

User Manual Smart Visualization

Business Intelligence & Advanced Data Discovery

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Disclaimer

This document is intended to support administrators, technology managers or developers using and implementing Smarten. The business needs of each organization will vary and this document is expected to provide guidelines and not rules for making any decisions related to Smarten. The overall performance of Smarten depends on many factors, including but not limited to hardware configuration and network throughput.

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1 About this document

This manual explains the concepts required to use Smart Visualization features in Smarten Advanced Data Discovery Suite.

1.1 Scope and Organisation of Topic Areas

Chapter 1	Introducing ElegantJ BI - Smarten
Chapter 2	Introducing Smart Visualization
Chapter 3	Smart Visualization Process Overview
Chapter 4	Working with SmartenView
Chapter 5	Product and Support Information

1.2 Conventions used

This manual uses typographical conventions in the text to help you distinguish between the names of files, instructions, and other important notes that are relevant during installation. For example:

• Important notes are indicated in a different font color as shown in the example below.

Note: Trend can be applied to a Bar chart, Line chart, Combined chart, and Area type of Visualization.

• References to documents are highlighted as below:

Reference: ElegantJ BI Concept Manual > Analytic Functions > Data Operations

2 Introducing ElegantJ BI - Smarten

ElegantJ BI is a full-stack Business Intelligence tool that employs the "Smarten" approach to Advanced Data Discovery. The solution comprises a comprehensive set of tools, including Self-Serve Data Preparation, Smart Visualisation, and Plug n' Play Predictive Analytics. These tools are designed to democratize advanced analytics and transform business users into citizen data scientists.

Self-Serve Data Preparation

Self-Serve Data Preparation allows business users to perform data preparation on their own without the assistance of IT staff or data analysts. Users are not restricted by complex tools or forced to wait for IT to deliver crucial data. Guided by smart suggestions and auto recommendations, business users can prepare, blend, and transform data and create analysis-ready data quickly and accurately without assistance rather than waiting for central metadata prepared by IT.

Smart Data Visualization

Intuitive Smart Data Visualization tools suggest the best options for visualizing and plotting a particular set or type of data based on the nature, dimensions, and trend of data so that business users can easily select the appropriate method to clearly and quickly visualize data in a way that is meaningful to the task.

Plug n' Play Predictive Analysis

Assisted Predictive Modelling allows business users to explore predictive algorithms and models

without the skill or knowledge of a data scientist or statistician. The solution considers the underlying data and use case, suggests the best-fit algorithm, and then displays output results and data visualization accompanied by an interpretation using simple human language.

3 Introducing Smart Visualization

Smart Data Visualization allows business users to analyze, share, and present information without waiting for assistance from visualization experts or programmers. With augmented data discovery tools, business users can cut through that mountain of data to find those elusive nuggets of information that have the most impact on business results.

Smarten View smart data visualization allows business users to view and analyze data to identify a problem, clarify a root cause, and make confident decisions. Business users can interact easily with data discovery tools and analytics software and build a view that will tell a story using guided visualization and recommended data presentation so that there is no need for assistance or delays. Guided recommendations are made based on data type, volume, dimensions, patterns, and nature of data.

By combining cutting-edge technology and machine learning on the backend, with an intuitive user experience on the front end, business users can easily leverage sophisticated tools with suggestions and recommendations on how to personalize data displays to create meaningful views and collaboration.

Machine learning provides guidance to determine the visualization technique that will be the best fit for the data business users want to analyze. It allows for better understanding of data, identifies unusual patterns in data, and achieves the best output and results.

Visual Analytics tools enable users to identify relationships, patterns, trends, and opportunities and to explore detailed data with simple drill down and drill through capabilities and make sense of data from all sources, with a guided approach that allows users to identify patterns and trends, and quickly complete analysis with clear results.

4 Smart Visualization Process Overview

The process of Smart Visualization starts with identifying the data that has to be visualized. Users can visualize data from Datasets as well as Cubes and create views by simply dragging and dropping the required Dimension and Measure columns belonging to the Dataset / Cube. With Smarten mode ON, the machine learning capabilities of the system come into play, and the user is automatically presented with the best suitable chart based on data type, volume, dimensions, patterns, and nature of data. If users want more control of visualization, they can work with Smarten mode OFF and have total control of various visualization properties, including color, shape, and size. Guided by auto-detection and auto-suggest features, users can leverage a variety of sophisticated tools to customize and personalize the visualizations as per their specific requirements. The visualizations are called SmartenView, and SmartenView objects can be viewed as stand-alone objects or be embedded within dashboards. Users can export SmartenView objects in JPG, PDF, and PNG formats.

Typical steps involved in creating a SmartenView are:

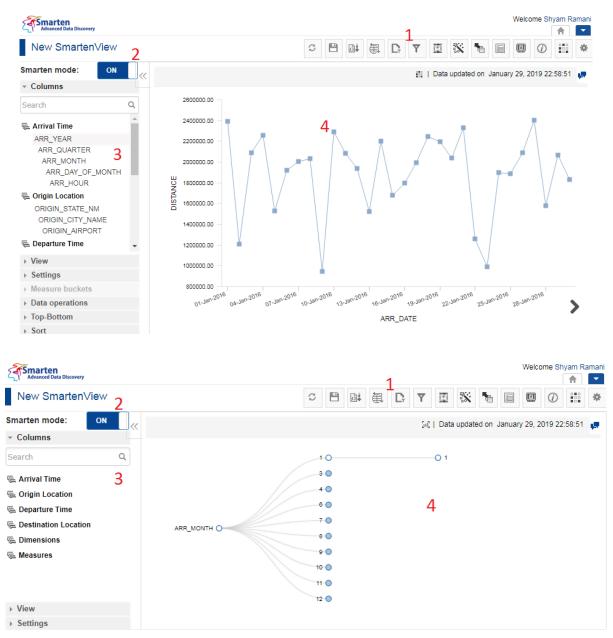
- Identify the Dataset / Cube
- Select the Dimension and Measure columns
- Work with Smarten mode ON or OFF
- Change the visualization type

- Personalize the visualization
- Apply sampling, outliers, data operations, filters, sorting, ranking, and other functions
- Use SmartenView as a stand-alone object or embed it within dashboards

5 Working with SmartenView

5.1 Becoming Familiar with SmartenView Menus and Toolbars

The following image depicts the various areas of the SmartenView screen:



SMARTENVIEW SCREEN—DIFFERENT AREAS OF THE SCREEN

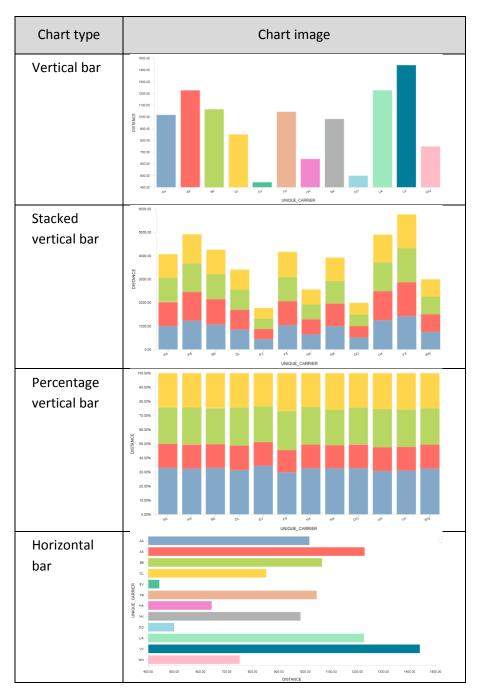
- 1. The toolbar provides options to perform various operations on the chart, such as sorting, grouping, filtering, sampling, and many more.
- 2. This option allows you to turn the Smarten mode on and off.
- 3. This option allows you to add columns, measures, dimensions, apply views, and change settings.

4. This area displays the chart based on the columns, dimensions, views, and other settings you have applied.

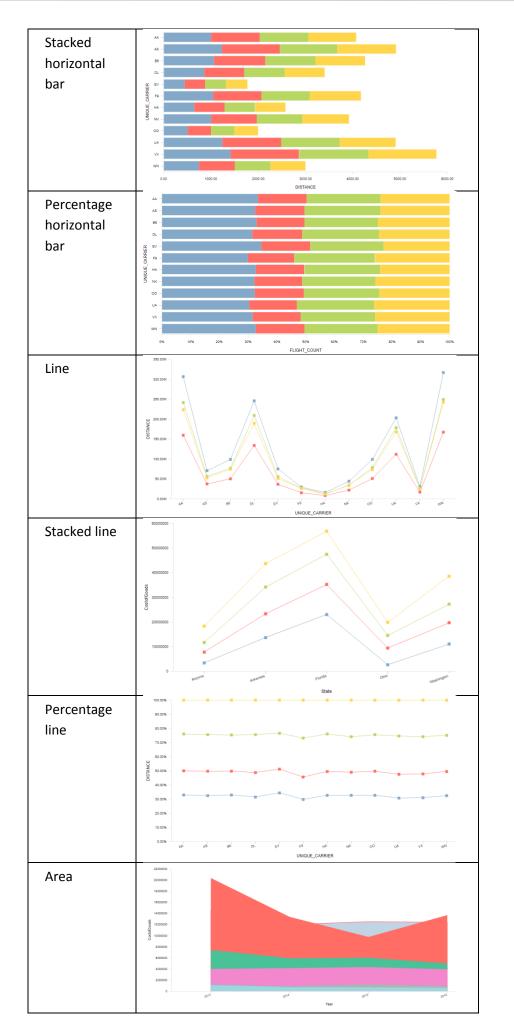
5.2 Understanding Smart Visualization Types

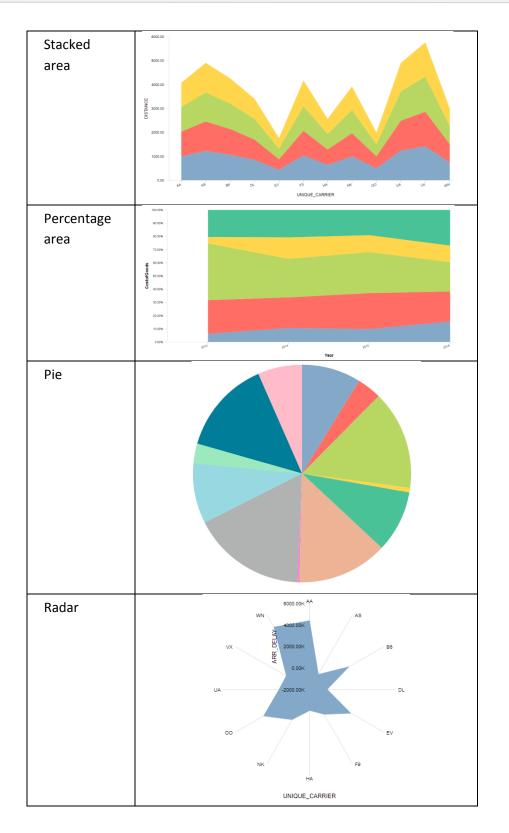
Smart visualization provides a wide range of visualization types, including charts and maps. You can visualize the same data with other possible charts in addition to the system recommended visualization.

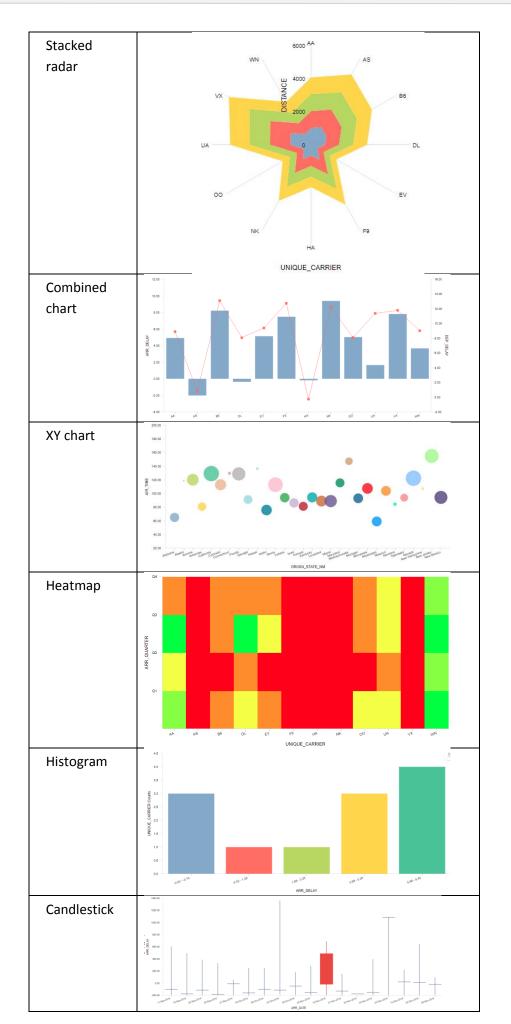
Shown below is the list of chart types supported by Smart Visualization:

