Union Sub Query

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Overview

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Introduction

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In this tutorial, we will walk through setting up a **Union** sub query. A good way to think about **Unions** is - use them if you need to combine multiple fields into the one column, either from the same or different views or sources.

In this scenario our main report will have a list of invoicing figures by region, we will then use the Union query to display negative cost figures in the same column, and then add sub totals to see the total income for each region.

Master Query

The Master Query is going to include:

1. Camp Region
2. Calculated Field: "Invoiced" text label
3. Sum Invoiced Amount

Union Query

The Union Query will include:

1. Camp Region
2. Calculated Field: "Cost" text label
3. Calculated Field: Sum Cost * -1 (to convert the Cost figures to a negative value)

Create

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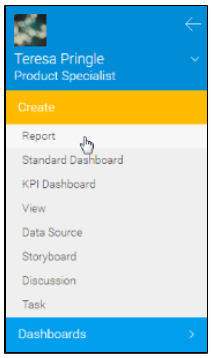
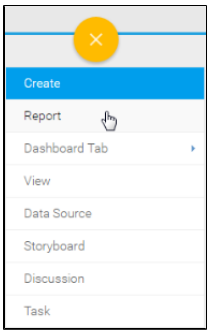
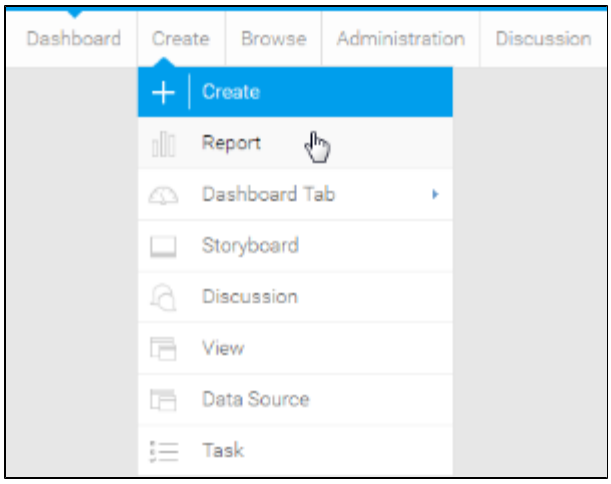
1. Start the **Report** creation process by using one of these methods:

- **Left Side Nav** - open the left side navigation panel, click on Create, select the Report option

- **Top Right Button** - click on the create button, select the Report option.

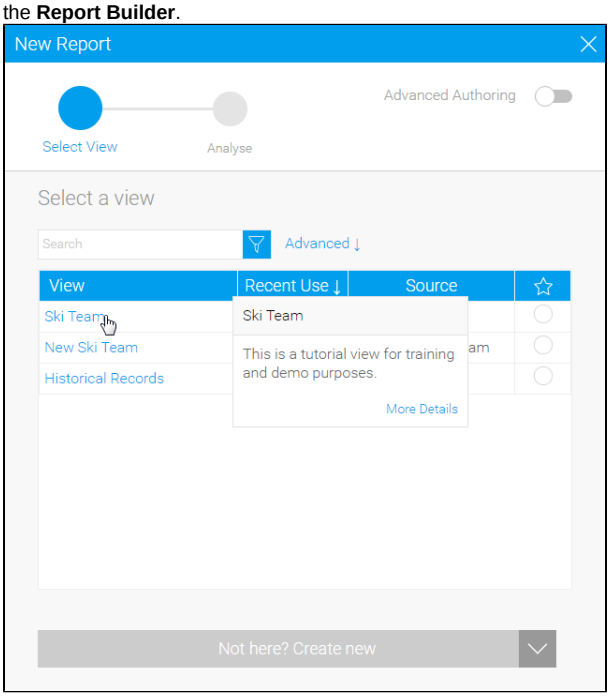
- **Toolbar** - click on the Create link in the toolbar, select the Report option.

You will now see the **New Report** lightbox.

Left Side Nav	Top Right (with Left Side Navigation enabled)	Toolbar
		

2. Click on the **Ski Team** view in order to use the fields defined within it for creating the report.

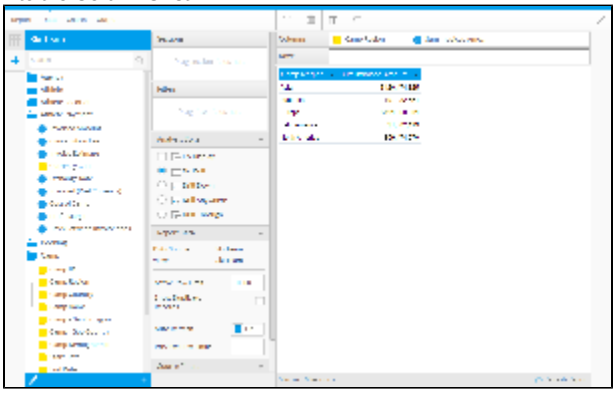
3. You will now be taken to the **Data** step of the **Report Builder**.



