

# eFORMz Mini-Manual

## Text to XML Converter: QAD

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# Minisoft® eFORMz™

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Version 10.0

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eFORMz 10.0 - January 2014

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## Glossary





# *Text to XML Conversion*

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# Overview

Creating an XML configuration file has many advantages for the eFORMz user. By using the Text to XML preprocessing feature, text can be “parsed” into XML for subsequent processing. This is especially useful when source data spans multiple pages. After conversion, the page structure is left behind so that the final output can include more or less pages than the source. To do this, the eFORMz user must be familiar with the Text to XML Converter and the Text to XML Editor.

## What does it do?

The transformation of Text to XML is the process by which information that was originally intended for pre-printed forms is converted into an annotated and tabular format, prior to enhancement by a Form Template.

The annotations ensure a more user-friendly data selection environment. Each of the items from the original Print Output will have a meaningful name.

Conversion to a tabular format also allows for automating the process of reformatting repeating data without regard to the source placement on a page. If the original Print Output was multiple pages, the tabular arrangement (XML) will permit a meaningful repagination process (*See Samples 1 and 2*).

## How does it work?

The Text to XML conversion occurs when the Text to XML preprocessor is configured for a Form Template. The configuration includes a set of rules and definitions for locating, extracting and naming data elements from the original Print Output.

It uses a collection of Lines, Parameters, States and EndStates to define how the source data is parsed into the XML output. (See References – An Explanation of the State Engine)

**Sample: QAD output converted to XML:**

The screenshot shows a software interface with two main panes. The left pane, titled "amount of input is 3693 bytes and 112 lines", displays the original QAD text output. The right pane, titled "there are 5013 bytes in the output", displays the converted XML structure.

**Text Output (Left Pane):**

```

18
19
20 Sales Order: 12409 Ship Date: 10/29/10
21 Order Date: 05/10/10 Purchase Order: 0060103
22 Salesperson(s): 10 Ship To: 401575
23 Ship Via: hertz truck line
24 Credit Terms: NET 30 BOL: 000441
25 BAL DOE IN 30 DAYS FOB Point: FACTORY
26 Resale: 461495
27 Remarks: Fed Ex Ground Account # 42771956
28 CONSIGNEE:
29 Minisoft CSP
30 1024 First Street
31 Snohomish WA 98290
32 800-682-0200
33
34
35
36 Item Number UM Shipped Qty B/O Tax Price Extended Price
37 -----
38 04-135 EA 126.0 0.0 No 56.05 7,062.3
39 Customer Item: 413-25
40 CUSTOMER P 413-25
41
42 ***** CONTINUED *****
43
44
45
46
47
48
49
50
51
52
53 <ff>
54
55
56
57
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63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87

```

**XML Output (Right Pane):**

```

Invoice ( 223075 )
Revision ( 0 )
InvoiceDate ( 10/29/10 )
PrintDate ( 11/03/10 )
BillTo ( 201575 )
SoldTo ( 201575 )
BillToCompany ( Minisoft Inc. )
ShipToCompany ( Minisoft Inc. )
BillToAddressLn1 ( Snohomish WA 98290 )
ShipToAddressLn1 ( Snohomish WA 98290 )
Remarks
DetailLine
Totals

```

At the bottom of the interface, there are buttons for "Test Results", "Test Log", "Test Log 2", "Verbose", "Test", "Save", "Load File...", "Save As...", and "Exit".

## **When should the preprocessor be used?**

When Print Output is formatted in a way that includes variably-sized blocks of data, the preprocessor can be used to enhance output that needs to be independent of the input page's conversion. Ordinarily, variable blocks would be Line items with multiple Lines of description.

## **When should the preprocessor not be used?**

Already XML - The Print Output needs to be in text or PCL format. The Text to XML conversion accepts text as input. Source data in XML, PDF, or image formats are not applicable to this process.

Too many pages - The Text to XML process keeps the working document in memory. Most systems will only handle a few thousand pages in a single Print Output without problems. If the Print Output is too large, use an output Bursting project to keep the size reasonable.



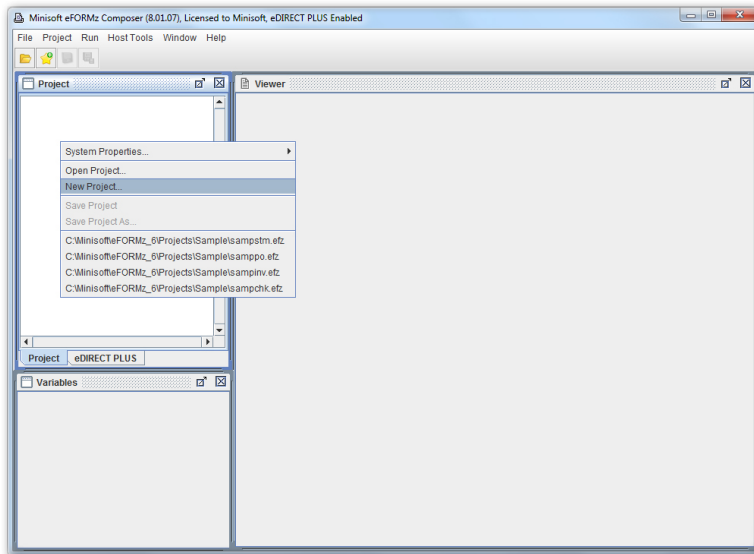
# *Configuring Text to XML*

---

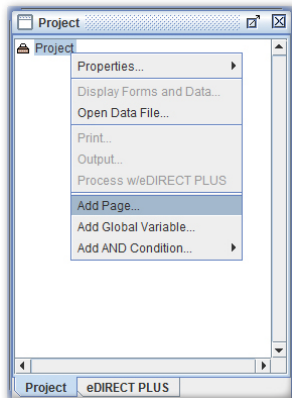
# Setting a Preprocessor for Text to XML Conversion

To implement the Text to XML Converter:

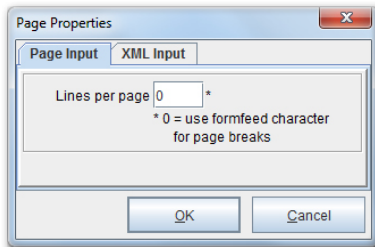
1. Create a new eFORMz Project by *right clicking* in the Project Window and selecting the *New Project* option.



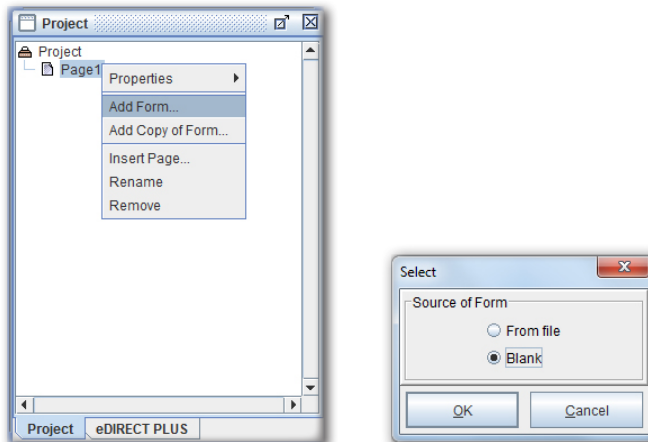
2. Next, *right click* the new Project name from the Project Viewer and choose *Add Page*.



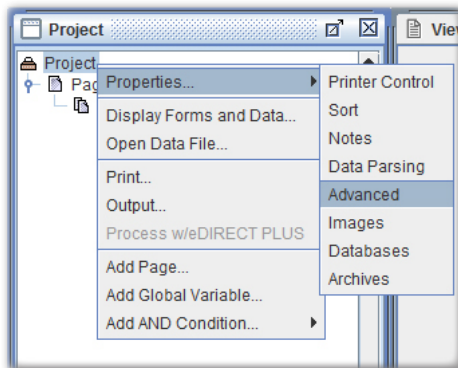
- The Page Properties dialog box will display. Click *OK* to proceed.



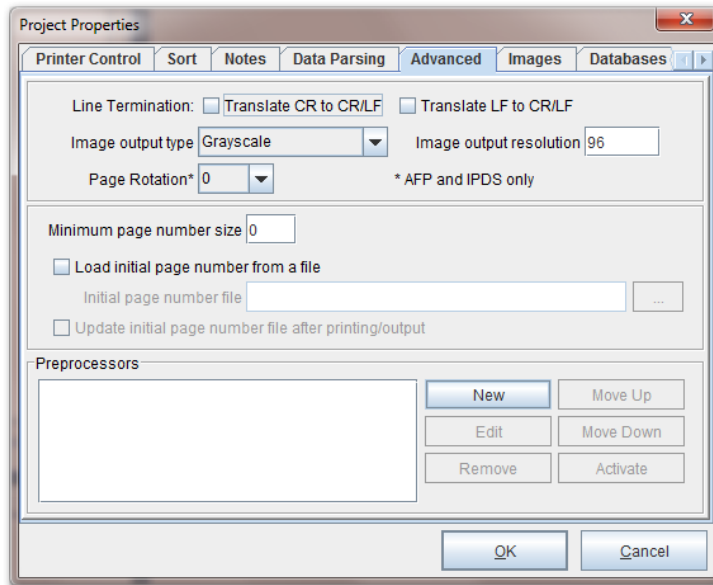
- To add a Form, *right click* the new Page and pick the *Add Form* option. Select *Blank*.



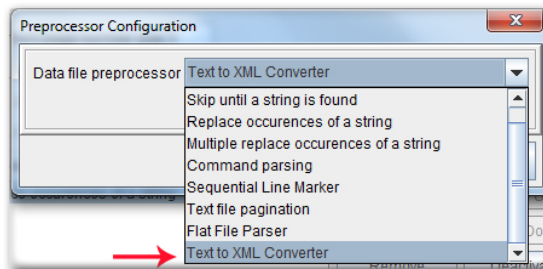
- Right click* the Project and select *Properties > Advanced*.



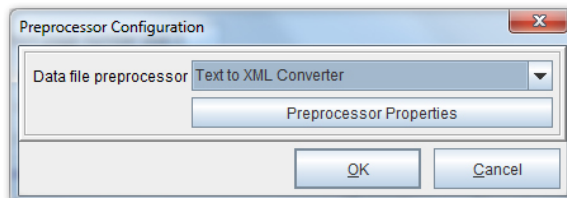
6. From the *Advanced tab > Preprocessors* section, select *New*.



7. Using the *Data file preprocessor* drop-down menu, select the *Text to XML Converter* option.

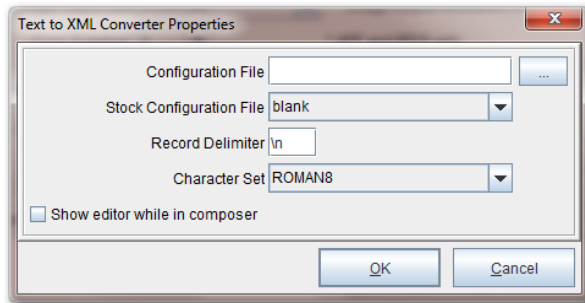


8. Edit the Preprocessor Properties by selecting *Preprocessor Properties*.





9. The Text to XML Converter Properties dialog box displays.



Options Available:

**Configuration File:** The file to configure the initial settings of the Text to XML Editor. This is an optional parameter and can be left blank.

**Stock Configuration File:** A pre-existing file that configures the initial settings of the Text to XML Editor.

**NOTE:** There are three stock options: *RedPrairie Ship Confirmation*, *RedPrairie Order Confirmation* and *blank*.

The RedPrairie Ship Confirmation structures the initial settings of the Text to XML Editor to handle a shipping confirmation generated by the RedPrairie Direct Commerce system. The RedPrairie Order Confirmation structures the initial settings of the Text to XML Editor to handle an order confirmation generated by the RedPrairie Direct Commerce system. These files can be modified with the Text to XML Editor, but by specifying the basic conditions, they can save the user significant time. Note: Default is *blank*.

