Getting Started with Pentaho Data Integration Instaview

This document supports Pentaho Business Analytics Suite 4.8 GA and Pentaho Data Integration 4.4 GA, documentation revision October 31, 2012.

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For information about how to purchase support or enable an additional named support contact, please contact your sales representative, or send an email to sales@pentaho.com.

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Introduction to Instaview

With Instaview, you can access, transform, analyze, and visualize data without having extensive experience designing business analytics solutions or staging databases. Instaview gives you immediate access to your data so you can quickly explore different ways to structure and present your data as a complete business analytics solution. In addition to extracting and loading the data, Instaview gives you the ability to manipulate the data to make it fit your specific needs from within one simple tool.

When you create an Instaview you

- Create a new data source from which to extract and transform your data.
- Create a data model to define how columns and fields relate to one-another.
- Create an Analyzer Report with tables and charts from your transformed data.

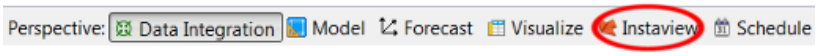
Don't have time to mess around?

If you have not already, see the sections *Installing Instaview* and *Starting Instaview* for instructions on getting started using Instaview.

Once you installed and started Instaview, follow the tutorial using the sample data provided, beginning with the *Creating a New Instaview* section.

To examine the interface and controls, see the *Navigating The Instaview Interface* sections.

If you began while already within Pentaho Data Integration, you can access Instaview anytime by selecting the **Instaview** perspective button the toolbar.



What is Instaview?

An Instaview file is made up of a data transformation, a relational model of your data, and analysis reports to present your data using tables and charts.

- A data integration transformation enables you to extract, transform, and load your data to and from multiple sources or formats.
- A metadata model enables you to select how your data is related to provide a view on all of the combined data.
- Visualize your data by presenting it as tables, charts, maps, or diagrams.

Data Integration + Model + Visualize = Instaview

Transform your data with Pentaho Data Integration

Transforming your data enables you to explore the information about your business and turn it into insight to help you make information-driven decisions. The process is known as Extract, Transform, and Load, or ETL. **Extract** refers to the process of *reading data* from a source system. **Transform** is the process of *changing the data* from its original form. **Load** refers the process of *writing the data* into another target system. Between extracting and loading you can manipulate your data in many ways--such as sorting, aggregating, pivoting, splitting, calculating, or validating--so it fits specific needs.

To learn more about Pentaho Data Integration, see the *Getting Started with Pentaho Data Integration* guide.

Visually explore your data using Pentaho Analyzer

Visualize your data in Instaview with the Analyzer canvas (Pentaho Analyzer), an interactive graphical interface for exploring and visualizing your transformed data. Instaview presents your data multi-dimensionally and enables you to select which parts of your data to explore and how to display your analysis.

When Instaview connects to the specified data source, it analyzes the data to identify measures and dimensions. **Measures** are the quantitative values within your data and are numerical. **Dimensions**, also called Levels, are categorical labels that identify or provide context to measures within your data. Analyzer Reports can be organized by category and sorted in many ways. You can categorize data alphabetically, by number value, by names and categories,

and by time. With advanced configuration nearly all of the dimensions and measurements can be configured to fit complex data challenges.

To learn more about Pentaho Analyzer, see the *Getting Started with Pentaho Business Analytics* guide.

Supported formats and data sources

Instaview comes with pre-configured templates that give you instant connectivity to the most popular data sources.

- **Local Files** - Load existing Excel spreadsheets or CSV files.
- **Relational Databases** - Working with JDBC 3 compliant databases in Instaview enables you to analyze your data even without in-depth knowledge of how your database is structured.
- **Big Data** - Cassandra, Hadoop, Hive, or MongoDB are easily integrated.

Installing Instaview

Consult the Welcome Kit email that was sent to you after completing the sales process. This email contains user credentials for the Pentaho Customer Support Portal, and download instructions that tell you where to find the installer once you log in.

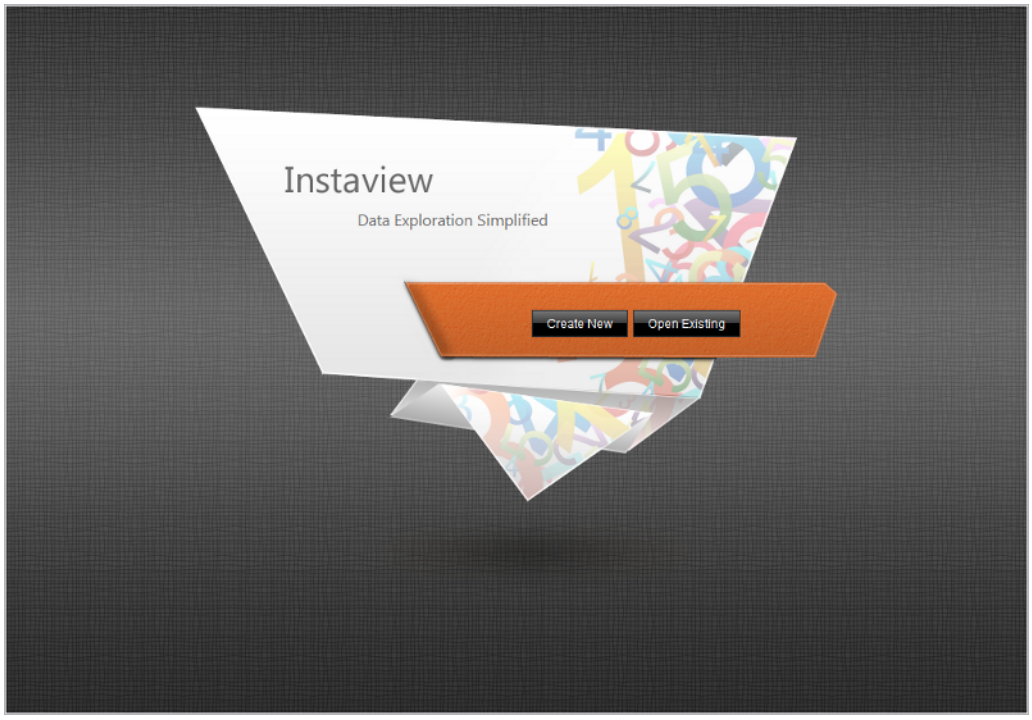
Download the appropriate Pentaho Business Analytics 4.8 self-contained installation utilities available for the Windows, Linux, and OS X platforms (`.exe`, `.bin`, or `.app`) from the Pentaho Customer Support Portal.

Starting Instaview

After installation, start Instaview.

