Creating a View

Overview

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The View is a metadata layer used by Yellowfin to hide the complexity of database structures from Report Writers. The View is used to define which columns in your database you wish to make available for Report Building. These fields may come from multiple tables and therefore will require joins to be defined (the business logic that links rows in a table together).

The two major steps in creating a view include:

1. Relationship Entity Diagram - selecting the tables you need from your database and defining how data in these tables are joined
2. View Field Selection - defining which fields you wish to make available from these tables and providing metadata for them.

> *See Views for more information.*

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

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

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

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

Toolbar	Admin Console

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

- **Admin Console** - navigate to the **Admin Console**, open the View**s** section, click on the **Add** button.
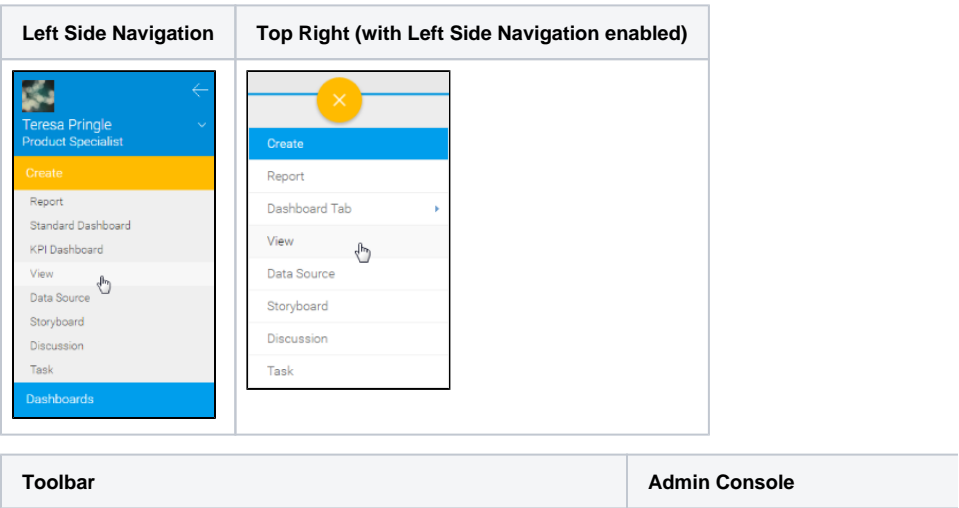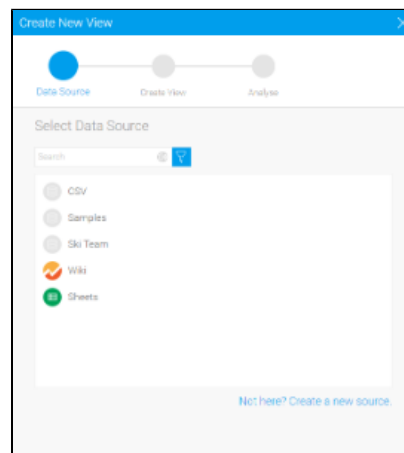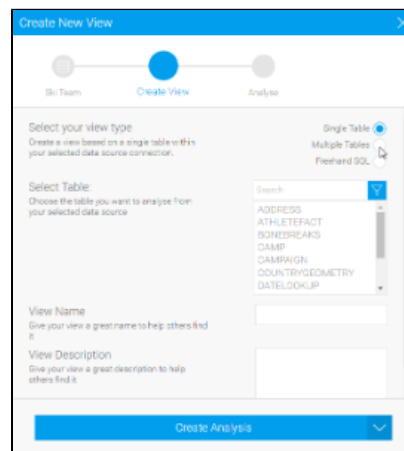
You will now see the New View lightbox.
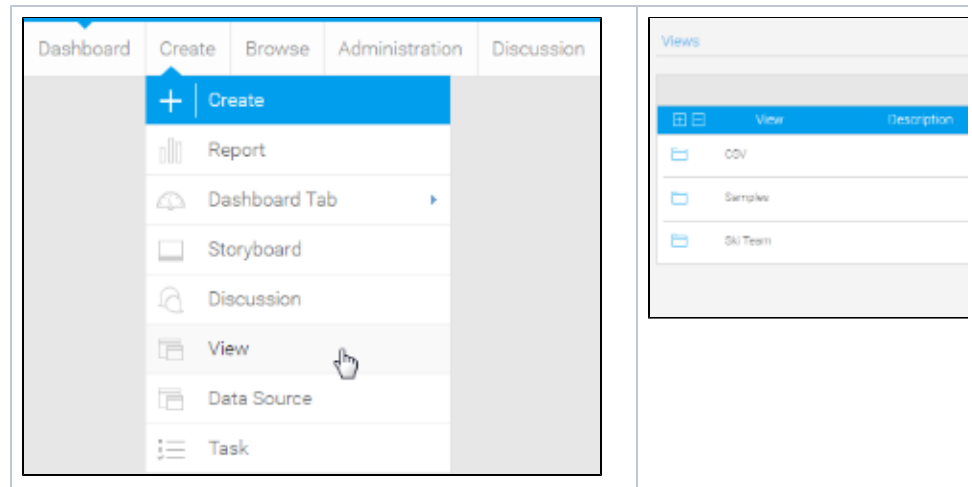
2. From here you will need to either;

