



Using the Lock Feature

Overview

It is sometimes necessary to avoid the reprocessing of messages that are generated by a Receive Adapter. A typical scenario of this may be when using the Database Receive Adapter.

You want to retrieve a particular batch of records, process them, update a flag on the record stating that the record has been processed and then process the next batch of records.

This can be done by using a Stored Procedure and updating the records as they are selected.

But what about scenarios where you are not allowed to create new Stored Procedures or where the underlying Data Source does not support Stored Procedures?

For this particular scenario the Lock property has been added to all interval based Receive Adapters.

When the Lock property is set to true, the Receive Location will be locked until it is explicitly set to False by calling a custom .NET Component. This means that the Receive Location will not execute until the Lock is switched off.

This walkthrough will take you through a typical scenario in which the Lock Property is used.

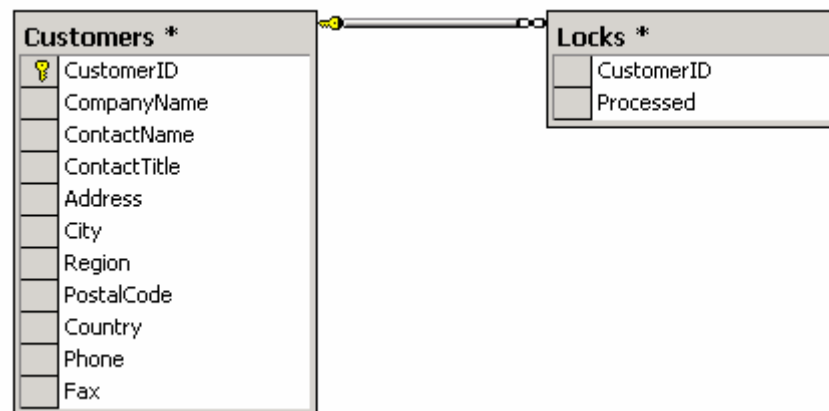
Within the scenario we will retrieve Customer Id records from a Sql table, lock the Receive Location, process them with an Orchestration mark the records as being processed and then unlock the Receive Location at the end of processing.

The Table

The Sample table needs to be generated on the default Northwind sample database provided by Microsoft Sql Server. The BizTalk Utilities Adapter for Databases Samples Solution contains a Database Project called Northwind.

You can run the following change scripts for creating the table and populating the data into the table.

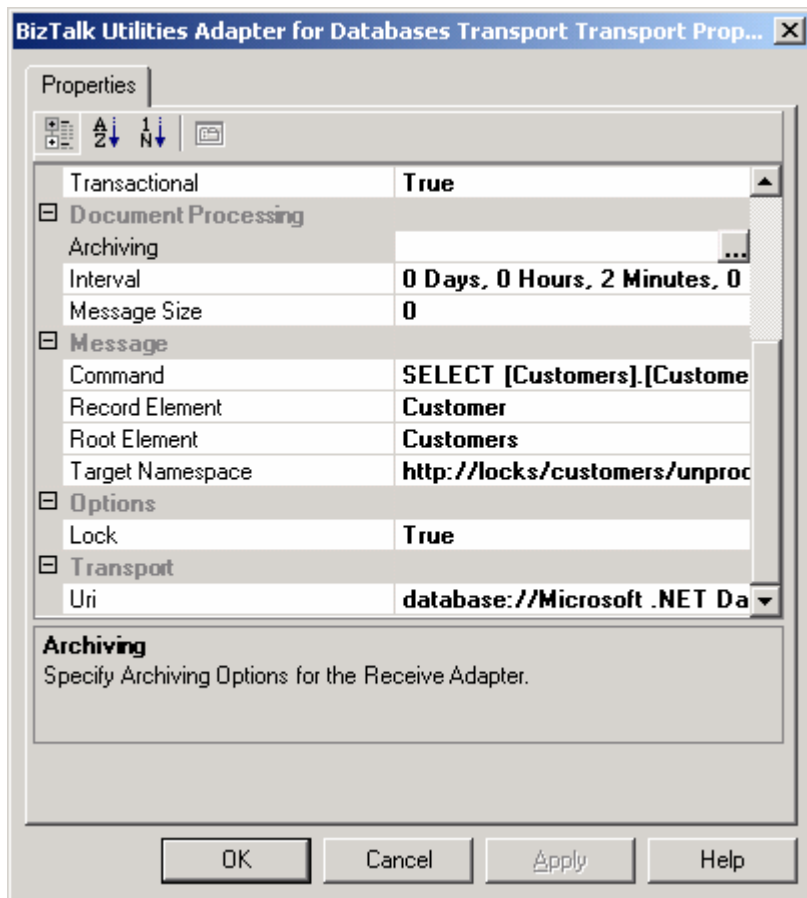
Name	Description
Locks.sql	Create a Table called Locks.
Populate Locks.sql	Populate the Locks Table with Data from the Northwind Customers Table. The Scripts sets the Processed bit Field on the table to a value of 0 (Unprocessed).



