

Job Board Database and API

Project Description:

Finding jobs can be pretty difficult and most of the time undergraduates and recent graduates have no work experience, which gives them a disadvantage when searching for jobs in regular job boards.

In this project, I created an API and database to fill in that need. The API allows employers to post jobs specifically for students who have little to no work experience. There are two different types of end users: students and employers, and each of them have access to different functionalities.

The student can view and apply for jobs, and can enter details about their education, personal details, and any previous work or volunteer experience. The employer can post jobs, view the details of student profiles, and create and modify events. The employer also functions as the admin of this database.

I used PHP PDO to create the source code for the API. The DBMS used for this project was PHPMyAdmin, and Postman was used to test the endpoints and create the documentation. For testing purposes in Postman, the JSON format is used for the endpoints.

Project Design:

The system has two types of end users: student and employer. The employers also function as the admins of this system.

Here is a list of functionalities offered by our API to these two end users:

Employer:

- 1) Create Employer account
- 2) Create Job Post
- 3) Create Shortlist of students
- 4) Create Events
- 5) View Student Bio
- 6) Update Event

Student:

- 1) Create Student account
- 2) Create Bio
- 3) Create Degree
- 4) Create Resume
- 5) Apply to a specific job post
- 6) View the job posts
- 7) Specify Previous experiences at companies

DBMS used and API Language:

The DBMS that we selected for the implementation of this project was PHPMyAdmin.
The language used to create the source code for the API was PHP PDO.

SQL statements for each of the transactions implemented:

1) Student Creates Account:

```
INSERT INTO student  
SET student_name = s_name, student_email = s_email;
```

2) Student Creates Bio

```
INSERT INTO bio  
SET student_id = SID, bio_stmt = statement, bio_interest= interest;
```

3) Student Creates Degree

```
INSERT INTO degree  
SET student_id = s_id, degree_type = d_type, degree_subject= d_subject,  
degree_special = d_special, uni_name = u_name, uni_location = u_location
```

4) Student Creates Resume

```
INSERT INTO resume  
SET student_id = s_id, resume_name = r_name, resume_education = r_education,  
resume_vexp= r_vexp, resume_wexp = r_wexp
```

5) Student Has Experience at a Company

```
INSERT INTO has_experience  
SET company_name = c_name, student_id = s_id
```

6) Student Reads Jobs Posted

```
SELECT * FROM jobpost
```

7) Student Applies to a Job Post

```
INSERT INTO applied  
SET job_id = JID, student_id = SID
```

8) Employer Creates Account

```
INSERT INTO employer  
SET employer_name = e_name, employer_email = e_email, company_name = c_name,  
job_title = j_title
```

9) Employer Posts Job

```
INSERT INTO jobpost  
SET job_title = j_title, employer_id = e_id, job_desc = j_desc, job_pdate= j_pdate,  
job_edate = j_edate, job_catg = j_catg
```

10) Employer Shortlists Student

```
INSERT INTO shortlists  
SET employer_id = e_id, student_id = s_id
```

11) Employer Reads Student Bio

```
SELECT * FROM bio WHERE bio_id=id
```

12) Employer Creates Event

```
INSERT INTO events  
SET employer_id = e_id, event_title = e_title, event_date= e_date, event_desc = e_desc
```

13) Employer Updates Existing Event

```
UPDATE events  
SET employer_id = emp_id, event_title = e_title, event_date= e_date, event_desc =  
e_desc  
WHERE event_id = e_id
```

API Documentation:

Here is the link to the API documentation:

<https://documenter.getpostman.com/view/10644681/Szf24qLW>

System requirements and how to run the API:

- 1) Install xampp.
- 2) Once the download is complete, run it and start all servers.
- 3) Place provided code api folder in the htdoc folder opt/lampp/htdocs. You may have to change the permissions of the htdocs folder.
- 4) Open your browser and enter the following url "<http://localhost/phpmyadmin/>"
- 5) Once you are inside PHPMyAdmin create a new database called "api".
- 6) Select the newly created api and then go into the import section.
- 7) Once inside the import section click on browse for import file and select the sql backup file we have provided.
- 8) Then click go and then the database should be uploaded.
- 9) NOTE: If you get a "column count of mysql.proc is wrong" error. You will need to run mysql upgrade. To do this do the following:
 - Cd opt/lampp/bin/mysql
 - Sudo ./mysql upgrade -u root -p
 - Enter your password, then enter the password for myphpadmin which is "". So just press enter when prompted for the second password.
 - Once this is complete the errors should be fixed.
- 10) You should now be able to send requests from Postman.

Reference:

An online tutorial on PHP REST API development was consulted to help with developing the API

Link: <https://www.codeofaninja.com/2017/02/create-simple-rest-api-in-php.html>