



StreamServe Persuasion SP5 StreamOUT

User Guide

Rev A

StreamServe Persuasion SP5 StreamOUT User Guide
Rev A
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Contents

About StreamOUT	5
Configuring record based output.....	7
Example: creating a StreamOUT configuration	8
Adding and configuring objects	11
Blocks.....	11
Records.....	11
Record fields	12
Fields	12
Variables.....	12
Static text	13
Free blocks.....	13
Free block – CallBlock invoked.....	13
Before first instance block.....	14
After last instance block	14
After all blocks block	14
Output format for fields and variables	16
Sorting	17
Unlinked blocks and fields.....	18
StreamOUT tool GUI reference	19
Main Window	19
Menus and menu commands.....	19
File menu	19
Edit menu.....	19
View menu	20
Insert menu	20
Tools menu	20
Dialog boxes	21
StreamOUT options dialog box.....	21
Set Unlinked Field Properties dialog box	21
Customize dialog box	22
Formats dialog box	22
Event view	24
Process view	25
Process view nodes	25
Global records	25
Free blocks	25
Field	25
Static Text.....	26
Variable.....	27
Record	28
Block	28
Free Block.....	29
Before First Instance Block.....	30



After Last Instance Block 30
After All blocks 31

About StreamOUT

The StreamServer can produce record-based output, and send this output to some kind of destination. The contents and structure of the record based output are configured using the StreamOUT tool.

Output configuration

When you create a StreamOUT configuration, you define a structure of records with fields for recurring and non-recurring data. See [Configuring record based output](#) on page 7.

Configuring record based output

You use the StreamOUT tool to configure the contents and structure of record based output from the StreamServer. With the StreamOUT tool, you can configure the following:

- **Record type**

By default, the fields in a record will be space separated, and each record will end with a carriage return and line feed (CR+LF). To change the default settings, you must select **Tools > Options** and edit the options. See [StreamOUT options dialog box](#) on page 21.
- **Blocks**

Recurring data is defined as fields within blocks in the Event configuration. The block and field configuration defined in the Event tool is available in a separate Event view in the StreamOUT tool. In the StreamOUT tool, you drag the blocks from the Event view, and drop them in the Process view. See [Blocks](#) on page 11.
- **Records**

You can create global record and block records. Global records contain non-recurring data, and block records contain recurring data as specified in the Event configuration. See [Records](#) on page 11.
- **Fields**

You must add fields to the records. A record contains a number of record fields. A record field can be a field defined in the Event configuration, a variable, or a static text created in the StreamIN tool. See [Record fields](#) on page 12.
- **Free blocks**

You can create free blocks with one or more records. A free block can be added before the first instance of a main block, added after the last instance of a main block, added after all other blocks have been processed, or be invoked using the [CallBlock](#) scripting function. See [Free blocks](#) on page 13.
- **Sort criteria for blocks**

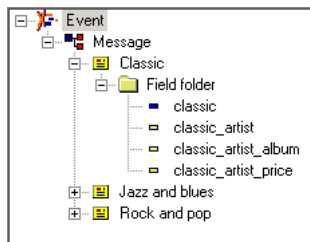
For each block defined in the StreamOUT tool, you can specify one or more sort keys. When the StreamServer processes the data, it will sort the blocks according to the sort keys. See [Sorting](#) on page 17.
- **Output format for fields and variables**

You can specify which format to use for the output from fields and variables. See [Output format for fields and variables](#) on page 16.

Example: creating a StreamOUT configuration

In this example, you have the Event configuration in [Example 1](#), and want the StreamServer to generate output according to [Example 2](#).

