

# Time Series

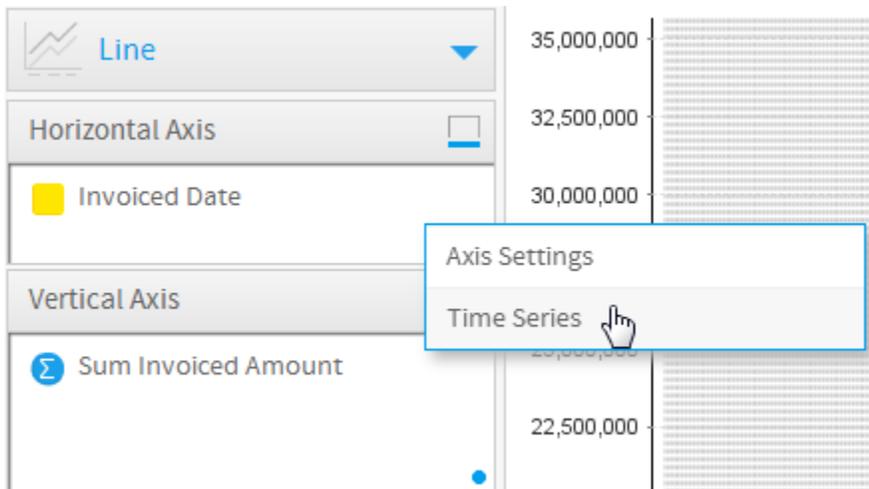
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## Overview

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Time Series charts a series of data points, presented against an x axis that displays time in uniform intervals. Opposed to categorical charts, time series effectively shows gaps in the data through the use of these uniform time intervals.

Enabling this option when using a date or timestamp as a Label in a chart also provides additional functionality:

1. Yearly Comparison
2. Units
3. Visible Unit Selection
4. Date Slider

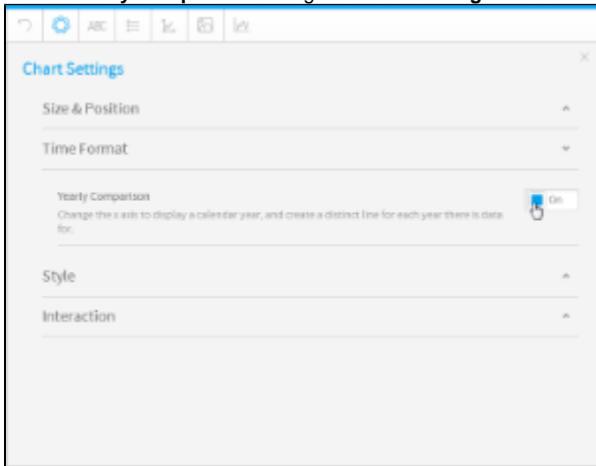


These functions are discussed below.

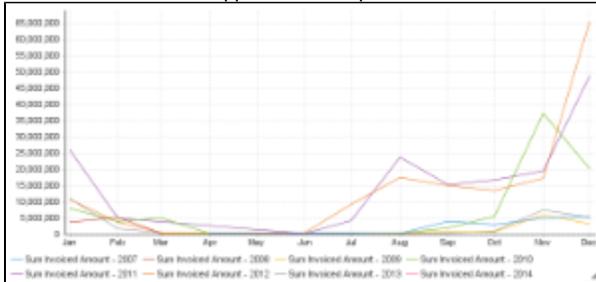
## Yearly Comparison

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If you have a line chart which is time series spanning more than one year range, you can use this option to split the single line into 12 month groups for easy comparison. When using this option the units are set to month and cannot be changed.

1. Enable **Yearly Comparison** through the chart **Settings** menu



2. Your line chart will now appear with a separate line for each available year

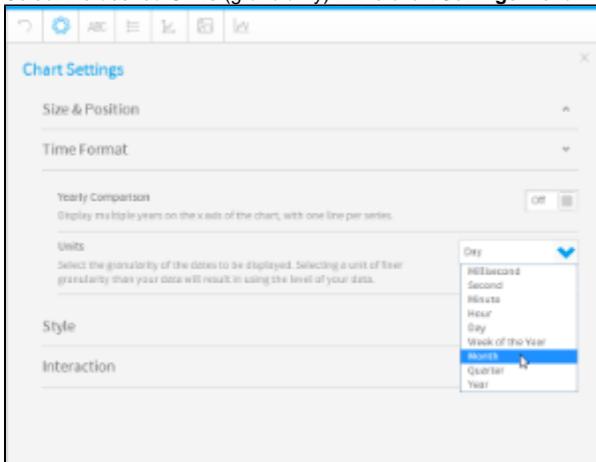


## Units

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Allows you to select the time granularity of the chart independent of the table.

