

CREATING A LIST REPORT: AN INTRODUCTION TO THE GENERO REPORT DESIGNER

Using Genero Report Writer GRS 3.00

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Objectives

After this instruction, you will be able to:

- Create a report using Genero Report Designer
- Associate a data schema (.xsd) with a report
- Organize the structure of a report
- Use the List Report template when creating a report



- GRD is the tool to edit .4rp files from within Genero Report Studio
 - From the project view
 - double-click a .4rp
 - right-click a .4rp and select Open .4rp report
 - right-click an application, library, or virtual folder node and select New File >> Reports >> Empty Report (.4rp)
 - Right-click an application, library, or virtual folder node and select New File >> Reports >> List Report (.4rp)
 - From the top-menu
 - File >> New >> Reports >> (select blank or from a template)
 - File >> Open >> (select a .4rp file)



Genero Report Designer

• Main work area surrounded by dockable views

Genero Report Studio 3.00.00							• • × •
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GRD – Main Work Area

- Near WYSIWYG view of a report
 - Doesn't repeat repeated detail items
 - Order is page header, detail, page footer.
- Report objects can be selected, dragged, dropped, resized in this view

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GRD - Data View

- Uses data schema file to show
 - What is coming from the Java code
 - The grouping structure (REPORT triggers)
 - The variables (data objects)
- Drag and drop from here into main workspace or report structure view
 - Default object type based on data type

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			controlBlo	ck.outputOrder	STRING	foobar	
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			controlBlo	ck.computeTotal	BOOLEAN	1	
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			/	orderline.orders.shipaddr2	CHAR(80)	foobar	
			1	orderline.orders.shipcity	CHAR(80)	foobar	
			/	orderline.orders.shipstate	CHAR(80)	foobar	
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- Change Sample Data to improve preview
- changes sort order of variables
- - changes default properties values given to variables when drag and dropped (width, caption or value)
 - 'Key' option: Create element based on the document context

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GRD - Tool Box

- Drag and drop report objects onto report
- Once report object is on report, you can alter the properties (including which data value is displayed)
- Tool Box organized into logical groups
- Frequently used objects at top

Tool Box		5	3
 Simple 	Containers		
+	Horizontal Box (Layout Node)		
+	Vertical Box (Layout Node)		
 Propag 	ating Containers		
•	Horizontal Box (Mini Page)		
•	Vertical Box (Mini Page)		
4	Page Root (Mini Page)		
+++	Stripe (Mini Page)		
 Drawab 	les		
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	HTML Box		
8.8	Decimal Format Box		
*	Page Number		
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6	Map Chart		
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HERE	QR-Code (Bar Code Box)		



- Red dots (called report triggers) reflect structure of the data model in Java source
- Branch nodes control how their child nodes are laid out
- Report objects can be selected, dragged, dropped in the Report Structure
- Reflects the XML structure of the .4rp file





GRD - Properties

- View and edit the properties of the selected report item
- Bold name indicates non-default value
- Icons

•

- Selec
- Reset to default value
- Enter an expression
- Groups are collapsible

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Name	Value	
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File >> Report Properties >> Paper Settings

- Specify the default paper settings
- Used in design of report
- Values can be overridden by API calls in Java source
- Key feature
 - Note the standard list of page sizes

🗿 Paper Settings	×
Configure paper s	settings
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C Help	<u>OK</u> <u>Cancel</u>



File >> Report Properties >> Output Config...

