

HOW TO CREATE A DUAL SCALE CHART

LESSON EIGHT

**A step by step tutorial guide to creating a dual
scale chart in a TOAD® Reports Manager
Report**

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1 Introduction

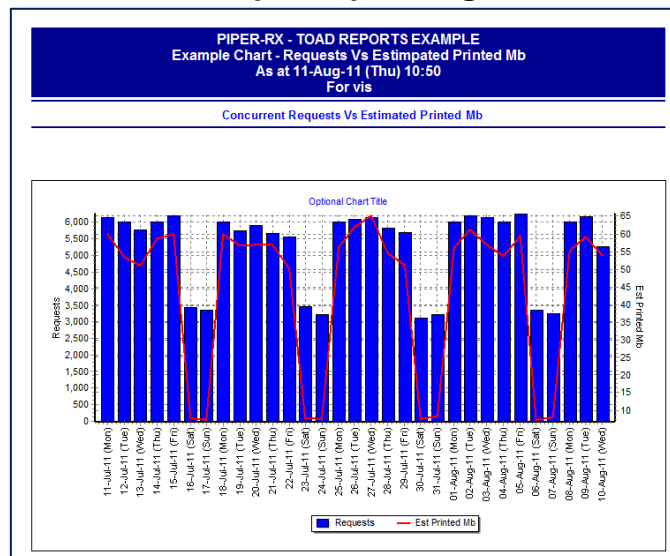
In [Lesson 3 - How to Create a TOAD Report Manager reports chart](#) we demonstrated how to create a simple line chart in your report.

There are however many instances when you wish to chart two values with vastly different scales; in this case you require a dual scale chart. This situation occurred for me recently when I was building a new printers module for my application monitor and I wanted to plot was the number of concurrent requests generated per day and the estimated amount of data (Mb) being sent to the printers.

In this lesson we will demonstrate how to create a multi-page report with page one showing a dual scale bar and line chart, and subsequent pages showing the data used to make up the chart.

What we are aiming to achieve in this lesson is to create a multi-page report with the chart on the first page and the detailed data on the second page.

Example Report Page 1



Example Report Page 2

PIPER-RX - TOAD REPORTS EXAMPLE Example Chart - Requests Vs Estimated Printed Mb As at 11-Aug-11 (Thu) 11:02 For vis		
Date	Requests	Estimated Print Size (Mb)
10-Aug-11 (Wed)	5248	54
09-Aug-11 (Tue)	6144	59.1
08-Aug-11 (Mon)	5998	55.2
07-Aug-11 (Sun)	3243	8.1
06-Aug-11 (Sat)	3343	7.5
05-Aug-11 (Fri)	6234	59.3
04-Aug-11 (Thu)	5998	53.6
03-Aug-11 (Wed)	6123	57
02-Aug-11 (Tue)	6190	61.1
01-Aug-11 (Mon)	5988	56.1
31-Jul-11 (Sun)	3212	8.3
30-Jul-11 (Sat)	3111	7.6
29-Jul-11 (Fri)	5679	51.1

2 Create the Report SQL

In this example I wanted to plot the number of requests per day, and the estimated amount of data being printed.

The SQL for this report would look something like the following:

```
SELECT to_char(sysdate, 'DD-Mon-YY (Dy) HH24:MI') report_date,
       instance_name.instance_name instance_name,
       trunc(actual_completion_date) completion_date,
       to_char(trunc(actual_completion_date), 'DD-Mon-YY (Dy)') formatted_date,
       count(*) requests,
       round((sum(ofile_size * number_of_copies) / 1024 / 1024),1) est_print_size_mb
FROM   applsys.fnd_concurrent_requests,
       ( SELECT instance_name
         FROM   v$instance
         WHERE  instance number = 1 ) instance_name
WHERE  actual_completion_date is not null
       and actual_completion_date > (sysdate - 31)
       and number_of_copies > 0
       and ofile_size > 0
GROUP by trunc(actual completion date),
         instance_name.instance_name
ORDER by trunc(actual_completion_date) DESC;
```

The columns *report_date* and *Instance_name* are for the report header.

The *formatted_date* is the value we will use for the charts X axis values; I always like to add the day of the week when plotting daily activity, it looks so much more professional.

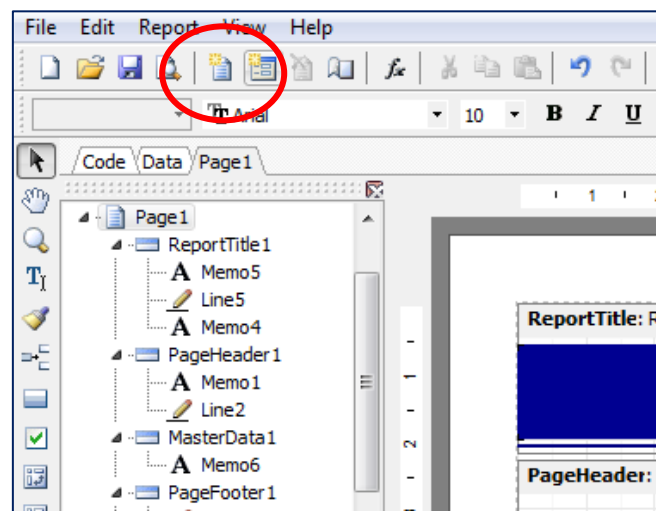
3 Build a Two Page Report

I have included both the starting report **Dual Scale Chart - Start.TRD** and the final report **Dual Scale Chart - Start.TRD** in the download file www.piper-rx.com/reports_tutorials/lesson_8.zip

3.1 Create a second page in a report

Using the starting report **Dual Scale Chart - Start.TRD** in lesson 8 as our template.