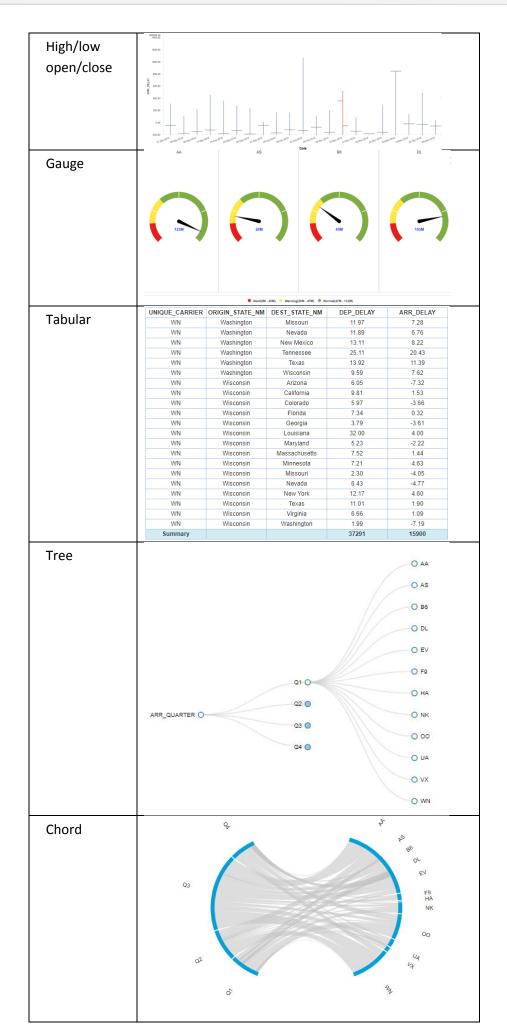


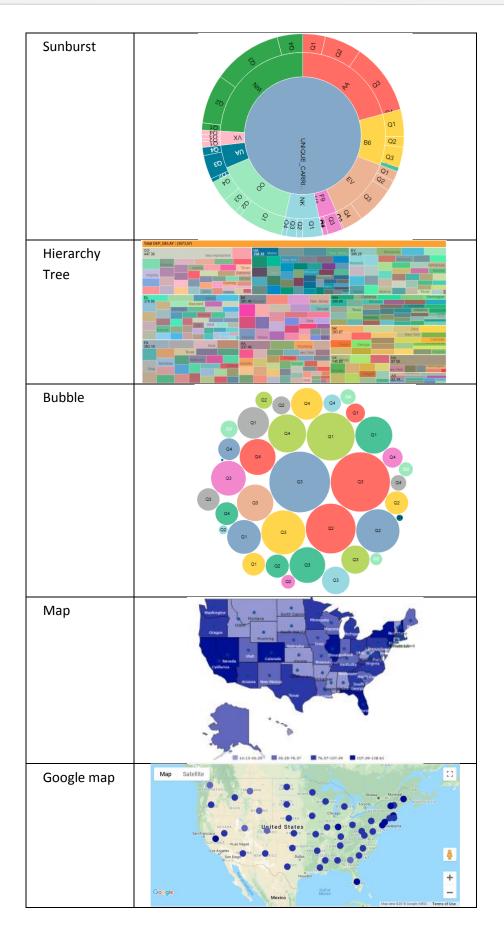












5.3 Creating SmartenView

For creating a SmartenView, you first need to identify the data that you want to visualize from a dataset or a cube. When the Smarten mode is enabled, the machine learning capabilities of the system automatically presents the best suitable chart based on the data type, volume, dimensions, patterns, and nature of data. You can disable the Smarten mode to have more control of visualization and other aspects.

Perform the following steps to create a SmartenView:

- 1. Select the dataset or cube you want to use.
- Select the Dimension and Measure columns you want to use. The system automatically displays the charts based on the Dimension and Measure columns you have selected.
 - Note: The system displays the chart automatically only when the Smarten mode is enabled.
- 3. Apply visualization type, customize properties, and perform other operations.
- 4. Disable Smarten mode to have more control of visualization by placing columns into rows, columns, x axis, y axis, and z axis (through color, shape, and size).
- 5. Use SmartenView as stand-alone objects or embed within dashboards.
- 6. Save the SmartenView.

5.3.1 Selecting a Cube or a Dataset for SmartenView

You need to select a cube or a dataset that you want to use to create SmartenView. Once you have selected the cube or dataset, you can select the columns that you want to use to create SmartenView.

Reference: Concept Manual > Use data from Datasets or Cubes

About this task

Use this task to select the cube or dataset for SmartenView.

Procedure

1. Click **New** -> **SmartenView** from the menu.

	Welcome Shyam Ramani
	🖆 Open
Crosstab	🗊 New
Tabular	Publishing agent
Graph	🟩 TeamUp
Ф GeoMap	Edit profile
	Administration
KPI group	C⇒ Logout
Dashboard	About us
SmartenView SmartenView	Network speed (751.74 kBps)
Data source	
G Dataset	
∣ № SmartenInsight	

MENU OPTION-NEW DATASET

The system displays the New SmartenView – select Data dialog box.

Data	Name 🔺		
	NAME	CREATED	UPDATED
	∎ Accounts_U	admin May 11, 2018 15:15:44	admin February 09, 2018 •••• 15:21:23
)	Be Age-Passthrough-ease- SpearmanCorrelation-Dataset	jalpa April 03, 2018 12:18:03	jalpa May 14, 2018 11:38:25
)	BearsonCorrelation-Dataset	jalpa April 03, 2018 12:16:10	jalpa May 14, 2018 11:38: 5 3
	ြ ARAP_U	admin May 11, 2018 15:16:18	admin January 19, 2018 •••• 13:43:32

SELECTING A CUBE OR A DATASET—THE NEW SMARTENVIEW DIALOG BOX

2. Select the cube or dataset you want to use to create the SmartenView.

Or,

Enter the keyword in the Search box to search for the cube or dataset you want to use to create the SmartenView.

Data Q Name 🔺			
	NAME	CREATED	UPDATED
	P Accounts_U	admin May 11, 2018 15:15:44	admin February 09, 2018 •••• 15:21:23
	Bage-Passthrough-ease- SpearmanCorrelation-Dataset	jalpa April 03, 2018 12:18:03	jalpa May 14, 2018 11:38:25
	RearsonCorrelation-Dataset	jalpa April 03, 2018 12:16:10	jalpa May 14, 2018 11:38:53
	l ARAP_U	admin May 11, 2018 15:16:18	admin January 19, 2018 13:43:32
ТХ	CANCEL		

3. You can sort the cubes and datasets available based on their name, the date they were created, and the date they were last updated.

ita	Q		Name 🔺	
	NAME	CREATED	UPDATED	
	데 Accounts_U	admin May 11, 2018 15:15:44	admin February 09, 2018 •••• 15:21:23	
	Be Age-Passthrough-ease- SpearmanCorrelation-Dataset	jalpa April 03, 2018 12:18:03	jalpa May 14, 2018 11:38:25	
	Bage-Purchase Relationship- PearsonCorrelation-Dataset	jalpa April 03, 2018 12:16:10	jalpa May 14, 2018 11:38:53	
	ARAP_U	admin May 11, 2018 15:16:18	admin January 19, 2018 ■■■ 13:43:32	



4. Click **NEXT**.

5.3.2 Creating SmartenView with Smarten Mode ON

Enabling the Smarten mode allows you to visualize data without specifying the type of visualization you want to generate. The system automatically generates the visualization that is best suitable based on the data you have selected.

Reference: Concept Manual > Working with Smarten Mode ON

About this task

Use this task to create SmartenView with the Smarten mode ON.

Procedure

1. Click **New** -> **SmartenView** from the menu.

	Welcome Shyam Ramani
	🗁 Open
Crosstab	New New
Tabular	Publishing agent
Graph	*** TeamUp
🏥 GeoMap	Edit profile
KPI	Administration
KPI group	C→ Logout
Dashboard	About us
≫⁄ SmartenView	Network speed (751.74 kBps)
Data source	
Dataset	
∣i¶ SmartenInsight	
MENU OPTION	I-NEW DATASET

The system displays the **New SmartenView** dialog box.

lata	Q		Name 🔺
	NAME	CREATED	UPDATED
	Accounts_U	admin May 11, 2018 15:15:44	admin February 09, 2018 •••• 15:21:23
	Age-Passthrough-ease- SpearmanCorrelation-Dataset	jalpa April 03, 2018 12:18:03	jalpa May 14, 2018 11:38:25
	Bage-Purchase Relationship- PearsonCorrelation-Dataset	jalpa April 03, 2018 12:16:10	jalpa May 14, 2018 11:38:53
	ဖြာ ARAP_U	admin May 11, 2018 15:16:18	admin January 19, 2018

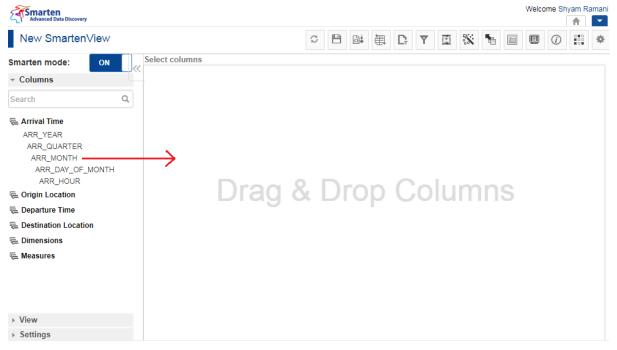
SELECTING A CUBE OR A DATASET—THE NEW SMARTENVIEW DIALOG BOX

 Select the cube or dataset you want to use to create the SmartenView, and then click NEXT. The system displays the New SmartenView – select Data screen.

Data Q			Name 🔺	
	NAME	CREATED	UPDATED	
	Accounts_U	admin May 11, 2018 15:15:44	admin February 09, 2018 •••• 15:21:23	
	Be Age-Passthrough-ease- SpearmanCorrelation-Dataset	jalpa April 03, 2018 12:18:03	jalpa May 14, 2018 11:38:25	
	PearsonCorrelation-Dataset	jalpa April 03, 2018 12:16:10	jalpa May 14, 2018 11:38:53	
	I ARAP_U	admin May 11, 2018 15:16:18	admin January 19, 2018 *** 13:43:32	

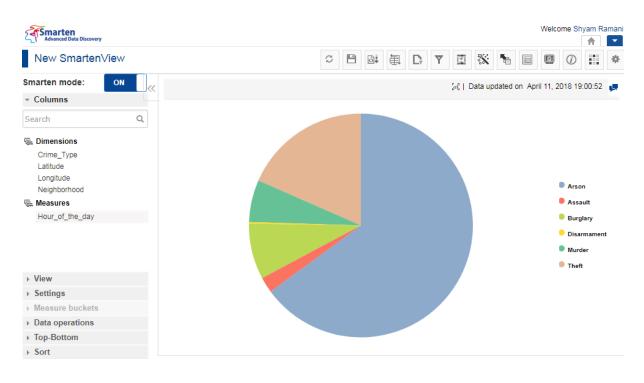
NEW SMARTENVIEW—SEARCHING FOR A CUBE OR A DATASET

3. Drag and drop the columns that you want to use into the Select columns pane.



NEW SMARTENVIEW SCREEN—SELECTING COLUMNS

4. The system automatically generates the visualization based on the data you select.



NEW SMARTENVIEW—SYSTEM AUTOMATICALLY GENERATES THE VISUALIZATION

5.3.3 Creating SmartenView with Smarten Mode OFF

Turning off the Smarten mode allows you to select the visualization you want to generate for the selected data. You have more control over what and how the data is visualized. You can use Outliner to have more control of columns to be placed in X, Y, and Z axis and control the visualization through color, shape and size.



About this task

Use this task to create SmartenView with the Smarten mode OFF.

Procedure

1. Click **New** -> **SmartenView** from the menu.

	Welcome Shyam Ramani
1	≜
	🚔 Open
Crosstab	New
🖹 Tabular	Publishing agent
da Graph	📇 TeamUp
Ф GeoMap	Edit profile
	Administration
KPI group	⊂→ Logout
Dashboard	1 About us
SmartenView SmartenView	O Network speed (751.74 kBps)
Data source	
Dataset	
🏨 SmartenInsight	
MENU OPTION	I—NEW DATASET

The system displays the **New SmartenView** dialog box.

Data	Q		Name 🔺
	NAME	CREATED	UPDATED
	្រា Accounts_U	admin May 11, 2018 15:15:44	admin February 09, 2018 •••
	Ge-Passthrough-ease- SpearmanCorrelation-Dataset	jalpa April 03, 2018 12:18:03	jalpa May 14, 2018 11:38:25
	BearsonCorrelation-Dataset	jalpa April 03, 2018 12:16:10	jalpa May 14, 2018 11:38:53
	I ARAP_U	admin May 11, 2018 15:16:18	admin January 19, 2018 ••• 13:43:32

SELECTING A CUBE OR A DATASET—THE NEW SMARTENVIEW DIALOG BOX

 Select the cube or dataset you want to use to create the SmartenView, and then click NEXT. The system displays the New SmartenView screen.

ata	Q		Name 🔺
	NAME	CREATED	UPDATED
	Accounts_U	admin May 11, 2018 15:15:44	admin February 09, 2018 •••• 15:21:23
	Re-Passthrough-ease- SpearmanCorrelation-Dataset	jalpa April 03, 2018 12:18:03	jalpa May 14, 2018 11:38:25
	e Age-Purchase Relationship- PearsonCorrelation-Dataset	jalpa April 03, 2018 12:16:10	jalpa May 14, 2018 11:38: 5 3
	I ARAP_U	admin May 11, 2018 15:16:18	admin January 19, 2018 ■■■ 13:43:32

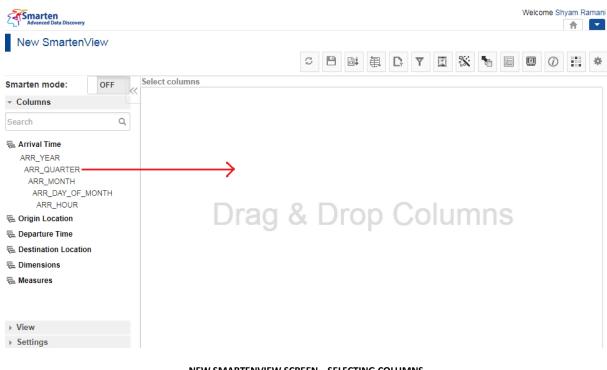
NEW SMARTENVIEW—SEARCHING FOR A CUBE OR A DATASET

3. Click the **Smarten mode** slider to turn off the Smarten mode. The system turns off the Smarten mode after confirmation.

