Team Project

Requirement

1. Each team will be assigned a team lead. The team lead has to make the decision on all tools to be used in the project and need to host daily meeting to assign and check the work of each teammate.
2. Each team needs to have their own PRIVATE Git Repository on GitHub. Team leads should create proper branch for teammates to merge code.
3. Each team needs to add trainers in their Git Repository.
4. Team leaders will have a meeting with trainers every day from 2:00 PM to 3:00 PM EDT. In the meeting, the team lead needs to provide a report about:
   - What the team has finished?
   - Is there any road blocker?
   - A brief demo (either a unit test or Postman calls)
   - What did each team member work on?
5. Each team has to follow the Agile methodology to have deliverable items every one or two days.
6. “Done is better than perfect” — You should finish all requirements first. But DO think about how to make it better. (This is where you can talk more about during in the interview)
7. The main application should be built in a microservice architecture using Netflix Eureka and Spring Cloud API Gateway. All inter-service communication needs to be done using Spring Cloud OpenFeign or message queue (base on business logic).
8. Core Services in the Microservice architecture are **EmployeeService**, **ApplicationService**, **HousingService** and **EmailService**. Please design your own Composite Services if needed.
9. For each service, you need to use SpringBoot, Maven, Spring Security, Hibernate with MySQL, Spring Data JPA with MongoDB to build a RESTful application.
10. There should be an **Authentication Server** that is outside of the Microservice Architecture, which handles all operations related to User Identity Management, including authenticate, role management and registration.
11. The structure of each database will be provided, please follow strictly.
12. Each team has to create all the tables using MySQL and MongoDB and add corresponding constraints to the tables. Amazon Relational Database Service (**AWS RDS**) and **MongoDB Atlas** needs to be used to share database between team members.
13. All actions related to file storage should be associated with the **AWS S3**. e.g., uploading Driver License, Avatar, I-20, etc. You have to design and implement a project which is used for new employee onboarding process, visa status management and housing management.

You only have to design and implement the **backend** of this project which is used for new employee onboarding process, visa status management and housing management.

For Employee

1. Login
   - Employee can login with their username or email
   - Employee can only register an account with the registration token which is created by HR. (See HR section for more detail about how to generate registration token.)
2. Onboarding

- Force user to set up the username and password after user register their account by using the registration token.
- After setting up the username and password, user will be redirected to onboarding page
    - Application Form: Users need to fill out the application form with all following information (note: the field with * means it is a mandatory field)
        - First Name (*), Last Name (*), Middle Name, Preferred Name
        - Current Address (*)
        - Cellphone (*), Work Phone
        - Email (prefilled, since user already registered the account with this email address)
        - SSN (*)
        - Date of Birth (*)
        - Gender (Drop down: Male, Female, I don't want to answer)
        - "Are you a citizen or permanent resident of the U.S?" (*)
            - If yes, choose either "Green Card" or "Citizen" (*)
            - If no, "What is your work authorization?" (*, Dropdown: H1-B, L2, F1(CPT/OPT), H4, Other)
              · If others, input box for specifying the work authorization, start date and expiration date
              · otherwise, start date and end date.
            - In both situation, user has to upload a copy of his/her own work authorization document
        - "Do you have a drive license?" (*)
            - If yes, drive license number, expiration date and upload a copy of drive license
        - Reference (Who recommends you come here; the reference can only be one person with following filed)
            - First name, Last name, Middle name, Phone, Email, Relationship
        - Emergency Contact (*)
            - First name, Last name, Middle name, Phone, Email, Relationship
- After user completes the application form, the user will be redirected to the documentation page, which lists all documents in DigitalDocument table.
    - For each document, provide a download link so that user can download the file after clicking on.
    - User should also be able to upload the document on this page after they completed and signed the document on this page.
- After user submit the documents, user should be able to submit the entire onboarding application.
    - Once submitted, user should be present a page with "Please wait for HR to review your application"
    - User can go to their home page if and only if the HR approved his/her application.
    - If the application is rejected, user should be able to receive an email. Users should be able login to the system to check which field is wrong or if there is any missing document.

3. Home Page
    - Once user's onboarding application has been approved, user should be able to see the home page after they login.
4. Personal Information
    - User should be able to view and update their own personal information on this page.
5. Visa Status Management
    - User should be able to manage their work authorization on this page. Currently, only need to provide this visa status management for the users on OPT status.
        - International students have to use OPT/OPT STEM to work in United States. During the onboarding process, it is required to provide at least the OPT Receipt. The OPT status changes are listed below:
            - OPT Receipt (Applied, but don't receive the OPT EAD yet)