Create a second page for the report using the “New Report Page” icon:

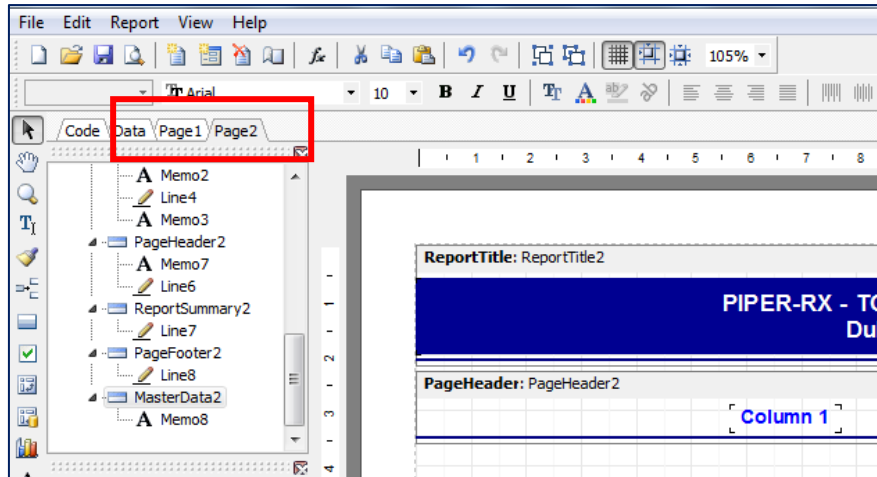


Copy and paste each of the five (5) report bands from page 1 to page 2

- ❖ ReportTitle
- ❖ PageHeader
- ❖ MasterData
- ❖ ReportSummary
- ❖ ReportFooter

We do this as we want page 1 to show the chart and page 2 the data.

You should now have a two (2) page report.



3.2 Format the Page titles

Change the report title on each page by changing the memo text from:

PIPER-RX - TOAD REPORTS EXAMPLE
Dual Scale Chart

To

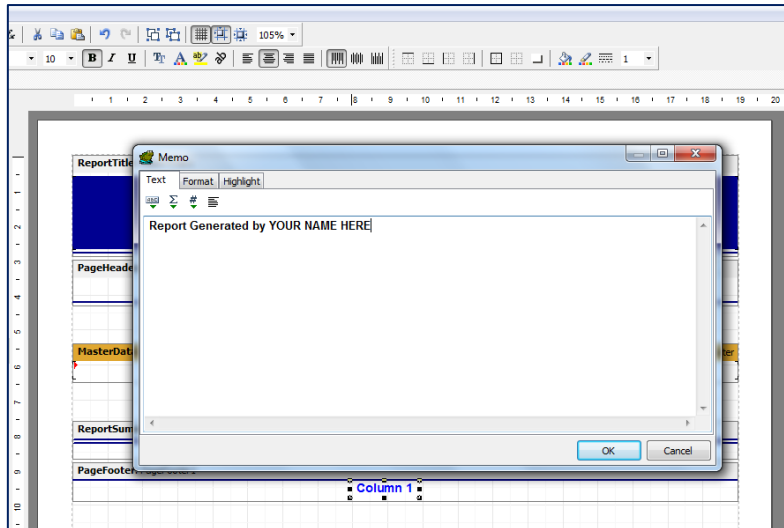
PIPER-RX - TOAD REPORTS EXAMPLE
Example Chart - Requests Vs Estimated Printed Mb
As at [Master."REPORT_DATE"]
For [Master."INSTANCE_NAME"]

Resize the report title to fit.

Repeat for page two.

3.3 Format the page footers

Copy the “column 1” memo field on page one and paste it into the center of the footer. Change the memo text to add your name:



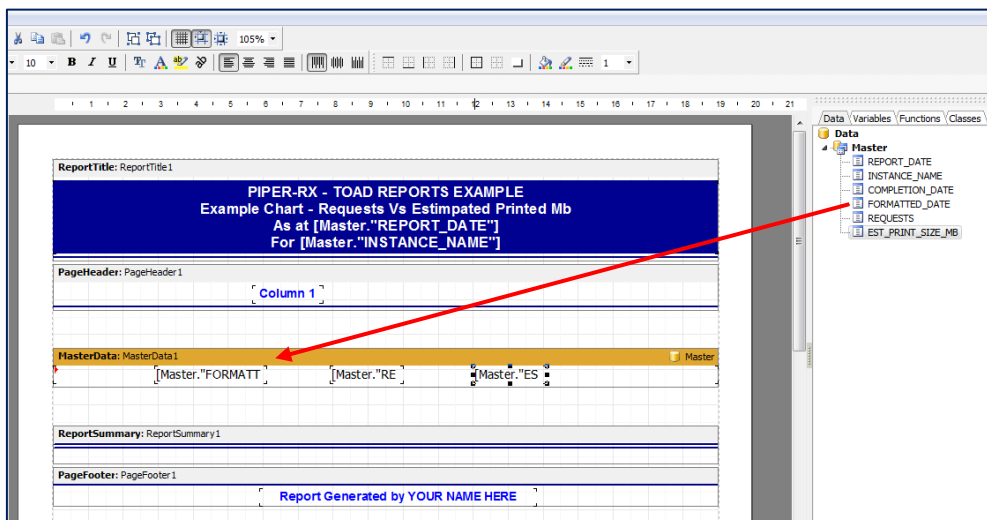
Expand and center the memo field.

Copy and paste the new footer entry into the footer on page 2.

3.4 Add data to page 2

On page 2 of the report, drag and drop the following values from the data section of the report editor to the master data section of the chart:

- ❖ Add formatted_date,
- ❖ Requests,
- ❖ est_print_size_mb



Copy and paste the column 1 page header item twice and position over each of the data attributes, change the title names to suit.

Lesson 8 – How to create a dual scale chart - (August 2011)

ReportTitle: ReportTitle1

PIPER-RX - TOAD REPORTS EXAMPLE
Example Chart - Requests Vs Estimated Printed Mb
As at [Master."REPORT_DATE"]
For [Master."INSTANCE_NAME"]

PageHeader: PageHeader1

Date	Requests	Estimated Print Size (Mb)
[Master."FORMATT"]	[Master."RE	[Master."ES

MasterData: MasterData1

[Master."FORMATT"] [Master."RE [Master."ES

As both *requests* and *est_print_size_mb* are numeric values, right justify the titles and data values for both *requests* and *est_print_size_mb*.

Realign the headings to suit.

