all installed: astroid==2.11.4,attrs==21.4.0,bandit==1.7.4,certifi==2021.10.8,cfgv==3.3.1,charset-normalizer==2.0.12,click==8.1.3,colour==0.1.5,coverage==6.3.2,dill==0.3.4,distlib==0.3.4,et-xmlfile==1.1.0,filelock==3.6.0,gitdb==4.0.9,GitPython==3.1.27,identify==2.5.0,idna==3.3,iniconfig==1.1.1,isort==5.10.1,Jinja2==3.1.2,jsonschema==4.5.1,lazy-object-proxy==1.7.1,MarkupSafe==2.1.1,mccabe==0.7.0,mysql-connector-python==8.0.29,nodeenv==1.6.0,numpy==1.22.3,openpyxl==3.0.9,packaging==21.3,pandas==1.4.2,pbr==5.9.0,Pillow==9.1.0,platformdirs==2.5.2,pluggy==1.0.0,pre-commit==2.19.0,protobuf==3.20.1,py==1.11.0,pylint==2.13.8,pyotp==2.6.0,pyparsing==3.0.8,pyrsistent==0.18.1,pytest==7.1.2,pytest-cov==3.0.0,python-dateutil==2.8.2,python-dotenv==0.20.0,pytz==2022.1,PyYAML==6.0,qrcode==7.3.1,requests==2.27.1,six==1.16.0,smmap==5.0.0,stevedore==3.5.0,styleframe==4.0.0,tabulate==0.8.9,toml==0.10.2,tomli==2.0.1,tox==3.25.0,typing\_extensions==4.2.0,urllib3==1.26.9,virtualenv==20.14.1,wrapt==1.14.1,xlrd==1.2.0

all run-test-pre: PYTHONHASHSEED='3421590497'

all run-test: commands[0] | dotenv -f .env.test run py.test -v -s --cov-config=.coveragerc --cov=scripts --cov-report=term

============================= test session starts ==============================

platform darwin -- Python 3.9.12, pytest-7.1.2, pluggy-1.0.0 -- /Users/laiyinping/Workspaces/University\_of\_Essex/ssd\_assignment/final-project/.tox/all/bin/python

cachedir: .tox/all/.pytest\_cache

rootdir: /Users/laiyinping/Workspaces/University\_of\_Essex/ssd\_assignment/final-project

plugins: cov-3.0.0

collecting ... collected 31 items

tests/amazon\_rds\_test.py::TestAmazonRDS::test\_can\_make\_connection\_to\_amazon\_rds Truncating all user records from the secured\_test.users table.

Truncating all user records from the backend\_test.users table.

PASSED

tests/amazon\_rds\_test.py::TestAmazonRDS::test\_required\_databases\_are\_exist PASSED

tests/amazon\_rds\_test.py::TestAmazonRDS::test\_can\_perform\_read\_operations PASSED

tests/amazon\_rds\_test.py::TestAmazonRDS::test\_can\_perform\_insert\_operations PASSED

tests/amazon\_rds\_test.py::TestAmazonRDS::test\_can\_perform\_update\_operations PASSED

tests/amazon\_rds\_test.py::TestAmazonRDS::test\_can\_perform\_delete\_operations PASSED

tests/google\_cloud\_functions\_test.py::TestGoogleCloudFunctions::test\_google\_cloud\_functions\_heart\_beat Truncating all user records from the secured\_test.users table.

Truncating all user records from the backend\_test.users table.

PASSED

tests/google\_cloud\_functions\_test.py::TestGoogleCloudFunctions::test\_google\_cloud\_functions\_register\_user PASSED

tests/main\_app\_test.py::TestMainApplication::test\_register\_user [H[2J[H[2JTruncating all user records from the secured\_test.users table.

Truncating all business data records from the secured\_test.business\_data table.

Truncating all user records from the backend\_test.blocked\_session table.

Truncating all user records from the backend\_test.user\_login\_logs table.

Truncating all user records from the backend\_test.users table.

