

Microsoft Dynamics® AX

Advanced bank reconciliation – processing and troubleshooting

White Paper

In Microsoft Dynamics AX 2012 R2, you can import electronic bank statements and reconcile the imported bank statements with bank documents.

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Introduction

In Microsoft Dynamics AX 2012 R2, you can import electronic bank statements and reconcile the imported bank statements with bank documents. If there are issues with the import process, this white paper provides some steps that can help you debug issues between .xslt files and the file being imported, and it also provides troubleshooting information.

Bank statements and companies

Microsoft Dynamics AX Application Integration Framework (AIF) is not company-specific and works across companies. Because of this, if the inbound port that is set up for the bank statement import is not restricted to a specific company (in the **Restrict to company** field on the **Security** FastTab), the bank statement is imported into the default company from your user profile.

For example, you are logged on to Company B, but your user profile's default company is Company A. In this case, if you are using an inbound port that is not restricted to a specific company, the bank statement is imported into Company A. However, if the inbound port is restricted to Company B, the bank statement is imported into that company, regardless of the default company assigned to your user profile.

Therefore, you might want to set up a separate inbound port for each company that you must import bank statements into.

Setting up number sequences for bank statement import

To make sure that you have assigned number sequences for all companies that you are importing bank statements into, use the **Cash and bank management parameters** form. (Click **Cash and bank management** > **Setup** > **Cash and bank management parameters**, and then click the **Number sequences** tab.) Set up number sequences for the statement ID, download ID, and reconcile ID.

Set up advanced bank reconciliation import

Before you can import electronic bank statements and reconcile the imported bank statements with bank documents, you must set up the advanced bank reconciliation import.

1. Open the **Bank accounts** form. (Click **Cash and bank management** > **Common** > **Bank accounts** > **Bank accounts**.)
2. Select the bank account to reconcile.

- On the **Reconciliation** FastTab, select the **Advanced bank reconciliation** check box.

The screenshot shows the 'Bank accounts (1 - cee) - Bank account: EURBANK, EURBANK' form. The 'Reconciliation' section is expanded, and the 'Advanced bank reconciliation' checkbox is checked. The 'Statement format' dropdown is set to 'None'.

Figure 1 Bank accounts form

- Close the form.
- Open the **Inbound ports** form. (Click **System administration** > **Setup** > **Services and Application Integration Framework** > **Inbound port**.)
- Click **New**.
- In the **Adapter** field, select **Files system adapter**.
- In the **URI** field, select a location to put the bank files in.

The screenshot shows the 'Inbound ports (1)' form. The 'Adapter' field is set to 'File system adapter' and the 'URI' field is set to 'C:\MT940'. The 'Response address' checkbox is unchecked.

Figure 2 Inbound ports form

- On the **Service contract customizations** FastTab, click **Service operations**.

10. In the **Select service operations** form, select the following entries in the **Remaining service operations** list, and move them to the **Selected service operations** list:

- BankStmtService.create
- BankStmtService.delete
- BankStmtService.find
- BankStmtService.getChangedKeys
- BankStmtService.getKeys
- BankStmtService.read

Note: These services are available only if the **Advanced bank reconciliation** check box is selected for a bank account in the **Bank accounts** form.

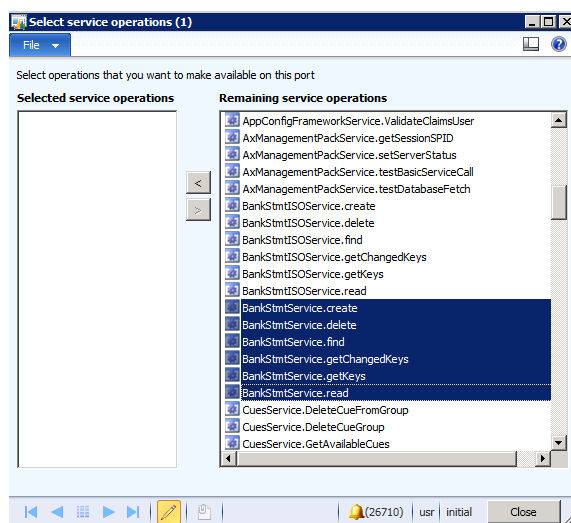


Figure 3 Select service operations form

11. Open the Application Object Tree (AOT) (press Ctrl+D), and expand the **Resources** node.

12. Locate the resources starting with **MT940**.

Note: This example is for the MT940 format, but there are also resources for the ISO20022 and BA12 formats.