- **Select your data source**, or
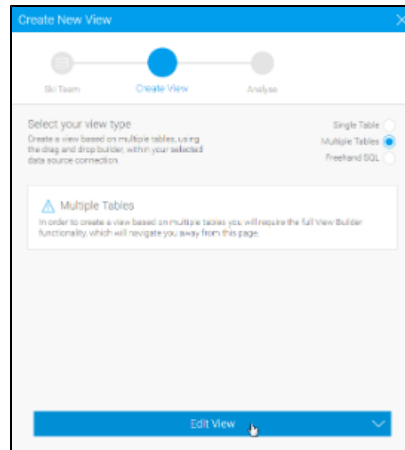
- **Create a new source**

We're going to select **Ski Team** from the source type list.

3. You will now see the basic parameters required for your view. We are going to look at a more complex view, so select the **Multiple Tables** option.

4. Click on the **Edit View** option in order to access the main view builder.
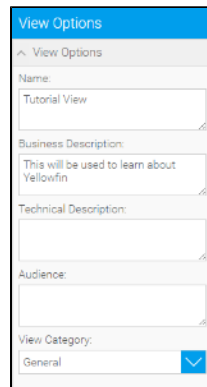
5. The view builder page will now open. You will see a list of tables in the Database Tables panel on the left hand side and the View Options on the right hand side of the canvas.
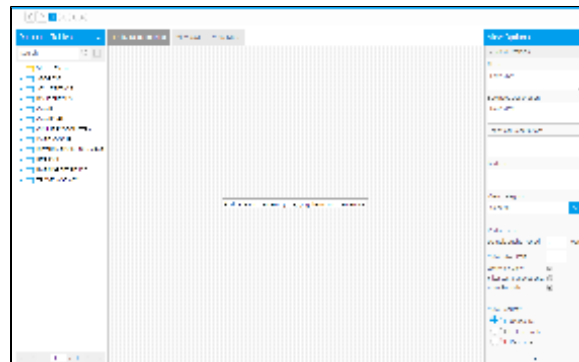
6. Update the view **Name** on the **View Options** panel as shown on the right. Call this view **Tutorial View**.

7. Enter the **Business Description**: **This will be used to learn about Yellowfin**.

Entity Relationship

The Entity Relationship is one of the key components of the view builder. This allows you to define all the key relationships between your selected database tables.

1. From the table list on the left of the screen, drag the following tables onto your canvas:

AthleteFact, **Person**, and **Camp**

You should now have three tables on your canvas as displayed on the right.

