Bench Management tool high level architecture

Project Overview

This project is expected to handle the bench process from end to end. Once the employee is onboarded to organization till the project allocated or deboarding from one project and making sure that he will be assigned to new client project. During this time employee may need to undergo different training program, Skill review, identify the technology gap and assigned them with the right training program and make sure employee will present organization standard Infront of client. This tool will help to track this process and build a report about the status.

Technical Specification of this project

As part of this project initial design is to develop the 5 micro services (2 Front end and 3 back end) and deployed in Azure environment with containerization.

First microservice will be used to provide the functionality where user will upload the excel spread sheet downloaded from Radar tool. Same will be processed by the back end microservice and stored in Postgres DB.

Note: Azure active directory will be used for authorization and authentication

Once data is stored in Postgres DB Kafka connector (Confluence) will copy the data from current DB and post in to other Postgres DB.

Second UI microservice basically provides the user interface where users can go over the employee list and assign the skill review and select the interviewer, date and send a meeting invite and other functionality.

All these transactions will be sent to respective back end microservice and same will updated in Postgres database.

There is one more microservice is designed only to handle the notification that needs to send to users for respective action. Basically, when user takes some action on the UI screen example notify the user for upcoming skill review then message will be published to Kafka topic from where it will be consumed by microservice and send automated email from tool.

Azure log Analytics will be used to capture the log.

API will be secured with JWT token authorization.

Technical Stocks used in assignments

|  |  |
| --- | --- |
| Software Used | Version |
| Spring boot | 3.0.X |
| Java | 17 |
| Azure Kubernetes Service | 1.29 |
| Docker | 24.0. |
| Log Analytics |  |
| Azure container service |  |
| Azure active directory |  |
| Postgres | 13 |
| React |  |
| GitHub |  |
| Azure DevOps |  |

Name and Version in table format

Assumptions

* Necessary Git account will be provided to maintain the code repository.
* Access to azure subscription will be provided to above mentioned services.
* Required developer (back end and front end) will be provided from the current bench.
* Three different environments will be maintained (Dev, QA & Prod)

Risks

* Frequently changing the resources from bench will lead in to delay in target completion date
* If we need to deploy the project outside the cloud environment, then need to change the authorization architecture.