Campus Hiring Evaluation

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Submission Guidelines

- Create a **Public** Repository on your Github Account with your **Roll Number** as the **Repository Name**
- For Backend/Frontend tracks, create 2 distinct folders inside the repository for the following:
  - Logging Middleware
  - Backend/Frontend Test Submission
- For Full Stack tracks, create 3 distinct folders inside the repository for the following:
  - Logging Middleware

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  - Backend Test Submission
  - Frontend Test Submission
- Ensure that your **Name**, or any mention of **Affordmed**, is entirely absent from the **Repository Name**, the README file, and all commit messages.
- For each question, submit comprehensive solutions. This includes your architecture design, complete code and clear output screenshots. Incomplete submissions will not be considered for evaluation.
- We strongly encourage you to commit and push your code to GitHub regularly, at logical milestones in your development process. If you are using JavaScript or TypeScript, don't forget to add node modules to your .gitignore file.
- Please adhere to production-grade coding standards. This includes employing proper naming conventions, maintaining a well-organised folder structure, and providing appropriate comments within your code to enhance readability. This is only an indicative list and you are encouraged to demonstrate other best practices that you are aware of.
- For **Backend Track** or the Backend question of **Full Stack Track**, select any Backend Framework without utilising external libraries for algorithms. Capture output screenshots from API clients like Insomnia or Postman, **displaying request body, response and response time** for the average calculator problem. The output screenshots have to be taken of API calls to your app and not the test server
- For Frontend Track or the Frontend question of Full Stack Track, it is mandatory to use **React** or **Next**. While **JavaScript** is permitted, the use of **TypeScript** is preferred. Capture output screenshots of both mobile and desktop views of your web application. For styling, only **Material UI** or **Vanilla CSS** are permitted.
- Any instance of plagiarism, including using another applicant's API credentials, LLMs will lead to immediate rejection.

Registration

You need to register with our Test Server to obtain your unique **Client ID** and **Client Secret**.

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Requirements:

- Your **Roll Number** and **Email**, must align with your university/college email and roll number. (Email must support Google Form verified submission)

- The **GitHub Repository link** you submit in the **Google Form** will be matched against the **GitHub Username** provided during registration. Any mismatch will result in your submission being ignored. If your GitHub Profile link is https://github.com/username, submit only **username** while Registering.

- The **accessCode** required for registration has been shared via the email you received. Do not use the example **accessCode** provided below.

Registration API (POST)

```
http://20.244.56.144/evaluation-service/register
```

Request Body

```
{
    "email": "ramkrishna@abc.edu",
    "name": "Ram Krishna",
    "mobileNo":"9999999999",
    "githubUsername": "github",
    "rollNo": "aa1bb",
    "accessCode": "xgAsNC"
}
```

Response

You can register only once. Do not forget to save your **clientID** and **clientSecret**; you cannot retrieve them again.

```
{
    "email": "ramkrishna@abc.edu",
    "name": "ram krishna",
    "rollNo": "aa1bb",
```

```
    "accessCode": "xgAsNC",
    "clientID": "d9cbb699-6a27-44a5-8d59-8b1befa816da",
    "clientSecret": "tVJaaaRBSeXcRXeM"
}
```

Authentication

After successful registration, you must obtain an Authorization Token to access the Test Server APIs.

Authorization Token API (POST)

```
http://20.244.56.144/evaluation-service/auth
```

Request Body

```
{
    "email": "ramkrishna@abc.edu",
    "name": "ram krishna",
    "rollNo": "aa1bb",
    "accessCode": "xgAsNC",
    "clientID": "d9cbb699-6a27-44a5-8d59-8b1befa816da",
    "clientSecret": "tVJaaaRBSeXcRXeM"
}
```

Response: (Status Code: 200)

```
{
    "token_type": "Bearer",
    "access_token":
```
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJNYXBDbGFpbXMiOnsiZXhwIjoxNzQzNTc0MzQ0L
CJpYXQiOiJE3NDM1NzQwNDQsImlzcyI6IkFmZm9yZG1lZCIsImp0aSI6ImQ5Y2JiNjk5LTZhMjctNDRh
NS04ZDU5LThiMWJlZmE4MTZkYSIsInN1YiI6InJhbWtyaXNobmFAYWJjLmVkdSJ9LCJlbWFpbCI6InJ
hbWtyaXNobmFAYWJjLmVkdSIsIm5hbWUiOiJyYW0ga3Jpc2huYSIsInJvbGxObyI6ImFhMWJiIiwiYW
NjZXNzQ29kZSI6InhnQXNOQyIsImNsaWVudElEIjoiZDljYmI2OTktNmEyNy00NGE1LThkNTktOGIxY
mVmYTgxNmRhIiwiY2xpZW50U2VjcmV0IjoidFZKYWFhUkJTZVhjUlhlTSJ9.YApD98gq0IN_OWw7JMf
muUfK1m4hLTm7AIcLDcLAzVg",
    "expires_in": 1743574344
```

```
}
```

Develop Logging Middleware

The 'Logging Middleware' is a critical component for building robust and observable applications. While error logging is essential, we expect you to implement logging that captures the entire lifecycle of significant events within your application – from successful operations to warnings, informational messages, and debugging details. Think of logs as the narrative of your application's execution! These logs are crucial for understanding application behavior, performance, and for effective debugging.

Note: While you have flexibility in choosing your backend language/framework, the Logging Middleware must be a reusable package. If attempting the Full Stack track, both this middleware and your backend application must be developed in **TypeScript/JavaScript** to enable the logging package's consumption by the **Frontend**.

Write a reusable function that makes an API call to the Test Server each time the function is called that matches the below structure:

```
Log(stack,level,package,message)
```

Integrate this reusable Log function strategically throughout your codebase. Each Log call should provide specific and descriptive context about what's happening. Instead of generic messages, aim for logs that clearly communicate the state, actions, and any relevant data at that point in the code.

We encourage you to think critically about what information would be most valuable if you were to troubleshoot your application months from now. That's the information you should be logging!

```
// If an error occurs in your application's handler due to a data type mismatch
Log("backend", "error", "handler", "received string, expected bool")

// If an error occurs in your application's db layer
Log("backend", "fatal", "db", "Critical database connection failure.")
```

The test server has the below API that you can call in your Logging Middleware

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Log API (POST)

```
http://20.244.56.144/evaluation-service/logs
```

Constraints

- API is a protected Route
- Stack, Level and Package Fields accept only the following values (in **lower case** only)

Stack

```
"backend"
"frontend"
```

Level

```
"debug"
"info"
"warn"
"error"
"fatal"
```

Package

Packages that can only be used in Backend Application

```
"cache"
"controller"
"cron_job"
"db"
"domain"
"handler"
"repository"
"route"
"service"
```

Packages that can be only be used in Frontend Application

```
"api"
```

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```
"component"
"hook"
"page"
"state"
"style"
```

Packages that can be used in both Backend and Frontend Application

```
"auth"
"config"
"middleware"
"utils"
```

Request Body

```json
{
    "stack":"backend",
    "level":"error",
    "package":"handler",
    "message":"received string, expected bool"
}
```

Response (Status Code: 200)

```json
{
    "logID": "a4aad02e-19d0-4153-86d9-58bf55d7c402",
    "message": "log created successfully"
}
```

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