2. On the **AthleteFact** table click the

join link. This will open the join
pop-up. Create a join between the **Athle
teFact** Table and the **Person** Table.

> Join From: **AthleteFact**
> Join Type: **Inner Join**
> Join To: **Person**
> Join logic: **PersonID Equal to
> PersonID**

3. Click the **Add** button to add to the
join list. You should now see the join
logic as depicted on the right.

4. Click the **Save & Close** button to
save your join.

The join will now be displayed as a line
between your **AthleteFact** and **Person**
tables. Hovering over the join icon will
display the join logic in a tooltip.
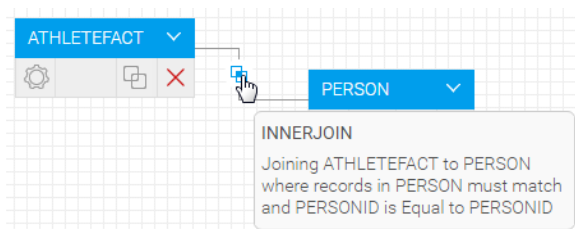
 5. Create another **Inner Join** from **Athl
eteFact** to **Camp** where **CampID =
CampID**

You can move your tables around the
canvas to make the diagram easier to
read if needed.

Click the **Save & Close** button to save
your join. The join will now be displayed
as a line between your AthleteFact and
Person tables. Hovering over the join
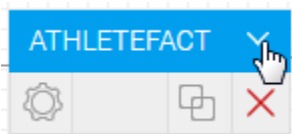icon will display the join logic in a tooltip.

> See *Drag & Drop View Builder for more information.*

Selecting Fields

Select fields that you wish to make available to your end users for reporting. Only columns selected from each table in your Unattached list will be
available for reporting.

1. Click on the expand icon next to a
table name to expand it.

2. Click the **Properties** link on the **Athle
teFact** table. The table properties will
now be displayed in the **View Options**
panel.
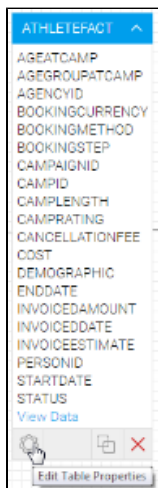
3. Click the **Columns** section link to open the options. A set of columns from the **AthleteFact** table will be displayed.

> Select the **AgeAtCamp**, **AgeGroupAtCamp**, **Cost**, **Demographic**, **InvoiceEstimate**, **InvoiceDate**, and **PersonID** columns.
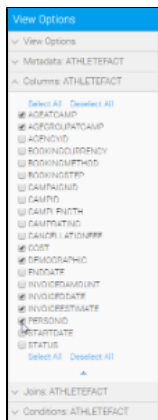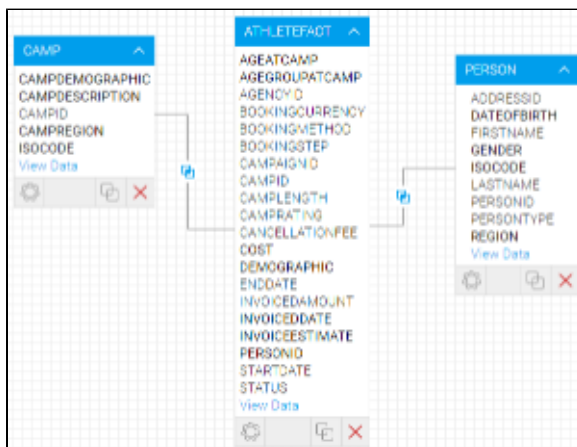