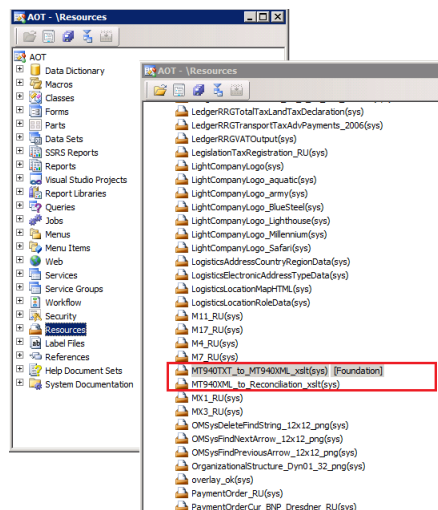


Figure 4 AOT Resources node

13. Right-click each resource, and then click **Open**. Then, in the **Preview** form, in the **File type** field, select **XML document**.

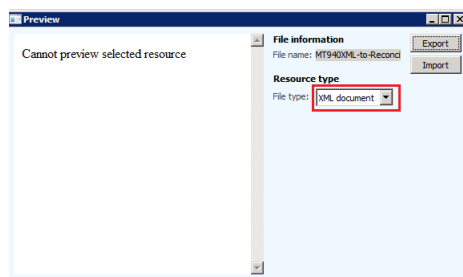


Figure 5 Preview form

14. Click **Export**, and then close the AOT.

15. In the **Inbound ports** form, on the **Processing options** FastTab, select the check box next to **Transform all requests**, and then click **Inbound transforms**.

The screenshot shows the 'Processing options' section of a form. It contains several settings with checkboxes and a dropdown menu. The 'Transform all requests' checkbox is checked. To the right of the form, there are several buttons: 'Inbound transforms', 'Inbound pipelines', 'Outbound pipelines', 'Outbound transforms', 'Value mapping', and 'Document Filters (h)'. The 'Inbound transforms' button is highlighted.

Setting	Value
Upon error in batched requests:	Continue
Process requests in parallel:	<input type="checkbox"/>
Validate document XML:	<input checked="" type="checkbox"/>
Replace existing documents on create:	<input type="checkbox"/>
Transform all requests:	<input checked="" type="checkbox"/>
Preprocess service operation requests:	<input type="checkbox"/>
Post-process service operation responses:	<input type="checkbox"/>
Transform all responses:	<input type="checkbox"/>
Apply value mapping:	<input type="checkbox"/>
Manage document filters:	<input checked="" type="checkbox"/>

Figure 6 Inbound ports form

16. In the **Inbound transforms** form, click **Manage transforms**.

The screenshot shows the 'Inbound transforms (1) - Category: Enhanced' form. It has a menu bar with 'File', 'New', 'Delete', 'Move up', 'Move down', and 'Manage transforms'. The 'Manage transforms' button is highlighted. Below the menu bar is a table with two columns: 'Transform name' and 'Description'. To the right of the table is a form with fields for 'Transform name', 'Description', and 'Type'. The 'Type' field is set to 'XSL'. At the bottom of the form, there is a 'Close' button.

Transform name	Description
----------------	-------------

Figure 7 Inbound transforms form

17. In the **Manage transforms** form, create a new entry. In the **Type** field, select **XSL**.

18. Click **Load**, and then browse for the Extensible Stylesheet Language Transformation (XSLT) files for the MT940 files. These files have the .xslt extension.