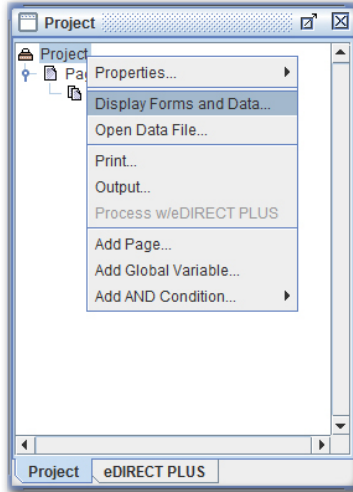
**Record delimiter:** Separates groups of fields by specifying the boundaries of the data stream. Default is a linefeed (\n = new line).

**Character Set:** All numbers, letters and symbols associated with a given coding system.

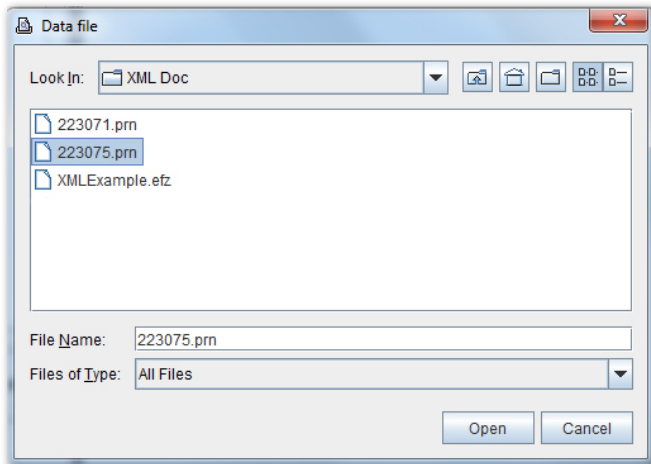
**Show editor while in composer:** When checked, displays the Text to XML Editor in the eFORMz Composer (Window > Text to XML Editor). Default is unchecked.

10. From the Stock Configuration File drop down, select *blank* and then select *OK*.

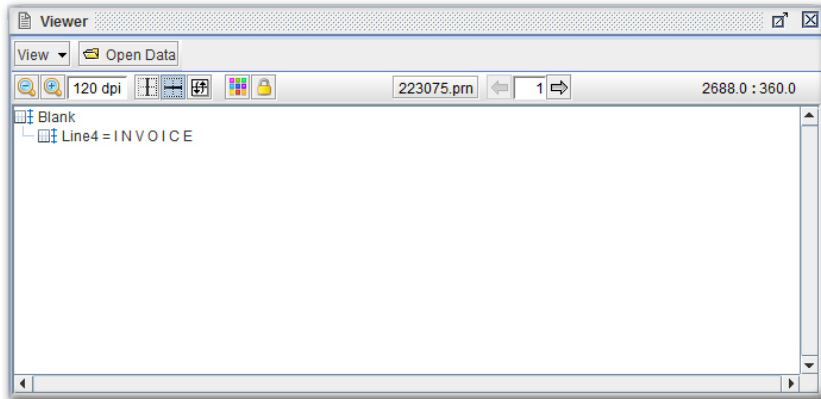
11. Return to the eFORMz Composer. Right click the *Project* and select *Display Forms and Data*.



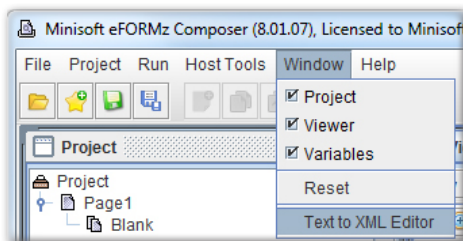
12. Choose the file to convert to XML and click *OK*.



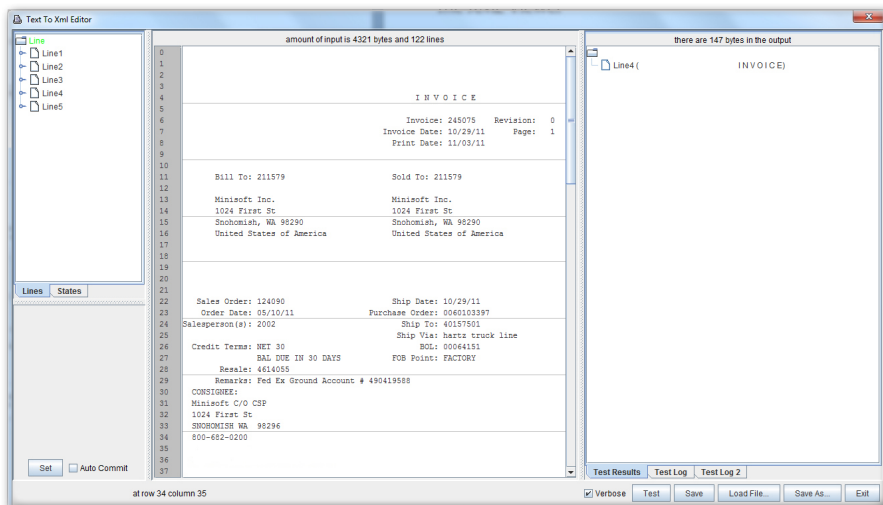
- The file will display as an XML file format in the Input Data Viewer.



- Once a given file has been converted, it can now be edited and configured for XML. To employ the Text to XML Editor, navigate to the *Window menu* and open the *Text to XML Editor*.



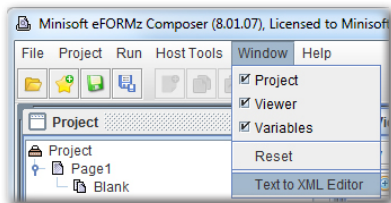
- The Text to XML Editor will appear in a new window.



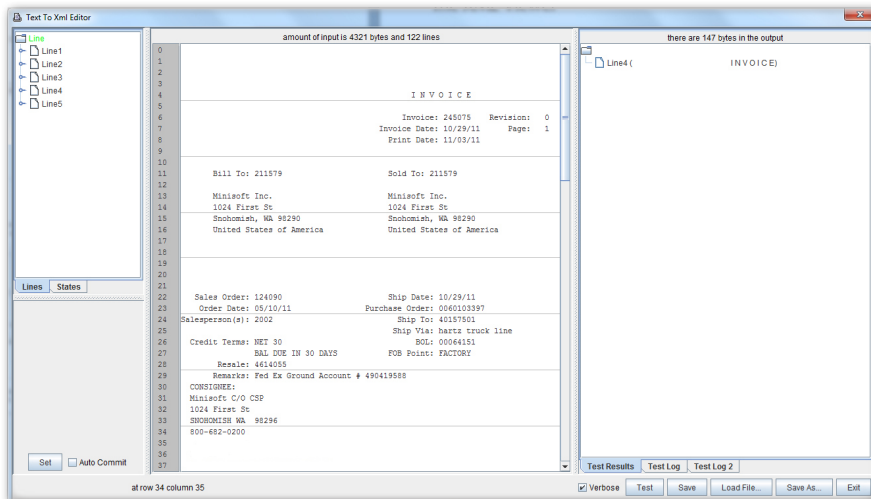
# The Text to XML Editor

Once a given file has been converted, it can now be edited and configured for XML. To employ the Text to XML Editor:

1. Navigate to the *Window menu* and open the *Text to XML Editor*.

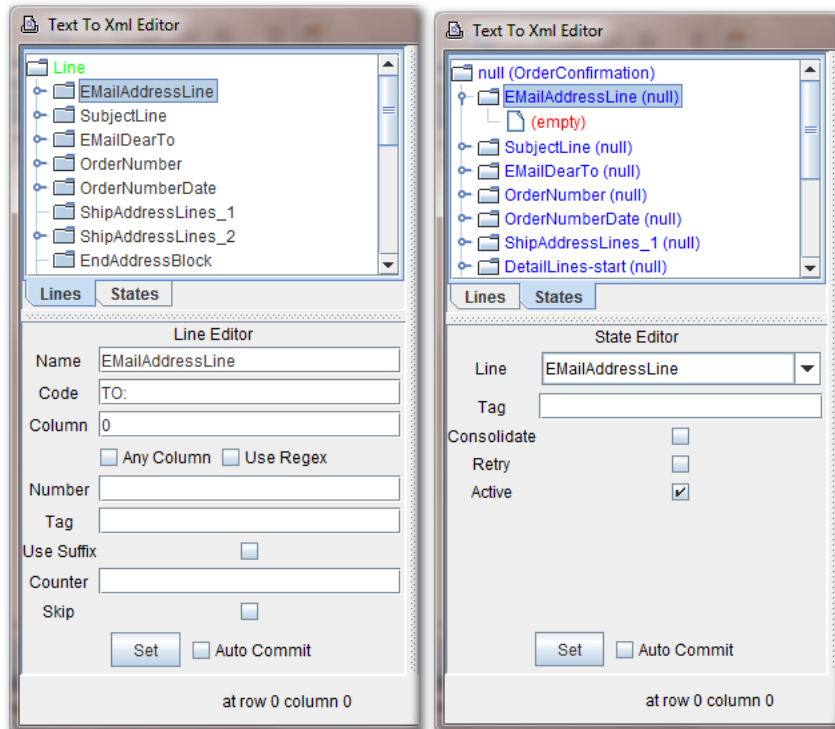


2. The Text to XML Editor will materialize in a new window.
3. The Text to XML Editor has three main window panes:
  - ◆ Line and State Viewer
  - ◆ Input Data Viewer
  - ◆ XML Data Viewer



## Line and State Viewer

The Lines and States Viewer allows you to edit and configure XML tags. Lines Configured in the Input Data Viewer will automatically display in the Lines Viewer. The Line at the top is the root element. A Line finds data in the input file. It can find a specific Line in the file by a number or by definition. The bottom, the Line Editor, shows the parameters of the particular Line.



## Adding Lines & Parameters in the Text to XML Editor

Having been introduced to the Text to XML Editor, the process of converting data to XML will necessitate the creation of Lines and Parameters.

1. To create a line, place the cursor at the Line that data will be found on in the Data Viewer.



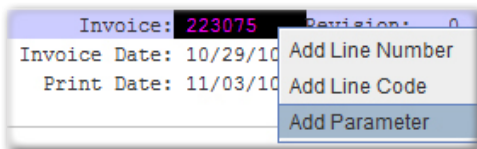
2. Right click and select Add Line Number.



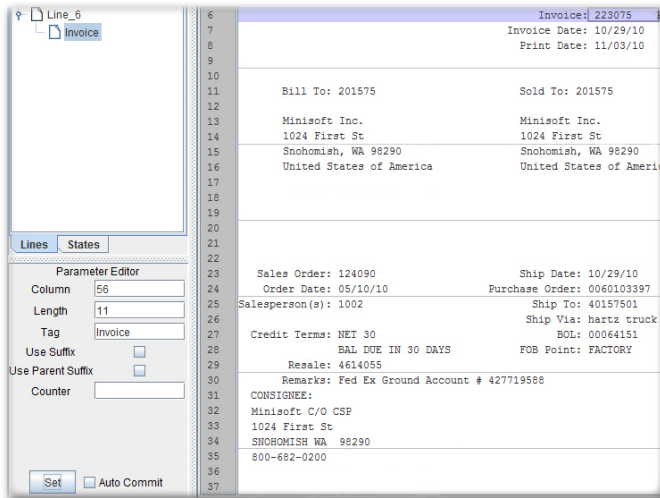
3. The Line Number will appear.