4. Once you have selected these, click on the Properties link again to update your diagram.

5. The columns you selected should now appear in **bold** on your table (as pictured).
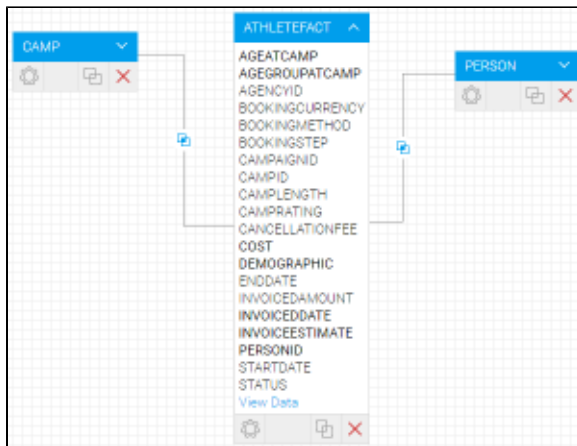
6. Repeat the last step for each table.

> Camp: **CampDemographic**, **CampDescription**, **CampRegion**, and **ISOCODE**
> Person: **DateOfBirth**, **Gender**, **Region**, and **ISOCODE**

7. Click on **Step 2** in the navigation bar to continue to the **View Fields** page.

> See *Table Properties* for more information.

Field Categories & Meta Data

Initially, fields selected from the previous step will all be in the Unattached panel in folders that represent the tables that they originated from. These fields have not had meta data associated with them and cannot be used by your report writers. You must assign fields to categories (folders) in the Available Fields panel. The reason you do this is to organise you fields in a way that is logical for the Report Writer, giving you the chance to group them differently than the table structure in the database.

1. First of all, make sure you have the categories you want to use to divide your fields. Click on the **Edit Categories** link in the Available Fields section.
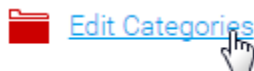

2. Add the **Athlete**, **Camp**, **Athlete Payment**, and **Time** categories and click the **Save & Close** button.
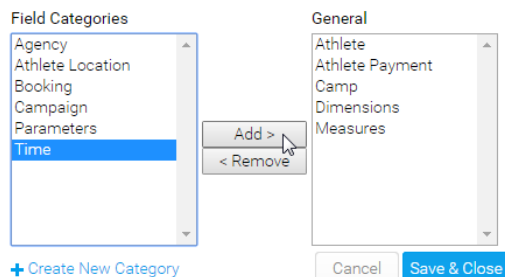
3. Click the expand arrow next to the folder names to see the columns you have selected from each table.

4. From the **AthleteFact** table either select and drag the fields individually or use shift to click on each of the **AgeAtCamp**, **AgeGroupAtCamp**, and **Demographic** fields and drag these into the **Athlete** folder.
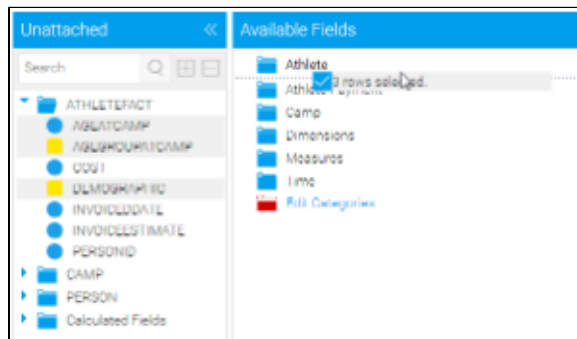

On completion you will note that the column names are now in bold indicating that they have been added to the view.

5. Now follow the same steps as above and put all the fields in their correct categories.

Cost, **InvoicedEstimate**, and **InvoicedDate** fields > **Athlete Payment** category.
InvoiceDate field > **Time** category.
Camp fields > **Camp** category.
Person fields > **Athlete** category.
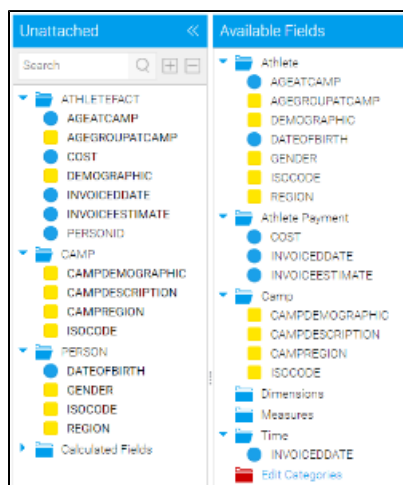
6. To update the field name to provide a more user friendly name – double click the **ISOCODE** field. Change the business name of the field to **Athlete Country**.

