

# Using a Testing Framework (Jest) in Food Delivery Application

## Introduction

To ensure the backend APIs of the Food Delivery App work correctly and reliably, **Jest**, a powerful JavaScript testing framework, was used for:

- ✓ Unit Testing
- ✓ Integration Testing
- ✓ API Response Validation
- ✓ Error Handling Tests

This improves application stability and minimizes bugs before deployment.

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## Why Jest?

Feature	Benefit
Fast and Lightweight	Quickly runs large set of test cases
Snapshot Testing	Ideal UI / API structure validation
Built-in Mocking	No 3rd party dependencies
Watch Mode	Auto re-runs tests on file changes
Works with MongoDB, Express, React	Perfect full-stack support

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## Test Cases Implemented

- ✓ Authentication API Tests
  - ✓ Food CRUD API Tests
  - ✓ Order Placement Test
  - ✓ Token Validation (Protected Routes)
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## Jest Setup Instructions

### Step 1 — Install Jest

```
npm install jest supertest --save-dev
```

`supertest` is used to test Express API endpoints

Add script in `package.json`:

```
"scripts": {  
  "test": "jest"  
}
```

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## ✓ Example Test Case (Food API)

📁 File: `tests/food.test.js`

```
const request = require("supertest");  
const app = require("../server");  
  
describe("Food API Tests", () => {  
  it("should fetch all food items", async () => {  
    const res = await request(app).get("/food");  
    expect(res.statusCode).toBe(200);  
    expect(Array.isArray(res.body)).toBe(true);  
  });  
});
```

✓ Expected Output:

```
PASS  tests/food.test.js  
✓  should fetch all food items
```

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## 🔒 Token Protected API Test

```
it("should not access profile without token", async () => {  
  const res = await request(app).get("/profile");  
  expect(res.statusCode).toBe(401);  
});
```

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## Testing Result Screenshot (Placeholder)

- 📌 Add your test results terminal output here
- ➡ Example:

(Insert screenshot: Jest PASS results)

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## ✓ Impact on Project Quality

- ✓ Confirms correct API behavior
- ✓ Ensures secure access handling
- ✓ Reduces production bugs
- ✓ Builds confidence during deployment
- ✓ Improves maintainability