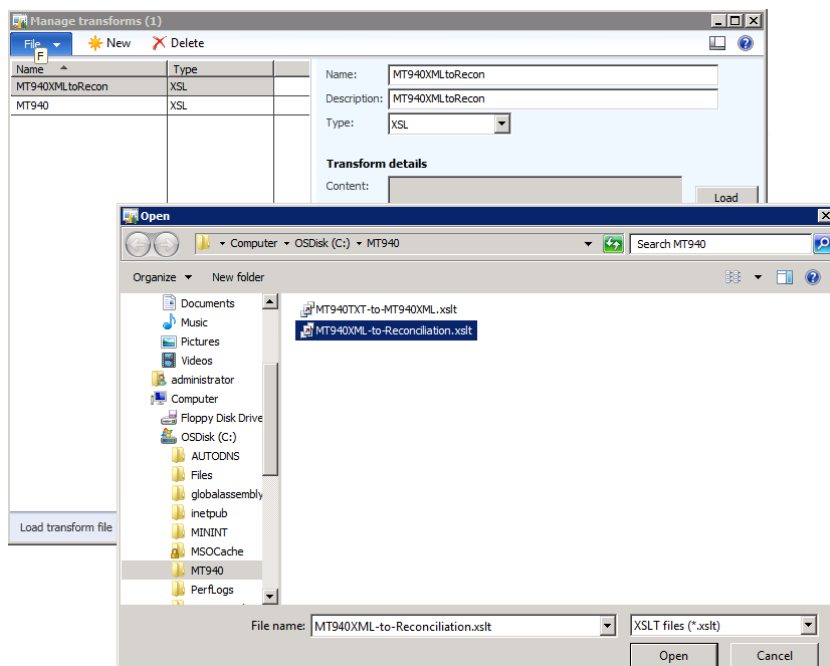


Figure 8 Selecting the resources

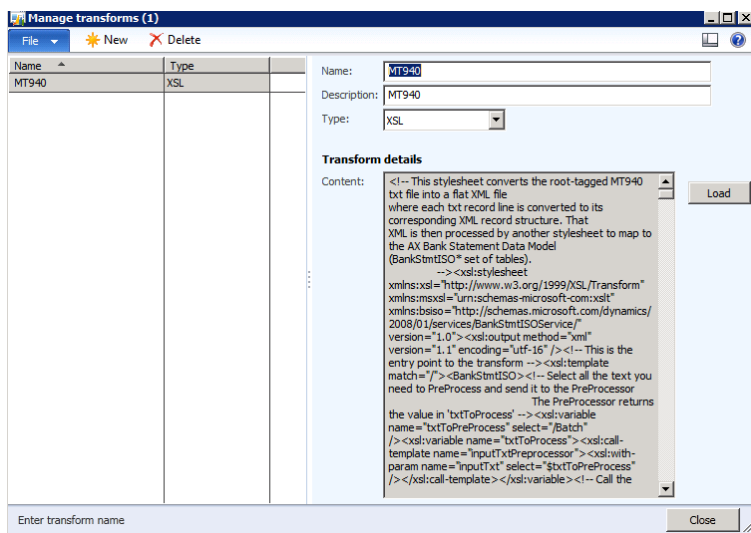


Figure 9 Viewing the transform details

19. Repeat steps 12 through 18 for each resource.
20. Click **Close**.

21. In the **Inbound transforms** form, create a new entry. In the **Transform name** field, select the XSLT entries. When you receive a warning message, click **Yes**.

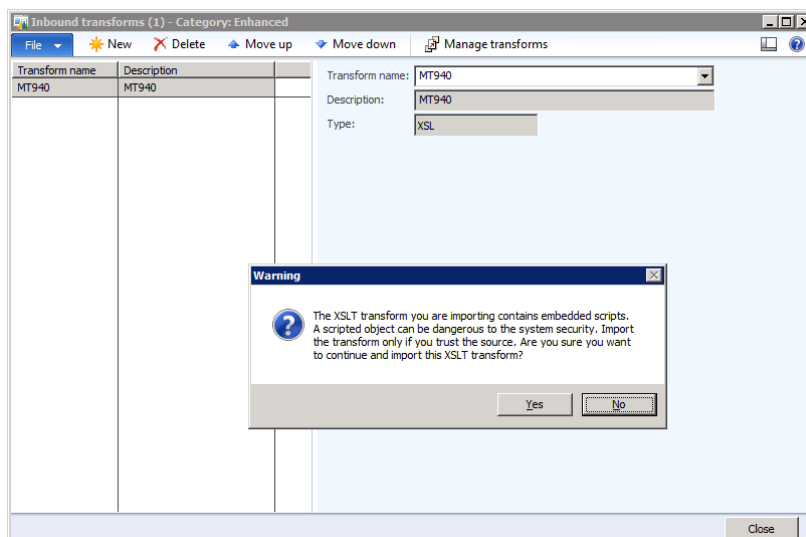


Figure 10 Inbound transforms message

22. The transforms that are entered should appear in the order that they will be processed in. To move a transform, select it, and then click **Move up** or **Move down**.
23. On the **Troubleshooting** FastTab, in the **Logging mode** field, select **Original document**.

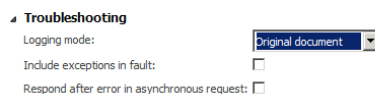


Figure 11 Inbound transforms form – Troubleshooting FastTab

24. On the **Security** FastTab, in the **Restrict to partition** field, select **initial**.
25. In the **Restrict to company** field, select the company that you are working in.