- Specify the default output settings
- Values can be overridden by API calls in Java source
- With image
 - Select type
 (e.g. jpg, bmp, png)
 - Select resolution

Output Conf	iguration			×				
Configure output								
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				Load from Default				
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- - X,Y co-ordinate defined.
 - Object positioned relative to parent object
 - Siblings don't influence position
- Relative positioning (dynamic layouting) ← CTRL + Drag-n-Drop
 - X,Y co-ordinates not defined.
 - Object positioned relative to siblings
 - Elder Sibling sizes influences position
 - Sibling order influences position
 - Position of parent object influences position of an object's eldest sibling.
- Mixed
 - One of X,Y co-ordinate defined.
 - Layouter positions defined co-ordinate relative to parent, other coordinate relative to siblings



Driving GRD – Main Window



- Black rectangle, blue squares = selected object
 - Drag anywhere within rectangle to move object
 - Click within rectangle to change number of blue squares
 - If 8 squares, resize can stretch
 - If 4 squares, resize is proportional
 - Use blue squares to resize object

- Coloured Circle = Attachment Point
 - Red = absolute position (position defined relative to parent)
 - Green = relative position (positioned relative to siblings)
 - Yellow/Blue = one co-ordinate is absolute, other is relative
 - Drag circle to change attachment point



Driving GRD – Main Window



- Yellow Rectangle = Parent Object
 - Dashed, slowly moving
 - Moves in the layout direction
 - Open at the far side of the layout direction
- X/Y arrows indicate layout direction
 - Child objects added in direction of green Y arrow
 - X is 90 degrees from Y, clockwise or anti-clockwise



Driving GRD – Main Window



- Arrow-shaped controls
 - At the center of the sides of the selected object
 - View and modify the sizing policy
 - Pointing inward
 - shrinking sizing policy
 - Pointing outward
 - maximizing policy
 - Click on an arrow to toggle its value



Right-click contextual menus

- Design view
 - Can change sizing and positioning attributes
 - Can change object type
 - Can select ancestors of selected item
 - Can place a trigger within the report structure
 - Can avoid trigger update warnings
- Structure View
 - Can change object type
 - Can rename object
 - Can place a trigger within the report structure
 - Can avoid trigger update warnings

Ж	Cut	Ctrl+X
Ē	Сору	Ctrl+C
Ê.	Paste	Ctrl+V
X	Delete	Del
\$	Clear trigger update message (issue is fixed)	
•	Repeat selected items on	+
	Convert To	•
	Width	+
	Height	•
	Horizontal Position	•
	Vertical Position	•
	Select	+





- Drop an object onto another object adds it as a child of that object
- Drag -and-drop while holding down the CTRL key for dynamic layouting (relative positioning)
 - A red line will appear indicating where object will be placed
- Drag-and-drop without holding down the CTRL key for specific layouting (absolute positioning)
 - Small blue lines appear and give you 'stickiness' to aid in aligning relative to existing objects



- Drag-and-drop into Structure View
 - Drop an object onto another object will add it as the last child of that object using dynamic layouting
- Drag-and-drop within Structure view (once object has been added)
 - Drop an object onto another object will add it as the last child of that object
 - Hold the Alt Key when dropping to position as parent of selected object
 - Drag and drop *between* objects within structure view to change its position within sibling order / structure



- Select a report object in either the Main Work Space or the Report Structure.
 - This object will become the parent.
- From the Data View or Tool Box, double-click a data or report object
 - The object becomes the last child of the selected parent object
 - The object is placed using dynamic layouting



- Hold Ctrl key to select multiple objects
- Report objects can be copied from one report to another
 - Remember to change variable names if different between source and destination report
- Be careful deleting a report object
 - ALL child objects will also be deleted



- Drag
 - From Data View
 - Certain properties (such as text and width) are prepopulated as determined by selected icon



- Object type determined by data-type
- Automatic mode determined by the 'key' option
- From Tool Box
 - Have to edit properties
 - Have to select correct object type



- Drop
 - Into Main Window
 - By default specific layouting (absolute positioning)
 - To define dynamic layouting (relative positioning) press CTRL key while dropping
 - Into Structure View
 - Relative positioning by default
 - Edit X and Y properties to define absolute positioning



- Work Area / Structure View
 - Use drag-and-drop
- Properties View
 - Select object in Work Area or Structure View
 - Edit X and Y properties
 - To make an object relative, click default icon (to remove X and Y values)
 - To make an object absolute, define X and Y properties



