PDBF Documentation

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1 Abstract

TODO ...

2 Requirements

Required packages:
zref-savepos
zref-abspage
zref-user
xcolor
graphicx
xstring
xparse
geometry
need to use geometry package
problems with utf8 package. for german umlauts use ngerman package instead.
if you really have to use the utf8 package then you cant use special characters inside queries.
All options in all modes because of switcher.

3 SQL queries

attributes with spaces sourrounded by square bracets. E.g. SELECT a AS [This is a test] FROM test;
TODO: write about special sql functions. link to alasql.
`GRUBBS_FILTER(arr, alpha)`:
`MEAN(arr)`:
`STDDEV_SAMP(arr)`:
`MARGIN_OF_ERROR(arr, alpha)`:
`CONF_INT(arr)`:
`T_TEST(arr1, arr2, alpha)`:
`WELCH_TEST(arr1, arr2, alpha)`:

4 Chart

Examples:

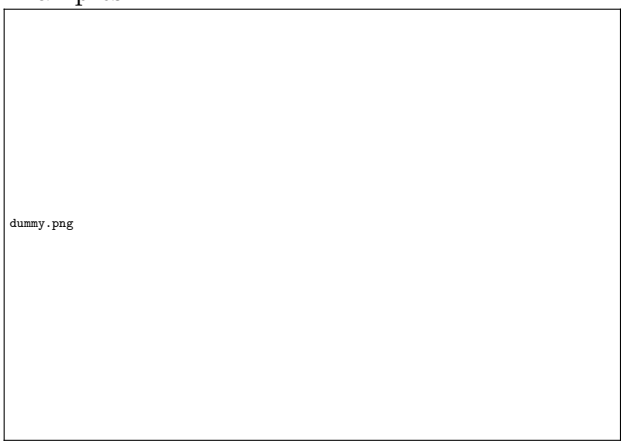

Figure 1: Line Chart

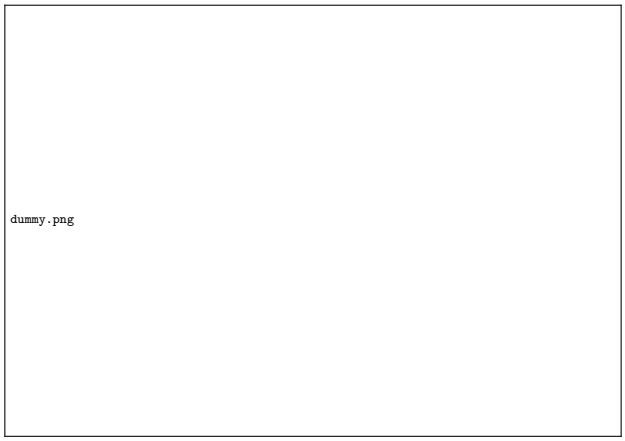

Figure 2: Bar Chart

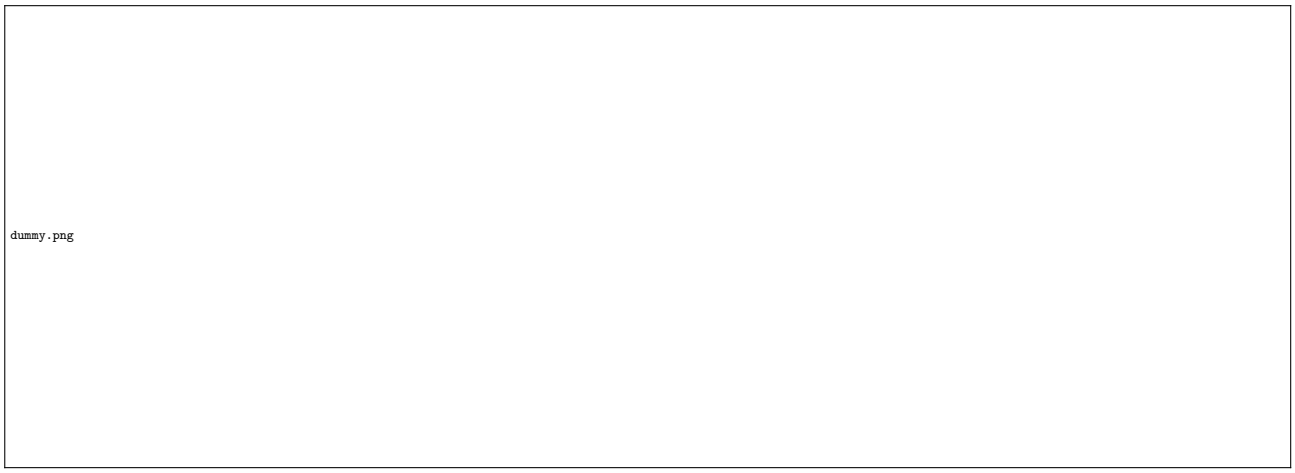

Figure 3: Signatureplot Chart

Macros:

`\chart[options][queryForOverlay]{queryForPage}`
Note: if `queryForOverlay` is omitted the `queryForPage` is used for the overlay.
Note: The first column of the query result is used for the x-Axis, all other columns are used for y-Axis.

