Back-end Technical Task

This task is divided into 2 parts, don't feel discouraged you can do it!

Agenda:
1. Backend basics
2. Create a simple REST API

For part 1 send your answers in a PDF file. For part 2 send a zip file of your project.

Apply your solution by compressing your project and sending it via email with the subject **Back-end Development Task**

Backend Basics

1. Which RESTful method is used when we want to update an existing record in the database?

2. You have 3 tables **[users, bots, scenarios]**
   Users table consist of **[Id, name, email, Age]**
   Bots table consist of **[Id, IsDeleted, userId (foreign key), name]**
   Scenarios table consist of **[Id, name, botId (foreign key), Order]**

   a. Write a SQL query that returns all bots where the userId = 10
   b. Write a SQL query that returns the number of users
   c. Write a SQL query that joins users, bots, and scenarios tables
   d. Write a SQL query that deletes bots that have IsDeleted column = 1

3. Write a Linq query that returns a list of all users who are older than 20 years old.

4. Write a Linq query that returns a list of all scenarios related to a certain bot ordered ascendingly by the Order column

5. Write a Linq query that gets a bot with all of its scenarios

6. Which Data structure would you use in C# if you wanted to store data with a unique key for each value?

Simple Rest API

Create an ASP.NET Core 3.1 or higher Web API Project with an API that maps the below sample API to WideBot JsonAPI format.

Your performance for this task is evaluated based on three phases :

Baseline:

1- .NET Core Web API project that contains an API which integrates with the sample API and returns a response that maps correctly to widebot's JsonAPI which includes Facebook's gallery cards.

Note: Facebook gallery card information can be found in the resources.

Bonus:

2- Use your project's API with an actual widebot bot that is connected to a Facebook page, and provide a Facebook messenger link to chat with that facebook bot in your solution submission email.

3- Due to facebook's limitations, you may not be able to show all the items of the API at the same message, So provide your elegant solution to this problem that would enable the users who talk to your bot to be able to somehow navigate to all the sample API items.

And don't be discouraged if you haven't finished the baseline at the provided deadline, send us your solution so far as we take every ounce of effort into consideration.

Give it your best shot and show us what you're capable of!

Check page 2 for helpful links and resources

Resources

Build your own widebot Bot on: https://widebot.net/

How to integrate your API with WideBot JsonAPI:
https://help.widebot.net/en/articles/4879914-setting-up-json-api-advanced

Sample API :
Description: Returns a paged list of employees.
URL: https://reqres.in/api/users
HTTP Method: GET
Query parameters:
Page: the page number to retrieve, defaults to 1.
Per_page: the number of employees to retrieve per page, defaults to 6.

Gallery cards response format:
https://developers.facebook.com/docs/messenger-platform/send-messages/template/generic

Mapping of sample API response to facebook's gallery cards :

```
"title": first_name,
"image_url": avatar,
"subtitle": last_name,
"default_action": {
  "type": "web_url",
  "url": https://mail.google.com/mail/u/0/?fs=1&tf=cm&to=email&su=Hello&body=Send%20Email,
  "webview_height_ratio": "tall",
},
"buttons":[
    {
     "type":"web_url",
     "url": https://mail.google.com/mail/u/0/?fs=1&tf=cm&to=email&su=Hello&body=Send%20Email,
     "title":"Send Email"
     }]
```