Example 1 *Event configuration*



Example 2 *Sample output*

			C_begin
Vivaldi	Quattro stagioni	23	
Wagner	Gotterdamung	25	
			C_end
			J&B_begin
Armstrong	Wonderful world	26	
Gillespie	Zabadiddelidoo	24	
			J&B_end
			R&P_begin
Sting	Save the jungle	23	
Procol Harum	Procol's ninth	25	
			R&P_end

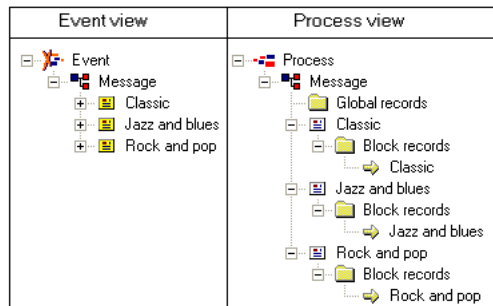
Edit the record type

All fields in the output should be in fixed positions, and each record should end with CR+LF.

- 1 Select **Tools > Options**. The StreamOUT options dialog box opens.
- 2 Select **Fixed field positions, New line at end of record**, and **Carriage return and line feed (CR + LF)** and click **OK**.

Add the blocks and records

- 1 Drag the **Classic** block from the Event view, and drop it on the **Message** node in the Process view. The Classic block, including a block record, is added below the Message node.
- 2 Do the same with the **Jazz and blues** and **Rock and pop** blocks.



Add and configure the fields

The steps below describe how to add fields to the Classic block record. The same steps also apply to the two other blocks.

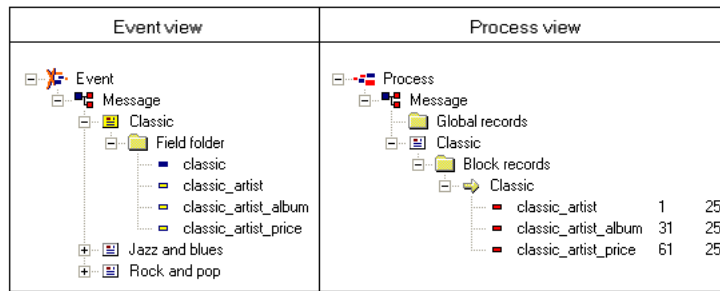
Add the fields

- 1 Drag the **classic_artist** field from the **Classic** block in the Event view, and drop it on the **Classic** record in the Process view.
- 2 Drag the **classic_artist_album** field from the **Classic** block in the Event view, and drop it on the **classic_artist** field in the Process view.
- 3 Drag the **classic_artist_price** field from the **Classic** block in the Event view, and drop it on the **classic_artist_album** field in the Process view.

Configure the fields

- 1 Right-click the **classic_artist** field and select **Edit Start Position**. The corresponding field in the Pos column in the Process view is write enabled.
- 2 Enter **1** as start position.
- 3 Right-click the **classic_artist** field and select **Edit Width**. The corresponding field in the Width column in the Process view is write enabled.
- 4 Enter **25** as width.
- 5 Repeat steps 1 - 4 for the fields **classic_artist_album** and **classic_artist_price**, and set the start position to **31** and **61** respectively.

10 | Example: creating a StreamOUT configuration Configuring record based output



Add and configure free blocks

Each block calls two free blocks – one before first instance block, and one after last instance block. The steps below describe how to add the free blocks to the Classic block. The same steps also apply to the two other blocks.

Add the free blocks

- 1 Right-click the **Classic** block and select **Insert Before First Instance Block**. A **Before_Classic** block is added to the **Classic** block.
- 2 Right-click the **Classic** block and select **Insert After Last Instance Block**. An **After_Classic** block is added to the **Classic** block.

Configure the free blocks

- 1 Right-click the **Before_Classic** block and select **Insert Record**. A new record is added to the **Before_Classic** block.
- 2 Right-click the new record and select **Insert Static Text**. A new static text object is added to the record.
- 3 Select the new static text object. The properties for the static text object are displayed in the Properties view.
- 4 In the **Value** field, enter `C_begin`.
- 5 Right-click the text object and select **Edit Start Position**. The corresponding field in the Pos column in the Process view is write enabled.
- 6 Enter **62** as start position.
- 7 Right-click the text object and select **Edit Width**. The corresponding field in the Width column in the Process view is write enabled.
- 8 Enter **20** as width.
- 9 Repeat steps 1 - 8 for the **After_Classic** block and set the value of the static text to `C_end`.