7. This field will use an Org Ref Code to convert ISO Country Codes to their respective names. To set this up, click on the Format tab.

8. Set the Format option to **Org Ref Code**. In this case you will use an existing type that we have set up for a sample.

> *See Organisation Reference Codes for more information.*

9. Select **Country** from the drop down menu.

10. Click on **Save** button to commit your changes.

11. The ISOCODE column will now be updated in the Athlete folder. This method is used to provide business terms for all your attributes.

> *See View Fields for more information.*

Field Format

The format options will provide the default for how the field will be used on the report. A user will still be able to change a format for a specific report.

1. Double click on the **Cost** field to open it in the edit window.

2. Click on the **Format** Tab

3. Add a prefix of **$** and set **Decimal Places** to **0**.

4. Select **SUM** as the **default aggregation**.

5. Apply a **colour** for chart display if required.

6. Click on **Save** button to commit your changes.

Calculated Fields

In addition to fields from your database you can create calculated fields, pre-defined filters, and date hierarchy fields.

Calculated Metric

This type of calculated field allows you to build a calculation that will return a numeric value as the result. In this example we will aim to calculate profit by subtracting cost from invoice figures.

1. In the Unattached panel open the Calculated Fields folder and then the Formula Builder folder.

2. Drag the Metric field into the Athlete Payment folder.
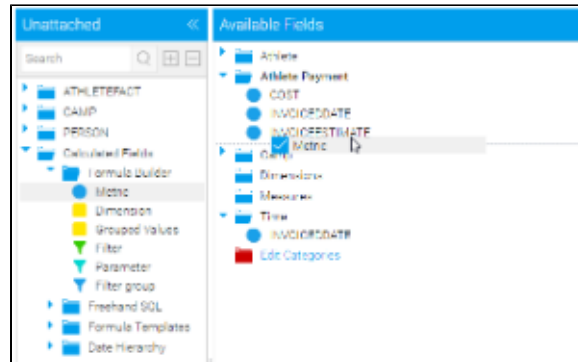
3. You will now see the Definition tab. Set the Business Name to Profit and enter the calculation logic Invoiced - Cost into the Description - this is useful for users that want to know the formula used in a calculation.
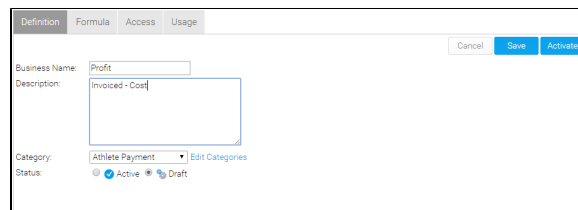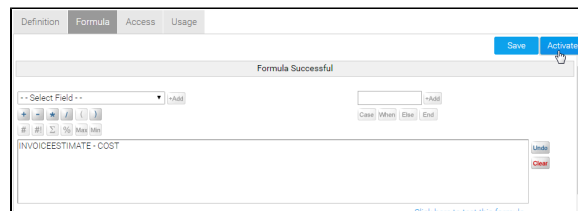
4. Click the **Formula** tab to define the calculation.

