

Job Listing and Application Management System Documentation

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Introduction

This documentation provides an overview of the Job Listing and Application Management System, detailing its functionalities, API structure, and the technology stack used in development.

Project Overview

The Job Listing and Application Management System is designed to facilitate the listing of job opportunities and the application process for candidates. It supports multiple user roles, including candidates and employers, with a focus on role-based access and functionality.

Technologies Used

- *Django: A high-level Python web framework for building robust web applications.*
- *Django REST Framework: A powerful toolkit for building Web APIs.*
- *SQLite: A lightweight database for development and testing purposes.*
- *JWT (JSON Web Tokens): For secure authentication and authorization.*
- *Email: To send account activation emails to users.*

Features

The application follows a Model-View-Template (MVT) architecture:

- *Models: Define the data structure (e.g., User, Company, JobListing, JobApplication).*
- *Views: Handle requests and responses, processing business logic.*
- *Templates: Render the user interface.*
- *User Authentication: Signup, login, and role-based access control.*
- *Job Listings: Employers can create, update, and delete job listings.*
- *Job Applications: Candidates can apply for jobs, and employers can view applications.*

- ***Company Profiles:*** Employers can manage their company profiles.
- ***Search and Filters:*** Users can filter and search job listings by title, location, salary, and company name.
- ***Email Notifications:*** Candidates and employers receive email notifications upon successful application and job posting.
- ***Pagination:*** Pagination is applied to job listings and applications.

Models

User

- ***username:*** String, unique identifier for the user.
- ***email:*** String, unique email address for the user.
- ***password:*** String, hashed password.
- ***is_active:*** Boolean, indicates if the user account is active.
- ***is_staff:*** Boolean, defines if the user can access the admin site.

Company

- ***name:*** String, the name of the company.
- ***location:*** String, the location of the company.
- ***description:*** Text, a brief description of the company.
- ***owner:*** Foreign key to User, the employer who owns the company.
- ***contact_email:*** String, the email address for contact.

JobListing

- ***title:*** String, title of the job listing.
- ***company:*** Foreign key to Company, the company offering the job.
- ***description:*** Text, detailed job description.
- ***requirements:*** Text, job requirements.
- ***location:*** String, location of the job.

- *salary: Integer, salary offered for the position.*
- *is_active: Boolean, indicates if the job listing is active.*

JobApplication

- *job: Foreign key to Job Listing, the job being applied for.*
- *candidate: Foreign key to User, the candidate applying for the job.*
- *resume: File field, the candidate's resume.*
- *cover letter: Text, the candidate's cover letter.*

Roles and Permissions

1. Candidate

- *Can view job listings and apply for them.*
- *Cannot create or manage job listings.*

2. Employer:

- *Can create and manage job listings for their own company.*
- *Can view job applications for their listings*

3. Admin

- *Has full access to manage all job listings, users, and applications.*
- *Can manage all company profiles.*

API Endpoints

1. API Overview

- **GET** /api/
 - *Description: Provides an overview of the available API routes.*

2. User Registration

- **POST** /signup/
 - *Description: Registers a new user.*

3. User Activation

- **GET** /activate/<uidb64>/<token>/
 - *Description: Activates a user account using a token.*

4. Token Management

- **POST** /login/
 - *Description: Obtains a new access and refresh token pair.*

5. Job Listings

- **GET** /api/jobs/
 - *Description: Retrieves a list of all job listings.*
- **POST** /api/jobs/
 - *Description: Creates a new job listing.*
- **GET** /api/jobs/<id>/
 - *Description: Retrieves a specific job listing by ID.*
- **PUT** /api/jobs/<id>/
 - *Description: Updates a specific job listing by ID.*
- **DELETE** /api/jobs/<id>/
 - *Description: Deletes a specific job listing by ID.*

6. Companies

- **GET** /api/companies/
 - *Description: Retrieves a list of all companies.*
- **POST** /api/companies/
 - *Description: Creates a new company.*

- **GET** /api/companies/<id>/
 - *Description: Retrieves a specific company by ID.*
- **PUT** /api/companies/<id>/
 - *Description: Updates a specific company by ID.*
- **DELETE** /api/companies/<id>/
 - *Description: Deletes a specific company by ID.*

7. Job Applications

- **GET** /api/applications/
 - *Description: Retrieves a list of all job applications.*
- **POST** /api/applications/
 - *Description: Creates a new job application*
- **GET** /api/applications/<id>/
 - *Description: Retrieves a specific job application by ID.*
- **PUT** /api/applications/<id>/
 - *Description: Updates a specific job application by ID.*
- **DELETE** /api/applications/<id>/
 - *Description: Deletes a specific job application by ID.*

Summary

- *Base URL: <your_base_url>/*
- *API Overview: /api/*
- *User Registration: /signup/*
- *User Activation: /activate/<uidb64>/<token>/*
- *Login: /login/*
- *Job Listings: /api/jobs/*
- *Companies: /api/companies/*
- *Job Applications: /api/applications/*

Testing

The application includes a suite of automated tests that cover:

- *User registration and activation.*
- *Job listing creation and retrieval.*
- *Job application submission.*
- *Company profile management.*

To run the tests:

python manage.py test

Conclusion

The Job Listing and Application Management System provides a streamlined solution for job seekers and employers. With its robust architecture and comprehensive features, the application is set to evolve and improve in future iterations.