

COMPUTER SUBJECT:	BASIC NETWORK CONCEPTS
TYPE:	Programming EXERCISE
IDENTIFICATION:	Web Service INTRODUCTION
LEVEL:	EASY
DURATION:	0.5-1 hours
SIZE:	100 lines!!
OBJECTIVE:	Introduction to Web Services
REQUIREMENTS:	Sommerville Ch. 31, Papazoglou Ch. 5

How to use a web service CurrencyConsumer

We will use an already existing web service by implementing a consumer. The service consumer will use the convertor service of the currencyConverter web service.

Link to the webservicex.net:

<http://www.webservicex.net/ws/WSDetails.aspx?WSID=10>

Resume

First a resume of finding a web service and consuming it.

- A service provider publishes its WebService to a Service Registry using UDDI. See Figure 31.1 in Sommerville Ch. 31
- A service requestor/consumer finds the WebService in the Service Registry.
- The Registry contains information about the Service Provider, the Service and the location of the Service Description expressed in WSDL (Web Service Description Language)
- The service requestor/consumer uses Web Service Description (Its described using XML) to get information about the available methods defined in the Service Description document (XML document).
- Your development environment (Visual Studio) will automatically create a Web service proxy, which will exchange SOAP messages with the Web Service using web service interface. See Figure 5.10 in Papazoglou Ch. 5

Readings

Read the following documents for the description of a web service, you will find them in the documents folder in the Fronter.

- Sommerville Ch. 31
- Papazoglou Ch. 5

Following are the steps to implement a Consumer for Currency Converter WebService published at;

<http://www.webservicex.net/ws/WSDetails.aspx?WSID=10>

The Consumer

CurrencyConsumer

- Create a new Console application. Call it CurrencyConsumer
- Right Click the Solution(CurrencyConsumer)
- choose Add
- choose WebReference
- Click Advance
- Click Add Web Reference
- Copy WSDL schema from the CurrencyConverter home page and

- Paste it in URL Field : <http://www.websvc.net/CurrencyConvertor.asmx?WSDL>
- and Click on the arrow
- there should appear the description of the service in the window under the url field
- Click on Add Reference
- Run the solution by Ctrl + F5 (This will make the solution to the new Reference)

The implementation

Now replace Program code with this

```
using System;
using CurrencyConsumer.net.websvc.www;
namespace CurrencyConsumer
{
    class Program
    {
        static void Main(string[] args)
        {
            const Currency fromCurrency = Currency.USD;
            const Currency toCurrency = Currency.DKK;
            var service = new CurrencyConvertor();
            double ratio = service.ConversionRate(fromCurrency, toCurrency);
            Console.WriteLine("DKK USD: " + ratio);
        }
    }
}
```

The Experiments

Run the program Again and see what you get.

Experiment with the Consumer for example find out if there are other methods, you can implement.