Asking for input: Please select a menu:

Current input values: ['2', 'John Doe', 'johndoe@gmail.com', 'P@ssw0rd', 'P@ssw0rd', '123456', '123456', 'n', '0']

Asking for input: Your full name:

Current input values: ['John Doe', 'johndoe@gmail.com', 'P@ssw0rd', 'P@ssw0rd', '123456', '123456', 'n', '0']

Asking for input: Your email:

Current input values: ['johndoe@gmail.com', 'P@ssw0rd', 'P@ssw0rd', '123456', '123456', 'n', '0']

Asking for input: Enter your password:

Current input values: ['P@ssw0rd', 'P@ssw0rd', '123456', '123456', 'n', '0']

Asking for input: Confirm your password:

Current input values: ['P@ssw0rd', '123456', '123456', 'n', '0']

Asking for input: Set a secondary password:

Current input values: ['123456', '123456', 'n', '0']

Asking for input: Confirm your secondary password:

Current input values: ['123456', 'n', '0']

Asking for input: Do you want to set it up now? (y/n):

Current input values: ['n', '0']

Asking for input: Please select a menu:

Current input values: ['0']

PASSED

tests/main\_app\_test.py::TestMainApplication::test\_user\_login [H[2J[H[2J[H[2J[H[2JAsking for input: Please select a menu:

Current input values: ['1', 'johndoe@gmail.com', 'P@ssw0rd', '========', '========', '========', '========', '5', '0']

Asking for input: Enter your email:

Current input values: ['johndoe@gmail.com', 'P@ssw0rd', '========', '========', '========', '========', '5', '0']

Asking for input: Enter your password:

Current input values: ['P@ssw0rd', '========', '========', '========', '========', '5', '0']

Asking for input: Press enter to proceed...

Current input values: ['========', '========', '========', '========', '5', '0']

Asking for input: Press enter to continue...

Current input values: ['========', '========', '========', '5', '0']

Asking for input: Enter the code:

Current input values: ['========', '========', '5', '0']

Asking for input: Success! Press enter to go to homepage.

Current input values: ['========', '5', '0']

Asking for input: Please select a menu:

Current input values: ['5', '0']

Asking for input: Please select a menu:

Current input values: ['0']

PASSED

tests/main\_app\_test.py::TestMainApplication::test\_add\_data [H[2J[H[2J[H[2J[H[2J[H[2JAsking for input: Please select a menu:

Current input values: ['1', 'johndoe@gmail.com', 'P@ssw0rd', '========', '========', '1', '1234', 'This is sample data!', '========', '5', '0']

Asking for input: Enter your email:

Current input values: ['johndoe@gmail.com', 'P@ssw0rd', '========', '========', '1', '1234', 'This is sample data!', '========', '5', '0']

Asking for input: Enter your password:

Current input values: ['P@ssw0rd', '========', '========', '1', '1234', 'This is sample data!', '========', '5', '0']

Asking for input: Enter your MFA code:

Current input values: ['========', '========', '1', '1234', 'This is sample data!', '========', '5', '0']

Asking for input: Hi John! You are logged in! Press any key to continue...

Current input values: ['========', '1', '1234', 'This is sample data!', '========', '5', '0']

Asking for input: Please select a menu:

Current input values: ['1', '1234', 'This is sample data!', '========', '5', '0']

Asking for input: Enter data value:

Current input values: ['1234', 'This is sample data!', '========', '5', '0']

Asking for input: Enter data details:

Current input values: ['This is sample data!', '========', '5', '0']

Asking for input: Press any key to proceed:

Current input values: ['========', '5', '0']

Asking for input: Please select a menu:

Current input values: ['5', '0']

Asking for input: Please select a menu:

Current input values: ['0']

PASSED

tests/main\_app\_test.py::TestMainApplication::test\_update\_data [H[2J[H[2J[H[2J[H[2J[H[2JAsking for input: Please select a menu:

Current input values: ['1', 'johndoe@gmail.com', 'P@ssw0rd', '========', '========', '2', '1', '1', '4321', '========', '5', '0']

Asking for input: Enter your email:

Current input values: ['johndoe@gmail.com', 'P@ssw0rd', '========', '========', '2', '1', '1', '4321', '========', '5', '0']

Asking for input: Enter your password:

Current input values: ['P@ssw0rd', '========', '========', '2', '1', '1', '4321', '========', '5', '0']

Asking for input: Enter your MFA code:

Current input values: ['========', '========', '2', '1', '1', '4321', '========', '5', '0']

Asking for input: Hi John! You are logged in! Press any key to continue...