1. Select the desired **Units** (granularity) in the chart **Settings** menu

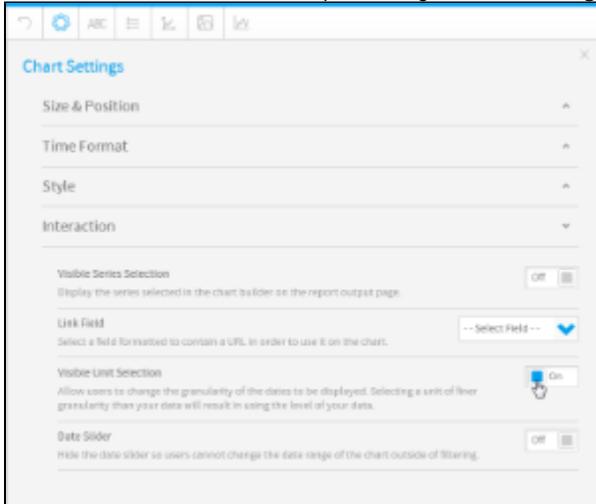


## Visible Unit Selection

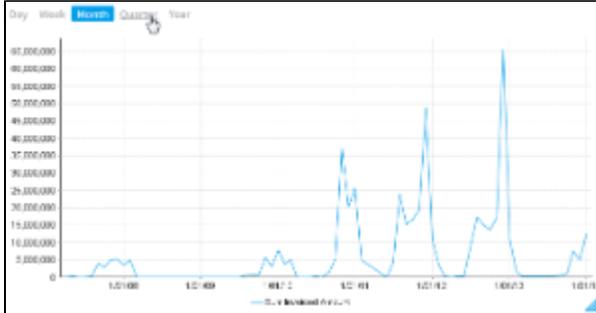
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Allows the user select the time granularity of the chart independent of the table.

1. Enable the **Visible Unit Selection** option through the chart **Settings** menu



2. Your chart will now have a list of available units for the user to select from

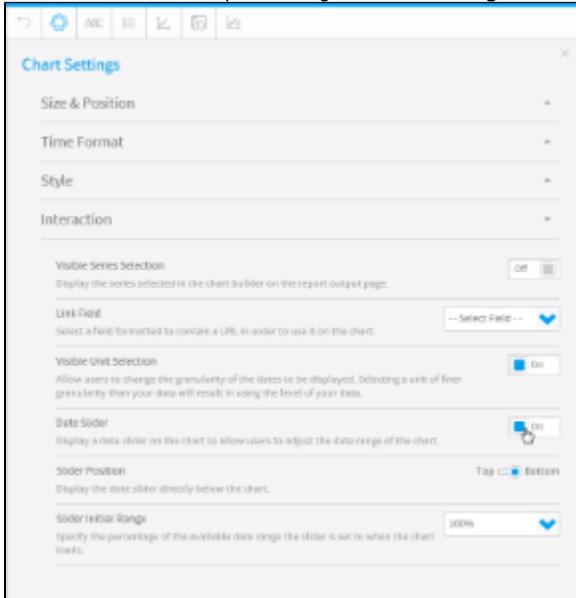


## Date Slider

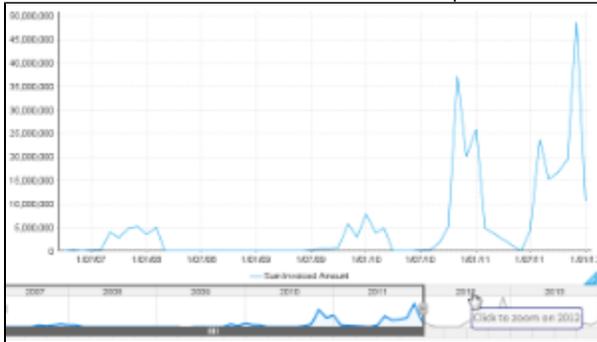
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Allows the user to zoom in and out of time banded data.