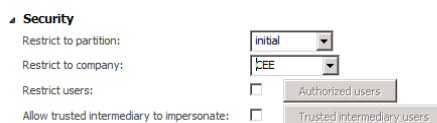


Figure 12 Inbound transforms form – Security FastTab

26. Click **Activate** to activate the inbound port.

Port name	Description	Category
AdapterTest	AdapterTest	Enhanced
AlfGDS		Basic
AlfServices		Basic
AppConfigServices		Basic
AxClient		Basic
AxManageabilityServi...		Basic

Port name: AdapterTest
 Description: AdapterTest
 Category: Enhanced
 Address:
 Adapter: File system adapter
 URI: C:\MT940

Figure 13 Inbound ports form

Import an electronic bank statement by using advanced bank reconciliation

After you've set up the advanced bank reconciliation import, you can import electronic bank statements.

1. Open the **Cash and bank management parameters** form. (Click **Cash and bank management** > **Setup** > **Cash and bank management parameters**.)
2. Click the **Bank reconciliation** link, and then select the options to use for advanced bank reconciliation.

Cash and bank management parameters (1 - cee)

File

General

Bank reconciliation

Postdated checks

Number sequences

Setup information for bank reconciliation

Show statement line amount in debit/credit: ☒

Check date difference: ☐ 0

Check transaction type mapping: ☐

Figure 14 Bank reconciliation parameters

3. Click the **Number sequences** link, and then select a number sequence for **Reconcile ID**, **Statement ID**, and **Download ID**.

Cash and bank management parameters (1 - cee)

File

General

Bank reconciliation

Postdated checks

Number sequences

Set up number sequences for bank documents

Reference	Number sequence code
Deposit slip	Bank_15
Bank reconciliation	Bank_13
Reference to Danish payment	Bank_14
Prenotes	Bank_1003
Letter of guarantee number	Gene_1000
Letter of guarantee transactions	Gene_1001
Apportionment percent	
Reconcile ID	Bank_01
Statement ID	Bank_02
Download ID	Bank_13

Figure 15 Number sequences parameters

4. Close the form.

- Open the **Bank statement format** form. (Click **Cash and bank management** > **Setup** > **Bank reconciliation** > **Bank statement format**.)
- Click **New** to create a new bank statement format.
- In the **Inbound port** field, select the inbound port that you created during the setup of advanced bank reconciliation import.

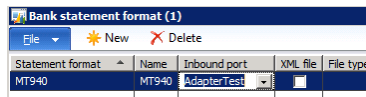


Figure 16 Bank statement format form

- Open the **Bank accounts** list page. (Click **Cash and bank management** > **Common** > **Bank accounts**.)
- Select a bank account, and then, on the **Action Pane**, click **Edit**.
- On the **Reconciliation** FastTab, select the **Advanced bank reconciliation** check box.

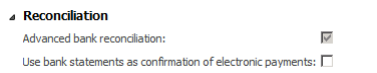


Figure 17 Advanced bank reconciliation

- On the **Action Pane**, click **Bank statements**.

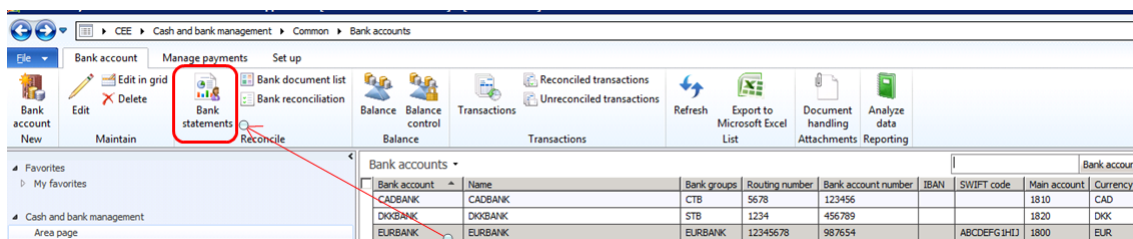


Figure 18 Bank accounts list page – Bank accounts form

- In the **Bank statements** form, click **Import statement**.
- In the **Import bank statements** form, click **OK**.