ReportTitle: ReportTitle1

PIPER-RX - TOAD REPORTS EXAMPLE
Example Chart - Requests Vs Estimated Printed Mb
As at [Master."REPORT_DATE"]
For [Master."INSTANCE_NAME"]

PageHeader: PageHeader1

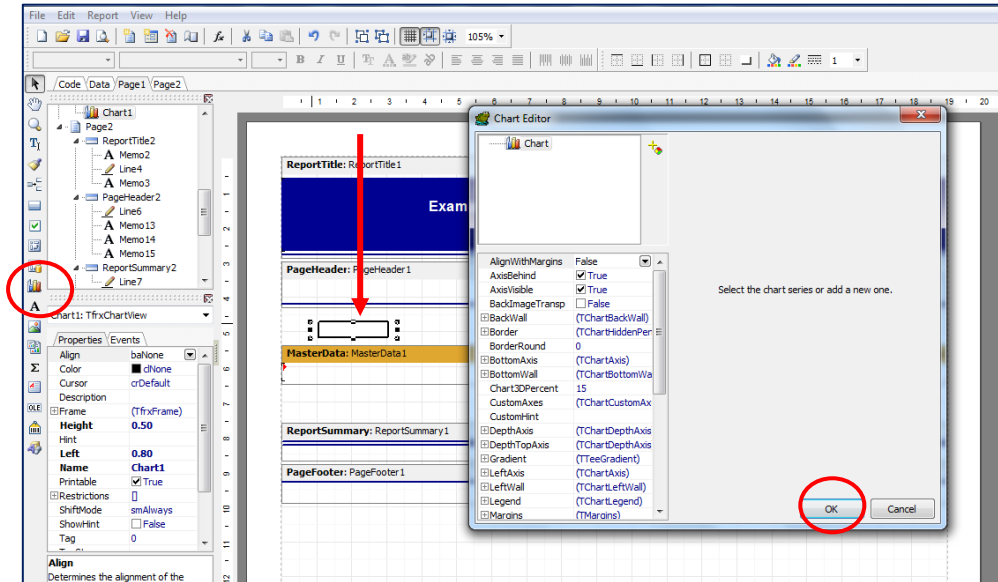
Date	Requests	Estimated Print Size (Mb)
[Master."FORMATT"]	[Master."RE	[Master."ES

MasterData: MasterData1

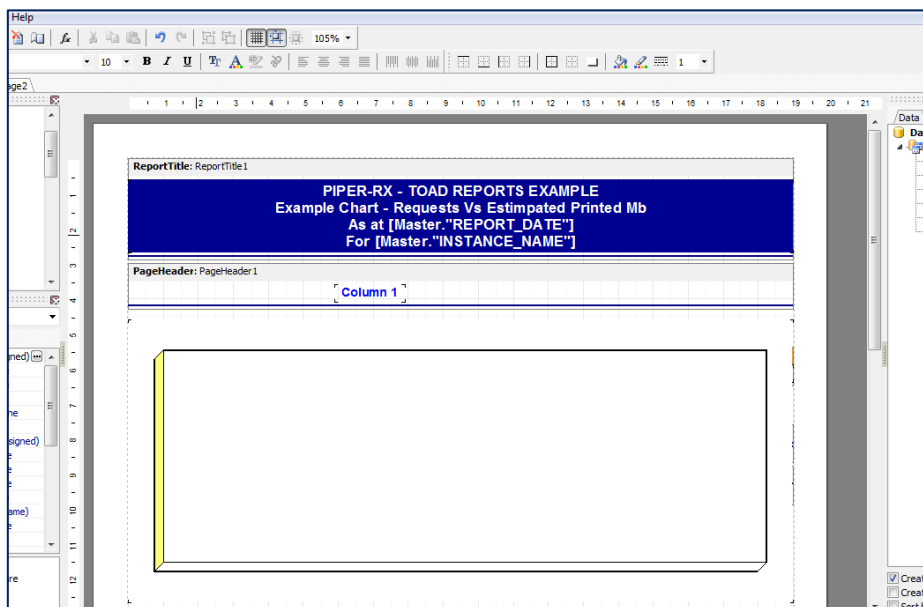
[Master."FORMATT"] [Master."RE [Master."ES

4 Creating the Chart

On page one, add a chart object placing it between the **ReportTitle** section and the **MasterData** sections and select OK.

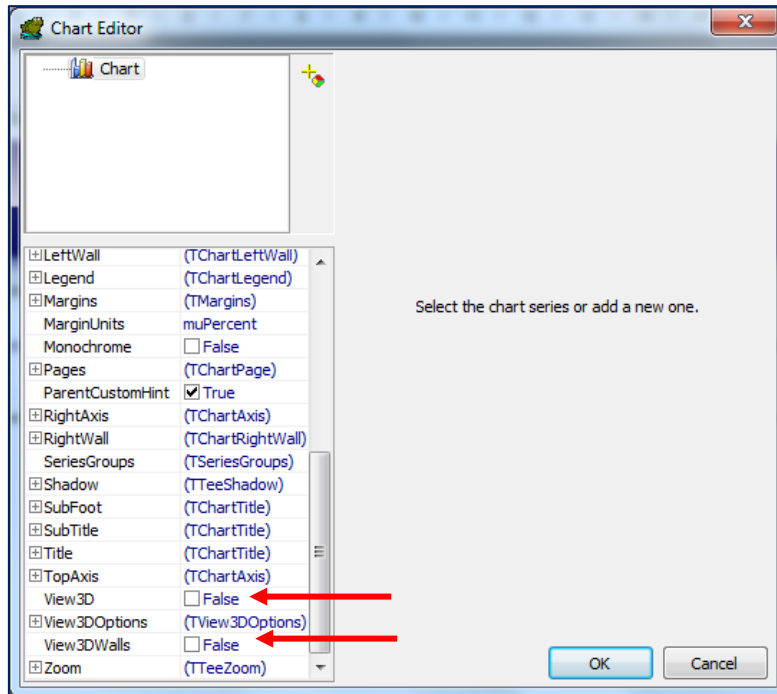


Expand the chart object to suit leaving the **ReportTitle** section visible.