The Locks table is responsible for storing flags stating if the Customer has been processed or not. A value of 0 means that the Customer has not been processed and a value of 1 means that the Customer has been processed.

The Receive Location

The Receive Location needs to use the BizTalk Utilities Adapter for Databases Transport. It needs to point to the Data Source on which you created the abovementioned table.

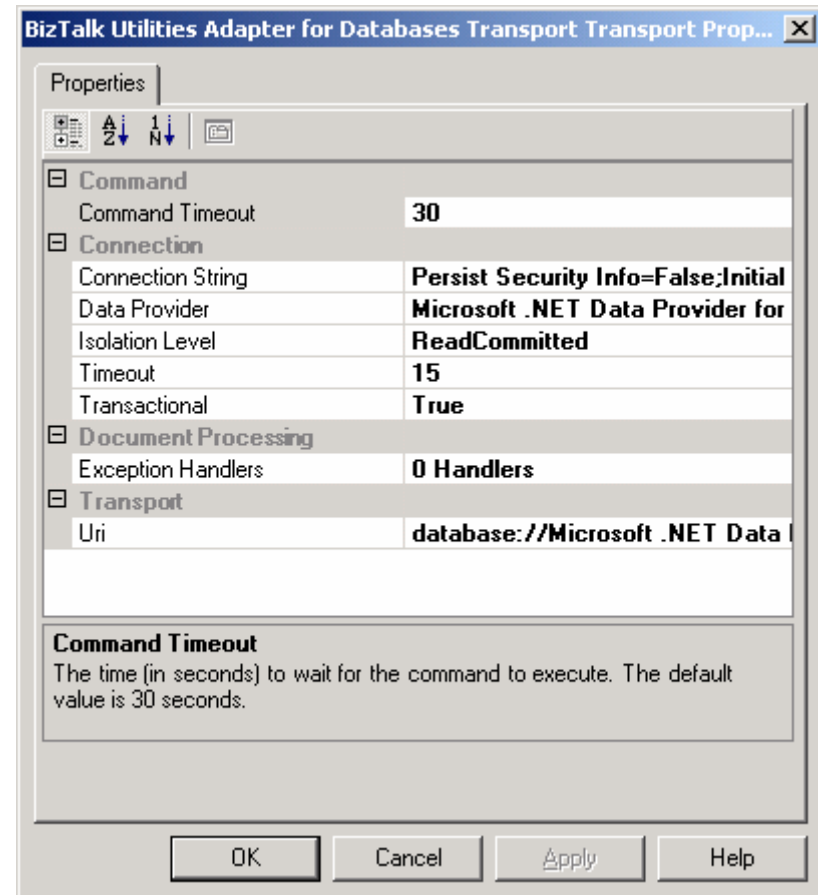


What is important here is to set the Lock Property to true. This will lock the Receive Location until it is unlocked within the Orchestration by calling a custom .NET Component.

The processing interval for the Receive Location is set to 2 minutes. You can use the Bindings.xml file located in the Configuration folder of Locks Project to create the Receive Location and Database Send Port for the Orchestration.