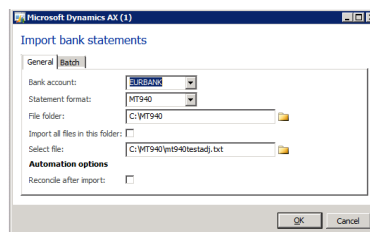


Figure 19 Import bank statements form

14. In the **Bank statements** form, after the bank statement is imported, click **Validate** to validate the bank statement.
15. On the **Action Pane**, click **Refresh**.
Note: Only bank statements with a status of **Validated** can be reconciled.
16. Select the bank statement, and then click **Edit** to open the **Bank statement** form, where you can view all the bank statement lines that were imported.

Bank statement (1 - cee) - Type: ReconciliationBank account: EURBANK

Bank account: EURBANK Bank name: Currency: EUR

Period Balances Net

From date: 3/16/2012 12:00:00 am Opening balance: 70,000.00 Net amount: 108.00

To date: 3/30/2012 12:00:00 am Ending balance: 70,108.00 Total lines: 6

Bank statement lines

New	Booking date	Status	Entry reference	Bank statement transaction code	Trading party	Debit amount	Credit amount
<input type="checkbox"/>	3/17/2012 12:00:00 am	Booked		N196		5.00	0.00
<input type="checkbox"/>	3/17/2012 12:00:00 am	Booked		N196		14.00	0.00
<input type="checkbox"/>	3/17/2012 12:00:00 am	Booked		N196		15.00	0.00
<input type="checkbox"/>	3/17/2012 12:00:00 am	Booked		N196		19.00	0.00
<input type="checkbox"/>	3/17/2012 12:00:00 am	Booked		N196		27.00	0.00
<input type="checkbox"/>	3/17/2012 12:00:00 am	Booked		N196		28.00	0.00

Figure 20 Bank statement form

Reconcile a bank statement by using advanced bank reconciliation

After you've imported an electronic bank statement and validated that statement in the **Bank statements** form, you can reconcile the bank statement by using the **Bank reconciliation worksheet** form.

1. Open the **Bank reconciliation journal** form. (Click **Cash and bank management** > **Journals** > **Bank reconciliation**.)
2. Click **New** to create a new bank reconciliation journal.
3. In the **Bank account** field, select the bank account that the bank statement was imported for.

Bank reconciliation journal (1 - cee)

File New Delete Lines Reconcile Print reconciliation sta...

Show: All Bank account: Show user-created only: Status: Draft

Bank account	Reconcile ID	Description	Currency	Cut-off date	Statement ID	Ending balance	Net amount	Reconciled
EURBANK	BA_000005	EURBANK 987654	EUR	4/3/2013	7802/01	70,216.00	108.00	<input type="checkbox"/>

Figure 21 Bank reconciliation journal form

4. Click **Lines** to open the **Bank reconciliation worksheet** form, where you can reconcile bank statement lines with bank document lines.

- To match a bank statement line and a bank document line, in the **Open statement lines** group, select the check box for the bank statement line. Then, in the **Open bank documents** group, select the check box for the bank document line to match to it.

Bank reconciliation worksheet (1 - cee) - Reconcile ID: BA_000005, EURBANK

File Run matching rules Refresh Subtotal Reconcile Print reconciliation sta...

3A_000005: Cut off date: 4/3/2013 Bank: EURBANK 987654 Currency: EUR

Open documents

Match Mark as new

Open statement lines

Total amount: 108.00 | Open amount: 108.00 | Matched amount: 0.00

Statement ID	Bank transaction code	Booking date	Debit	Credit	Trading party	Document number	Reference No.	Status	Reversal
7802/01	N196	3/31/2012	5.00				NONREF	Booked	<input type="checkbox"/>
7802/01	N196	3/31/2012	14.00				NONREF	Booked	<input type="checkbox"/>
7802/01	N196	3/31/2012	15.00				NONREF	Booked	<input type="checkbox"/>
7802/01	N196	3/31/2012	19.00				NONREF	Booked	<input type="checkbox"/>
7802/01	N196	3/31/2012	27.00				NONREF	Booked	<input type="checkbox"/>
7802/01	N196	3/31/2012	28.00				NONREF	Booked	<input type="checkbox"/>

The amount 5.00 of 1 statement lines are marked

Open bank documents

Total amount: 216.00 | Open amount: 216.00 | Matched amount: 0.00

Document type	Document number	Date	Bank transaction type	Debit	Credit	Company	Related party type	Related party name
Others		4/2/2012		5.00			None	
Others		4/2/2012		14.00			None	
Others		4/2/2012		15.00			None	
Others		4/2/2012		19.00			None	
Others		4/2/2012		27.00			None	
Others		4/2/2012		28.00			None	
Others		3/15/2013		108.00			None	

The amount 5.00 of 1 bank documents are marked

Matched documents

Unmatch Show all bank documents

Matched statement lines

This grid is empty.

