

# Contact Notes System API Documentation

## Overview

This API provides endpoints for managing contacts and their associated notes, featuring user authentication, CRUD operations, and background processing capabilities.

## Base URL

All endpoints are relative to: <http://localhost:3000/api>

## 1. Authentication

### Login

Authenticate a user and retrieve a JWT token.

- **URL:** /auth/login
- **Method:** POST
- **Auth Required:** No
- **Request Body:**

```
json
{
  "username": "admin",
  "password": "password123"
}
```

- **Success Response:**

- **Code:** 200
- **Content:**
- 

```
json
{
  "message": "Authentication successful",
  "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9...",
  "expiresIn": "1d"
}
```

- **Error Response:**

- **Code:** 401
- **Content:** { "message": "Authentication failed" }
- 

All subsequent requests must include the JWT token in the Authorization header:

Authorization: Bearer {token}

## 2. Contacts

### Create Contact

Create a new contact.

- **URL:** /contacts
- **Method:** POST
- **Auth Required:** Yes

- **Request Body:**

```
json
{
  "name": "John Doe",
  "email": "john@example.com",
  "phone": "123-456-7890",
  "company": "Example Inc."
}
```

- **Success Response:**

- **Code:** 201
- **Content:** Contact object

## Get All Contacts

Retrieve all contacts.

- **URL:** /contacts
- **Method:** GET
- **Auth Required:** Yes
- **Success Response:**
  - **Code:** 200
  - **Content:** Array of contact objects

## Get Contact by ID

Retrieve a specific contact.

- **URL:** /contacts/{id}
- **Method:** GET
- **Auth Required:** Yes
- **Success Response:**
  - **Code:** 200
  - **Content:** Contact object
- **Error Response:**
  - **Code:** 404
  - **Content:** { "message": "Contact not found" }

## Update Contact

Update an existing contact.

- **URL:** /contacts/{id}
- **Method:** PUT
- **Auth Required:** Yes
- **Request Body:** Contact fields to update
- **Success Response:**
  - **Code:** 200
  - **Content:** Updated contact object
- **Error Response:**
  - **Code:** 404
  - **Content:** { "message": "Contact not found" }

## Delete Contact

Delete a contact.

- **URL:** /contacts/{id}
- **Method:** DELETE
- **Auth Required:** Yes

- **Success Response:**
  - **Code:** 200
  - **Content:** { "message": "Contact deleted successfully" }
- **Error Response:**
  - **Code:** 404
  - **Content:** { "message": "Contact not found" }

### 3. Notes

#### Create Note

Create a note for a specific contact. Demonstrates field normalization.

- **URL:** /contacts/{id}/notes
- **Method:** POST
- **Auth Required:** Yes
- **Request Body:**

```
json
{
  "note_body": "Meeting scheduled for Friday",
  "tags": ["meeting", "important"]
}
```

OR

```
json
{
  "note_text": "Meeting scheduled for Friday",
  "tags": ["meeting", "important"]
}
```

OR

```
json
{
  "body": "Meeting scheduled for Friday",
  "tags": ["meeting", "important"]
}
```

- **Success Response:**
  - **Code:** 201
  - **Content:** Note object with normalized fields
- **Field Normalization:**
  - note\_body → body
  - note\_text → body

#### Get Notes for Contact

Retrieve all notes for a specific contact.

- **URL:** /contacts/{id}/notes
- **Method:** GET
- **Auth Required:** Yes
- **Success Response:**
  - **Code:** 200
  - **Content:** Array of note objects
- **Error Response:**
  - **Code:** 404
  - **Content:** { "message": "Contact not found" }

**Get Note by ID:** Retrieve a specific note.

- **URL:** /notes/{note\_id}
- **Method:** GET
- **Auth Required:** Yes
- **Success Response:**
  - **Code:** 200
  - **Content:** Note object
- **Error Response:**
  - **Code:** 404
  - **Content:** { "message": "Note not found" }

**Update Note:** Update an existing note.

- **URL:** /notes/{note\_id}
- **Method:** PUT
- **Auth Required:** Yes
- **Request Body:** Note fields to update
- **Success Response:**
  - **Code:** 200
  - **Content:** Updated note object
- **Error Response:**
  - **Code:** 404
  - **Content:** { "message": "Note not found" }

**Delete Note:** Delete a note.

- **URL:** /notes/{note\_id}
- **Method:** DELETE
- **Auth Required:** Yes
- **Success Response:**
  - **Code:** 200
  - **Content:** { "message": "Note deleted successfully" }
- **Error Response:**
  - **Code:** 404
  - **Content:** { "message": "Note not found" }

## Background Processing

Notes are automatically processed in the background after creation using a queue system. This enables:

- Decoupled processing, Analytics and enrichment, Improved scalability.

No additional API endpoints are required to interact with the queue system.

## Status Codes

- 200 OK - Request succeeded
- 201 Created - Resource created successfully
- 400 Bad Request - Invalid request parameters
- 401 Unauthorized - Authentication required or failed
- 404 Not Found - Resource not found
- 500 Server Error - Server encountered an error

## Interactive Documentation

For interactive API testing and additional details,

Visit the Swagger documentation: <http://localhost:3000/api-docs>