Advanced Data Discovery											ome Sh	•	
New SmartenView		Q	ŧ	${\textstyle \Box}_{r}$	Ŧ		*	•			<i>(i)</i>		
Smarten mode: ON						[Data up	dated (on July	/ 19, 2	018 14	:55:49	
Columns													1
Search Q													
n Dimensions													
🖶 Measures													
 Settings 													
 Settings Measure buckets 													
 View Settings Measure buckets Data operations Top-Bottom 													

NEW SMARTENVIEW—DISABLING THE SMARTEN MODE

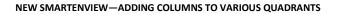
4. Drag and drop the columns that you want to use in the **Columns** pane.



NEW SMARTENVIEW SCREEN—SELECTING COLUMNS

Advanced Data Discovery												Welco	ome Sh	iyam R	Ramani
New SmartenView				S	0	ŧ	${\textstyle \sum}_{r}$	Ŧ		*	5		<i>(i)</i>		\$
Smarten mode: OFF	Outliner														
- Columns															
Search Q	Rows		Column	S											
€ Dimensions State Year			tio dat												
Neasures			X-Axis Y-Axis						Cold						
			THAI												
 > View > Settings > Measure buckets > Data operations 									Sha	ipe					
▶ Top-Bottom															
→ Sort	APPLY CAN	NCEL													

The system displays the **Outliner** pane.



5. Drop the selected columns within the sections available in the **Outliner** pane. You can place columns into the X, Y, and Z axis and manage visualizations with color, shape, and size. For example, in the image above, if you add the Year column to the X-Axis section, the system will use data of the Year column to form the X-Axis of the SmartenView.

When you add a column to a section of the Outliner that is not applicable for the selected chart type, the system highlights such columns. Similarly, when the chart type is changed and the columns available in any of the sections are not applicable for the new chart type,

the system highlights such columns. For example, for the Chord-type chart, you can only add two Dimension columns and one Measure column. If you add any more columns in the Outliner pane, the system highlights those columns.

Advanced Data Discovery	Welcome Shyam Raman
New SmartenView	
_	C 🕒 🔤 🖨 🗗 Y 🔟 💥 🎦 🗐 🕖 📰 🏶
Smarten mode: ON	Select columns
- Columns	
Search O	Add
⊊ Arrival Time ⊊ Origin Location	- ORIGIN_CITY_NAME - DEST_CITY_NAME
🖶 Departure Time	- DEP_DATE
E Destination Location	- DISTANCE
E Dimensions ARR_DATE DEP_DATE FLIGHT_NUMBER UNIQUE_CARRIER E Measures	
 View Settings Measure buckets Data operations Top-Bottom Sort 	

NEW SMARTENVIEW—COLUMNS NOT APPLICABLE FOR THE SELECTED CHART TYPE

6. Click APPLY.

5.4 Configuring Charts

You can configure various properties of SmartenView, such as title, label, format, legend, and trend from the **Settings** pane. The tabs available in the **Settings** pane allow you to configure properties that are frequently used. The properties you can configure depend on the type of visualization you have selected. For example, you can configure trends for a bar chart, but the same is not applicable for a radar chart or a pie chart.

5.4.1 Configuring Titles of a Chart

You can configure properties for various graph titles, such as font, size, color, style, and text transformation.

Reference: Concept Manual > Configuring Charts

About this task

Use this task to configure titles of a chart for SmartenView.

Procedure

1. Click **New** -> **SmartenView** from the menu.

	Welcome Shyam Ramani
	🚡 Open
Crosstab	🗊 New
Tabular	Publishing agent
di Graph	:::: TeamUp
🕅 GeoMap	Edit profile
	Administration
KPI group	C⇒ Logout
Dashboard	About us
SmartenView ∑	Network speed (751.74 kBps)
Data source	
Jataset	
∣ № SmartenInsight	
MENU OPTION	I—NEW DATASET

The system displays the New SmartenView – select Data dialog box.

Data	Q		Nam	e 🔺
	NAME	CREATED	UPDATED	
	l Accounts_U	admin May 11, 2018 15:15:44	admin February 09, 2018 15:21:23	
	earmanCorrelation-Dataset	jalpa April 03, 2018 12:18:03	jalpa May 14, 2018 11:38:25	
	earsonCorrelation-Dataset	jalpa April 03, 2018 12:16:10	jalpa May 14, 2018 11:38:53	
D	ARAP_U	admin May 11, 2018 15:16:18	admin January 19, 2018 13:43:32	

- SELECTING A CUBE OR A DATASET—THE NEW SMARTENVIEW DIALOG BOX
- 2. Select the cube or dataset you want to use to create the SmartenView.

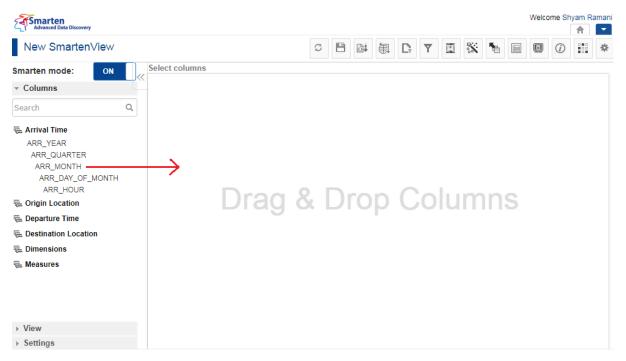
Or,

Enter the keyword in the Search box to search for the cube or dataset you want to use to create the SmartenView.

ata	Q		Name 🔺
	NAME	CREATED	UPDATED
	In Accounts_U	admin May 11, 2018 15:15:44	admin February 09, 2018 •••• 15:21:23
	BearmanCorrelation-Dataset	jalpa April 03, 2018 12:18:03	jalpa May 14, 2018 11:38:25
	Bere-Purchase Relationship- PearsonCorrelation-Dataset	jalpa April 03, 2018 12:16:10	jalpa May 14, 2018 11:38: 5 3
	l ARAP_U	admin May 11, 2018 15:16:18	admin January 19, 2018 •••• 13:43:32

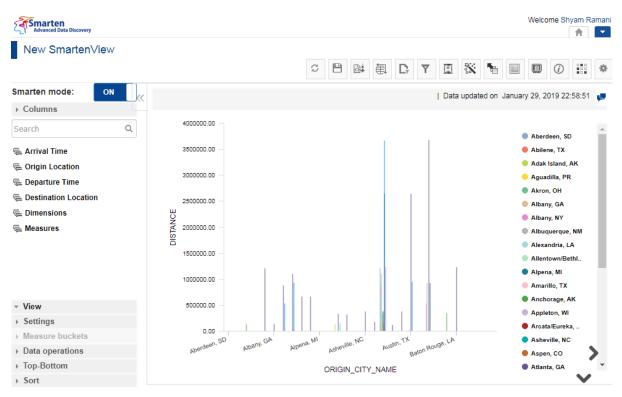
NEW SMARTENVIEW—SEARCHING FOR A CUBE OR A DATASET

- 3. Click **NEXT**.
- 4. Drag and drop the columns or measures and dimensions you want to use into the **Columns** pane.



NEW SMARTENVIEW SCREEN—SELECTING COLUMNS, MEASURES, AND DIMENSIONS

The system automatically generates the visualization based on the data you select.



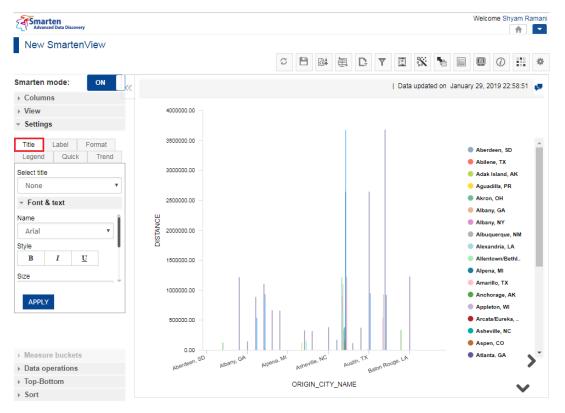
NEW SMARTENVIEW—SYSTEM AUTOMATICALLY GENERATES THE VISUALIZATION

5. Click the **Settings** tab.

Advanced Data Discovery			Welcome Shyam Ramani
New SmartenView			
		S 🕒 🔤 🖶 🗗 🔟 💥	
Smarten mode: ON		Data updated	on January 29, 2019 22:58:51 📮
Columns			
Search Q	4000000.00		Aberdeen, SD
🔁 Arrival Time	350000.00 -		Abilene, TX
Crigin Location			😑 Adak Island, AK
📮 Departure Time	300000.00		😑 Aguadilla, PR
E Destination Location			Akron, OH
	2500000.00 -		Albany, GA
Dimensions	NOT NOT		Albany, NY
E Measures	U 2000000.00 - SIQ		Albuquerque, NM
	1500000.00 -		Alexandria, LA
	100000.00		Allentown/Bethl
	100000.00 -		Alpena, MI
			Amarillo, TX
View	500000.00		Anchorage, AK
Settings			Appleton, Wi
Measure buckets	0.00		Arcata/Eureka,
Data operations	Aberdeen, SD	Albany, GA Alpena, MI Asheville, NC Austin, TX Baton Rouge, IA	Asheville, NC
	Par -	*	le Aspen, CO
▶ Top-Bottom		ORIGIN_CITY_NAME	Atlanta, GA

CONFIGURING THE CHART—THE SETTINGS TAB

6. Click the Title tab to specify properties for the title of the chart.



CONFIGURING THE CHART—THE TITLE TAB

7. Select an option from the **Select title list** to specify the title for which you want to configure properties.

The following options are available:

- None: By default, this option is selected.
- All titles: Select this option to update properties of all titles in the graph.
- **Graph title**: Select this option to update properties of only the graph title.
- Category axis title: Select this option to update properties of the title of the x-axis.
- Value axis title: Select this option to update properties of the titles of the values in the y-axis.

Smarten	mode:	ON	
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▹ View			
- Setting	js		
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APPLY	r -		

CONFIGURING TITLE—SELECTING THE TITLE TO BE CONFIGURED

8. Select the font you want to apply from the Name list.

 Setting 	js		
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Legend	Quic	k	Trend
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- Font	& text		
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Size			
APPL	Y		

CONFIGURING THE TITLE—SELECTING THE FONT

- 9. Click the style you want to apply on the font. The following styles are available:
 - **B**: Bold

Smarten

- I: Italics
- U: Underline

 Setting 	gs		
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Legend	Quic	k	Trend
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None			٣
- Font	& text		
Name			î
Arial			•
Style			
В	I	U	
Size			
APPL	Y		

CONFIGURING THE TITLE—SELECTING THE STYLE OF THE FONT

10. Select an option from the Size list to specify the size of the font.

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Legend	Quick		Trend
Select title	e		
None			
	& text		
Size			
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Deles.			
Color			
Color #00000	0		

CONFIGURING THE TITLE—SELECTING THE SIZE OF THE FONT

11. Select an option from the **Color** list to specify the color of the font.

- Settings					
Title	Label	Format			
Legend	Quic	k Trend			
Select title	e				
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Text transform					
APPL	Y				

CONFIGURING THE TITLE—SELECTING THE COLOR OF THE FONT

12. Select an option from the **Text transformation** list to transform the font.

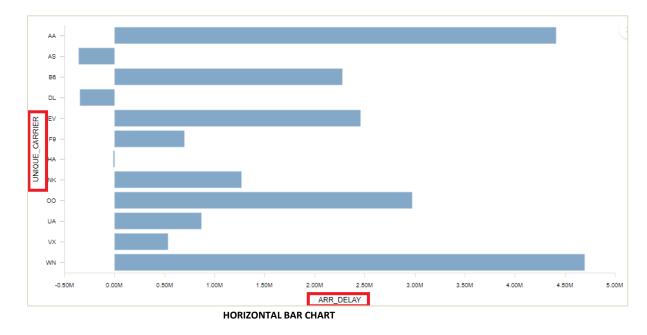
 Settin 	gs		
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Legend	Quick	k Trend	
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- Font	& text		
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Color			
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APPLY			

CONFIGURING THE TITLE—SELECTING AN OPTION FOR TEXT TRANSFORMATION

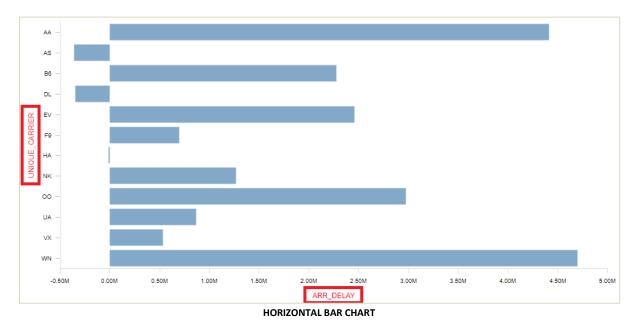
13. Click APPLY.

The images below show the before and after scenario for a bar chart after changing the font color of the titles belonging to the category axis and value axis from Black to Red:

Before:



After:



5.4.2 Configuring Labels of a Chart

You can configure properties for various labels of a chart, such as font, size, color, style, and text transformation.

