ggplot2 0.9.3.1 Index

Help topics

Geoms

Geoms, short for geometric objects, describe the type of plot you will produce.

- `geom_abline`
  Line specified by slope and intercept.
- `geom_area`
  Area plot.
- `geom_bar`
  Bars, rectangles with bases on x-axis
- `geom_bin2d`
  Add heatmap of 2d bin counts.
- `geom_blank`
  Blank, draws nothing.
- `geom_boxplot`
  Box and whiskers plot.
- `geom_contour`
  Display contours of a 3d surface in 2d.
- `geom_crossbar`
  Hollow bar with middle indicated by horizontal line.
- `geom_density`
  Display a smooth density estimate.
- `geom_density2d`
  Contours from a 2d density estimate.
- `geom_dotplot`
  Dot plot
- `geom_errorbar`
  Error bars.
- `geom_errorbarh`
  Horizontal error bars
- `geom_freqpoly`
  Frequency polygon.
- `geom_hex`
  Hexagon bining.
- `geom_histogram`
  Histogram
- `geom_hline`
  Horizontal line.
- `geom_jitter`
  Points, jittered to reduce overplotting.
- `geom_line`
  Connect observations, ordered by x value.
- `geom_linerange`
  An interval represented by a vertical line.
- `geom_map`
  Polygons from a reference map.
- `geom_path`
  Connect observations in original order
- `geom_point`
  Points, as for a scatterplot
- `geom_pointrange`
  An interval represented by a vertical line, with a point in the middle.
- `geom_polygon`
  Polygon, a filled path.
- `geom_quantile`
  Add quantile lines from a quantile regression.
- `geom_raster`
  High-performance rectangular tiling.
- `geom_rect`
  2d rectangles.

Dependencies

- **Depends**: stats, methods
- **Imports**: plyr, digest, grid, gtable, reshape2, scales, proto, MASS
- **Suggests**: quantreg, Hmisc, mapproj, maps, hexbin, maptools, multcomp, nlr testthat
- **Extends**:

- `geom_ribbon`
  Ribbons, y range with continuous x values.

- `geom_rug`
  Marginal rug plots.
- `geom_segment`
  Single line segments.

- `geom_smooth`
  Add a smoothed conditional mean.

- `geom_step`
  Connect observations by stairs.

- `geom_text`
  Textual annotations.

- `geom_tile`
  Tile plane with rectangles.

- `geom_violin`
  Violin plot.

- `geom_vline`
  Line, vertical.

Statistics

It's often useful to transform your data before plotting, and that's what statistical transformations do.

- `stat_bin`
  Bin data.

- `stat_bin2d`
  Count number of observation in rectangular bins.
- `stat_bindot`
  Bin data for dot plot.

- `stat_binhex`
  Bin 2d plane into hexagons.
- `stat_boxplot`
  Calculate components of box and whisker plot.

- `stat_contour`
  Calculate contours of 3d data.

- `stat_density`
  1d kernel density estimate.

- `stat_density2d`
  2d density estimation.

- `stat_ecdf`
  Empirical Cumulative Density Function

- `stat_function`
  Superimpose a function.
- `stat_identity`
  Identity statistic.

- `stat_qq`
  Calculation for quantile-quantile plot.
- `stat_quantile`
  Continuous quantiles.

- `stat_smooth`
  Add a smoother.

- `stat_spoke`
  Convert angle and radius to xend and yend.
- `stat_sum`
  Sum unique values. Useful for overplotting on scatterplots.

- `stat_summary`
  Summarise y values at every unique x.
- `stat_summary_hex`
  Apply funciton for 2D hexagonal bins.
- `stat_summary2d`
  Apply funciton for 2D rectangular bins.
- `stat_unique`
  Remove duplicates.
- `stat_ydensity`
  1d kernel density estimate along y axis, for violin plot.

Scales

Scales control the mapping between data and aesthetics.

- `expand_limits`
  Expand the plot limits with data.
- `guides`
  Set guides for each scale.
- `guide_legend`
  Legend guide.
- `guide_colourbar` (guide_colorbar)
  Contiuous colour bar guide.
- `scale_alpha` (scale_alpha_continuous, scale_alpha_discrete)
  Alpha scales.

- `scale_area`
  Scale area instead of radius (for size).
- `scale_colour_brewer` (scale_color_brewer, scale_fill_brewer)
  Sequential, diverging and qualitative colour scales from colorbrewer.org

- `scale_colour_gradient` (scale_color_continuous, scale_color_gradient, scale_colour_continuous, scale_fill_continuous, scale_fill_gradient)
  Smooth gradient between two colours

- `scale_colour_gradient2` (scale_color_gradient2, scale_fill_gradient2)
  Diverging colour gradient

- `scale_colour_gradientn` (scale_color_gradientn, scale_fill_gradientn)
  Smooth colour gradient between n colours

- `scale_colour_grey` (scale_color_grey, scale_fill_grey)
  Sequential grey colour scale.

