Tech Note 1005

Accessing InBatch Recipes Inside of System Platform Using Recipe Automation Server (Object Hosted to Remote Node)

Topic#: 002836
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Introduction

This *Tech Note* demonstrates the syntax used for the Recipe Object creation/release in a .NET FrameWork environment.

The key is to register the COM object and also specify where the Recipe Automation Server is running. In this scenario, object containing script for accessing InBatch Recipe Data is hosted on a remote platform and the InBatch Server is running on a separate node.

Other functionality of reading/writing to InBatch Recipe Database is documented in InBatch COM Guide, Chapter 5.

Application Versions

- InBatch 9.x & 10.x
- Wonderware Application Server 2012 R2 (for prior versions, you have to manually built the object)

Prerequisites

- InBatch Development Client software installed on a remote computer.
- A Platform deployed to the InBatch Development Client node where the Object is hosted to access InBatch Recipe Data.

Procedure

1. From the Archestra IDE menu, click **Galaxy\Import\Script Function Library** and import the **RecipeEdit.exe** file. Browse to **C:\Program files(x86)\Wonderware\inBatch\Bin** on the InBatch Server Node.
2. Download and import the **$InBatchRecipeDBAccess2** template aaPkg file to the IDE. Create an instance of this object and host it to the Platform\AppEngine\Area that is running on remote node where Batch Development Client Software is installed. Set DCOM configuration settings pointing to InBatch Server Node per InBatch COM users guide, Chapter 5.

> **Note:** It is important to note that if you are using 64 bit operating system on remote node, in this case you have to launch DCOMCnfg console using following command, that way you are setting for 32 bit. C:\Windows\SysWOW64>mmc comexp.msc /32

3. Double-click the $InBatchRecipeDBAccess2 object in the IDE.

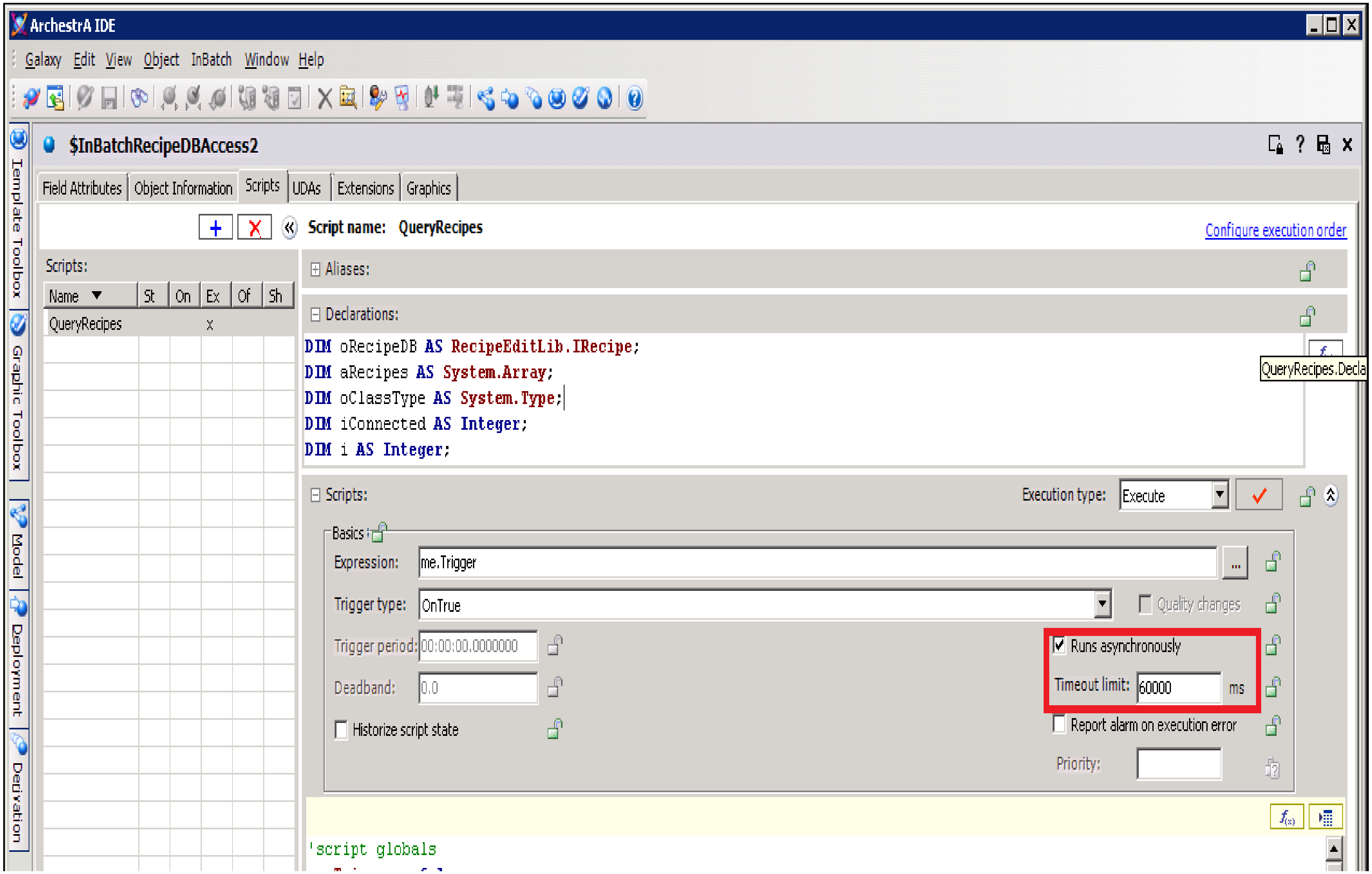
4. Click the **Scripts** tab in the Object editor and set **me.BatchServerHostName** to the name of the Batch Server. In Figure 1 (below) it is **"SMInBatch10"**.

