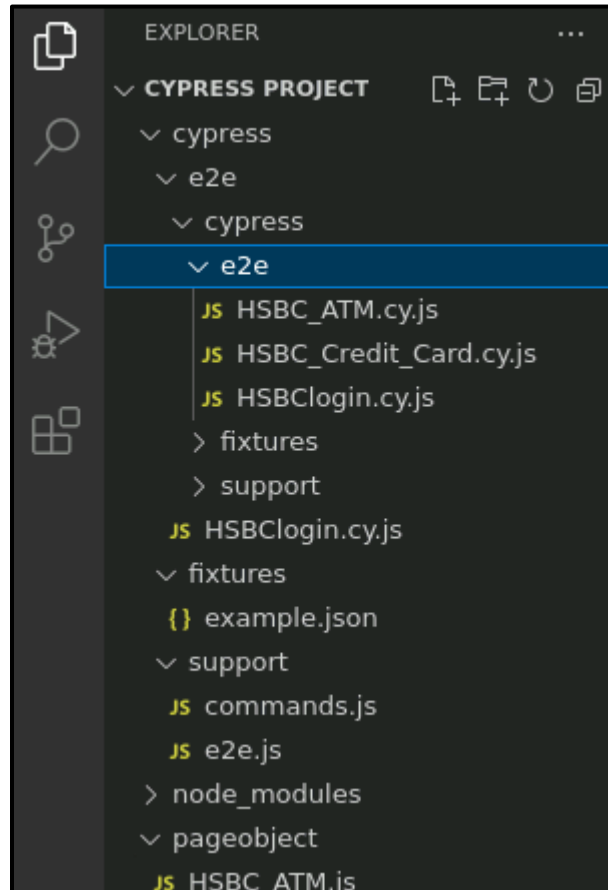
```



7. Adding all the test cases files inside the e2e folder directory

7.1 Users need to create the following files under the e2e folder and paste the provided code inside the respective file, as done in the previous steps:

HSBCLogin.cy.js, HSBC_ATM.cy.js, HSBC_Credit_Card.cy.js



7.2 Copy and paste the following code inside the respective files:

HSBCLogin.cy.js:

```
import hsbclloginpageobject from "../../pageobject/HSBC_Login"

describe('HSBC Bank Application Validation',()=>{
  let data;
  before(() => {
    cy.fixture('example').then((testdata) => {
      data = testdata;
    });
    cy.visit('https://www.hsbc.co.in/')
  })

  // Validate HSBC Bank Logo
  it('Validate HSBC Bank Logo',()=>{
    cy.get('form').within(()=>{
      hsbclloginpageobject.hsbc_logo().should('be.visible')
    })
  })

  // Validate HSBC Bank Home Page Title
  it('Validate HSBC Bank Page Title',()=>{
    cy.log(data.title)
    cy.title().should('eq', data.title)
  })

  // Validate HSBC Bank Login Page
  it('Header Section Validation',()=>{
    hsbclloginpageobject.signInButton().click()
    hsbclloginpageobject.Logonheader().should('be.visible')
    hsbclloginpageobject.ContinueButton().should('be.visible')
    hsbclloginpageobject.ContinueButton().should('be.disabled')
    hsbclloginpageobject.usernameTextBox().type(data.email)
    hsbclloginpageobject.ContinueButton().should('not.be.disabled')
    hsbclloginpageobject.rememberMeCheckBox().should('not.be.checked')
  })
})
```

```
// Username ToolTip Validation

it('Username ToolTip Validation',()=>{
  hsbclloginpageobject.toolTipIcon().should('be.visible')
  hsbclloginpageobject.toolTipIcon().click()
  cy.wait(5000)
  hsbclloginpageobject.usernameHeader().should('be.visible')
  hsbclloginpageobject.Closebutton().should('be.visible')
  hsbclloginpageobject.Closebutton().click()

})

})
```

HSBC_ATM.cy.js:

```
import hsbcatmpageobject from "../pageobject/HSBC_ATM"
import hsbclloginpageobject from "../pageobject/HSBC_Login"

describe('HSBC Bank Application Validation',()=>{
  let data;
  before(() => {
    cy.fixture('example').then((testdata) => {
      data = testdata;
    });
    cy.visit('https://www.hsbc.co.in/')
  })

