

RECRUITMENT MANAGEMENT SYSTEM

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INTRODUCTION

A web-based recruitment platform is engineered to streamline the hiring process, enabling recruiters to publish job openings and candidates to apply with the aid of an intuitive search and filtering interface. This platform is built upon robust CRUD (Create, Read, Update, Delete) operations to seamlessly administer the recruitment lifecycle.

The platform is structured into four primary modules:

Job Application Module:

This module manages the application data, capturing the usernames of applicants and recruiters, as well as the unique job identifiers (job IDs) for the positions applied to. It serves as a database for submitted applications, facilitating the tracking, and updating of application statuses throughout the hiring process.

Job Interview Module:

Focused on the coordination of the interview stage, this module links each job application with its corresponding interview schedule. It stores details such as the job ID, applicant's username, and interview data, which includes the timing and the communication link for virtual interviews, ensuring that both recruiters and applicants can efficiently manage the interview logistics.

Job Postings Module:

Utilized by recruiters to create and disseminate job opportunities, this module records essential details such as the company name, job title, job description, job ID, required skill set, and the

recruiter's contact email. It provides a dashboard for recruiters to oversee their active job listings and interact with the pool of applicants.

Users Module:

The cornerstone of the platform's user management, this module handles the creation and authentication of user profiles, including storing usernames, passwords, and roles (such as administrator, recruiter, or job seeker). It underpins the security and integrity of user data while enabling role-based access to the platform's features.

Each module is equipped with CRUD capabilities to ensure that users—be they job seekers or recruiters—can interact with the system in a dynamic, real-time manner, enhancing the efficiency and effectiveness of the recruitment process.

DATA

The system has four main collections:

1. Job interviews:

`_id`: ObjectId (A special BSON datatype provided by MongoDB, unique for each document)

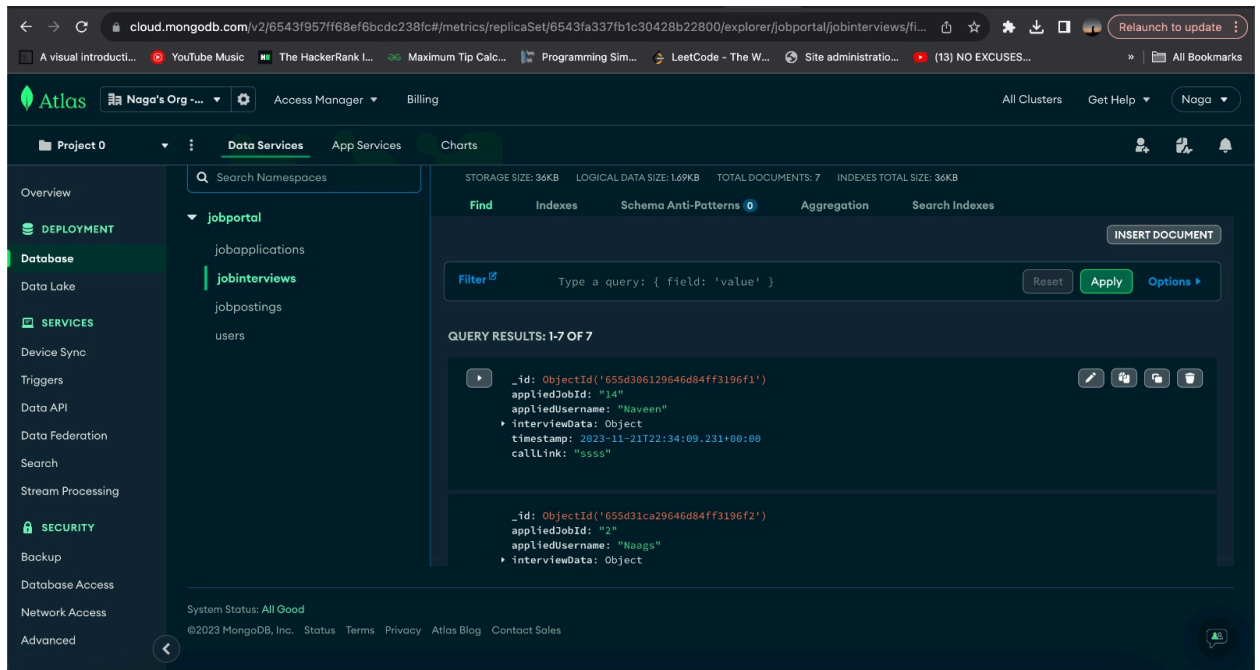
`appliedJobId`: String that specifies the id of the job applied.