   The entire script example follows Figure 1.

5. Deploy the newly-created instance object and set the trigger attribute (me.Trigger) in ObjectViewer for this object.

6. Review the messages in the Archestra Logger for successful connectivity, query of recipes and release of the recipe object.

   The following shows the screen snapshots of the template object editor, text in the script body and Archestra Logger Messages. Additionally, the note following Figure 2 (below) describes setting the InBatch Server Host Name accordingly in a batch redundancy environment.



$InBatchRecipeDBAccess2

Script name: QueryRecipes

Scripts:

Name	St	On	Ex	Of	Sh
QueryRecipes			x		

Aliases:

Declarations:

```
DIM oRecipeDB AS RecipeEditLib.IRecipe;
DIM aRecipes AS System.Array;
DIM oClassType AS System.Type;
DIM iConnected AS Integer;
DIM i AS Integer;
```

Scripts:

Execution type: Execute

Basics

Expression: me.Trigger

Trigger type: OnTrue

□ Quality changes

Trigger period: 00:00:00.0000000

☑ Runs asynchronously

Deadband: 0.0

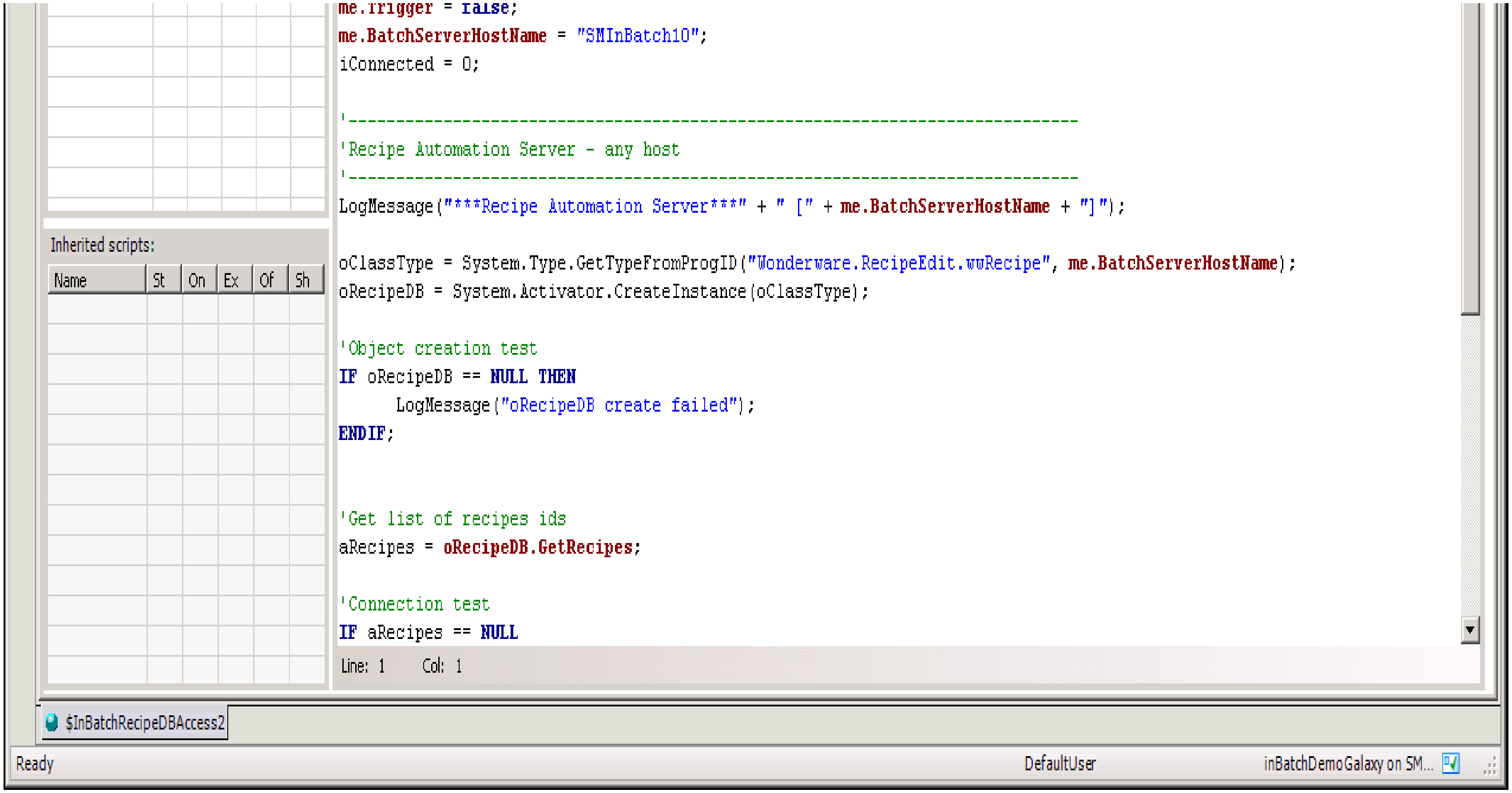
Timeout limit: 60000 ms

□ Historize script state

□ Report alarm on execution error

Priority:

```
'script globals
```



```
me.Trigger = false;
me.BatchServerHostName = "SMInBatch10";
iConnected = 0;

'-----------------------------------------------------------------------------
'Recipe Automation Server - any host
'-----------------------------------------------------------------------------
LogMessage("***Recipe Automation Server***" + " [" + me.BatchServerHostName + "]");

oClassType = System.Type.GetTypeFromProgID("Wonderware.RecipeEdit.wwRecipe", me.BatchServerHostName);
oRecipeDB = System.Activator.CreateInstance(oClassType);

'Object creation test
IF oRecipeDB == NULL THEN
      LogMessage("oRecipeDB create failed");
ENDIF;


'Get list of recipes ids
aRecipes = oRecipeDB.GetRecipes;

'Connection test
IF aRecipes == NULL
```

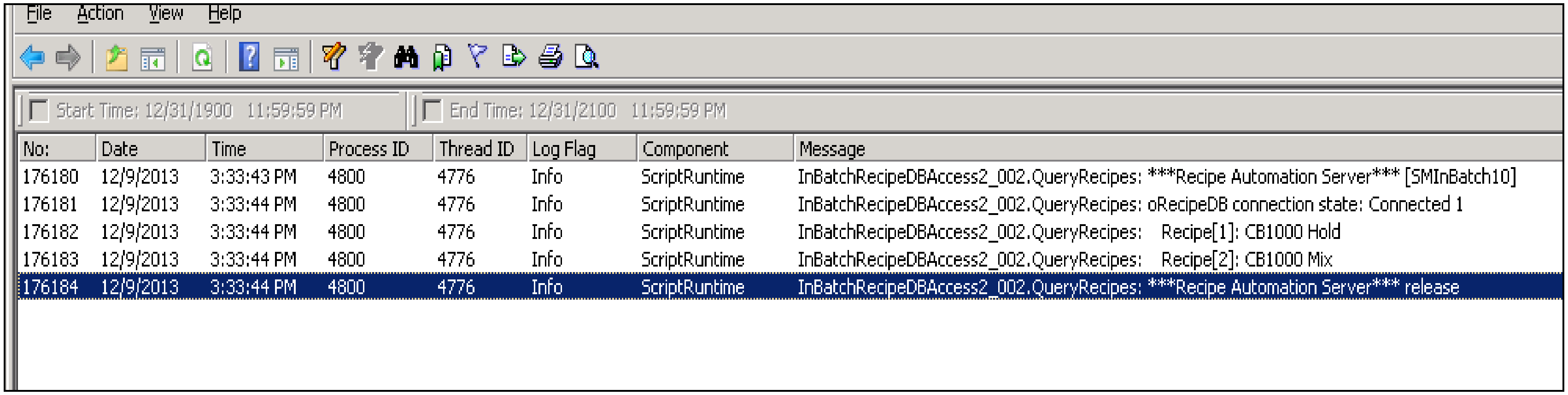
Figure 1 - Ensure That the Script Runs Asynchronously

