**Technical Examination (3 Hours)**

**Create a web application using Spring boot for the backend and ReactJS for the front end.**

[**https://spring.io/guides/gs/spring-boot/**](https://spring.io/guides/gs/spring-boot/)

[**https://reactjs.org/docs/getting-started.html**](https://reactjs.org/docs/getting-started.html)

* Please be mindful that the methodology and the process used in the solution is as important as the actual solution, be prepared to walk us through the implementation in the interview.
* We expect you to follow the best practices and software development principals.

### Assignment

CBSL need to track persons who holding accounts in each bank established in Sri Lanka.

They want you to create a simple application to,

* Manage banks in Sri Lanka
* Manage persons in Sri Lanka who holding accounts
* Need to track bank wise accounts created by each person

*Hint: One person can have one or many accounts in different banks*

### Data Structure

|  |  |  |  |
| --- | --- | --- | --- |
| **Bank** | | | |
| Field | Type | Length | Validations/Remarks |
| Bank ID | Number | 11 | Auto Increment |
| Bank Name | String | 512 | Must only contains characters |

|  |  |  |  |
| --- | --- | --- | --- |
| **Person** | | | |
| Field | Type | Length | Validations/Remarks |
| Person ID | Number | 11 | Auto Increment |
| Person First Name | String | 50 | Must only contains characters |
| Person Last Name | String | 50 | Must only contains characters |
| Date of Birth | Date |  | Age must be greater than 18 years |
| Phone Number | String/Number | 10 | Must be a valid local phone number |
| NIC | String | 10 | Must be a valid NIC |
| Gender | String | 6 | Must be “Male” or “Female” |
| Address | String | 255 |  |

* It’s your responsibility to normalize the database accordingly
* Use the given data structure as your reference and feel free to design the database accordingly

### Technologies to use

* Use a database to store all the data and configurations. You are free to choose a database as you

wish (MySQL, Oracle, DynamoDB, MongoDB, MSSQL & etc.)

* You can use either gradle or maven as the build toot for the backend.
* You can use either npm or yarn as the package manager for the frontend.
* Write unit testing using Junit or other framework.

### Delivery

* You need to create a public git repository and share the repository link on or before the deadline.

### Tools to use

* InteliJ IDEA Ultimate Edition or an IDE of your preference for the backend
* WebStrom or VS Code for the frontend.