Options:

Common options

width	
Desc.:	Sets the width of the chart.
Argument:	LaTeXlength
Default:	No default value. Value must always be set!

height	
Desc.:	Sets the height of the chart.
Argument:	LaTeXlength
Default:	No default value. Value must always be set!

quality	
Desc.:	Sets the quality for the image version of the chart in the pdf. 1.0 corresponds roughly to 120 pixels per inch. Can also be redefined globally (`pdbfQuality`).
Argument:	Number > 0
Default:	`1.0`

scale	
Desc.:	Scales the size of the chart. 1.0 corresponds roughly to font-size that is currently choosen in LaTeX. Can also be redefined globally (`pdbfScale`).
Argument:	Number > 0
Default:	`1.0`

chartType	
Desc.:	Sets the type of the chart.
Argument:	`line` or `bar` or `signatureplot`
Default:	`line`

xunit	
Desc.:	Sets the a label for the x-axis.
Argument:	String
Default:	`""` (which means hide)

yunit	
Desc.:	Sets the a label for the y-axis.
Argument:	String
Default:	`""` (which means hide)

options	
Desc.:	Sets options that are directly passed to the c3 chart library ($\rightarrow$ Documentation). You need to wrap the JSON-String with {} if you want to use `[` or `]` or `,`.
Argument:	JSON-String
Default:	{} (which means empty object)

logscale	
Desc.:	If set, the y axis uses log scale. Can also be redefined globally (`pdbfLogscale`).
Argument:	`true` or `false`
Default:	`false`

overlap	
Desc.:	Unused.
Argument:	`TODO: ...`
Default:	`TODO: ...`

legendpos	
Desc.:	Sets the position of the legend of the chart.
Argument:	`TODO: ...`
Default:	`TODO: ...`

includeZero	
Desc.:	Set the minimum of the range of the y-axis to zero.
Argument:	`true` or `false`
Default:	`false`

drawPoints	
Desc.:	Whether to show each point in line.
Argument:	`true` or `false`
Default:	`false`

fillGraph	
Desc.:	Whether to fill the area below the graph.
Argument:	`true` or `false`
Default:	`false`

showRangeSelector	
Desc.:	Whether to show a range selector for the x-axis below the chart.
Argument:	`true` or `false`
Default:	`false`

5 Multiplot Chart

Example:

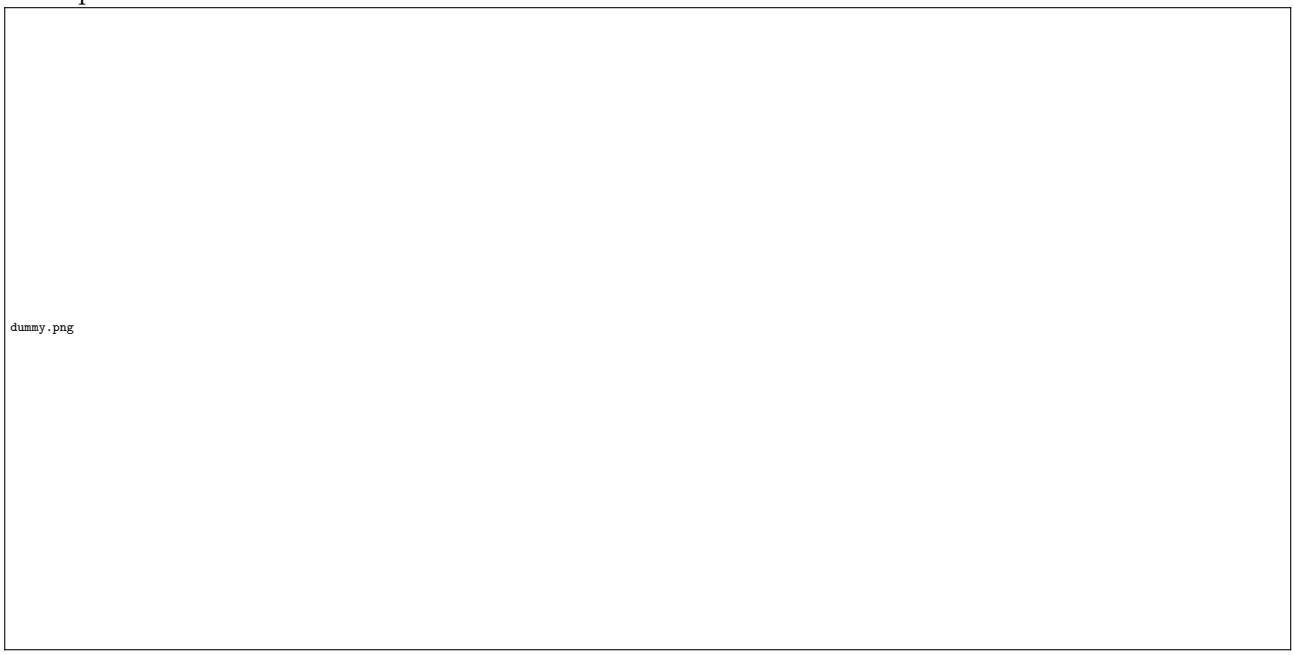

Figure 4: Multiplot Line Chart

Macros:

`\multiplotChart[options][queryForOverlay]{queryForPage}`
Note: If `queryForOverlay` is omitted the `queryForPage` is used for the overlay
Note: Both `queryForOverlay` and `queryForPage` must contain exactly two occurences of the ? character. These are later replaced with values from the xValues/yValues option.

Options:

Note: For multiplot charts all options of chart are also valid options.

xCount	
Desc.:	Sets number of columns.
Argument:	Number > 0
Default:	No default value. Value must always be set!

yCount	
Desc.:	Sets number of rows.
Argument:	Number > 0
Default:	No default value. Value must always be set!

leftArr	
Desc.:	Sets the labels for the left side.
Argument:	Either a JavaScript array of Strings where each string corresponds to exactly one row (e.g {"row1", "row2"}) or a JavaScript array of Objects with a c property which corresponds to the number of rows this text should span and a text property which corresponds to the text-string.
Default:	If this option is not set, then the value of the xunit option is used spanning over the whole site.

rightArr	
Desc.:	Sets the labels for the right side.
Argument:	Either a JavaScript array of Strings where each string corresponds to exactly one row (e.g {"row1", "row2"}) or a JavaScript array of Objects with a c property which corresponds to the number of rows this text should span and a text property which corresponds to the text-string.
Default:	If this option is not set, then the value that is used for the query in this row is used.

bottomArr	
Desc.:	Sets the labels for the bottom side.
Argument:	Either a JavaScript array of Strings where each string corresponds to exactly one column (e.g {"column1", "column2"}) or a JavaScript array of Objects with a c property which corresponds to the number of columns this text should span and a text property which corresponds to the text-string.
Default:	If this option is not set, then the value of the yunit option is used spanning over the whole site.

topArr	
Desc.:	Sets the labels for the tod side.
Argument:	Either a JavaScript array of Strings where each string corresponds to exactly one column (e.g {"column1", "column2"}) or a JavaScript array of Objects with a c property which corresponds to the number of columns this text should span and a text property which corresponds to the text-string.
Default:	If this option is not set, then the value that is used for the query in this column is used.

xValues	
Desc.:	The values that replace the first ? character in the query. If yFirst is set, they replace the second ? character in the query instead.
Argument:	A JavaScript array that has as much entries as the xCount options value
Default:	No default value. Value must always be set!

yValues	
Desc.:	The values that replace the second ? character in the query. If yFirst is set, they replace the first ? character in the query instead.
Argument:	A JavaScript array that has as much entries as the yCount options value
Default:	No default value. Value must always be set!

yFirst	
Desc.:	If this option is set, then first ? character is replaced with values from yValues option and second ? character is replaced with values from xValues. If this option is not set, then first ? character is replaced with values from xValues option and second ? character is replaced with values from yValues.
Argument:	`true` or `false`
Default:	`false`

forceXequal	
Desc.:	If this option is set, then all columns have the same x-axis range as the uppermost chart. If this option is not set, then all charts have individual x-axis ranges.
Argument:	`true` or `false`
Default:	`false`

forceYequal	
Desc.:	If this option is set, then all rows have the same y-axis range as the leftmost chart. If this option is not set, then all charts have individual y-axis ranges.
Argument:	`true` or `false`
Default:	`false`

6 Pivot Table

Example:

Figure 5: Pivot Table

Macros:

`\pivotTable[options][queryForOverlay]{queryForPage}`
Note: if `queryForOverlay` is omitted the `queryForPage` is used for the overlay

Options:

width	
Desc.:	Sets the width of the chart.
Argument:	LaTeXlength
Default:	No default value. Value must always be set!

height	
Desc.:	Sets the height of the chart.
Argument:	LaTeXlength
Default:	No default value. Value must always be set!

quality	
Desc.:	Sets the quality for the image version of the chart in the pdf. 1.0 corresponds roughly to 120 pixels per inch. Can also be redefined globally (`pdbfQuality`).
Argument:	Number > 0
Default:	`1.0`

scale	
Desc.:	Scales the size of the chart. 1.0 corresponds roughly to font-size that is currently choosen in LaTeX. Can also be redefined globally (`pdbfScale`).
Argument:	Number > 0
Default:	`1.0`

aggregation	
Desc.:	Sets the aggregation function for the page.
Argument:	`Count` or `Count Unique Values` or `List Unique Values` or `Sum` or `Integer Sum` or `Average` or `Minimum` or `Maximum` or `Sum over Sum` or `80% Upper Bound` or `80% Lower Bound` or `Sum as Fraction of Total` or `Sum as Fraction of Rows` or `Sum as Fraction of Columns` or `Count as Fraction of Total` or `Count as Fraction of Rows` or `Count as Fraction of Columns`
Default:	`Minimum`

aggregationBig	
Desc.:	Sets the aggregation function for the overlay.
Argument:	`Count` or `Count Unique Values` or `List Unique Values` or `Sum` or `Integer Sum` or `Average` or `Minimum` or `Maximum` or `Sum over Sum` or `80% Upper Bound` or `80% Lower Bound` or `Sum as Fraction of Total` or `Sum as Fraction of Rows` or `Sum as Fraction of Columns` or `Count as Fraction of Total` or `Count as Fraction of Rows` or `Count as Fraction of Columns`
Default:	If this option is not set, then the value of the aggregation option is used

aggregationattribute	
Desc.:	Sets the attribute for the aggregation function in the page.
Argument:	The name of an attribute that is present in the result of the sql query for the page
Default:	No default value. Value must always be set!

aggregationattributeBig	
Desc.:	Sets the attribute for the aggregation function in the overlay.
Argument:	The name of an attribute that is present in the result of the sql query for the overlay
Default:	If this option is not set, then the value of the aggregationattribute option is used

cols	
Desc.:	The attributes for the columns in the pivot table.
Argument:	JavaScript array of strings (e.g. [”a”, ”b”, ”c”]). The name of attributes have to be present in the result of the sql query for the overlay and page
Default:	`[]` (which means empty array)

rows	
Desc.:	The attributes for the rows in the pivot table.
Argument:	JavaScript array of strings (e.g. [”a”, ”b”, ”c”]). The name of attributes have to be present in the result of the sql query for the overlay and page
Default:	`[]` (which means empty array)

7 Sql

Example:

SELECT * FROM test;

Macros:

`\sql[textForPage]{queryForOverlay}`
Note: if `textForPage` is omitted the `queryForOverlay` is used as text for the page.

8 Sql data sources

Macros:

`\dbSQLText{sqlQueryString}`
`\dbSQLFile{fileWithSqlQueries}`
`\dbSQLJDBC{jdbcConnectionURL}{user}{password}{commaSeperatedListOfTableNames}`
Note: jdbcConnectionURL consist of jdbc followed by the name of the dbms (currently only postgresql and mysql are supported) followed by the url of the dbms followed by the database name (e.g. jdbc:postgresql://localhost:5432/postgres).
Note: jdbcConnectionURL, user, and password are not stored in the output document.

9 F.A.Q.

- Q.: The overlay is not on the right position.
  A.: Most likely you use pages with different sizes in your document. This is currently not supported by PBDF
- Q.: I get `Error: paperwidth value missing! Did you forgot to specify the papersize via the geometry package?` when compiling my document.
  A.: You need to explicitly specify the papersize of your document via the geometry package (e.g. `\usepackage[letterpaper]{geometry}`)
- Q.: I get `\unhbox \voidb@x \bgroup \let \unhbox \voidb@x \setbox \@tempboxa \hbox {u\global \mathchardef \accent@spacefactor \spacefactor }\accent 127 u\egroup \spacefactor \accent@spacefactor` or a similar string in a error message.
  A.: Chances are high that you use the `\usepackage[utf8]{inputenc}` package or a similar package. These are not fully compatible with PDBF. If you really have to use the utf8 package then you cant use special characters inside PDBF commands.