# Full -stack Stratigies and Development


## Job Listings Backend API Documentation (CW1)

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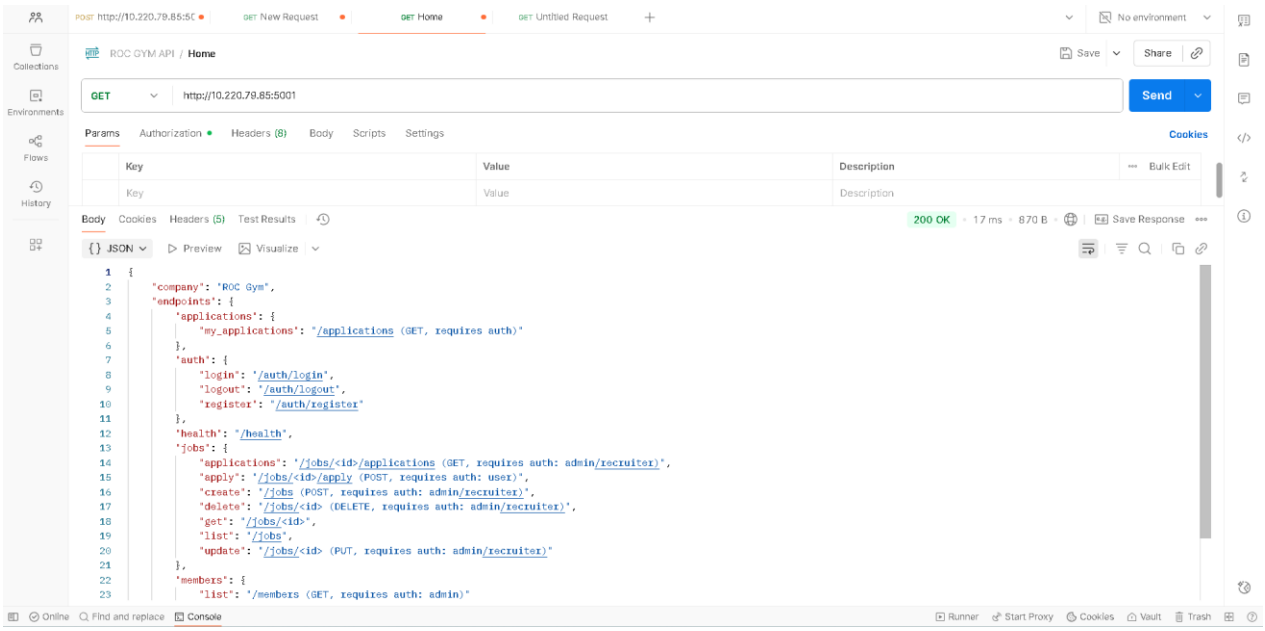
## Project Overview

The job listings and employee management system at ROC Gym are the main focus of this project. It includes comprehensive details about job openings, personnel information, and activities associated with the job at ROC Gym. The dataset is perfect for CRUD (Create, Read, Update, Delete) operations because it is made to manage a well-defined and structured data model.
A MongoDB database will house the data in JSON format, allowing for scalable future growth, flexible document querying, and effective data storage.

### Test Home Endpoint

***Public Endpoints (Authentication) Endpoint***




- **Endpoint: GET  ROC GYM** Job listing
- **Description:** Serves as a built-in API documentation endpoint.
- **Response:** 200 ok

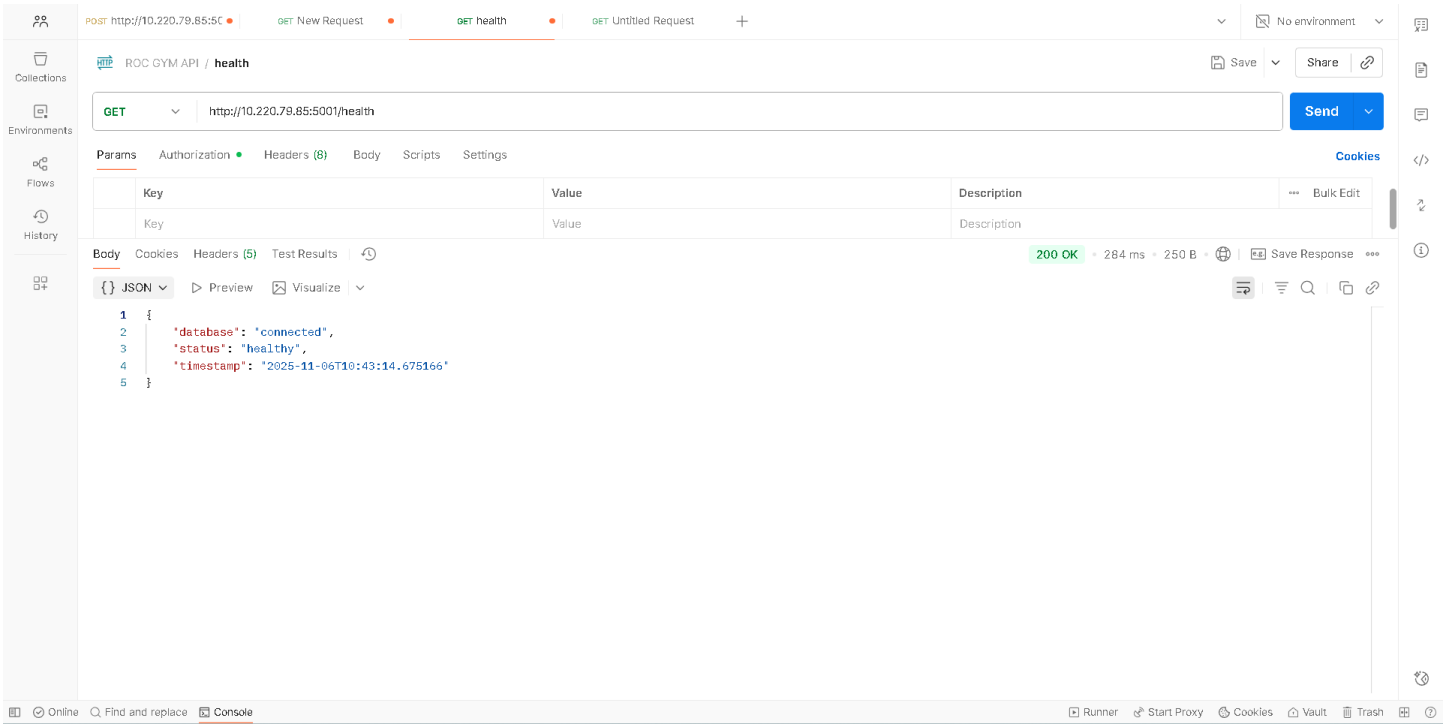
- **Query Parameters:**

  - **/jobs/<id>/applications** (GET): Retrieve applications for a specific job.

    /jobs/<id>/apply (POST): Apply for a specific job.

- /jobs (POST): Create a new job listing.
- /jobs/<id> (DELETE): Delete a job listing by its ID.
- /jobs/<id> (GET): Retrieve a job listing by its ID.
- /jobs (GET): List all job listings.
- /jobs/<id> (PUT): Update a job listing by its ID.
- /auth/login (POST): Authenticate a user and retrieve a JWT token.
- /auth/register (POST): Register a new user (user/recruiter/admin).

