Alternate Gas Station Geo Location as a Web Service

A WCF implementation

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Table of Contents

Introduction

The Airport Geo Location as a Web Service has been realized using the Windows Communication Foundation (WCF) version .NET 4.5.

Path to Create a WCF project:

1. Open Visual Studio
2. Click File
3. Click New
4. Click Project
5. Select WCF Service Application from list of available projects for Visual C#
6. Give Name for Project Below

This is how you create the WCF project.

In the Solution Explorer in the right hand side of Visual Studio you will see the files generated for the project.

Technologies

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The Airport data was downloaded from the internet as a csv and hen bulk loaded into a MySQL database. The Service queries the data base and then sends out the data in the form of a customized JSON.

Newtonsoft Json.NET

JSON.Net is used to parse the JSON String. It can be achieved by using the JObject notation or by creating an JArray which contains individual sections of the JSON string.

```csharp
using (WebClient wc = new WebClient())
        {
            string json = wc.DownloadString(apiCall);
            var jArray = JArray.Parse(json);
        }
```

OR it can be done in the following manner :

```
JObject obj = JObject.Parse(json);
while (temp < count)
  {
   category = new Category();
   category.categoryID = (string)obj["categories"]["category"][temp]["id"];
   category.categoryName = (string)obj["categories"]["category"][temp]["name"];
   temp++;

  }
```

Usage of Web Service

Search for Airports on basis of City

```
public string GetAirportswithCity(string value , int count)
```

Input Parameters :

value : It contains the user query to search SQL data on the particular city.

count : Its the number of instances that must be returned

This Web Service call will return the searched Airport instances in the customized JSON format.

Search for McDonalds on basis of City

```
public string GetAirportswithCountry(string value, int count)
```
Input Parameters :

value : It contains the user query to search SQL data on the particular country.

count : Its the number of instances that must be returned

This Web Service call will return the searched Airport instances in the customized JSON format.

Class Structure

IService1.cs
Contains the OperationContracts i.e. the definition of the possible set of operations that can be performed using this web service.

Service1.svc.cs
Contains the implementations of the OperationContracts i.e. the implementations of the possible set of operations that can be performed using this web service.

AirportInstance.cs
Contains the singular representation of a Airport data in Object Format

MutipleAirportInstance.cs
Contains the representation of multiple Airport data instances in Object Format