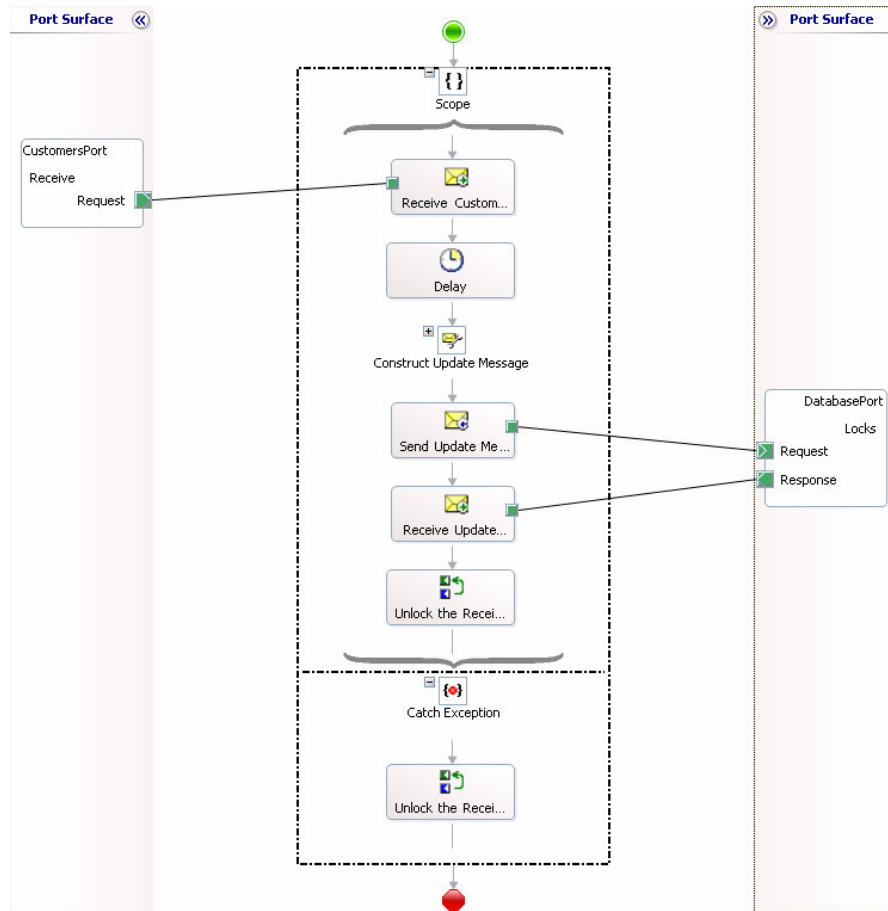
The Send Port

The Send Port basically points back to the Northwind Data Source. This is used to update the Locks Table after the Customer is processed.



You can use the Bindings.xml file located in the Configuration folder of Locks Project to create the Receive Location and Database Send Port for the Orchestration.

The Orchestration



Because the Lock property is set to True, the Receive Location will no execute until it is explicitly unlocked. The Orchestration is responsible for receiving the retrieved Customer information. It then goes through the following actions:

Delay

The delay shape is simply there to simulate work done. The delay shape will delay processing for 10 minutes.

Construct Update Message

The Map will transform the Customers message to a set of Locks update statements, this will set the processed flag to a value of 1, which will cause the Customer records not to be selected by the Receive Location at the next Interval. Please see CustomersToLocks.btm located in the Maps folder of the project.

Send Update Message

The Shape transmits the Message to the Database Adapter.

Receive Update Response

The Shape simply receives the Database Response Message.

Unlock the Receive Location

The Expression simply unlocks the Receive Location as follows:

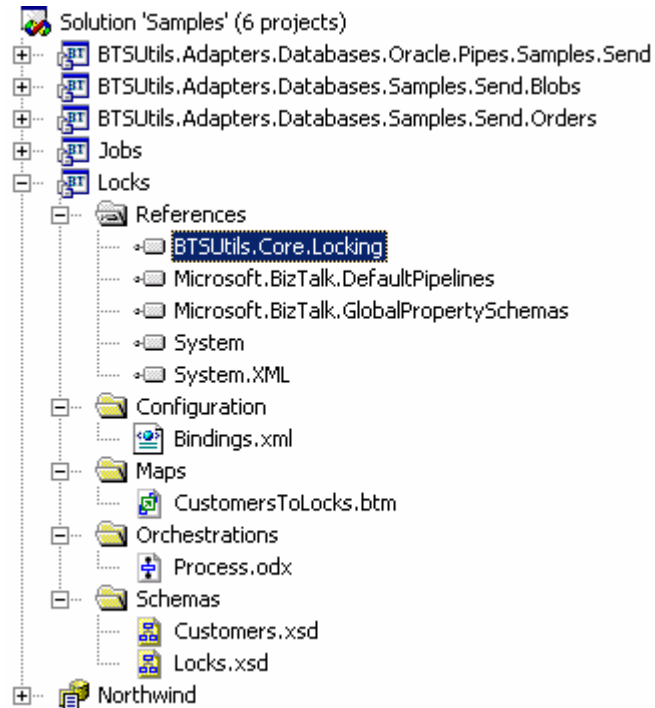
```
BTSUtils.Core.Locking.Lockes.Unlock("database://Microsoft .NET Data Provider for SQL Server/Customers/Customer");
```

The Locks class has a method static method called Unlock which will unlock the Receive Location. The method takes a single string parameter that specifies the Uri of the Receive Location.

Catch Exception

If anything goes wrong within the Orchestration process, the Receive Location is also unlocked.

References



The Orchestration has a reference to BTSUtils.Core.Locking.dll. The Assembly components are responsible for Locking and Unlocking Receive Locations.

The Assembly can be found in the Bin Folder of the Adapter Installation.

Monitoring and Changing the state of Locks

Locks can be viewed, modified and deleted from the Administration Snap-In within the Adapter.