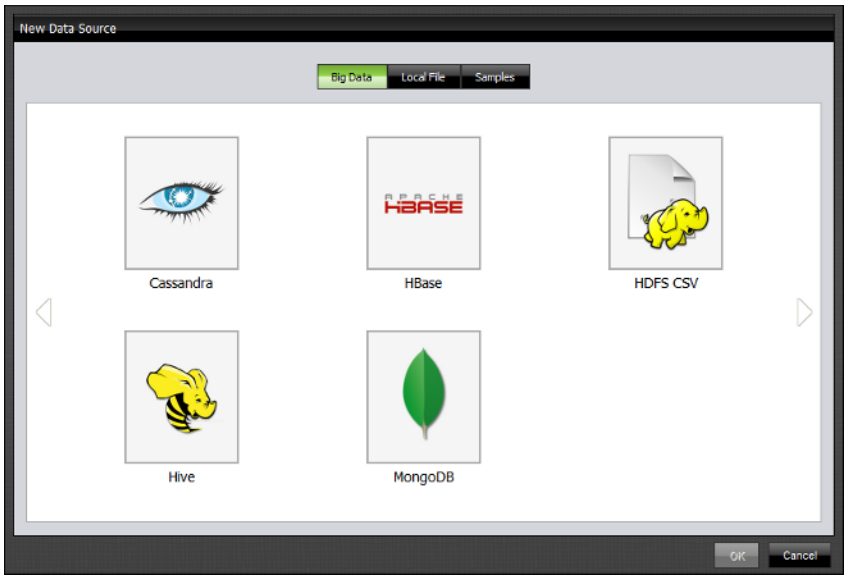
- For Windows users, after installation you can access Instaview from the **Start** menu, under `Pentaho Enterprise Edition/Design Tools`.
- For Mac users, navigate to the Instaview app at this location, .../pdi-ee/data-integration/.
- For Linux/Unix users, navigate to the folder where you installed Pentaho Data Integration, for example `.../pdi-ee/data-integration`, then double-click **`Instaview.sh`**.

After you started Instaview the Welcome screen appears.



Using Instaview

To begin creating a new Instaview, from the Welcome screen click **Create New**. The **New Data Source** gallery appears.

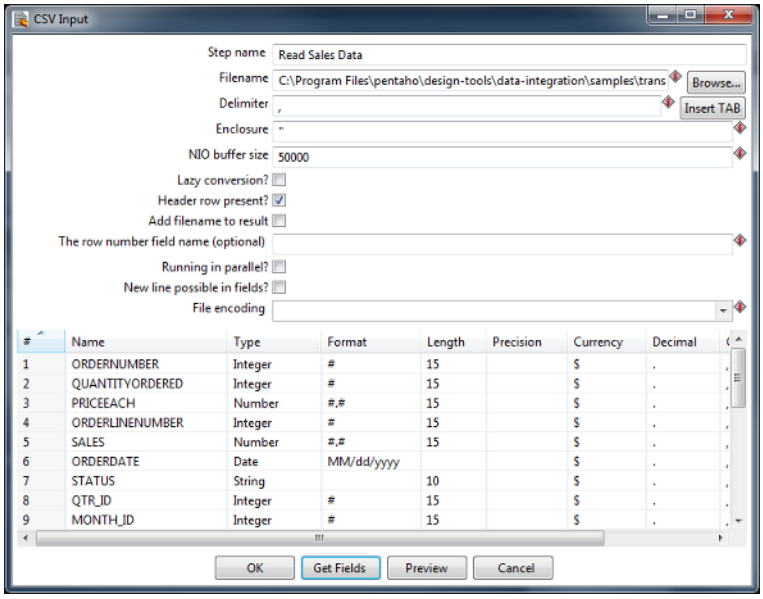


Connecting to Data in Instaview

Connecting to a data source in Instaview requires you to select the format of the data to analyze and configure how to connect to the source files. These instructions show you how to connect to the provided sample comma delimited text file (CSV), `sales_data.csv`.

1. From the **New Data Source** gallery click the **Local File** tab, then **CSV**. Click **OK**.
   The **CSV Input** dialog box appears.
2. In the **Step Name** field, type **Read Sales Data**. This is the name of the new data source connection.
3. In the **Filename** field, click **Browse** to locate the source file, `sales_data.csv`, available at `...\design-tools\data-integration\samples\transformations\files`.
4. Click **Get Fields** to retrieve the input fields from the source file.
   A dialog box appears requesting that you to specify the number of lines to scan. Once the fields from the source file are retrieved, this dialog box also enables you to specify settings for the fields, such as their format, length, and precision.
5. Type **0** (zero) in the **Number of Sample Lines** text fields to scan all the lines of data. By scanning all lines, you ensure Instaview reads the entire contents of the file and you reduce the possibility of errors that could impede the connection.
6. Click **OK** and the summary of the scan results appears. Once you are done examining the scan results, click **Close** to return to the **CSV Input** dialog box.

   Your CSV Input dialog box will look like this.



7. Click **OK** to begin processing the data.
   You briefly see the processing screen while Instaview creates a connection to the data source, a data transformation, and a metadata model.

Instaview reads data from the specified sample file, then brings you to **View** mode. See *Creating an Analyzer Report in Instaview* for instructions on using this sample data to create an Analyzer Report.

Creating an Analyzer Report in Instaview

View mode in Instaview enables you to interactively explore data by creating Analyzer Reports. You display data on the Analyzer canvas as a table or chart. If you are not already, change to View mode by clicking **View** on the **Configure**/**View** mode switch at the top of the interface .

These instructions explain how to create an Analyzer Report with a table that displays Sales categorized by Country and sorted from highest sales to lowest sales.

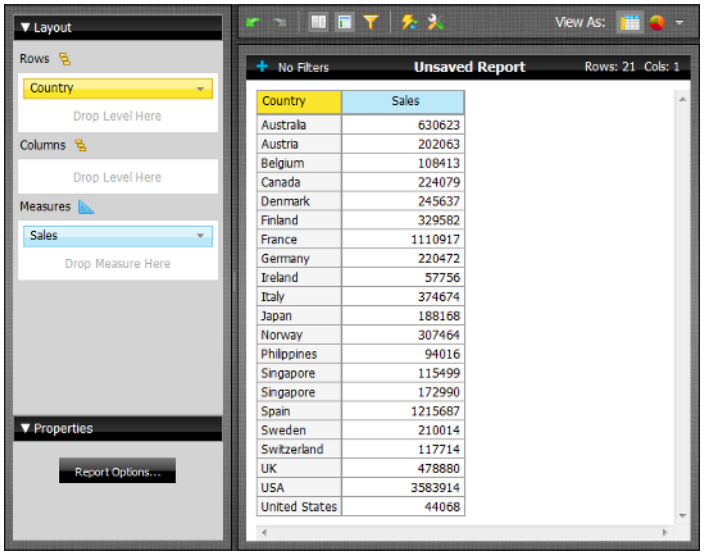
1. From the **Available fields** panel on the left, select the measure **Sales** 

and place it on the Analyzer canvas on the right.

   A table with a column labeled **Sales** appears with only one cell.

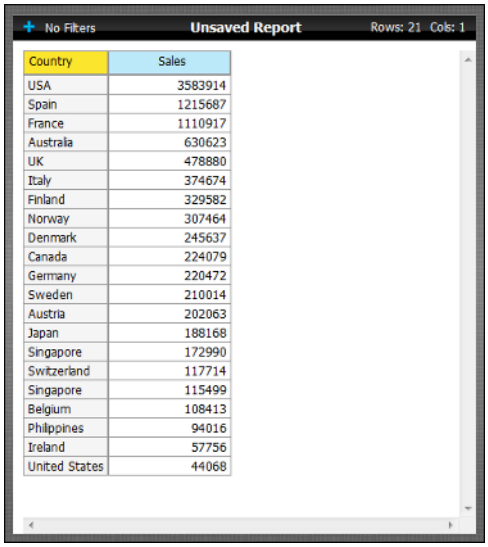
2. From the **Available fields** panel, select the level **Country** 

and place it on the Analyzer canvas.



