

CTC WCF Services Generator

Version 2.0.1

ReadMe

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Prerequisites

The following software levels are required for the CTC WCF Services Generator version 2.0.1 and the generated WCF Adapter solution.

Microsoft Software requirements:

- .NET 3.5 SP1 (including WCF 3.5) or .NET 4.0 (including WCF 4.0)
- IIS 5.0 or higher (see note below on IIS 7 Configuration)
- Visual Studio 2008 SP1 with WCF LOB Adapter SDK, Visual Studio 2010 SP1 with WCF LOB Adapter SDK 2010 or Visual Studio 2012 with WCF LOB Adapter SDK 2010:
 - WCF LOB Adapter SDK SP2 for VS 2008
The WCF LOB Adapter SDK SP2 can be downloaded from <http://go.microsoft.com/fwlink/?LinkID=147367>
 - WCF LOB Adapter SDK 2010 for VS 2010 or VS 2012
The WCF LOB Adapter SDK 2010 can be downloaded from <http://go.microsoft.com/fwlink/?LinkID=189401>

Unisys Software requirements:

- EAE 3.3 with CE IC 3240 or higher with support for VS2005 and .NET 2.0.
 - Users of EAE 3.3 IC3260 or earlier, see CTC Software requirements below.
 - Users of EAE 3.3 IC3270 or later must be using CE 2.0 with the CE .NET Generate Environment enabled.
- or
- AB Suite 1.2 IC 1450 or higher with CE 1.2
- or
- AB Suite 2.0 with CE 2.0
- or
- AB Suite 3.0 with CE 3.0

Note: CE 3.0 requires .NET 4.0. This means Visual Studio 2010 SP1 with .NET 4.0 is required for project generated with the CTC WCF Services Generator (see Upgrading to CE 3.0/AB Suite 3.0 below).

CTC Software requirements:

- Users of EAE 3.3 IC 3260 or earlier must download and install the CTC Generate Gateway 1.0 software. The CTC Generate Gateway allows generators, such as the CTC generators, written in .NET and C# to be run from EAE Developer.

Recommended Reading

The following documents, which provide information about WCF and the WCF LOB Adapter SDK, are recommended for download and subsequent reading:

- *Understanding the WCF LOB Adapter SDK*
<http://technet.microsoft.com/en-us/library/bb798090.aspx>
 - *What Is the WCF LOB Adapter SDK?*
<http://technet.microsoft.com/en-us/library/bb798128.aspx>
 - *Fundamental Concepts*
<http://technet.microsoft.com/en-us/library/bb798131.aspx>
 - *The Role of Windows Communication Foundation*
<http://technet.microsoft.com/en-us/library/bb798084.aspx>
 - *WCF LOB Adapter SDK Overview*
<http://technet.microsoft.com/en-us/library/bb798126.aspx>
 - *Key Components of the WCF LOB Adapter SDK*
<http://technet.microsoft.com/en-us/library/bb798101.aspx>
 - *BizTalk Server and the WCF LOB Adapter SDK*
<http://technet.microsoft.com/en-us/library/bb798096.aspx>
- *Windows Communication Foundation (WCF) LOB Adapter SDK and the BizTalk Adapter Pack*
<http://www.microsoft.com/downloads/details.aspx?FamilyID=45537d57-cbbf-423e-b083-f71e07e4ae47&displaylang=en>
- *Dealing with Diversity: Understanding WCF Communication Options in the .NET Framework 3.5*
http://www.davidchappell.com/articles/white_papers/WCF_Diversity_v1.0.docx

Install Instructions

Download the installation package CTCWCFServicesGeneratorSetupV2.0.1.zip to your computer and save. Unzip and run the installation package and follow the instructions to install this release.

When generating a new bundle for the first time, all infrastructure files required will automatically be copied to the bundle views directory.

When upgrading from a previous version of the generator and local changes have been made to any of the generator infrastructure files, ensure you have a recent backup before installing the new version, as the generator infrastructure files may have changed.

When generating a bundle for the first time after upgrading to a newer version of the generator, all infrastructure files that have been changed since the last release will automatically be copied to the bundle views directory. If local changes have been made to any of the infrastructure files of the bundle, ensure you have a recent backup before generating the bundle.

Administrator privileges are required for installing the software.