## 2. Test: Health Check

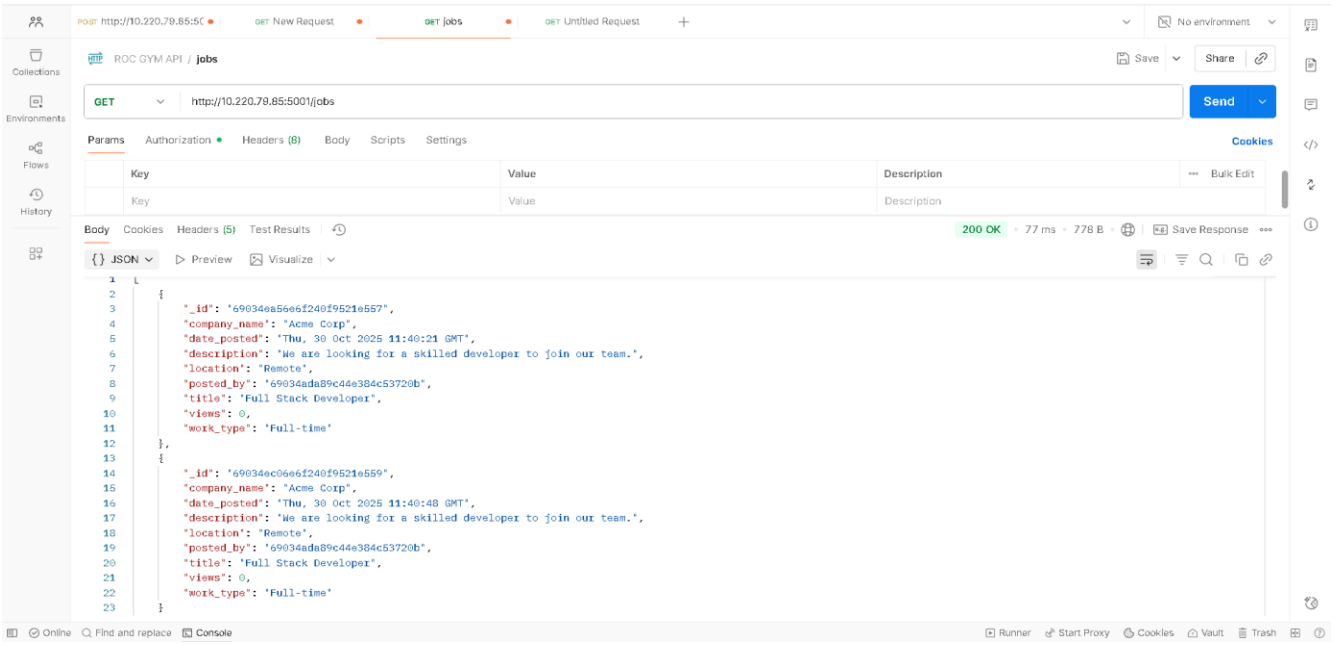



**Endpoint: Get/health**

**Description:** Quick status check for server health and database connectivity.

**Authentication:** Not required

## 3. Test: Get Jobs (Empty List):




**Endpoint:** Get/jobs

**Description:** Retrieve applications for a specific job.

Response:

**Success (200):** Retrieve a single job listing by ID.

**Error (401):** invalid or missing token

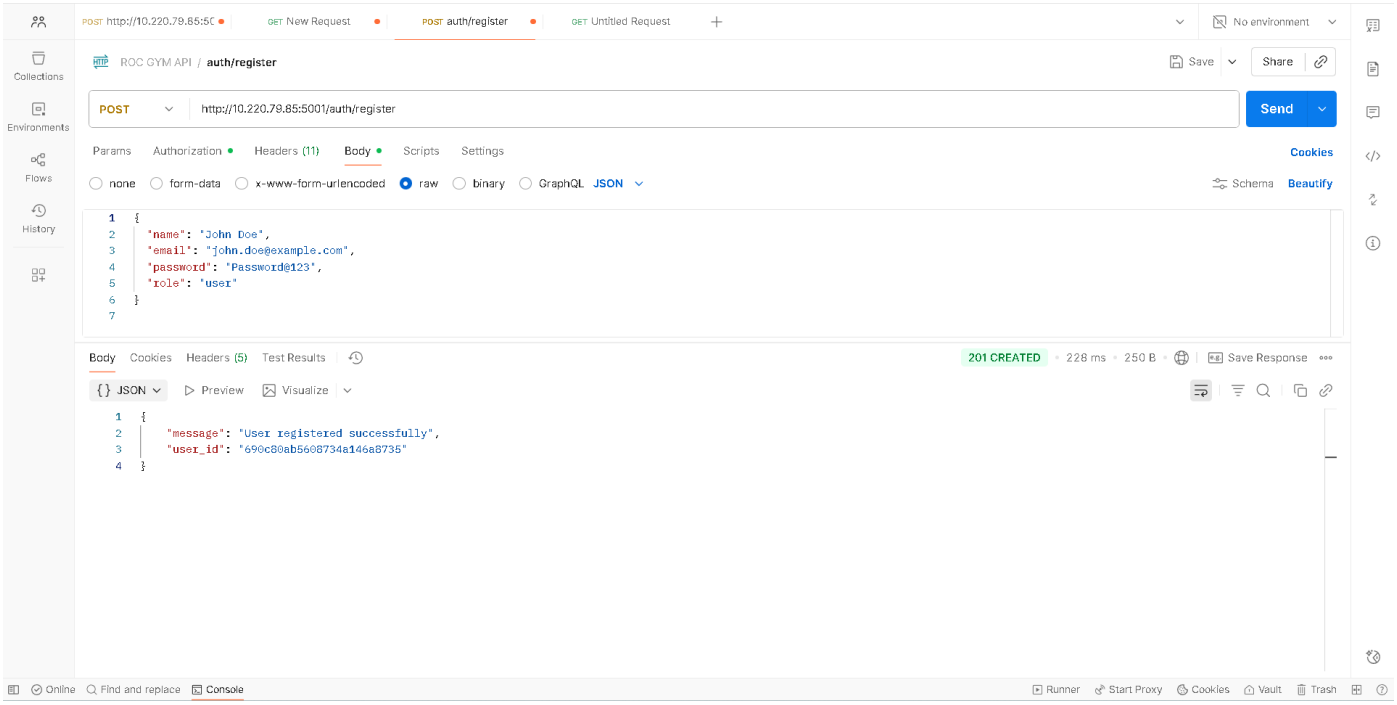
## Delete User Account

**Endpoint:** DELETE/auth/delete

Description: Delete the currently authenticated user's account.