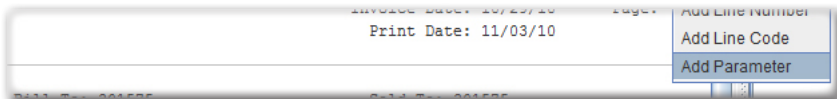
4. Parameters can now be added to the Line. Highlight the Invoice number all the way to the word Revision. Note: Highlighting the Parameter until the instance of another Parameter or label is a general practice that will ensure that all incoming data is picked up.



- The Parameter will appear with a tag of NewParameter. In the Tag field of the Parameter Editor, enter the name of the Parameter you want displayed in the XML output. Set the changes. Note: To further aid the process of picking up all of the incoming data for a given parameter, the Length field can be adjusted. If the Parameter's potential length isn't fully highlighted initially, specifying the Length acts as a good safeguard for finding all of the incoming data associated with that Parameter.



- To add another Parameter on the same Line, first select the Line icon. Then, highlight the Revision number, right click and pick the Add Parameter option.



## SECTION 1

- Specify the Tag and verify the Length in the Parameter Editor. Set the Changes. The Revision Parameter will display.

**Parameter Editor**

Column

Length

Tag

Use Suffix

Use Parent Suffix

Counter

Auto Commit

Line_6	3	
Invoice	4	I N V O I C E
Revision	5	
	6	Invoice: 223075 Revision: 0

- Continue adding Lines and Parameters.

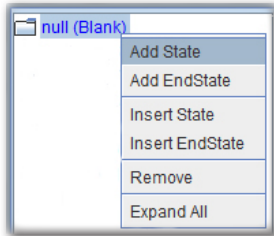
Line		amount of input is 4321 bytes and 122 lines
Line_6	11	Bill To: 2019/5 Sold To: 2019/5
Line_7	12	
Line_8	13	Minisoft Inc. Minisoft Inc.
Line_11	14	1024 First St 1024 First St
Line_13	15	Snohomish, WA 98290 Snohomish, WA 98290
Line_14	16	United States of America United States of America
Line_15	17	
Line_16	18	
Line_17	19	
Line_23	20	
Line_24	21	
Line_25	22	Sales Order: 124090 Ship Date: 10/29/10
Line_26	23	Order Date: 05/10/10 Purchase Order: 0060103397
Line_27	24	Salesperson(s): 1002 Ship To: 40187501
Line_28	25	Credit Terms: NET 30 Ship Via: hartz truck line
Line_29	26	BAL DUE IN 30 DAYS BOL: 00064151
	27	Resale: 4614055 FOB Point: FACTORY



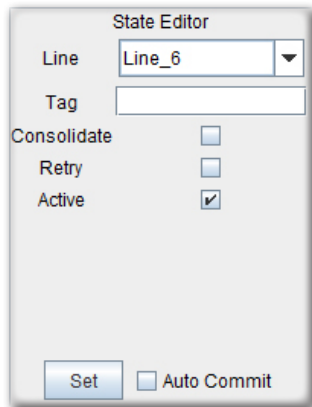
## Adding States in the Text to XML Editor

While Lines find the data, and Parameters describe it, States put the Lines and Parameters to work. To finish the XML conversion process, the Lines and Parameters that have been created must be referenced by States.

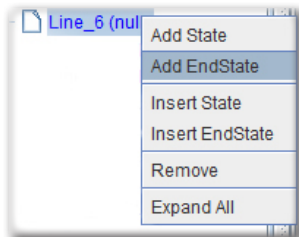
1. Switch to the States tab. Right click null (Blank) and select Add State.



2. Select Line 6 from the Line drop-down menu. Click Set.

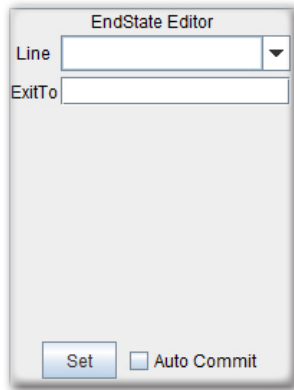


3. Right click the State and select Add EndState.

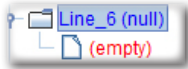


## SECTION 1

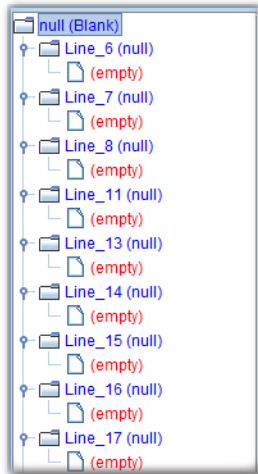
4. Click Set. Note: An empty setting means that an explicit line is only going to be processed once.



5. The State with the information from Line\_6 will display.



6. Continue adding States and EndStates.

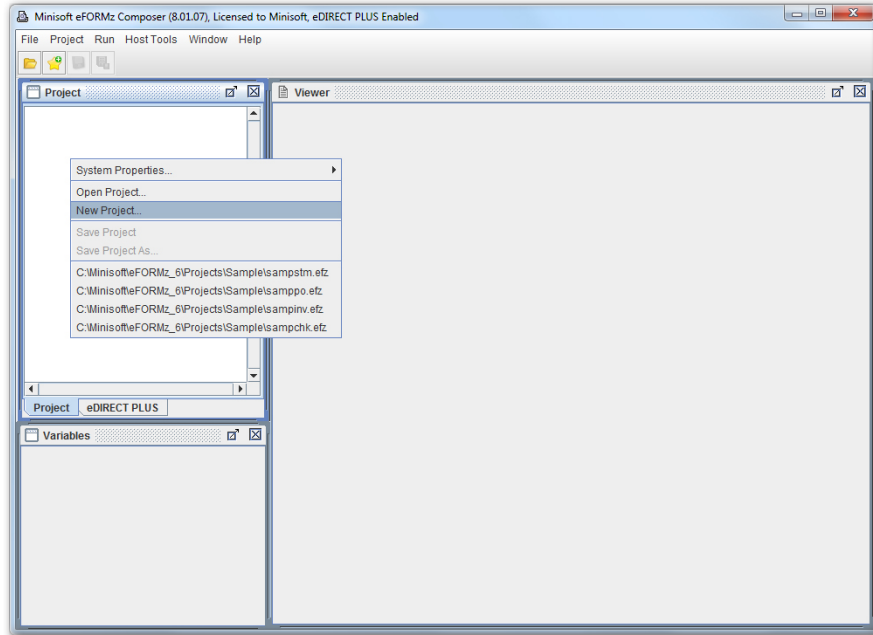




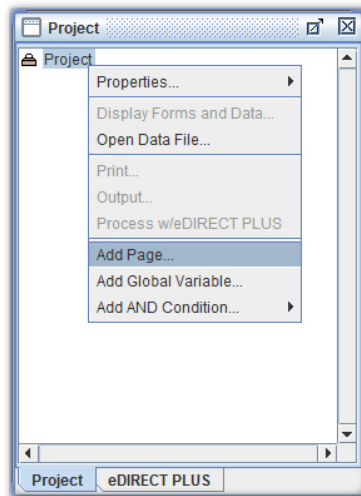
# *Configuring for QAD*

Create a new eFORMz Project:

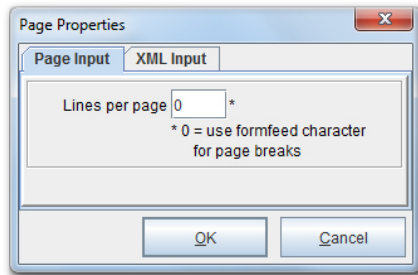
1. *Right clicking* in the Project Window and selecting the *New Project* option.



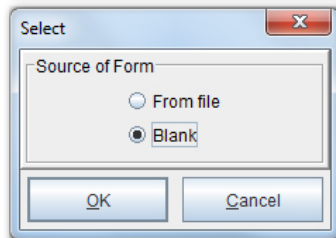
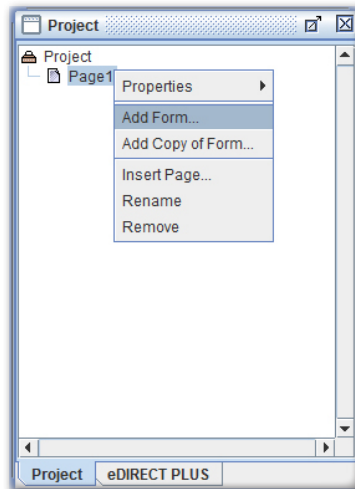
2. Next, *right click* the new Project and choose *Add Page*.



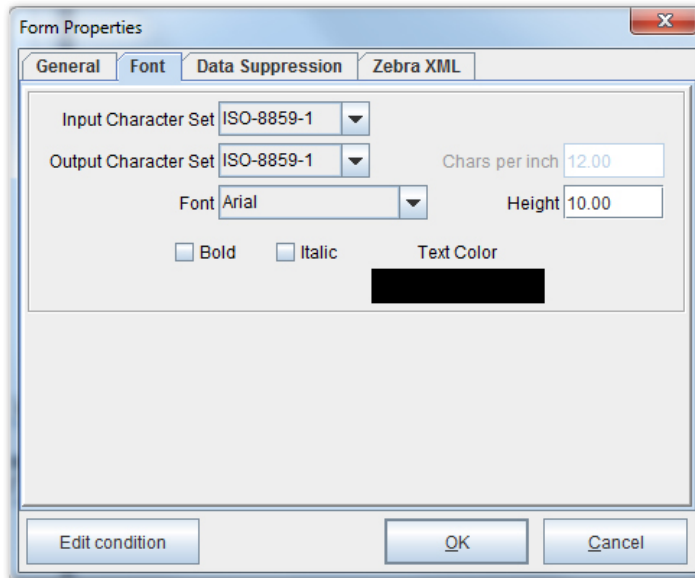
3. The *Page Properties* dialog box will display. Click *OK* to proceed.



4. To add a Form, right click the new *Page* and pick the *Add Form* option. Select *Blank*.

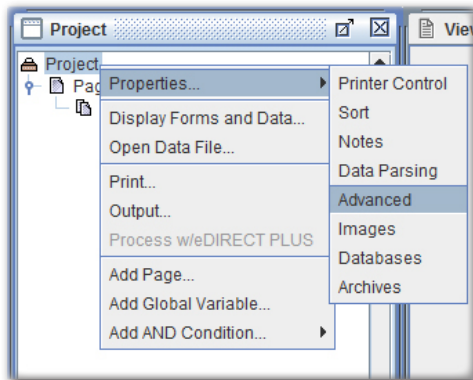


- The Form Properties dialog box will appear. Navigate to the *Fonts* tab. Set the *Input Character Set* and the *Output Character Set* to *ISO-8859-1*. In the *Font* field, select *Arial* from the drop-down menu and set the *Height* to *10*.

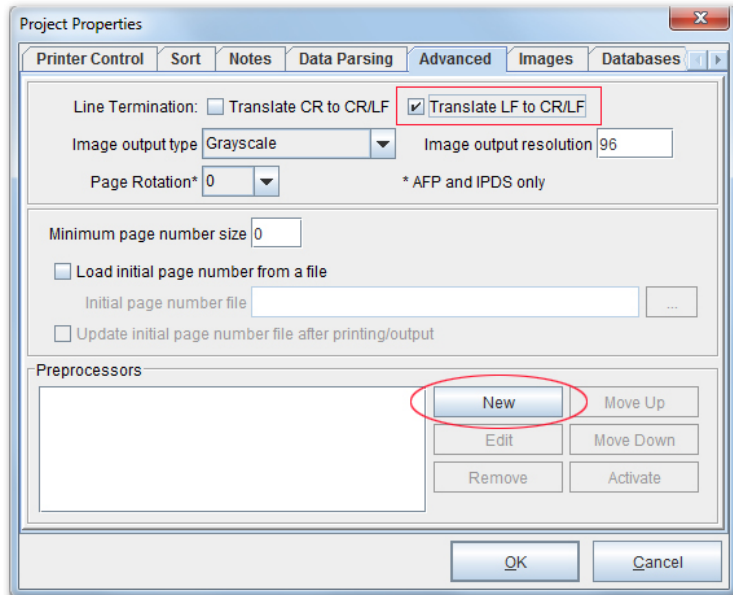


**TIP:** By using ISO-8859-1, there is continuity between input and output regardless of platform.

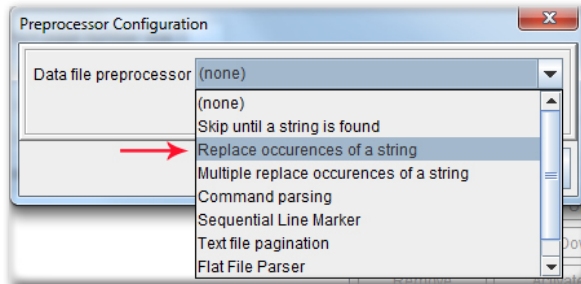
- Right click the Project and select *Properties > Advanced*.