Depending on the anti-virus software being used, it may be necessary to disable the anti-virus software while installing the generator.

Uninstall Instructions

Uninstall this package from Control Panel/Add or Remove Programs, select "CTC WCF Services Generator 2.0.1" and follow the instructions.

If you have made changes to any of the infrastructure files or the sample Custom Controls project, ensure you have a recent backup of these files before you uninstall the CTC WCF Services Generator.

Getting Started

To start the generator, set up a bundle in EAE 3.3 or a folder in AB Suite for Component Enabler and specify "**CTCWCFServicesGenerate.dll**" as the name of the generator. For further instructions on how to set up a bundle/folder for Component Enabler, refer to the **Component Enabler User Guide** or the **CTC WCF Services Generator** documentation.

Administrator privileges are required for running the CTC WCF Services Generator.

When building the folder/bundle from the AB Suite Developer, it is recommended the 'Rebuild' option is always chosen, in order to ensure the configuration setting of the CTC WCF Services Generator takes effect on all ispecs in the folder/bundle.

When performing partial builds (i.e. using the Build option rather than the Rebuild option) from AB Suite Developer, certain methods on the User Interface generator are not invoked by the AB Suite build environment. This means, the CTC Silverlight Generator is not able to automatically reset IIS and compile the generated solution. In this case, the MSBuildSolution.bat file, located in the views\AdapterSolution directory of the generated bundle, must be run manually.

When starting the generator for the first time, a dialog prompting for a License Key will open. Cut and paste the License Key exactly as received from CTC, into the dialog. The License Key can also be entered using the CTC Configurator.

To configure the generator, start the **CTC Configurator** from the desktop shortcut created during the installation of the generator, or from the Start Menu/All Programs/CTC Software/CTC Configurator 2.0.2.

When the option **CreateWebServicesSolution** is enabled, a default solution making all operations on the generated WCF Adapter available as Web Services will be created. This allows running the WCF Test Client and testing the services without having to write any code assessing the services. The WCF Test Client is started by running the **RunWcfTestClient.bat** file located in the views directory of the generated bundle. The location is:

\views\WebServicesSolution\RunWcfTestClient.bat

For instructions on the WCF Test Client, see the section on Using WCF Test Client.

This release provides support for WCF 3.5 as well as WCF 4.0. Existing bundles created for WCF 3.5 will continue to be generated for WCF 3.5 and Visual Studio 2008. When creating a new bundle, the generator defaults to WCF 4.0 and Visual Studio 2010. This can be changed using the CTC Configurator to set the WCF Version property to the appropriate value.

Configuration File

The file containing the runtime configuration parameters of the generated WCF Adapter is named DefaultConfig.xml and is located in the Adapter Solution application directory of the views directory of the generated bundle (i.e.: **\views\AdapterSolution\[ApplicationName]_[BundleName]Adapter\Properties\DefaultConfig.xml**).

The configuration parameters in this file provide the default settings for the generated WCF Adapter. The parameter setting can be further specified in the configuration file (app.config or web.config) of the application hosting the adapter.

As the generated WCF Adapter is a dll that is registered in the GAC, the DefaultConfig.xml file is a resource file that is compiled into the Adapter dll. Parameters in the DefaultConfig.xml file can be modified manually and, when doing so, the adapter must be recompiled. However, it is recommended to always use the CTC Configurator to add a RuntimeConfiguration element and specify any required configuration parameters.

Upgrading to CE 3.0/AB Suite 3.0

Users with existing bundles generated for VS2008 must make the following configuration changes when upgrading to CE 3.0/AB Suite 3.0:

1. Using the CTC Configurator, set option 'VisualStudioVersion' to 'VS2010'.

Users with existing bundles generated for VS2010 must make the following configuration changes when upgrading to CE 3.0/AB Suite 3.0:

1. Using the CTC Configurator, add the option 'ReInstallBundle' and set the value to 'true'.

New bundles must be created for Visual Studio 2010 when using CE 3.0/AB Suite 3.0. Using the CTC Configurator, set option 'VisualStudioVersion' to 'VS2010'.

Downgrading to a Previous Version

When installing a previous/older version of the CTC WCF Services Generator, you must first uninstall the current version from 'Programs and Features' or 'Add/Remove Products' in the Control Panel.