`appliedUsername`: String (A textual representation of a username)

`interviewData`: Object (A BSON object that would contain nested data)

`timestamp`: ISODate (A BSON datatype that stores a date and time)

`callLink`: String (A textual URL or identifier for a call, likely for a video or phone interview)



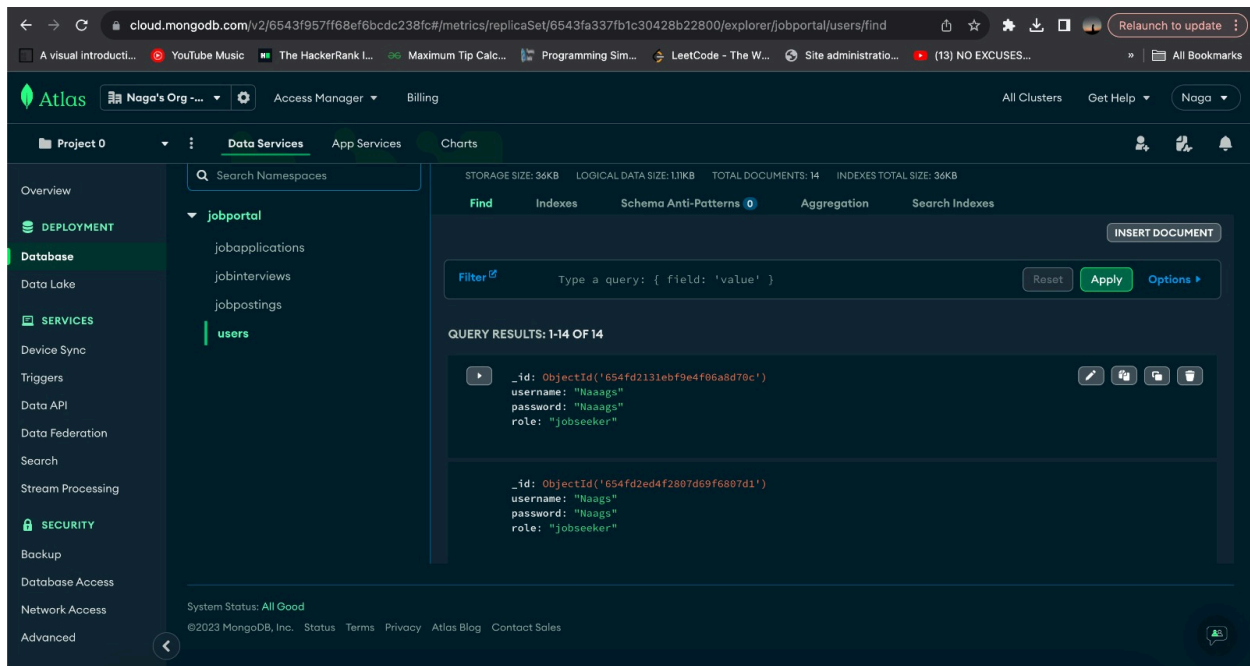
2. Users:

`_id`: ObjectId - A special BSON datatype provided by MongoDB, unique for each document.

`username`: String - A textual representation of the user's name or identifier.

`password`: String - A textual representation of the user's password

`role`: String - A textual representation of the user's role within the application (e.g., "jobseeker").