## 1. Test_register_user:

*AUTHENTICATION ENDPOINT*



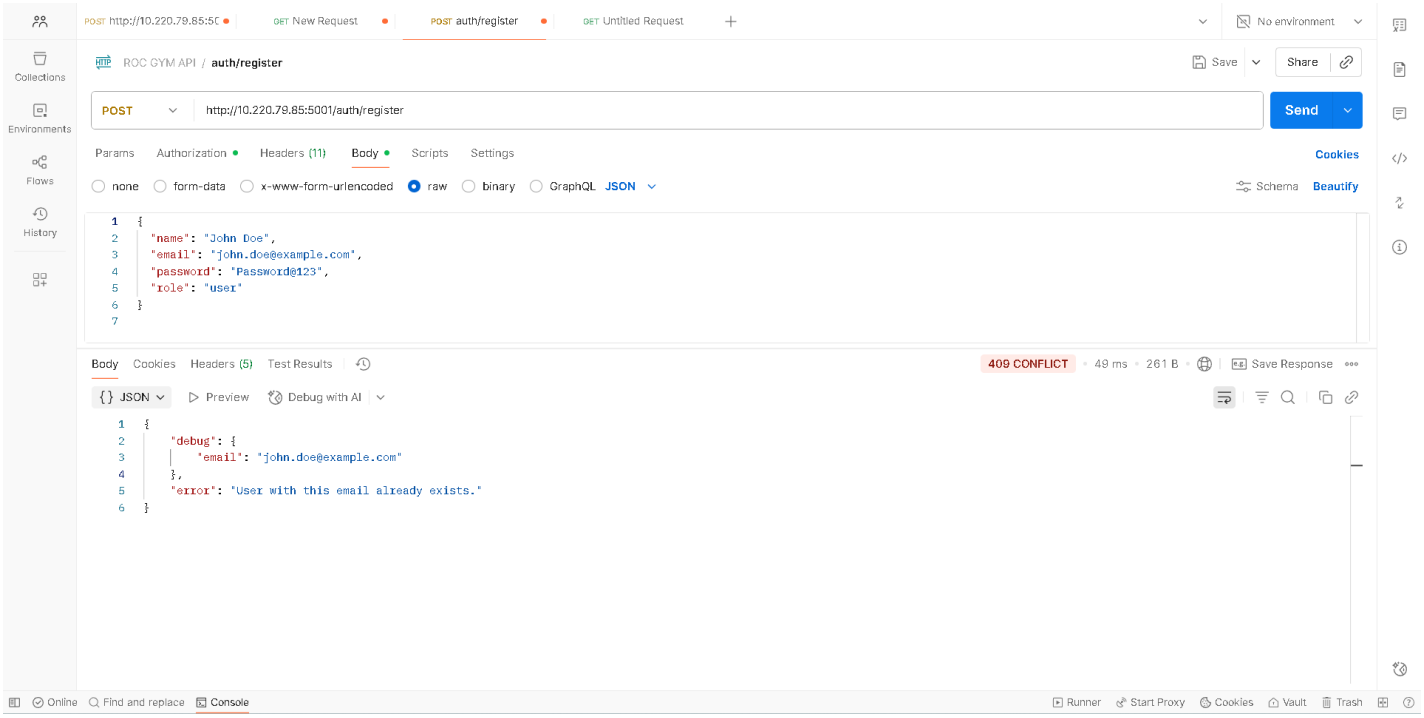

**Endpoint: POST/auth/register**

**Description: Registers a new user in the system**

**Request Body:**

- Username (string, required): User's unique username.
- Password (string, required): User's password
- Role (string optional): user, recruiter and admin.

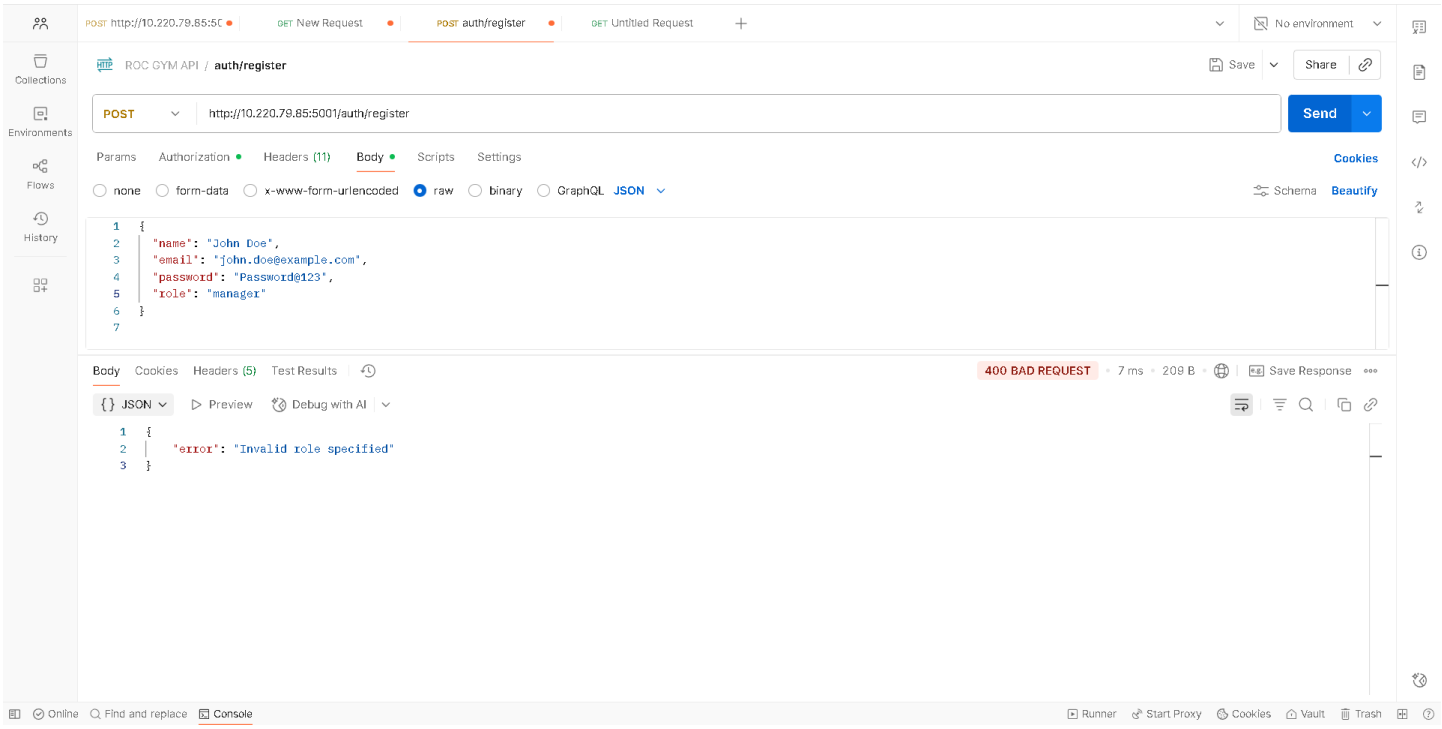
## 2. test_register_duplicate_email:




**Endpoint: Post/auth/login**
**Description:** register with duplicate email
**Response:**

- Error (409) conflict

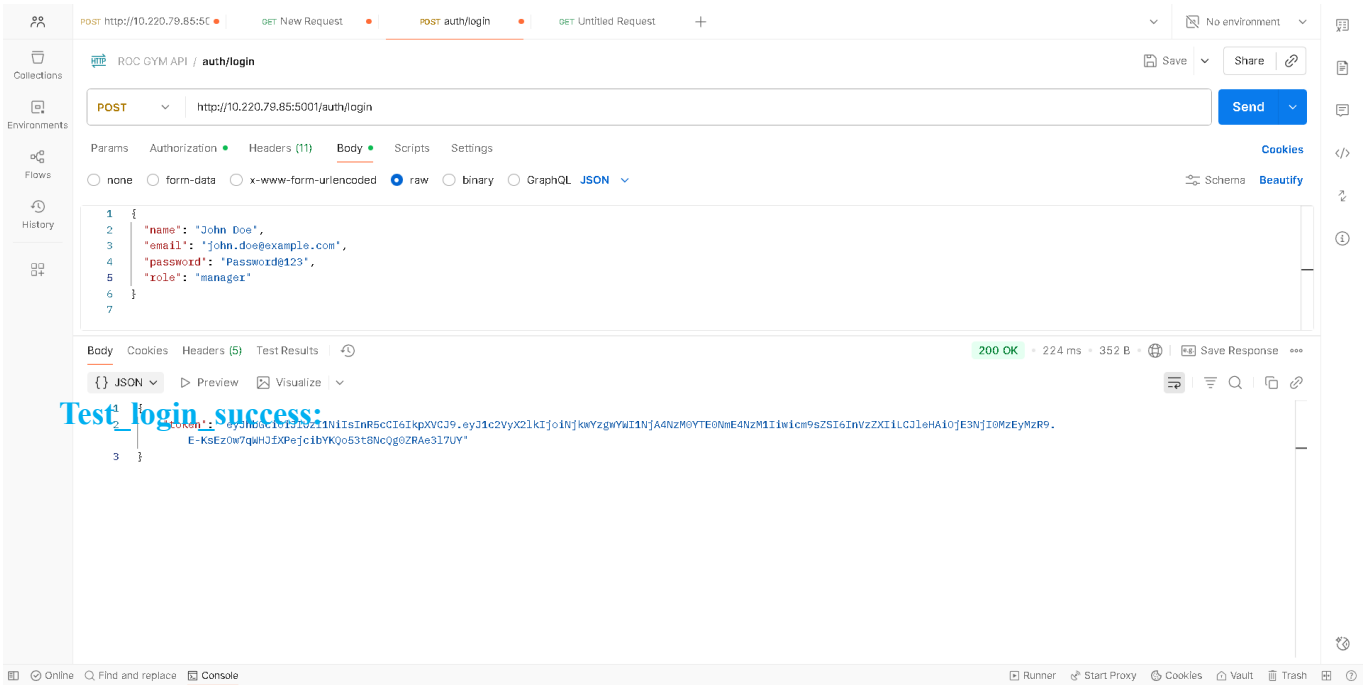
## 3. test_register_invalid_role:




**Checks:**

- Endpoint: Post/Auth/register
- Error (400): invalid role specified
- Rejects roles outside “user”, “recruiter”, “admin”

## Test_login_success:



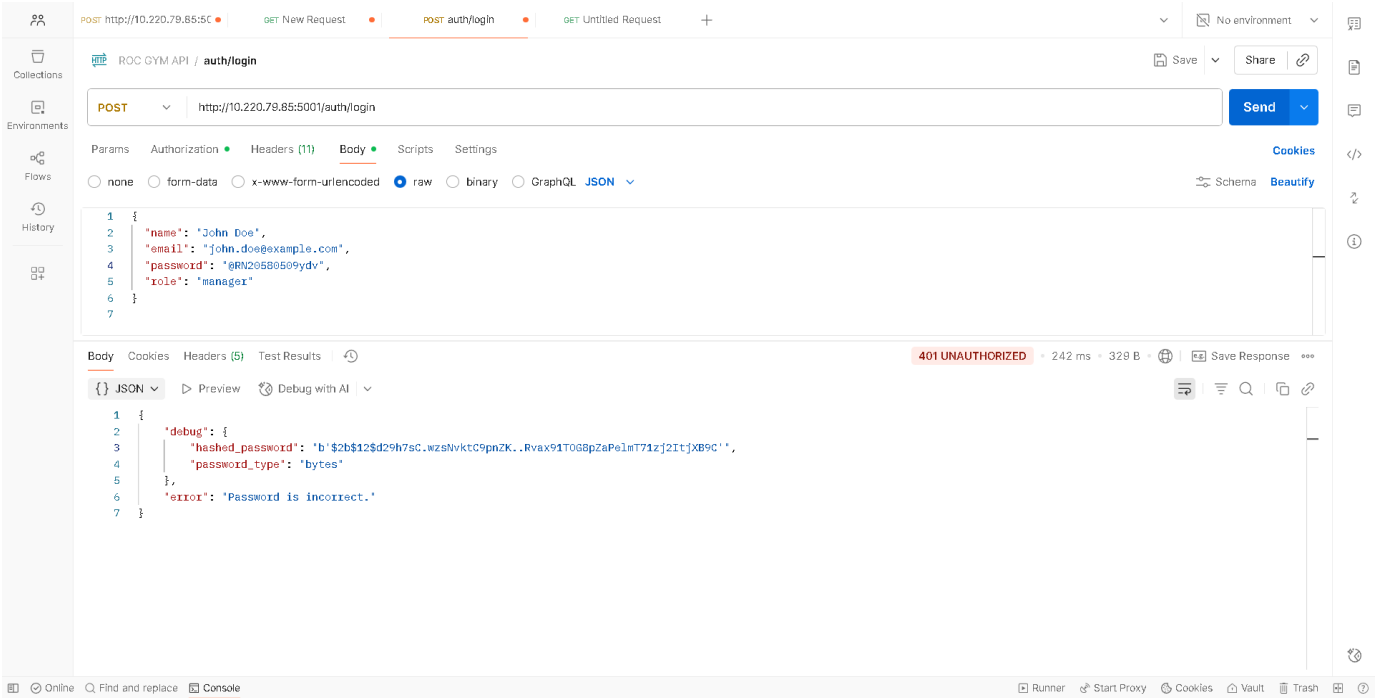
**Checks:**

- Endpoint: Post/auth/login
- Token is returned
- **Authentication:** Basic authentication(username and password)

**Response:**

- **Success (200):** Returns JWT token
- **Error (401):** invalid credentials
- **Error (404) :** user not found.