Country	Sales
Australia	630623
Austria	202063
Belgium	108413
Canada	224079
Denmark	245637
Finland	329582
France	1110917
Germany	220472
Ireland	57756
Italy	374674
Japan	188168
Norway	307464
Philippines	94016
Singapore	115499
Singapore	172990
Spain	1215687
Sweden	210014
Switzerland	117714
UK	478880
USA	3583914
United States	44068

3. Sort the table by Sales, from highest to lowest, by right-clicking on the **Sales** column header and selecting **Sort Values High to Low** from the menu.



Country	Sales
USA	3583914
Spain	1215687
France	1110917
Australia	630623
UK	478880
Italy	374674
Finland	329582
Norway	307464
Denmark	245637
Canada	224079
Germany	220472
Sweden	210014
Austria	202063
Japan	188168
Singapore	172990
Switzerland	117714
Singapore	115499
Belgium	108413
Philippines	94016
Ireland	57756
United States	44068

You now have an Analyzer Report with a table that displays Sales data categorized by Country and is sorted from highest sales to lowest sales..

Correcting Data Quality Issues in Instaview

Review the table you created using the procedures in *Creating an Analyzer Report in Instaview*. Do you notice a problem with the quality of the data? Within the table is a record for **United States** and a record for **USA**, each with separate sales figures.

Country	Sales
USA	3583914
Spain	1215687
France	1110917
Australia	630623
UK	478880
Italy	374674
Finland	329582
Norway	307464
Denmark	245637
Canada	224079
Germany	220472
Sweden	210014
Austria	202063
Japan	188168
Singapore	172990
Switzerland	117714
Singapore	115499
Belgium	108413
Philippines	94016
Ireland	57756
United States	44068

Data Quality Problem

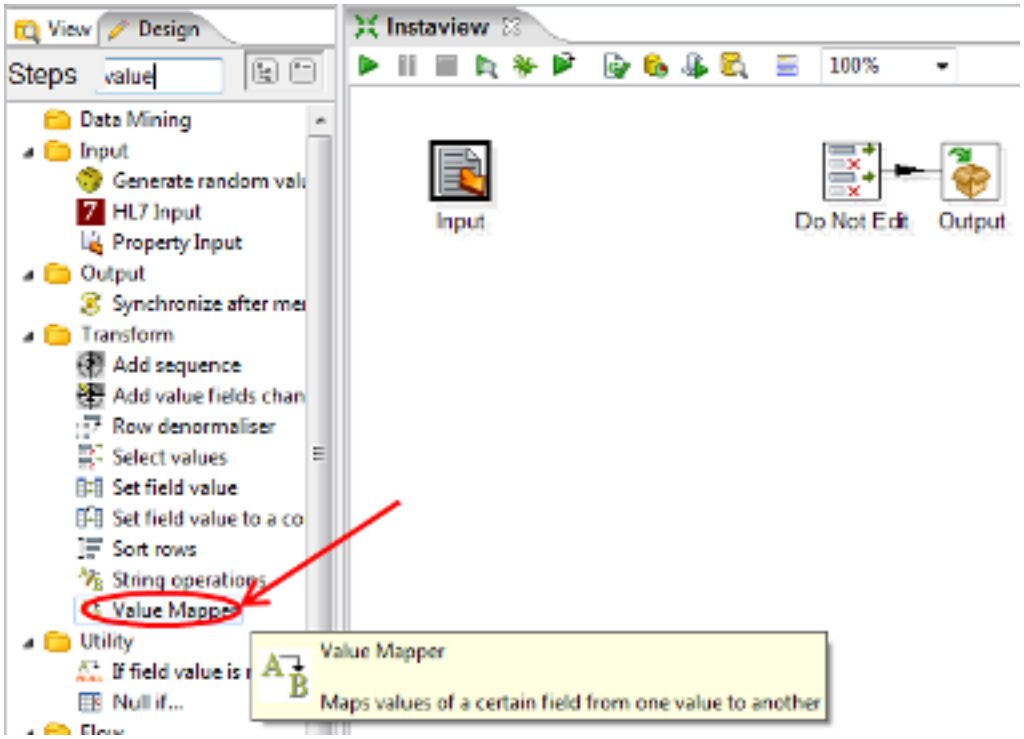
This is a data quality issue. Within an organization, acceptable data quality is crucial to the reliability of business analytics reporting. The way data is entered, stored, and managed can have an impact on data quality. Maintaining data quality requires going through the data periodically and scrubbing it. Typically this involves updating, standardizing, and removing duplicating records to create a single view of the data.

Follow these instructions to correct the data quality issue.

1. Click **Configure** on the **Configure/View** mode switch at the top.

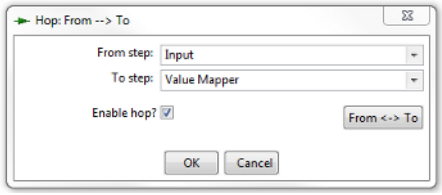
You are now in **Configure** mode.

2. In the **Data Integration** panel, click **Edit**. An alert dialog box appears warning you that making changes to the transformation could cause your Instaview to no longer work as you expect.
   This brings you to the Data Integration perspective.
3. Right-click the **Input** step from the flow and choose **Detach step**.
4. In the **Design** tab on the left, under the **Transform** folder locate the **Value Mapper** transformation step and drag it onto the canvas on the right, in-between the **Input** and **Do Not Edit** steps.

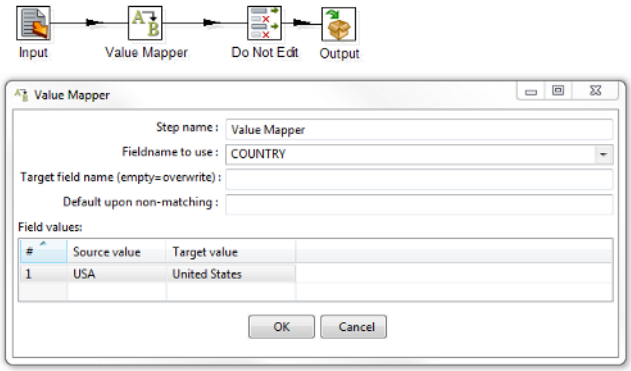


5. Press **CNTRL** and select the **Input** step then the **Value Mapper** step. Then right-click on either step and select **New Hop** from the menu.

   A dialog box appears. Confirm the **From step** is **Input** and the **To step** is **Value Mapper**, then click **OK** to create the new hop.



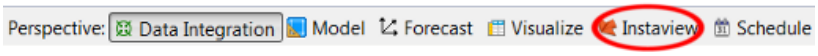
   Repeat this step to create another hop from the **Value Mapper** step to the **Do Not Edit** step.
6. Configure the **Value Mapper** step by double-clicking it and . Click **OK**.
   a) For **Fieldname to use**, select **COUNTRY** from the drop-down list.
   b) For **Source Value**, enter **USA**.
   c) For **Target value**, enter **United States**.



7. Save the transformation by clicking the save icon .
8. Run the transformation by click the Run icon .

   The transformation runs successfully, indicated by green check marks in the upper-right corner of each step.

9. Switch back to the Instaview perspective by clicking **Instaview** on the **Perspective** toolbar.



You are now back in Configure mode and you configured the transformation to join the duplicate fields. To verify the changes took affect in View mode, you must first clear and refresh the data cache from within Configure mode. See *Clearing the Data Cache in Instaview* for instructions clearing and refreshing the data cache, and confirming the data quality issue was corrected.

