**API Documentation**

**Overview**

This document provides an overview of the API endpoints for a Flask-based authentication service. The application allows users to log in and sign up, with passwords securely hashed using Werkzeug's security module.

**Base URL**

All endpoints are accessible at the base URL where the Flask application is hosted, typically http://localhost:5000 during development.

**API Endpoints**

**1. Login**

* **URL**: /login
* **Method**: POST
* **Request**
  + **Headers**: Content-Type: application/json
  + **Body**:

{

"username": "string",

"password": "string"

}

* **Responses**
  + **Success**:
    - **Status Code**: 200 OK
    - **Body**:

{

"message": "success"

}

* + **Failure**:
    - **Status Code**: 401 Unauthorized
    - **Body**:

{

"message": "login failed with username {username}"

}

**2. Sign Up**

* **URL**: /signup
* **Method**: POST
* **Request**
  + **Headers**: Content-Type: application/json
  + **Body**:

{

"username": "string",

"password": "string"

}

* **Responses**
  + **Success**:
    - **Status Code**: 201 Created
    - **Body**:

{

"message": "success"

}

* + **Failure**:
    - **Status Code**: 400 Bad Request
    - **Body**:
      * If username is already taken:

{

"message": "username already taken"

}

* + - * For other errors:

{

"error": "error message"

}

**Configuration**

* **Database URI**: Configured in app.config['SQLALCHEMY\_DATABASE\_URI'] as a PostgreSQL database. Example:
* postgresql://postgres:12345@localhost/project
* **Track Modifications**: app.config['SQLALCHEMY\_TRACK\_MODIFICATIONS'] is set to False to avoid overhead.

**Security**

* **Password Hashing**: Passwords are hashed using generate\_password\_hash from werkzeug.security to ensure they are stored securely in the database.
* **CORS**: Cross-Origin Resource Sharing is enabled using Flask-CORS to allow requests from different origins.

**General Notes**

* **Database Initialization**: The application initializes the database and creates tables on startup. An admin user is created if none exists.
* **Error Handling**: The application returns error messages in JSON format with appropriate HTTP status codes.