        - OPT EAD (Received the OPT EAD)
        - I-983 (Need to be filled for OPT STEM)
        - I-20 (After submitting the I-983 to the school, the student will receive a new I-20)
        - OPT STEM Receipt (Applied for OPT STEM, but haven't received the OPT STEM EAD)
        - OPT STEM EAD (Received the OPT EAD)
    - Status Notification
        - When user go to this page, the user should be able to see a message about what they need to do next if their status meets any of following rules:
            - If the user currently holds OPT Receipt or OPT STEM Receipt, they should be able to see next step as "Please upload a copy of your OPT EAD" or "Please upload a copy of your OPT STEM EAD" respectively.
                - After the message, there should be a button for user to upload the document.
            - If the user currently holds OPT EAD and there are less than 100 days before the expiration date of OPT EAD, they will see next step as "Please download and fill your I-983 form".
            - If the user is currently waiting for HR to sign the I-983, they will see next step as "Waiting for HR to approve and sign I-983".
            - If the HR upload the signed I-983, they should be able to see next step as "Please send the I-983 with all necessary documents to your school and upload the new I-20".
                - After the message, the user should be able to see a button to upload the new I-20
            - If the user has uploaded the new I-20, they will see the next step as "Please upload your OPT STEM Receipt"
                - After the message, the user should be able to see a button to upload the OPT STEM Receipt
            - If the user has uploaded the OPT STEM Receipt, they should be able to see the next step as "Please upload your OPT STEM EAD"
                - After the message, the user should be able to see a button to upload the OPT STEM EAD
    - A List of Documents the user has uploaded shall be displayed.
        - User should be able to view and download all documents he/she has uploaded
        - When user click on it, they should be able to download the file.

6. Housing
    - Employees can only view the details about the house but they cannot change the house has been assigned to them.
    - House Detail Page
        - Employees should be able to view the following house detail
            - Address
            - List of employees who lives in the house with following details
                - Name (Preferred Name, if it is empty, then the First Name)
                - Phone
    - Facility Reporting Page
        - Employees should be able to report a facility issue in the house and see all comments by employees or HR
            - This page will show a list of Facility Reports with following details
                - Title
                - Report Date
                - Status (There are 3 statuses: Open, In Progress, Closed)
            - A single facility report contains with following details
                - Title
                - Description
                - Created By (Who report this issue)
                - Report Date

        - ❖ Status (There are 3 statuses: Open, In Progress, Closed)
        - ❖ A list of comment with following details
            - · Description
            - · Created By
            - · Comment Date (If the last modification date is empty, display the created date; otherwise, display the last modification date)
    - ◆ For each report, employees can add comments or update comments which is created by the employee.

For HR

1. Login
    - Both employee and HR should have the same login portal. The system should be able to check whether the login user is a HR or an employee.
    - Please hard code at least one account with Role as HR
    - Note: An HR is also an employee. The difference is that HR has one more role called HR
2. Home Page
    - After HR login, they will be redirected to the home page shown a Status Tracking Table:
        - The table should display all active visa status of each employee with pagination.
        - This table should have following details
            - ◆ Name (Legal full name)
            - ◆ Work Authorization (F1/OPT, F1/OPT STEM)
            - ◆ Expiration Date
            - ◆ Day Left
3. Employee Profile
    - HR should be able to view all employee profiles.
    - Pagination is required
    - HR can filter employee profile base on:
        - First name
        - Email
4. Hire
    - The HR should be able to create the registration token and review onboarding application or other application such as OPT STEM application
    - Registration Token Generation
        - By entering the new hire's email, the HR should have a button "Generate Token and Send Email" to send the token to the email address provided.
            - ◆ The default valid duration should be set through the property file and the value should be 3 hours.
    - Application Review
        - HR should be able to review employee's onboarding application or other applications (Just consider the onboarding application and OPT STEM application for now):
            - ◆ Form Application
                - ❖ HR should be able to view the same form for the onboarding application with following rules
                - ❖ All fields are not editable
                - ❖ All fields are populated with user entered data
                - ❖ HR should be able to add comment for entire application
            - ◆ Documentation Application
            - ◆ Each Employee can only have one ongoing application. (The application status is not completed)
                - ❖ Application Status: Open, Pending, Rejected, Completed
            - ◆ HR should be able to approve or reject the application

            - Once approved, the application status should be changed to Completed.
            - If rejected, there should be comments about what is wrong. Then the employee has to fix those errors or upload other documents.
            - Either approved or reject, the employee should be able to receive an email about the application.
        - When HR go to this page, she/he should be able to view all ongoing applications. While clicking on each application, it should show the application details listed above.

5. House Management
    - HR should be able to view, add, delete the house property belonging to the company.
    - View
        - HR should be able to view all house are currently under management by the company with following details
            - Address
            - Landlord (Legal Full Name)
            - Phone
            - Email
            - Max Occupant
        - HR should be able to click on each house record to view the details as follow
            - House Information
                - Address
                - Landlord, Phone, Email
                - Number of employee currently live in this house
            - Facility Information
                - Number of Beds
                - Number of Mattress
                - Number of Tables
                - Number of Chairs
                - Facility Report (List View)
                    - Display all facility reports with (Title + Date + Status) format in a table
                    - Each page should only display 3 - 5 reports
                    - All reports are sorted by the created date in descending order
                    - Once clicked, display a facility detailed page with all following details:
                        - Title
                        - Description
                        - Created By (i.e., who reported this issue)
                        - Report Date
                        - Status (There are 3 statuses: Open, In Progress, Closed)
                        - A list of FacilityReportDetail with following details
                            - Comment
                            - Created By
                            - Comment Date (If the last modification date is empty, display the created date; otherwise, display the last modification date)
                    - For each report, HR can add comments or update comments which is created by the HR.
            - Employee Information (List View)
                - Name (Preferred Name, if null, then First Name)
                - Phone
                - Email
                - If clicked on each row, redirect to Employee profile page of the selected employee.