Master Query

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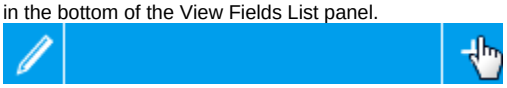
4. Drag and drop the **Camp Region** dimension and **Invoiced Amount** metric into the **Columns** list.



Label Field

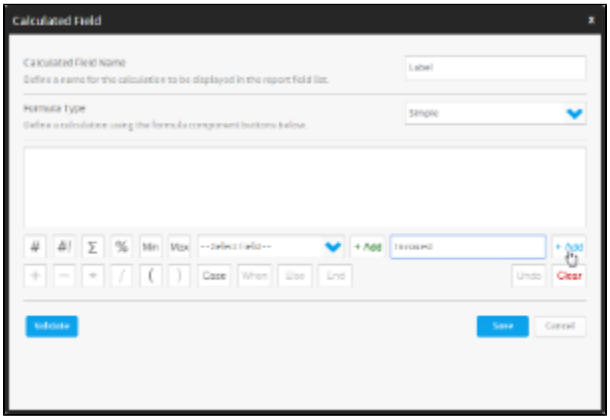
To complete the master query, a label field is required. This will be used to identify the rows from the master query as "Invoiced" rows. There will be a similar calculation in the union query to identify rows as "Cost".

5. Click on the **+** to create a calculated field, in the bottom of the View Fields List panel.



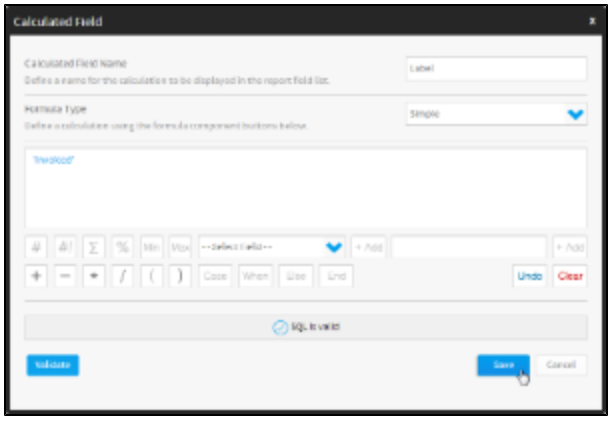
6. Set the **Calculated Field Name** to **Label**
Note: the name for this field can be anything, it will not change the way the union works if it's called something else.

7. Type **Invoiced** into the text box under the main calculation panel, as shown here, and click **+ Add** to add it to the calculation.

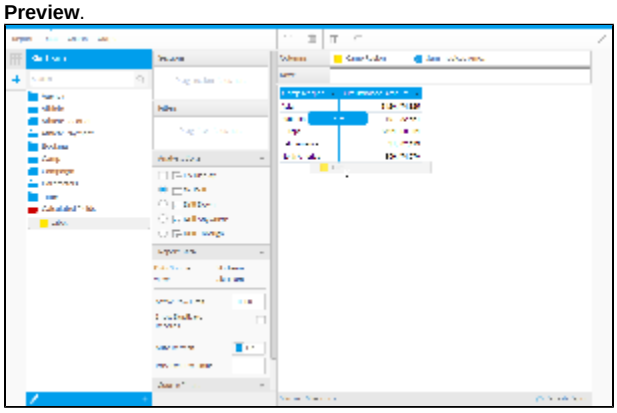


8. Click the **Validate** button to ensure your calculation is built correctly.

9. Click the **Save** button to complete your calculation.



10. Drag the **Label** calculation to between the **Camp Region** and **Sum Invoiced Amount** fields in either the **Columns** list or **Table Preview**.