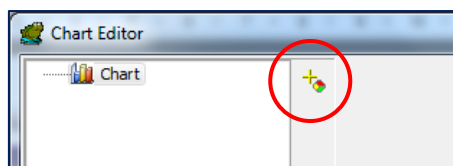
4.1 Turning off 3D

Using the chart editor (Double click on the chart object in the report), and turn off both the **Top Axis – View 3D** and **View 3D Options – View 3D Walls** options:



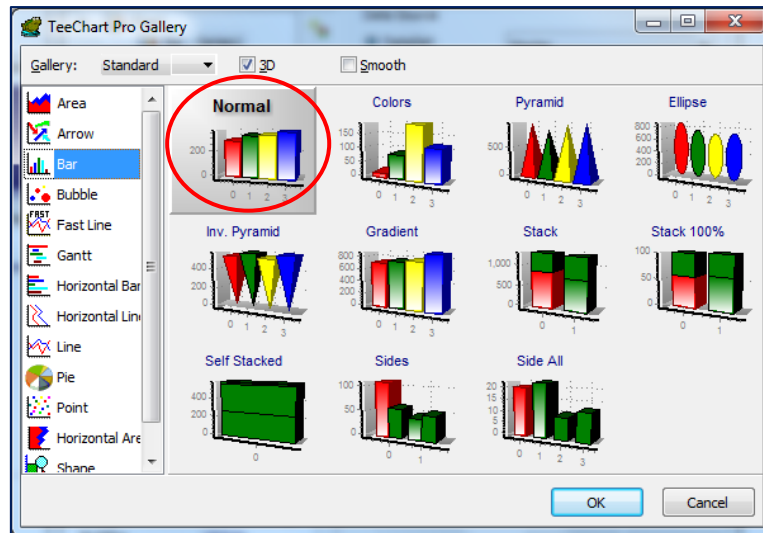
4.2 Add the first chart series

Using the chart editor select the add series icon:

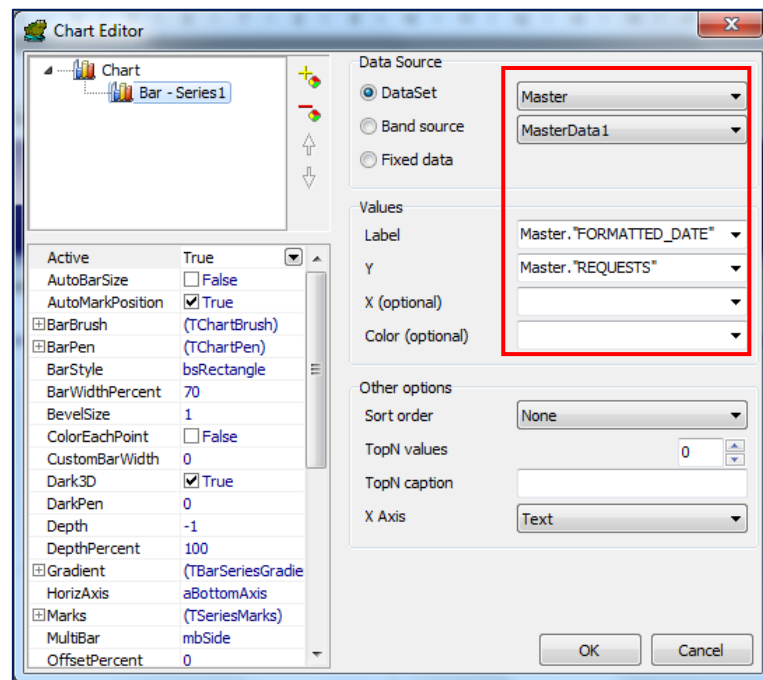


Select the bar chart options and select the normal bar chart option. Note that the chart is displayed in 3D but it will be shown in 2D in our chart as we have turned off 3D in the last step.

Lesson 8 – How to create a dual scale chart - (August 2011)

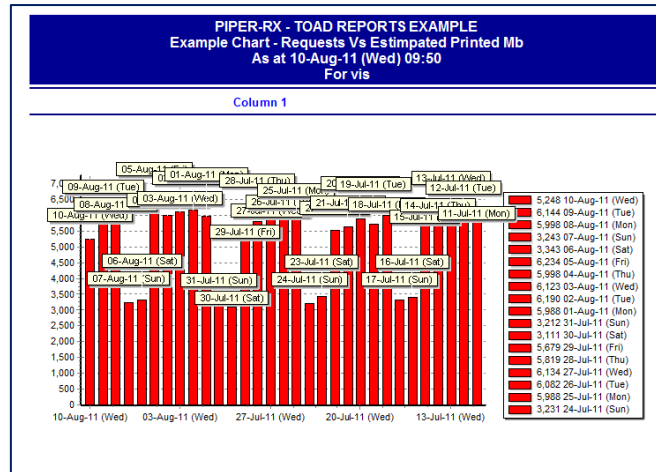


Add the data source as shown below:



Note we have used the formatted date for the report it looks so much better....

Save and run the report; it should look something like the following:

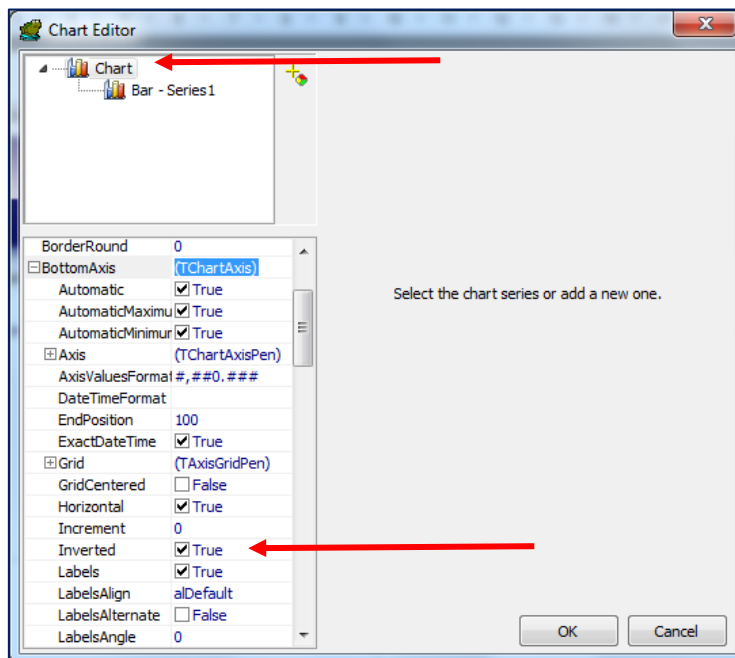


Two (2) things to notice here are that the chart looks a mess and the data in the chart X axis has the most recent date to the left so we need to fix this so the most recent date is on the right. However the data on page 2 has the most recent date at the top of the report which is how we want it.

Do not change the order in the SQL code; there is a better way....