Adding and configuring objects

Blocks

There is one block for each group of recurring data. All blocks available in the StreamOUT tool have been created in the corresponding Event. In the StreamOUT tool, you drop the blocks in the Process view.

To add a block

Drag the block from the Event view and drop it on the Message node or parent block in the Process view. The block, including a block record, is added below the Message node. You can use the left mouse button as usual, or you can use the right mouse button to get more drag-and-drop options.

To configure a block

In the Process view, right-click the block and select the appropriate shortcut menu command. See [Block](#) on page 28.

See also

- [Sorting](#) on page 17
- [Unlinked blocks and fields](#) on page 18

Records

You can add global records and block records to the StreamOUT configuration. Global records contain fields with non-recurring data, whereas block records contain fields with recurring data.

Overall record definition

The overall record definition, i.e. which type of separator to use etc. applies to all records. To change the default settings, you must select **Tools > Options** and edit the options. See [StreamOUT options dialog box](#) on page 21.

To add a global record

In the Process view, right-click the **Global records** folder and select **Insert Record**. A new record is added below the Global records folder.

To add a block record

In the Process view, expand the block, right-click the **Block records** folder, and select **Insert Record**. A new record is added below the Block records folder.

To configure a record

In the Process view, right-click the record and select the appropriate shortcut menu command. See [Record](#) on page 28.

Record fields

A record contains a number of record fields. A record field can be a field defined in the Event configuration, a variable, or a static text.

Fields

All fields have been created in the corresponding Event. In the StreamOUT tool, you drop the fields on the appropriate record.

To add a field

Drag the field from the Event view and drop it on the appropriate record in the Process view. You can use the left mouse button as usual, or you can use the right mouse button to get more drag-and-drop options.

To configure a field

In the Process view, select the field and edit the properties in the Properties view, or right-click the field and select the appropriate shortcut menu command. See [Field](#) on page 25.

See also

- [Output format for fields and variables](#) on page 16
- [Unlinked blocks and fields](#) on page 18

Variables

You can add data to the output using variable fields. If the variable is defined in the Event configuration, you can drag the variable from the Event view to the appropriate record. If the variable is created using scripts, you must add the variable field manually. You must make sure that the variable is available when it is used in the Process. For example, a variable defined within a block is only available when the corresponding block is being processed.

To add a new variable field

In the Process view, right-click the record and select **Insert Variable**. A new variable field is added to the record.

To drag a variable from the Event view

Drag the variable from the Event view and drop it on the appropriate record in the Process view. You can use the left mouse button as usual, or you can use the right mouse button to get more drag-and-drop options.

To configure a variable field

In the Process view, select the variable field and edit the properties in the Properties view, or right-click the variable field and select the appropriate shortcut menu command. See [Variable](#) on page 27.

See also

Output format for fields and variables on page 16

Static text

You can add static text fields to any record

To add a new static text field

In the Process view, right-click the record and select **Insert Static Text**. A new static text field is added to the record.

To configure a static text field

In the Process view, select the static text field and edit the properties in the Properties view, or right-click the static text field and select the appropriate shortcut menu command. See *Static Text* on page 26.

Free blocks

There are four types of free blocks:

- **Free Block.** This block can be invoked using the *CallBlock* scripting function. See the *Scripting reference*.
- **Before First Instance Block.** This block will be added before the first instance of a main block, i.e. a block specified in the corresponding Event.
- **After Last Instance Block.** This block will be added after the last instance of a main block.
- **After all blocks block.** This block will be added after the last instance of the last block, i.e. after all other blocks have been processed.

Free block – CallBlock invoked

If you want to add records if certain conditions are fulfilled, you can use a Free block.

For example, you can include the accumulated sum on every tenth article line, even if the sum is not included in the input data. To be able to do this, you must add a Free block with a record that includes a variable for the sum. Then create a script after the article block in which you calculate the accumulated sum and assign it to the variable. In the script, you must also count the article lines to be able to call the Free block from every tenth line.

This block can be invoked using the *CallBlock* scripting function. See the *Scripting reference*.