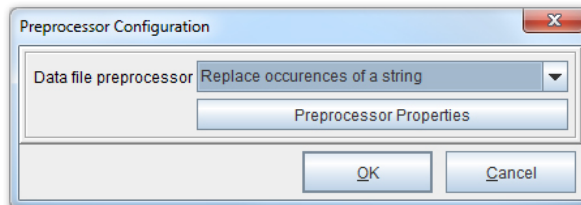
7. The Project Properties dialog box will display. First, check the *Translate LF to CR/LF* option in the Line Termination field. Then, in the Preprocessors section, select *New*.



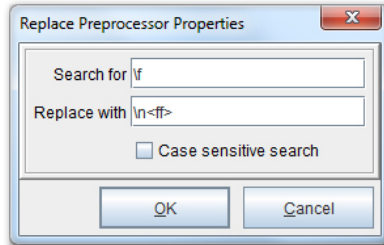
8. The Preprocessor Configuration dialog box will appear. Utilizing the Data file preprocessor drop-down menu, select *Replace occurrences of a string*.



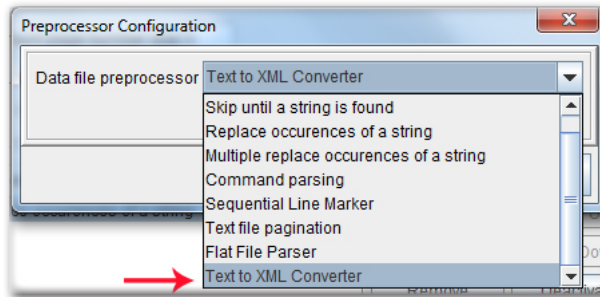
9. With the choice made, edit the *Preprocessor Properties*.



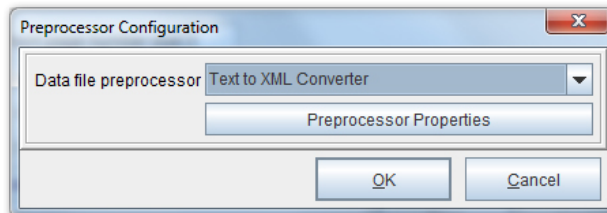
10. The Replace Preprocessor Properties dialog box comes into view. In the *Search for* field, type `\f` and in the *Replace with* field, type `\n<ff>`. This will replace all occurrences of FormFeed with a new Line and the characters `<ff>`. Select *OK*.



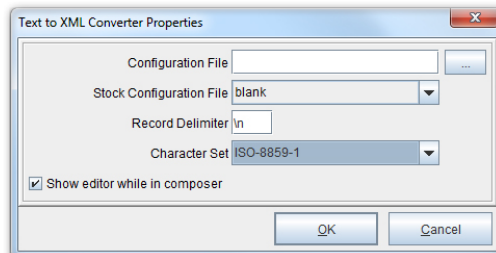
11. Using the *Data file preprocessor* drop-down menu once more, select the *Text to XML Converter* option.



12. Edit the *Preprocessor Properties*.

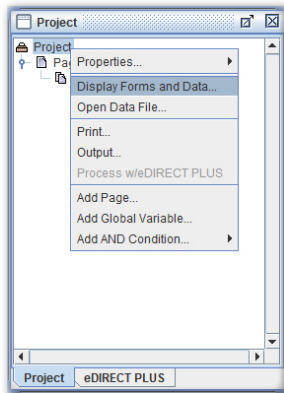


13. The Text to XML Converter Properties dialog box comes into view. From the *Character Set* drop-down menu, select the *ISO-8859-1* option. Check the *Show editor while in composer* box and then click *OK*.

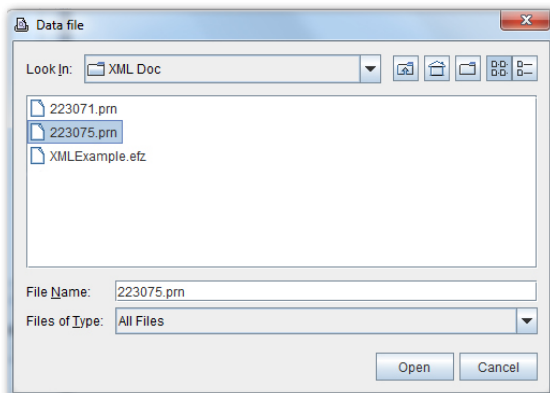




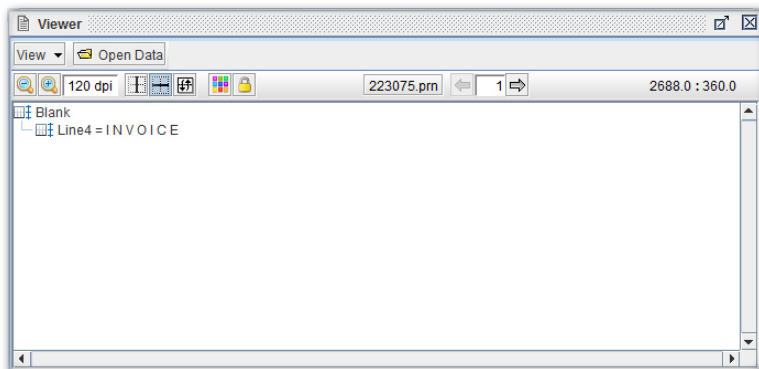
14. Return to the eFORMz Composer. Right click the *Project* and select *Display Forms and Data*.



15. Choose the file to convert to XML and click OK.



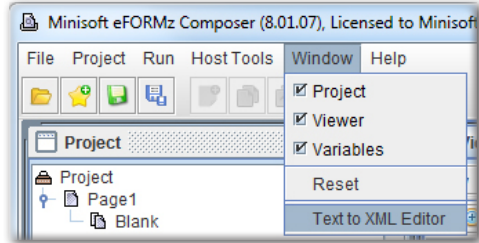
16. The file will display as an XML file in the *Input Data Viewer*.



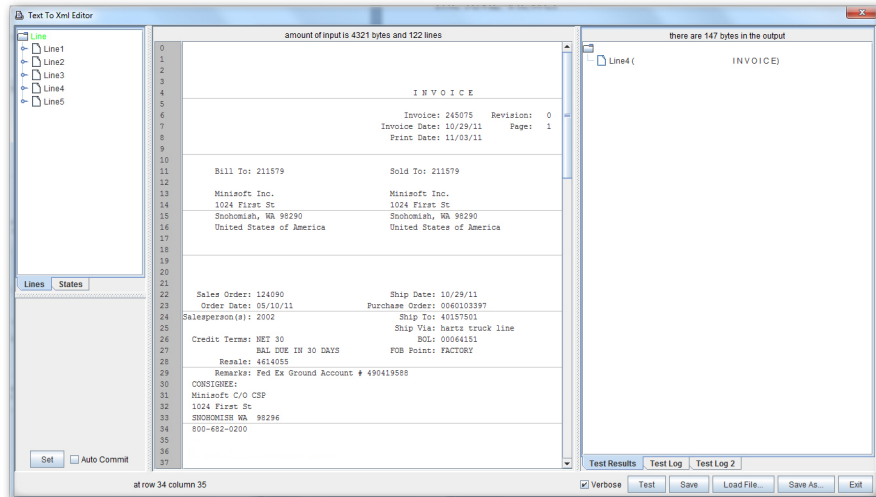
## SECTION 2

Once a given file has been converted, it can now be edited and configured for XML. To employ the Text to XML Editor:

1. Navigate to the *Window* menu and open the *Text to XML Editor*.



2. The Text to XML Editor will materialize in a new window.



# Text to XML Editor

## Adding Lines & Parameters

The process of converting data to XML will first require the creation of Lines and Parameters.

1. To create a line, place the cursor at the Line that data will be found on in the Data Viewer.



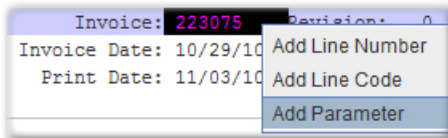
2. *Right click* and select *Add Line Number*.



3. The Line Number will appear in the Line and Parameter Viewer.



4. Parameters can now be added to the Line. Highlight the Invoice number all the way to the word Revision. Note: Highlighting the Parameter until the instance of another Parameter or label is a general practice that will ensure that all incoming data is picked up.



## SECTION 2

- The Parameter will appear with a tag of NewParameter. In the Tag field of the Parameter Editor, enter the name of the Parameter you want displayed in the XML output. Set the changes by selecting *Set*.

The screenshot displays a 'Parameter Editor' window for 'Line\_6'. The 'Tag' field is set to 'Invoice'. The 'Column' is 56 and 'Length' is 11. There are checkboxes for 'Use Suffix' and 'Use Parent Suffix', both of which are unchecked. A 'Counter' field is empty. A 'Set' button is located at the bottom left of the editor. The background shows a data table with the following content:

6	Invoice: 223075	
7	Invoice Date: 10/29/10	
8	Print Date: 11/03/10	
9		
10		
11	Bill To: 201575	Sold To: 201575
12		
13	Minisoft Inc.	Minisoft Inc.
14	1024 First St	1024 First St
15	Snohomish, WA 98290	Snohomish, WA 98290
16	United States of America	United States of America
17		
18		
19		
20		
21		
22		
23	Sales Order: 124090	Ship Date: 10/29/10
24	Order Date: 05/10/10	Purchase Order: 0060103397
25	Salesperson(s): 1002	Ship To: 40157501
26		Ship Via: hartz truck
27	Credit Terms: NET 30	BOL: 00064151
28	BAL DUE IN 30 DAYS	FOB Point: FACTORY
29	Resale: 4614055	
30	Remarks: Fed Ex Ground Account # 427719588	
31	CONSIGNEE:	
32	Minisoft C/O CSP	
33	1024 First St	
34	SNOHOMISH WA 98290	
35	800-682-0200	
36		
37		

**NOTE:** To further aid the process of picking up all of the incoming data for a given parameter, the Length field can be adjusted. If the Parameter's potential length isn't fully highlighted initially, specifying the Length acts as a good safeguard for finding all of the incoming data associated with that Parameter.

- To add another Parameter on the same Line, first select the Line icon. Then, highlight the Revision number, right click and pick the Add Parameter option.

The screenshot shows the 'Parameter Editor' for 'Line\_6' with a right-click context menu open over the 'Revision' field. The menu options are 'Add Line Number', 'Add Line Code', and 'Add Parameter'. The background data table is partially visible:

6	Invoice: 223075	Revision: 0	
7	Invoice Date: 10/29/10	Page:	
8	Print Date: 11/03/10		
9			
10			

- Specify the Tag and verify the Length in the Parameter Editor. Set the Changes. The Revision Parameter will display.