Matched bank documents

This grid is empty.

Line details

Unique key, allocated to importing a bank statement if it has not a statement ID specified.

EUR | usr | cee | initial

Figure 22 Bank reconciliation worksheet form

6. Click **Match**.

When a bank statement line and a bank document line are matched, the lines move to the **Matched statement lines** group on the **Matched documents** FastTab.

The screenshot shows the 'Bank reconciliation worksheet (1 - cee) - Reconcile ID: BA_000005, EURBANK' window. It features a 'Match' button and a 'Mark as new' button. The 'Open documents' section is divided into 'Open statement lines' and 'Open bank documents'. The 'Matched documents' section is divided into 'Matched statement lines' and 'Matched bank documents'. The 'Matched statement lines' table shows the following data:

Statement ID	Bank transaction code	Booking date	Debit	Credit	Trading party	Document number	Reference No.	Status	Reversal
7802/01	N196	3/31/2012	14.00				NONREF	Booked	
7802/01	N196	3/31/2012	15.00				NONREF	Booked	
7802/01	N196	3/31/2012	19.00				NONREF	Booked	
7802/01	N196	3/31/2012	27.00				NONREF	Booked	
7802/01	N196	3/31/2012	28.00				NONREF	Booked	

The 'Matched bank documents' table shows the following data:

Document type	Document number	Date	Bank transaction type	Debit	Credit	Company	Related party type	Re
Others		4/2/2012		14.00			None	
Others		4/2/2012		15.00			None	
Others		4/2/2012		19.00			None	
Others		4/2/2012		27.00			None	
Others		4/2/2012		28.00			None	

The 'Line details' section at the bottom shows the 'Unique key, allocated to importing a bank statement if it has not a statement ID specified.' and a 'Close' button.

Figure 23 Bank reconciliation worksheet form – Matched statement lines

Note: To unmatched the matched lines and move the lines back to the **Open statement lines** group and the **Open bank documents** group, select the lines, and then click **Unmatch**.

- On the **Open documents** FastTab, you can view open statement lines and open bank documents that are available for reconciliation.
- On the **Matched documents** FastTab, you can view the bank statement lines and bank document lines that have been reconciled.
- On the **Line details** FastTab, you can view the details of a line that is selected in the **Open statement lines** group.

Troubleshooting issues during the import of bank statements

As you use the import bank statement functionality that was introduced with advanced bank reconciliation in Microsoft Dynamics AX 2012 R2, you might encounter issues such as the following:

- Issues between the file being imported and the .xslt files being used to transform the data
- Number sequences that are not set up
- Bank statements that are not imported into the correct company

Debugging issues between .xslt files and the import file

Use the following information to debug an .xslt file. When you import an MT940, BAI2, or other type of text file, you first need to prepare the file for debugging. This is done automatically in Microsoft Dynamics AX, but you need to complete the debugging manually outside of Microsoft Dynamics AX.

If you are importing an XML file, start with step 2, because your file is already in the proper format.

1. In a text editor such as Notepad, open the file to import. Because this is a text file, you must add the content XML header so that the file can be used by the .xslt file.

Add this information to the top of your text file:

```
<?xml version="1.0"?>
<Batch><![CDATA[
```

Add this information to the bottom of your text file:

```
]]></Batch>
```

2. Save the file.
3. In Microsoft Visual Studio, open the .xslt file. This .xslt file is used to convert the raw file to a flat XML file. Open the properties sheet (click **View > Properties Window**), and select the file from step 1 as your input file.

Note: The MT940 and BAI2 imports use two XSLT transforms – one to transform from text file to XML and another to transform from XML to the reconciliation format. Most problems occur in the transform from text file to XML.

4. In Visual Studio, add breakpoints where needed, such as at the **rowToFields** section.
5. Start the debugger by clicking **XML > Start XSLT Debugging** or **DEBUG > Start XSLT Debugging**. Use standard debugging commands such as **Step into**, **Step over**, **Step out**, and **Continue** to move within the .xslt file.
6. In the **Output** window, monitor the output, and compare it with your expected output.
7. Make any necessary changes to the .xslt file, and then save your changes. Then reload the changes into your transform within AIF to make them work in Microsoft Dynamics AX.
8. When you've finished debugging, if you added the debugging text to your file in step 1, remove that text before you try to import your file.

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