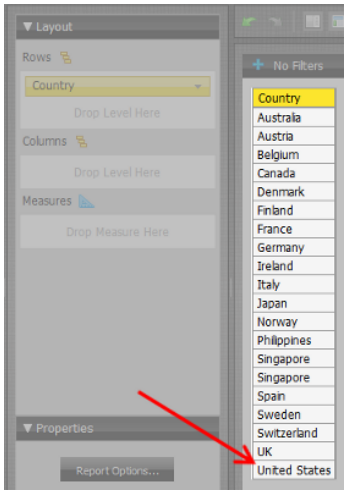
Clearing and Refreshing the Data Cache in Instaview

Configure mode provides you access to the configuration details of an Instaview. If you are not already, change to Configure mode by clicking **Configure** on the **Configure/View** mode switch at the top of the interface.

The data cache in Instaview stores your transformed data so that future requests for that data can be served faster. When you make changes to the underlying transformation of an Instaview--like you did following the *Correcting Data Quality Issues in Instaview* tutorial--you need to clear and refresh the data cache to ensure the changes you made take affect when you begin reporting within View mode again. These instructions explain how to clear and refresh the data cache in Instaview.

1. Clear the data cache by clicking **Clear** in the **Data Cache** panel.
   A dialog box confirms the data cache was cleared successfully and the **Data Cache** panel reads **Data Cached Cleared**.
2. Refresh the data by clicking **Refresh** in the **Refresh** display.
   The **Data Cache** panel shows it is processing, and once completed returns you to **View** mode.

Confirm the data was corrected by selecting **Country** Country from the **Available fields** panel and placing it on the Analyzer canvas. Review the data and verify the repeated dimension was consolidated.



Adding a Filter in Instaview

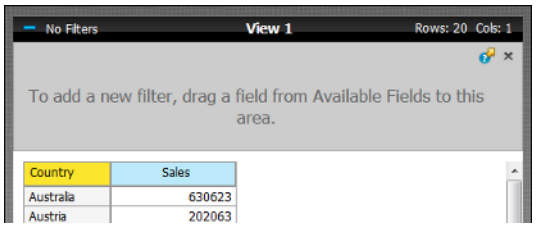
If you are not already, change to View mode by clicking **View** on the **Configure**/**View** mode switch at the top of the interface.

Filters are used to restrict or limit the data that is presented in a report.

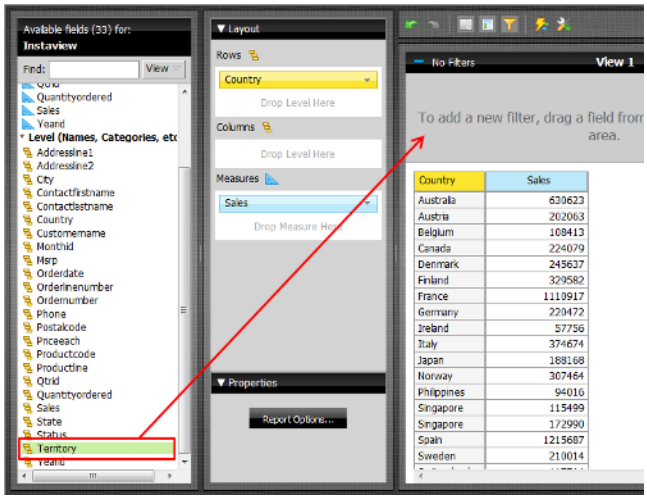
These instructions explain how to filter a report by territory, an existing field within the **Available fields** panel, to only display sales data from countries in the Europe, the Middle East and Africa (EMEA) territory.

1. Click the **Add a filter** button to the left of the report title  .

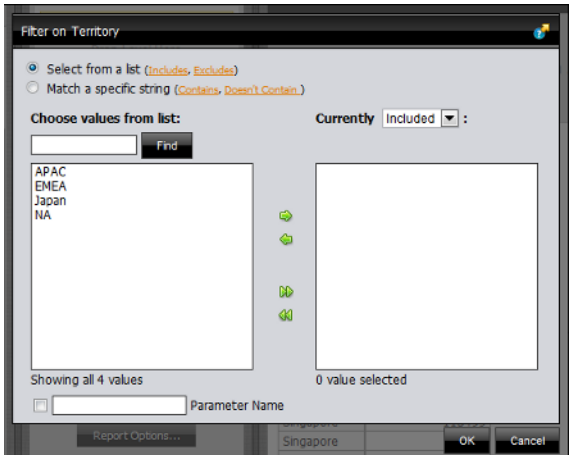
   The Filer workspace appears at the top of the report.



2. Filter the report by territory by selecting **Territory**  from the **Available fields** panel on to the filter workspace.

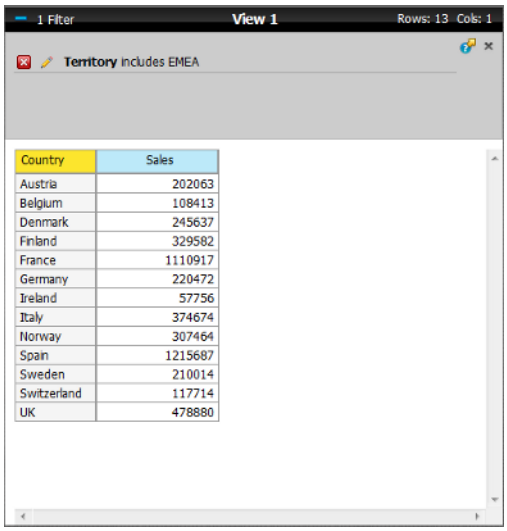


   The **Filter on Territory** dialog box appears with values associated with the **Territory** field.



3. Select **EMEA** from the list of values and click **Add Selected**. **EMEA** appears with a green check mark in the panel on the right. Click **OK**.

   The report now only displays data for the EMEA regions and the Filter workspace displays Territory includes EMEA and indicates there is one filter in use.



Country	Sales
Austria	202063
Belgium	108413
Denmark	245637
Finland	329582
France	1110917
Germany	220472
Ireland	57756
Italy	374674
Norway	307464
Spain	1215687
Sweden	210014
Switzerland	117714
UK	478880

Creating Visualizations in Instaview

Visualizations, such as graphs, charts, maps, and grids, graphically display data to convey a message. Instaview offers many ways to visually display data using the Analyzer canvas. To create a visualization in Instaview you first need to create a data table by placing measures and dimensions within the Available fields panel on to the Analyzer canvas. Once your table has the information you want to display, select a chart from the Chart type menu by pressing the Chart type drop-down arrow  on the Analyzer toolbar.

Creating a Chart in Instaview

If you are not already, change to View mode by clicking **View** on the **Configure**/**View** mode switch at the top of the interface.

These instructions explain how to create a chart that displays the top-ten EMEA Countries by Sales, which requires using a filter to determine the top-ten sales regions by sales and creating a chart to display the data.

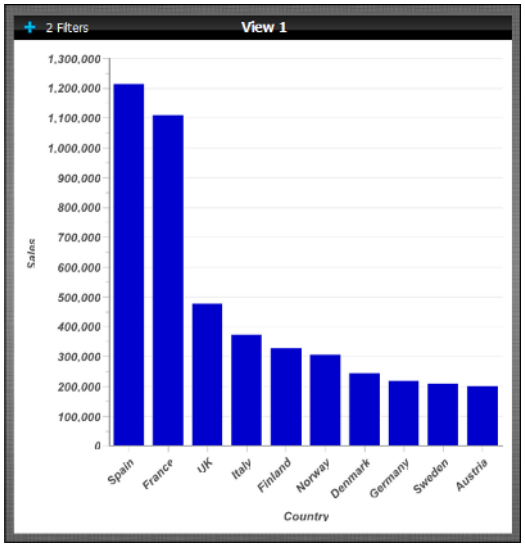
1. Filter the table to display the top-ten countries by sales by right-clicking on the **Country** header, then selecting **Top 10, etc**.