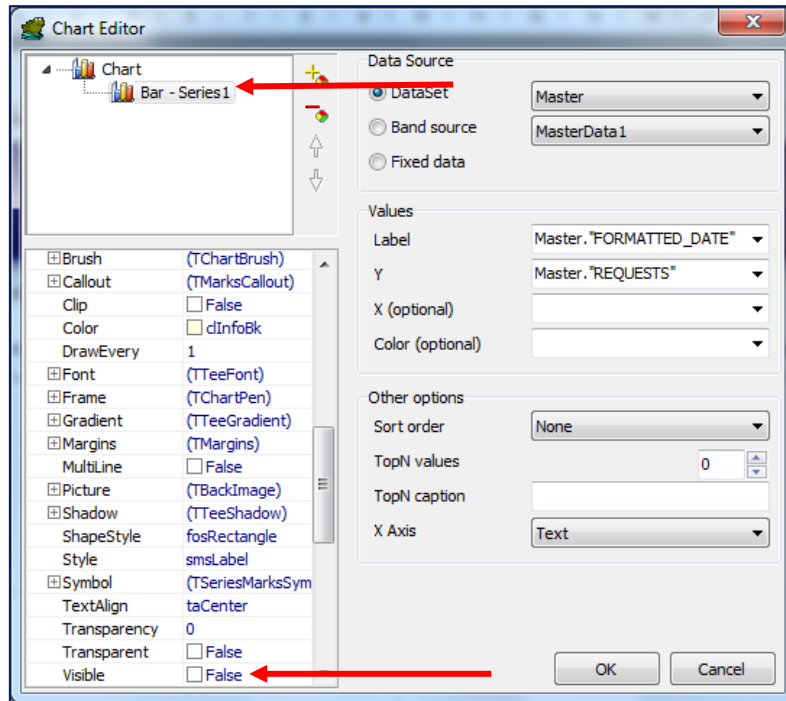
4.3 Change the chart x axis order

Using the chart editor set the **BottomAxis > Inverted** value to true:

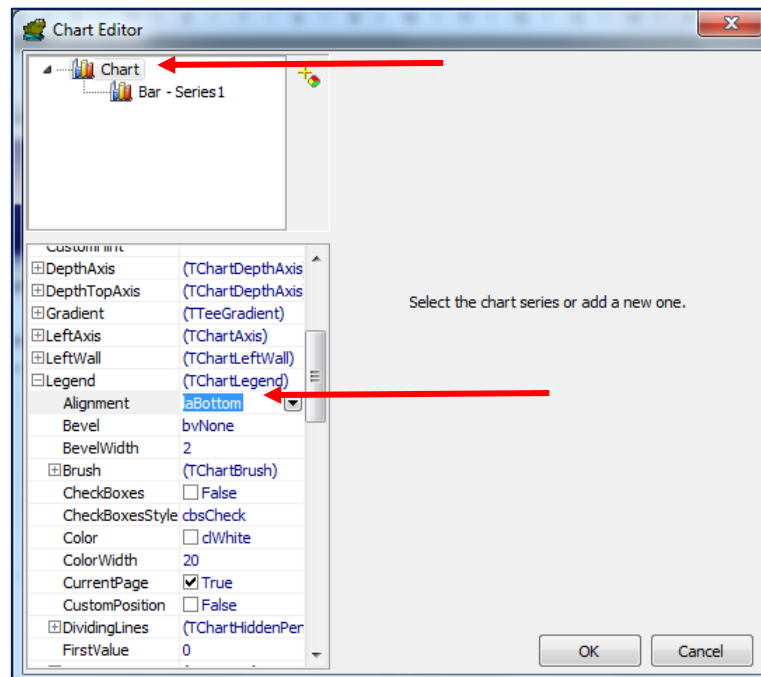


4.4 Tidying up the chart

First get rid of the values above each of the chart's columns by using the Chart editor and selecting the Bar – Series 1 entry, turn off the **Marks > Visible** Option:



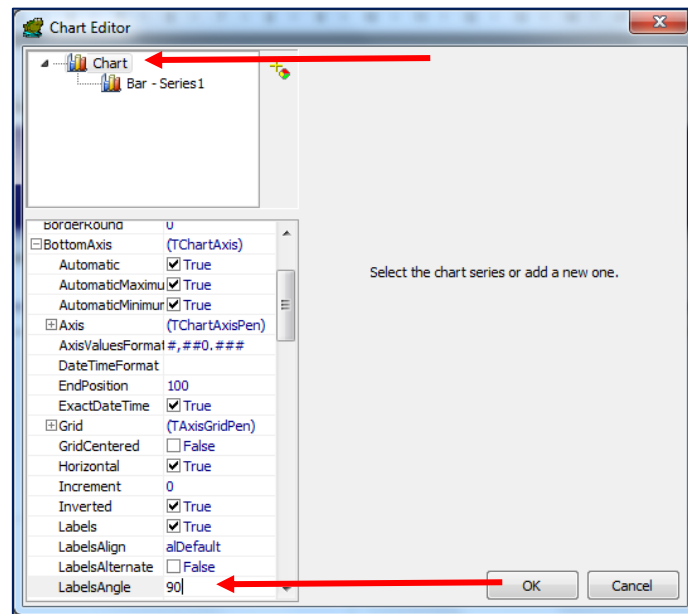
Next change the legend location to the bottom of the chart by changing the chart's **legend > Alignment** option to **laBottom**:



No further change is required as the legend will auto adjust when we add the second series.

