

**DEPARTMENT OF INFORMATION TECHNOLOGY
(TSING YI)**

**ITP4603 Programming techniques for Systems Integration
Assignment**

Assignment Due Date and Time: 9 December 2015 (Wednesday) 17:30

Scope

This is an individual assignment. You are needed to finish both Part 1 and Part 2 which illustrate the use of web services and display the website in ASP.NET and Servlet.

Project Topic

You are required by the Hong Kong Census and Statistics Department to develop a Web Service Application. The department has an Excel file which contains different hong kong population information. Other companies or organizations want to access the information in their website for different purposes. Unfortunately, this information is always updated by the officer of the marketing

Part 1 – Web Services by ASP.NET (30%)

In this part, you are now required to develop some .NET Web Services which can provide following information :

- A web service gets the 2011 Population by Education
- A web service gets the 2011 Population by Age Group
- A web service gets the 2011 Population by District and Education

Part 2 – Web Services by Servlet (70%)

In this part, you are now required to use Java Servlet / JSP to create the Web Services Clients to access the above Web Services:

- A web service client which returns the 2011 Population by Education in XML format.
- A web service client which returns the 2011 Population by Education in JSON format.
- A web service client which display a Web page of 2011 Population by Education.
- A web service client which allows the user to search and display the population of a specific age group or sex.
- A web service client which display a Web page of 2011 Population by District and Education in Hong Kong.
- A web service client which allows the user to search and display the population of a specific education or category.

A description and user guide of your website layout for Part 2 should be included in the report.

Useful Program Codes for your Web Services

Java access String Array from .Net Web Service

Java will use a class `ArrayOfString` to store the SOAP response from .Net Web Service.

You need to use casting method to convert `ArrayOfString` to `ArrayList<String>`.

```
ArrayOfString populations;
```

```
Populations =getPopulations(); //getPopulations is only an example
```

```
ArrayList<String> populationList = new ArrayList<String>();
```

```
populationList = (ArrayList<String>) populations.getString();
```

Assumptions

You should know the URL for the Web Server to run the Web Services, e.g.

`http://localhost:49187`

Instructions to Students

1. The weighting of this assignment is 30% of End of Assessment.
2. This group assignment should be done individually. Plagiarism will be treated seriously. All assignments that have been found involved wholly or partly in plagiarism (no matter these assignments are from the original authors or from the plagiarists) will score Zero mark.
3. You can use NetBeans and Microsoft Visual Studio to develop the programs.
4. You are required to hand in
 - 5.1 Well commented **listings of the programs.**
 - 5.2 **A CD/DVD containing all your programs and related files** will be collected during submission. Name your folder as **<Your Course Code>_<Class ID>_<Your Name>** etc.
 - 5.3 Submit your works: **(refer to the instructions given on the assignment handout)**
5. Late submission will be given ZERO marks.
6. Mark Distribution
 - Part 1 – Web Services by ASP.NET (30%)
 - .NET Web Services Methods of Population by Education – 10%
 - .NET Web Services Methods of Age Group – 10%
 - .NET Web Services Methods of District and Education – 10%
 - Program Style (10%):
 - Program Structure - 5%
 - Indentation of the program – 5%
 - Part 2 – Web Services by Servlet (60%):
 - Correctly call the .Net Web Services in the Java Servlet Client - 10%
 - Correctly show the 2011 Population by Education in XML/JSON - 10%
 - Correctly show the webpage of 2011 Population by Education - 5%
 - Correctly search and show the populations by specific age group or sex- 10%
 - Correctly show the webpage of 2011 Population by District and Education - 5%
 - Correctly search and show the population of a specific education or category- 10%
 - Web Page Design - 10%

Make separate folder for Part 1 and 2.