  // Scroll To Bottom and Click on Find your nearest ATM Link
  it('Validate Find ATM Footer Link',()=>{
    cy.scrollTo('bottom')
```

```

        hsbcATMpageobject.findBranchATM().click()
        cy.wait(5000)
    })

    // Find ATM Page validations
    it('Validate Find ATM Page URL text',()=>{
        cy.url().should('include', data.urlstring)
    })

    // Validate Branches & ATMs as Header

    it('Validate Branches & ATMs as Header',()=>{
        hsbcATMpageobject.AtmBranchHeader().should('be.visible')
    })

    // Validate Branches & ATMs as Header

    it('Search For Nearest ATM Flow ...',()=>{
        hsbcATMpageobject.BranchATMLocator().should('be.visible')
        hsbcATMpageobject.BranchATMLocator().click()
        cy.wait(5000)
        hsbcATMpageobject.ZipCodeOrCountrySearchBox().type(data.countryname)
        hsbcATMpageobject.searchDropDownOption().click()
        hsbcATMpageobject.searchedATMFirstResult().should('be.visible')

    })

    // Validate Show More Result

    it('Validate show more result functionality',()=>{
        hsbcATMpageobject.Showmoreresults().should('be.visible')
        hsbcATMpageobject.Showmoreresults().click()
        hsbcATMpageobject.ATM2ndoptionTooltip().should('be.visible')

    })

    // Validate Social Media options in Footer Section

```

```

it('Validate Social Media options in Footer Section',()=>{
  hsbcATMpageobject.instagram().should('be.visible')
  hsbcATMpageobject.facebook().should('be.visible')
  hsbcATMpageobject.twitter().should('be.visible')
  hsbcATMpageobject.youtube().should('be.visible')
})

// Click on HSBC Logo , user should navigate back to Home Page
it('Click on HSBC Logo , user should navigate back to Home Page',()=>{
  hsbcloginpageobject.hsbc_logo().click()
  cy.log(data.title)
  cy.title().should('eq', data.title)
})

// Validate Privacy Statement Link

it('Validate Privacy Statement Link',()=>{
  cy.scrollTo('bottom')
  hsbcATMpageobject.privacyLink().should('be.visible')
  cy.get('form').within(()=>{
    hsbcATMpageobject.privacyLink().click({ force: true });
  })

  hsbcATMpageobject.privacyHeader().should('be.visible')

})

})

```


HSBC_Credit_Card.cy.js:

```
import hsbcCCpageobject from "../../pageobject/HSBC_creditCard"

describe('HSBC Bank Application Validation',()=>{
  let data;
  before(() => {
    cy.fixture('example').then((testdata) => {
      data = testdata;
    });
    cy.visit('https://www.hsbc.co.in/')
    cy.wait(2000)
  })

  // Navigate To Creadit Card Page

  it('Navigate To Credit Card Page',()=>{
    hsbcCCpageobject.bankingmenuLink().click({ force: true })
    cy.wait(2000)
    hsbcCCpageobject.credit_card().invoke('show').click()
    cy.wait(5000)
  })

  // Validate Credit Card Header and Button

  it('Validate Credit Card Header and Button',()=>{
    hsbcCCpageobject.credit_card_header().invoke('show')
    hsbcCCpageobject.credit_card_ApplyBTN().should('be.visible')
    cy.wait(2000)
  })

  // Count Total Number Credit Card Options in 1st Result details

  it('Validate Credit Card Count and its details',()=>{
    hsbcCCpageobject.total_cc_count().should('have.length', 4)
  })
})
```

```

    hsbcCCpageobject.first_cc_image().invoke('attr', 'alt').should('contain',
data.HSBC_CC_img_alt)
    hsbcCCpageobject.first_cc_header().contains(data.HSBC_CC_header)
    hsbcCCpageobject.comparecards().should('be.visible')
    hsbcCCpageobject.findoutmore().should('be.visible')
    hsbcCCpageobject.applynow().should('be.visible')
})

// Validate Compare Credit Card Functionality ...

