

Course ISE 431: Distributed Information Systems

Recitation 13 Exercise

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In this lab we will explore the use of MS C# Web Services for creating remote web services. The Visual Studio .NET environment makes using web services very easy, so you can write simple web service functions in a matter of minutes.

1 Preparing some simple Web Services

Open Visual Studio .NET and create functions which provide the following functionality:

- Adding two numbers - `Add(int, int)`
- Subtracting two numbers - `Subtract (int, int)`
- Write a string into a file - `WriteToFile (string s, string fileName)`

2 Using your Web Services

Open another project and write a simple GUI application which uses the above services. On the GUI it should be possible to send two integers and receive their sum or difference. It should also be possible to send a string and file name to write the given string to the file on the remote computer.

3 Adding Structs

In addition to simple types it's possible to send structs (and classes with some more difficulty) over a web service. Write a web service with the signature - `Student[] getStudents (int gr)`. Student should be a struct with the attributes **name**, **grade**. The function `getStudents` should return a list of Student structures where each student on the list received the grade `gr`.

Your web service server should create a fictitious list of students in memory and search it to return the values for `getStudents`.