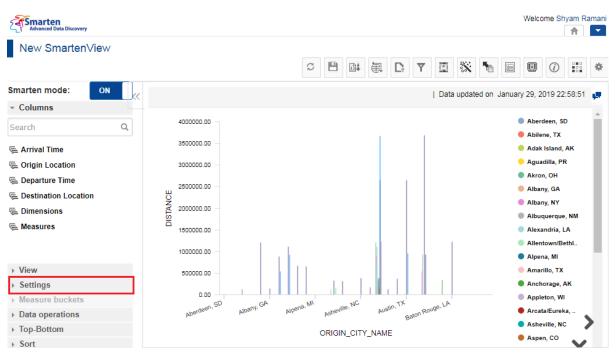
Reference: Concept Manual > Configuring Charts

About this task

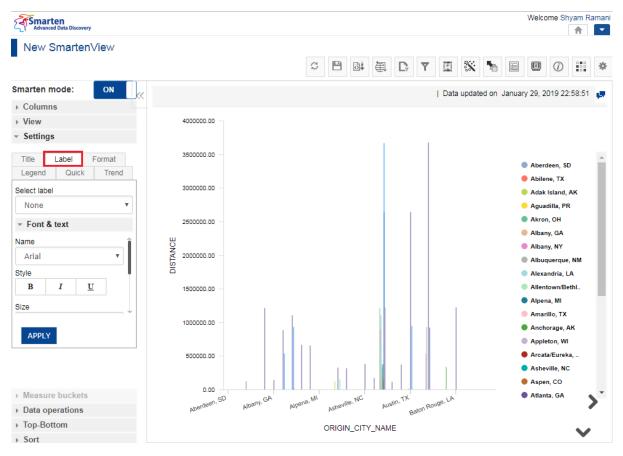
Use this task to configure labels of a chart for SmartenView.

Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Settings** tab.



CONFIGURING THE CHART—THE SETTINGS TAB



4. Click the Label tab to specify properties for the label of the chart.

CONFIGURING THE CHART—THE LABEL TAB



5. Select an option from the **Select label** list to specify the label for which you want to configure properties.

The following options are available:

- None: By default, this option is selected.
- All Labels: Select this option to update the properties of all labels in the graph.
- **Category axis labels**: Select this option to update the properties of the labels of the x-axis.
- Value axis labels: Select this option to update the properties of the labels of the values in the y-axis.
- **Row Labels**: Select this option to update the properties of the labels of only the rows.
- **Cols labels**: Select this option to update the properties of the labels of the columns.
- Legend labels: Select this option to update the properties of the labels for various legends available in the chart.

- Setting	js			
Title	Label	Fo	ormat	
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CONFIGURING THE LABEL—SELECTING THE LABEL TO BE CONFIGURED

6. Select the font you want to apply from the Name list.

- Settin	gs		
Title	Label	F	ormat
Legend	d Quick Trend		
Select lab	bel		
None			•
- Font	& text		
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Size			
APPLY			

CONFIGURING THE LABEL—SELECTING THE FONT

- Click the style you want to apply. The following styles are available:
 - B: Bold
 - I: Italics
 - U: Underline

* Setting	gs		
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- Font	& text		
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4.001			
APPL	Ŷ		

CONFIGURING THE LABEL—SELECTING THE STYLE OF THE FONT

8. Select an option from the **Size** list to specify the size of the font.

 Setting 	gs	
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Legend	Quick	Trend
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None	e	•
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Color	-	

CONFIGURING THE LABEL—SELECTING THE SIZE OF THE FONT

9. Select an option from the **Color** list to specify the color of the font.

 Setting 	S	
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	k text	
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APPLY	7	

CONFIGURING THE LABEL—SELECTING THE COLOR OF THE FONT

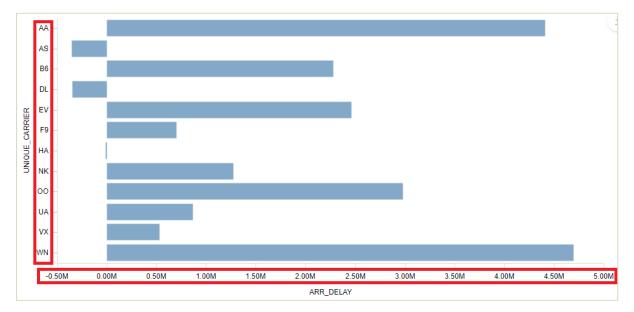
10. Select an option from the **Text transformation** list to transform the font.

- Settin	gs			
Title	Label	Format		
Legend	Quic	k Trend		
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- Font	& text			
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Text trans	form			
Capita	alize	τ.		
APPL	Y			

CONFIGURING THE LABEL—SELECTING AN OPTION FOR TEXT TRANSFORMATION

11. Click APPLY.

The images below show the before and after scenario for a bar chart after changing the font style of the labels of the category axis and value axis to bold:

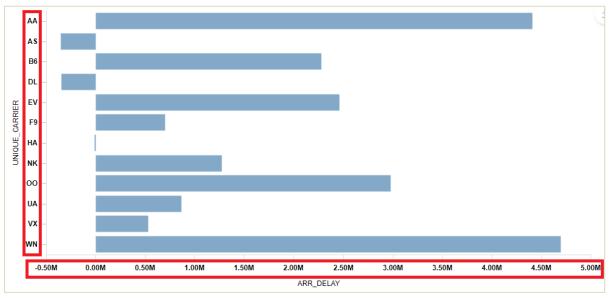


Before:

Smarten

HORIZONTAL BAR CHART

After:



HORIZONTAL BAR CHART

5.4.3 Configuring Labels of a Chart

You can configure properties for various labels of a chart, such as font, size, color, style, and text transformation.

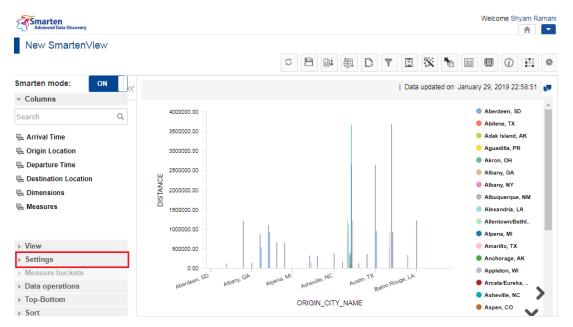
Reference: Concept Manual > Configuring Charts

About this task

Use this task to configure labels of a chart for SmartenView.

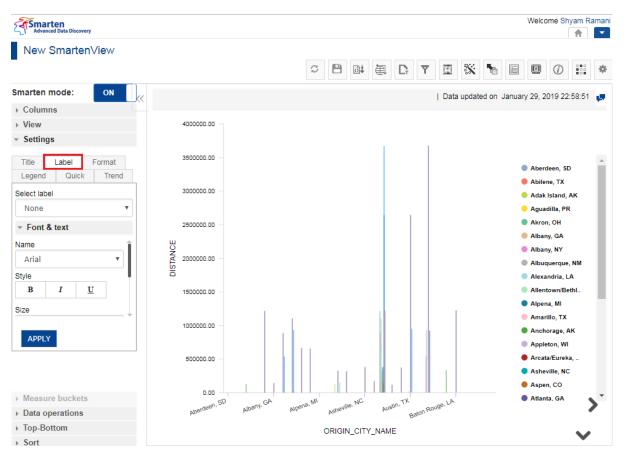
Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Settings** tab.



CONFIGURING THE CHART—THE SETTINGS TAB

4. Click the Label tab to specify properties for the label of the chart.



CONFIGURING THE CHART—THE LABEL TAB

5. Select an option from the **Select label** list to specify the label for which you want to configure properties.

The following options are available:

- None: By default, this option is selected.
- All Labels: Select this option to update the properties of all labels in the graph.
- **Category axis labels**: Select this option to update the properties of the labels of the x-axis.
- Value axis labels: Select this option to update the properties of the labels of the values in the y-axis.
- **Row Labels**: Select this option to update the properties of the labels of only the rows.
- Cols labels: Select this option to update the properties of the labels of the columns.
- Legend labels: Select this option to update the properties of the labels for various legends available in the chart.

 Setting 	js		
Title	Label	F	ormat
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Select lab	el		
None			•
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APPLY	C .		



6. Select the font you want to apply from the **Name** list.

▼ Setting	gs			
Title	Label	F	ormat	
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Size				
APPL	Y			

CONFIGURING THE LABEL—SELECTING THE FONT

- Click the style you want to apply. The following styles are available:
 - B: Bold
 - I: Italics
 - U: Underline

- Settin	gs		
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Legend	Quic	<	Trend
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Arial			T
Style			
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Size			
APPL	Y		



CONFIGURING THE LABEL—SELECTING THE STYLE OF THE FONT

8. Select an option from the **Size** list to specify the size of the font.

 Settings 					
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APPLY					

CONFIGURING THE LABEL—SELECTING THE SIZE OF THE FONT

9. Select an option from the **Color** list to specify the color of the font.

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Legend	Quic	k Trend			
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Non	e	•			
	& text				
Size		Î			
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Text trans	sform				
APPL	Y				

CONFIGURING THE LABEL—SELECTING THE COLOR OF THE FONT

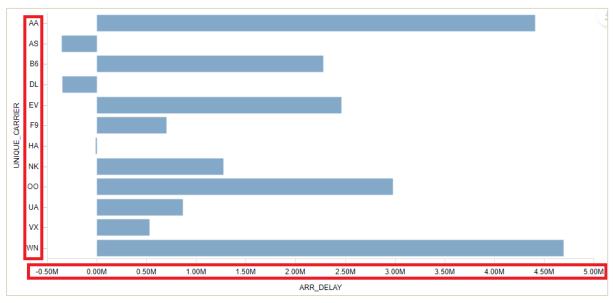
10. Select an option from the Text transformation list to transform the font.

- Settin	gs	
Title	Label	Format
Legend	Quic	k Trend
Select lab	bel	
None	е	*
- Font	& text	
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Color		
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Text trans	form	
Capita	alize	•
APPL	Y	

CONFIGURING THE LABEL—SELECTING AN OPTION FOR TEXT TRANSFORMATION

11. Click APPLY.

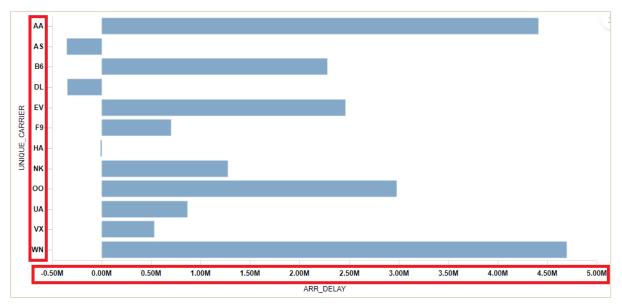
The images below show the before and after scenario for a bar chart after changing the font style of the labels of the category axis and value axis to bold:



Before:



After:



HORIZONTAL BAR CHART

5.4.4 Configuring the Legends of a Chart

You can configure the colors used for various legends in a chart. You can specify whether to use system-specified colors, the same color, a range of color, or specify a color of your choice.

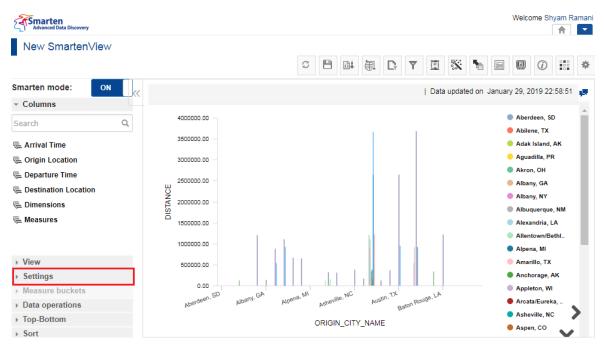
Reference: Concept Manual > Configuring Charts

About this task

Use this task to configure the color of the legends used in a chart for SmartenView.

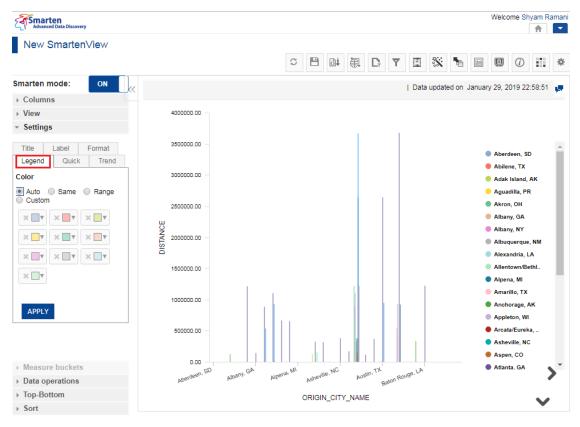
Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Settings** tab.



CONFIGURING THE CHART—THE SETTINGS TAB

4. Click the Legend tab to specify the properties for the title of the chart.



CONFIGURING THE CHART—THE LEGEND TAB



5. Select an option to specify the legend you want to use:

The following options are available:

• Auto: Select this option if you want to use colors specified by the system for legends.

- Settings				
Title	Label	Fo	rmat	
Legend	Quick		Trend	
Color				
 Auto Custon 	Same n		Range	
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CONFIGURING THE LEGEND—THE AUTO OPTION

• **Same**: Select this option to specify the same color from the color pallete for all legends.

 Settings 				
Title	Label	F	Format	
Legend	Quick	(Trend	
Color Auto Custom) Same	0	Range	
#8daacb				
APPLY				

CONFIGURING THE LEGEND—THE SAME OPTION

• **Range**: Select this option to specify a range of hex code of the color to be used for legends.