- Write the Java report application to create the XML datastream
- Create the .xsd file for use by the designer
 - schemagen <filename>.java
 - In Genero Report Studio add 'Post Compile command'



- File >> New >> Reports
 - Create an empty report
 - Choose a report template

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Select a Data Schema

 Select .xsd file from Data View

Data Vie	w							
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controlBlock.drawAs	STRING	foobar	
controlBlock.dimensionsDisplaySelection	STRING	foobar	
controlBlock.measuresDisplaySelection	STRING	foobar	
controlBlock.outputOrder	STRING	foobar	
controlBlock.topN	INTEGER	42	
controlBlock.displayFactRows	BOOLEAN	1	-
controlBlock.displayRecurringValues	BOOLEAN	1	-
controlBlock.computeAggregatesOnInnermostDimension	BOOLEAN	1	
controlBlock.computeTotal	BOOLEAN	1	
controlBlock.computeCount	BOOLEAN	1	
controlBlock.computeDistinctCount	BOOLEAN	1	
controlBlock.computeAverage	BOOLEAN	1	
controlBlock.computeMinimum	BOOLEAN	1	
controlBlock.computeMaximum	BOOLEAN	1	
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orderline orders shiplastname	CHAR(80)	foobar	
orderline orders shipaddr1	CHAR(80)	foobar	
orderline orders shipaddr2	CHAR(80)	foobar	
orderline orders shipcity	CHAR(80)	foobar	
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	CHAR(20)	foobar	
orderline orders shipcountry	CHAR(3)	foo	
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orderline.orders.billastname	CHAR(80)	foobar	
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orderline.orders.billaddr2	CHAR(80)	foobar	
orderline.orders.billcity	CHAR(80)	foobar	
orderline.orders.billstate	CHAR(80)	foobar	
orderline.orders.billzip	CHAR(20)	foobar	
orderline.orders.billcountry	CHAR(3)	foo	
orderline.orders.totalprice	DECIMAL(10,2)	42.00	
orderline.orders.creditcard	CHAR(80)	foobar	
orderline.orders.exprdate	CHAR(7)	foobar	
orderline.orders.cardtype	CHAR(80)	foobar	_
A			Ŧ



• Position Page Root as child of group (report trigger) where you want to start a new page





- Position Page Root as child of group (report trigger) where you want to start a new page
 - Page Root positioned at the top by default
- Typically position Table Row as child of OnEveryRow





Creating a Report – Add layout nodes

- Add simple or propagating containers
 - To the PageRoot
 - To selected Group (report trigger) nodes
 - To the OnEveryRow node
- Add report objects to the layout nodes

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	⊿	🛑 Group userid [0; unbounded]						
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		FirstPageHeader						
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	Spacer007							
	OrderDetailsContinued							
		Spacer008						
	AnyPageFooter							
	4 🛑 Group orderid [0; unbounded]							
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		4 🛑 Group linenum [0; unbounded]						
	4 🔴 OnEveryRow [0; unbounded]							
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- Report triggers (red dots) equal the equivalent Data
 Model in Java source code
 - Children of a Trigger repeated until the value of the trigger changes
 - Elder sibling of a Trigger headings
 - Younger sibling of a Trigger totals
- Pay attention to property 'section'





Toggle View

Icon to toggle name and sample views





Report Zoom

Icons to zoom in and out and reset





Layout Node

- A rectangular area of space to which you can add child objects
- Will attempt to render on one page.
 If not enough space, a new page is started
- Horizontal Box
 - Child objects added left to right
- Vertical Box
 - Child objects added top to bottom

Simple Containers

- Horizontal Box (Layout Node)
- Vertical Box (Layout Node)



- Propagating Containers Horizontal Box (Mini Page)
 - 포 Vertical Box (Mini Page)
 - 😰 Page Root (Mini Page)
 - 🖶 Stripe (Mini Page)

- Propagating Containers (1)
 - Forces contents to be drawn onto one page where possible
 - Where insufficient space, replicates itself with headers/footers
 - Horizontal Box
 - Child objects added left to right
 - Minimum size in both direction
 - Vertical Box
 - Child objects added top to bottom
 - Minimum size in both directions