**Parameter Editor**

Column

Length

Tag

Use Suffix

Use Parent Suffix

Counter

Auto Commit

Line_6	3		
Invoice	4		
Revision	5		
	6		

I N V O I C E	
Invoice: 223075	Revision: 0

- Continue adding Lines and Parameters:

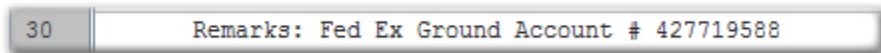
Line		amount of input is 4321 bytes and 122 lines	
Line_6	11	Bill To: 201575	Sold To: 201575
Line_7	12		
Line_8	13	Minisoft Inc.	Minisoft Inc.
Line_11	14	1024 First St	1024 First St
Line_13	15	Snohomish, WA 98290	Snohomish, WA 98290
Line_14	16	United States of America	United States of America
Line_15	17		
Line_16	18		
Line_17	19		
Line_23	20		
Line_24	21	Sales Order: 124090	Ship Date: 10/29/10
Line_25	22	Order Date: 05/10/10	Purchase Order: 0060103397
Line_26	23	Salesperson(s): 1002	Ship To: 40157501
Line_27	24		Ship Via: hartz truck line
Line_28	25	Credit Terms: NET 30	BOL: 00064151
Line_29	26	BAL DUE IN 30 DAYS	FOB Point: FACTORY
	27	Resale: 4614055	

# Troubleshooting with Lines & Parameters

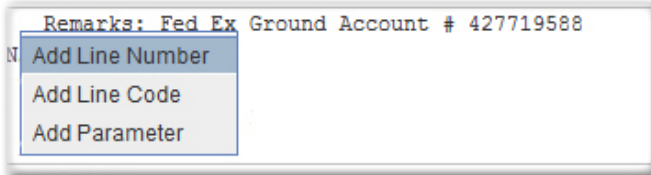
When using Lines and Parameters to find and describe data, difficulties may arise. Some common problems users face are how to deal with comments, detail lines and blank spaces. An approach to these portions of a data file is the subject of this section.

## Comments & Remarks

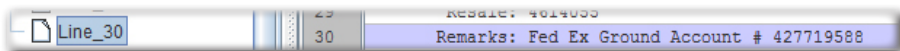
1. First, navigate to the Line where comments begin. Establish the cursor as shown before.



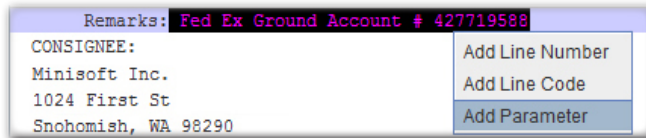
2. *Right click* the Line and select *Add Line Number*.



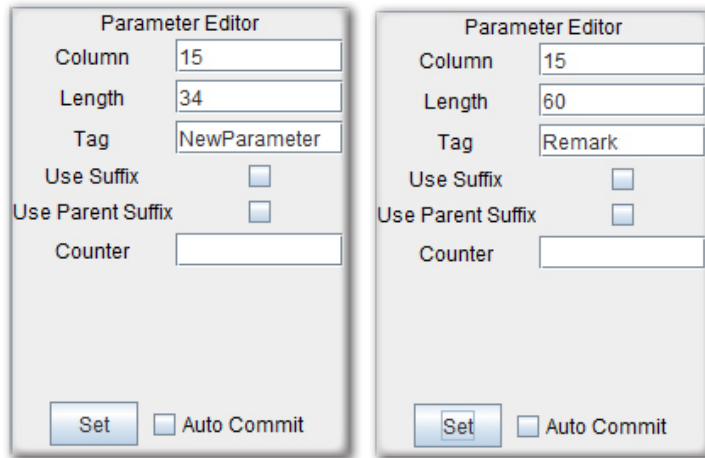
3. The Line will display.



4. Highlight the data after Remarks: and select *Add Parameter*.



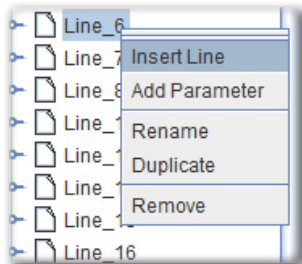
- In the Parameter Editor, enter a name in the Tag field (i.e. Remark) and increase the Length of the Parameter.



**NOTE:** The box outlining the Parameter will not change in appearance, but it will conform to the Length specified in the Parameter Editor.

Remarks: Fed Ex Ground Account # 427719588

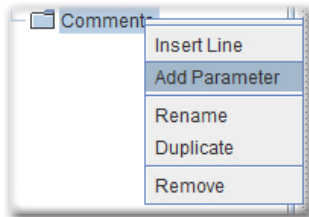
- Highlight any Line, right click and select *Insert Line*.







9. Right click the Line and select *Add Parameter*.



10. In the Parameter Editor, set the Column to 2, the Length to 78 and the Tag to Remark.

Parameter Editor

Column

Length

Tag

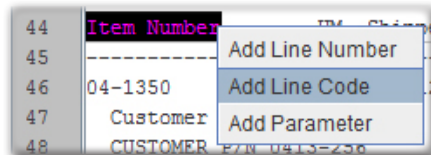
Use Suffix

Use Parent Suffix

Counter

Auto Commit

11. Next, scroll to the Line which begins the detail lines. Highlight the first instance of data on the Line (i.e.: Item Number), right click and select *Add Line Code*.



**NOTE:** Add Line Code will not reference the particular Line Number, but any line of the data that matches the value entered in Line Code. Multiple lines can match the value.

## SECTION 2

12. In the Line Editor, enter the Name (Ex. CommentsEnd) and set the change. This Line is intended to end the Comments section. Note: As no Parameter will be defined, the data will not be included as XML.

**Line Editor**

Name

Code

Column

Any Column    Use Regex

Number

Tag

Use Suffix

Counter

Skip

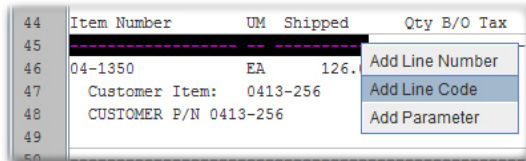
   Auto Commit

**NOTE:** In the Code field, only Item Number appears, as it was the lone piece of data highlighted. However, the instance of Item Number on a particular Line will make all other data following on that Line subject to the same actions taken by States.

44	Item Number	UM	Shipped	Qty B/O Tax	Price	Exter
84	Item Number	UM	Shipped	Qty B/O Tax	Price	Extended Pric

## Detail Lines

- To begin adding detail lines, scroll to the line below the CommentsEnd Line. Highlight the dashes from the first column through Shipped, or enough so that there are spaces between the groups of dashes, right click and choose Add Line Code.



- In the Line Editor, enter the Name (Ex. DetailsStart) and set the change. This Line will mark the beginning of the detail lines. Note: As there is no Parameter, the dashes will not be included as XML. This Line acts as a marker and its contents will be acted upon by States in the same fashion as the CommentsEnd Line.

**Line Editor**

Name:

Code:

Column:

Any Column  Use Regex

Number:

Tag:

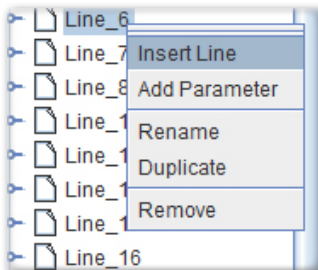
Use Suffix:

Counter:

Skip:

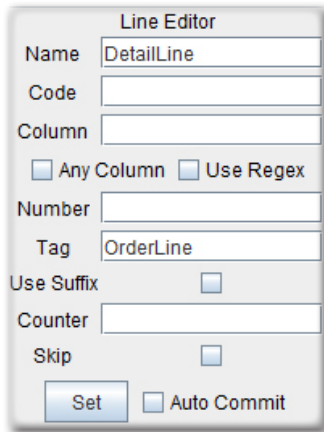
Auto Commit

- Right click any Line and select Insert Line.



## SECTION 2

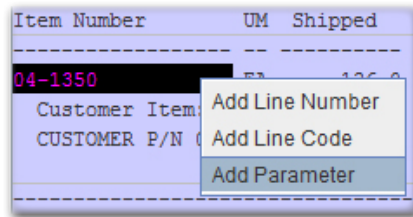
4. Enter a *Name* (i.e. DetailLine) and set the *Tag* field (i.e. OrderLine).



The Line Editor dialog box contains the following fields and options:

- Name: DetailLine
- Code: [Empty]
- Column: [Empty]
- Any Column  Use Regex
- Number: [Empty]
- Tag: OrderLine
- Use Suffix:
- Counter: [Empty]
- Skip:
- Buttons: Set,  Auto Commit

5. With the DetailLine defined, highlight the first instance of data and select *Add Parameter*.



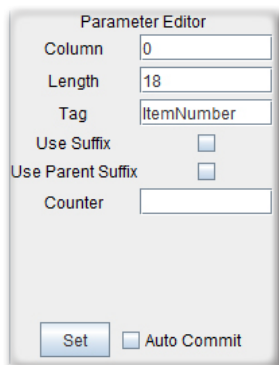
Item Number	UM	Shipped
04-1350		
Customer Item		
CUSTOMER P/N		

A context menu is open over the first data row, showing the following options:

- Add Line Number
- Add Line Code
- Add Parameter

**TIP:** Highlight to meet the dashes, as they indicate the maximum amount of data that will occur for a given field. As a result, Parameters will pick up all of the incoming data.

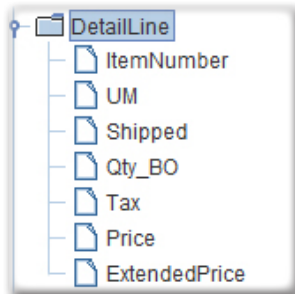
6. In the Parameter Editor, set the *Tag* to correspond with the data being described (i.e. ItemNumber).



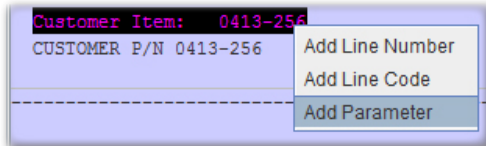
The Parameter Editor dialog box contains the following fields and options:

- Column: 0
- Length: 18
- Tag: ItemNumber
- Use Suffix:
- Use Parent Suffix:
- Counter: [Empty]
- Buttons: Set,  Auto Commit

7. Continue adding Parameters in this manner until reaching any descriptions.



8. With a description, highlight it, *right click* and select *Add Parameter*. Note: There is no need to highlight from Column o.



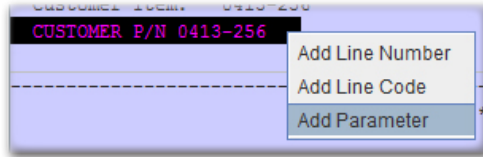
9. In the Parameter Editor, make the Length 60 and enter a value in the Tag field (i.e. Description) and set the changes.

Parameter Editor	
Column	<input type="text" value="2"/>
Length	<input type="text" value="60"/>
Tag	<input type="text" value="Description"/>
Use Suffix	<input type="checkbox"/>
Use Parent Suffix	<input type="checkbox"/>
Counter	<input type="text"/>
<input type="button" value="Set"/> <input type="checkbox"/> Auto Commit	

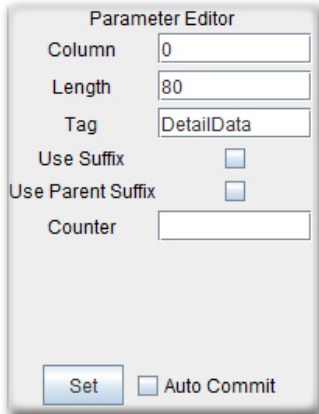
**NOTE:** 60 should suffice for picking up all of the description. As highlighting beyond the present data may not be possible, always adjust the Length to the appropriate level in the Parameter Editor.

