Creating Programmatic SQL Database Objects

Lab 4 – Implementing Managed Code in SQL Server

Overview

You work for the rapidly expanding Adventure Works Bicycle Company Inc. A new developer has joined the database team and has decided to implement almost all of her logic in SQL CLR assemblies. You will determine if this is appropriate. You will also implement and test a supplied .NET assembly.

Before starting this lab, you should view **Module 3 – Introduction to CLR Integration** in the course *Creating Programmatic SQL Database Objects*. Then, if you have not already done so, follow the instructions in the **Getting Started** document for this course to set up the lab environment.

If you find some of the challenges difficult, don't worry – you can find suggested solutions for all of the challenges in the **Lab Solution** folder for this module.

What You'll Need

To complete the labs, you will need the following:

- An Azure virtual machine with SQL Server 2016 and with the AdventureWorksLT sample database. Review the Getting Started document for information about how to provision this.
- The lab files for this course

Challenge 1: Creating a Scalar-Valued CLR Function

You have been asked to create a scalar-valued functions using CLR managed code. The function takes two parameters and performs a regular expression match on them. The first parameter is a text field to be searched and the other is a regular expression pattern. It returns 1 if a match is found, otherwise 0. Your function can be used in a WHERE clause of a SELECT statement.

Create a Scalar-Valued Function

1. Connect to your virtual machine.
2. Download ClrPractice.sln and the ClrPractice folder and place them in the same directory on your virtual machine.
3. Start SQL Server Management Studio, and then connect to your local SQL Server instance by using Windows authentication.
4. Start a new query and execute the following T-SQL to enable CLR:

```
sp_configure 'show advanced options', 1;
GO
RECONFIGURE;
GO
sp_configure 'clr enabled', 1;
GO
RECONFIGURE;
GO
```

5. Leave SSMS open.
6. Start Visual Studio.
7. Open ClrPractice.sln.
8. Open IsRegexMatch.cs and examine the code.
9. Build the solution. Check that the solution builds without errors.

Publish the Scalar-Valued Function

Publish the assembly to your SQL Server instance and the AdventureWorksLT database.

Test the Scalar-Valued Function

1. In SSMS, verify that the ClrPractice assembly is available in the AdventureWorksLT database.
2. Verify that the IsRegExMatch function is available in the AdventureWorksLT database.
3. Open RegExMatch.sql from the DAT215_2 folder.
4. Review and execute the query to verify that the function works as expected.