If you have selected the **Auto** option, the system automatically divides the hex codes of the colors provided equally among the legends. If you have selected the **Custom** option, the system divides the hex codes of the colors by the value you have provided. For example, in the following image, the range from c3c3c3 to 000000 will be divided by 10, and the resultant values will be used for legends. If the number of legends is more than 10, the colors will be repeated.

Title	Label	Format
Legend	Quick	Trend
Color		
O Auto	Same m	Range
Auto	Custo	m
#c3c3c	3	
#00000	00	

CONFIGURING THE LEGEND—THE RANGE OPTION

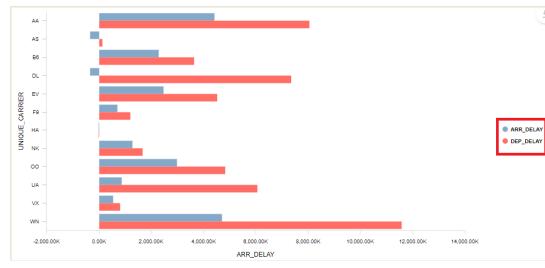
• **Custom**: Select this option if you want to specify the color for an individual legend by selecting a color from the color pallete.

- Setting	js	
Title	Label	Format
Legend	Quick	Trend
Color		
 Auto Custor 		Range
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× 🗖 🔻	× 🗖 🔻	× 🗖 🔻
× 🗖 🔻	× 🔳 🔻	× 🗖 🔻
× 🗖 🔻]	

CONFIGURING THE LEGEND—OPTIONS TO SPECIFY COLORS FOR LEGENDS

6. Click APPLY.

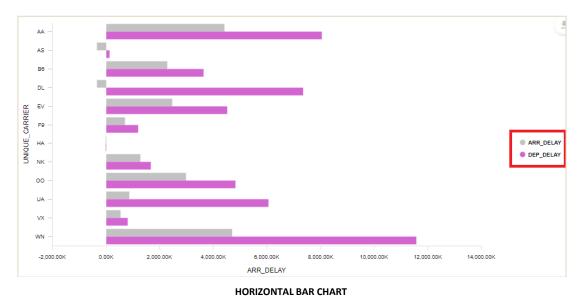
The following images show the before and after scenario for a bar chart after configuring the color combination for the legend:



Before:



After:



5.4.5 Showing All Data Values

You can use this option to display or hide all the data values in the visualization.

Note:

This option is not applicable for Tabular, Tree, Chord, Sunburst, Hierarchy tree, and Bubble types of visualization.

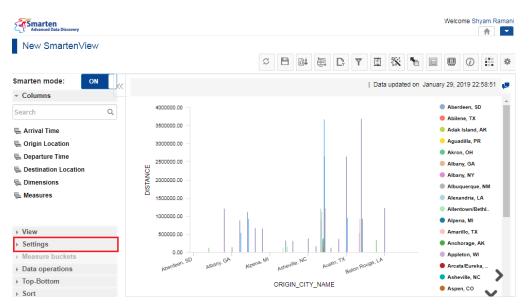
Reference: Concept Manual > Configuring Charts > Settings > Show all data value

About this task

Use this task to show all data values in a chart for SmartenView.

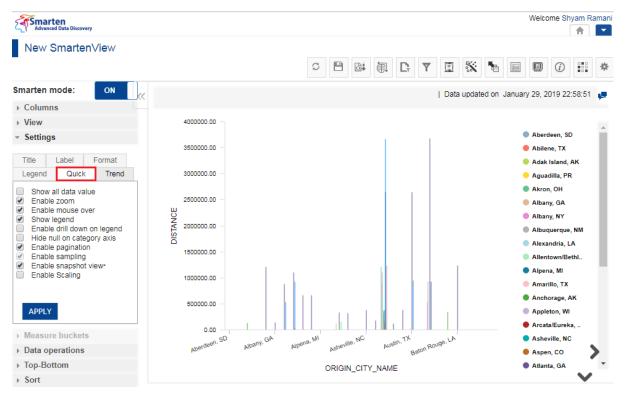
Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Settings** tab.



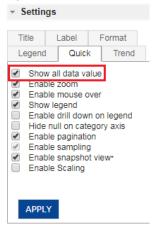
CONFIGURING A CHART—THE SETTINGS TAB

4. Click the Quick tab.



CONFIGURING A CHART—THE QUICK TAB

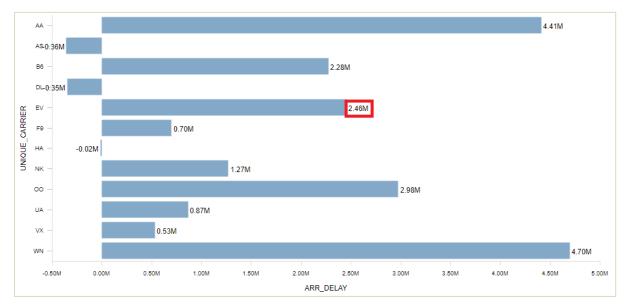
5. Select the Show all data value option.



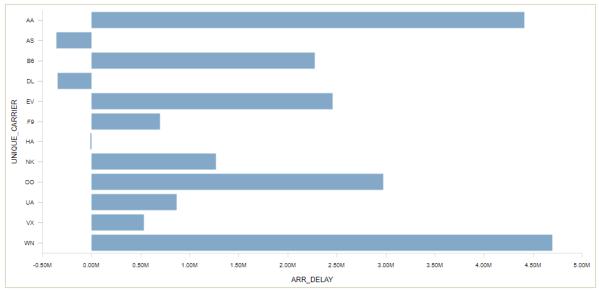
CONFIGURING A CHART—THE SHOW ALL DATA VALUE OPTION

6. Click APPLY.

The images below are examples of a Horizontal bar chart with "Show all data value" as enabled and disabled:







QUICK SETTINGS—SHOW ALL DATA VALUE (DISABLED)

5.4.6 Enabling Zoom

You can enable or disable the ability to zoom in to the visualization. This feature is helpful when there is a lot of data displayed on the chart, and this option allows you to zoom in to a particular section on the chart and view it clearly in close-up. By default, this option is selected.

Note:

This property is not applicable for a Pie chart, Radar charts, Tabular, Tree, Gauge, Chord, Sunburst, Hierarchy tree, Map, and Bubble types of visualizations.

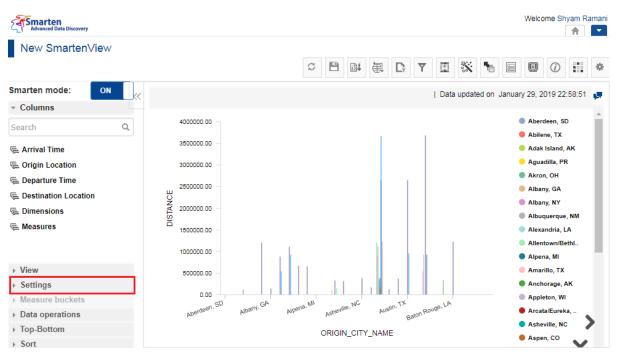
Reference: Concept Manual > Configuring Charts > Settings > Enable zoom

About this task

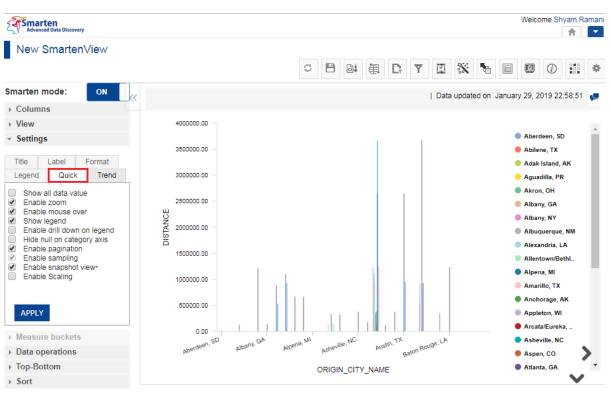
Use this task to enable zoom in on a chart for SmartenView.

Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Settings** tab.



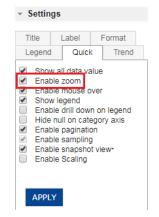
CONFIGURING A CHART—THE SETTINGS TAB



4. Click the Quick tab.

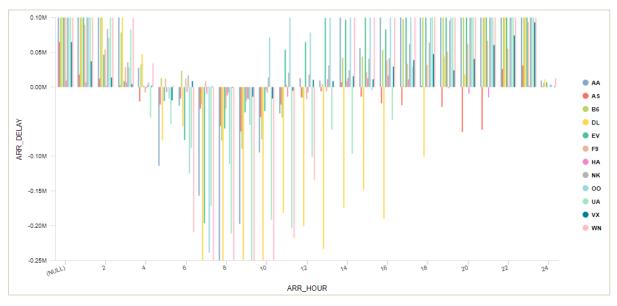
CONFIGURING A CHART—THE QUICK TAB

5. Select the **Enable zoom** option.



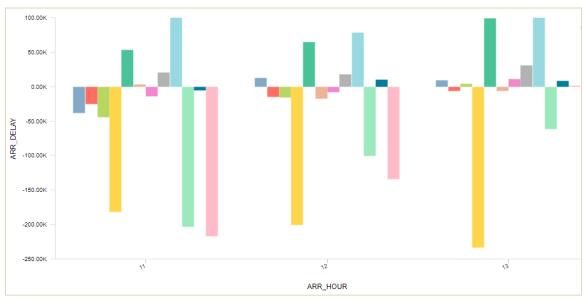
CONFIGURING A CHART—THE ENABLE ZOOM OPTION

6. Click APPLY.



The images below are examples of a Vertical bar chart with zoom in to arrival hour 11, 12, and 13:

VERTICAL BAR CHART



QUICK SETTINGS-ENABLE ZOOM

5.4.7 Enabling Mouse Over

You can display or hide values on the visualization when you move the mouse pointer over the chart. By default, this option is selected.

Note:

This property is not applicable for Tabular, Tree, Gauge, Chord, Sunburst, Hierarchy tree, Map, and Bubble types of visualization.

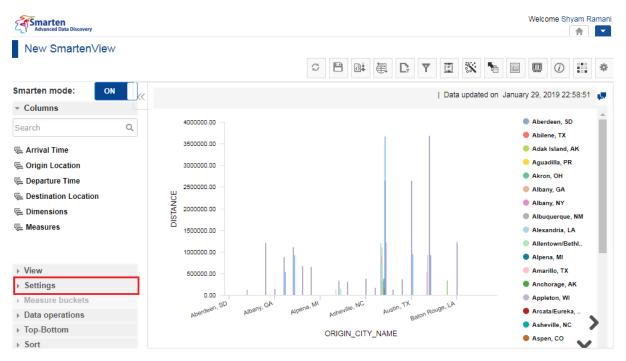
Reference: Concept Manual > Configuring Charts > Settings > Enable mouse over

About this task

Use this task to display values when you hover the mouse pointer in the chart.

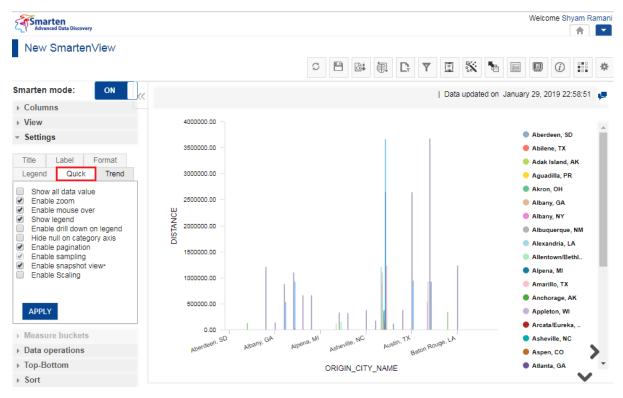
Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Settings** tab.





4. Click the Quick tab.



CONFIGURING A CHART-THE QUICK TAB

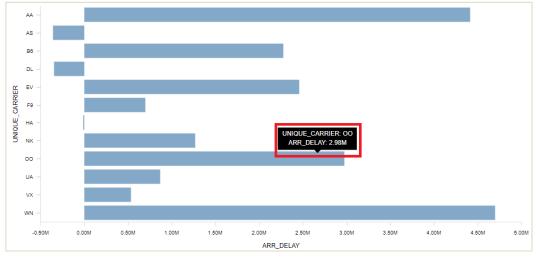
5. Select the **Enable mouse over** option.

Title	Label	Format
Legend	Quick	Trend
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CONFIGURING A CHART-THE ENABLE MOUSE OVER OPTION

6. Click APPLY.

The image below is an example of a Horizontal bar chart with values on mouse over:



QUICK SETTINGS-ENABLE MOUSE OVER

5.4.8 Showing Legends on a Chart

You can show or hide the legend in the visualization. By default, this option is selected.

Note:

This property is not applicable for Tabular, Tree, Gauge, Chord, Sunburst, Hierarchy tree, Map, Bubble, Candlestick, and high/low, open/close types of visualization.

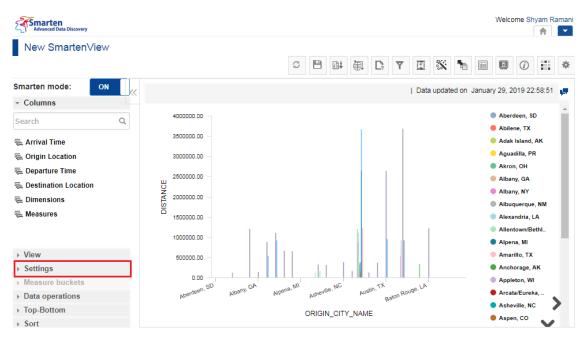
Reference: Concept Manual > Configuring Charts > Settings > Show legend

About this task

Use this task to show legends in a chart.