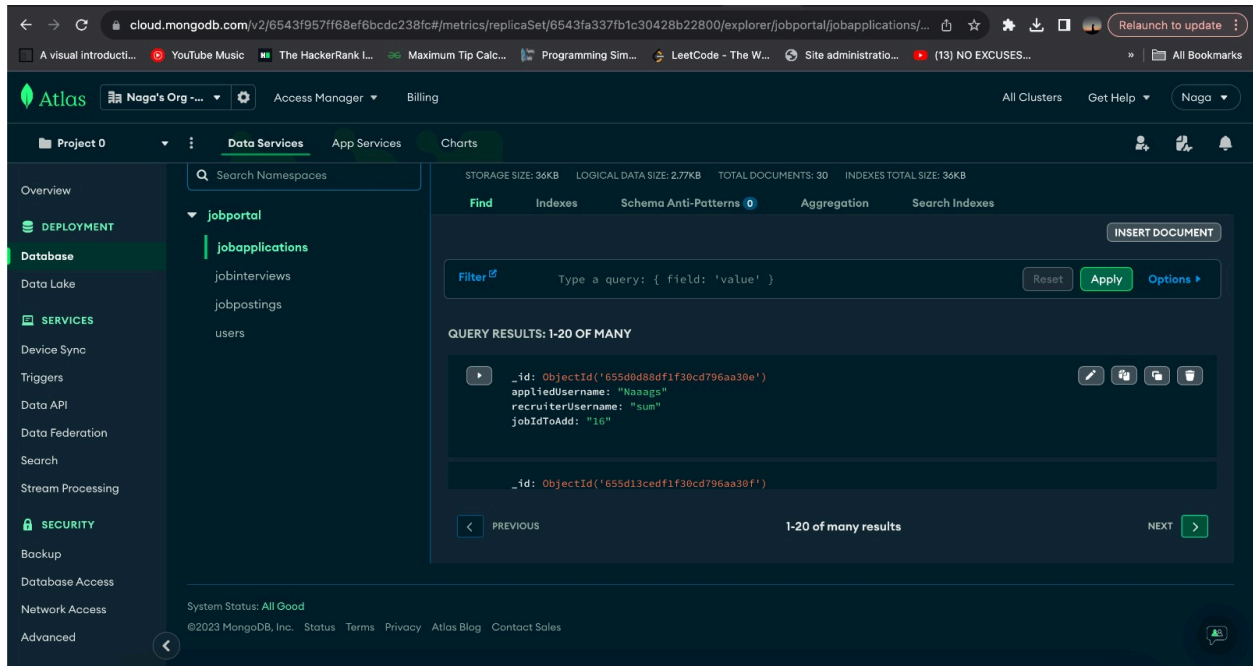
3. Job Applications:

`_id`: ObjectId - A special BSON datatype used by MongoDB, which is a unique identifier for the document.

`appliedUsername`: String - A textual representation of the username of the individual who has applied for the job.

`recruiterUsername`: String - A textual representation of the username of the recruiter who is handling the job posting.

`jobIdToAdd`: String that specifies the id of the job applied



4. Job Postings:

`_id`: ObjectId - A special BSON datatype used by MongoDB, which serves as a unique identifier for the document.

`companyname`: String - A textual representation of the name of the company.

`jobname`: String - A textual representation of the job title.

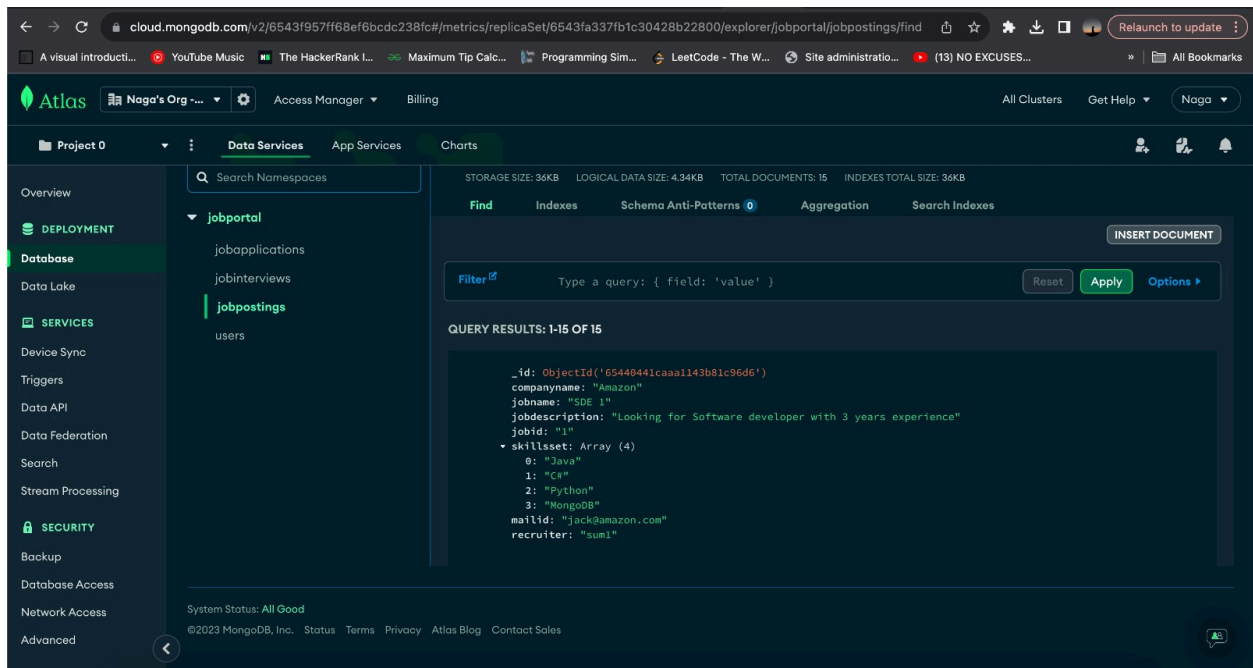
`jobdescription`: String - A textual representation of the job description.

