

Setup the Environment

```
cd playwright-python-automation
sh setup_env.sh
```

Start the mock frontend server

```
cd playwright-python-automation/mock_frontend
python -m http.server 8000
```

Generate the report and run the tests

```
ENV_NAME=qa .venv/bin/pytest tests/ --html=reports/report.html --self-contained-html
```

1. API Test Suite

CRUD operations testing

- >>> GET and POST endpoints for users and transaction
- Support for mock and execute the real API

Error scenario handling

- >>> Invalid input data (400)
- >>> Unauthorized access (401 / 403)
- >>> Resource not found (404)
- >>> Server errors (500)

Data validation tests

- >>> DataAccessCompare to compares response and validation payload
- >> mappers transaction_config.json, users_config.json - response and validation payload

Authentication/authorization tests

- >> Invalid token , expiry token , cross users access, limited access of the user

2. UI Test Suite (can use mock frontend)

User registration flow

```
>> src/page_objects/users_page.py  
>> tests/ui/test_user_API.py  
>> testdata/testdadta_qa.py
```

Transaction creation flow

```
>> src/page_objects/transaction_page.py  
>> tests/ui/test_transaction_API.py  
>> testdata/testdadta_qa.py
```

Error message validation

```
>>> data validation , empty data, invalid data
```

3. Test Utilities

Test data factories - user and transaction

```
>> test/factories/TransactionFactory.py  
>> test/factories/UserFactory.py
```

Helper functions

src/utlis

Environment configuration

```
.env.qa  
.env.staging
```

Custom assertions

src/utlis/CustomAssert

4. Reporting

Test results (Bonus -multiple formats)

>>> playwright-python-automation/reports/report.html?sort=result

Screenshots for UI failures

>>> screenshot on failure -path seen in the testcase failure

Example - Path

playwright-python-automation/reports/screenshots/test_user_creation_error[users2]_20251031_051930.png

API response logging

>>> Logger class

Screenshot of the Result

27 tests took 00:00:19.

(Un)check the boxes to filter the results.

3 Failed, 24 Passed, 0 Skipped, 0 Expected failures, 0 Unexpected passes, 0 Errors, 0 Reruns

Show all details / Hide all details

Result	Test	Duration	Links
Failed	tests/ui/transaction_creation_test.py::TestTransactionCreation::test_transaction_creation_error[trans0]	00:00:06	
Failed	tests/ui/user_creation_test.py::TestUserCreation::test_user_creation_error[users0]	678 ms	
Failed	tests/ui/user_creation_test.py::TestUserCreation::test_user_creation_error[users2]	690 ms	
Passed	tests/api/test_transaction_API.py::TestUserApi::test_get_transaction_by_userid	109 ms	
Passed	tests/api/test_transaction_API.py::TestUserApi::test_create_transaction	103 ms	
Passed	tests/api/test_transaction_API.py::TestUserApi::test_create_transaction_authentication_invalidtoken	102 ms	
Passed	tests/api/test_transaction_API.py::TestUserApi::test_get_transactions_not_exists	102 ms	
Passed	tests/api/test_transaction_API.py::TestUserApi::test_auth_transactions_insufficient_permission	102 ms	
Passed	tests/api/test_transaction_API.py::TestUserApi::test_user_detail_data_validation	102 ms	
Passed	tests/api/test_transaction_API.py::TestUserApi::test_create_transaction_empty_userid	104 ms	
Passed	tests/api/test_transaction_API.py::TestUserApi::test_create_transactionid_empty_recipient_id	103 ms	
Passed	tests/api/test_transaction_API.py::TestUserApi::test_create_transaction_id_invalid_amount	103 ms	
Passed	tests/api/test_transaction_API.py::TestUserApi::test_get_transaction_cross_user_access_check_auth_neg	103 ms	
Passed	tests/api/test_user_API.py::TestUserApi::test_get_users_by_id	103 ms	
Passed	tests/api/test_user_API.py::TestUserApi::test_create_users	102 ms	
Passed	tests/api/test_user_API.py::TestUserApi::test_create_users_authentication_invalidtoken	106 ms	
Passed	tests/api/test_user_API.py::TestUserApi::test_get_users_not_exists	102 ms	
Passed	tests/api/test_user_API.py::TestUserApi::test_auth_users_insufficient_permission	104 ms	
Passed	tests/api/test_user_API.py::TestUserApi::test_user_detail_data_validation	103 ms	
Passed	tests/api/test_user_API.py::TestUserApi::test_create_user_empty_name	103 ms	
Passed	tests/api/test_user_API.py::TestUserApi::test_create_user_invalid_email	103 ms	
Passed	tests/ui/transaction_creation_test.py::TestTransactionCreation::test_transaction_creation[trans0]	00:00:02	
Passed	tests/ui/transaction_creation_test.py::TestTransactionCreation::test_transaction_creation_error[trans1]	00:00:01	
Passed	tests/ui/transaction_creation_test.py::TestTransactionCreation::test_transaction_creation_error[trans2]	00:00:02	
Passed	tests/ui/user_creation_test.py::TestUserCreation::test_user_creation[users0]	00:00:02	
Passed	tests/ui/user_creation_test.py::TestUserCreation::test_user_creation[users1]	00:00:01	
Passed	tests/ui/user_creation_test.py::TestUserCreation::test_user_creation_error[users1]	00:00:01	