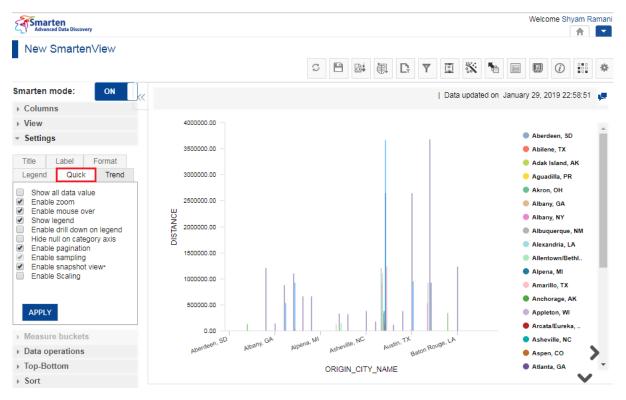
Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Settings** tab.



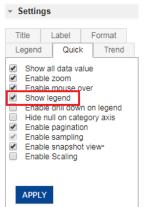
CONFIGURING A CHART-THE SETTINGS TAB

4. Click the Quick tab.



CONFIGURING A CHART—THE QUICK TAB

5. Select the **Show legend** option.

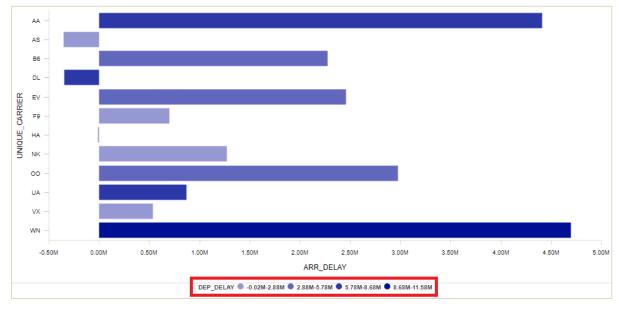


CONFIGURING A CHART—THE SHOW LEGEND OPTION

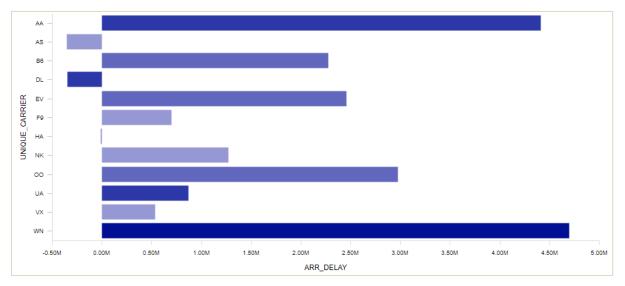
6. Click APPLY.

The images below are examples of a Horizontal bar chart with "Show legend" as enabled and disabled:





QUICK SETTINGS—SHOW LEGEND (ENABLED)



QUICK SETTINGS—SHOW LEGEND (DISABLED)

5.4.9 Enabling Drill Down on Legends

You can enable or disable drill down on legend. This option allows you to drill down to different dimensions from the legend to access specific information.

Note:

This property is not applicable for Tabular, Tree, Gauge, Chord, Sunburst, Hierarchy tree, Map, Bubble, Candlestick, and high/low, open/close types of visualization.

Reference: Concept Manual > Configuring Charts > Settings > Enable drill down on legend

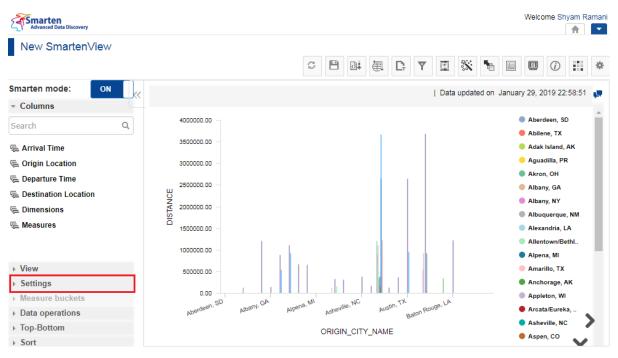
About this task

Use this task to enable drill down on legends in a chart.

Procedure

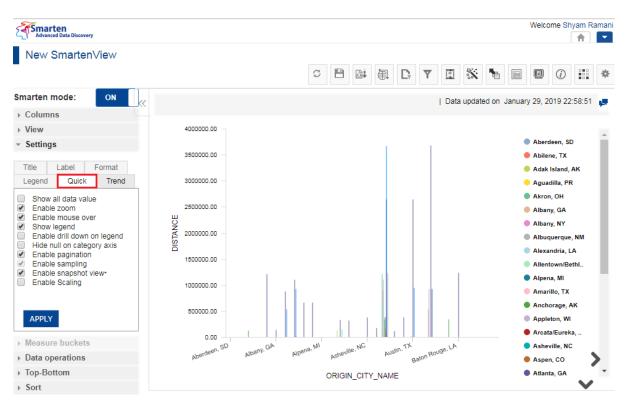
- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.

3. Click the Settings tab.



CONFIGURING A CHART—THE SETTINGS TAB

4. Click the Quick tab.



CONFIGURING A CHART-THE QUICK TAB

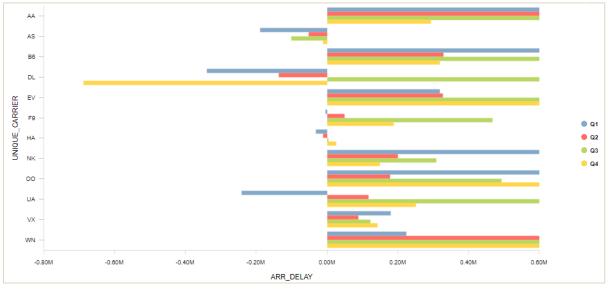
5. Select the Enable drill down on legend option.



CONFIGURING A CHART—THE ENABLE DRILL DOWN ON LEGEND OPTION

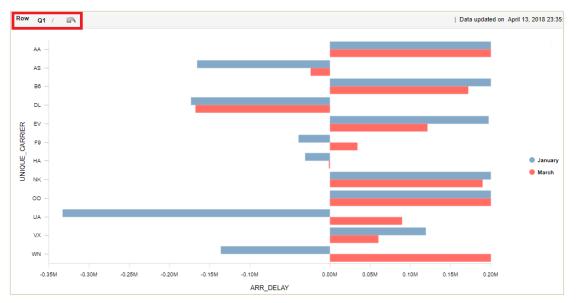
6. Click **APPLY**.

The images below are examples of a Horizontal bar chart showing arrival delay of each carrier for all four quarters of the year.

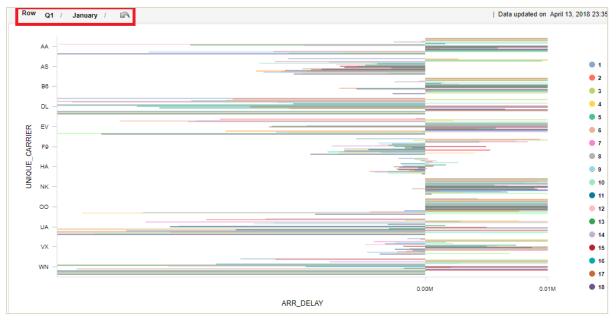


HORIZONTAL BAR CHART

When the "Enable drill down on legend" property is enabled, users can drill down each quarter to months, which in turn can be further drilled down to each day and so on until the last dimension is reached.



QUICK SETTINGS-ENABLE DRILL DOWN ON LEGEND (ENABLED)



QUICK SETTINGS—ENABLE DRILL DOWN ON LEGEND (ENABLED)

When the "Enable drill down on legend" property is disabled, users cannot drill down from the legend. Instead, they can choose to show or hide the information related to any of the legend label, quarters in this case.

5.4.10 Hiding Null Values on the Category Axis

You can show or hide the null values of the category axis. For example, the flight data contains information related to the distance covered by flights belonging to various carriers for various states. All carriers may not be available for all states. In such cases, the visualization will not display any information for carriers that do not operate in a state.

Note:

This property is not applicable for Pie chart, Radar chart, Combined chart, XY Chart, HeatMap, Histogram, Tabular, Tree, Gauge, Chord, Sunburst, Hierarchy tree, Map, Bubble, Candlestick, and high/low, open/close types of visualization.

Reference: Concept Manual > Configuring Charts > Settings > Hide null on category axis

About this task

Use this task to hide the null values on the category axis.

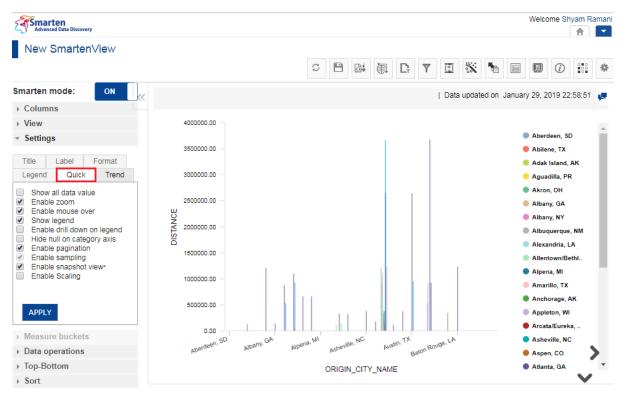
Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Settings** tab.

Advanced Data Discovery			Welcome Shyam Ramani
New SmartenView			
Smarten mode: ON		Data updated or	n January 29, 2019 22:58:51 🚛
Search Q	400000.00		 Aberdeen, SD Abilene, TX
🖷 Arrival Time	3500000.00 -		😑 Adak Island, AK
🖷 Origin Location	300000.00 -		 Aguadilla, PR Aluara, OU
🖶 Departure Time	250000.00 -		Akron, OH Albany, GA
🖷 Destination Location	Ш V V V V V V V V V V V V V V V V V V V		Albany, NY
🖷 Dimensions	₹ 2000000.00 – S		Albuquerque, NM
🖶 Measures	150000.00 -		Alexandria, LA
	4000000.00		Allentown/Bethl
	100000.00		Alpena, MI
▶ View	500000.00 -		Amarillo, TX
▹ Settings	0.00		Anchorage, AK
▹ Measure buckets	Aberdeen, SD	Albany, GA Alpena, MI Astreville, NC Auglin, TX Balon Rouge, LA	Appleton, WI
Data operations	Aberdeum	Albany, GA Alpena, MI Adventile, NC Austin, TX Baton Rouge, CA	 Arcata/Eureka, Asheville, NC
▶ Top-Bottom		ORIGIN_CITY_NAME	Asheville, NC
▹ Sort			- Aspen, CO

CONFIGURING A CHART—THE SETTINGS TAB

4. Click the **Quick** tab.



CONFIGURING A CHART—THE QUICK TAB

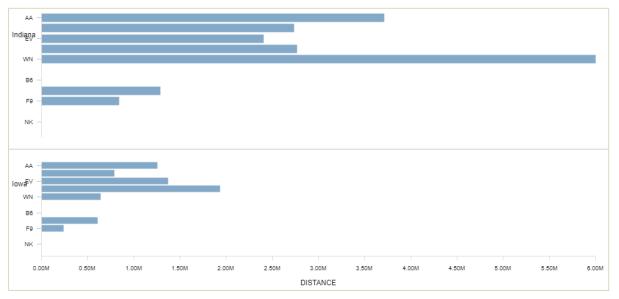
5. Select the Hide null on category axis option.

	e	Label	Form	at
Leg	gend	Quick	Tr	rend
	Enable Enable Show le Enable Hide nu Enable Enable	mouse o	ver on lege gory ax	

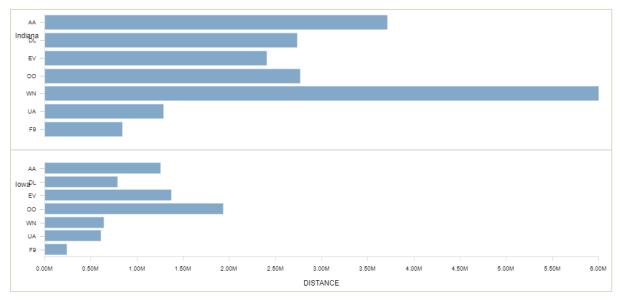
CONFIGURING A CHART—THE HIDE NULL ON CATEGORY AXIS OPTION

6. Click APPLY.

The images below are examples of a Horizontal bar chart with "Hide null on category axis" as disabled and enabled:







QUICK SETTINGS—HIDE NULL ON CATEGORY AXIS (ENABLED)

5.4.11 Enabling Pagination

You can enable pagination to navigate through the multiple pages of the visualization. By default, this option is selected.

Note:

This property is available only when there are multiple pages in the visualization. It is not available for Pie, Radar, Candlestick, high/low, open/close, Chord, Sunburst, Hierarchy tree, Bubble, and Map types of visualization.

