# API Documentation

## Overview

This API allows users to perform CRUD operations on user profiles using Django Rest Framework. It integrates Firebase Authentication with Django REST Framework to ensure that only authenticated users can access the API. For server-side authentication, Firebase Admin SDK is used with a service account key to verify ID tokens and manage authentication.

## Endpoints

### User Profile

#### GET /api/profiles/

* **Description:** Retrieve a list of all user profiles.
* **Response:** List of user profiles.

#### GET /api/profiles/{id}/

* **Description:** Retrieve a specific user profile by ID.
* **Parameters:**
  + id (int): ID of the user profile to retrieve.
* **Response:** User profile object.

#### POST /api/profiles/

* **Description:** Create a new user profile.
* **Request Body:**
  + username (string): Username of the new user.
  + email (string): Email address of the new user.
  + password (string): Password of the new user.
* **Response:** User profile object of the newly created user.

#### PUT /api/profiles/{id}/

* **Description:** Update an existing user profile.
* **Parameters:**
  + id (int): ID of the user profile to update.
* **Request Body:**
  + username (string): New username.
  + email (string): New email address.
  + password (string): New password.
* **Response:** Updated user profile object.

#### DELETE /api/profiles/{id}/

* **Description:** Delete a user profile.
* **Parameters:**
  + id (int): ID of the user profile to delete.
* **Response:** Success message.

## Authentication

### Firebase Authentication with DRF

* **Description:** Firebase Authentication is used to authenticate users before accessing the API.
* **Implementation:**
  1. Configure Firebase SDK in the client HTML page with the API key and Auth Domain.
  2. Use Firebase SDK scripts to handle authentication on the client side.
  3. Implement JavaScript to authenticate the user with Firebase and store the JWT token.
  4. Use the stored token to make authenticated API calls to the backend.

### Firebase Admin SDK with Service Account Key

* **Description:** Firebase Admin SDK is used for server-side authentication to verify ID tokens and manage authentication.
* **Implementation:**
  1. Include Firebase Admin SDK in the Django project and initialize it with the service account key.
  2. Use Firebase Admin SDK to verify ID tokens received from the client.