1. Enable the **Date Slider** option through the chart **Settings** menu



2. Your chart will now have a slider the user can manipulate to view subsets of the data



## Date Format Options

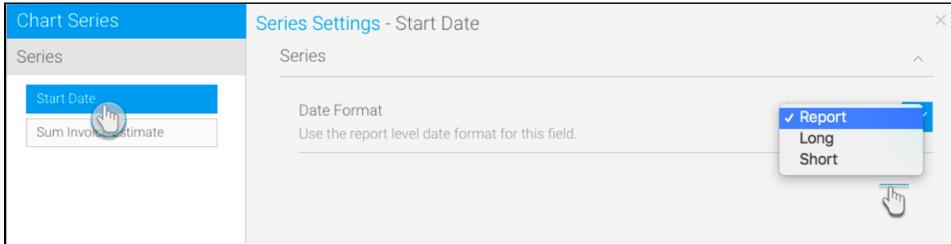
Change the date format on your charts to a different style. This is available for all charts that support time series.

Type	Description	Format/Example
Report	This shows the date format as it is in the report. For example, if the date is in a numeric format, then it will be displayed as dd/mm/yyyy here.  Note: This format can only be selected for continuous time series.	
Long	Shows the full name of the selected date unit. For example, if month is the selected unit, it will display the full name of the month.	E.g.: Monday, August, or Quarter 1.
Short	Shows the shorter version of the selected date unit.  Note: Some time units have no difference between their long and short versions, such as Year.	E.g.: Mon, Aug, or Q1.

1. Create a report with at least one date value.
2. Navigate to the chart section.
3. Select a chart that supports the time series. Ensure that you use the date field.
4. Click on the series setting button in the chart builder's header.



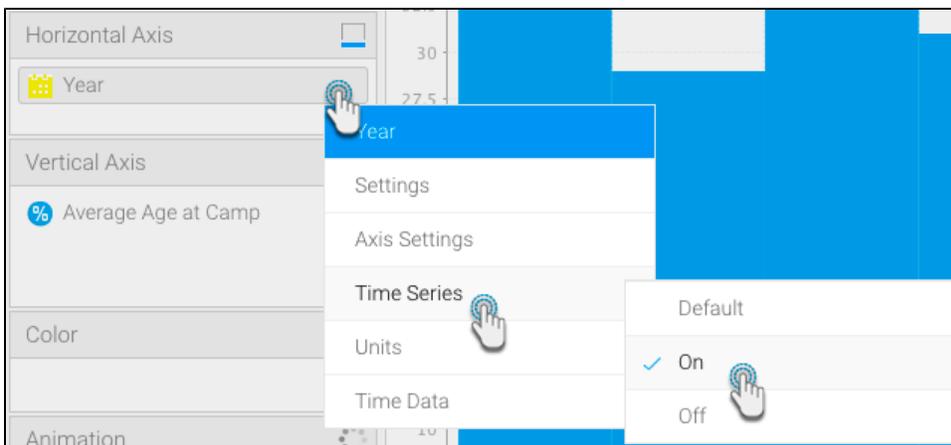
5. Select the date field from the left side panel.
6. Choose and apply a date format.



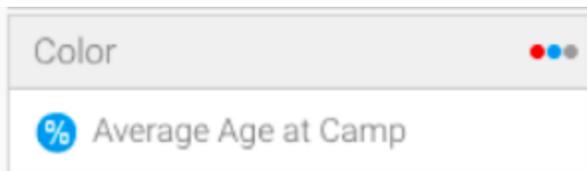
## Display Metric in Colour Field

You can add a metric value to the colour field when creating a time series chart. This will allow the metric field's values to be represented in the chart with the help of colours.

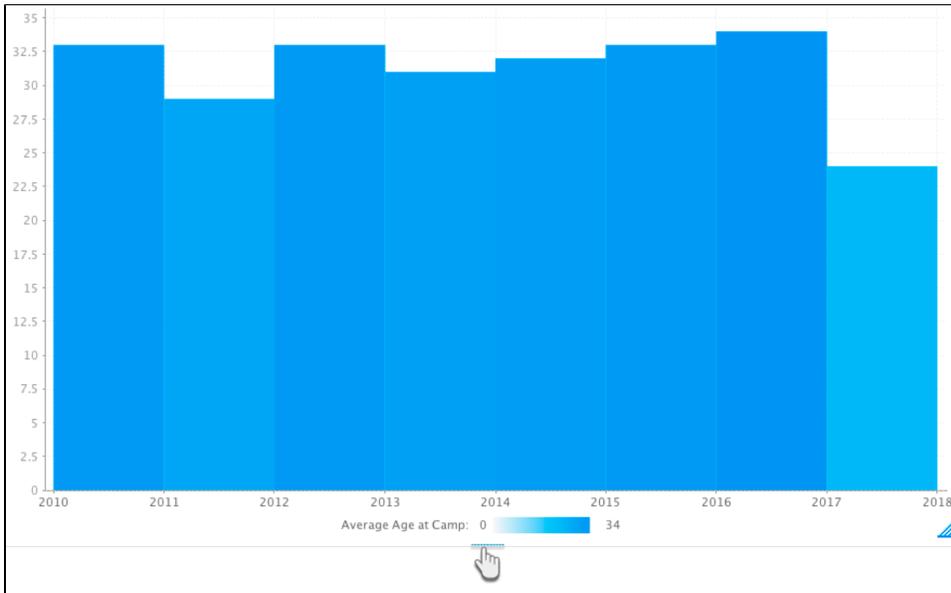
1. Create a time series chart, using a time value. (You may want to select a non-auto chart which best distinguishes between colours, such as a bar chart.)
2. Turn on the time series through the time field's menu, by selecting Time Series and then On.