it('Validate available Credit Card Options',()=>{
    hsbcCCpageobject.comparecards().click()
    cy.wait(2000)
    hsbcCCpageobject.popUp_close().should('be.visible')
    hsbcCCpageobject.Selectcardstocompareheader().should('be.visible')
    hsbcCCpageobject.credit_card_compare_count().should('have.length', 4)
    hsbcCCpageobject.firstCCToCompare().click()
    cy.wait(2000)
    hsbcCCpageobject.secondCCToCompare().click()
    hsbcCCpageobject.compare_BTN().click()
    cy.wait(2000)
    hsbcCCpageobject.compare_credit_card_result().should('have.length', 2)
    hsbcCCpageobject.removeCard_count().should('have.length', 2)

    hsbcCCpageobject.AddCard().click({force: true})
    cy.wait(2000)
    hsbcCCpageobject.thirdCCToCompare().click()
    hsbcCCpageobject.compare_BTN().click()
    cy.wait(2000)
    hsbcCCpageobject.compare_credit_card_result().should('have.length', 3)
    hsbcCCpageobject.removeCard_count().should('have.length', 3)

    hsbcCCpageobject.remove_card_1().click({force: true})
    cy.wait(2000)
    hsbcCCpageobject.compare_credit_card_result().should('have.length', 2)
    hsbcCCpageobject.removeCard_count().should('have.length', 2)

```

```

hsbcCCpageobject.Add_card_1().click({force: true})
hsbcCCpageobject.popUp_close().click()
})
following c
})

```

8. Copying the code provided for example.json in it

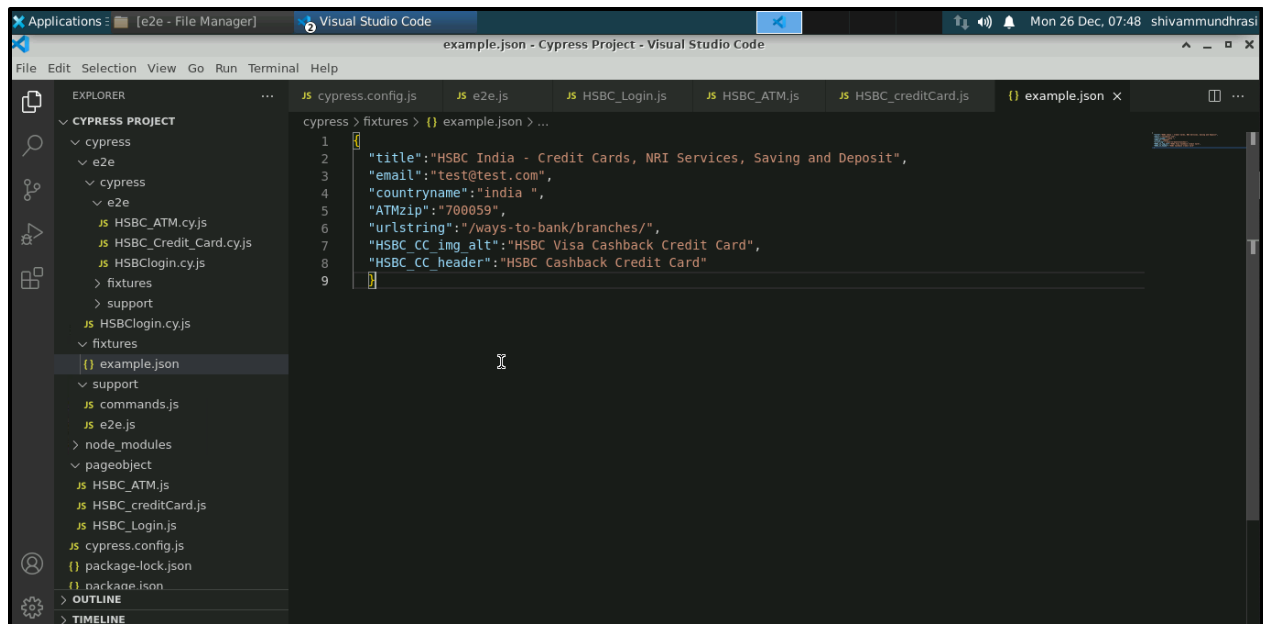
8.1 Copy and paste the following code inside example.json file in fixture folder:

example.json:

```

{
  "title": "HSBC India - Credit Cards, NRI Services, Saving and Deposit",
  "email": "test@test.com",
  "countryname": "india ",
  "ATMzip": "700059",
  "urlstring": "/ways-to-bank/branches/",
  "HSBC_CC_img_alt": "HSBC Visa Cashback Credit Card",
  "HSBC_CC_header": "HSBC Cashback Credit Card"
}

```



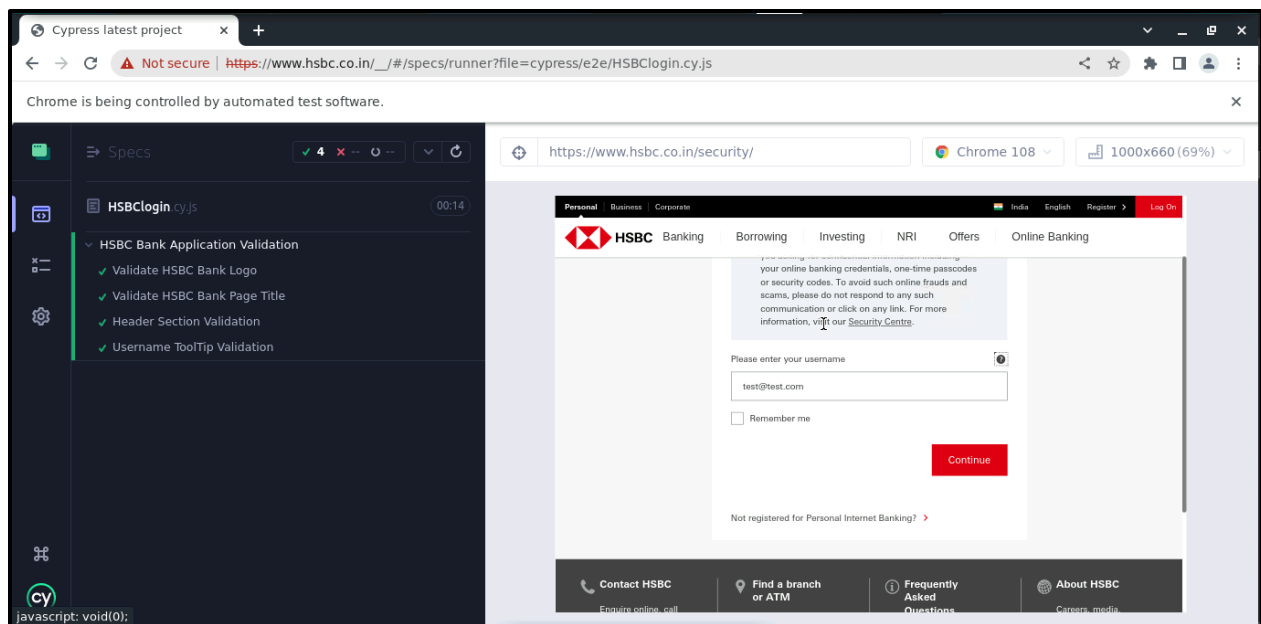
9. Running the project and testing the test cases