The **Numeric Filter** dialog box appears. Leave the default settings then click **OK**.

Country	Sales
Spain	1215687
France	1110917
UK	478880
Italy	374674
Finland	329582
Norway	307464
Denmark	245637
Germany	220472
Sweden	210014
Austria	202063

2. Switch the format of the report by clicking the Chart type drop-down arrow  then select **Stacked Column**.

A stacked column chart appears and displays only the top-ten EMEA countries by sorted sales.



Creating a Geographic Map in Instaview

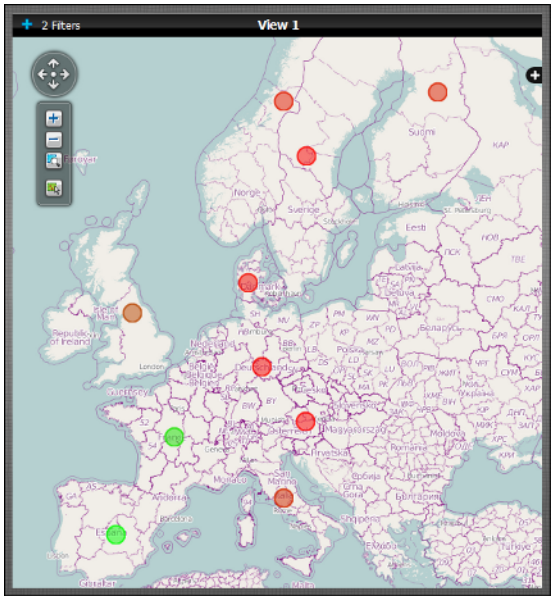
If you are not already, change to View mode by clicking **View** on the **Configure**/**View** mode switch at the top of the interface.

Geo maps enable you to visualize data on a geographic map. This visualization type will plot a pin on a map based on the location attribute used. You can then use a measure to color-code the pen and/or use a measure to specify the size of the pin. If your model has geographic annotations then the location information will be retrieved by the geoservice automatically.

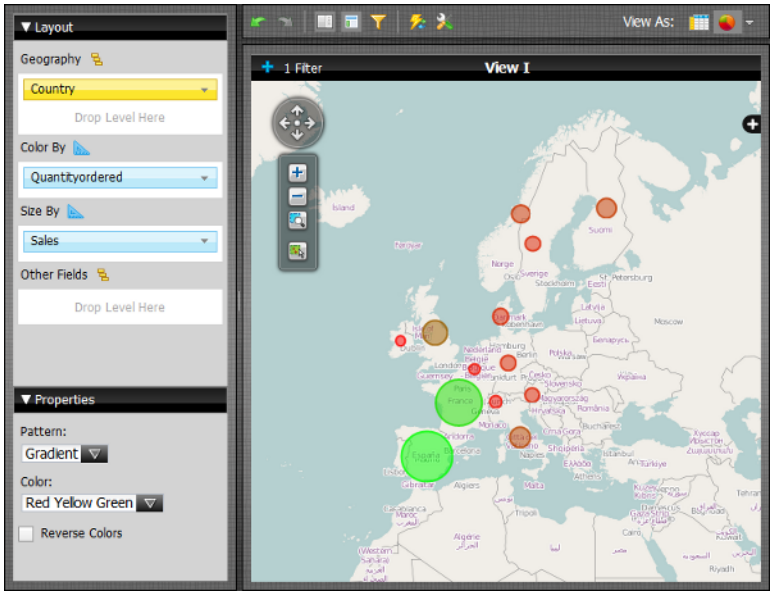
These instructions explain how to create a geographic map of the top-ten European territories grouped by sales, with indicator size relative to a country's amount of sales.

1. Change the format of the report by clicking the drop-down arrow next to the Switch to chart format button  then select **Geo Map**.

   The sales data for the EMEA territories is now represented across a map and is coloring indicative of a country's amount of sales.



2. Make the indicators sized by sales and color-coded by quantity ordered by placing the **Sales** field to the **Size By** field, then select **Quantityordered** from the **Available fields** panel and place it on in the **Color By** field in the **Layout** panel.



Using Conditional Formatting in Instaview

If you are not already, change to View mode by clicking **View** on the **Configure/View** mode switch at the top of the interface.

Applying conditional formatting means that cells will be physically affected by the data they contain, and that formating depends on user-defined thresholds. Conditional formatting can help create relational contrast when you display your data.

These instructions explain how to implement data bars, a method of conditional cell formatting for numeric data. Conditional formatting with data bars draws a bar in each cell whose length corresponds to the value of the cell relative to the other cells in the selected range. If you have not already, switch the Analyzer Report to table format by clicking the Switch to table format button.

Switch to data bar format by right-clicking the **Sales** column, then select **Conditional Formatting** > **Data Bar: Green** from the sub-menu.

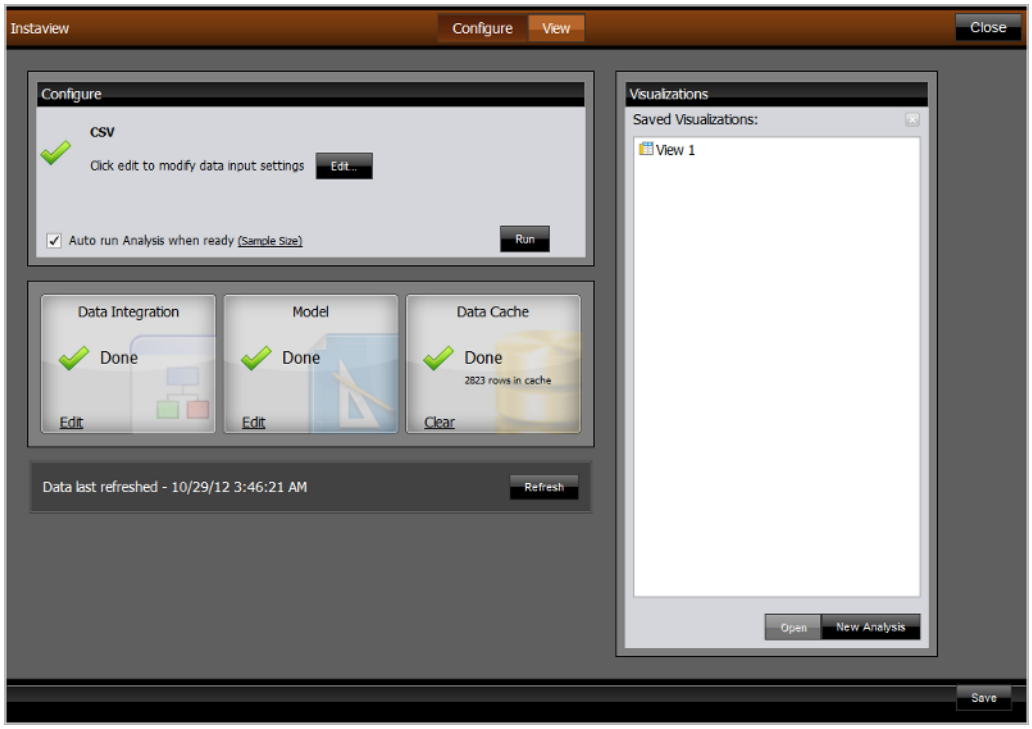
The table refreshes with green data bars within the cells of the Sales column, relative to the total amount of sales for the top-ten EMEA countries grouped by sales.

