AutomationExercise.com API Testing

1. Project Overview

I tested a demo e-commerce website to simulate user-related operations including user registration, user login, delete user, update user, get users/products, search products/brands, etc. The goal of the API testing was to validate functionality, status codes, and error responses using Postman.

2. API Endpoints Tested

Endpoint	Method	Description
/api/productsList	GET	Get all products list
/api/brandsList	GET	Get all brands list
/api/searchProduct	POST	Search product
/api/verifyLogin	POST	Login with valid credentials
/api/createAccount	POST	Create a new user account
/api/deleteAccount	DELETE	Delete user account
/api/updateAccount	PUT	Update user account
/api/getUserDetailByEmail	GET	Get user account detail by email

3. Test Scenarios

A. Get All Products (/api/productsList)

Test Case ID	Scenario	Method & Input	Expected Result	Actual Result	Status	Notes
TC001	Valid request all products list	GET	200 OK	200 OK	Passed	
TC002	Invalid method request products list (POST instead of GET)	POST	405 Method Not Allowed	405 Method Not Allowed	Passed with Notes	Actual result is shown in the response body

B. Get All Brands (/api/brandsList)

Test Case ID	Scenario	Method & Input	Expected Result	Actual Result	Status	Notes
TC003	Valid request all brands list	GET	200 OK	200 OK	Passed	
TC004	Invalid method request brands list (PUT instead of GET)	PUT	405 Method Not Allowed	405 Method Not Allowed	Passed with Notes	Actual result is shown in the response body

C. Get All Products (/api/searchProduct)

Test Case ID	Scenario	Method & Input	Expected Result	Actual Result	Status	Notes
TC005	Search products list	POST Search_product = Polo	200 OK	200 OK	Passed	
TC006	Search products list without parameter	POST	400 Bad Request	400 Bad Request	Passed with Notes	Actual result is shown in the response body
TC007	Search product with empty string input	POST	200 OK	200 OK	Passed	
TC008	Invalid Method request search product	GET	405 Method Not Allowed	405 Method Not Allowed	Passed with Notes	Actual result is shown in the response body

D. Create New User Account (/api/createAccount)

Test Case ID	Scenario	Method & Input	Expected Result	Actual Result	Status	Notes
TC009	Valid user registration	POST	201 Created	201 Created	Passed with Notes	Actual result is shown in the response body

TC010	User registration without complete data	POST	400 Bad Request	400 Bad Request	Passed with Notes	Actual result is shown in the response body
TC011	User registration with existing email	POST	400 Bad Request	400 Bad Request	Passed with Notes	Actual result is shown in the response body
TC012	User registration with invalid email format	POST	400 Bad Request	201 Created	Failed	

E. User Login (/api/verifyLogin)

Test Case ID	Scenario	Method & Input	Expected Result	Actual Result	Status	Notes
TC013	Valid login	POST	200 OK	200 OK	Passed	
TC014	Login with missing email or password	POST	400 Bad Request	400 Bad Request	Passed with Notes	Actual result is shown in the response body
TC015	Invalid email login	POST	404 Not Found	404 Not Found	Passed with Notes	Actual result is shown in the response body
TC016	Invalid password login	POST	404 Not Found	404 Not Found	Passed with	Actual result is

					Notes	shown in the response body
TC017	Invalid method request user login	DELETE	405 Method Not Allowed	405 Method Not Allowed	Passed with Notes	Actual result is shown in the response body

F. Get User Account Detail by Email (/api/getUserDetailByEmail)

Test Case ID	Scenario	Method & Input	Expected Result	Actual Result	Status	Notes
TC018	Valid email	GET	200 OK	200 OK	Passed	
TC019	Non-existing email	GET	404 Not Found	404 Not Found	Passed with Notes	Actual result is shown in the response body
TC020	Missing email parameter	GET	400 Bad Request	400 Bad Request	Passed with Notes	Actual result is shown in the response body

G. Delete User Account (/api//api/deleteAccount)

Test Case ID	Scenario	Method & Input	Expected Result	Actual Result	Status	Notes
TC021	Valid account delete	DELETE	200 OK	200 OK	Passed	
TC022	Wrong email or password	DELETE	404 Not Found	404 Not Found	Passed with Notes	Actual result is shown in the response body
TC023	Missing email and password parameter	DELETE	400 Bad Request	400 Bad Request	Passed with Notes	Actual result is shown in the response body

H. Update User Account (/api//api/updateAccount)

Test Case ID	Scenario	Method & Input	Expected Result	Actual Result	Status	Notes
TC024	Update user account	PUT	200 OK	200 OK	Passed	
TC025	Update user account with only email and password but no details to update	PUT	400 OK	200 OK	Failed	
TC026	Missing email or password	PUT	400 Bad Request	400 Bad Request	Passed with Notes	Actual result is shown in the

						response body
TC027	Wrong email or password	PUT	404 Not Found	404 Not Found	Passed with Notes	Actual result is shown in the response body