9.1 In the terminal, write the following command to run Cypress:

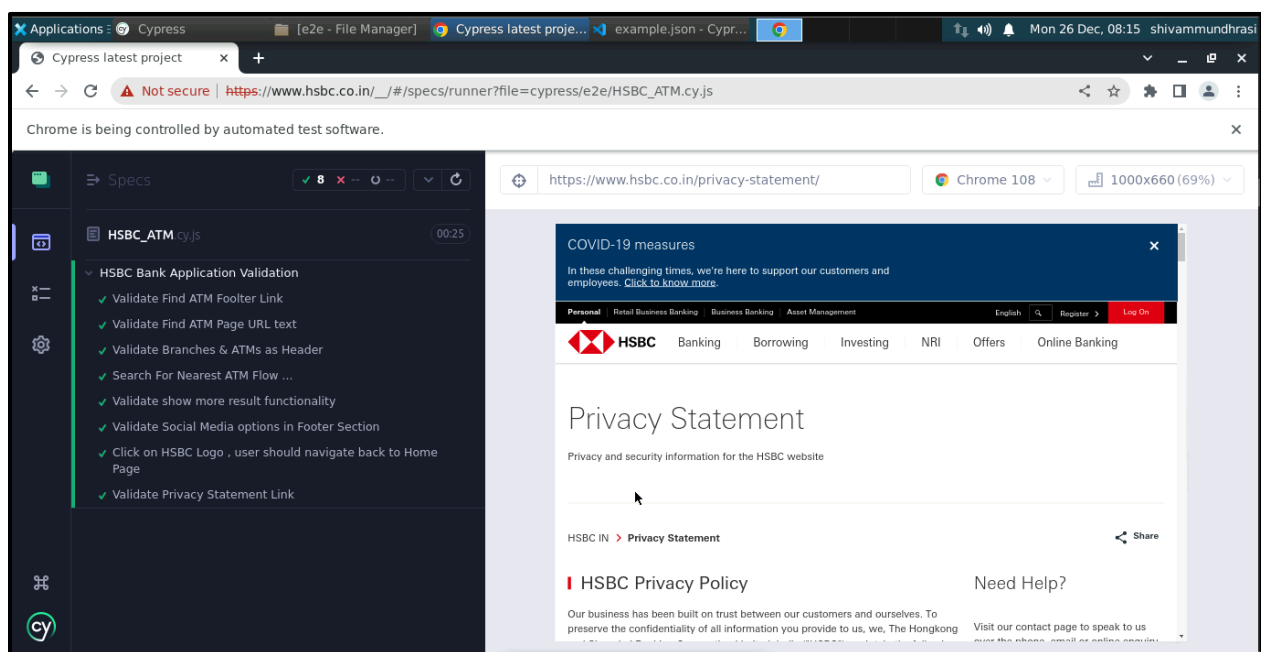
npx cypress open

9.2 Click on the test cases to run each test case

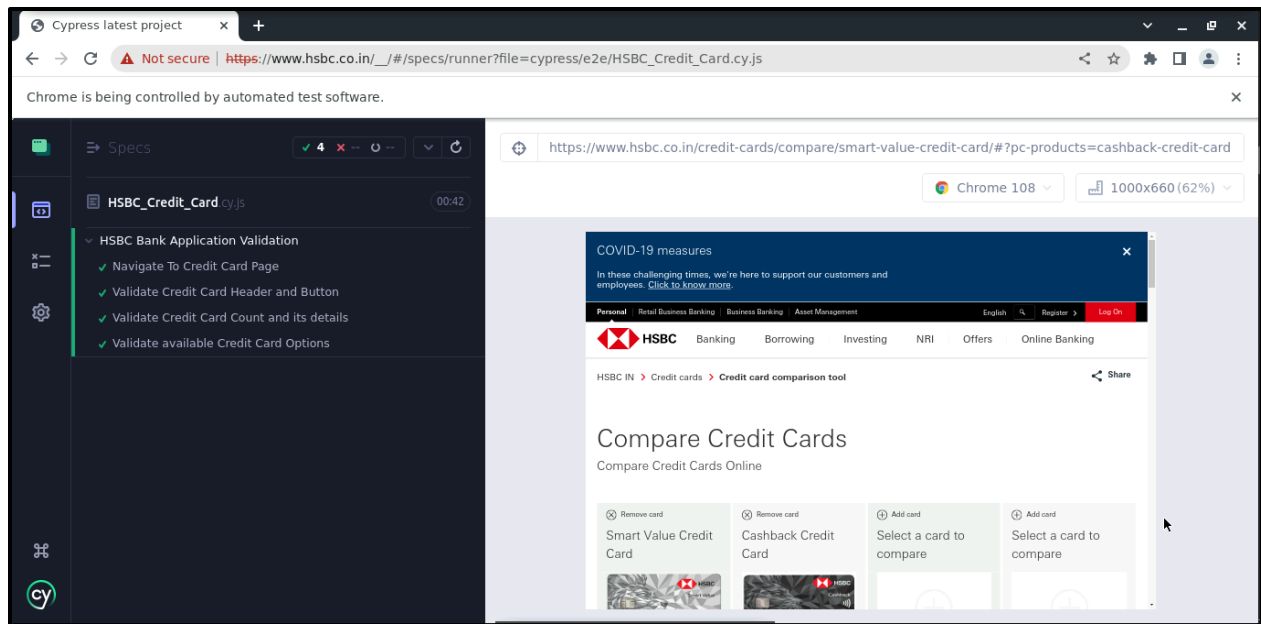
HSBC login:



HSBC_ATM:



HSBC_Credit_Card:



All the test cases are executed successfully.

Note: Keep the mouse on the output screen to get the proper output without any error. Rerun the testcases if there is any error.