`jobId`: String that specifies the id of the job posted.

`skillset`: Array - An array containing strings, each representing a required skill for the job.

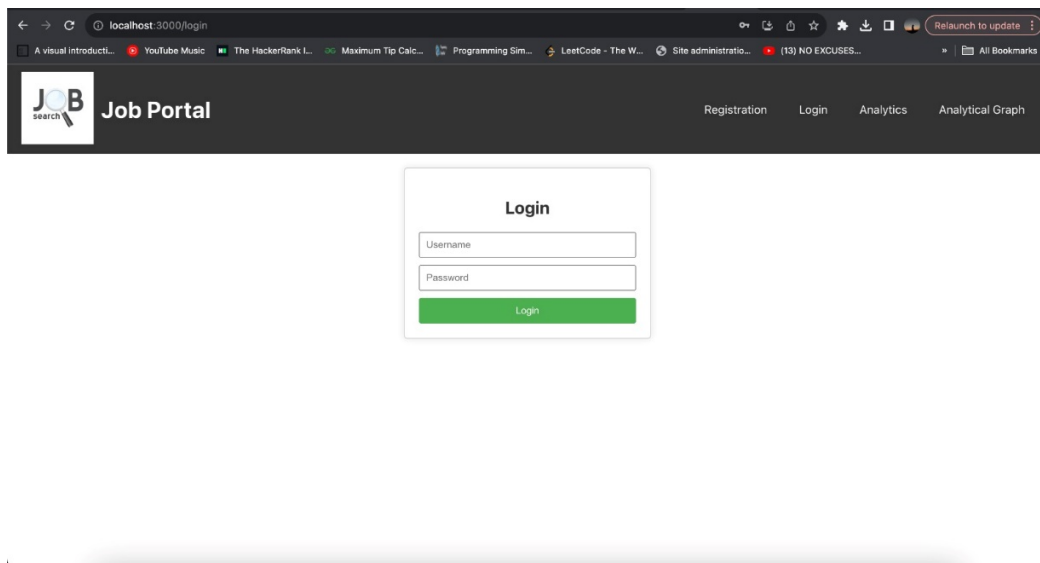
`mailid`: String - A textual representation of an email address.

`recruiter`: String - A textual representation of the recruiter's username or identifier.