Union Query

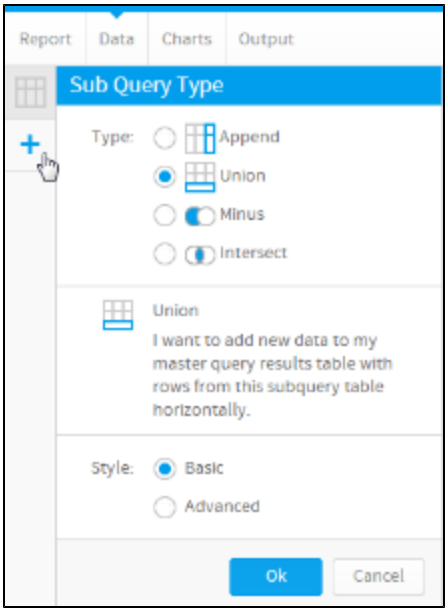
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Create Union

11. Click on the **+** button in the Sub Query panel to the left of the Data step to add a Sub Query.

12. Set the Type to **Union** and Style to **Basic**.

13. Click **Ok** to set up the query.



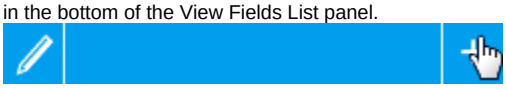
Calculations

To complete the union query, two calculations will be required;

1. Label: this will be used to identify the rows from the union query as "Cost" rows. There will be a similar calculation in the master query to identify rows as "Invoiced".
2. Cost: this will be used to convert the cost figure to a negative value. This will mean that when a sub total is added to the report, the cost amount will be subtracted from the invoiced amount.

Label

14. Click on the **+** to create a calculated field, in the bottom of the View Fields List panel.

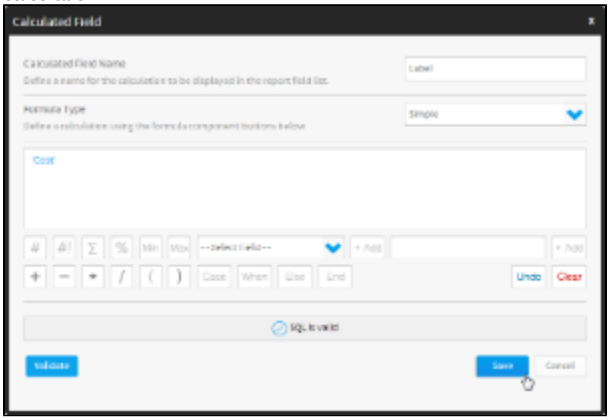


15. Set the **Calculated Field Name** to **Label**
Note: the name for this field can be anything, it will not change the way the union works if it's called something else.

16. Type **Cost** into the text box under the main calculation panel, as shown here, and click **+ Add** to add it to the calculation.

17. Click the **Validate** button to ensure your calculation is built correctly.

18. Click the **Save** button to complete your calculation.



Cost

19. Click on the **+** to create a calculated field, in the bottom of the View Fields List panel.

20. Set the **Calculated Field Name** to **Cost**
Note: the name for this field can be anything, it will not change the way the union works if it's called something else.

21. Click on the button.

22. Select the **Camp Cost** field from the **Sele ct Field** drop down, and click **+ Add**.

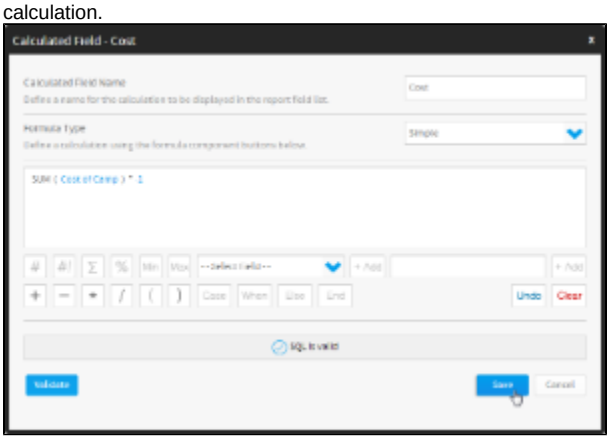
23. Close the bracket by clicking **)**.

24. Click the ***** button to multiply the field by a value.

25. Type **-1** into the text entry field, and click **+ Add** to put in your calculation.

26. Click the **Validate** button to ensure your calculation is built correctly.

27. Click the **Save** button to complete your calculation.



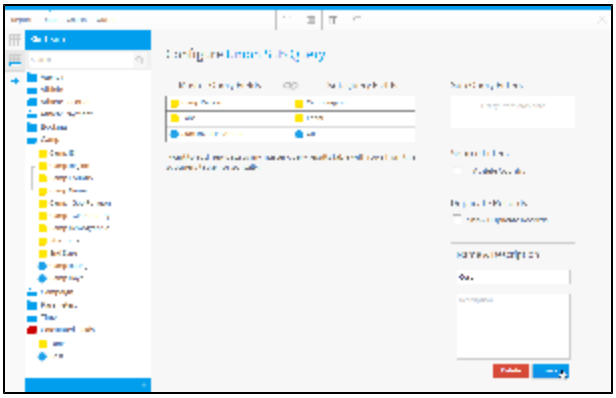
Configure Union

28. Drag the **Camp Region** field into the **Sub Query Fields** list, directly next to the **Camp Region** field in the **Master Query Fields** list.

