# **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

Line	•	35,000,000		
Horizontal Axis		32,500,000 ·		
Invoiced Date		30,000,000 -		
	Axis	Settings		
Vertical Axis	Time Series			
Sum Invoiced Amount	•	22,500,000 -		

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 🔕 ARC 🖹 🖳 🖾 🖄 **Chart Settings** Size & Position Time Format Yearly Comparison h Change the x axis to Style Interaction 2. Your line chart will now appear with a seperate line for each available year 15,000,000 10,000,000 55,000,000 55,000,000 50,000,000 45,000,000 40,000 p00 40,000 p00 20,000 p00 25,000 p00 20,000,000 15,000,000 10,303,200 1,003,000 24 340 Tay Ap Sun Involved Amount - 2007 — Sun Involved Amount - 2008 — Sun Involved Amount - 2019 — Sun Involved Amount - 2011 — Sun Involved Amount - 2013 — Gura Invesion ant - 2010 Sun Invoiced Amount

#### Units

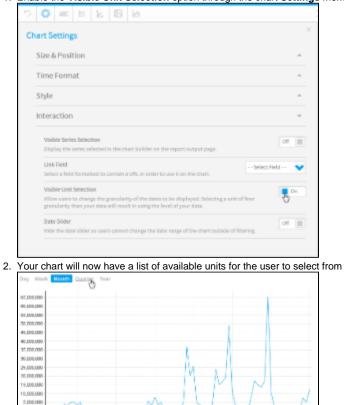
top Allows you to select the time granularity of the chart independant of the table.

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

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		g				o be displayed. Selecting a unit of liner It in using the level of your data.	Day Hillsecond Second	~
SI	tyle						Hisuta Heur Day Wack of the Yaa	,
							Quarter	

## **Visible Unit Selection**

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



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## Date Slider

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

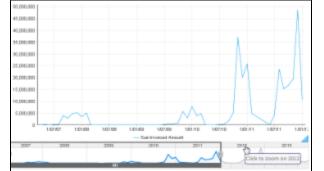
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1. Enable the **Date Slider** option through the chart **Settings** menu

art Settings		
Size & Position		-
Time Format		
Style		
Interaction		
Visible Series Selection Display the series selected in the chart builder on the report output page.		of III
Link Field Solect a field formatted to contain a URL in order to use it on the chart.	Select Fie	ie 💙
Visible Unit Selection		<b>0</b>
Allow users to change the granularity of the dates to be stoplayed. Selecting a unit of granularity then your data will result in using the level of your data.	finer	-
Date Sider		Do to
Display a date slider on the chart to allow users to adjust the date range of the chart.		0
Sider Position	Tap c	· better
Steplay the date slider directly below the chart.		
Slider Initial Range	10099	~
Specify the percentage of the available date range the slider is set to when the chart loads.	1000	

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.

Туре	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.	E.g.: Mon, Aug, or Q1.
	Note: Some time units have no difference between their long and short versions, such as Year.	

- Create a report with at least one date value.
  Navigate to the chart section.
  Select a chart that supports the time series. Ensure that you use the date field.
  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.

Chart Series	Series Settings - Start Date	×
Series	Series	^
Sum Invo	Date Format Use the report level date format for this field.	Long Short

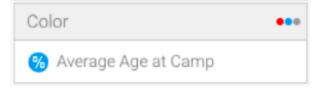
#### **Display Metric in Colour Field**

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.

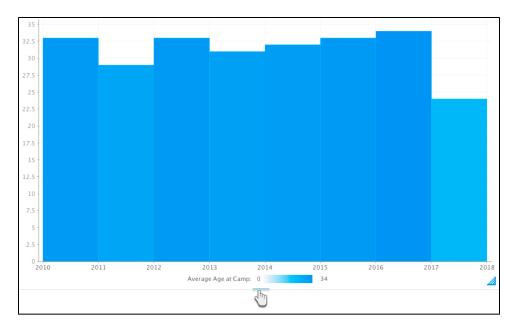
- 1. Create a time series chart, using a time value. (You may want to select a non-auto chart which best distinguishes between colours, such as a bar chart.)
- 2. Turn on the time series through the time field's menu, by selecting Time Series and then On.

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Vertical Axis	<b>V</b> /ear	
	- Settings	
% Average Age at Camp	Axis Settings	
	Time Series	Default
Color	Units	🗸 On 👝
	Time Data	off
Animation		

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.



5. 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.

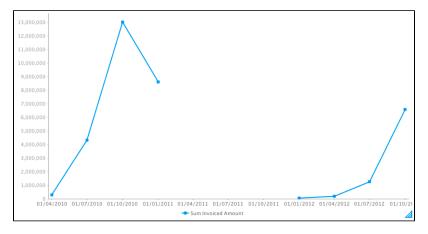
1. Ensure that your time series chart is set to continuous.

Invoiced Date	3,250,000		
Vertical Axis	Axis Settings		
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Tool Tip	Null 🖑 avior	Discr	
Tool Tip	Fill in Granularity Gaps	•	

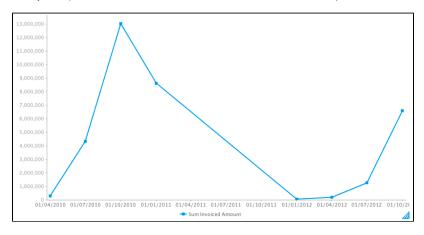
2. Click on the date field menu arrow, and choose the Fill in Granularity Gaps option. Select Apply to all Series. Then choose On. This will enable the Null Behaviour functionality for your line chart.

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	Vivoiced Date	
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Sum Invoiced Amount	Time Series	•
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Animation	Time Data	•
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Tool Tip	Fill in Granularity Gaps	Apply to all Series On Apply to Trends

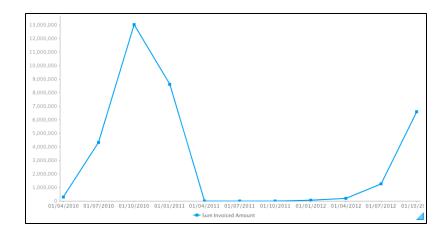
- 3. Next, choose the Null Behaviour option from the date field menu. Then select how you want the null values to be treated (click <here> for details on these values-link to above details)
- 4. If Break is selected, the data will not be visible.



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.

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	Fills	in the		r each	granula	rity per	iod present for a continuous time series chart. This elected Null Behaviour.	R	
	Skip	filling i		aps for	each g	ranular	ity period present. No extra data points will be added not be affected.		1

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).

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