Para la actividad 1 lo voy a añadir algunos testes en una API de una aplicación similar con eh Twitter que está desarrollado en NodeJs para probar la búsqueda del Posts.

1. **Creación del proyecto para los tests:**
   a. Jest install

```
PS C:\dev\git\fullstack-engineering\Master_web_development\mod-05-Arq-Server\week-04\act-final> jest --init

The following questions will help Jest to create a suitable configuration for your project

√ Would you like to use Jest when running "test" script in "package.json"? ... yes
√ Choose the test environment that will be used for testing » node
√ Do you want Jest to add coverage reports? ... yes
√ Automatically clear mock calls and instances between every test? ... yes


📝  Configuration file created at C:\dev\git\fullstack-engineering\Master_web_development\mod-05-Arq-Server\week-04\act-final\jest.config.js
PS C:\dev\git\fullstack-engineering\Master_web_development\mod-05-Arq-Server\week-04\act-final> npm run test
```

```
         ▷ Debug
 6      "scripts": {
 7        "start": "node app.js",
 8        "dev": "nodemon app.js",
 9        "test": "jest --ci"
10      },
```

```
   },
   "devDependencies": {
     "jest": "^23.0.0-alpha.0",
     "nodemon": "^2.0.14"
   }
 }
```

   b. Test Structure

```
∨ act-final
  > config
  > controllers
  > coverage
  > middlewares
  > models
  > node_modules
  > postman_json
  ∨ tests\unit\controllers
      JS home.controller.test.js
      JS posts.controller.test.js
  ⚙ .env
  ≡ .env.template
  ◈ .gitignore
  JS app.js
  JS jest.config.js
  {} package-lock.json
  {} package.json
```

```
PS C:\dev\git\fullstack-engineering\Master_web_development\mod-05-Arq-Server\week-04\act-final> npm run test

> act-02@1.0.0 test
> jest

 FAIL  tests/unit/controllers/posts.controller.test.js
  ● Test suite failed to run

    Your test suite must contain at least one test.

      at node_modules/jest-cli/build/TestScheduler.js:256:22

Test Suites: 1 failed, 1 total
Snapshots:   0 total
Time:        2.299s
Ran all test suites.
```

2. Implementación de los tests:

JS home.controller.test.js ✕

fullstack-engineering > Master_web_development > mod-05-Arq-Server > week-04 > act-final > tests > unit > controllers > **JS** home.controller.test.js > ...

```js
1    const handlers = require('../../../controllers/home.controller');
2
3    test('testing home page', () => {
4        const req = {}, res = { json: jest.fn() }
5        handlers.home(req, res)
6        expect(res.json.mock.calls[0][0]).toEqual({ 'app': 'alive' })
7    })
8
```

JS posts.controller.test.js U ✕

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```js
1    const handlers = require('../../../controllers/posts.controller');
2    const model = require('../../../models/post.model');
3
4    test('Find posts by ID', () => {
5  >     /*model.findById = jest.fn().mockReturnValueOnce(() => {...
21       const spy = jest
22           .spyOn(model, "findById")
23           .mockResolvedValueOnce({ id: '6bb0794d-3f43-4be8-a267-4dc09315a79e' });
24       const req = { params: jest.fn() }, res = { json: jest.fn() }
25
26       handlers.getById(req, res)
27       expect(spy).toHaveBeenCalledTimes(1);
28       spy.mockRestore();
29   });
```

3. Ejecución y Resultados:

```
PS C:\dev\git\fullstack-engineering\Master_web_development\mod-05-Arq-Server\week-04\act-final> npm run test

> act-final@1.0.0 test
> jest --ci

PASS  tests/unit/controllers/home.controller.test.js
PASS  tests/unit/controllers/posts.controller.test.js
--------------------|----------|----------|----------|----------|-------------------|
File                | % Stmts  | % Branch | % Funcs  | % Lines  | Uncovered Line #s |
--------------------|----------|----------|----------|----------|-------------------|
All files           |   18.18  |    7.14  |   13.04  |   18.18  |                   |
 home.controller.js |     100  |     100  |     100  |     100  |                   |
 posts.controller.js|      40  |   16.67  |      20  |      40  |... 42,43,45,53,55 |
 users.controller.js|       0  |       0  |       0  |       0  |... 67,68,70,71,73 |
--------------------|----------|----------|----------|----------|-------------------|
Handlebars: Access has been denied to resolve the property "statements" because it is not an "own property" of its parent.
You can add a runtime option to disable the check or this warning:
See https://handlebarsjs.com/api-reference/runtime-options.html#options-to-control-prototype-access for details
Handlebars: Access has been denied to resolve the property "branches" because it is not an "own property" of its parent.
You can add a runtime option to disable the check or this warning:
See https://handlebarsjs.com/api-reference/runtime-options.html#options-to-control-prototype-access for details
Handlebars: Access has been denied to resolve the property "functions" because it is not an "own property" of its parent.
You can add a runtime option to disable the check or this warning:
See https://handlebarsjs.com/api-reference/runtime-options.html#options-to-control-prototype-access for details
Handlebars: Access has been denied to resolve the property "lines" because it is not an "own property" of its parent.
You can add a runtime option to disable the check or this warning:
See https://handlebarsjs.com/api-reference/runtime-options.html#options-to-control-prototype-access for details


Test Suites: 2 passed, 2 total
Tests:       2 passed, 2 total
Snapshots:   0 total
Time:        13.107s
Ran all test suites.
```

4. Configuración

```
JS posts.controller.test.js U        JS jest.config.js ●

fullstack-engineering > Master_web_development > mod-05-Arq-Server > week-04 > act-final > JS jest.config.js > ...
  4  ∨ module.exports = {
  5      // Automatically clear mock calls and instances between every test
  6      clearMocks: true,
  7
  8      // Indicates whether the coverage information should be collected while executing the test
  9      collectCoverage: true,
 10
 11      // An array of glob patterns indicating a set of files for which coverage information should be collected
 12      collectCoverageFrom: ["controllers/**/*.{js}"],
 13
 14      // The directory where Jest should output its coverage files
 15      coverageDirectory: "coverage",
 16
 17      // The test environment that will be used for testing
 18      testEnvironment: "node",
 19
 20    };
```