To add the block

In the Process view, right-click the Free blocks folder and select **Insert Free Block**. The new free block is added to the Free blocks folder.

To configure the block

In the Process view, select the free block and edit the properties in the Properties view, or right-click the free block and select the appropriate shortcut menu command. *Free Block* on page 29.

Before first instance block

If you want to add records before a sequence of a certain block type, you can use Before first instance blocks. This type of block will appear as a sub-block to the selected block type. The sub-block will be processed before each sequence of parent blocks.

To add the block

In the Process view, right-click the main block and select **Insert Before First Instance Block**. The free block is added to the main block.

To configure the block

In the Process view, select the free block and edit the properties in the Properties view, or right-click the free block and select the appropriate shortcut menu command. *Before First Instance Block* on page 30.

After last instance block

If you want to add records after a sequence of a certain block type, you can use After last instance blocks. This type of block will appear as a sub-block to the selected block type. The sub-block will be processed before each sequence of parent blocks.

To add the block

In the Process view, right-click the main block and select **Insert After Last Instance Block**. The free block is added to the main block.

To configure the block

In the Process view, select the free block and edit the properties in the Properties view, or right-click the free block and select the appropriate shortcut menu command. *After Last Instance Block* on page 30.

After all blocks block

If you want to process records and perform actions after all other blocks have been processed, you can use an After all blocks block. For example, you can create statistics on the number of records an output file contains. An After all blocks block is automatically included in the Process browser. The block will not be processed, unless you add scripts or records with fields to it.

To configure the block

In the Process view, select the free block and edit the properties in the Properties view, or right-click the free block and select the appropriate shortcut menu command. *After All blocks* on page 31.

Output format for fields and variables

In the Event tool, you can configure fields and variables to handle numeric or date formatted data. Which format to use is determined by the input data. In the StreamOUT tool, you can specify which format to use for the output from the corresponding field or variable. You can use the same format as specified in the Event tool, or you can select a new format.

For example, if the input is 02/08/12, and you want to change this to 08.12.02 in the output, you must first specify the format `yy/mm/dd` in the Event tool. You then specify the new output format, `mm.dd.yy`, in the StreamOUT tool.

Format tables

Numeric and date formats are made available through format tables. Before you specify any formats, you must add a format table to a resource set connected to the Message. You can import `Formats.txt` from

```
<StreamServe  
installation>\Applications\StreamServer\<version>\Tools\Samples  
to the resource set.
```

The first time you specify a format, a resource selection dialog box opens. In this dialog box, you must browse to and select the format table you want to use. This table will be selected by default the next time you specify a format for any of the fields or variables in the StreamOUT configuration.

To select a new numeric | date format for a field or variable

- 1 In the Process view, select the field or variable. The properties are displayed in the Properties view.
- 2 In the **Output format** field, click the browse button. The Formats dialog box opens.
- 3 Select the **Numeric | Date** category.
- 4 Double-click the new **Format**.

Note: Do not use the Numeric formats `k` and `d`. They should be used in the Event configuration only.

To add a new format

In the Formats dialog box, in the **Format** field, enter the new format and click **Add**. You can also add new formats directly to the format table resource. See [Formats dialog box](#) on page 22.

Sorting

You can use sort keys to specify the order in which block data will be added to the output. If no sort keys are used, data will be added in the same order as specified in the Event configuration, i.e. in the same order as in the Message.

To specify sort keys for a block

- 1 In the Process view, right-click the block and select **Sort Criteria**. The Edit Sort Criteria dialog box opens.
- 2 Edit the sort criteria and click **OK**.

Syntax

"<field>": "<type><order>"

For example:

"customer_name": "SA"

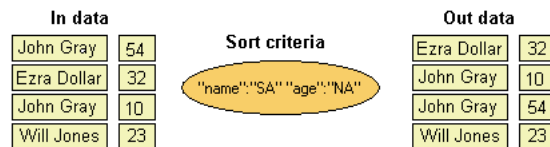
<type> is either S (alpha-numeric) or N (numeric)

<order> is either A (ascending) or D (descending)

Multiple sort keys

Multiple sort keys are separated with spaces. Data will be sorted according to the first key. Block instances that equally fulfill the first sort will be sorted according to the next key, and so on.

