

## API Documentation — To-Do List App (NestJS + SQLite + React)

### Overview

This API powers a simple To-Do List web application that allows users to add, view, update, and delete tasks. It is built using NestJS (Node.js + TypeScript) with SQLite as the database and integrates Swagger for interactive API documentation.

Base URL

<http://localhost:3001/api>

Entity: Task

Field	Type	Description
id	number	Auto-generated primary key
title	string	Task title
description	string	Short details about the task
completed	boolean	Marks task as done (default: false)
deadline	string	Date of the task deadline (optional)

Endpoints

#### 1. GET /tasks

Retrieve all tasks from the database.

Response Example:

```
[  
 {  
   "id": 1,  
   "title": "Finish project",  
   "description": "Complete To-Do List UI",  
   "completed": false,  
   "deadline": "2025-10-20"
```

```
}
```

```
]
```

## 2. GET /tasks/{id}

Retrieve a single task by its ID.

Path Parameter: id (number) — Task ID

Response Example:

```
{
  "id": 2,
  "title": "Buy groceries",
  "description": "Milk, eggs, bread",
  "completed": true,
  "deadline": "2025-10-19"
}
```

## 3. POST /tasks

Create a new task.

Request Body Example:

```
{
  "title": "Study NestJS",
  "description": "Learn DTOs and Swagger setup",
  "completed": false,
  "deadline": "2025-10-25"
}
```

Response Example:

```
{
  "id": 3,
  "title": "Study NestJS",
  "description": "Learn DTOs and Swagger setup",
  "completed": false,
  "deadline": "2025-10-25"
}
```

#### **4. PATCH /tasks/{id}**

Update an existing task.

Request Body Example:

```
{  
  "title": "Study NestJS Advanced",  
  "description": "Include validation pipes",  
  "completed": true,  
  "deadline": "2025-10-26"  
}
```

Response Example:

```
{  
  "id": 3,  
  "title": "Study NestJS Advanced",  
  "description": "Include validation pipes",  
  "completed": true,  
  "deadline": "2025-10-26"  
}
```

#### **5. DELETE /tasks/{id}**

Delete a task by ID.

Response Example:

```
{  
  "message": "Task deleted successfully"  
}
```

Swagger Documentation URL

<http://localhost:3001/api>

Swagger Setup (main.ts)

```
import { NestFactory } from '@nestjs/core';  
import { DocumentBuilder, SwaggerModule } from '@nestjs/swagger';
```

```
import { AppModule } from './app.module';

async function bootstrap() {
  const app = await NestFactory.create(AppModule, { cors: true });

  const config = new DocumentBuilder()
    .setTitle('To-Do List API')
    .setDescription('API Documentation for To-Do List App')
    .setVersion('1.0')
    .build();

  const document = SwaggerModule.createDocument(app, config);
  SwaggerModule.setup('api', app, document);

  await app.listen(3001);
}

bootstrap();
```

#### Example Request (via Axios or Postman)

```
axios.post("http://localhost:3001/api/tasks", {
  title: "Complete homework",
  description: "Math and English",
  completed: false,
  deadline: "2025-10-21"
});
```

#### Database

Type: SQLite  
File: todo\_db.sqlite  
Entity: Task (auto-synced via TypeORM)

#### Frontend

Framework: React + Vite  
Main Page: Displays task list, supports add/edit/delete and completion toggle  
API Integration: Uses axios to communicate with backend (api.js)