Country	Sales
Spain	1215687
France	1110917
UK	478880
Italy	374674
Finland	329582
Norway	307464
Denmark	245637
Germany	220472
Sweden	210014
Austria	202063

Configuring an Existing Instaview

Once you create an Instaview, you might want to change some of the settings configured during the initial steps in which you connected to the source data. Or perhaps you would like to create an additional Instaview Analyzer Report using the current Instaview data. These sections describe how to adjust the data source connection, transformation, metadata model, clear the data cache, and begin to create additional reports or visualizations from a previously-configured data source.

To navigate to these settings and options from within an open Instaview, click **Configure** on the **Configure**/**View** mode switch. This brings you to Configure mode.



Opening Existing Instaviews

To open an existing Instaview, from the Welcome screen, click **Open Existing**. A dialog box appears with a list of your saved Instaview data sources.

Saving an Instaview

To save an Instaview, from **Configure** mode, select the **Save** in the lower-right corner. When you save an Instaview you are saving the data integration transformation, metadata model, and the Analyzer view together. If you were in **View** mode. Instaview remembers the last state yous saved in, so the next time you open your saved file, you return to where you last left off.

Closing an Instaview

To close an Instaview, click **Close** in the upper-right corner. You are asked if you would like to save the current Instaview and are taken back to the Welcome screen.

Deleting an Instaview

To delete an Instaview, from the **Open Existing** dialog box, select the Instaview to delete. The **Delete** button in the upper-right corner of the dialog box turns red, indicating you can delete the selected Instaview.

Editing Instaview Data Sources

To edit an existing Instaview data source, from Configure mode, within the **Configure** data source panel, click **Edit**. The data source input dialog appears.

When configuring the input settings for a data source, the **Auto run Analysis when ready** option, if checked, will automatically create a new View after pressing **Run** or **Refresh**.

Further Reading

For more on Pentaho Data Integration transformations and jobs, see the Pentaho Data Integration Users Guide.

Managing Visualizations in Instaview

From the **Visualization** panel you can

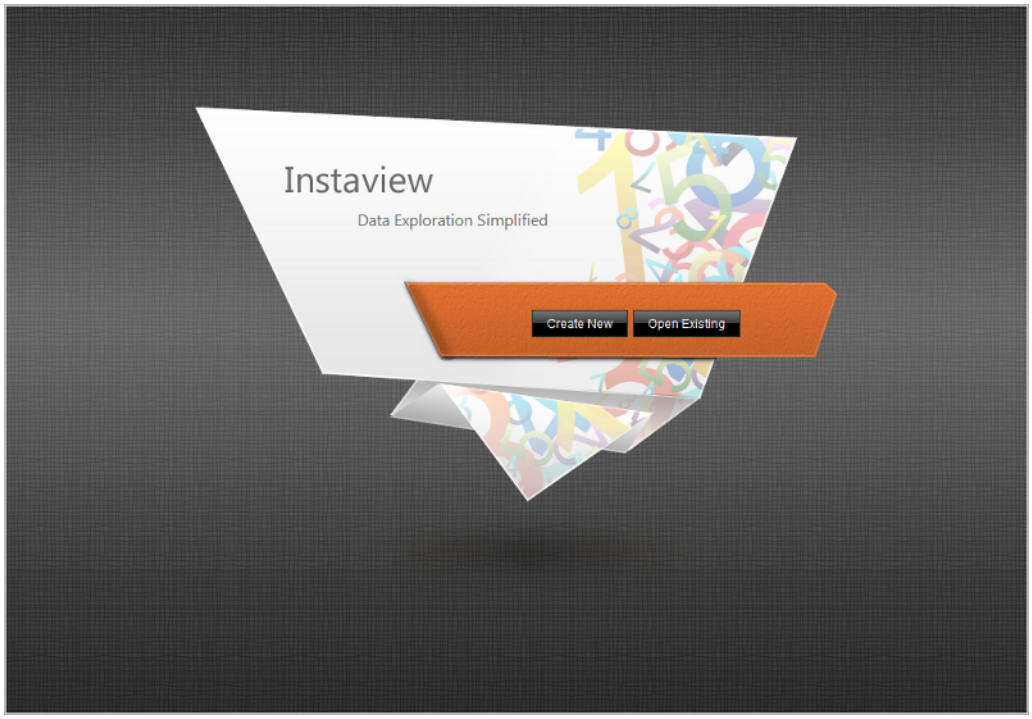
- Select and view previously saved Views
- Delete visualizations created in Instaview
- Rename a visualization
- Create new Analyzer Reports and visualizations from the existing Instaview

To create a new Analyzer report from an exisiting Instaaview, click the **New Analysis** button, which brings you back to **View** mode with a blank Analyzer canvas. You can open and edit existing Instaview visualizations by selecting a file from the list found in the **Visualization** panel.

Navigating The Instaview Interface

Instaview Welcome window

The Instaview Welcome screen is the entrance to create new and manage existing Instaviews.



Configure mode

Configure mode enables you to edit an Instaview's configuration details.

View mode

View mode is where reporting and analysis takes place.

Configure Mode

Within Configure mode you can access and modify an Instaview's underlying configuration details.

Basic actions

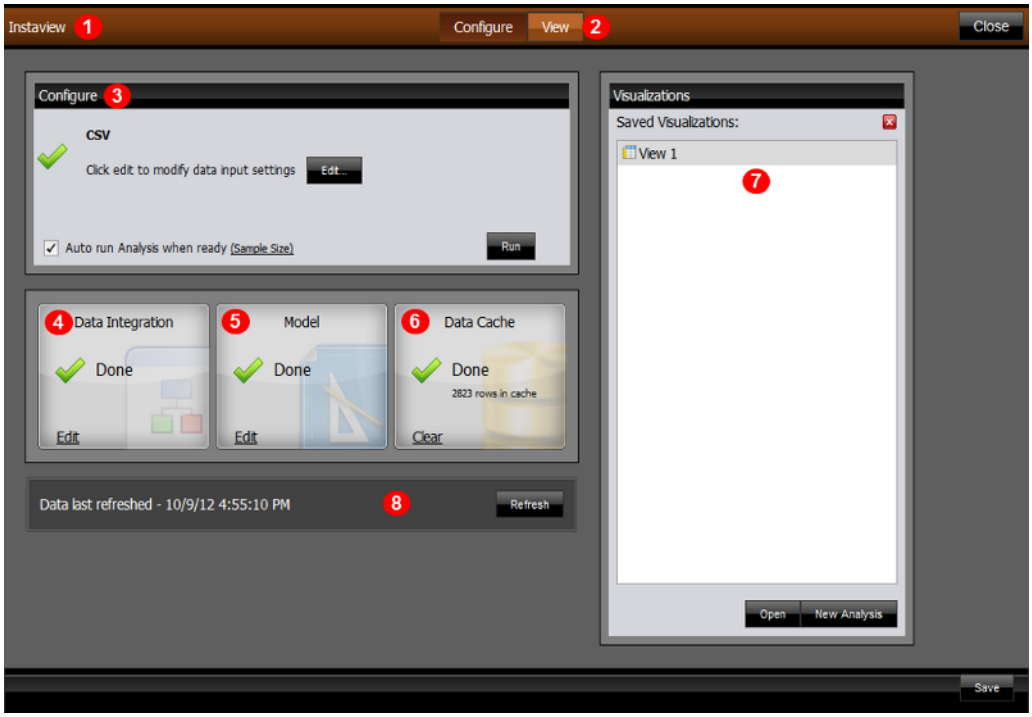
These actions are covered in this guide, and can be completed using the sample data provided in the procedures.