Installed Files

The following directories and files are installed:

[CEROOT]

- Bin
 - CTCWCFServiceController.dll
 - CTCWCFServiceController.xml
 - CTCWCFServicesConfigurator.chm
 - CTCWCFServicesConfigurator.dll
 - CTCWCFServicesCustomControls.dll
 - CTCWCFServicesGenerate.dll
 - CTCWCFServicesInfrastructureFiles.xml
 - CTCWCFServicesStandardControls.dll
 - CTCWCFServicesStandardControls.xml
 - CTCConfigurator.chm
 - CTCConfigurator.exe
 - CTCGeneratorConfig.xml
- CTC-Software
 - CTC Configurator
 - CTC Configurator Framework Help.pdf
 - CTC WCF Services Generator
 - CustomControls
 - Properties
 - AssemblyInfo.cs
 - BooleanCustomTypeControl.cs
 - CTCWCFServicesCustomControls-VS2008.csproj
 - CTCWCFServicesCustomControls-VS2010.csproj
 - EnumCustomTypeControl.cs

- Documentation
 - CTC WCF Services Configurator.pdf
 - CTC WCF Services Generator.pdf
 - CTC WCF Services Generator ReadMe.pdf
- Utilities
 - AdapterInstaller.exe
- Views
 - AdapterSolution
 - Adapterproject
 - Adapter
 - Adapter.cs
 - Adapter.snk
 - AdapterAsyncOutboundHandler.cs
 - AdapterBinding.cs
 - AdapterBindingCollectionElement.cs
 - AdapterBindingElement.cs
 - AdapterBindingElementExtensionElement.cs
 - AdapterConnection.cs
 - AdapterConnectionFactory.cs
 - AdapterConnectionUri.cs
 - AdapterHandlerBase.cs
 - AdapterMetadataBrowseHandler.cs
 - AdapterMetadataResolverHandler.cs
 - AdapterMetadataSearchHandler.cs
 - AdapterOutboundHandler.cs
 - Trace.cs
 - AdapterExtensions
 - AdapterAsyncResult.cs
 - AdapterConfiguration.cs
 - CTCServiceModelExtended.cs
 - MessageStrings.cs
 - Tracing.cs
 - Properties
 - AssemblyInfo.cs
 - DefaultConfig.xml
 - ServiceModels
 - ServiceModel.Custom.cs
 - Adapter-VS2008.csproj
 - Adapter-VS2010.csproj
 - Adapter-VS2008.sln
 - Adapter-VS2010.sln
 - DeployRegister.bat
 - DeploySolution.bat
 - MSBuildSolution-35.bat
 - MSBuildSolution-40.bat
 - WebServicesSolution
 - WebServicesProject
 - Web-35.config
 - Web-40.config
 - WebServices.svc
 - WebServicesAdapterClient.cs
 - WebServices-VS2008-35.csproj

- WebServices-VS2010-40.csproj
- CreateAdapterClient.bat
- MSBuildWebServiceSolution-35.bat
- MSBuildWebServiceSolution-40.bat
- RunWcfTestClient-VS2008.bat
- RunWcfTestClient-VS2010.bat
- WebServices-VS2008.sln
- WebServices-VS2010.sln

IIS 7 Configuration

When using IIS 7, the CTC WCF Services Generator requires the IIS 6 Management Compatibility Component to be installed in order for the generator to set up the virtual directory for the generated solution.

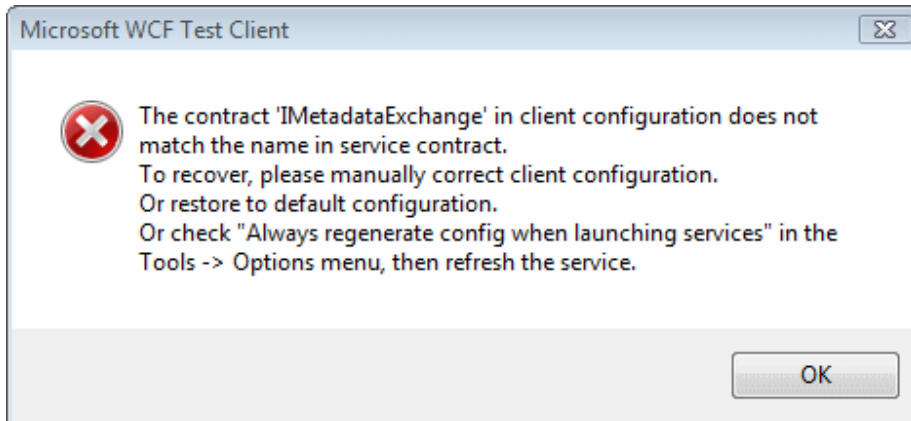
To install the IIS 6 Management Compatibility Components by using the Windows Control Panel:

1. Click **Start**, click **Control Panel**, click **Programs and Features**, and then click **Turn Windows features on or off**.
2. Open **Internet Information Services**.
3. Open **Web Management Tools**.
4. Open **IIS 6 Management Compatibility**.
5. Select the check box for **IIS 6 Metabase and IIS 6 configuration compatibility**.
6. Select the checkbox for **IIS 6 Management Console**.
7. Click **OK**.

Using the WCF Test Client

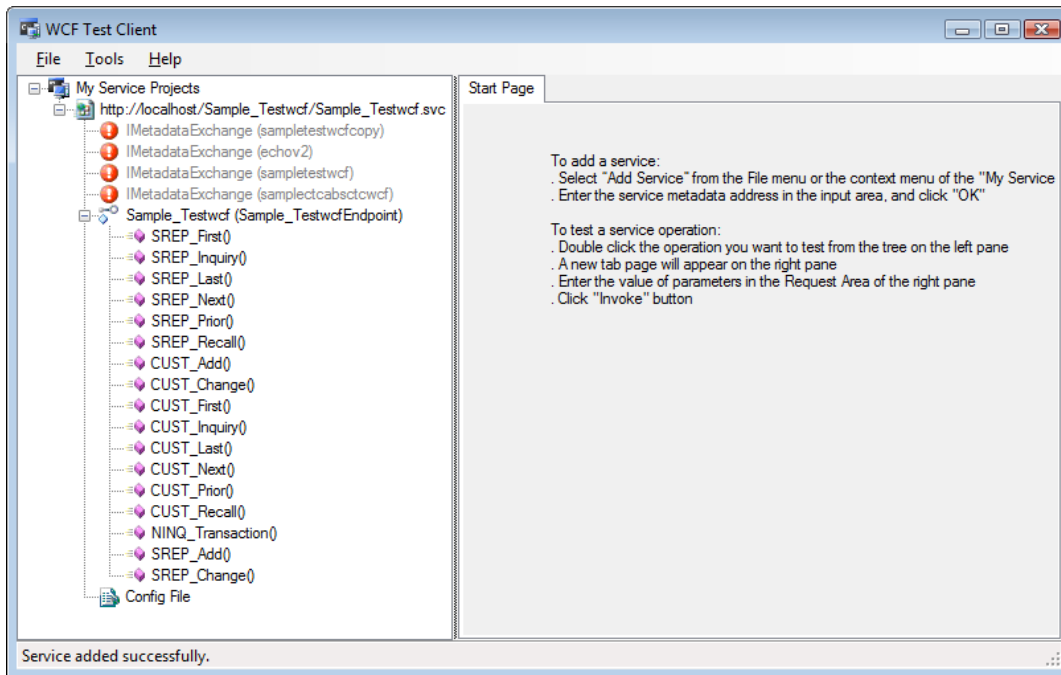
The WCF Test Client is a utility part of the Microsoft WCF SDK located in C:\Program Files\Microsoft Visual Studio 10.0\Common7\IDE\WcfTestClient.exe. It allows testing WCF Services hosted in IIS as Web Services without first creating a client application and writing code for accessing services. It allows selecting an operation/service, entering input parameters, submitting the request to the service and viewing the response.

When starting the Test Client, the following error message appears:

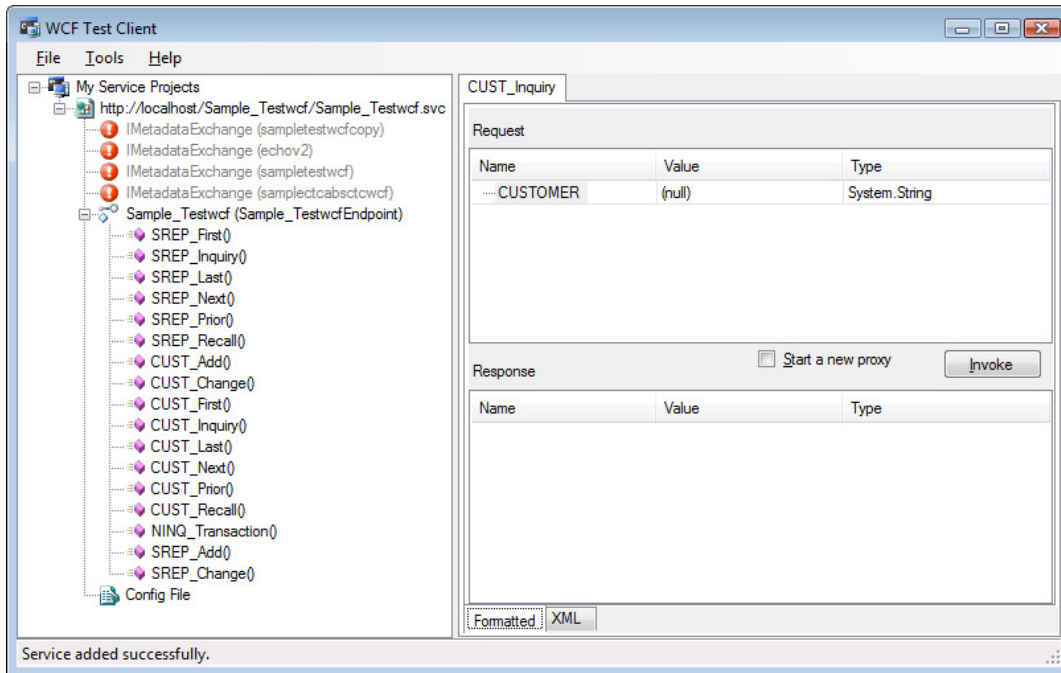


This error message doesn't impact the functionality and can be ignored.

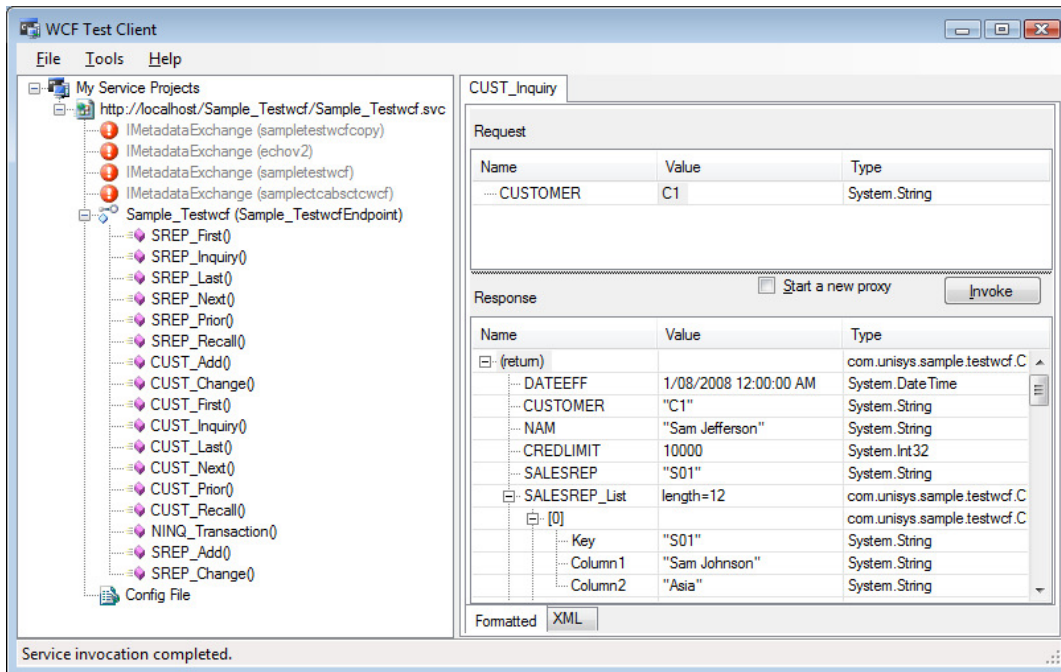
Clicking OK will show the following window displaying a list of all operations available:



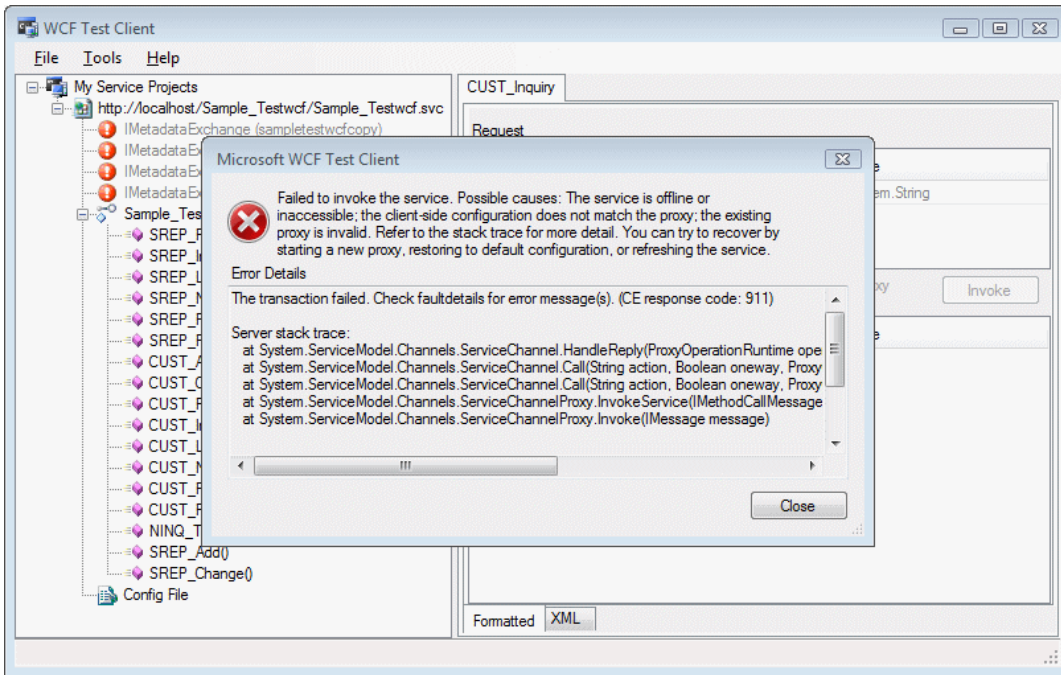
Double clicking an operation adds a new tab in the right hand side pane as follows:



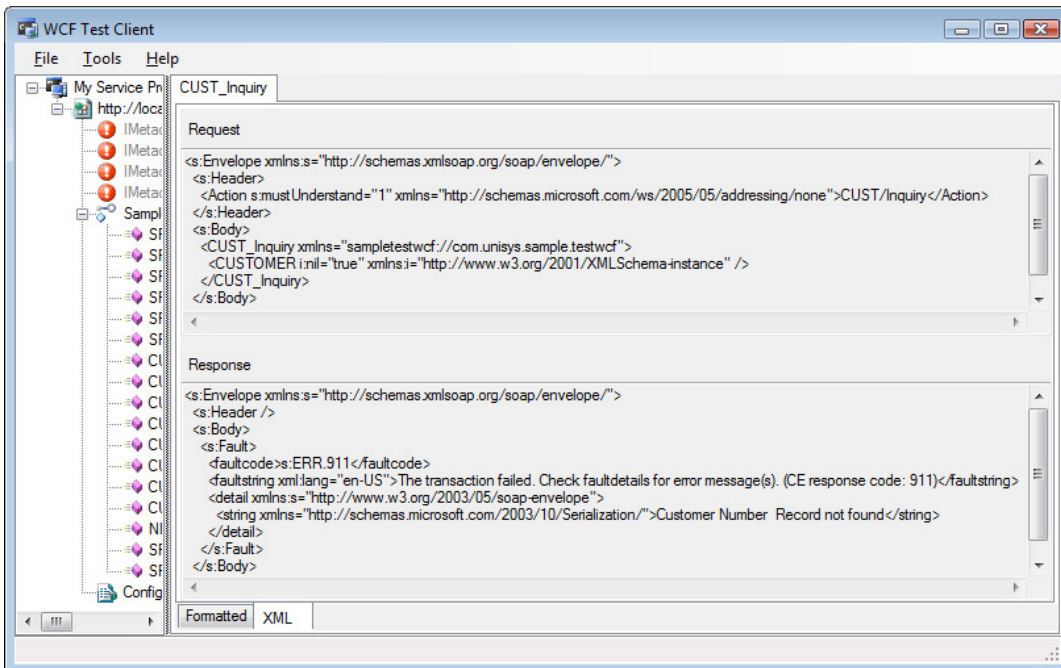
The request section displays a list of all input parameters required by the operation. Entering parameter values and clicking Invoke sends a request message to the service and the response message is displayed as follows:



Error messages returned from the services will be shown as follows:



The fault details can be seen by selecting the XML tab as follows:



Known Problems

Spec's in AB Suite defined with multiple keys are not generated correctly. The Component Enabler Generate Environment for AB Suite does not recognize the

keys of an ispec defined with a DefaultProfile which is causing the ispec to be generated as a Memo component instead of an AutoMaint component with Maint functions. The VPROD ispec of the Sample system is an example of an ispec causing this problem. This is an issue with AB Suite only. It works correctly with EAE. This issue has been raised as an Incident Report reference number 90850330.

.svc Extension Not Configured in IIS

When exposing the generated WCF Services as Web Services using IIS 7, IIS may return a '404.3 – Not found' or 'svc mime type not configured' message. Running the following command from the command prompt will register the .svc extension and mime type with IIS:

```
C:\Windows\Microsoft.NET\Framework\v3.0\Windows Communication Foundation\ServiceModelReg.exe -i
```

CTC Generate Gateway Issue

Upgrading the CE environment de-installs the CTC Generate Gateway interface causing the CTC WCF Services Generator to stop working when running the generator from EAE 3.3. It is therefore required to re-install the CTC Generate Gateway after upgrading the CE environment. Re-run the CTC Generate Gateway Installer Package and select the 'Repair' option.

Version History

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|--------------|--------------|---|
| V1.0.0 | 9/May/2010 | Initial Release |
| V1.0.0.10/11 | 26/May/2010 | Applied fix for issue occurring when receiving input to service for CopyFrom fields. |
| V1.0.0.20/21 | 1/June/2010 | Applied fix for generating double type even when the option DataTypeDecimal = Decimal is configured. |
| V1.0.0.30/31 | 12/June/2010 | Made the popup evaluation key expiration message conditional on the DisplayWarnings option. |
| V1.0.0.40/41 | 18/June/2010 | Added Description property to the Control Specifications allowing the user to enter a short description of the specifications. |
| | | Added AlternateServiceOriginalRemove option that allows removing the original Ipec ServiceModel from the generated project when an Alternate Service has been created. This keeps the size of the Adapter dll to a minimum. |
| V1.0.0.42/43 | 12/Nov/2010 | Updated installation script to allow installing the generator on 64 bit OS. |
| V1.0.0.44/45 | 22/Nov/2010 | Updated documentation to include section 7.3 "Hosting the Adapter Services in Windows Activation Service (WAS)". |
| V2.0.0 | 18/July/2011 | CTC WCF Services Generator upgrade to be qualified with WCF LOB Adapter SDK 2010 and Visual Studio 2010. |
| | | Enhanced the CTC Configurator to manage Multi Configuration Files. The Multi Configuration Files feature is activated when using the SaveAs function or the Import function the first time. When activating the Multi Configuration feature, a catalog of configuration files will be maintained in the CTCGeneratorConfigCatalog.xml file located in [ceroot]\bin. |
| | | Enhanced the List management to allow specifying sub columns on the List.Columns property on the ListBox |

| | | |
|----------------|------------------|---|
| | | control. Specifying sub columns provides a way to create a multi column list even when the host system returns a single column list without making any changes to the host system. |
| | | Added new option TwoDigitYearCutoff used for determining the century for a two digit year of 6 digit date fields. The default is 2056, which is the equivalent of the EAE/AB Suite Base Year of 1957. |
| V2.0.0.2/3/4 | 26/March/2013 | CTC WCF Services Generator upgrade to be qualified with AB Suite 3.0. |
| V2.0.1.0/1/2 | 13/November/2013 | CTC WCF Services Generator upgrade to be qualified with Visual Studio 2012. |
| V2.0.1.0/1/2/3 | 23/January/2013 | CTC WCF Services Generator qualified with CE 4.0. |
| | | |