29. Drag the **Label** calculated field into the **Su b Query Fields** list, directly next to the **Label** field in the **Master Query Fields** list.

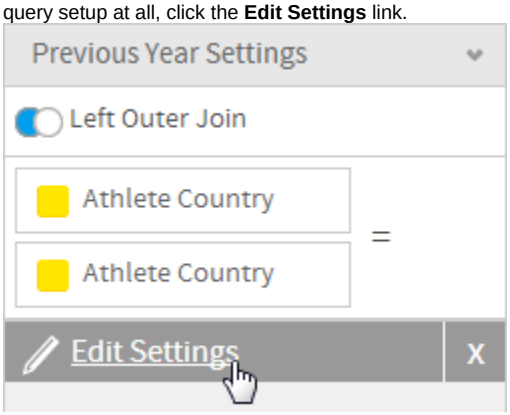
30. Drag the **Cost** calculated field into the **Sub Query Fields** list, directly next to the **Sum Invoiced Amount** field in the **Master Query Fields** list.

31. Change the name of the Sub Query to **Co st** and click **Save** to complete the **Union**.



Edit Settings

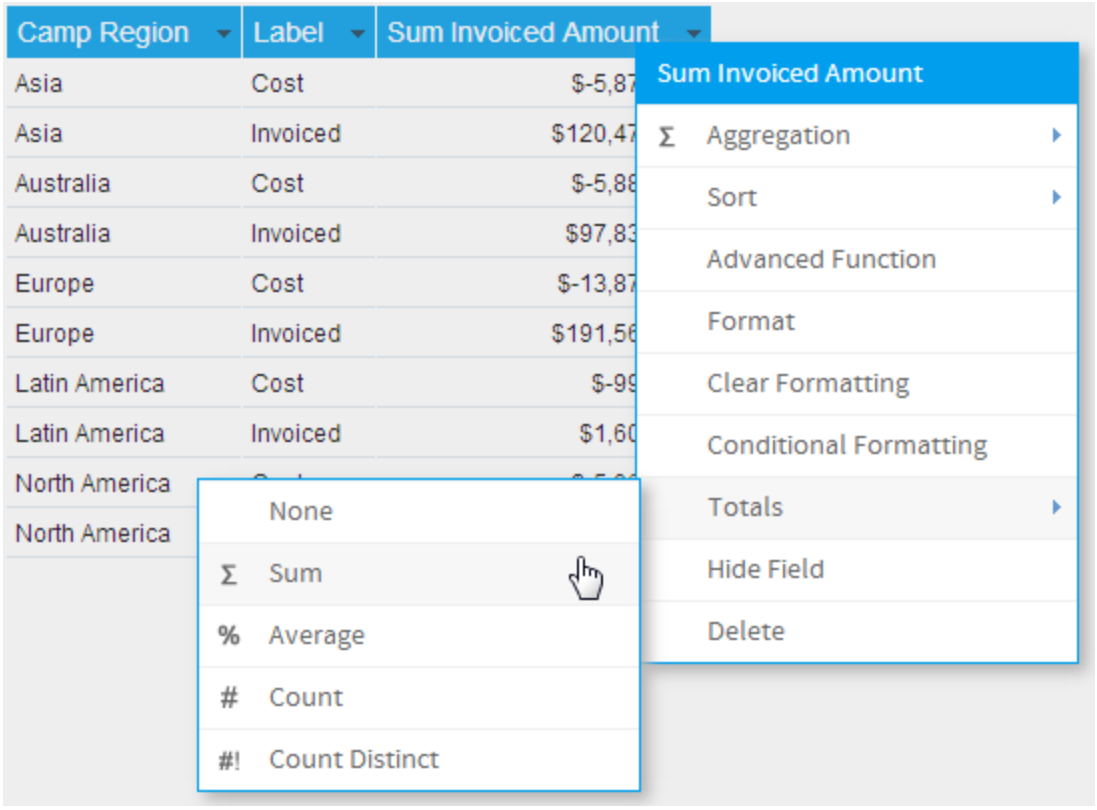
32. If you need to make changes to your sub query setup at all, click the **Edit Settings** link.