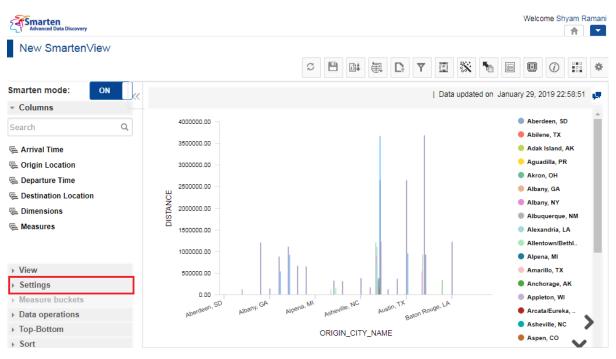
Reference: Concept Manual > Configuring Charts > Settings > Enable pagination

About this task

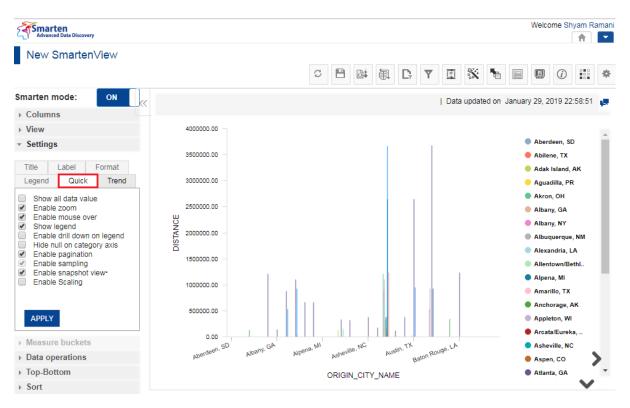
Use this task to enable pagination in the chart.

Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Settings** tab.



CONFIGURING A CHART—THE SETTINGS TAB



4. Click the **Quick** tab.

CONFIGURING A CHART—THE QUICK TAB

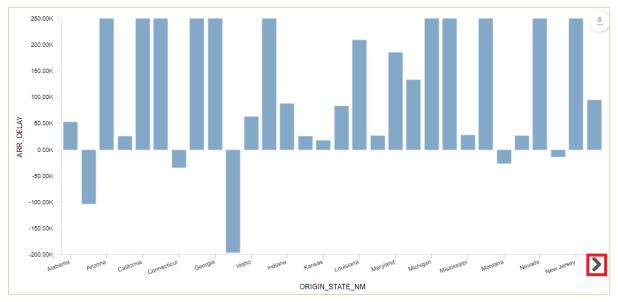
5. Select the Enable pagination option.



CONFIGURING CHART - THE ENABLE PAGINATION OPTION

6. Click APPLY.

The image below is an example of a Horizontal bar chart with "Enable pagination" enabled:



QUICK SETTINGS-ENABLE PAGINATION (ENABLED)

5.4.12 Enable Sampling of Data for Visualization

Rendering visualization with a large amount of data takes a lot of time, or sometimes visualization loses the purpose. To overcome this, Smart Visualization allows visualization to be created with a sample of such data instead of the whole data.

This option allows you to choose whether or not a sample data should be considered to create visualization. This option is applied automatically for large data, and visualization is displayed for the sample data with "Enable pagination" property automatically turned on. You can turn off this option to generate visualization using the whole data.

Note: The size of the sample depends upon the size of the data.

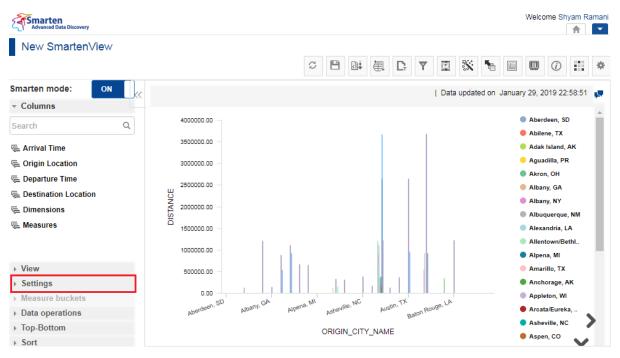
Reference: Concept Manual > Configuring Charts > Settings > Enable sampling

About this task

Use this task to enable sampling of data for visualization.

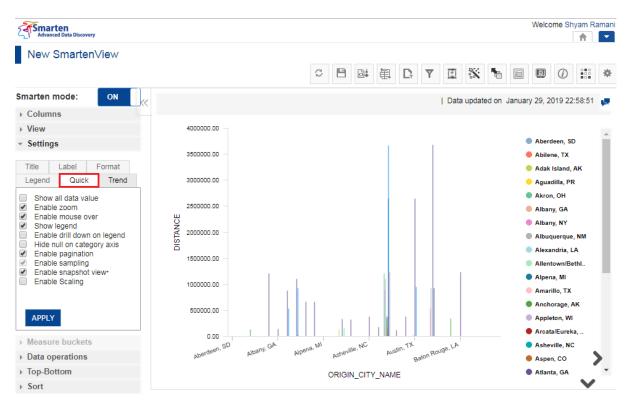
Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Settings** tab.



CONFIGURING A CHART—THE SETTINGS TAB

4. Click the Quick tab.



CONFIGURING A CHART—THE QUICK TAB

5. Select the Enable sampling option.

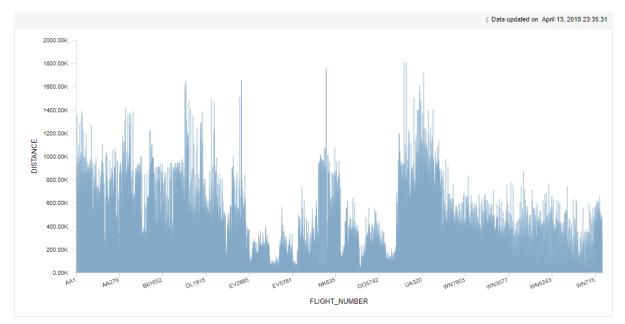


CONFIGURING A CHART—THE ENABLE SAMPLING OPTION

6. Click APPLY.

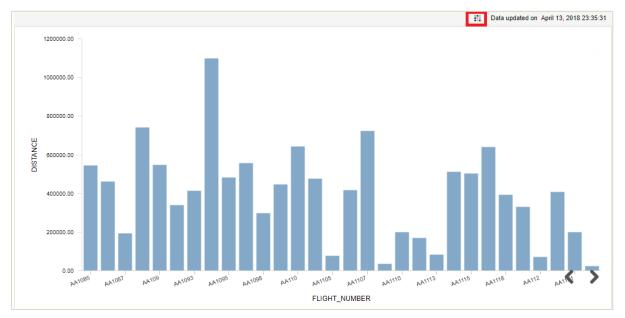
Smarten

The following image is an example of a Vertical bar chart displaying complete data containing more than 2.5 million records without any sampling applied:



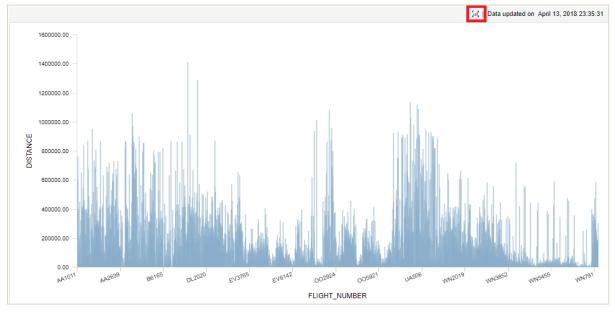
QUICK SETTINGS-ENABLE SAMPLING (DISABLED)

The following image is an example of a Vertical bar chart with "Enable sampling" as enabled and "Enable pagination" as enabled for data containing more than 2.5 million records:



QUICK SETTINGS-ENABLE SAMPLING (ENABLED)

The following image is an example of a Vertical bar chart with "Enable sampling" as enabled and "Enable pagination" as disabled for data containing more than 2.5 million records:



QUICK SETTINGS-ENABLE SNAPSHOT VIEW (ENABLED)

5.4.13 Enabling Snapshot View

You can create a snapshot of the visualization for a large amount of data using a sample of such data instead of the whole data. This option allows for understanding the trends by creating meaningful visualizations for a large amount of data.

This feature automatically detects a large amount of data and creates a snapshot view by using the sample data from the large data. When this option is selected, the system automatically applies to the sample as and when required to display the best possible visualization.

You can also turn off the option to generate visualization using the whole data.

Note:

This property is not available for the Tabular type of visualization. The size of the sample depends upon the type of visualization.

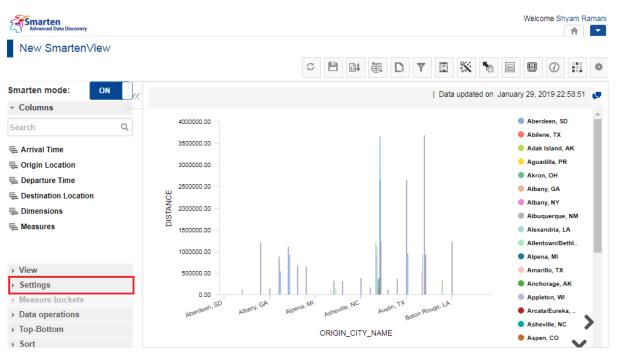
Reference: Concept Manual > Configuring Charts > Settings > Enable snapshot view

About this task

Use this task to enable a snapshot view for a chart.

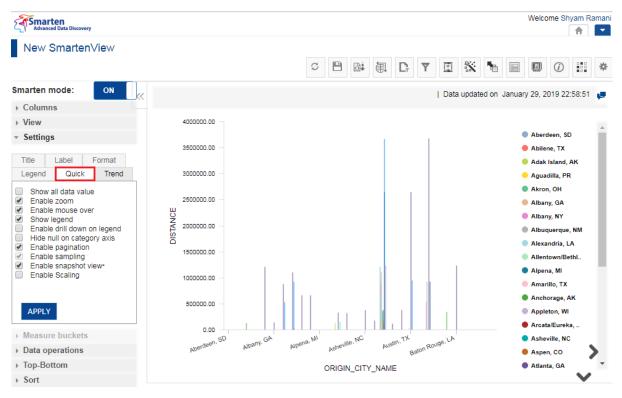
Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Settings** tab.



CONFIGURING A CHART—THE SETTINGS TAB

4. Click the Quick tab.



CONFIGURING A CHART-THE QUICK TAB

5. Select the Enable snapshot view option.

	d Quick w all data va	
	w all data va	
 Sho Ena Hide Ena Ena Ena 	ble zoom ble mouse o w legend ble drill dow e null on cate ble paginatio ble sampling ble snapsho	n on legend egory axis on
Ena	ble Scaling	

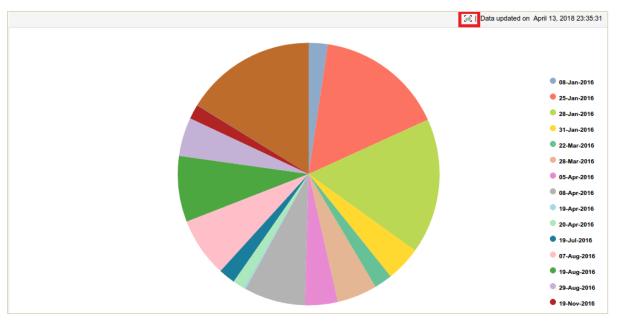
CONFIGURING A CHART—THE ENABLE SNAPSHOT VIEW OPTION

6. Click APPLY.

The following images are examples of a Pie chart generated for data containing more than 2.5 million records with "Enable snapshot view" property turned off and on:



QUICK SETTINGS—ENABLE SNAPSHOT VIEW (DISABLED)



QUICK SETTINGS—ENABLE SNAPSHOT VIEW (ENABLED)

The following images are examples of a Hierarchy tree generated for data containing more than 2.5 million records with "Enable snapshot view" property turned off and on:

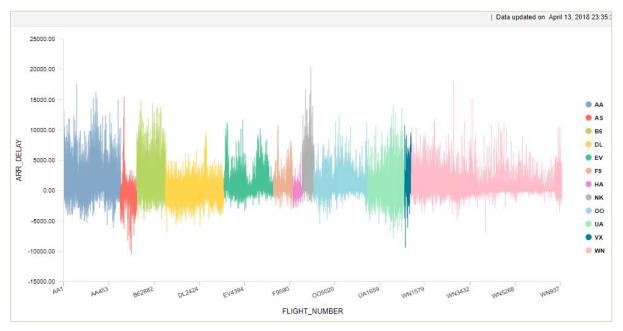


QUICK SETTINGS—ENABLE SNAPSHOT VIEW (DISABLED)

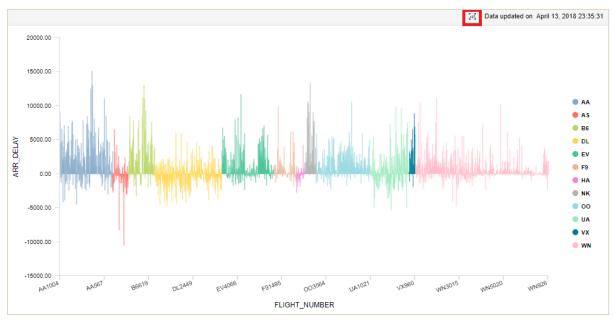


QUICK SETTINGS—ENABLE SNAPSHOT VIEW (ENABLED)

The following images are examples of a Bar chart generated for data containing more than 2.5 million records with "Enable snapshot view" property turned off and on:



QUICK SETTINGS—ENABLE SNAPSHOT VIEW (DISABLED)



QUICK SETTINGS-ENABLE SNAPSHOT VIEW (ENABLED)

5.4.14 Enabling Scaling

You can enable or disable the scale of visualization. When there is a huge variation in data and scaling is not applied, data points representing lower values are too small, and those representing higher values are too big. In such a scenario, data points with disproportionate sizes affect the interpretation of the chart. When this option is enabled, the system applies to scale on the axis values and generates meaningful visualizations by keeping the proportions aligned with the data.

Note:

This property is available only for Vertical and Horizontal bar charts, Line charts, and Combined charts.