Example 3 *Sort keys for the fields name and age*



Unlinked blocks and fields

If a field or block is removed from the Event configuration, the corresponding fields in the StreamOUT configuration are not removed. Instead the links are broken.

Exporting data from unlinked fields

You can configure unlinked fields to be exported as variables, static text, or not at all. You can select **Tools > Default Unlinked Export** and set export options that apply to all unlinked fields. See [Set Unlinked Field Properties dialog box](#) on page 21. You can also set the export settings separately for each field. See [Field](#) on page 25.

Deleting unlinked objects

You can delete the unlinked objects separately. You can also select **Tools > Delete all Unlinked Objects** to delete all unlinked objects at the same time.

StreamOUT tool GUI reference

Main Window

The Main window contains five views:

- **Event view**
This is the structure created in the corresponding Event tool. You can drag fields and blocks from this view to the Process view.
- **Process view**
This is where you create the StreamOUT configuration.
- **Preview view**
This is where you preview the record based output.
- **Properties view**
Select a node in the Process view, and configure the corresponding properties in the Properties view.

Menus and menu commands

File menu

- | | |
|----------------|---|
| New | Clear the existing StreamOUT configuration and start with a new Process view. |
| Open | Open an existing StreamOUT configuration. The StreamOUT configuration must have been saved as a *.dso file. |
| Save | Save the StreamOUT configuration as data embedded in the corresponding Message file in the Design Center Project. |
| Save As | Save the StreamOUT configuration as a separate *.dso file. |
| Exit | Exit the StreamOUT tool. |

Edit menu

Standard Windows options.

View menu

Status Bar	Show/hide the status bar.
Event Browser	Show/hide the Event view.
Process Browser	Show/hide the Process view.
Toggle View Mode	The View Mode determines the display names for the fields in the Event view and Process view. You can toggle between the following modes: <ul style="list-style-type: none"> • Label • Description • Sample content
Toggle Operation Nodes	Show/hide operation nodes. Operation nodes can include scripts and sort key definitions.

Insert menu

Contains all available item types, i.e. records, fields, etc., that you can add to the StreamOUT configuration.

Tools menu

Import Event	Import an Event configuration. Applicable only when using the StreamOUT tool as a standalone application.
Link Objects	Link all unlinked fields and blocks. Unlinked blocks and fields in the Process view will be linked to blocks and fields with the same name in the Event view.
Unlink object	Manually cut the link between a field or block in the Process view, and the corresponding field or block in the Event view.
Default unlinked export	Set export options that apply to all unlinked fields. See <i>Set Unlinked Field Properties dialog box</i> on page 21.
Delete all Unlinked Objects	Delete all unlinked objects at the same time.
Edit Script	Select an item in the Process view and edit a before or after script.
Edit Sort Criteria	Select a block in the Process view and edit the sort keys for the block.

- Preview Export** Preview the export from the StreamOUT tool.
- Customize** Open the Customize dialog box.. See *Customize dialog box* on page 22.
- Options** Edit the settings for indentation, empty elements, and escape sequences. See *StreamOUT options dialog box* on page 21.

Dialog boxes

StreamOUT options dialog box

Record type settings	
Fixed record length	Select this option to create fixed length records, and specify the length (characters).
Fixed field positions	Select this option to create records with fields in fixed positions.
New line at end of record	Select this option to create records that end with a line feed, and optionally a carriage return.
Separator	Specify which field separator to use. Note: Hex values will be interpreted as pairs within angle brackets. For example, 1E3 will be interpreted as <1E><03>.

Set Unlinked Field Properties dialog box

Settings	
Do not export	Do not export the field.
Export as variable	Export the field as a variable. Do not use white spaces in the variable name. Do not enter the \$-prefix.
Export as static text	Select to export the Label, Description, Sample Data, or a custom Text.