- `scale_colour_hue` (scale_color_discrete, scale_color_hue, scale_colour_discrete, scale_fill_discrete, scale_fill_hue)
  Qualitative colour scale with evenly spaced hues.

- `scale_identity` (scale_alpha_identity, scale_color_identity, scale_colour_identity, scale_fill_identity, scale_linetype_identity, scale_shape_identity, scale_size_identity)
  Use values without scaling.

- `scale_manual` (scale_alpha_manual, scale_color_manual, scale_colour_manual, scale_fill_manual, scale_linetype_manual, scale_shape_manual, scale_size_manual)
  Create your own discrete scale.

- `scale_linetype` (scale_linetype_continuous, scale_linetype_discrete)
  Scale for line patterns.

- `scale_shape` (scale_shape_continuous, scale_shape_discrete)
  Scale for shapes, aka glyphs.

- `scale_size` (scale_size_continuous, scale_size_discrete)
  Size scale.

- `scale_x_continuous` (scale_x_log10, scale_x_reverse, scale_x_sqrt, scale_y_continuous, scale_y_log10, scale_y_reverse, scale_y_sqrt)
  Continuous position scales (x & y).
- `scale_x_date` (scale_y_date)
  Position scale, date

- `scale_x_datetime` (scale_y_datetime)
  Position scale, date

- `scale_x_discrete` (scale_y_discrete)
  Discrete position.
- `labs` (ggtitle, xlab, ylab)
  Change axis labels and legend titles
- `update_labels`
  Update axis/legend labels
- `xlim` (ylim)
  Convenience functions to set the limits of the x and y axis.

Coordinate systems

Coordinate systems adjust the mapping from coordinates to the 2d plane of the computer screen.

- `coord_cartesian`
  Cartesian coordinates.

- `coord_fixed` (coord_equal)
  Cartesian coordinates with fixed relationship between x and y scales.
- `coord_flip`
  Flipped cartesian coordinates.
- `coord_map`
  Map projections.

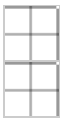
- `coord_polar`
  Polar coordinates.

- `coord_trans`
  Transformed cartesian coordinate system.

Faceting

Facets display subsets of the dataset in different panels.

- `facet_grid`
  Lay out panels in a grid.



- `facet_null`
  Facet specification: a single panel.
- `facet_wrap`
  Wrap a 1d ribbon of panels into 2d.
- `label_both`
  Label facets with value and variable.
- `label_bquote`
  Label facet with 'bquoted' expressions
- `label_parsed`
  Label facets with parsed label.
- `label_value`
  Label facets with their value.

Position adjustments

Position adjustments can be used to fine tune positioning of objects to achieve effects like dodging, jittering and stacking.

- `position_dodge`
  Adjust position by dodging overlaps to the side.
- `position_fill`
  Stack overlapping objects on top of one another, and standardise to have
- `position_identity`
  Don't adjust position
- `position_stack`
  Stack overlapping objects on top of one another.
- `position_jitter`
  Jitter points to avoid overplotting.

Data

Data sets included in ggplot2 and used in examples

- `diamonds`
  Prices of 50,000 round cut diamonds
- `economics`
  US economic time series.
- `midwest`
  Midwest demographics.
- `movies`
  Movie information and user ratings from IMDB.com.
- `mpg`
  Fuel economy data from 1999 and 2008 for 38 popular models of car
- `msleep`
  An updated and expanded version of the mammals sleep dataset.
- `presidential`
  Terms of 10 presidents from Eisenhower to Bush W.
- `seals`
  Vector field of seal movements.

Anotation

Specialised functions for adding annotations to a plot

- `annotate`
  Create an annotation layer.
- `annotation_custom`
  Annotation: Custom grob.
- `annotation_logticks`
  Annotation: log tick marks
- `annotation_map`
  Annotation: maps.

- `annotation_raster`
  Annotation: High-performance rectangular tiling.
- `borders`
  Create a layer of map borders.

Fortify

Fortify methods make it possible to use ggplot2 with objects of various types, not just data frames.