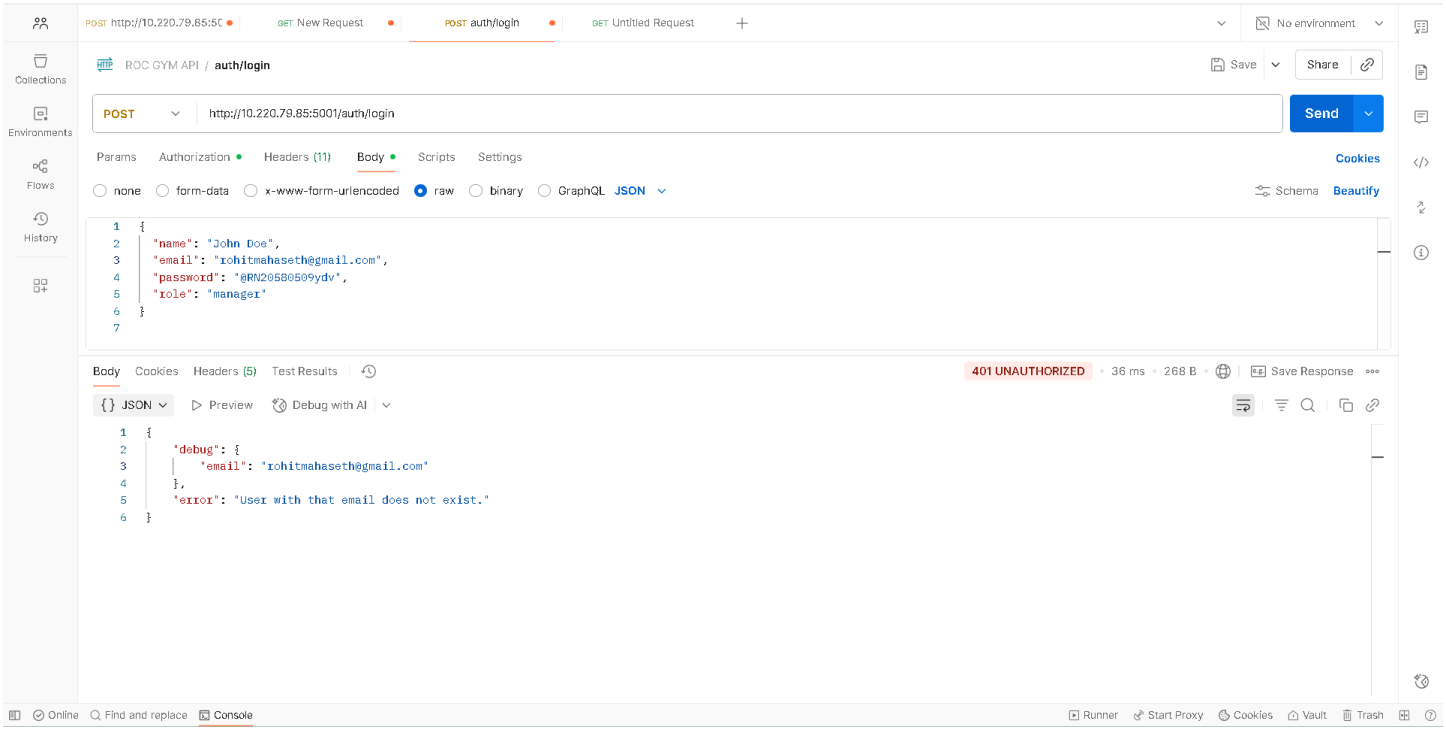
**4. test_login_wrong_password:**




**Checks:**

- Endpoint: Post/Auth/login
- Description: password incorrect
- Status = 401 unauthorized
- Proper error message

## 5. test_login_nonexistent_user



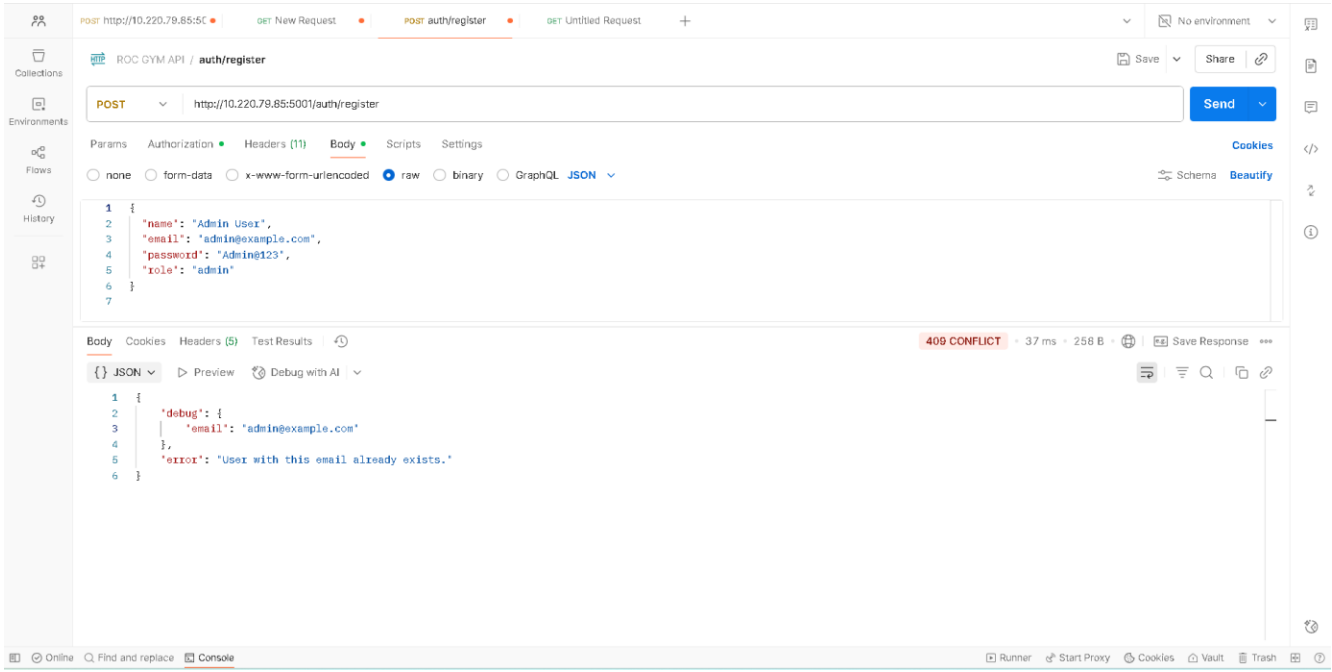

**Checks:**

- Endpoint: Post/Auth/Login
- **Status** = 401 unauthorized
- Error message matches.

