Visual Studio 2010

**Walkthrough: Creating and Accessing WCF Services**

This walkthrough demonstrates how to create a simple Windows Communication Foundation (WCF) service, test it, and then access it from a Windows Forms application.

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| **Description: NoteNote** |
| Your computer might show different names or locations for some of the Visual Studio user interface elements in the following instructions. The Visual Studio edition that you have and the settings that you use determine these elements. For more information, see [Visual Studio Settings](http://msdn.microsoft.com/en-us/library/2ewd52wf.aspx). |

Description: http://i.msdn.microsoft.com/Global/Images/clear.gifCreating the Service

**To create a WCF service**

1. On the **File** menu, point to **New** and then click **Project**.
2. In the **New Project** dialog box, expand the **Visual Basic** or **Visual C#** node and click **WCF**, followed by **WCF Service Library**. Click **OK** to open the project.

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| **Description: NoteNote** |
| This creates a working service that can be tested and accessed. The following two steps demonstrate how you might modify the default method to use a different data type. In a real application, you would also add your own functions to the service. |

1. In **Solution Explorer**, double-click IService1.vb or IService1.cs and find the following line:

Visual Basic

[Copy Code](javascript:CopyCode('ctl00_MTCS_main_ctl20_ctl00_ctl01_code');" \o "Copy Code)

<OperationContract()>

Function GetData(ByVal value As Integer) As String

C#

[Copy Code](javascript:CopyCode('ctl00_MTCS_main_ctl20_ctl00_ctl02_code');" \o "Copy Code)

[OperationContract]

string GetData(int value);

Change the type for the *value* parameter to **String**:

Visual Basic

[Copy Code](javascript:CopyCode('ctl00_MTCS_main_ctl20_ctl00_ctl03_code');" \o "Copy Code)

<OperationContract()>

Function GetData(ByVal value As String) As String

C#

[Copy Code](javascript:CopyCode('ctl00_MTCS_main_ctl20_ctl00_ctl04_code');" \o "Copy Code)

[OperationContract]

string GetData(string value);

In the above code, note the **<OperationContract()>** or **[OperationContract]** attributes. These attributes are required for any method exposed by the service.

1. In **Solution Explorer**, double-click Service1.vb or Service1.cs and find the following line:

Visual Basic

[Copy Code](javascript:CopyCode('ctl00_MTCS_main_ctl20_ctl00_ctl05_code');" \o "Copy Code)

Public Function GetData(ByVal value As Integer) As String Implements IService1.GetData

Return String.Format("You entered: {0}", value)

End Function

C#

[Copy Code](javascript:CopyCode('ctl00_MTCS_main_ctl20_ctl00_ctl06_code');" \o "Copy Code)

public string GetData(int value)

{

return string.Format("You entered: {0}", value);

}

Change the type for the value parameter to **String**:

Visual Basic

[Copy Code](javascript:CopyCode('ctl00_MTCS_main_ctl20_ctl00_ctl07_code');" \o "Copy Code)

Public Function GetData(ByVal value As String) As String Implements IService1.GetData

Return String.Format("You entered: {0}", value)

End Function

C#

[Copy Code](javascript:CopyCode('ctl00_MTCS_main_ctl20_ctl00_ctl08_code');" \o "Copy Code)

public string GetData(string value)

{

return string.Format("You entered: {0}", value);

}

Description: http://i.msdn.microsoft.com/Global/Images/clear.gifTesting the Service

**To test a WCF service**

1. Press **F5** to run the service. A **WCF Test Client** form will be displayed and it will load the service.
2. In the **WCF Test Client** form, double-click the **GetData()** method under **IService1**. The **GetData** tab will be displayed.
3. In the **Request** box, select the **Value** field and type Hello.
4. Click the **Invoke** button. If a **Security Warning** dialog box is displayed, click **OK**. The result will be displayed in the **Response** box.
5. On the **File** menu, click **Exit** to close the test form.

Description: http://i.msdn.microsoft.com/Global/Images/clear.gifAccessing the Service

**To reference a WCF service**

1. On the **File** menu, point to **Add** and then click **New Project**.
2. In the **New Project** dialog box, expand the **Visual Basic** or **Visual C#** node and select **Windows**, and then select **Windows Forms Application**. Click **OK** to open the project.
3. Right-click **WindowsApplication1** and click **Add Service Reference**. The **Add Service Reference** dialog box will appear.
4. In the **Add Service Reference** dialog box, click **Discover**.

**Service1** will be displayed in the **Services** pane.

1. Click **OK** to add the service reference.

**To build a client application**

1. In **Solution Explorer**, double-click **Form1.vb** or **Form1.cs** to open the Windows Forms Designer if it is not already open.
2. From the **Toolbox**, drag a **TextBox** control, a **Label** control, and a **Button** control onto the form.
3. Double-click the **Button**, and add the following code in the **Click** event handler:

Visual Basic

[Copy Code](javascript:CopyCode('ctl00_MTCS_main_ctl22_ctl00_ctl00_code');" \o "Copy Code)

Private Sub Button1\_Click(ByVal sender As System.Object, \_

ByVal e As System.EventArgs) Handles Button1.Click

Dim client As New ServiceReference1.Service1Client

Dim returnString As String

returnString = client.GetData(TextBox1.Text)

Label1.Text = returnString

End Sub

C#

[Copy Code](javascript:CopyCode('ctl00_MTCS_main_ctl22_ctl00_ctl01_code');" \o "Copy Code)

private void button1\_Click(System.Object sender, System.EventArgs e)

{

ServiceReference1.Service1Client client = new

ServiceReference1.Service1Client();

string returnString;

returnString = client.GetData(textBox1.Text);

label1.Text = returnString;

}

1. In **Solution Explorer**, right-click **WindowsApplication1** and click **Set as StartUp Project**.
2. Press **F5** to run the project. Enter some text and click the button. The label will display "You entered:" and the text that you entered.