NodeJS or Java+Spring && ReactJS or React Native Challenge

Project Overview

We have a request to develop a task scheduling solution. This solution is divided into two major bits, a backend based on either NodeJS OR Java+Spring which provides API endpoints to various functions and a frontend based on either ReactJS (web app) or React Native (mobile app) which consumes these endpoints.

The end points

You will need to create two end points e.g. on heroku (or any host of your choice)

POST /personnel/login

Request Body:

phone: 0722222222

password: 123456

Sample Response Data - Success:

```
{

"reset_password": 0,

"accessToken":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJwZXJzb25uZWxfaWQiOjcsInBlcnNvbm5lbF9vbmFtZXMi
OiJXYWNoaXJhIiwicGVyc29ubmVsX2ZuYW1lIjoiU2Nob2xhc3RpY2EiLCJwZXJzb25uZWxfcGhvbmUiOiIwNz
I3NTE2ODgxIiwicGVyc29ubmVsXcyI6MSwicGVyc29ubmVsX3R5cGVfaWQiOjIsImlhdCI6MTU2MTYyNjc5NSw
iZXhwIjoxNTYxNzEzMTk1fQ.OzX1LAUoNiqBGBYYemGSHBoPg75NLjJi3_xt6WIhlK8",

"expires_in": "24h"

}
```

Sample Response Data – Error

```
{

"error": {
```

```
"password": "You have entered an incorrect password"

}

}
```

GET /tasks/assigned?page=1&limit=10&order=created&orderMethod=DESC

Request Headers:

Authorization: Bearer
eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJwZXJzb25uZWxfaWQiOjcsInBlcnNvbm5lbF9vbm
FtZXMiOiJXYWNoaXJhIiwicGVyc29ubmVsX2ZuYW1lIjoiU2Nob2xhc3RpY2EiLCJwZXJzb25uZ
WxfcGhvbmUiOiIwNzI3NTE2ODgxIiwicGVyc29ubmVsXcyI6MSwicGVyc29ubmVsX3R5cGVfaW
QiOjIsImlhdCI6MTU2MTYyNjc5NSwiZXhwIjoxNTYxNzEzMTk1fQ.OzX1LAUoNiqBGBYYemGS
HBoPg75NLjJi3_xt6WIhlK8

Sample Response Data:

```
{

"totalTasks": 3293,

"page": 1,

"perPage": 10,

"tasks": [

{

"task_id": 23115,

"customer_first_name": "Mary",

"personnel_first_name": "John",

"personnel_other_name": "Otieno",

"customer_last_name": null,

"customer_phone": "+254725007691",
"agentId": null,

"assigned": "2019-06-27T07:42:02.000Z",

"in_progress": "2019-06-27T08:03:17.000Z",

"completed": null,

"deferred": "2019-06-27T08:03:43.000Z",

"status": "Deferred",

"location": null,

"gender": null,

"age": null,

"access_code": null,

"splash_page": null,

"mpesa": null,

"autoplay": null,

"comments": "no answer",

"registration": "Self"

},

{

"task_id": 23116,

"customer_first_name": "Grace",

"personnel_first_name": "John",

"personnel_other_name": "Otieno",

"customer_last_name": null,

"customer_phone": "+254729302372",

"agentId": 1983,

"assigned": "2019-06-27T07:42:02.000Z",

"in_progress": "2019-06-27T08:01:20.000Z",

"completed": "2019-06-27T08:01:57.000Z",
"deferred": null,
"status": "Completed",
"location": "chaka",
"gender": "Male",
"age": 40,
"access_code": 1,
"splash_page": 1,
"mpesa": 1,
"autoplay": 1,
"comments": "",
"registration": "Self"
}
]
}
```

Your challenge

a) You need to develop the backend using either NodeJS or Java+Spring that supplies these endpoints so that a user can:

   1. Login using the details provided in the sample above. Passwords are encrypted with BCrypt
   2. Fetch and display tasks using the second endpoint (5 per page)
   3. Implement pagination by passing the page and limit
   4. The endpoint to fetch tasks is secured using JWT and PassportJS (or Spring Security)

b) You need to develop the frontend using either ReactJS (if you choose to do a web app)or React Native (if you choose to do a mobile app) that consumes the endpoints from backend so that a user can:

1. Login using the details provided in the sample above
2. Fetch and display tasks using the second endpoint (5 per page)
3. Implement pagination by passing the page and limit

Constraints

1. Time limit: 7 days from the time the assignment was given
2. Back-end mandatory technologies, either:
    a. Node.js, ExpressJS, JWT, bcrypt, Passport, Sequelize ORM or
    b. Java + combination of Spring Boot, Spring Security (utilizing JWT, BCrypt), Spring Data/JPA
3. Front-end mandatory technologies (choose either a web or mobile app):
    a. Web: React, Redux.
    b. Mobile: React Native, Redux
4. For the database you should use PostgreSQL.
5. Include some tests (unit and integration) using a testing framework of your choice eg Mocha, Expect, Chai or JUnit etc.
6. GitHub, GitLab or BitBucket for code repository
7. Provide Readme file on the code repository host for documentation.

Guiding steps:

1. Use Heroku, Firebase or similar hosting provider of your choice
2. Setup a code repository and share the url for it with us so that we can monitor your progress as you go along.
3. Start on the implementation - make frequent commits so we can monitor progress
4. Add tests as you go along to demonstrate TDD
5. Marks will be scored on implementation, time and ability to follow instructions and how well you understood the above narrative
6. You do not need to finish 100% of the tasks only demonstrate your understanding of Node/Java+Spring/React/React Native.
7. Update us when you hit a hurdle