# JOB MANAGEMENT Test

## A. Register Admin/Recruiter/User (3 requests)

➢ Admin Register

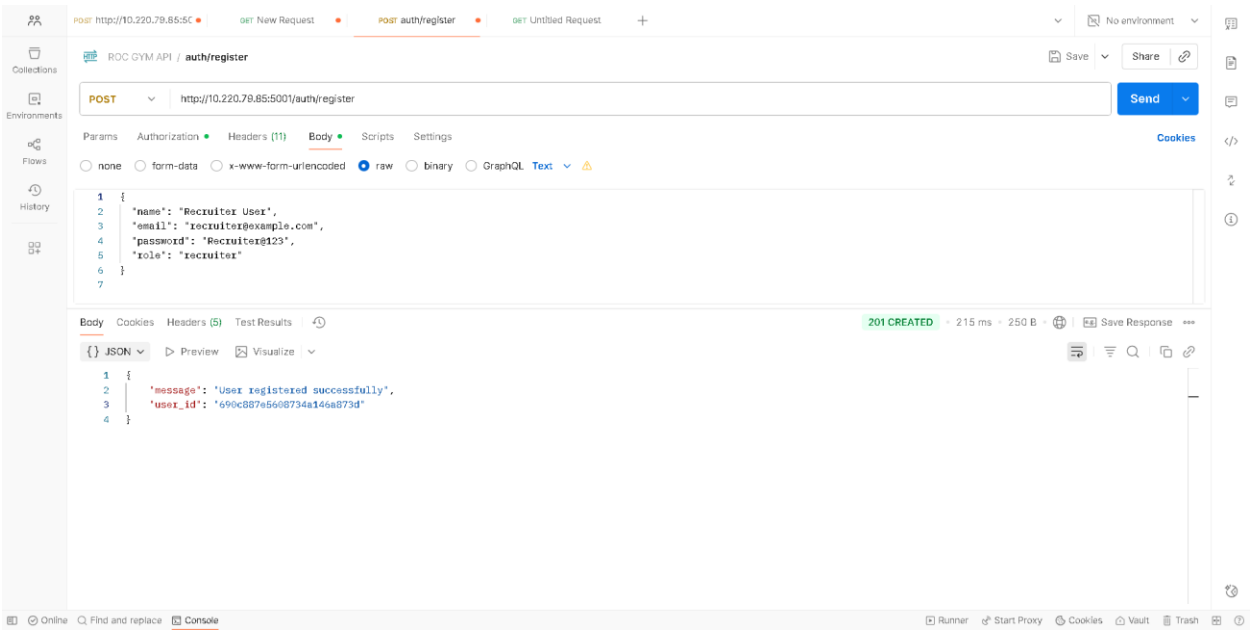



**Endpoint:** Post/Auth/login

Description: it stores different token for user, recruiter and admin

Error (409): conflict

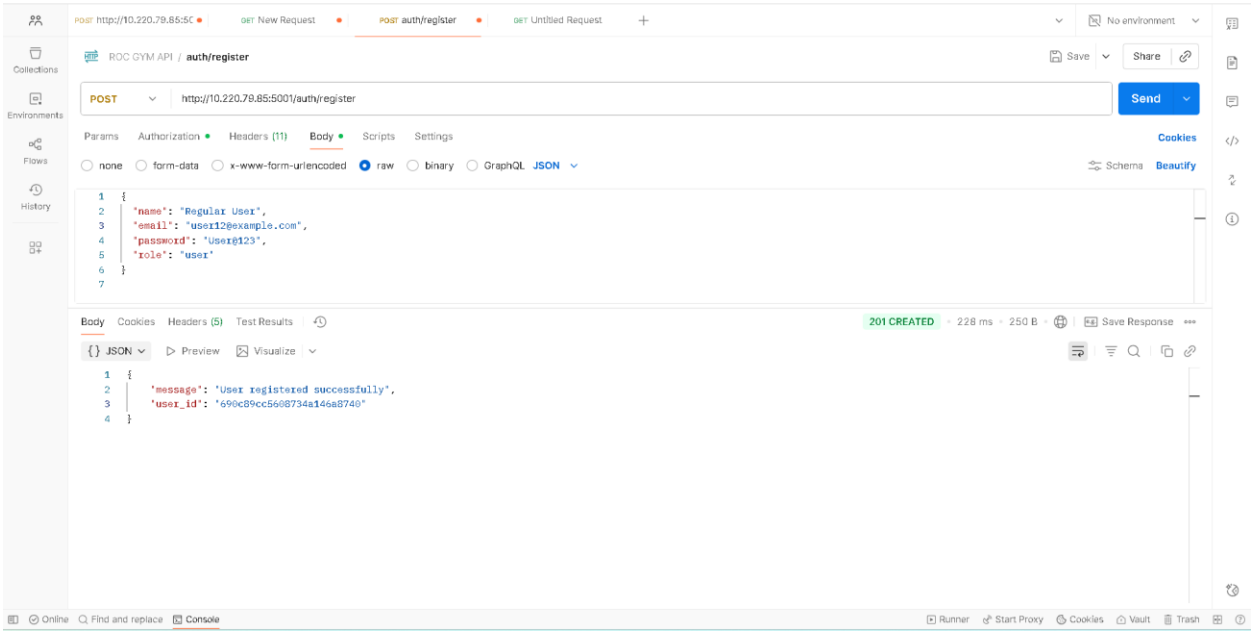