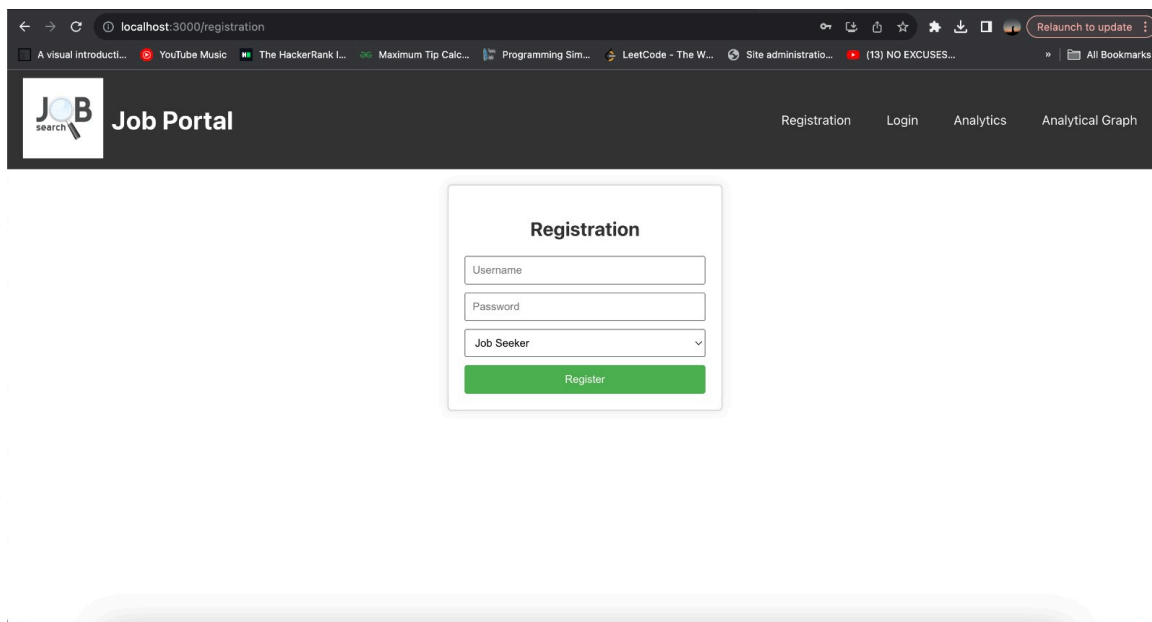


FUNCTIONALITIES

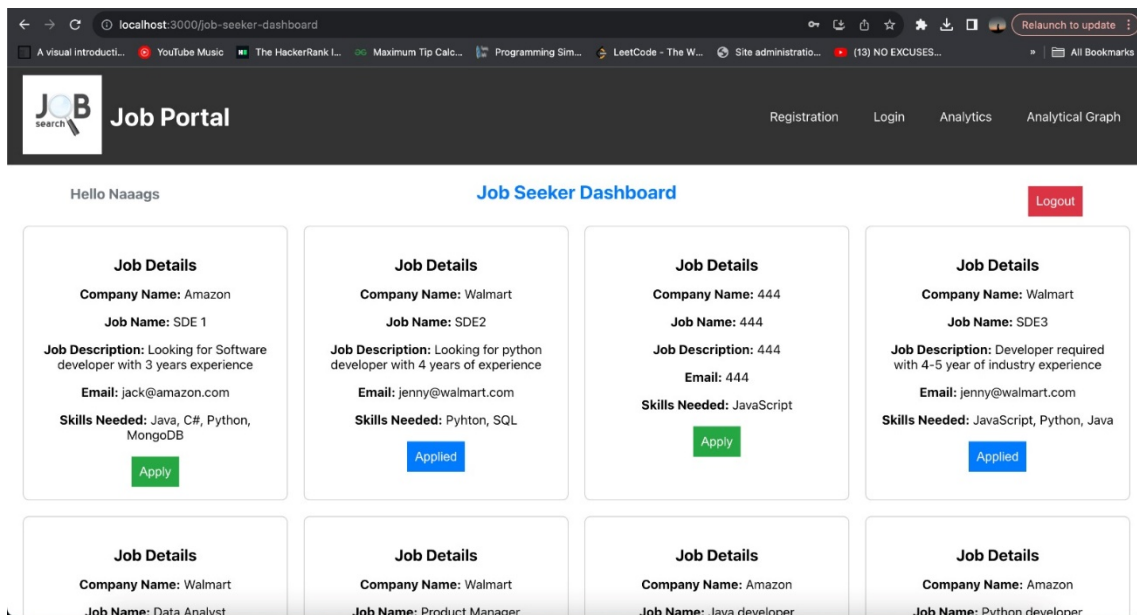
Login page enables the users to login if the credentials are entered correctly.