Formatting

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33. Click on the **Sun Invoiced Amount** field's drop down list and apply a **Sum Total**

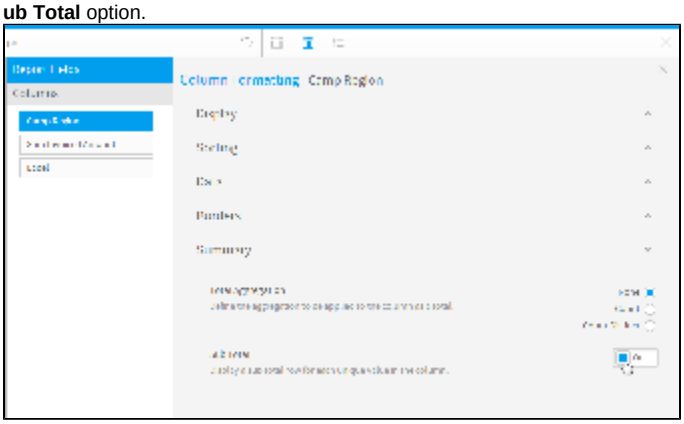


34. Click on the **Camp Region** field's drop down list and select **Format**. You could also select the **Column Formatting** menu from the main navigation bar.

35. Enable the **Suppress Duplicates** option. This will make the final table easier to read, with the inclusion of sub totals.

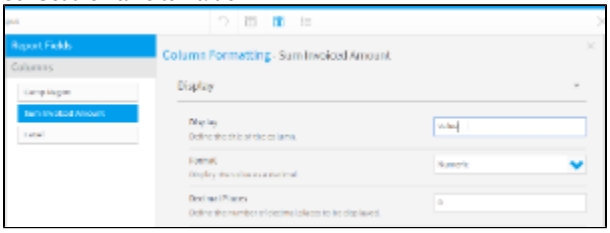


36. While still on the **Camp Region** field, open the **Summary** settings and enable the **S ub Total** option.



37. While still in the **Column Formatting** menu, select the **Sum Invoiced Amount** field from the list on the left.

36. Set the name to **Value**.



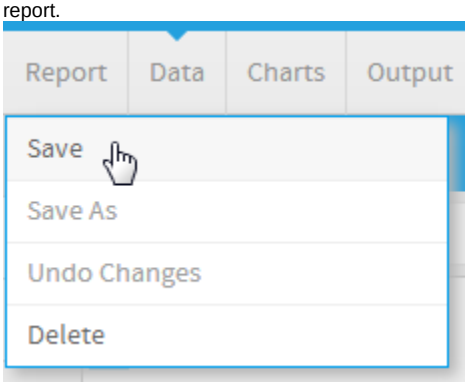
38. Close the menu.



Save

top

39. Click **Report** > **Save** to activate your report.



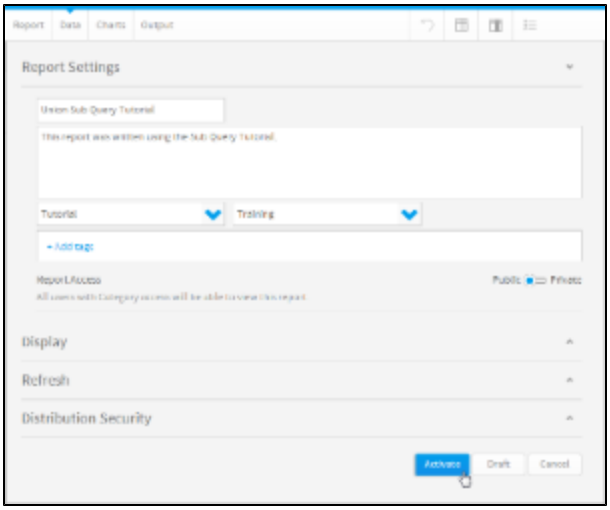
40. Set the **Name** of your report to **Union Sub Query Tutorial**.

41. Set the **Description** to **This report was written using the Sub Query Tutorial**.

42. Select **Tutorial** as the **Category**.

43. Select **Training** as the **Sub Category**.

44. Click **Activate** to finish.



45. You now have an active Union Sub Query report.

Union Sub Query Tutorial

This report was written using the Sub Query Tutorial.

Camp Region	Label	Value
Asia	Cost	$-5,878,331
	Invoiced	$120,474,325
Asia		$114,595,994
Australia	Cost	$-5,881,632
	Invoiced	$97,832,651
Australia		$91,951,019
Europe	Cost	$-13,878,011
	Invoiced	$191,560,001
Europe		$177,681,990
Latin America	Cost	$-996,444
	Invoiced	$1,602,199
Latin America		$605,755
North America	Cost	$-5,062,156
	Invoiced	$59,474,670
North America		$54,412,515
		$439,247,273

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