## For recruiter




**Endpoint:** Post/Auth/Login

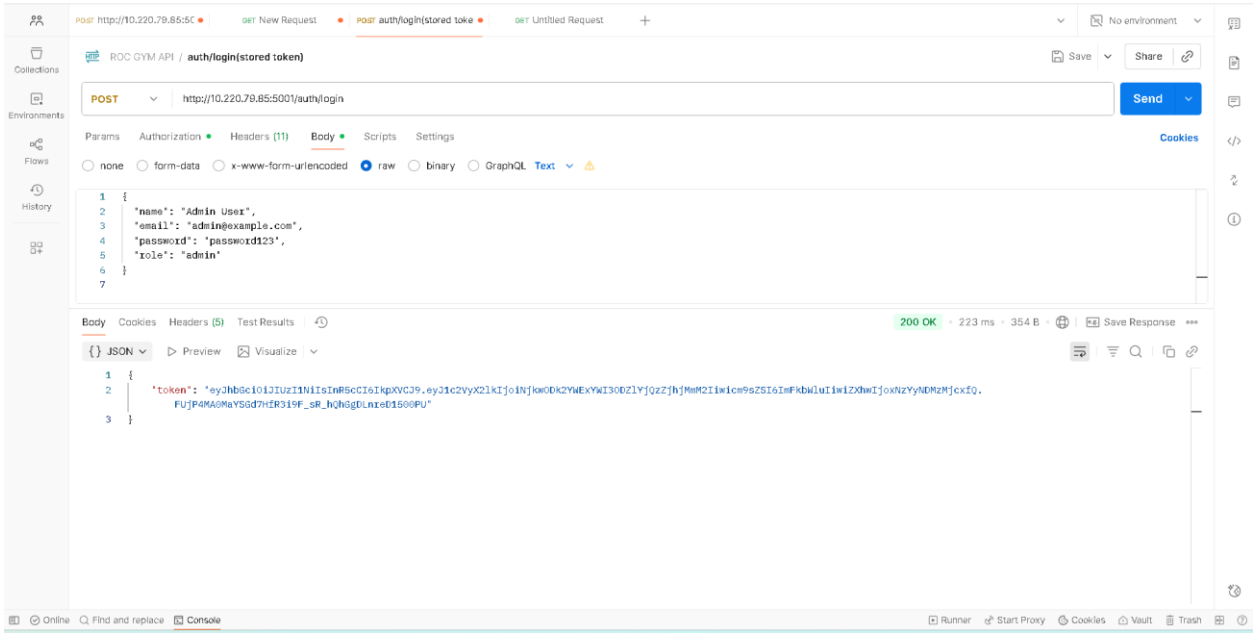
**Description:**

## FOR register USER

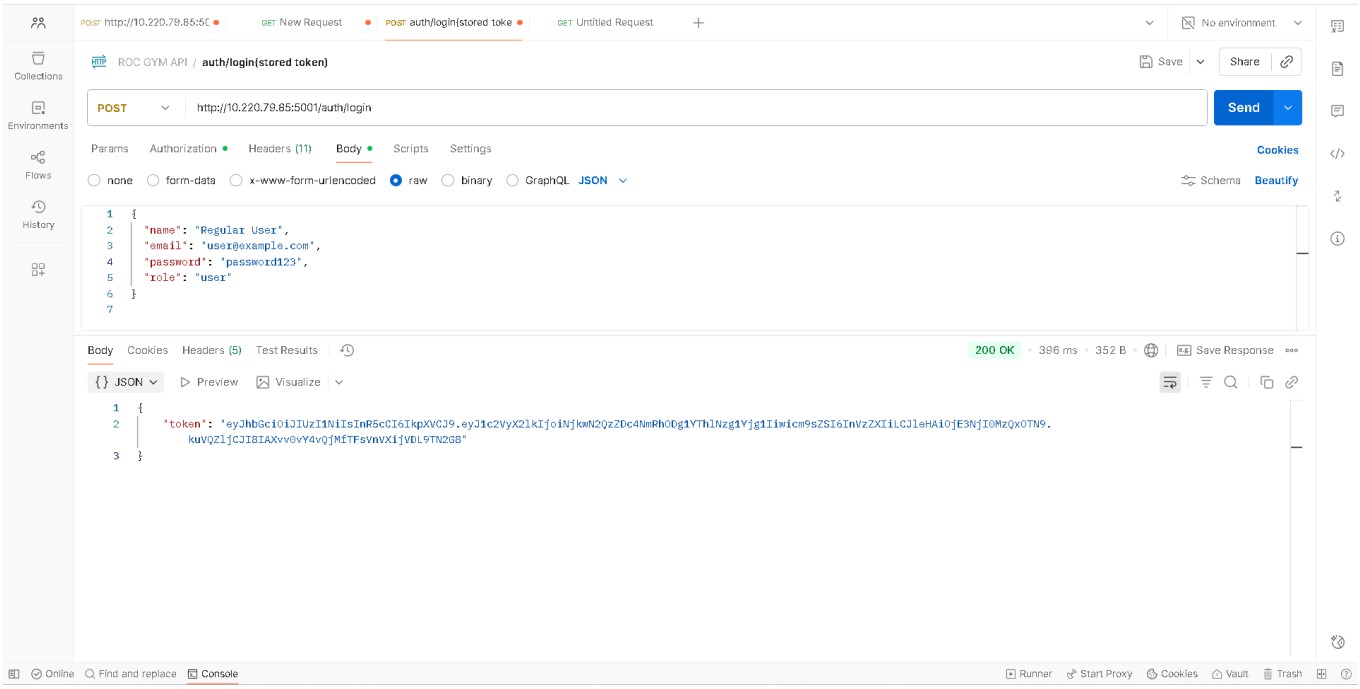


## B. Login & store tokens (3 requests)

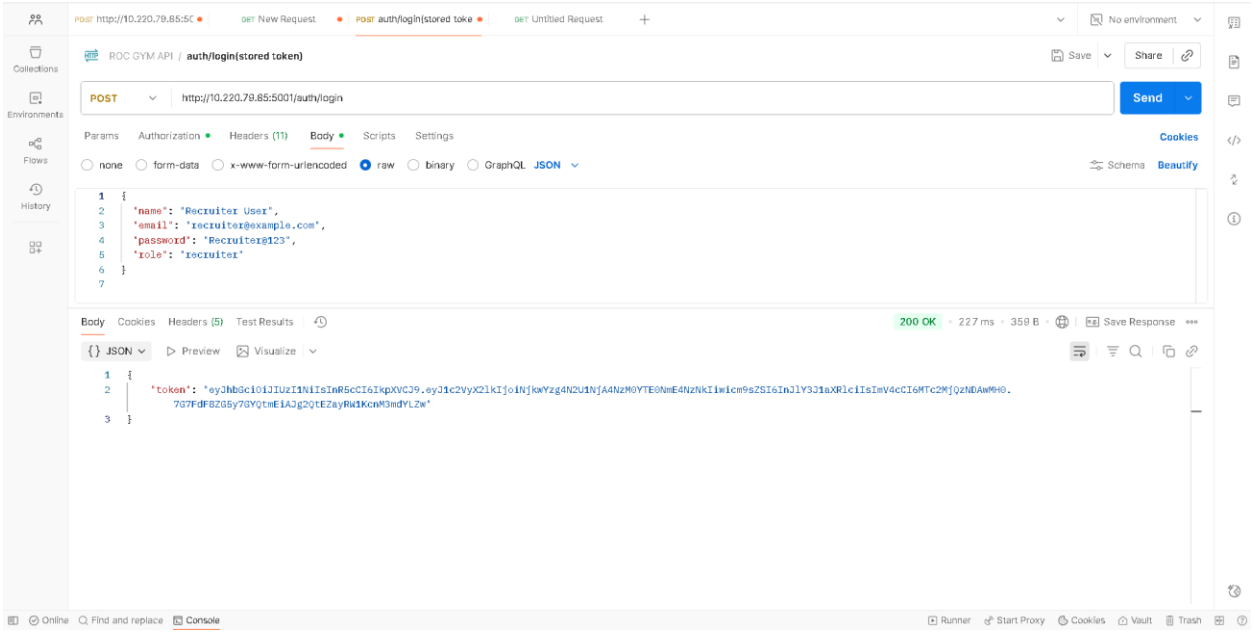
### 1). Login & store tokens (admin)



