

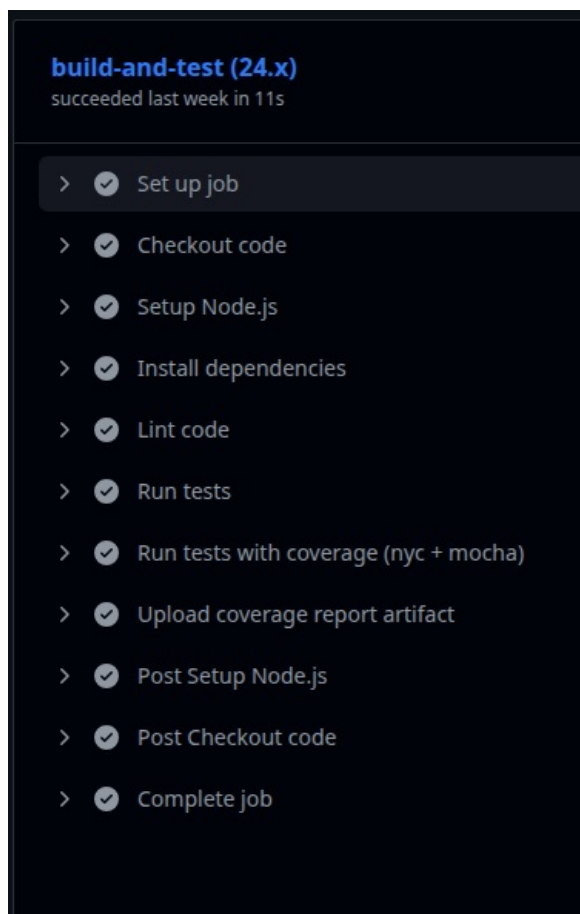
## VIII. Submission

**GitHub Repository: Submit your full Node.js project including .github/workflows/ci.yml and enhancements (code coverage, PR workflow, deployment)**

<https://github.com/SamnangKong426/kong-samnang-lab1.git>

**Evidence of CI/CD: Screenshots or links showing workflow runs, linting, test results, code coverage, and deployment**

### Workflows



## Linting

```
✓ Lint code

1 ▶ Run yarn lint
4 yarn run v1.22.22
5 $ eslint . --ext .js
6 Done in 0.31s.
```

## Test Results

```
✓ Run tests

1 ▶ Run yarn test
4 yarn run v1.22.22
5 $ mocha --exit
6
7
8 GET /
9 ✓ should return Hello, GitHub Actions!
10
11
12 1 passing (22ms)
13
14 Done in 0.30s.
```

## Code Coverage

```
✓ Run tests with coverage (nyc + mocha)

1 ▶ Run yarn coverage
4 yarn run v1.22.22
5 $ nyc --reporter=lcov --reporter=text mocha
6
7
8 GET /
9 ✓ should return Hello, GitHub Actions!
10
11
12 1 passing (17ms)
13
14 -----|-----|-----|-----|-----|-----
15 File      | % Stmts | % Branch | % Funcs | % Lines | Uncovered Line #s
16 -----|-----|-----|-----|-----|-----
17 All files |    100 |    100 |    100 |    100 |
18 app.js    |    100 |    100 |    100 |    100 |
19 -----|-----|-----|-----|-----|-----
20 Done in 0.97s.

✓ Upload coverage report artifact

1 ▶ Run actions/upload-artifact@v4
9 With the provided path, there will be 10 files uploaded
10 Artifact name is valid!
11 Root directory input is valid!
12 Beginning upload of artifact content to blob storage
13 Uploaded bytes 16287
14 Finished uploading artifact content to blob storage!
15 SHA256 digest of uploaded artifact zip is e9b56b43c9f7a145979ce07c3200ae773dedc557dcc853060095f83e46f54854
16 Finalizing artifact upload
17 Artifact coverage-report.zip successfully finalized. Artifact ID 4447058724
18 Artifact coverage-report has been successfully uploaded! Final size is 16287 bytes. Artifact ID is 4447058724
19 Artifact download URL: https://github.com/SamnangKong426/kong-samnang-lab1/actions/runs/19030047706/artifacts/4447058724
```

## Deployment



## Reflection: 200–300 words describing

### Challenges faced

I ran into problems because my computer was using Node.js v22, while GitHub Actions initially used v16 and v18. This caused some files, like `.eslintrc.json`, to only work with ESLint version 8. To fix it, I had to downgrade ESLint and change the workflow Node versions to v24 and v25, which were compatible with the packages I was using on v22.

### How you debugged workflow failures

I carefully read the error messages returned by GitHub Actions and debugged step by step. I identified the root causes and made adjustments until the workflow ran successfully without errors.

### Key learnings about CI/CD and GitHub Actions

I learned the importance of matching Node versions and package compatibility between local and CI environments. I also gained experience in structuring workflows, managing dependencies, and ensuring that linting, tests, and deployment run smoothly in an automated pipeline.

### Ideas for improvement

In the future, I could add notifications for workflow results, implement staging and production deployments, and improve test coverage reporting for better quality monitoring.

### Problems and Solutions

1. Since `.eslintrc.json` is not compatible with ESLint v9+, you need to use ESLint v8 instead:

```
yarn remove eslint
yarn add eslint@8 @eslint/eslintrc@2 --dev
```