**Tech Assignment - 4 - Test Suite (Unit & Integration)**

Wednesday, August 20, 2025

11:05 AM

**Test suite for BrainBox API app server testing - Total: Unit test (23) + Integration test (13) = 36 test cases**

**All test files can be found under /tests folder**

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**Unit Test Subset** - total: 23. Functions tested based on "main\_brainbox\_api.py"

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* **For /upload API endpoint unit test (6), file name: test\_unit\_upload.py**

test\_post\_upload\_csv\_ok\_one\_datarow

test\_post\_upload\_csv\_ok\_multiple\_datarow

test\_post\_upload\_csv\_ok\_zero\_datarow

test\_post\_upload\_csv\_fail\_empty\_file

test\_post\_upload\_csv\_fail\_missing\_col

test\_post\_upload\_csv\_fail\_filenotexist

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* **For /validate API endpoint unit test (17), file name: test\_unit\_validate.py**

test\_post\_validate\_csv\_ok\_one\_datarow

test\_post\_validate\_csv\_ok\_multiple\_datarow

test\_post\_validate\_csv\_ok\_zero\_datarow

test\_post\_validate\_csv\_fail\_empty\_file

test\_post\_validate\_csv\_fail\_nonexist\_file

test\_post\_validate\_csv\_fail\_missing\_col\_bill\_id

test\_post\_validate\_csv\_fail\_missing\_col\_meter\_id

test\_post\_validate\_csv\_fail\_missing\_col\_usage\_type

test\_post\_validate\_csv\_fail\_missing\_col\_building\_id

test\_post\_validate\_csv\_fail\_missing\_col\_start\_date

test\_post\_validate\_csv\_fail\_missing\_col\_end\_date

test\_post\_validate\_csv\_fail\_wrongtype\_col\_bill\_id

test\_post\_validate\_csv\_fail\_wrongtype\_col\_meter\_id

test\_post\_validate\_csv\_fail\_wrongtype\_col\_usage\_type

test\_post\_validate\_csv\_fail\_wrongtype\_col\_building\_id

test\_post\_validate\_csv\_fail\_wrongtype\_col\_start\_date

test\_post\_validate\_csv\_fail\_wrongtype\_col\_end\_date

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**Integration Test subset - total: 13**

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* **For /validate API endpoint integration test (8), filename: test\_int\_validate.py**

test\_valid\_csv\_exist

test\_invalid\_csv\_exist

test\_invalid2\_csv\_exist

test\_empty\_csv\_exist

test\_brainbox\_api\_validate\_ok\_csv

test\_brainbox\_api\_validate\_fail\_missing\_col\_csv

test\_brainbox\_api\_validate\_fail\_wrong\_datatype\_csv

test\_brainbox\_api\_validate\_empty\_csv

* **For /upload API endpoint integration test (3), filename: test\_int\_upload.py**

test\_brainbox\_api\_upload\_ok\_csv

test\_brainbox\_api\_upload\_fail\_missing\_col\_csv

test\_brainbox\_api\_upload\_empty\_csv

* **For /query API endpoint integration test (2), filename: test\_int\_query.py**

test\_brainbox\_api\_query\_ok\_csv

test\_brainbox\_api\_query\_empty\_csv

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**Note:**

* All the unit test files and integration test files can be found under /tests folder, including the api main function file: main\_brainbox\_api.py.

* For /query API, it is not part of this tech assignment requirements, I created just for integration test purpose, so I can use SQL query to check the DB which populated data from uploaded CSV. Therefore, the /query API test included in the integration test subset, but is not included in the unit test subset.

* All of my current implemented tests were listed at here, not for all of my planned test cases. If time allows, more test cases will be added to increase test coverage.