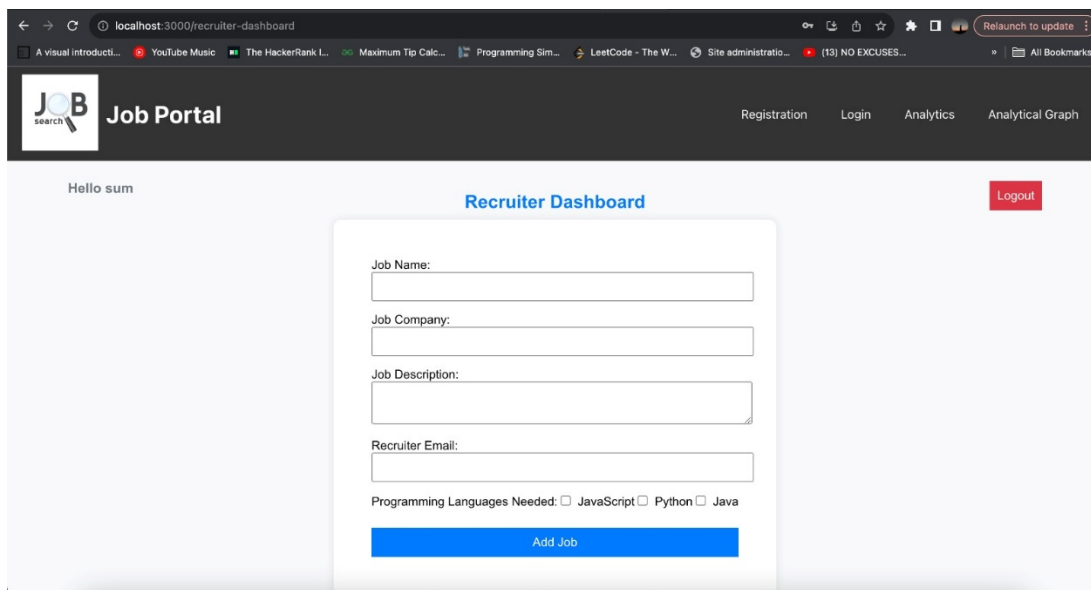
The registration page facilitates user sign-up, allowing individuals to create an account for job application purposes. Upon submission, the information is stored in the 'users' table in the database.



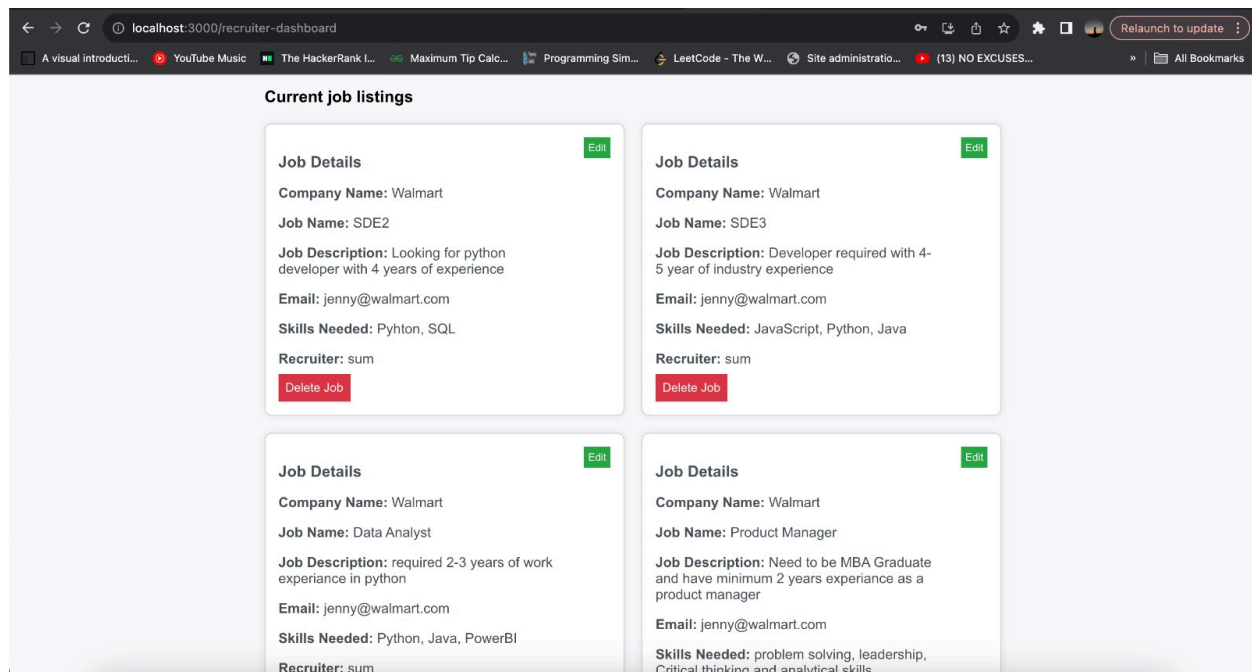
On the job seeker's Dashboard, listings from the job postings table are presented. Users, as job seekers, can browse and apply to positions, with their applications being recorded in the job applications table.



The recruiter dashboard is designed for recruiters to post new job openings. Once a job is posted, the details are stored in the job postings database.



The current job listings section shows all active job postings from the database, providing recruiters with the flexibility to edit or remove listings at their discretion.