3. Drag a metric field to the colour field in your chart builder.



4. The colours of the chart data will change according to the value of the applied metric field. A legend will also appear at the bottom to help distinguish between the colour range.



- As seen in our example above, the 2017 bar has an average age of 24, and is therefore a lighter shade of colour than the 2010 bar which has an average age of 33.

## Control Null Behaviour

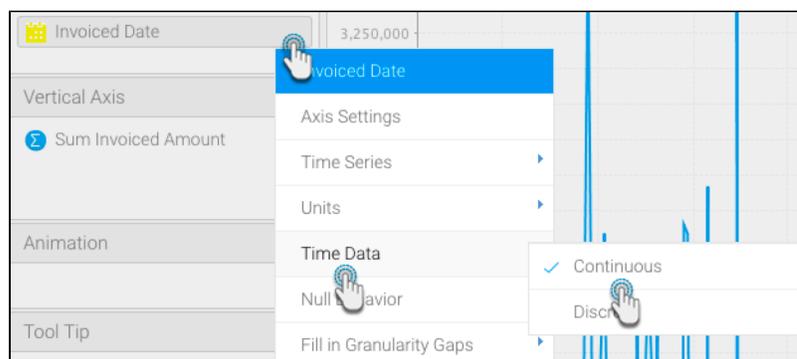
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If your data is missing any values (that is, it contains NULL values), then you can select how to control the gap in time granularity. Time granularity refers to the date or timestamp unit of your chart (millisecond, second, minute, hours, day, week, month, quarter, or year). You can choose to do the following to control the gap:

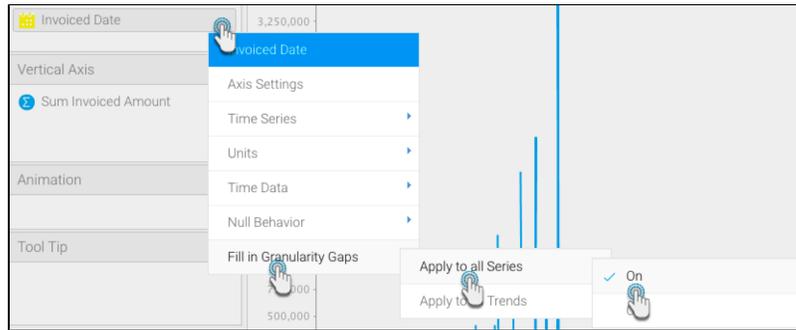
- break the line where there are gaps in time granularity,
- skip over the missing values without filling in the gaps with any additional values,
- or, treat each missing value as zero.

*Note: This functionality is provided for all variations of line charts that support continuous time series, including auto-charts, line charts, stepped charts, combination charts, and overlay chart.*

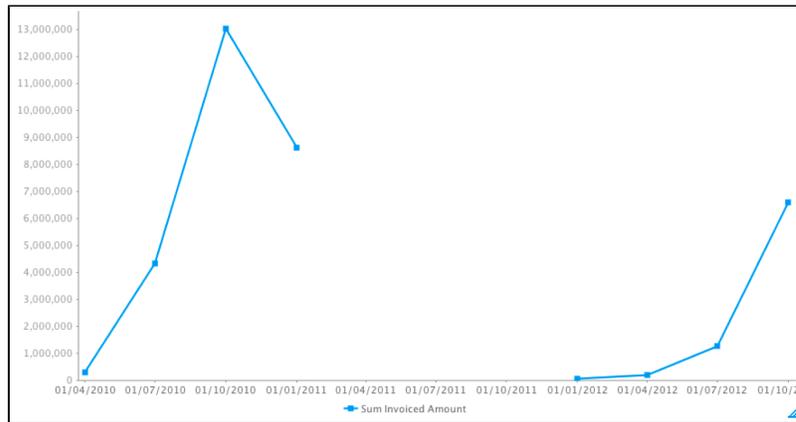
- Ensure that your time series chart is set to continuous.