4. Postman Test Scripts

A. Status Code Check

Because the actual status code is shown in response body, I write the scripts to check in response body, not HTTP status.

```
let response = pm.response.json();


pm.test("Response code is 200", function(){
    pm.expect(response.responseCode).to.eql(200);
});
pm.test("Response code is 201", function(){
    pm.expect(response.responseCode).to.eql(201);
});
pm.test("Response code is 400", function(){
    pm.expect(response.responseCode).to.eql(400);
});
pm.test("Response code is 404", function(){
    pm.expect(response.responseCode).to.eql(404);
});
pm.test("Response code is 405", function(){
    pm.expect(response.responseCode).to.eql(405);
});
```

B. Response Time Check

```
pm.test("Response time is less than 1000ms", function () {
    pm.expect(pm.response.responseTime).to.be.below(1000);
});
```

C. Response Body Check

- GET all products list

```
pm.test("All products have a name", function(){
    response.products.forEach(p => {
        pm.expect(p.name).to.be.a('string').to.not.be.empty;
    })
});
```

- GET all brands list

```
pm.test("All brands name are not empty", function(){
    response.brands.forEach(p => {
        pm.expect(p.brand).to.be.a('string').to.not.be.empty;
    })
});
```

- POST Search Product
  - Check every response body contains same value as the search keyword

```
let response = pm.response.json();
let searchValue = 'Tops';

pm.test("All response categories match the keyword", function(){
    response.products.forEach(p => {

pm.expect(p.category.category.toLowerCase()).to.include(searchValue.toLow
erCase());
    });
});
```

- GET User Detail
  - Check returned response is Valid

```
let response = pm.response.json();
let search = 'alif123@gmail.com';

pm.test("Account detail returned is Valid", function(){
    pm.expect(response.user.email).to.eql(search);
});
```

D. Check Response is An Array/Object or Not Empty

- GET all products list

```
pm.test("Products list is an array", function(){
    pm.expect(response.products).to.be.an('Array');
});
```

```
pm.test("Products list is not empty", function(){
    pm.expect(response.products.length).to.be.above(0);
});
```

- GET all brands list

```
pm.test("Brands list is an array", function(){
    pm.expect(response.brands).to.be.an('Array');
});
pm.test("Brands list is not empty", function(){
    pm.expect(response.brands.length).to.be.above(0);
});
```

- POST Search Product

```
pm.test("Products list is an array", function(){
    pm.expect(response.products).to.be.an('Array');
});
pm.test("Products list is not empty", function(){
    pm.expect(response.products.length).to.be.above(0);
});
```

- GET User Detail

```
pm.test("User detail is an object", function(){
    pm.expect(response.user).to.be.an('Object');
});
pm.test("User detail is not empty", function(){
    pm.expect(Object.keys(response.user).length).to.be.above(0);
});
```

E. Check Error Message

- Invalid Method Request for Brands List

```
pm.test("Response message is correct", function(){
    pm.expect(response.message).to.eql('This request method is not
supported.');
});
```

- Valid Login

```
pm.test("Response message is correct", function(){
    pm.expect(response.message).to.eql('User exists!');
});
```

- Invalid Login with Missing Email or Password

```
pm.test("Response message is correct", function(){
    pm.expect(response.message).to.eql('Bad request, email or password
parameter is missing in POST request.');
});
```

- DELETE Account with Invalid Password

```
pm.test("Response message is correct", function(){
    pm.expect(response.message).to.eql('Account not found!')
});
```

- UPDATE User Account

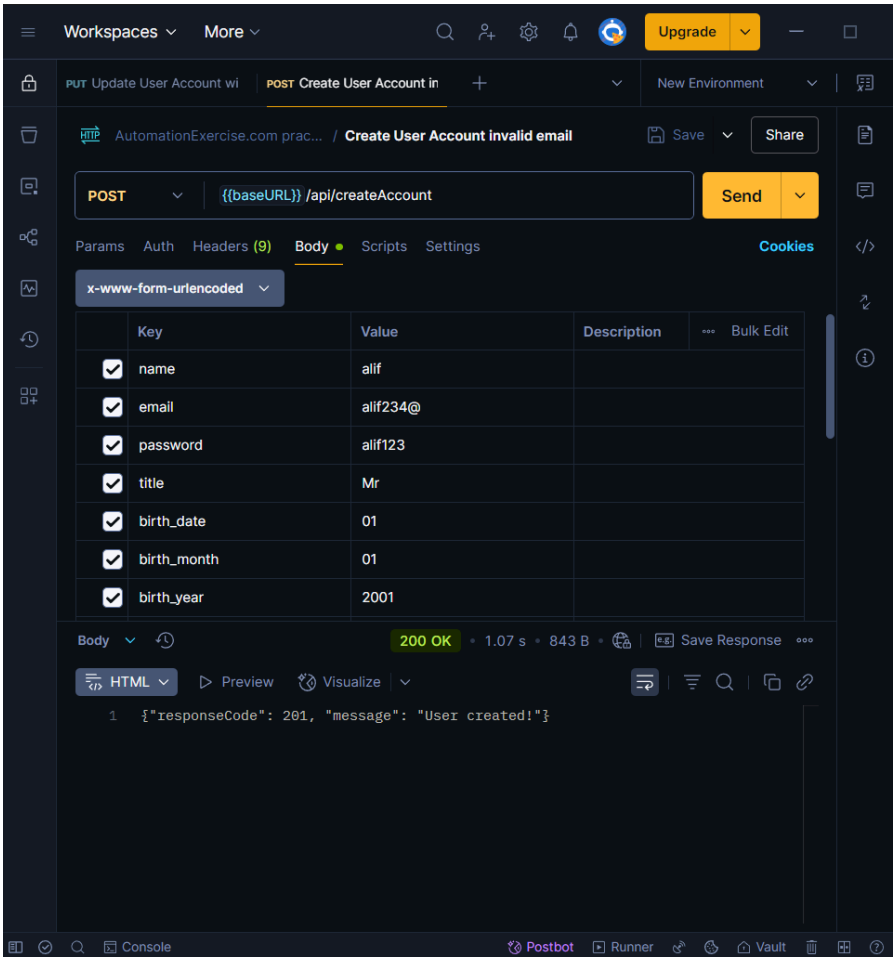
```
pm.test("Response message is correct", function(){
    pm.expect(response.message).to.eql('User updated!')
});
```