- `fortify`
  Fortify a model with data.
- `fortify-multcomp` (fortify.cld, fortify.confint.glht, fortify.glht, fortify.summary.glht)
  Fortify methods for objects produced by
- `fortify.lm`
  Supplement the data fitted to a linear model with model fit statistics.
- `fortify.map`
  Fortify method for map objects.
- `fortify.sp` (fortify.Line, fortify.Lines, fortify.Polygon, fortify.Polygons, fortify.SpatialLinesDataFrame, fortify.SpatialPolygons, fortify.SpatialPolygonsDataFrame)
  Fortify method for classes from the sp package.
- `map_data`
  Create a data frame of map data.

Themes

Themes control non-data components of the plot

- `add_theme`
  Modify properties of an element in a theme object
- `calc_element`
  Calculate the element properties, by inheriting properties from its parents
- `element_blank`
  Theme element: blank.
- `element_line`
  Theme element: line.
- `element_rect`
  Theme element: rectangle.
- `element_text`
  Theme element: text.
- `is.rel`
  Reports whether x is a rel object
- `is.theme`
  Reports whether x is a theme object
- `opts`
  Build a theme (or partial theme) from theme elements
- `rel`
  Relative sizing for theme elements
- `theme`
  Set theme elements
- `theme_bw`
  A theme with white background and black gridlines.
- `theme_grey` (theme_gray)
  A theme with grey background and white gridlines.
- `theme_update` (theme_get, theme_set)
  Get, set and update themes.
- `update_element`
  Update theme param

Plot creation

- `ggplot`
  Create a new ggplot plot
- `qplot` (quickplot)
  Quick plot
- `+.gg` (%+%, %+replace%)
  Modify a ggplot or theme object by adding on new components.
- `autoplot`
  Create a complete ggplot appropriate to a particular data type
- `ggplot.data.frame`
  Create a new ggplot plot from a data frame
- `is.ggplot`

Reports whether x is a ggplot object

- `print.ggplot` (plot.ggplot)
  Draw plot on current graphics device.

Aesthetics

- `aes`
  Generate aesthetic mappings that describe how variables in the data are
- `aes_all`
  Given a character vector, create a set of identity mappings
- `aes_auto`
  Automatic aesthetic mapping
- `aes_string`
  Generate aesthetic mappings from a string
- `aes_colour_fill_alpha` (alpha, color, colour, fill)
  Colour related aesthetics: colour, fill and alpha
- `aes_group_order` (group, order)
  Aesthetics: group, order
- `aes_linetype_size_shape` (linetype, shape, size)
  Differentiation related aesthetics: linetype, size, shape
- `aes_position` (x, xend, xmax, xmin, y, yend, ymax, ymin)
  Position related aesthetics: x, y, xmin, xmax, ymin, ymax, xend, yend

Other

- `cut_interval`
  Cut numeric vector into intervals of equal length.
- `cut_number`
  Cut numeric vector into intervals containing equal number of points.
- `discrete_scale`
  Discrete scale constructor.
- `gg_dep`
  Give a deprecation error, warning, or messsage, depending on version number.
- `ggfluctuation`
  Create a fluctuation plot.
- `ggmissing`
  Create a plot to illustrate patterns of missing values.
- `ggorder`
  A plot to investigate the order in which observations were recorded.
- `ggpcp`
  Make a parallel coordinates plot.
- `ggplot2` (ggplot2-package)
  ggplot2.
- `ggsave`
  Save a ggplot with sensible defaults
- `ggscale`
  Components of a scale:
- `ggstructure`
  A plot which aims to reveal gross structural anomalies in the data.
- `hmisc` (mean_cl_boot, mean_cl_normal, mean_sdl, median_hilow)
  Wrap up a selection of summary functions from Hmisc to make it easy to use
- `last_plot`
  Retrieve the last plot to be modified or created.
- `mean_se`
  Calculate mean and standard errors on either side.
- `plotmatrix`
  Code to create a scatterplot matrix (experimental)
- `resolution`
  Compute the "resolution" of a data vector.
- `scale_size_area`
  Scale area instead of radius, for size.
- `theme_blank` (theme_line, theme_rect, theme_segment, theme_text)
  Deprecated theme_xx functions
- `theme_classic`
  A classic-looking theme, with x and y axis lines and no gridlines.
- `theme_minimal`
  A minimalistic theme with no background annotations.
- `translate_qplot_base`

Translating between qplot and base graphics

- `translate_qplot_ggplot`
  Translating between qplot and ggplot
- `translate_qplot_gpl`
  Translating between qplot and Graphics Production Library (GPL)
- `translate_qplot_lattice`
  Translating between qplot and lattice
- `update_geom_defaults` (update_stat_defaults)
  Modify geom/stat aesthetic defaults for future plots

Back to t