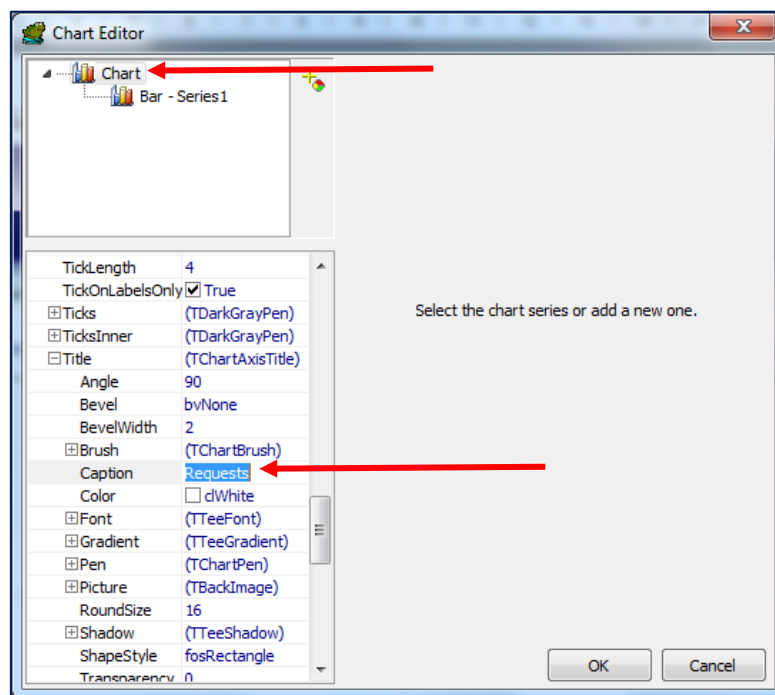
4.5 Change the orientation of the x axis date values

Using the chart editor, select the chart item and change the **BottomAxis > LabelsAngle** to **90**:



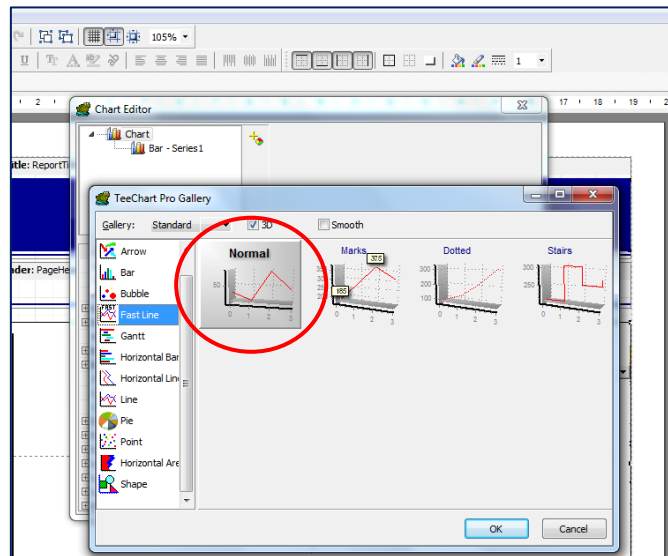
4.6 Add a left axis label

Add the left axis label to the chart via the **LeftAxis > Title > Caption** option:

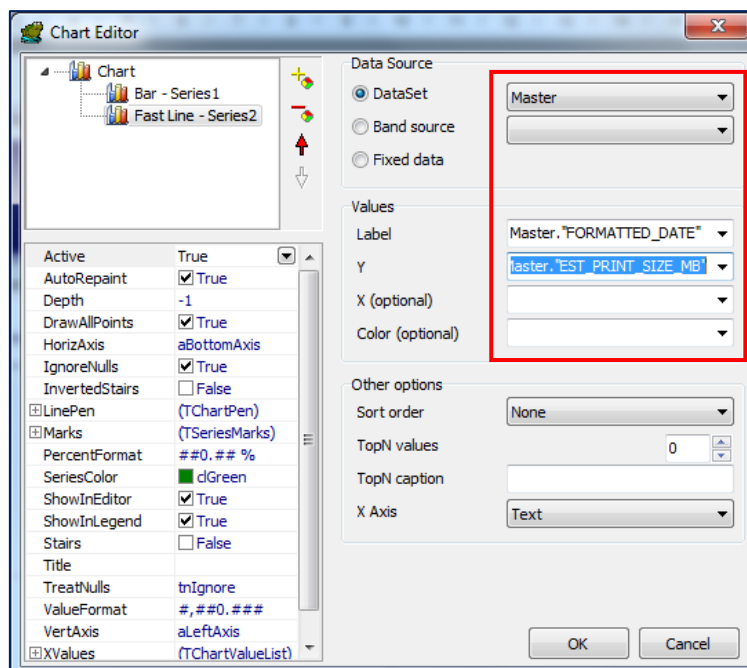


4.7 Add the second chart series

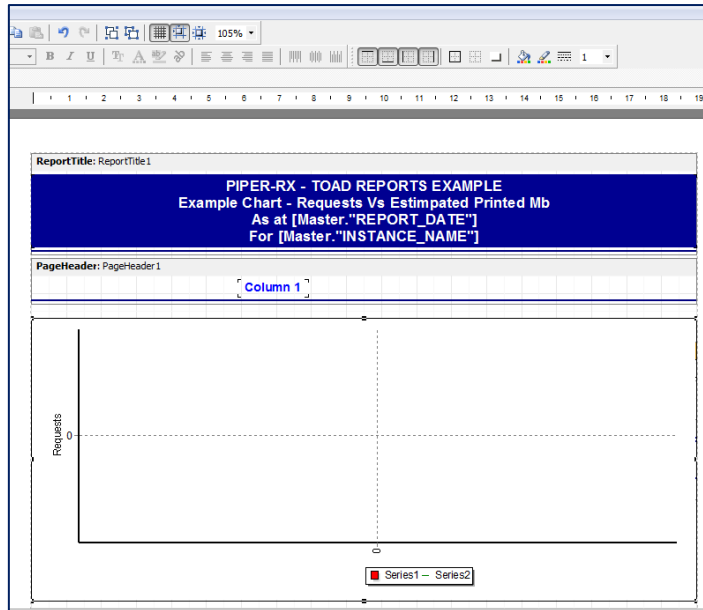
Using the chart editor select the add series icon. Select the fast line chart options and select the normal line chart option. Again the chart option is displayed in 3D but it will be shown in 2D in our chart as we have turned off 3D:



Add the data sources as shown below:

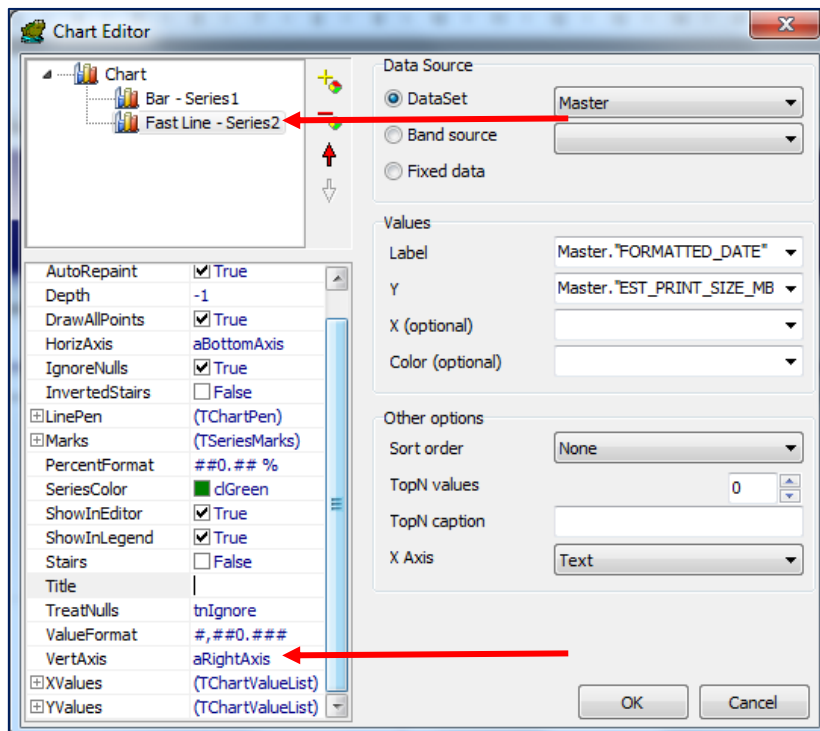


Now that the second data series has been added note the Legend has changed....



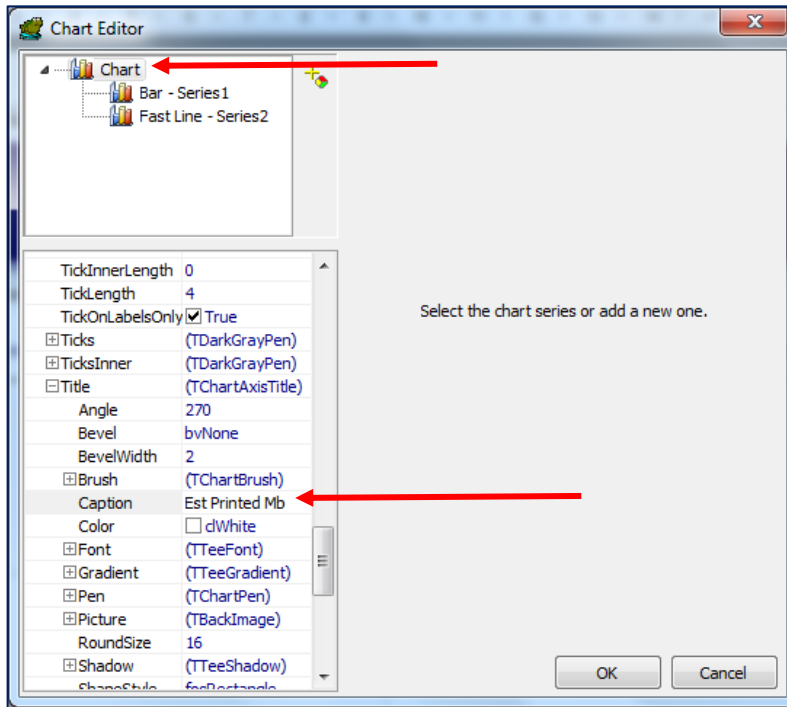
4.8 Add a right axis scale

Select the Fast Line series and set the **VertAxis** option to **aRightAxis**:

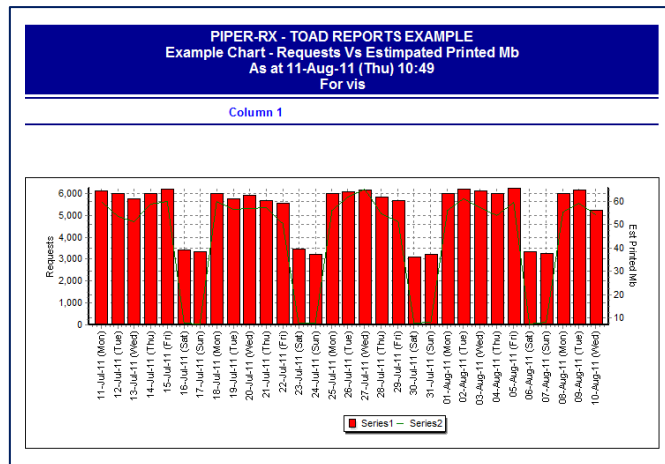


4.9 Add a right axis label

Add the right axis label to the via the **RightAxis > Title > Caption** option



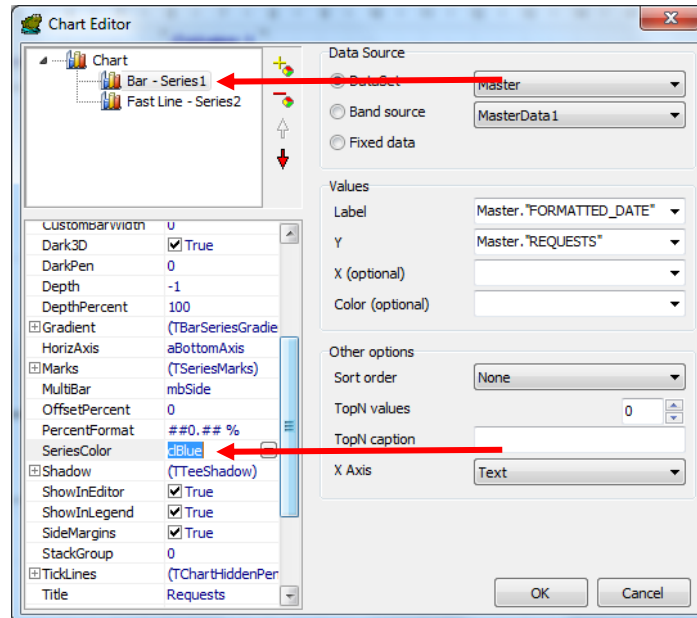
You should now have a dual scale chart that should look something like the following:



5 Final tidy up

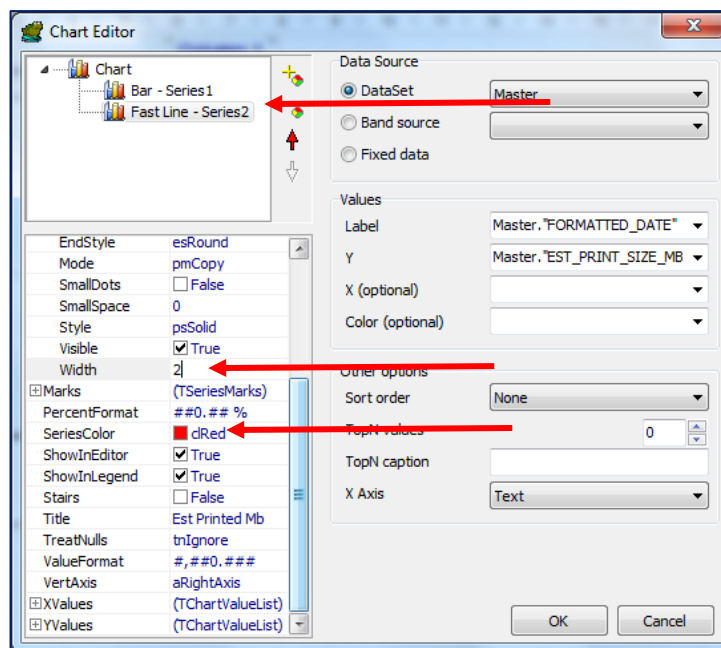
5.1 Change the bar chart colour

Change the bar colour, in this lesson the bar chart **SeriesColor** is set the blue:



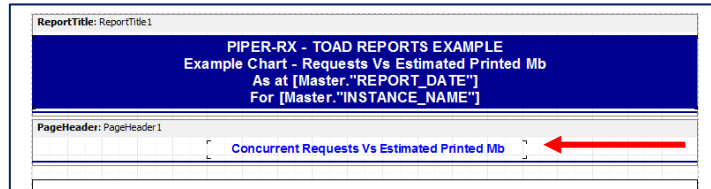
5.2 Change the line chart colour and thickness

Select the Fast Line chart and change the **SeriesColor** to red and the **LinePen > Width** value to 2:

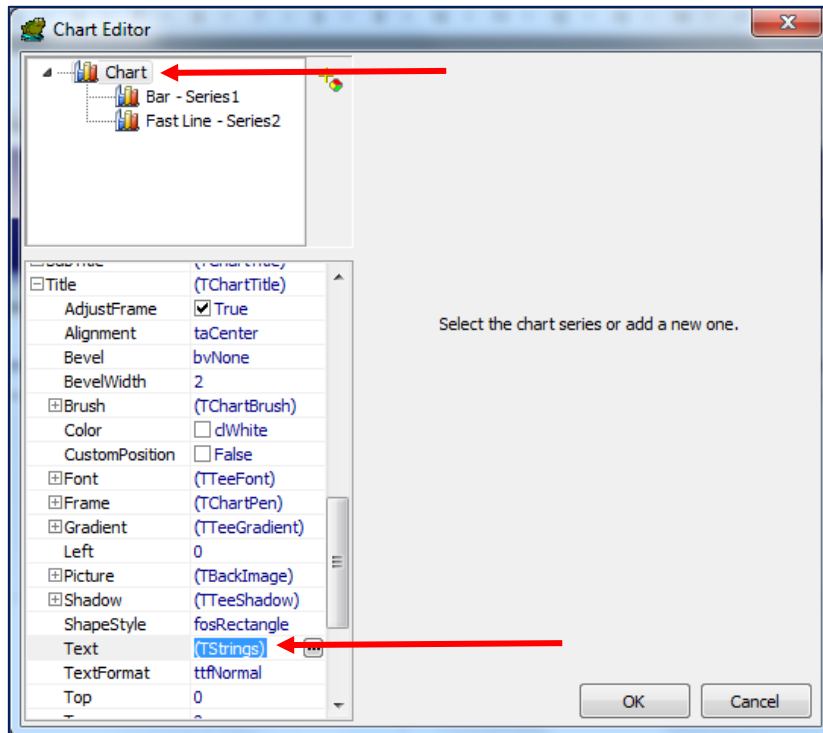


5.3 Add a chart title (optional)

In my opinion, using a **PageHeader** text item for the chart title looks better than using the charts, chart title option. So in this case type the chart title text into the **PageHeader** text item and then resize and position in the **PageHeader** section:



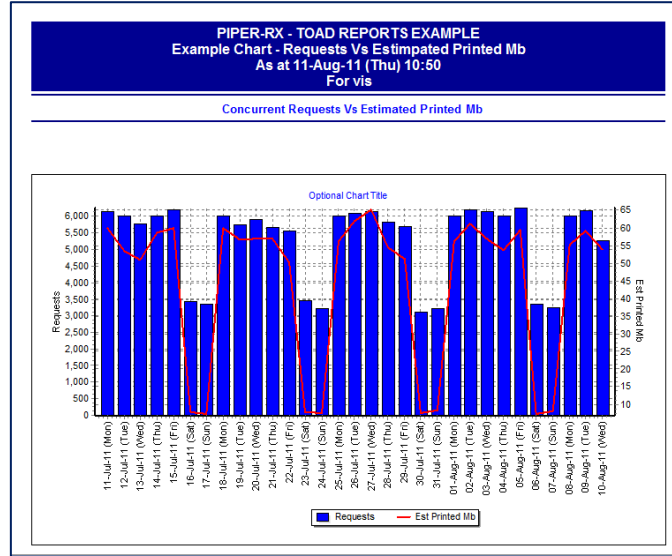
That being said, this is a lesson on creating charts. A chart title can also be added using the **Title > Text** option:



6 Final Report

You should now have a dual scale report that looks something like the following:

Example Report Page 1



Example Report Page 2

PIPER-RX - TOAD REPORTS EXAMPLE
Example Chart - Requests Vs Estimated Printed Mb
As at 11-Aug-11 (Thu) 11:02
For vis

Date	Requests	Estimated Print Size (Mb)
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04-Aug-11 (Thu)	5998	53.6
03-Aug-11 (Wed)	6123	57
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01-Aug-11 (Mon)	5988	56.1
31-Jul-11 (Sun)	3212	8.3
30-Jul-11 (Sat)	3111	7.6
29-Jul-11 (Fri)	5679	51.1

Happy charting!

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