Current input values: ['========', '2', '1', '1', '4321', '========', '5', '0']

Asking for input: Please select a menu:

Current input values: ['2', '1', '1', '4321', '========', '5', '0']

Asking for input: Please Enter the Data ID as displayed in the Data View:

Current input values: ['1', '1', '4321', '========', '5', '0']

Asking for input: Please Enter 1 or 2:

Current input values: ['1', '4321', '========', '5', '0']

Asking for input: Enter new data value. (Number only):

Current input values: ['4321', '========', '5', '0']

Asking for input: Press any key to proceed:

Current input values: ['========', '5', '0']

Asking for input: Please select a menu:

Current input values: ['5', '0']

Asking for input: Please select a menu:

Current input values: ['0']

PASSED

tests/main\_app\_test.py::TestMainApplication::test\_download\_data [H[2J[H[2J[H[2J[H[2J[H[2JAsking for input: Please select a menu:

Current input values: ['1', 'johndoe@gmail.com', 'P@ssw0rd', '========', '========', '4', '========', '5', '0']

Asking for input: Enter your email:

Current input values: ['johndoe@gmail.com', 'P@ssw0rd', '========', '========', '4', '========', '5', '0']

Asking for input: Enter your password:

Current input values: ['P@ssw0rd', '========', '========', '4', '========', '5', '0']

Asking for input: Enter your MFA code:

Current input values: ['========', '========', '4', '========', '5', '0']

Asking for input: Hi John! You are logged in! Press any key to continue...

Current input values: ['========', '4', '========', '5', '0']

Asking for input: Please select a menu:

Current input values: ['4', '========', '5', '0']

Asking for input: Press any key to continue...

Current input values: ['========', '5', '0']

Asking for input: Please select a menu:

Current input values: ['5', '0']

Asking for input: Please select a menu:

Current input values: ['0']

['Welcome!\n', '1. Login', '2. Register\n', '0. Exit\n', 'Please select a menu: ', 'Enter your email: ', 'Enter your password: ', 'Welcome John!', 'Enter your MFA code: ', 'Hi John! You are logged in! Press any key to continue...', '========================================', '\*\*\*Data View\*\*\*', '========================================', '', '=========================================================================================================================================================', '|Data ID Data Value Data Details Valid Last Modified |', '|-----------------------------------------------------------------------------------------------------------------------------------------------------|', '|4206d065-8ccc-4840-a8c3-d0650e49795a 4321 This is sample data! True Mon, 30 May 2022 08:39:19 GMT |', '=========================================================================================================================================================', '========================================', 'What action you would like to take?', '========================================', '', '1. Add Data', '2. Update Data', '3. Delete Data ', '4. Download Data\n', '5. Logout\n', 'Please select a menu: ', 'No data is available for download', 'Press any key to continue...', '========================================', '\*\*\*Data View\*\*\*', '========================================', '', '=========================================================================================================================================================', '|Data ID Data Value Data Details Valid Last Modified |', '|-----------------------------------------------------------------------------------------------------------------------------------------------------|', '|4206d065-8ccc-4840-a8c3-d0650e49795a 4321 This is sample data! True Mon, 30 May 2022 08:39:19 GMT |', '=========================================================================================================================================================', '========================================', 'What action you would like to take?', '========================================', '', '1. Add Data', '2. Update Data', '3. Delete Data ', '4. Download Data\n', '5. Logout\n', 'Please select a menu: ', 'Welcome!\n', '1. Login', '2. Register\n', '0. Exit\n', 'Please select a menu: ']

PASSED

tests/main\_app\_test.py::TestMainApplication::test\_delete\_data [H[2J[H[2J[H[2J[H[2J[H[2J[H[2JAsking for input: Please select a menu:

Current input values: ['1', 'johndoe@gmail.com', 'P@ssw0rd', '========', '========', '3', '1', '========', '5', '0']

Asking for input: Enter your email:

Current input values: ['johndoe@gmail.com', 'P@ssw0rd', '========', '========', '3', '1', '========', '5', '0']

Asking for input: Enter your password:

Current input values: ['P@ssw0rd', '========', '========', '3', '1', '========', '5', '0']

Asking for input: Enter your MFA code:

Current input values: ['========', '========', '3', '1', '========', '5', '0']

Asking for input: Hi John! You are logged in! Press any key to continue...