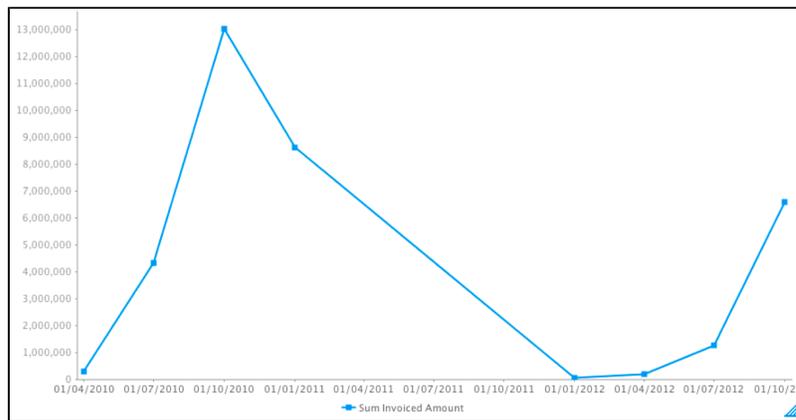
- Click on the date field menu arrow, and choose the Fill in Granularity Gaps option. Select Apply to all Series. Then choose On. This will enable the Null Behaviour functionality for your line chart.



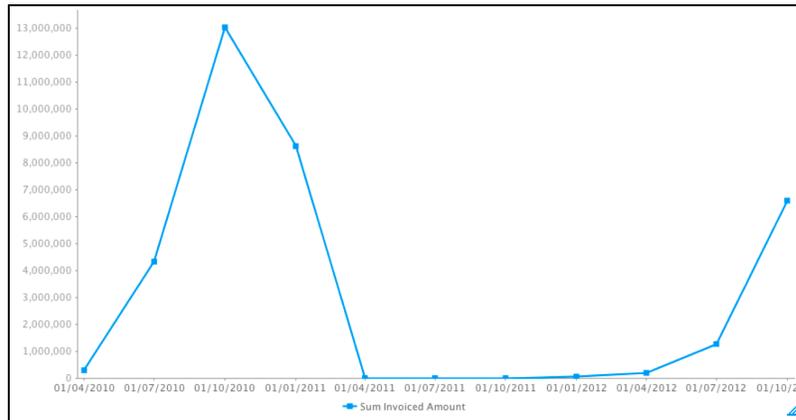
3. Next, choose the Null Behaviour option from the date field menu. Then select how you want the null values to be treated (click [here](#) for details on these values-link to above details)
4. If *Break* is selected, the data will not be visible.



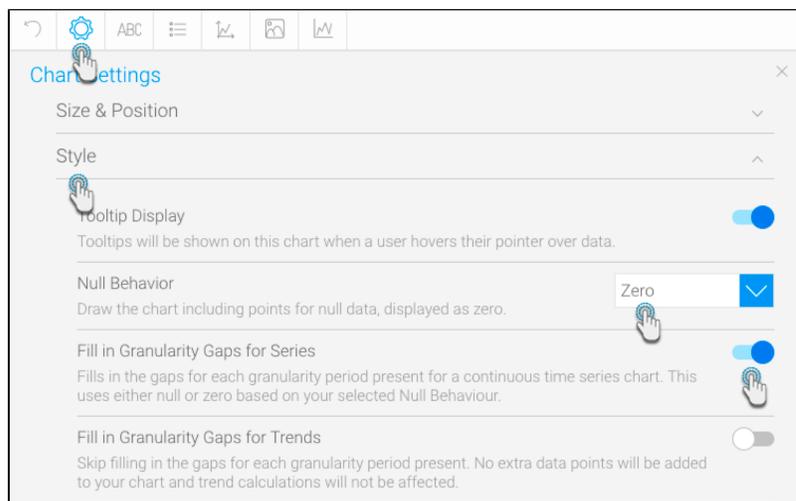
5. If *Skip* is selected, the line will be joined (this is the default behaviour of continuous time series charts).



6. If *Zero* is selected, then the missing gap will be treated as zero values.



7. Simultaneously, you can use these settings through the chart settings option.



8. You can also apply the null behaviour to a trend line, when a **Chart Function** (such as Trend, Average, or Accumulation) is used. To enable this, switch on the **Apply to all Trends** setting from the date field's menu (or the chart settings option).