- Propagating Containers
 Horizontal Box (Mini Page)
 - 💽 Vertical Box (Mini Page)
 - 😫 Page Root (Mini Page)
 - 🖶 Stripe (Mini Page)

- Propagating Containers (2)
 - Page Root
 - Top object in structure.
 - Size is max in both directions
 - Stripe
 - Size in layout direction is max, size in other direction is min
 - Used as parent object for objects to be positioned relatively e.g. Lines of a report
 - Stripe propagates onto new line when line is full



Tool Box - Drawables



I Text	₄ Text					
Text	Office Supplies					
Trim Text						
Text Alignment	left					
Localize Text						

- Word Box
 - Equivalent to edition field in forms. Text will not wrap onto new line if insufficient space
- Word Wrap Box
 - Equivalent to multiline edition fields in forms. Used to wrap text onto the next line if insufficient width. Will normally leave Y-size attribute blank so that object grows in size to fit all text.

Specific properties

- Text value to display
- TrimText remove spaces left, right, both, compress
- TextAlignment align text to left, right, center
- Localize Text check if text is to be translated



Tool Box - Drawables

Drawables

- 😑 Word Wrap Box
 - HTML Box
- Decimal Format Box
- 🛎 🛛 Page Number
- 📧 Image Box
- Table

HTML Box

- Displays an image of an HTML document
- Use the Location property to specify the file name and path of the document

Decimal Format Box

- Used for numbers.
- Format
 - Specify a formatting string
 - # display blank if zero
 - & display 0 if zero
 - - display minus sign
 - \$ display currency
- Value

4 Miscellaneous	 Miscellaneous 				
Value	{lineitemprice}				

• Due to strong typing, different property required than text property. Value must be a number

-,---,--&.&&

Value
 Format



Completing the Tool Box tour

Drawables

- TXT Word Box
- 🖹 🛛 Word Wrap Box
- HTML Box
- 8.8 Decimal Format Box
- 🗷 Page Number
- 🔳 Image Box
- Table
- Business Graphs
 - 🧁 Map Chart
 - 🥚 Map Chart Item
 - Category Chart
 - 📲 Category Chart Item
 - 🖉 XY Chart
 - 🖉 XY Chart Item
 - Pivot Table
 - 🔢 Pivot Table Hierarchy Value
 - 💻 Pivot Table Fact
 - 👖 Pivot Table Measure
- A References
 - 📧 Reference Box
 - 🕕 Info Node
- Bar Codes
 - IN UPC-A (Bar Code Box)
 - IIII EAN-13 (Bar Code Box)
 - IIII Code-128 (Bar Code Box)
 - IIII Code-39 (Bar Code Box)
 - 🛄 Code-93 (Bar Code Box)
 - IIII PDF-417 (Bar Code Box)
 - 🛄 Data-matrix (Bar Code Box)
 - 🛄 QR-Code (Bar Code Box)

- Tool Box also contains
 - More Drawables
 - Page Number
 - Image Box
 - Table
 - Business graphs
 - Charts & Pivot Tables
 - References
 - Reference Box
 - Info Node
 - Bar Codes
- These report objects are covered in later modules







- Exercise 1
 - Open the 'Sales' project
 - Generate the XSD data schema
 - Create a new report design (4RP) using the list template
 - Load the XSD data schema
 - Populate the list with fields from the Data View
 - Modify the 'Sales.java' source to run the new report design
 - (optional) Add some new data to the list report (in the 'Sales.java' source and in the design); run it
 - Change paper settings of the report (paper size, orientation, margins); reduce the page height to enable propagating





- Exercise 2
 - Open the 'OrderReportJava' demo project
 - Run the 'OrderList' report design
 - Move the 'Group Header' element under another trigger
 - Run the report again; check the differences and discuss
 - (optional) Modify the data displayed in the 'Group Header' element to fit to the new design