Practical no 2

AIM: Write a program to implement the operation can receive request and will return a response in two ways. a) One - Way operation b) Request –Response

Theory

Windows Communication Foundation (WCF)

Windows Communication Foundation (WCF) is a dedicated communication framework provided by Microsoft.

WCF is a part of .NET 3.0. The runtime environment provided by the WCF enables us to expose our CLR

types as services and to consume other existing services as CLR types.

1. One Way operation

2. Request response

3. Duplex

One - Way operation

One Way operation mode is used when we don't want to show any type of error to the client because when we

use the Message Exchange Pattern then it doesn't give any message to the client. We can set these patterns

using IsOneWay = true in the service, the exception will be thrown if IsOneWay = true is declared in the output

parameter, reference parameter or return value.

When we use these modes and if the service is busy with the other service and client sends the request then

it can keep the request in the Queue and then the client can do his other work, the client is unblocked and we

can set the Queue limit of the request.

Request – Response

Request Response is the default Message Exchange Pattern. In this pattern the client sends a request to the

server and it waits for the response until the server does not stop processing, for example if the client a sends a

request to get the name of all users then the service will proceed with it and the client must wait for a response

when the service sends a result then the client is free.

If we use the void keyword then it will also take more time. The one property to set the pattern of request/response is IsOneWay=false and all the WCF bindings except MSMQ based binding supports the request/response.

Steps for Creating WCF webservices

Step-1 :- Create a new project of type ”WCF Service application” and give it an appropriate title.

Step-2 :- Essentially in a WCF application there are two main files which will be initialized by default.

This are:- 1. IService1.cs

2. Service1.svc.cs.

Step-3 :- Now open the ”IService1.cs” file which house an Interface for the webservice to be implemented in the ”Service1.svc.cs”.

Step-4 :- There will be a default set of methods initialized already and we do not require them so we will just strip the code to the bare minimum.

Step-5 :- Next we will write our One-Way service method with void return type and OperationContract(IsOneWay = true) to ensure that nothing is sent back.

Step-6 :- Similarly for the request-reply type of service method we will mention the appropriate return type such as string and OperationContract(IsOneWay = false) to insturct the service to return some value.

Step-7 :- Lets edit the ”Service1.svc.cs” file which houses the class Service1 which implements IService1 interface, now we will add the required body to the web service methods.

Step-8 :- Next test the webservice by running the file and checking the response of the webservice.

Step-9 :- Now you can proceed to add the servicereference to the project which will bind the methods and make them available to a webform or C-sharp script.

Step-10 :- Now create a web-form and add UI elements to the aspx file. Also include the backend code to call the webservice methods on events like buttonclick.