Current input values: ['========', '3', '1', '========', '5', '0']

Asking for input: Please select a menu:

Current input values: ['3', '1', '========', '5', '0']

Asking for input: Please Enter the Data ID as displayed in the Data View:

Current input values: ['1', '========', '5', '0']

Asking for input: Press any key to proceed:

Current input values: ['========', '5', '0']

Asking for input: Please select a menu:

Current input values: ['5', '0']

Asking for input: Please select a menu:

Current input values: ['0']

['Welcome!\n', '1. Login', '2. Register\n', '0. Exit\n', 'Please select a menu: ', 'Enter your email: ', 'Enter your password: ', 'Welcome John!', 'Enter your MFA code: ', 'Hi John! You are logged in! Press any key to continue...', '========================================', '\*\*\*Data View\*\*\*', '========================================', '', '=========================================================================================================================================================', '|Data ID Data Value Data Details Valid Last Modified |', '|-----------------------------------------------------------------------------------------------------------------------------------------------------|', '|4206d065-8ccc-4840-a8c3-d0650e49795a 4321 This is sample data! True Mon, 30 May 2022 08:39:19 GMT |', '=========================================================================================================================================================', '========================================', 'What action you would like to take?', '========================================', '', '1. Add Data', '2. Update Data', '3. Delete Data ', '4. Download Data\n', '5. Logout\n', 'Please select a menu: ', 'LIST OF CURRENT DATA ENTRIES:', '', '============================================================================================================================================================', '|ID Data ID Data Value Data Details Valid Last Modified |', '|--------------------------------------------------------------------------------------------------------------------------------------------------------|', '|1 4206d065-8ccc-4840-a8c3-d0650e49795a 4321 This is sample data! Mon, 30 May 2022 08:39:19 GMT |', '============================================================================================================================================================', 'Which data entry do you want to delete?', 'Please Enter the Data ID as displayed in the Data View: ', '', 'Data id 4206d065-8ccc-4840-a8c3-d0650e49795a is deleted by user 1!', 'Press any key to proceed: ', '========================================', '\*\*\*Data View\*\*\*', '========================================', '', '=========================================================================================================================================================', '|Data ID Data Value Data Details Valid Last Modified |', '|-----------------------------------------------------------------------------------------------------------------------------------------------------|', '|4206d065-8ccc-4840-a8c3-d0650e49795a 4321 This is sample data! True Mon, 30 May 2022 08:39:19 GMT |', '=========================================================================================================================================================', '========================================', 'What action you would like to take?', '========================================', '', '1. Add Data', '2. Update Data', '3. Delete Data ', '4. Download Data\n', '5. Logout\n', 'Please select a menu: ', 'Welcome!\n', '1. Login', '2. Register\n', '0. Exit\n', 'Please select a menu: ']

PASSED

tests/cloud\_functions\_api/add\_data\_test.py::TestAddData::test\_add\_data Truncating all user records from the secured\_test.users table.

Truncating all user records from the backend\_test.blocked\_session table.

Truncating all user records from the backend\_test.user\_login\_logs table.

Truncating all user records from the backend\_test.users table.

Creating a fake user record to the secured\_test.users table.

DEBUG

INSERT INTO secured\_test.business\_data

(data\_id, user\_id, data\_value, data\_details, is\_valid, last\_modified)

VALUES

('ac3f121c-bdf5-49d8-9798-3e2ab94f8420',1,3,'This is sample data',1,'2022-05-30 16:39:44');

PASSED

tests/cloud\_functions\_api/add\_data\_test.py::TestAddData::test\_add\_data\_with\_non\_existing\_user DEBUG

INSERT INTO secured\_test.business\_data

(data\_id, user\_id, data\_value, data\_details, is\_valid, last\_modified)

VALUES

('dc870058-b925-44c6-a286-c27463c5cab8',2,4,'This is sample data',1,'2022-05-30 16:39:47');

PASSED

tests/cloud\_functions\_api/register\_user\_test.py::TestRegisterUser::test\_main\_with\_non\_registered\_email\_address Truncating all user records from the secured\_test.users table.

Truncating all user records from the backend\_test.users table.