- Configure the data source settings
- Clear the data cache
- Open, delete, or rename existing Views
- Create new Views
- Run or refresh the Instaview data
- Clear the data cache

Advanced actions

The advanced actions allow you to customize your Instaview for more specific use cases, but require a more technical understanding of Pentaho Data Integration, Data Sources and Metadata.

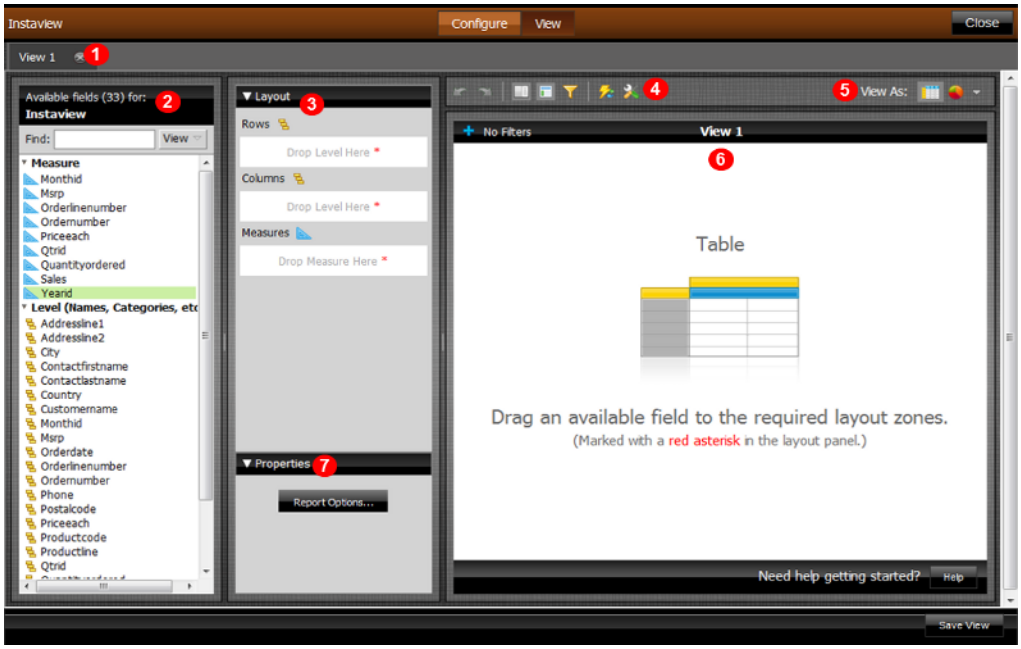
- Switch to the full Pentaho Data Integration transformation perspective
- Launch the model perspective



Component	Description
1 - Instaview	A combination of a valid data connection, a data integration transformation, a metadata data source template, and one or more Analyzer Views. You can only have one Instaview at a time.
2 - Configure View	The Configure/View mode toggle allows you to switch between Cofigure mode and View mode. • Configure mode enables you edit a data connection, data integration transformation, metadata data source template, and Analyzer report. It also provides the means to clear the Data Cache. • View mode enables you to create reports and visualizations from a valid Instaview data source. From within this view you can drag and drop fields from (measurements or dimensions) your data onto the Reporting canvas.
3 - Configure data source panel	• The Edit button takes you to the data connection dialog and allows you to edit the data connection settings for the current Instaview. • The Auto run Analysis when ready option, if checked, will automatically create a new Analyzer view after pressing Run. • The Run button lets you manually start the Instaview data transformation. Pressing Run will modify the data integration transformation or metadata model if changes were made within the Configure panel, if necessary.
4 - Data Integration panel	Provides the means to access and edit the data integration transformation for the current Instaview. Editing will open the Data Integration perspective in PDI.
5 - Model panel	Enables you to edit the metadata model for the current Instaview. Editing will open the Model perspective in PDI.
6 - Data Cache panel	Provides the means to clear the data cache.
7 - Visualizations panel	Displays existing Views and provides the means to open existing, create new, and delete Instaviews. You can also rename an existing visualization by right-clicking an item within this panel.
8 - Refresh display	Displays when the current Instaview was last run. If your data is connected to a live data source this displays the last time the data was accessed by Instaview. The Refresh button provides the means to manually refresh the current Instaview.

View Mode

Within View mode you are able to drag and drop data onto the Analyzer canvas to interactively explore your data. Instaview offers many ways to visually display data, such as maps, charts, and grids. You may have multiple Views open for editing at a time, but you may only have one Instaview open at a time.



Component	Description
1 - View	A View relies on the data source connection, metadata model, and the Analyzer canvas (Pentaho Analyzer) to enable you to explore and visualize your data. Create tables from transformed data by dragging fields from the Available fields panel to the Analyzer canvas (or Layout panel). Drill, slice, dice, pivot, filter, chart data, and create calculated fields to discover previously hidden details with the tools and menus on the Analyzer toolbar.
2 - Available fields panel	Displays fields within a connected data source. • The thin yellow steps represent levels within the data hierarchy (text fields). Levels are hierarchical groups of dimensions, which are facets of your data that can be measured. For instance, within a time dimension there are different levels of measurement such as year, quarter, month, or day. • The blue carpenter squares represent measurements within the data hierarchy (number fields). Measures are quantitative values about your data and are also referred to as facts.
3 - Layout panel	Enables you to drag levels and measures into the correct areas of a report. Displays which fields are in use within a View.
4 - Analyzer toolbar	Enables you to specify how your data is displayed based on user-defined values. Applying filters changes the way the data is displayed on the Analyzer canvas. You can also drag and drop levels or dimensions onto this toolbar to filter your data.
5 - Switch to table/chart format	Enables you to switch the format of your data as either a report or a chart.
6 - Analyzer canvas	An interactive graphical workspace that serves as the main design area for building Analyzer reports within Instaview.
7 - Properties panel	Enables you to configure report and visualization properties to customize analysis content.

Advanced User Topics

Instaview is a perspective within Pentaho Data Integration. Pentaho Data Integration contains perspectives for data integration, modeling, and visualization in one unified environment — the Spoon interface. This integrated environment enables you to build business intelligence solutions quickly and efficiently. Within Spoon you can change perspectives to switch from designing data transformations to modeling your data to visualizing your data.

You can also access these perspectives from the panels within Configure mode. Each of the panels takes you to a different perspective.

An advanced user is someone familiar with Pentaho Data Integration, OLAP cubes, or ETL in general.

If you are not getting the results you desire with your data and the provided templates you can modify them--the ETL transformation, metadata model, and the Analyzer views can all be independently adjusted using Pentaho Data Integration and the other perspectives.

If you don't have much experience with editing metadata models or build ETL transformations then you should contact an administrator for assistance with editing the Instaview templates.