Job Postings Aggregation:

This part of the dashboard aggregates and displays job postings. Each row corresponds to a unique job ID along with the number of applicants who have applied for that job. This allows recruiters to quickly understand the level of interest and number of candidates for each position.

Job Applications and Interviews Overview:

When a job ID is selected, the dashboard provides detailed information about the candidates who have applied. This includes the applicant's username and the option to schedule an interview. This feature simplifies the process of managing job applications and setting up interviews, indicating not just the number of applications but also the progress of each candidate in the hiring process.

localhost:3000/recruiter-dashboard

Applicants Count

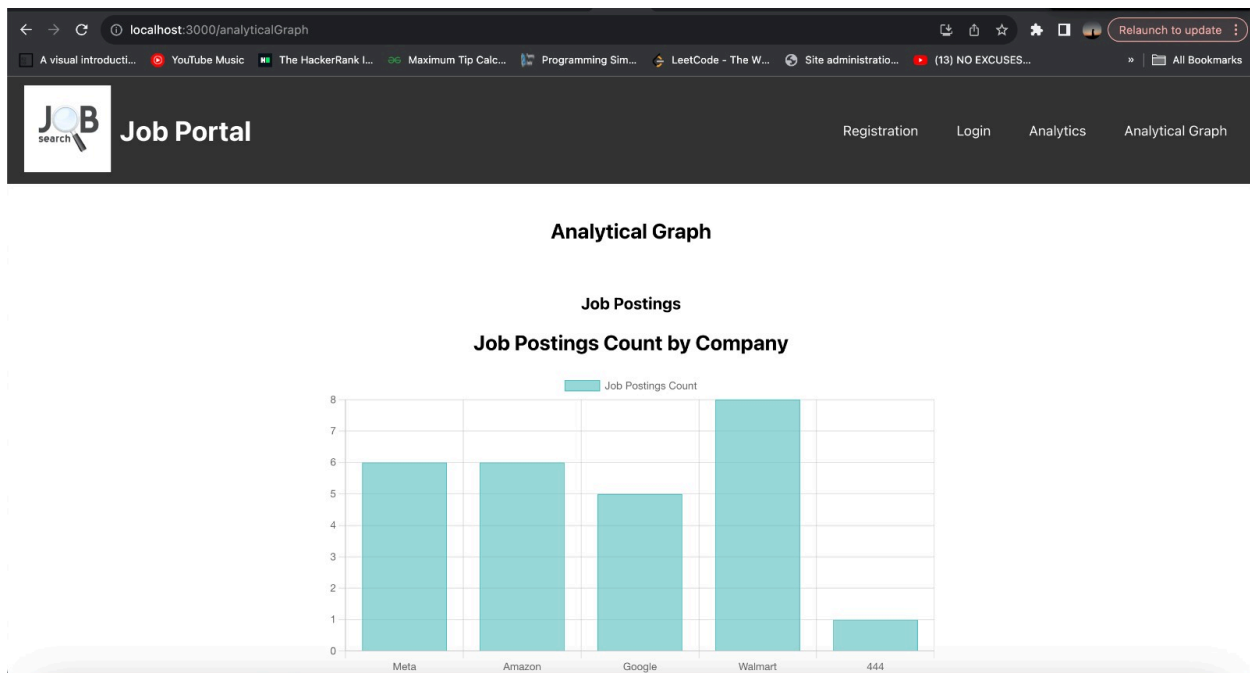
Job ID	Applicants Count	Action
2	3	Show Details
3	2	Show Details
6	2	Show Details
7	1	Show Details
13	3	Show Details
14	3	Show Details
16	2	Show Details
17	2	Show Details

Applicants Details for Job ID: 14

Applicant Username	
Naaags	Schedule Interview
Naags	Schedule Interview
Naveen	Schedule Interview

DATA VISUALIZATION

- The below visual representation aids recruiters and administrators in understanding the distribution and volume of job postings across different companies.
- The chart shows the count of job postings by company, which is a direct output of the "Create" operation within the CRUD functionalities. Each bar represents the aggregate number of job postings for a companies which recruiters have input into the system.



- In short, the graph leverages the data managed by the Job Postings Module to give an overview of job posting activity across different companies.
- This can help in monitoring the recruitment activity and also in making data-driven decisions such as which companies are posting more jobs, possibly indicating growth or a high demand for new employees.

TECHNOLOGIES USED

Frontend: HTML/CSS

Backend: Nodejs, Express, Java Script

Database: MongoDB