PASSED

tests/cloud\_functions\_api/register\_user\_test.py::TestRegisterUser::test\_main\_with\_an\_registered\_email\_address PASSED

tests/cloud\_functions\_api/retrieve\_data\_test.py::TestRetrieveData::test\_retrieve\_data Truncating all user records from the secured\_test.users table.

Truncating all business data records from the secured\_test.business\_data table.

Truncating all user records from the backend\_test.blocked\_session table.

Truncating all user records from the backend\_test.user\_login\_logs table.

Truncating all user records from the backend\_test.users table.

Creating a fake business data record to the secured\_test.business\_data table.

Creating a fake user record to the secured\_test.users table.

PASSED

tests/cloud\_functions\_api/retrieve\_data\_test.py::TestRetrieveData::test\_retrieve\_data\_with\_non\_existing\_user PASSED

tests/cloud\_functions\_api/setup\_otp\_test.py::TestSetupOTP::test\_setup\_otp Truncating all user records from the secured\_test.users table.

Truncating all user records from the backend\_test.users table.

Creating a fake user record to the secured\_test.users table.

PASSED

tests/cloud\_functions\_api/setup\_otp\_test.py::TestSetupOTP::test\_setup\_otp\_with\_non\_existing\_user PASSED

tests/cloud\_functions\_api/update\_data\_test.py::TestUpdateData::test\_update\_data\_with\_unsupported\_action Truncating all user records from the secured\_test.users table.

Truncating all user records from the backend\_test.blocked\_session table.

Truncating all user records from the backend\_test.user\_login\_logs table.

Truncating all user records from the backend\_test.users table.

Creating a fake business data record to the secured\_test.business\_data table.

Creating a fake user record to the secured\_test.users table.

PASSED

tests/cloud\_functions\_api/update\_data\_test.py::TestUpdateData::test\_updating\_the\_data\_value PASSED

tests/cloud\_functions\_api/update\_data\_test.py::TestUpdateData::test\_updating\_the\_data\_details PASSED

tests/cloud\_functions\_api/update\_data\_test.py::TestUpdateData::test\_marking\_delete PASSED

tests/cloud\_functions\_api/user\_login\_test.py::TestUserLogin::test\_user\_login\_with\_valid\_credentials Truncating all user records from the secured\_test.users table.

Truncating all user records from the backend\_test.blocked\_session table.

Truncating all user records from the backend\_test.user\_login\_logs table.

Truncating all user records from the backend\_test.users table.

Creating a fake user record to the secured\_test.users table.

PASSED

tests/cloud\_functions\_api/user\_login\_test.py::TestUserLogin::test\_user\_login\_with\_invalid\_email\_address PASSED

tests/cloud\_functions\_api/user\_login\_test.py::TestUserLogin::test\_user\_has\_exceeded\_login\_attempt Trying to login with 1 attempt.

attempt\_made: 0

Trying to login with 2 attempt.

attempt\_made: 0

Trying to login with 3 attempt.

attempt\_made: 0

Trying to login with 4 attempt.

attempt\_made: 1

PASSED

tests/cloud\_functions\_api/verify\_otp\_test.py::TestVerifyOTP::test\_when\_tfa\_secret\_is\_saved Truncating all user records from the secured\_test.users table.

Truncating all user records from the backend\_test.users table.

Creating a fake user record to the secured\_test.users table.

PASSED

tests/cloud\_functions\_api/verify\_otp\_test.py::TestVerifyOTP::test\_setup\_otp\_with\_non\_existing\_user PASSED

---------- coverage: platform darwin, python 3.9.12-final-0 ----------

Name Stmts Miss Cover

------------------------------------------------------------------

scripts/MainApp.py 403 69 83%

scripts/cloud\_functions\_api/add\_data.py 25 0 100%

scripts/cloud\_functions\_api/register\_user.py 25 0 100%

scripts/cloud\_functions\_api/retrieve\_data.py 17 0 100%

scripts/cloud\_functions\_api/setup\_otp.py 18 0 100%

scripts/cloud\_functions\_api/update\_data.py 34 0 100%

scripts/cloud\_functions\_api/user\_login.py 56 0 100%

scripts/cloud\_functions\_api/verify\_otp.py 20 0 100%

------------------------------------------------------------------

TOTAL 598 69 88%

======================== 31 passed in 237.92s (0:03:57) ========================

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ summary \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

all: commands succeeded

congratulations :)