Text in script body (if you using prior version of System Platform 2012 R2, copy the following text and paste it to your object, declare variables in declaration section as shown in Figure 1.

```
'script globals
me.Trigger = false;
me.BatchServerHostName = "<YourInBatchServerNodeName>";
iConnected = 0;
i = 1;
'-----------------------------------------------------------------------------
'Recipe Automation Server - any host
'-----------------------------------------------------------------------------
LogMessage("***Recipe Automation Server***" + " [" + me.BatchServerHostName + "]");
oClassType = System.Type.GetTypeFromProgID("Wonderware.RecipeEdit.wwRecipe", me.BatchServerHostName); oRecipeDB =
System.Activator.CreateInstance(oClassType);

'Object creation test
IF oRecipeDB == NULL THEN
LogMessage("oRecipeDB create failed");
ENDIF;

'Get list of recipes ids
aRecipes = oRecipeDB.GetRecipes;

'Connection test
IF aRecipes == NULL
THEN iConnected = 0;
LogMessage("oRecipeDB connection state: Not Connected " + iConnected);
```

```
ELSE iConnected = 1;
LogMessage("oRecipeDB connection state: Connected " + iConnected);
ENDIF;

'Query Recipes
FOR i = aRecipes.GetLowerBound(0) to aRecipes.GetUpperBound(0)
LogMessage(" Recipe[" + i + "]: " + aRecipes.GetValue(i));
NEXT;

'note - to prevent multiple copies, shutdown recipe server
LogMessage("***Recipe Automation Server*** release");
IF oRecipeDB <> NULL
THEN System.Runtime.InteropServices.Marshal.ReleaseComObject( oRecipeDB );
oRecipeDB = NULL;
ENDIF;
'------------------------------------------------------------------------
```

Archestra Logger Messages


File
Action
View
Help
Start Time: 12/31/1900 11:59:59 PM
End Time: 12/31/2100 11:59:59 PM

```
No:     Date       Time        Process ID  Thread ID  Log Flag  Component      Message
176180  12/9/2013  3:33:43 PM  4800        4776       Info      ScriptRuntime  InBatchRecipeDBAccess2_002.QueryRecipes: ***Recipe Automation Server*** [SMInBatch10]
176181  12/9/2013  3:33:44 PM  4800        4776       Info      ScriptRuntime  InBatchRecipeDBAccess2_002.QueryRecipes: oRecipeDB connection state: Connected 1
176182  12/9/2013  3:33:44 PM  4800        4776       Info      ScriptRuntime  InBatchRecipeDBAccess2_002.QueryRecipes:   Recipe[1]: CB1000 Hold
176183  12/9/2013  3:33:44 PM  4800        4776       Info      ScriptRuntime  InBatchRecipeDBAccess2_002.QueryRecipes:   Recipe[2]: CB1000 Mix
176184  12/9/2013  3:33:44 PM  4800        4776       Info      ScriptRuntime  InBatchRecipeDBAccess2_002.QueryRecipes: ***Recipe Automation Server*** release
```

Figure 2: ArchestrA Logger Messages

Note: If you using InBatch Redundancy, you can set the attribute me.BatchServerHostName accordingly by monitoring the status of a Boolean Tag IBSERV_RED_MASTER. This tag is provided by InBatch Server Application.

The value of IBSERV_RED_MASTER is **True** on the Master Node and **False** on the Backup Node. You can configure two instances of **DDESuiteLink** objects and configure them as shown below and deploy these two instances to the node where the Platform is deployed, and where the InBatch Client Software is installed.

If you monitor the value **DDESuiteLink1.IB_TAGS.IBSERV_RED_MASTER** and **DDESuiteLink2.IB_TAGS.IBSERV_RED_MASTER** in ObjectViewer, you will see the values as **True** and **False**. You can use these two attributes in the same script as shown above in script body or in the template object and set the Batchserver HOSTNAME accordingly to point to InBatch Master node.

This scenario is included here to monitor the InBatch Redundancy Status and was not tested for this *Tech Note*.

	ServerName	**TopicName**	**Item**	**NodeName**
DDESuiteLink1	IBSERV	IB_TAGS	IBSERV_RED_MASTER	InBatchMaster

DDESuiteLink2	IBSERV	IB_TAGS	IBSERV_RED_MASTER	InBatchBackup

S. Mariyala, M. Mummert

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