5. Bugs and Observations

A. User Registration Accepts Invalid Email Format

- **Steps to Reproduce:**
    a. Send POST request to /api/createAccount
    b. Provide invalid email format in request body (e.g. alif@ or alif@gmail)
- **Expected Result:**
    a. Should return 400 Bad Request
    b. Error message: “Invalid email format”
- **Actual Result:**
    a. Returns 200 OK
    b. Message: “User created!”

- **Screenshot:**

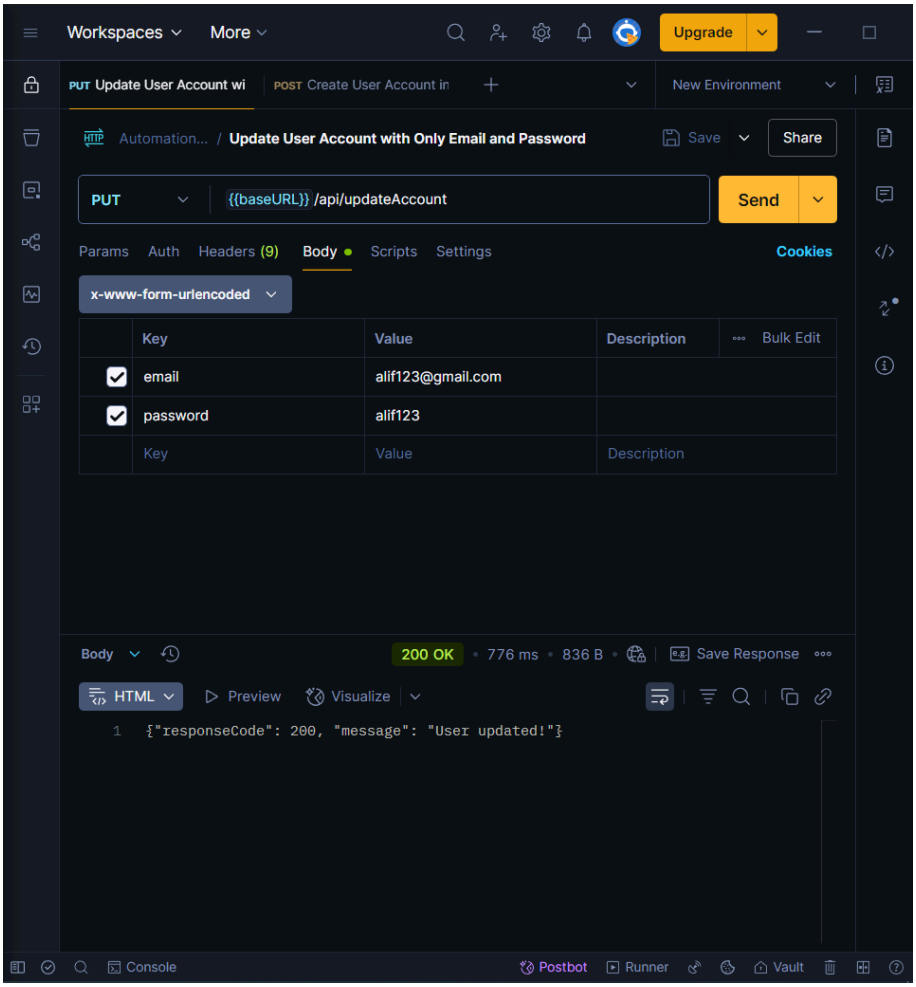


- **Severity:** High
- **Suggestion:** Add server side validation for required fields

B. User Update Success with Only Email and Password and No Detail to Update

- **Steps to Reproduce:**
    a. Send PUT request to /api/updateAccount
    b. Provide only email and password in request body
- **Expected Result:**
    a. Should return 400 Bad Request
    b. Error message: “Provide detail to update.”
- **Actual Result:**
    a. Returns 200 OK
    b. Message: “User updated!”

- **Screenshot:**



- **Severity:** Low
- **Suggestion:** Add server side validation for required fields