

Hands on Assignment:

Title: Building Job Portal using .NET 5 Web API and Angular/React

Description:

byteSTREAM Technologies decided to build a lite version Job Portal web site for end users. The application allows users to register on the web site and submit their profile data. Employers can also register on the website and publish the job opportunities in their organizations.

The application uses Angular/React for developing the frontend and .NET 5 Web API for backend. The application need to be built using the microservices architecture. The following modules are identified as microservices.

A) Identity Module:

This module handles the job portal application users identity. Users can register using this module action and generate access token during login. The login action returns a JWT token which can be used to access the Employer and JobSeeker module actions securely.

Actions:

- Register
- Login
- Change Password

B) Employer module:

This module allows the registered employers to submit the job vacancies details on the web site. The details of the job vacancies will be visible to the job seekers when the login to the application. Employers can delete the vacancy details or update the details of the vacancies any time.

Actions:

Following actions are allowed only to Employers who logged in with “employer” role.

- Add Employer Details
- Update Employer Details
- Add Vacancy
- Update Vacancy
- Delete Vacancy
- List all submitted vacancies
- Get details of single vacancy

Following actions are allowed to Job seekers who logged in with “user” role.

- Search vacancies using Technology/Area/Date/Company
- View Employer details(View company profile/history)

C) Job Seeker module:

This module allows job seekers to search and list vacancies based on their qualification, technology, area etc. They can submit their profile details and CV to the application.

Actions:

Following actions are allowed to job seekers who logged in with “user” role.

- Submit profile
- Upload CV
- Update profile

- Delete profile
- Apply for Vacancy

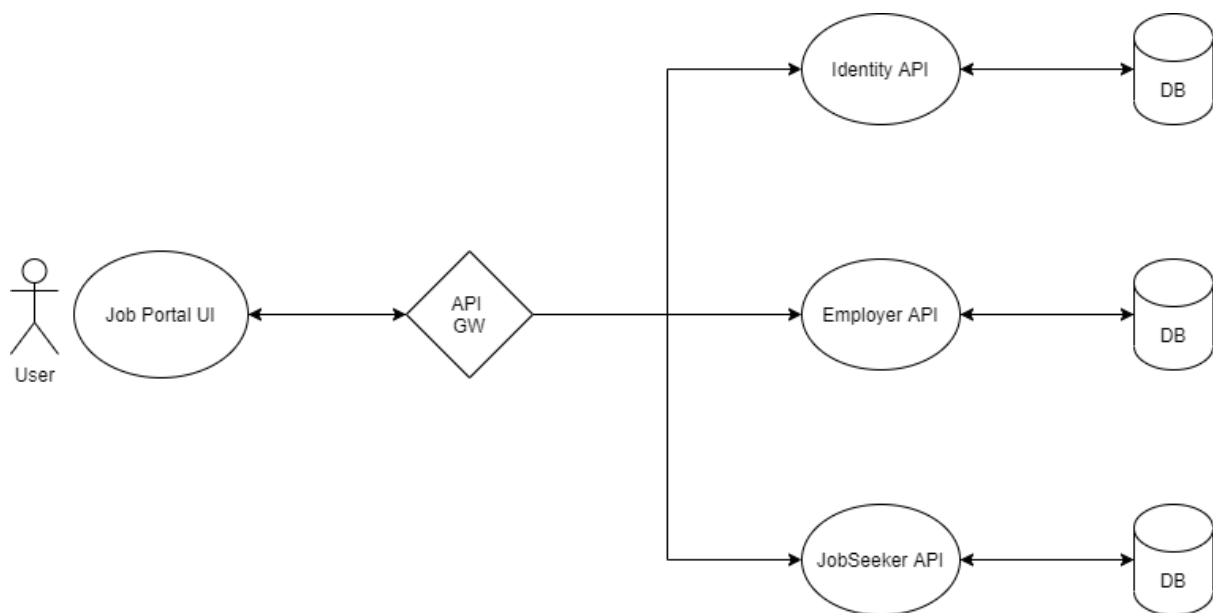
Following actions are allowed to employers who logged in with “employer” role.

- List all job seekers profile who applied for a particular vacancy.
- Get the profile details of job seeker

Notes: Assumptions can be made according to the requirement of the case study implementation.

Requirements:

- Swagger Documentation must be enabled and only available for Dev environment
- CORS policy must be configured to allow all domains
- Repository pattern must be used for database access.
- SQL Server with EF Core / MongoDB can be used as database.
- Application should be ready to run as docker container on Azure
- Database connection configurations must be overridable in docker and Azure App Service.
- Unit testing can be done for each module.



Schema Definitions:

| User Identity | Description |
|---------------|--------------------|
| Id | Primary Key |
| FullName | |
| Username | |
| Password | |
| Email | |
| Phone | |
| UserType | JobSeeker/Employer |

| Employer | Description |
|------------------|-------------------------------------|
| Id | |
| Organization | Organization name |
| OrganizationType | |
| CompanyEmail | |
| CompanyPhone | |
| NoOfEmployees | |
| StartYear | Year when the company is commenced. |
| About | |
| CreatedBy | Email Id of the registering person |

| VacancyDetails | Description |
|-----------------------|-----------------------------|
| Id | |
| PublishedBy | Published Organization name |
| Published Date | |
| No of Vacancies | |
| Minimum qualification | |
| Job Description | |
| Experience required | |
| LastDate | |
| MinSalary | Minimum salary |
| Max Salary | Maximum salary |

| Users | Description |
|------------------|-----------------|
| Id | |
| First name | Job seeker name |
| Last name | |
| Email | |
| Phone | |
| Address | |
| Total Experience | |
| Expected Salary | |
| Date of Birth | |

| Qualifications | Description |
|--------------------|---------------------------|
| Id | |
| User ID | Foreign key to User table |
| Qualification name | |
| University | |
| YearOfCompletion | |
| GradeOrScore | |

| UserExperiences | Description |
|-----------------|---|
| Id | |
| User ID | FK to User table |
| Company name | |
| Start year | Job started date |
| End year | Date at which the user left the company |
| CompanyUrl | |
| Designation | |
| JobDescription | |

| UserVacancyRequests | Description |
|---------------------|-----------------------------|
| Id | |
| VacancyID | FK to Vacancy details Table |
| User ID | FK to User table |
| Applied date | |