

AKQA Tech Challenge Solution

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Table of Content

REQUIREMENT.....	1
FRAMEWORKS AND LIBRARIES USED	1
SOLUTION SETUP STEPS.....	1
SOLUTION DETAILS	2
SAMPLE SCREENSHOTS.....	2

Requirement

Develop a web application that performs the following functions:

- Capture a person's name and a number
- Convert this number into words
- Render this name and number (as words) as a web page.

For example:

Input: John Smith

"123.45"

Output: John Smith

"ONE HUNDRED AND TWENTY-THREE DOLLARS AND FORTY-FIVE CENTS"

Frameworks and Libraries used

- **.Net 4.7.2 MVC** – to build a front application
- **Web API 2** – to build restful web service
- **Microsoft.AspNet.WebApi.Cors** – To provide cross domain access
- **ASP.NET Test Project** – To add unit test on API

Solution Setup Steps

1. Execute the **Install_WebService.ps1 script** with admin rights to create a website, Application pool and host entry for service
2. Build the solution and publish **AKQA.Web.Services project to C:\inetpub\wwwroot\akqa_services.**
3. F5 to run Frontend application.

Note: In case you want to change the physical directory path or host name of the service, then PowerShell script, Js/akqa_custom.js , and publishing profiles need to be updated accordingly.

Solution Details

As per the requirement a solution has been designed included 3 projects (Frontend Application, Web service and web service tests).

▪ Web Services Project

1. `{host}/api/numberconverter/{number}/:`

- ✓ Number Converter is built under **AKQA.Web.Services** project and exposed to front end application which accept a integer, decimal or minus value as input.
- ✓ It validates the input and provide a decimal value to the utility class "**helper/NumberToText.cs**" which holds the business logic to convert the number into words/ currency format.
- ✓ **NumberToText.cs** have string arrays for the words values of digits and have 2 methods to process the business logic

2. **App_Start/WebApiConfig.cs** has been modified to support cross domain requests on web service

▪ Frontend Application

FrontEndApplication Project is basic MVC project which capture the user name and number and provide the desired output using JQuery Ajax to call the webservice under "**Js/akqa_custom.js**". There are some basic validation for user input and display the result on Index page which is written under **Controller/ HomeController**.

▪ AKQA.Web.Services.Tests

AKQA.Web.Services.Tests project have a unit case for Convert method to validate the correct output of the API.

Sample Screenshots

AKQA

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Enter Name:

John Smith

Enter Number:

123.45

Convert

Result :

John Smith : "One hundred twenty-three and Forty-five cents"