Customize dialog box

Toolbars tab

Turn toolbars on and off, turn tooltips on and off, and modify the appearance of the toolbars.

Commands tab

Display information about the toolbar buttons.

Formats dialog box

Settings	
Category	<p>General – Data will be handled as a regular string of characters.</p> <p>Numeric – Data will be handled as numeric data. This category must have been specified for the field or variable in the Event configuration.</p> <p>Date – Data will be handled as date formatted data. This category must have been specified for the field or variable in the Event configuration.</p>
Format	Select an existing format or add a new format. Do not use the Numeric formats <i>k</i> and <i>d</i> . They should be used in the Event configuration only.
Select Resource	Browse to and select an alternative format resource.

Numeric format description	
Z	If the value of a leading or trailing digit is zero, the digit is replaced by a space, " ".
B	If the value of a leading or trailing digit is zero, the digit is removed.
9	The digit is always displayed.
#	A digit on either side of a decimal separator, or the last sign if no decimal separator exists. The digit is always displayed, except if the field value is zero (0 or 0.0 or similar).
Example	Z ZZZ ZZZ ZZ#, ##

Date format description	
d	Day

Date format description	
m	Month
y	Year
Example	dd/mm/yyyy

Event view

This is the structure created in the corresponding Event tool. You can drag fields and blocks from this view to the Process view.

Process view

This is where you create the StreamOUT configuration.

Process view nodes

Global records

Shortcut menu commands	
Insert Record	Add a record with fields for non-recurring data.

Free blocks

Shortcut menu commands	
Insert Free Block	Add a free block.

Field

Shortcut menu commands	
Script Before	Insert or edit a before script.
Script After	Insert or edit an after script.
Edit start position	Applicable only to records with fixed field positions. Select this command and enter the start position in the Pos column.
Edit width	Applicable only to records with fixed field positions. Select this command and enter the width in the Width column.
Unlink	The field is normally linked to a field in the Event view. You can unlink the field and use the Unlinked export property to specify what to do with the field data.

Settings	
Label	Label displayed in the Process view and preview.

Settings	
Description	Optional information about this item. This information is not exported from the StreamOUT tool.
Sample content	Descriptive text entered in the Event configuration.
Item state	<p>Linked – The field is linked to a field defined in the corresponding Event.</p> <p>Unlinked – The field is not linked to any field in the Event configuration. Use the Unlinked export property to specify what to do with the field data.</p>
Unlinked export	<p>Determines whether or not to export an unlinked field.</p> <p>Do not export – Do not export the field.</p> <p>Export as static text – Use <code>Fixed Export Type</code> below to specify what to export as static text.</p> <p>Export as variable – Use <code>Variable Name</code> below to specify what to export.</p>
Fixed Export Type	<p><i>Below “Export as static text”.</i></p> <p>Select to export the Label, Description, Sample Data, or a fixed string. Use <code>Fixed Export Value</code> below to specify what to export as Fixed String.</p>
Fixed Export Value	<p><i>Below “Fixed Export Type > Export Fixed String”.</i></p> <p>The text to export. Must not contain quotation marks.</p>
Variable Name	<p><i>Below “Export as variable”.</i></p> <p>The variable name. You cannot type the <code>\$-prefix</code> when you enter the variable name. The prefix is automatically included in the export.</p>
Item type	Field.
Output format	Used to select numeric or date format. See Output format for fields and variables on page 16.

Static Text

Shortcut menu commands	
Script Before	Insert or edit a before script.
Script After	Insert or edit an after script.

Shortcut menu commands	
Edit start position	Applicable only to records with fixed field positions. Select this command and enter the start position in the Pos column.
Edit width	Applicable only to records with fixed field positions. Select this command and enter the width in the Width column.

Settings	
Label	Label displayed in the Process view and preview.
Description	Optional information about this item. This information is not exported from the StreamOUT tool.
Item type	Static text.
Value	The static text.
Output format	N/A
Fixed field width	Select this option to create a field with a fixed width (characters) for the static text.
Field width	The field width. Same as <code>Edit width</code> shortcut menu command.
Start position	Start position for the static text field. Same as <code>Edit start position</code> shortcut menu command.
End position	End position for the static text field.
Align	Alignment of the text within the field.