5. From the Select Field drop down choose **INVOICEDESTIMATE** and click the **+ Add** button next to it to build it into the calculation.
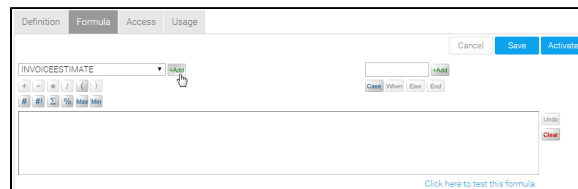
6. Now click the **-** (minus) button directly below the Select Field drop down.

7. Select the **COST** field and click the **+ Add** button to finish this simple calculation.

8. Click the **Click here to test this formula** link in order to let Yellowfin validate your calculation. You should see a Formula Successful message displayed above the builder if successful.

9. Click **Activate** to save the field and make it available for use in reports.

11. You will now see the **Profit** calculated field in the **Athlete Payment** category and it will have a **green** icon instead of the usual metric icon to show that it's a formula.
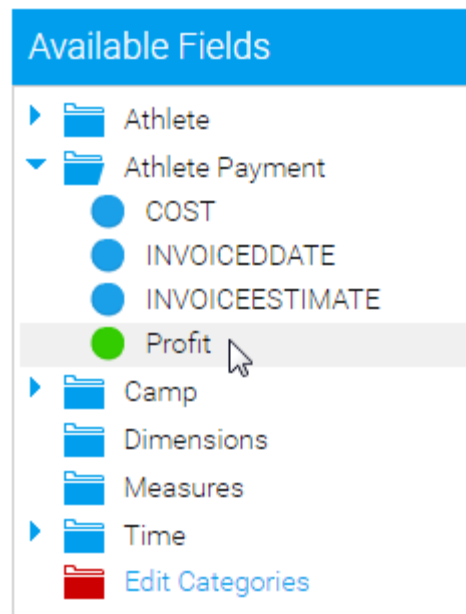
See *View Calculated Fields* for more information.

Date Hierarchy Fields

Date Hierarchy calculated fields allow you to build levels of a hierarchy based on a single date field in your database. This can then be used to define Drill Down hierarchies, or for other purposes in reports.

1. First you will need to ensure you have a date field to use with the hierarchy templates. We've already added the InvoiceDate field into the Time folder, so this has been taken care of.

2. Drag each of the levels one by one into the same folder as your date field - this is important for when you build the hierarchy later. Start with the Year Start Date. The reason we're using the Year Start Date is so that the field is still a date format, even though we can change the display to be just the Year component. This means we can use it for Time Series charts and other date related functionality.
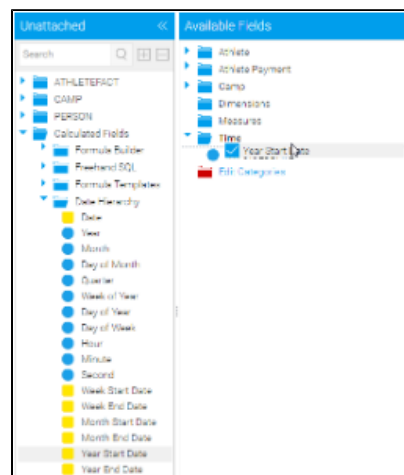
3. Rename the field to **Year** and the Description to **Invoiced Year**. This lets the user know that the field is based on the Invoiced Date, avoiding incorrect use.

4. Set the field type to **Dimension** on the **Definition** tab - the field has to be a dimension in order to use it in a Drill Down hierarchy as metrics are not deemed compatible.
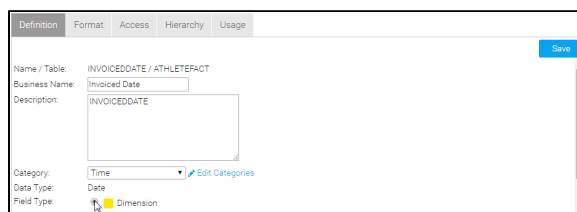
5. Set the field to base the Year on to **INVOICEDATE**, found at the very bottom of the Definition tab.

6. **Activate** the field.

