

Project Report: Job Portal System

1. Introduction

The Job Portal System is a full-stack backend project developed using Spring Boot and REST APIs. It is designed to streamline the recruitment process by enabling Employers to post jobs, Applicants to apply for jobs, and Admins to manage the overall system. This project implements authentication, authorization, and role-based access using JWT (JSON Web Token).

2. Objectives

- Provide a centralized platform for job seekers and employers.
- Implement secure authentication and authorization using JWT.
- Support CRUD operations for Users, Employers, Applicants, Jobs, and Job Applications.
- Ensure role-based access control: Applicants, Employers, and Admins.
- Facilitate search and filter functionality for jobs.

3. Technologies Used

- **Backend Framework**: Spring Boot (Java)
- **Database**: MySQL
- **Security**: Spring Security with JWT
- **ORM**: JPA/Hibernate
- **Tools**: Maven, Lombok, Postman for API testing

4. System Features

- **User Management**: Register, login, view profiles, and admin-controlled updates/deletion.
- **Employer Module**: Employers can create, update, delete jobs, and view applications.
- **Applicant Module**: Applicants can create/edit profiles and apply for jobs.
- **Job Applications**: Track applications, update statuses (APPLIED, ACCEPTED, REJECTED, WITHDRAWN).
- **Public Access**: Anyone can view job listings and applicant profiles.
- **Role-Based Access Control**: Defined permissions for Applicant, Employer, and Admin roles.

5. Database Schema (Main Entities)

Entity	Attributes
User	userId, name, email, password, role
Employer	employerId, companyName, description
Applicant	applicantId, resume, skills, experience
Job	jobId, title, description, type, salary, deadline, employerId
JobApplication	applicationId, jobId, applicantId, status

6. Testing

- Verified APIs using Postman with multiple test cases.
- Tested scenarios: duplicate registrations, invalid credentials, unauthorized access, invalid job

applications.

- Ensured password encryption using BCryptPasswordEncoder.

7. Conclusion

The Job Portal System successfully demonstrates secure backend development with authentication, authorization, role-based access, and relational database management. It can be further extended with a frontend (React/Angular) and deployed on cloud platforms for real-world use.