

Technical Assessment

This Technical assessment consists of 2 Sections and 1 practical assignment.

Section 1

Scenario: A user logs into a system, A username and password is captured. Each user is an employee in a system. Each employee can be assigned multiple roles. These roles are (Developer, Technician, System Administrator and Observer) Each employee has a Name, Surname, ID number and Date of birth. The system also assigns assets to an employee, each employee can have multiple assets and multiple assets can be assigned to multiple employees.

1. using the scenario above model the database that this system will use
2. Write a simple Update, Insert and Delete SQL statement to Update, Insert and Delete records in your employee table
3. In your own words describe what a foreign key is and how it is effective in databases.

Section 2

1. Explain the use of Subscribe with sample code?
2. What is the importance of unsubscribing?
3. Given the following JSON Array :

```
[
{
  'name' : 'Chris',
  'Role' : 'Developer'
},
{
  'name' : 'Jedd',
  'Role' : 'Developer'
},
{
  'name' : 'Stephan',
  'Role' : 'Developer'
}
]
```

- a) How would you add a new object to this array with your name and role using Javascript?
- b) How would you remove a specific element from this array using Javascript?

Practical

You need to create your own Activity application in Angular. This application is going to make use of 3 very simple public APIs to plan your next Activity.

The specifications are as follows:

1. the user needs to be able to enter a latitude or longitude (if you want to get fancy you may use an address)
2. when a user enters their co-ordinates, you will use the following API's to display the following information
 - 2.1) <https://fcc-weather-api.glitch.me/api/current?lat=-26.3394198&lon=27.9807945> this will be used to show the weather at that specific location. Show as much useful information as possible.
 - 2.2) <https://www.boredapi.com/api/activity> This is to give the user a random activity to do at that specified location and the cost of that activity
 - 2.3) You also need some friends so let's show at least 2 other people that are coming with you on your trip, you can get these friends here <https://randomuser.me/api/>

This project may seem simple, but what we are really interested in is how you structure and handle your code.

The following needs to be included in your project:

- You need a minimum of 3 components, more if needed
- At least 2 components need to interact with one another
- Your project needs to be well structured.
- You need at least 2 Models For your project
- Your variables need to be well named
- You need a service file for your API calls
- Your code needs to be commented
- Your Project needs to be scalable

*NB. Use your creative skills as well! A good front end should mirror your beautiful backend code