Advanced Analyzer Report Formatting Data in Instaview

Fields and Columns

Action	Description
To place a field on the report canvas...	Click and drag a field from the right pane to the report canvas. Alternatively, double-click a field name to place it onto the report canvas.  **Note:** For quick placement, click Layout in the toolbar and drag the fields into the Columns area. Alternatively, right-click a field name and select, Column.
To place multiple fields on the report canvas...	Press the <CTRL> key and select multiple fields in the right pane, then drag the fields onto the report canvas. The fields will become columns in the report in the order in which they were selected.
To move columns left or right...	• Click the report header and move the column to the desired location. • Right-click on the column header and select Move > Right (or Left). Columns can also be moved as needed by clicking the Layout button in the toolbar and dragging the columns to the desired position.
To adjust column width...	Click the column header to select it. Move your cursor to the right or left until a small horizontal line appears. Drag the line to the desired width.
To assign column width (percentage)	Enter a value in the Column Width text box under the Formatting tab.
To change the column name...	Double-click the column name and type the new name in the available text box.
To remove a column...	Click and drag the column header to the right and place the column into the trash can.

Grouping

Action	Description
To add a group to a report...	Click and drag a group field from the right pane up above the column headers in the report. Release the mouse button when the green horizontal line appears. If the group field you want is a column in the report, drag the column name up above the column headers in the report. Release the mouse button when the green horizontal line appears. **Note:** For quick placement, click the Layout button and drag the fields into the Groups area. Alternatively, right click on the field name you want as your group and select, Group.
To add more than one group to a report...	Click another group field from the right pane and drag it above or below the previously placed group.
To change the sort order of a group...	• Click the small arrow to the right of the group name to change the sort order. • Assign the sort order under Group Sorting in the right pane

Filtering

Action	Description
To add a filter...	• Click Filters in the toolbar, then drag a field into the Filter area. • Right-click on the field name you want to filter on, (under the Data tab), and select, Filter. • Select column name, click to open the context menu and select Filter.
To edit a filter...	Click the Edit icon next to the filter name to open the Filter dialog box. Make your changes and click OK. Or you can select a column name, click to open the context menu and select, Filter.
To delete a filter...	Click Filters in the toolbar, then click the Delete icon next to the filter name.
To select a filter value from a list...	Click Select from list in the Filter dialog box.
To find a filter value in a list...	Type the first few characters of the value and click Find. Entries are case-sensitive.
To include or exclude a filter value from a list...	Click either the Includes or Excludes link next to Select from list. Alternatively, make a selection next to Currently in the Filter dialog box.
To specify a specific filter value...	Click Match a specific value, then select a constraint from the list.
To create an advanced query ...	Within the Filter Pane, click on the Advanced Filter button in the bottom right hand corner. Enter a MQL query.

Formatting

Action	Description
To undo or redo previous actions...	Within the toolbar, click the green left-pointing arrow to Undo or the green right-pointing arrow to Redo.
To change the font type in a column header...	Select the column header. Under the Formatting tab, select font type from the available list.
To change font type in the column details...	Select the column details. Under the Formatting tab, select font type from the available list.
To change font color in a column header...	Select column header. Under the Formatting tab, click the text color icon to select font color from the available list.
To change the font color in column details	Select column details. Under the Formatting tab, click (icon here) to select font color from the available list.
To change the column header background color...	Select the column header. Under the Formatting tab, click Background Color bucket icon. Select a color from the color picker or create your own custom color.
To change the column details background color...	Select column details. Under the Formatting tab, click Background Color bucket icon. Select a color from the color picker or create your own custom color.
To apply text justification...	Select the report element column header or column details. Under the Formatting tab, click the appropriate text alignment option. Column headers can be formatted separately from column details.

Setting Chart Options

You can modify the aesthetics of a chart within Instaview by clicking Chart Options within the Properties panel in View mode. These options enable you to define how to display a chart; change a chart's colors, add a legend, and more. You can also access the Chart Options dialog box by clicking More actions and options  on the Analyzer toolbar and select Chart Options.

General

Option	Description
Background	Fill type defines the background color of the chart and the specific fill colors used. A Gradient will result in a gradual color transition in the fill color. Choose the color you want from the available color pickers (Fill Color, End Color) You can select not to have a fill color (None), or select a single background color (Solid).
Labels	Allows you to select a font type, size, formatting, and color of the labels in your chart.
Axis	Allows you to adjust the axis range. When set to Auto Range, the chart will scale based on the data. If you have a time series chart, you may want to set the range manually so that figures, (not close to the 0 axis), display correctly; (see image below). Select a Scale option to manage instances where numeric values in a chart are so long that they affect the display.

Legend

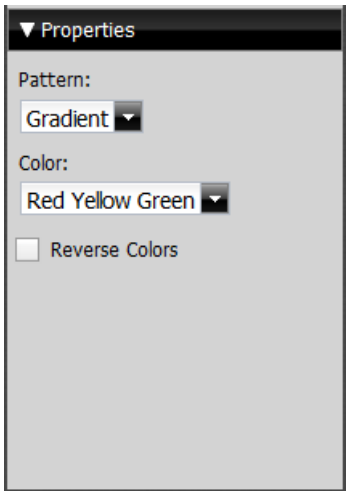
Option	Description
Show Legend	Allows you to enable to disable the legend display
Position	Allows you to select the placement (Top, Right, Bottom, Left) of the legend on the chart
Background Color	Allows you to select a background color for the legend
Font	Allows you to set the font type, size, format, and color associated with your legend

Other

Option	Description
Line Charts	Allows you to set the Bullet Style for points on a line chart and assign Line Width
Multi-Charts	Allows you to define the number of charts that display when using the Multi-Charts feature
Domain Limit	Allows you to limit the number of plot values that display in a chart.

Customizing Geography Map Visualizations In Analyzer

The **Properties** panel enables you to customize the appearance of map visualizations.



The **Pattern** drop-down box allows you to decide the way the color of the pins populate. The appearance does not denote any of the data, it is solely for aesthetics. You have the option of selecting:

- Gradient
- 3 Step
- 5 Step

The **Color** drop-down box allows you to decide which colors denote large measures and which colors denote smaller measures. The color denotes the size of the data, from small to large. You have the option of selecting:

- Red Yellow Green
- Red Yellow Blue
- Blue Scale
- Gray Scale

You also have the option of checking the **Reverse Colors** box, which will allow you to choose the inverse colors so they appear large to small.

Editing Instaview Data Transformations

You can edit the data integration transformation for an Instaview by clicking **Edit** within the **Data Integration** panel.

Changing how your data is transformed should be done by a data designer. Configuring a transformation incorrectly would limit your ability to create Analyzer Reports. If you do not have experience with ETL (Extract, Transform, Load), you should use caution when directly editing the data integration transformation. Pentaho Data Integration is a powerful ETL tool and can be approached by even a novice data designer with the help of some additional resources.

Once selected, editing the data integration transformation is done within the Pentaho Data Integration Spoon interface from the **Data Integration** perspective.

Using Pentaho Data Integration perspectives allows you to change how you connect to data, the connection data type to connect to or how that data is transformed. The **Data Integration** perspective is a powerful ETL tool with drag-and-drop capabilities which enable users to manage their data.

Further Reading

For more on Pentaho Data Integration, see these guides

- Getting Started with Pentaho Data Integration
- Pentaho Data Integration Users Guide

Editing Instaview Metadata Models

You can edit the metadata model for an Instaview by clicking **Edit** within the **Model** panel. Clicking **Edit** brings you to the **Model** perspective within Pentaho Data Integration.

The **Model** perspective is used for designing reporting and OLAP metadata models that can be tested from within the **Visualize** perspective or published to the Pentaho BA Server.