SECTION 2

10. Highlight the final Line, *right click* and pick the *Add Parameter* option.



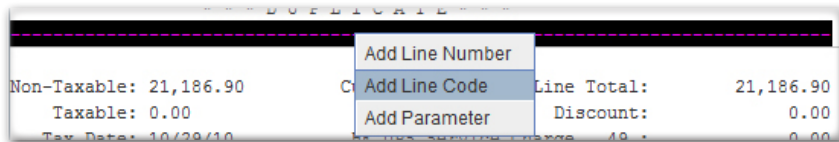
11. In the Parameter Editor, make the Length 80 and enter a value in the Tag field (i.e. DetailData) and set the changes.



**NOTE:** 80 should suffice for picking up any additional, miscellaneous detail items. As highlighting beyond the present data may not be possible, always adjust the Length to the appropriate level in the Parameter Editor.

12. Add a Line Code for the Line of dashes below the DetailData Line by highlighting all of the dashes, *right clicking* and selecting *Add Line Code*.

Note: These dashes will not be included as XML, as no Parameter will describe the Line.



- Enter a *Name* (i.e. Dashes) and set the changes.

The 'Line Editor' dialog box is shown with the following fields and options:

- Name: Dashes
- Code: -----
- Column: 0
- Any Column  Use Regex
- Number: [empty]
- Tag: [empty]
- Use Suffix:
- Counter: [empty]
- Skip:
- Buttons: Set,  Auto Commit

- Add a *Line Code* for the Line below the Dashes Line by highlighting the whole line, right clicking and selecting *Add Line Code*.



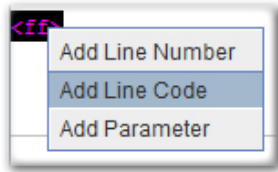
- Enter a *Name* (i.e. Continued) and set the changes.

The 'Line Editor' dialog box is shown with the following fields and options:

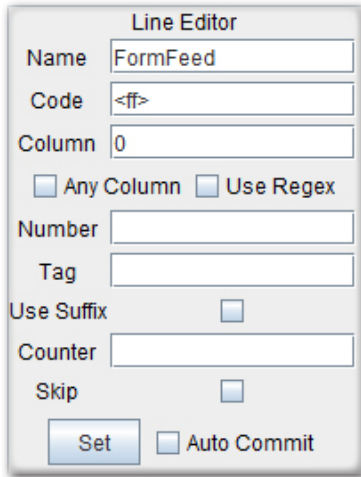
- Name: Continued
- Code: CONTINUED \*\*\*\*\*
- Column: 0
- Any Column  Use Regex
- Number: [empty]
- Tag: [empty]
- Use Suffix:
- Counter: [empty]
- Skip:
- Buttons: Set,  Auto Commit

## SECTION 2

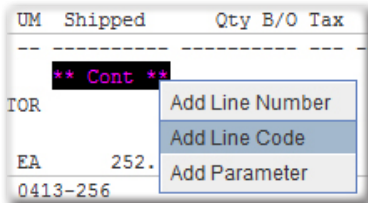
16. Add a Line Code for the Line with the <ff> tag by highlighting the whole line, right clicking and selecting *Add Line Code*.



17. Enter a Name (i.e. FormFeed) and set the changes.

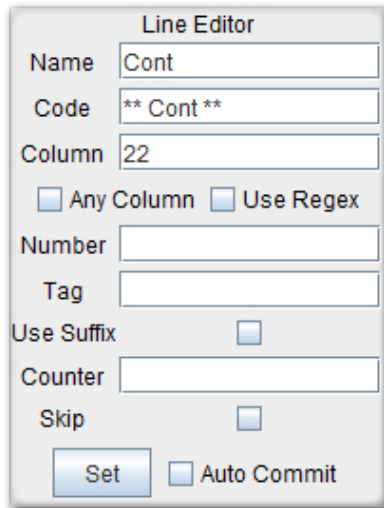
A screenshot of a 'Line Editor' dialog box. It contains several input fields and checkboxes. The 'Name' field is filled with 'FormFeed', the 'Code' field with '<ff>', and the 'Column' field with '0'. There are checkboxes for 'Any Column', 'Use Regex', 'Use Suffix', and 'Skip'. At the bottom, there is a 'Set' button and an 'Auto Commit' checkbox which is unchecked.

18. Add a Line Code for the Line with the \*\* Cont \*\* data by highlighting it, right clicking and selecting *Add Line Code*.





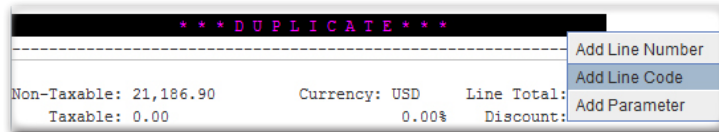
19. Enter a *Name* (i.e. Cont) and set the changes.



The 'Line Editor' dialog box contains the following fields and options:

- Name: Cont
- Code: \*\* Cont \*\*
- Column: 22
- Any Column  Use Regex
- Number: [Empty]
- Tag: [Empty]
- Use Suffix:
- Counter: [Empty]
- Skip:
- Buttons: Set,  Auto Commit

20. *Add a Line Code* for the Line with the **\*\*\* D U P L I C A T E \*\*\*** data by highlighting it, *right clicking* and selecting *Add Line Code*.



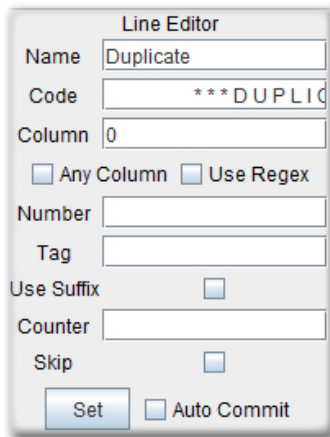
The screenshot shows a line item with the following details:

- Line Code: \*\*\* D U P L I C A T E \*\*\*
- Non-Taxable: 21,186.90
- Taxable: 0.00
- Currency: USD
- 0.00%
- Line Total:
- Discount:

A context menu is open over the line code, with the following options:

- Add Line Number
- Add Line Code (highlighted)
- Add Parameter

21. Enter a *Name* (i.e. Duplicate) and set the changes.

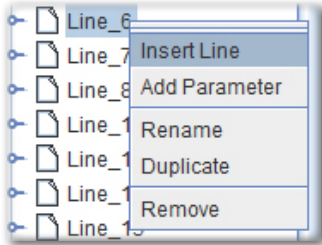


The 'Line Editor' dialog box contains the following fields and options:

- Name: Duplicate
- Code: \*\*\* D U P L I C
- Column: 0
- Any Column  Use Regex
- Number: [Empty]
- Tag: [Empty]
- Use Suffix:
- Counter: [Empty]
- Skip:
- Buttons: Set,  Auto Commit

## White Space

1. Highlight any Line, *right click* and select *Insert Line*.



2. In the Line Editor, begin by setting the Name field (i.e. Blank). In the Code field, enter the value of `^\s*$` and check the *Use Regex* box. Set *Column* to 0.

Line Editor

Name

Code

Column

Any Column  Use Regex

Number

Tag

Use Suffix

Counter

Skip

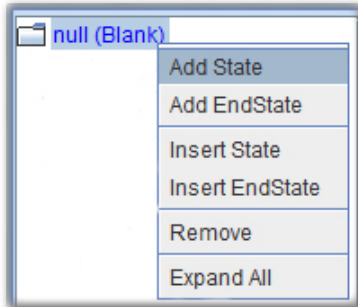
Auto Commit

**NOTE:** The regular expression in the Code field finds the Lines that contain nothing but white space.

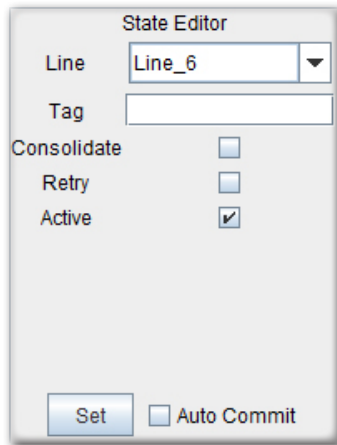
## Adding States in the Text to XML Editor

While Lines find the data, and Parameters describe it, States put the Lines and Parameters to work. In order to make the conversion to XML possible, the user must reference the Lines and Parameters they've created with States.

1. Switch to the *States* tab. Right click null (Blank) and select *Add State*.

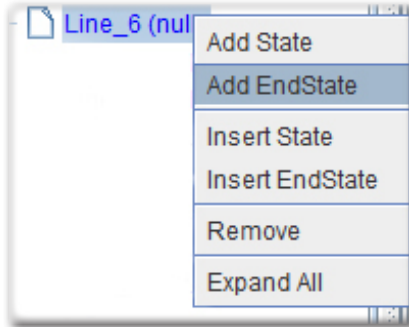


2. Select Line 6 from the *Line* drop-down menu. Click *Set*.

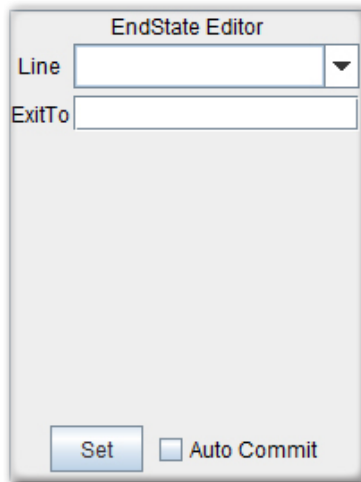


## SECTION 2

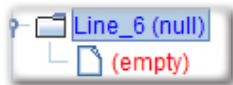
3. Right click the State and select *Add EndState*.



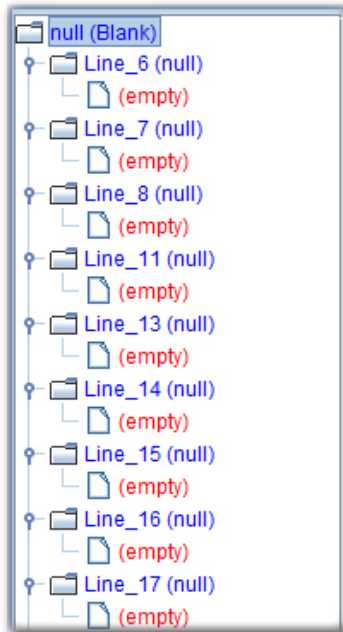
4. Click *Set*. Note: An empty setting means that an explicit line is only going to be processed once.



5. The State with the information from Line\_6 will display.



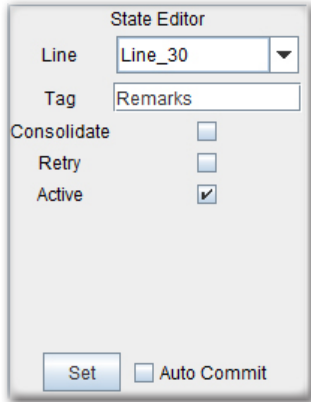
6. Continue adding States and EndStates.



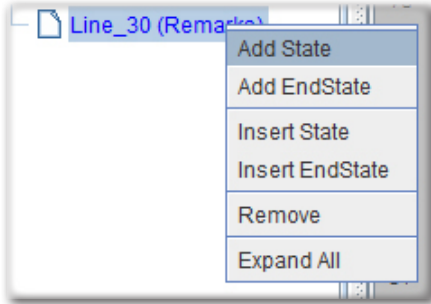
## Troubleshooting with States

Issues arise with States when nesting is involved, which is typically necessary with Line Code elements.

