

The Naive Baker

Group 08

Unit Testing

Frame Work Used **JEST**

Jest is an open-source Javascript testing framework mainly built for testing React, Node, Babel, TypeScript, Angular, Vue, and JavaScript-based applications. It primarily focuses on simplicity and support for large web applications.

Benefits of Using Jest Testing:

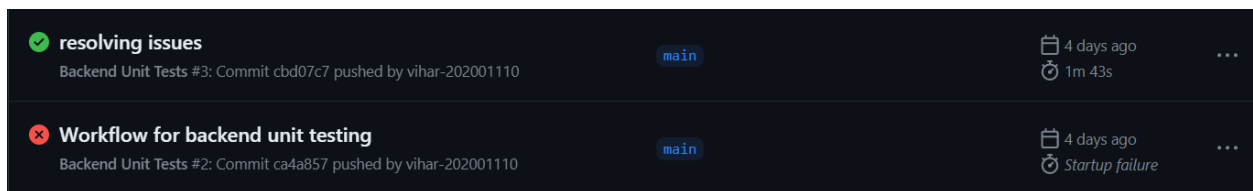
- Zero configuration setup – One doesn't need to do a lot of setup in terms of configuration while working with Jest
- Provides built-in code coverage support
- Extremely fast

GitHub Integration

We integrate the backend unit test cases with GitHub in a CICD manner. Every time someone pushes changes on the repository, the tests automatically run, and a mail is sent to contributors every time a test case fails.

Below are some instances where adding new test cases caused revealed some faults in the code, which were then resolved in a later commit.

This is the first instance when the GitHub Action was defined.



✓	Dashboard restructuring to render data from backend	main	3 days ago 1m 30s	...
	Backend Unit Tests #5: Commit 7280529 pushed by vihar-202001110			
✗	Added New end points in recipe.js	main	3 days ago 1m 36s	...
	Backend Unit Tests #4: Commit fccdcf4 pushed by dhruvprajapati18082002			
✓	Resolved testing bugs in authorization end-points	main	2 days ago 1m 59s	...
	Backend Unit Tests #8: Commit 53a5772 pushed by vihar-202001110			
✗	createuser, login, and getprofile endpoints test	main	2 days ago 1m 49s	...
	Backend Unit Tests #7: Commit 34cdb1a pushed by 20201094			
✓	resolved recipe.js testing issues	main	8 hours ago 1m 44s	...
	Backend Unit Tests #14: Commit b6ed128 pushed by dhruvprajapati18082002			
✗	Added New Recipe Test Cases	main	8 hours ago 4m 47s	...
	Backend Unit Tests #13: Commit 3958c78 pushed by PRIYANK015			

Here is an instance of running the test locally,

```
> naivebaker-backend@1.0.0 test
> cross-env NODE_ENV=test jest --testTimeout=5000

RUNS tests/recipe.test.js
RUNS tests/auth.test.js

Test Suites: 0 of 2 total
Tests:       0 total
Snapshots:   0 total
Time:        3 s, estimated 4 s
```

The two **Test Suites** refer to Recipe end-points and Authorization end-points, respectively.

```
PASS tests/auth.test.js (15.251 s)
PASS tests/recipe.test.js (16.007 s)

Test Suites: 2 passed, 2 total
Tests:       27 passed, 27 total
Snapshots:   0 total
Time:        17.084 s
Ran all test suites.
```

This screenshot shows the test cases completing their flow and passing successfully. Currently, there are 27 test cases defined in total for both the test-suites. The test cases are defined in the **tests** folder in the backend.

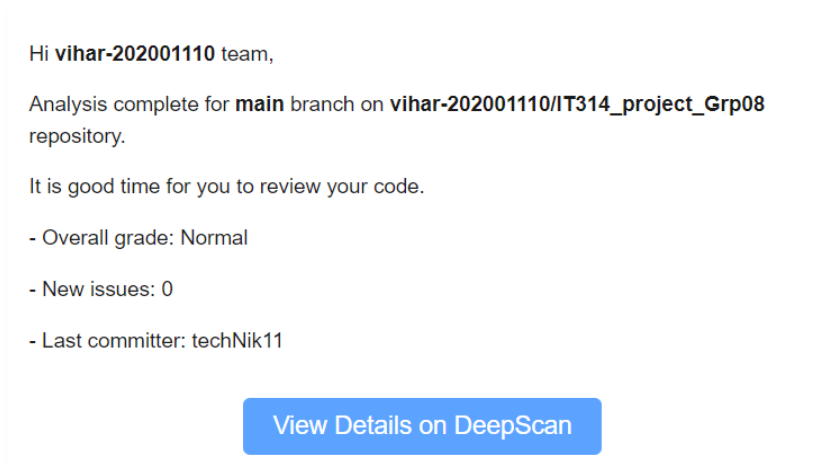
STATIC ANALYSIS

TOOL USED:
deepScan

Deep Scan performs static analysis on the JavaScript code and can also be added in vs code, providing all sorts of errors and warnings. It also provides a summary of issues and their impacts on the code.

Instead of including it in V.S. Code, one can link it to its website's repository using 3rd party authentication. The tool sends a mail every time commits are pushed to the repository indicating the code quality and the total number of additional static analysis errors caught.

Following is an example of the same



The in-depth report obtained on the site include following fields