Variable

Shortcut menu commands	
Script Before	Insert or edit a before script.
Script After	Insert or edit an after script.
Edit start position	Applicable only to records with fixed field positions. Select this command and enter the start position in the Pos column.
Edit width	Applicable only to records with fixed field positions. Select this command and enter the width in the Width column.

Settings	
Label	Label displayed in the Process view and preview.
Description	Optional information about this item. This information is not exported from the StreamOUT tool.
Sample content	Descriptive text.
Item type	Variable.
Output format	Used to select numeric or date format. See <i>Output format for fields and variables</i> on page 16.
Fixed field width	Select this option to create a field with a fixed width (characters) for the variable.
Field width	The field width. Same as <code>Edit width</code> shortcut menu command.
Start position	Start position for the variable field. Same as <code>Edit start position</code> shortcut menu command.
End position	End position for the variable field.
Align	Alignment of the text within the field.

Record

Shortcut menu commands	
Script Before	Insert or edit a before script.
Script After	Insert or edit an after script.
Insert Field	Add a field to the record. See <i>Field</i> . You must first select the field in the Event view.
Insert Variable	Add a variable field to the record. See <i>Variable</i> .
Insert Static Text	Add a static text field to the record. See <i>Static Text</i> .

Block

Shortcut menu commands	
Script Before	Insert or edit a before script.
Script After	Insert or edit an after script.

Shortcut menu commands	
Sort Criteria	<p>Edit sort keys for the block.</p> <p>Syntax</p> <p>"<field>": "<type><order>"</p> <p>where:</p> <p><type> is either S (alpha-numeric) or N (numeric)</p> <p><order> is either A (ascending) or D (descending)</p> <p>Multiple sort keys</p> <p>Multiple sort keys are separated with space.</p> <p>Example</p> <p>"customer_name": "SA" "customer_number": "NA"</p>
Insert Block	Add a new block to the StreamOUT configuration. You must first select the block in the Event view.
Insert Before First Instance Block	Add a before first instance block to the block. See Before First Instance Block .
Insert After Last Instance Block	Add an after last instance block to the block. See After Last Instance Block .
Unlink	You can manually unlink a block and all its fields from the corresponding block and fields in the Event configuration.

Settings	
Label	Label displayed in the Process view and preview.
Description	Optional information about this item. This information is not exported from the StreamOUT tool.
Item type	Block.

Free Block

With this item, you specify a free block that can be invoked using the [CallBlock](#) scripting function.

Shortcut menu commands	
Script Before	Insert or edit a before script.
Script After	Insert or edit an after script.

Shortcut menu commands	
Insert Record	Add a new record to the block. See Record .

Settings	
Label	Label displayed in the Process view and preview.
Description	Optional information about this item. This information is not exported from the StreamOUT tool.
Item type	Free block.

Before First Instance Block

With this item, you specify a free block that will be added before the first instance of a main block, i.e. a block specified in the corresponding Event.

Shortcut menu commands	
Script Before	Insert or edit a before script.
Script After	Insert or edit an after script.
Insert Record	Add a new record to the block. See Record .

Settings	
Label	Label displayed in the Process view and preview.
Description	Optional information about this item. This information is not exported from the StreamOUT tool.
Item type	Block before first instance.

After Last Instance Block

With this item, you specify a free block that will be added after the last instance of a main block, i.e. a block specified in the corresponding Event

Shortcut menu commands	
Script Before	Insert or edit a before script.
Script After	Insert or edit an after script.
Insert Record	Add a new record to the block. See Record .

Settings	
Label	Label displayed in the Process view and preview.
Description	Optional information about this item. This information is not exported from the StreamOUT tool.
Item type	Block after last instance.

After All blocks

This block will be added after the last instance of the last block, i.e. after all other blocks have been processed.

Shortcut menu commands	
Script Before	Insert or edit a before script.
Script After	Insert or edit an after script.
Insert Record	Add a record.