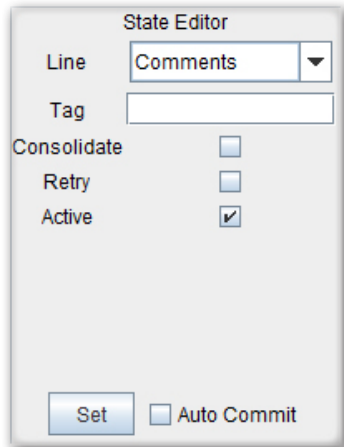
1. *Right click* any *State* and select *Insert State*. In the State Editor, choose Line\_30 from the drop-down menu and set the *Tag* to Remarks.



2. *Right click* the Line\_30 State and select *Add State*. Note: This will nest a state within an existing State. In other words, the existing State is a parent element and the nested State is a child element.

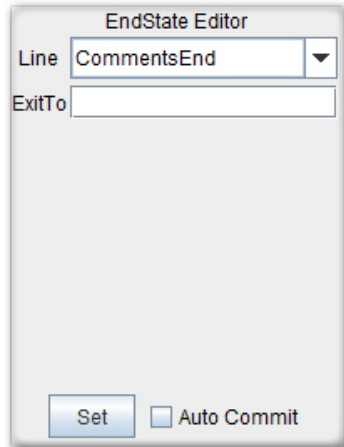


3. Choose Comments from the drop-down menu and click *Set*.



The screenshot shows the "State Editor" dialog box. It has a title bar "State Editor". Below the title bar, there is a "Line" dropdown menu with "Comments" selected. Below that is a "Tag" text input field. There are three checkboxes: "Consolidate" (unchecked), "Retry" (unchecked), and "Active" (checked). At the bottom, there is a "Set" button and an "Auto Commit" checkbox (unchecked).

4. *Right click* Comments and select *Add EndState*. Select CommentsEnd.



The screenshot shows the "EndState Editor" dialog box. It has a title bar "EndState Editor". Below the title bar, there is a "Line" dropdown menu with "CommentsEnd" selected. Below that is an "ExitTo" text input field. At the bottom, there is a "Set" button and an "Auto Commit" checkbox (unchecked).

5. Right click Line\_30 and select *Add EndState*. Select CommentsEnd.

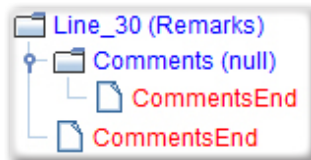


EndState Editor

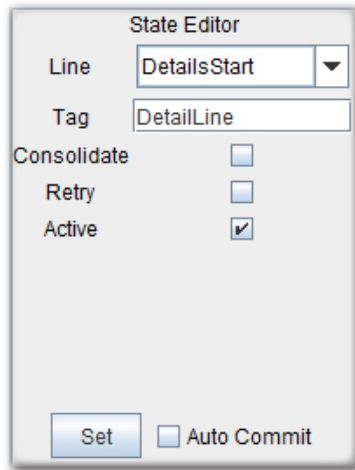
Line: CommentsEnd

ExitTo:

Set  Auto Commit



6. Right click any State and select *Insert State*. In the State Editor, choose DetailsStart from the drop-down menu and set the Tag to DetailLine.



State Editor

Line: DetailsStart

Tag: DetailLine

Consolidate

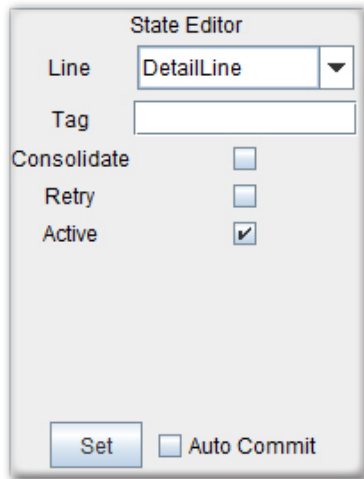
Retry

Active

Set  Auto Commit

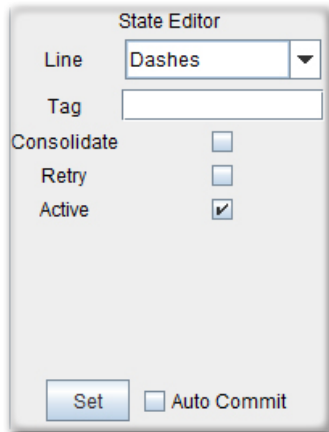


7. *Right click* the DetailsStart State and select *Add State*. In the State Editor, choose DetailLine from the drop-down menu and click *Set*.



The screenshot shows the 'State Editor' dialog box. The 'Line' dropdown menu is set to 'DetailLine'. The 'Tag' field is empty. The 'Consolidate' checkbox is unchecked, 'Retry' is unchecked, and 'Active' is checked. At the bottom, there is a 'Set' button and an unchecked 'Auto Commit' checkbox.

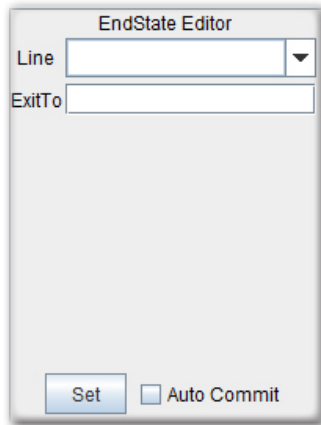
8. *Right click* the DetailsLine State and select *Add State*. In the State Editor, choose Dashes from the drop-down menu and click *Set*.



The screenshot shows the 'State Editor' dialog box. The 'Line' dropdown menu is set to 'Dashes'. The 'Tag' field is empty. The 'Consolidate' checkbox is unchecked, 'Retry' is unchecked, and 'Active' is checked. At the bottom, there is a 'Set' button and an unchecked 'Auto Commit' checkbox.

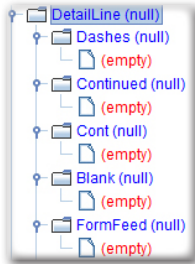
## SECTION 2

9. *Right click* the Dashes State and select *Add EndState*. Set the EndState Editor as empty.

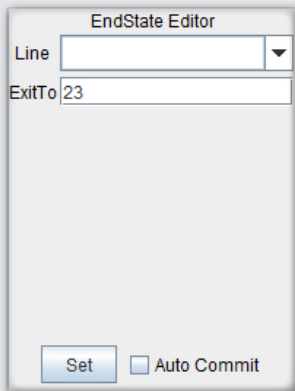


The EndState Editor dialog box is shown. It has a title bar "EndState Editor". Below the title bar, there is a "Line" dropdown menu and an "ExitTo" text input field. Both are currently empty. At the bottom, there is a "Set" button and an "Auto Commit" checkbox which is unchecked.

10. Continue adding States to the DetailLine State.

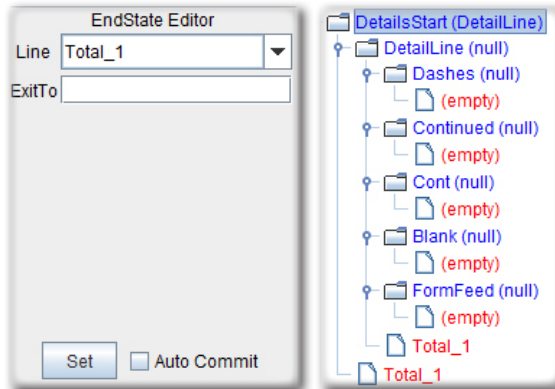


**NOTE:** To the FormFeed EndState Editor, enter the value of 23 to the ExitTo field. This will cause the parser to skip the next 23 lines.

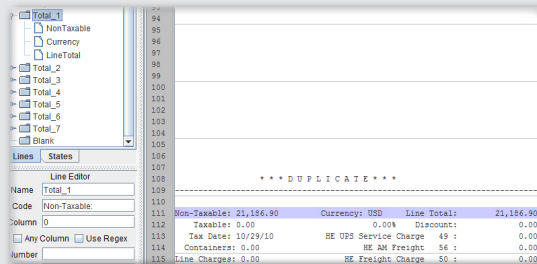


The EndState Editor dialog box is shown again. The "ExitTo" field now contains the value "23". The "Line" dropdown is still empty. The "Set" button and "Auto Commit" checkbox are at the bottom.

11. *Right click* the DetailsLine State and select *Add EndState*. Pick Total\_1 from the drop-down menu. Add the same EndState for the DetailsStart State.

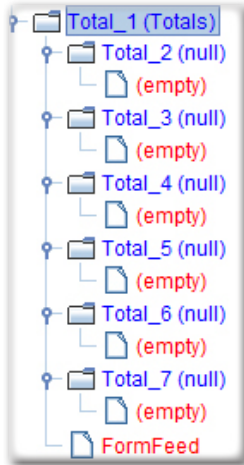


**NOTE:** To see how the Total\_1 Line and the other Total Lines, to be used as an EndState for the DetailsLine and DetailsStart States, are created, review steps 1 through 8 from the section entitled, "Adding Lines & Parameters in the Text to XML Editor."

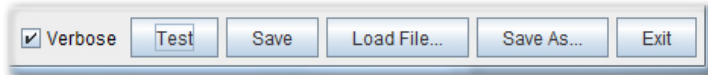


## SECTION 2

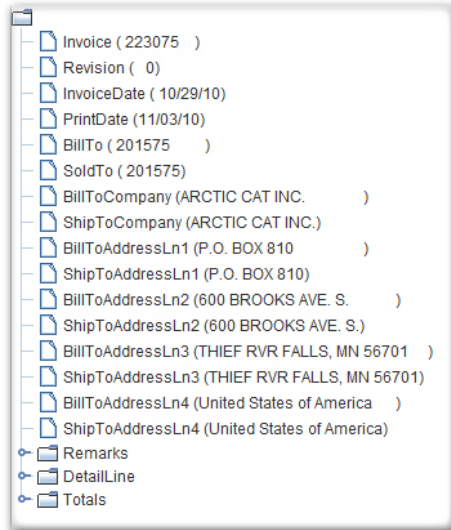
- Including the Total Lines as States is similar to that of the Line\_30 State. For the EndState of the Total\_1 State, select the FormFeed Line.



- Click **Test** in the bottom right.



- The file will be converted to XML. Click **Save** in the bottom right to record the changes.





# *Reference Guide*

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## State Engine

States read source data line-by-line and can be indefinitely nested. Each Line is checked by the State Engine.

For the Current State, each Nested State is checked to see if it's "Line" value can be matched. If a matching "Line" is found, that State becomes the Current State. If no Nested State matches, each EndState is checked in the same way. If one matches, then the Current State is exited. The default destination is the State in which the Current State is nested. A specific Ancestor State can be referenced, in which case it becomes the Current State. If the referenced EndState definition is not found, the Root State will then become the Current State.

Upon entering a State, if the Line it is based upon has Parameters, the defined Parameters are extracted from the source into the x result.

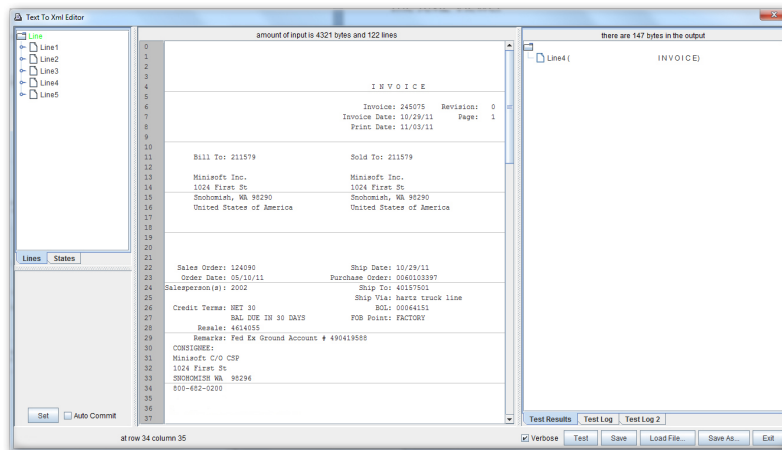
If a State has no Nested States or EndStates, the State exits after extracting data to the parent State. This is the same action as if a single EndState were used with no Line to match or destination defined.

