Alternate Gas Station Geo Location as a Web Service

A WCF implementation

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Introduction

The Alt Gas Fuel 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 Gas 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 Gas stations on basis of state

```
public string GetGasStationswithState(string parameter)
```

Input Parameters :

parameter : It contains the user query to search SQL data on the particular state.

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

Search for Gas Stations on basis of Country

```
public string GetGasStationswithCity(string parameter)
```
Input Parameters :

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

This Web Service call will return the searched Gas 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.

GasDataInstance.cs

Contains the singular representation of a Gas station data in Object Format

MutipleGasInstance.cs

Contains the representation of multiple Gas data instances in Object Format