7. Repeat the same process, this time creating a **Month** field based on **Month Start Date** of **Invoiced Date**.

8. Double click your **INVOICEDATE** field in order to rename it to **Invoiced Date** and change the field type to **Dimension** in preparation for building the hierarchy.

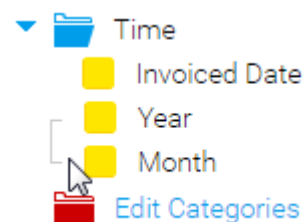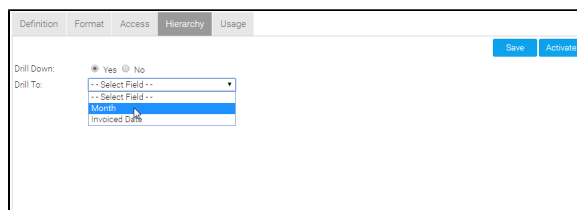9. **Activate** the field.

Drill Down Hierarchy

The hierarchy allows report users to drill down a dimensional hierarchy by limiting the result set as they select one level to the next. For example drill from Year (2014) to Month (August) etc.

When creating the hierarchy, you need to start from the top level and work your way down. In this example we are creating a Year > Month > Date hierarchy, so we will start with the Year field at the top.

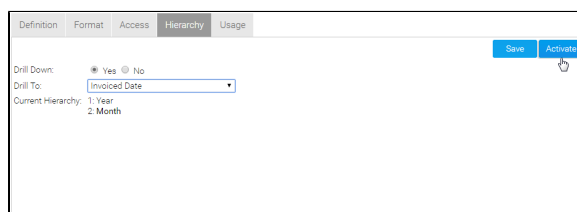1. Double click the Year and navigate to the Hierarchy tab.

2. Enable Drill Down and select the Month field as the Drill To option. Activate the field.

You will now notice that there is a link between the Year and Month fields. This lets you know there is a hierarchy link defined between the two fields.

3. Next repeat the process by double clicking on the **Month** field, navigating to the **Hierarchy** tab, enabling **Drill Down**, and specifying the **Invoiced Date** field as the Drill To option.

4. **Activate** the field.

5. You will now see there is a 3 level hierarchy defined. You wont have to define Drill Down options on the bottom level (Invoiced Date).

> See *Drill Down Hierarchies* for more information.

View Summary & Saving

1. From the View Fields page click the last step to continue to the Summary page.

2. You can explore the tabs to see example data and the SQL that Yellowfin generates.

3. Click the Activate button to save you view and activate it for use.

4. You will now see on the general tab that your Tutorial view is Active. It is now ready to report off.

5. Click Close to close the view and return to you view list.
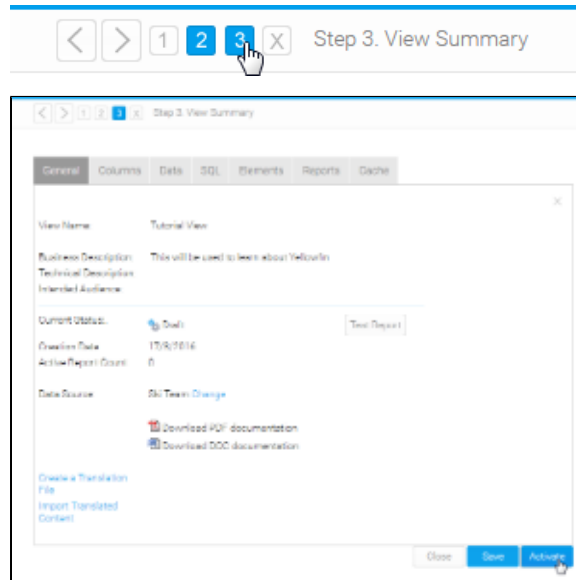
See *View Summary* for more information.

Further Information

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For more information around the creation of Views in Yellowfin see the Views section of the wiki.

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