When all the Lines of the source are exhausted, this preprocessor returns XML-formatted data to the Form Template for processing.

# Text to XML Editor Window

The Text to XML Editor has three main window panes:

- ◆ Line and State Viewer
- ◆ Input Data Viewer
- ◆ XML Data Viewer



Each window pane contains different functions and controls to transform a file into XML. The following headings will discuss each window and their options and functions. The Text to XML Editor window contains global options, these options include:

**Verbose:** Optional mode that will display status messages as it is processing. Default is checked.

**Test:** Tests the changes, displaying the XML output, without saving the alterations.

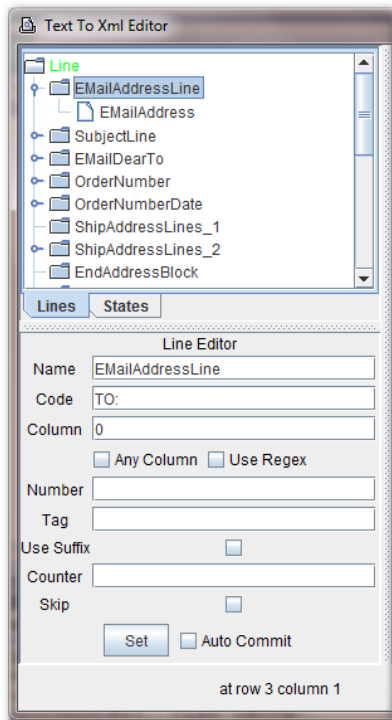
**Save:** Saves the changes and refreshes the XML output.

**Load File:** Allows the user to load a Text to XML conversion file from a directory.

**Save As...:** Opens the Save dialog box, so as to save the Text to XML conversion file under a new name.

**Exit:** Exits out of the Text to XML Editor.

## Line Editor Window and Options



**Name:** An arbitrary character sequence.

**Code:** Character string to match in the data.

**Column:** Column on the line to start matching.

**Any Column:** Match the Code starting in any column.

**Use Regex:** When checked, enter a regular expression for the Code and set Column to 0.

**Number:** Line number, starting at zero, from the top of the input.

**Tag:** Alternative name in the XML output for a line.

**Use Suffix:** Adds a numeric sequence to the line matched.

**Counter:** Name of counter used in place of the default.

**Skip:** Disables the particular line rule.

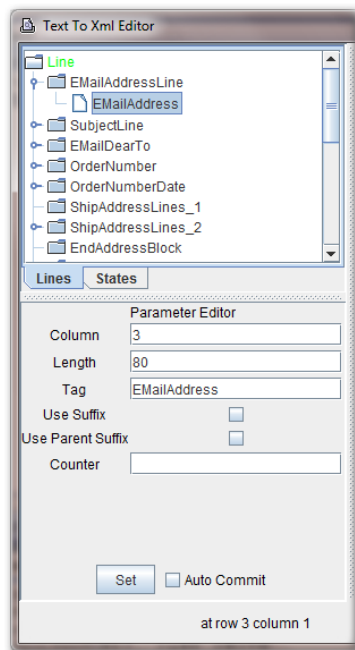
**Set:** Sets the changes.



**Auto Commit:** Automatically sets the changes when checked. Default is unchecked.

## Line Editor Parameter Options

When a Line Parameter is selected, the Parameter Editor will display. Parameters are definitions of data to extract. The bottom illustrates the location of the selected Parameter in terms of rows and columns.



**Column:** Where on the line to begin extracting data.

**Length:** Number of characters to extract.

**Tag:** Name of extracted element to be used in the XML output.

**Use Suffix:** Adds a numeric sequence to the line matched.

**Use Parent Suffix:** If a child state, the suffix of its parent will be used.

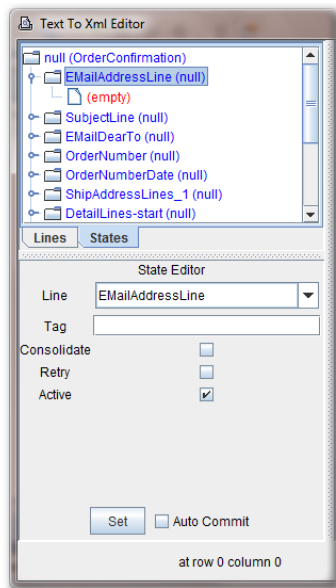
**Counter:** Disables the particular line rule.

**Set:** Sets the changes.

**Auto Commit:** Automatically sets the changes when checked. Default is unchecked.

## State Editor Window

An input file is parsed line by line. States determine when each line is parsed and depending on a State's end state, how often it's parsed. States can be nested.



### State Editor Options

**Line:** The line to match.

**Tag:** An alias name that sets a level in the XML output.

**Consolidate:** When multiple lines match in non-contiguous fashion, it can concatenate all the nodes into one.

**Retry:** Reuse the same input line. This is often used when a line is used as an end state and needs to start a new state.

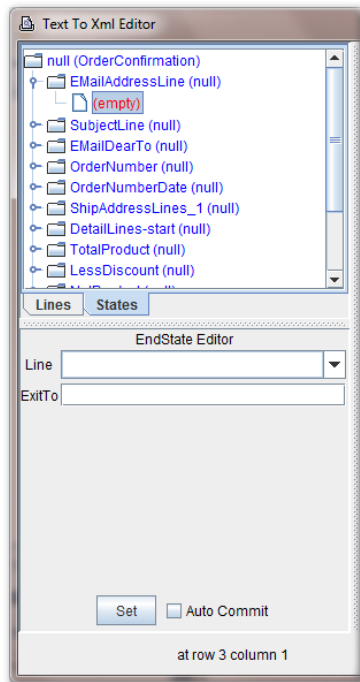
**Active:** Activates or deactivates the state. Default is checked and active.

**Set:** Sets the changes.

**Auto Commit:** Automatically sets the changes when checked. Default is unchecked.

## EndState Options

When an EndState of a State is selected, the EndState Editor will display.



**Line:** Line to drop the user out of the state. Empty means that it leaves the state at the end of the current line.

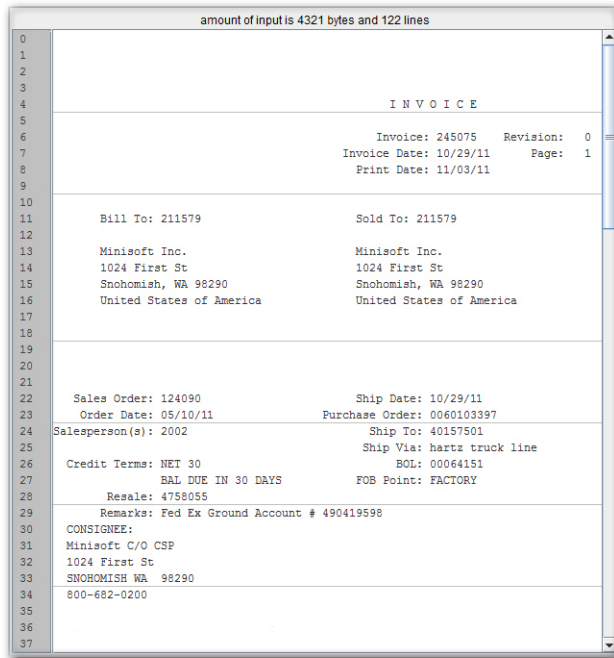
**ExitTo:** Control returns to the named State. If a number is entered, that number of lines is skipped.

**Set:** Sets the changes.

**Auto Commit:** Automatically sets the changes when checked. Default is unchecked.

# The Input Data Viewer

The middle pane of the Text to XML Editor is the Input Data Viewer. The viewer will display the input data as it appears originally from your data application. The viewer is interactive, allowing you to create line numbers, codes, or parameters.



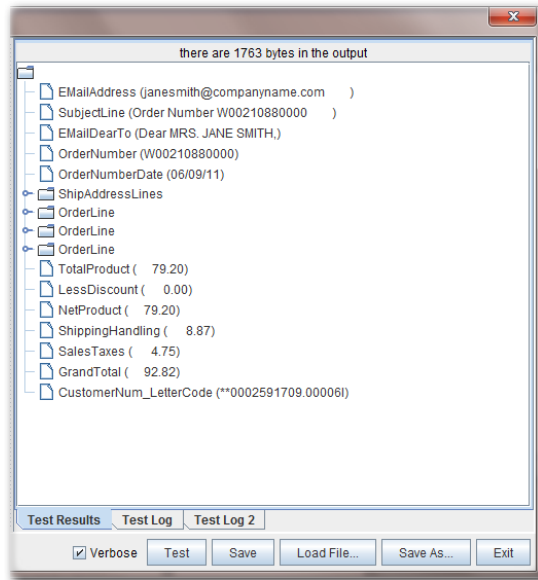
The screenshot shows a window titled "amount of input is 4321 bytes and 122 lines". The window contains a text-based invoice document. The document is displayed in a monospaced font with line numbers on the left side of the window, ranging from 0 to 37. The invoice content is as follows:

```
0
1
2
3
4          I N V O I C E
5
6          Invoice: 245075   Revision: 0
7          Invoice Date: 10/29/11   Page: 1
8          Print Date: 11/03/11
9
10
11         Bill To: 211579           Sold To: 211579
12
13         Minisoft Inc.             Minisoft Inc.
14         1024 First St             1024 First St
15         Snohomish, WA 98290       Snohomish, WA 98290
16         United States of America   United States of America
17
18
19
20
21
22         Sales Order: 124090         Ship Date: 10/29/11
23         Order Date: 05/10/11       Purchase Order: 0060103397
24         Salesperson(s): 2002        Ship To: 40157501
25                                     Ship Via: hartz truck line
26         Credit Terms: NET 30        BOL: 00064151
27                                     BAL DUE IN 30 DAYS   FOB Point: FACTORY
28         Resale: 4758055
29         Remarks: Fed Ex Ground Account # 490419598
30         CONSIGNEE:
31         Minisoft C/O CSP
32         1024 First St
33         SNOHOMISH WA 98290
34         800-682-0200
35
36
37
```

---

# The XML Data Viewer

The right pane of the Text to XML Editor shows the incoming data converted to XML.





# *Glossary*

### *Ancestor State*

Any one of the collection of States from the immediate parent of the Current State to the Root State is an Ancestor State. All States, except the Root State, are nested inside a parent State.

### *Bursting*

Bursting is the process by which a single file is split into multiple, logical files for subsequent processing. Each resultant file can contain one or more pages of Print Output from the source.

### *Current State*

At the start of processing a Line from the source, this is the State that will be referenced. The Current State at the start of processing is the Root State.

### *Form Template*

A file created and edited with the eFORMz composer that contains the definitions and controls used by eFORMz to produce enhanced output.

### *Line*

The definition to which a text or Regex match is made from a line of input data.

### *Matching Line*

If either a case sensitive search of a character sequence or the result from a regular expression (Regex) is true, then there is a Matching Line.

### *Nested State*

Any one of the collection of all States that are part of the Current State that are used in Line-matching is a Nested State.

### *Parameter*

Parameters are definitions of data to extract.

### *Print Output*

The data source that is acted upon. This may or may not have been originally intended for a pre-printed form. While eFORMz can access data in a database, the Print Output is an event that triggers eFORMz to use a Form Template. The Print Output is the usual data source for processing.

### *"Regex"*

Regex is the abbreviated form of regular expression. Regular Expressions are a standard way of finding text using characters sequences. The Text to XML Converter is capable of processing regular expressions, as it can examine text and identify parts that match the provided specifications of a regular expression.

### *Root State*

The base, original state or the State Engine.

### *State*

When a Line match occurs, a State is either entered (State) or exited (EndState).

### *XML*

An XML file is a self-contained file of named elements and values.







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