## 2. Login & store tokens (user)

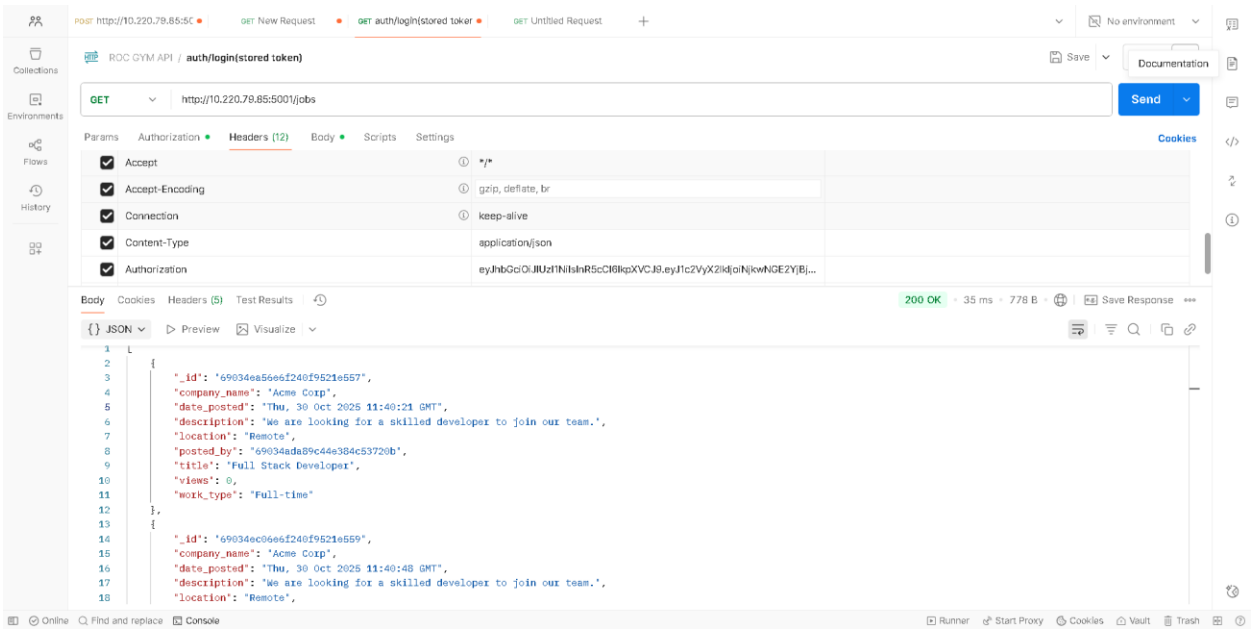



## 3. Login & store tokens (recruiter)



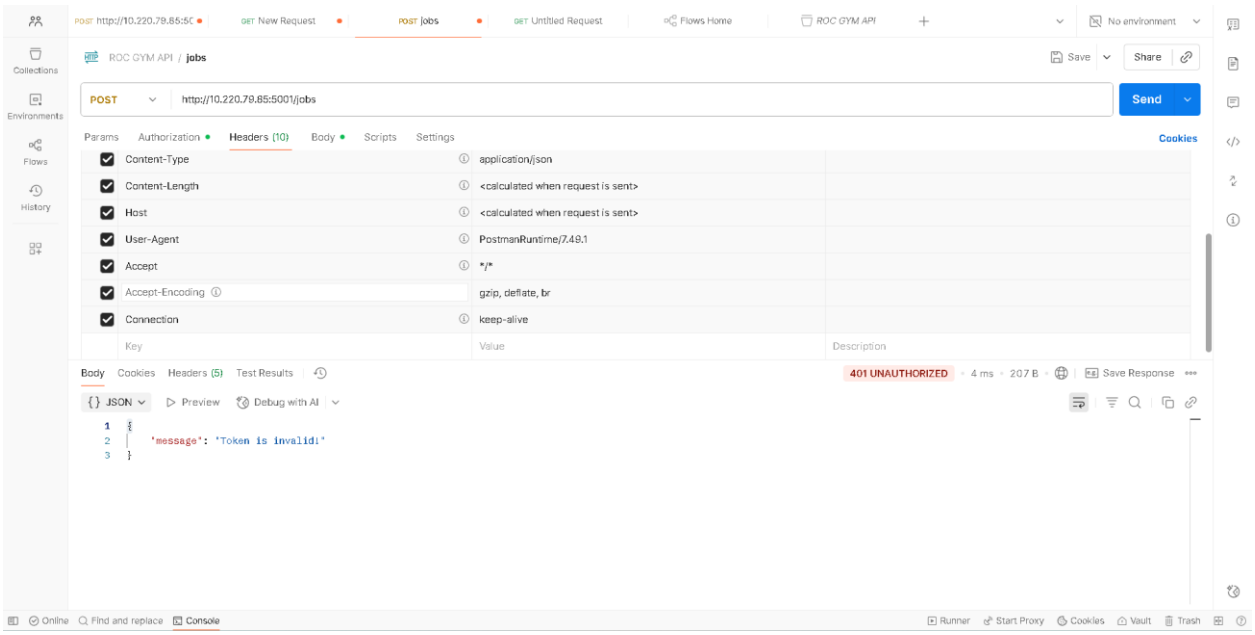

## Job Management

## 2. test_create_job_as_admin:




## Features

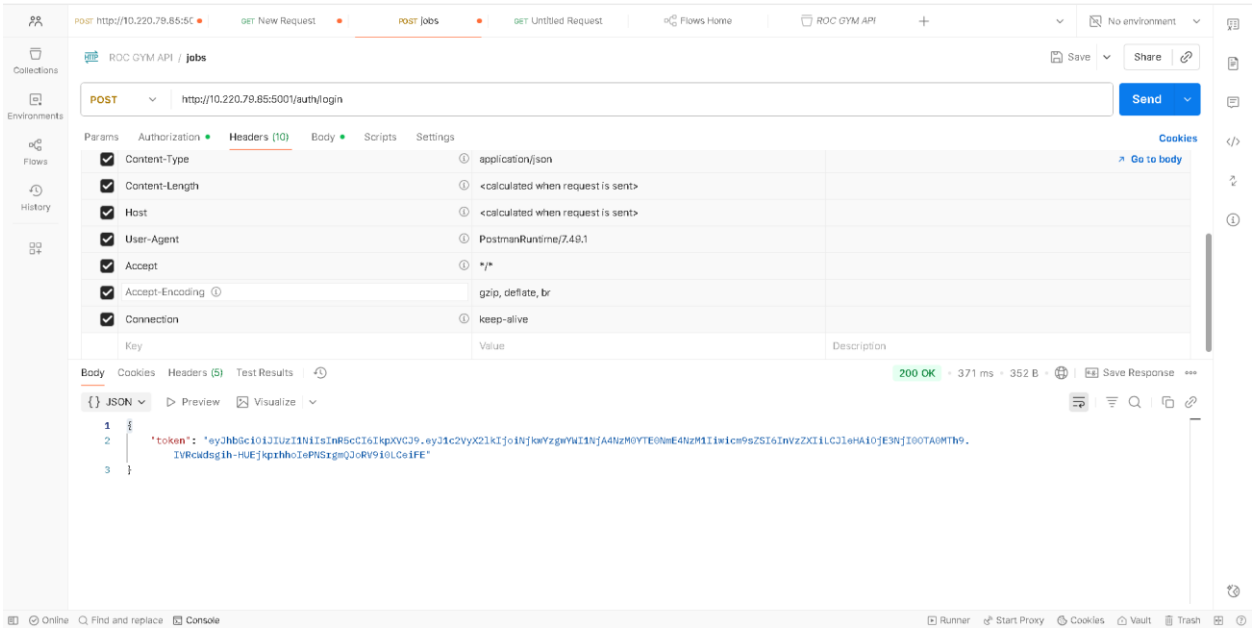
1) **Test Protected Route Without Token**




**Expected Result:**

- **Status: 401 Unauthorized**
- **Response message: something like "Missing or invalid token".**

## 2. Test Protected Route With Token




**Expected Result:**

- **Status: 200 OK**
- **Response:** List of jobs (or data relevant to the route)
- **Purpose:** Obtain and authentication token

## Dataset (ROC Gym)

### 1. Dataset Overview

The job listings and employee management system at ROC Gym are the main focus of this project. It includes comprehensive details about job openings, personnel information, and activities associated with the job at ROC Gym. The dataset is perfect for CRUD (Create, Read, Update, Delete) operations because it is made to manage a well-defined and structured data model.
A MongoDB database will house the data in JSON format, allowing for scalable future growth, flexible document querying, and effective data storage.

**Key Attributes:**

- **Company_name:** ROC Gym
- **title:** Job title (Fitness Trainer, Front Desk Executive, Nutrition Specialist)
- **description:** Job responsibilities, qualifications, and experience required.
- **location:** Gym branch location (e.g., Downtown, Central, Westside).
- **Work_type:** Nature of employment (Full-time, Part-time, Contract).
- **Salary_range:** Expected monthly or annual pay range.
- **Requirements:** Skills or certifications required for the position.
- **Views:** Number of times the job listing has been viewed.

This dataset also integrates **trainer and member-related details** to enhance the ROC Gym's recruitment and management process.

### 3. Application Domain

Recruitment and Management of Fitness Centers is the application domain. By giving ROC Gym a single backend platform to handle employee hiring and member engagement, the system helps the gym achieve its operational objectives.

**Key Features:**

- Create and manage job listings for ROC Gym staff positions.
- Allow trainers and staff to apply directly for available positions.
- Enable job seekers to search for roles based on location, job type, or specialization.
- Record and track job listing view count to monitor popularity and visibility.
- Maintain up-to-date data for administrators and recruiters.

**Target Users:**

• **Administrators**: Oversee all employment postings, personnel files, and access restrictions.
• **Recruiters:** Advertise job vacancies and manage applications for particular gym locations.
• **Candidates/Trainers:** Look for and apply for positions that fit their areas of expertise.

• **Guest Users:** Look through available positions and basic ROC Gym information without logging in.

**4. Implementation Plan**

The backend will be developed using **MongoDB** as the database. RESTful APIs will be implemented to handle CRUD operations efficiently.

| Endpoint | HTTP Method | Description |
|---|---|---|
| /jobs | POST | Create a new job listing |
| /jobs | GET | Retrieve all job listings |
| /jobs/<id> | GET | Retrieve a single job listing by ID |
| /jobs/<id> | PUT | Update an existing job listing |
| /jobs/<id> | DELETE | Delete a job listing |
| /jobs/<id>/apply | POST | Submit a job application |

| Endpoint | HTTP Method | Description |
|---|---|---|
| /members | GET | Retrieve gym member details (for admin view) |

### 5. User Roles and Permissions

| Role | Permissions |
|---|---|
| **Admin** | Full access: can create, update, and delete any job listing or member record. |
| **Recruiter** | Can post and manage job listings related to their branch only. |
| **Trainer/Employee (Authenticated User)** | Can view available jobs, update profiles, and apply for internal positions. |
| **Guest User (Unauthenticated)** | Can view job listings and general gym information but cannot apply or modify data |

| Endpoint | Method | Description |
|---|---|---|
| /jobs | **POST** | Create a new job listing |
| /jobs | **GET** | Get all job listings |
| /jobs/:id | **GET** | Get a specific job listing by ID |
| /jobs/:id | **PUT** | Update an existing job listing |
| /jobs/:id | **DELETE** | Delete a job listing |
| /jobs/:id/apply | **POST** | Submit a job application |
| /members | **GET** | Retrieve member details (Admin only) |

### 7. Conclusion

The creation of a thorough backend system for ROC Gym's personnel and employment administration is presented in this project. The system guarantees effective data handling, scalability, and real-time updates by leveraging a structured dataset within MongoDB and a RESTful API design. While the addition of job postings and gym-specific features aligns the application with ROC Gym's operational needs in recruitment and management, role-based access improves security.

**url: mongodb://localhost:27017/**