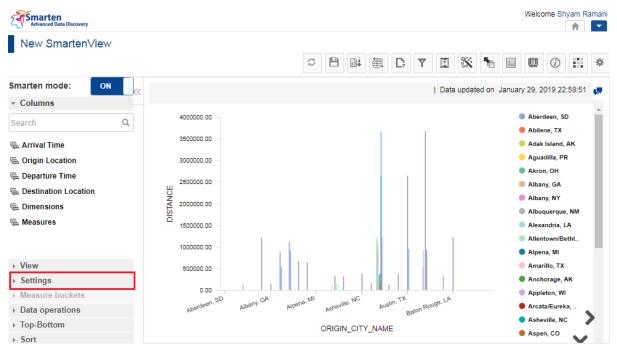
Reference: Concept Manual > Configuring Charts > Settings > Enable scaling

About this task

Use this task to enable scaling of data for a chart.

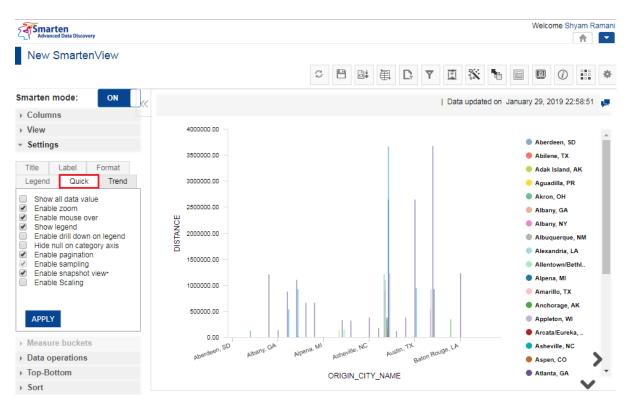
Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Settings** tab.



CONFIGURING A CHART—THE SETTINGS TAB

4. Click the Quick tab.



CONFIGURING A CHART—THE QUICK TAB

5. Select the Enable Scaling option.

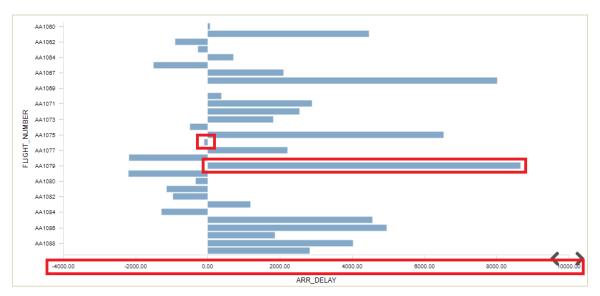


CONFIGURING CHART – THE ENABLE SCALING OPTION

6. Click APPLY.

Smarten

The following images are examples of a Horizontal bar chart with "Enable scaling" as disabled and enabled:



QUICK SETTINGS—ENABLE SCALING (DISABLED)



QUICK SETTINGS-ENABLE SCALING (ENABLED)

5.4.15 Performing Data Operations on a Chart

You can perform various operations on the values of a chart.

Reference: Concept Manual > Configuring Charts > Operations on charts > Data operations

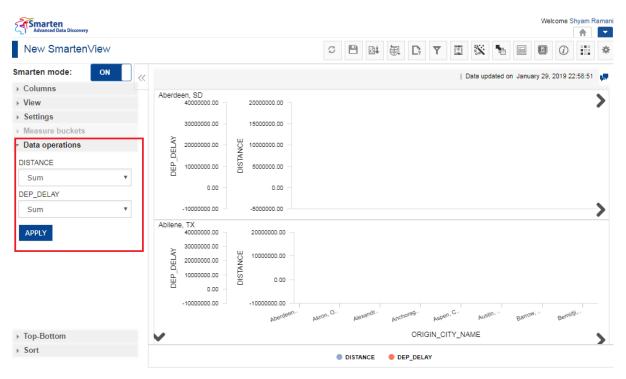
About this task

Use this task to perform data operations on a chart for SmartenView.

Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Data operations** tab.

The columns you have added from the Measures node are available.



CONFIGURING A CHART-THE DATA OPERATIONS TAB

4. Select an option from the list for each Measure column you have added for the chart.

The following options are available:

- Sum
- Average
- Effective average
- Count
- Effective count
- Maximum
- Minimum
- First
- Last
- Row group percentage

- Column percentage
- Column group percentage
- Total percentage
- Relative row difference
- Relative row difference percentage
- Relative column group difference
- Relative column group difference percentage
- Row cumulative sum
- Row group cumulative sum
- Least recent value
- Most recent value
- Distinct
- 5. Click APPLY.

5.4.16 Top-Bottom Ranking in a Chart

You can view dimension values that have the highest and the lowest values for a measure in a chart. You can select the Dimension column and the Measure column based on which the topmost or the bottommost dimensions are displayed. You specify the number of Dimension values that are displayed in a chart.

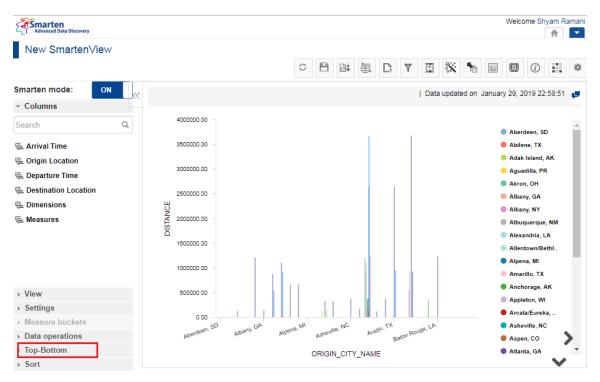
Reference: Concept Manual > Configuring Charts > Operations on charts > Top bottom

About this task

Use this task to view the top and bottom values in a chart.

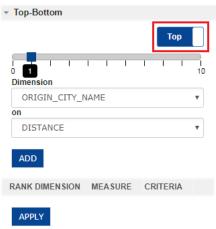
Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Top-Bottom** tab.



CONFIGURING A CHART-THE TOP-BOTTOM TAB

4. Click the top-bottom slider to specify whether you want to display the highest value or the lowest value.



THE TOP-BOTTOM TAB—THE TOP-BOTTOM TOGGLE OPTION

5. Click the slider to specify the number of highest or lowest values to be displayed.

 Top-Bottom 			
		Тор	
		1 1 1	l 10
ORIGIN_CITY_N	AME		
	ALIE		
on			_
DISTANCE			*
ADD			
RANK DIMENSION	MEASURE	CRITERIA	
APPLY			

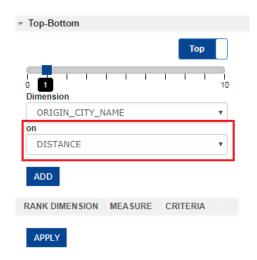
THE TOP-BOTTOM TAB—SPECIFY NUMBER OF VALUES TO BE EXTRACTED

6. Select an option from the **Dimension** list to specify the dimension for which you want to display the highest or lowest values.

 Top-Bottom 			
		Тор	
		1 1 1	l 10
Dimension			
ORIGIN_CITY_N	AME		•
on			_
DISTANCE			•
ADD			
RANK DIMENSION	MEASURE	CRITERIA	
APPLY			

THE TOP-BOTTOM TAB—THE DIMENSION LIST

7. Select an option from the **on** list to specify the measure based on which you want to display highest or lowest values.



THE TOP-BOTTOM TAB—THE ON LIST

- 8. Click ADD.
- 9. You can perform steps 4 to 8 to add more than one criteria for displaying the highest or lowest values.
- 10. Click APPLY.

5.4.17 Sorting Values in a Chart

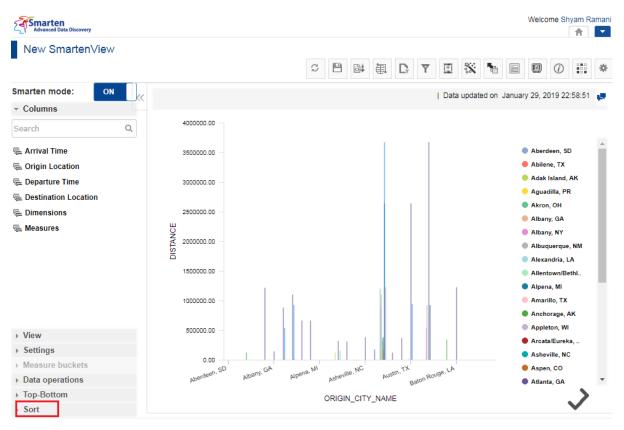
You can arrange the values of Dimension columns in a chart in ascending or descending order.

Reference: Concept Manual > Configuring Charts > Operations on charts > Sort

About this task

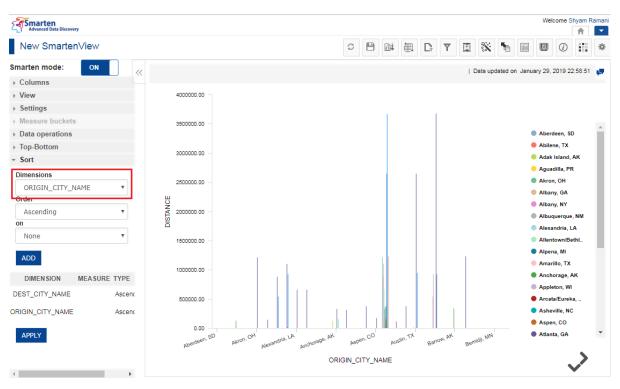
Use this task to arrange values of a Dimension column in ascending or descending order in the chart.

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Sort tab.



CONFIGURING A CHART—THE SORT TAB

4. Select a Dimension column from the Dimensions list.



SORTING VALUES—SELECTING THE COLUMN TO SORT

5. Select an option from the **Order** list to specify whether you want to sort the values in ascending or descending order.

✓ Sort		
Dimensions		
ORIGIN_CITY_N	IAME	•
Order		
Ascending		•
None		T
ADD		
DIMENSION	MEASURE	түре
DEST_CITY_NAME		Ascent
ORIGIN_CITY_NAME		Ascent
APPLY		

SORTING VALUES—SELECTING THE SORT ORDER

6. Select the Measure column from the **on** list, and then click **ADD**.

▼ Sort	
Dimensions	
ORIGIN_CITY_N	AME 🔻
Order	
Ascending	•
on	
None	•
ADD	
DIMENSION	MEASURE TYPE
DEST_CITY_NAME	Ascent
ORIGIN_CITY_NAME	Ascenc
APPLY	

SORTING VALUES—SELECTING THE MEASURE COLUMN

Select None if you want to sort a chart by dimension values. Select a particular measure if you want to sort by measure values. The selected parameters for sorting are added.

7. Click APPLY.

5.5 Operations on Charts

Smart visualization allows users to perform various operations on the charts, such as apply sampling, outliers, data operations, filters, sorting, ranking, and other functions.

5.5.1 Data Operations

You can perform various data operations on the measures of charts by using an extensive collection of functions.

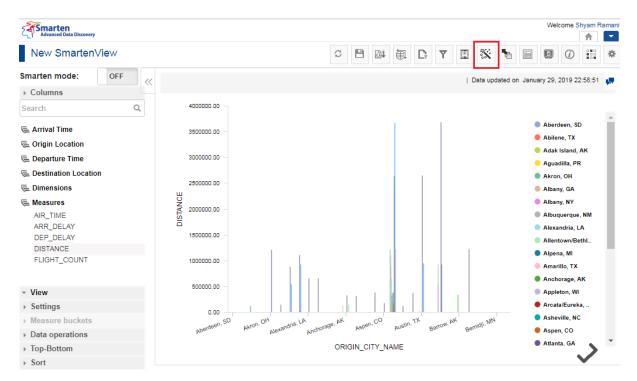
Reference: Concept Manual > Operations on Charts > Data Operations

About this task

Use this task to perform data operations on a chart for SmartenView.

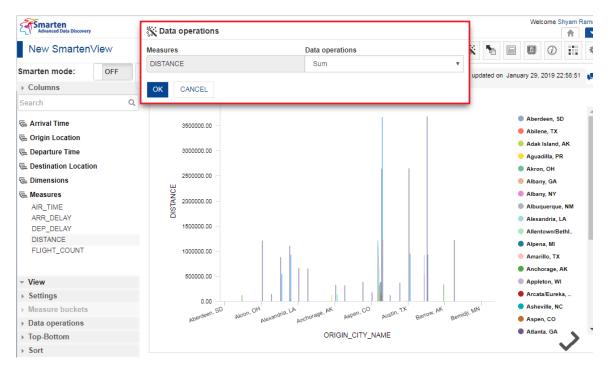
Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Data operations option on the toolbar.



OPERATIONS ON A CHART—THE DATA OPERATIONS OPTION

The system displays the **Data operations** dialog box.



OPERATIONS ON A CHART—THE DATA OPERATIONS BOX

4. Select an option from the Data operations list.

🔆 Data operations				
Measures	Data operations			
DISTANCE	Sum	•		
OK CANCEL	<u>.</u>			

OPERATION ON A CHART—THE DATA OPERATIONS LIST

The following options are available:

- Sum
- Average
- Effective average
- Count
- Effective count
- Maximum
- Minimum
- First
- Last
- Row group percentage
- Column percentage
- Column group percentage
- Total percentage
- Relative row difference
- Relative row difference percentage
- Relative column group difference
- Relative column group difference percentage
- Row cumulative sum

- Row group cumulative sum
- Least recent value
- Most recent value
- Distinct
- 5. Click OK.

5.5.2 Top-Bottom Rank

Ranking is the positioning of one value in comparison with other values. It is used to display top *n* or bottom *n* data values. In Smarten, you can rank dimensions on columns. The remaining values that are not part of the ranking are grouped as "others."

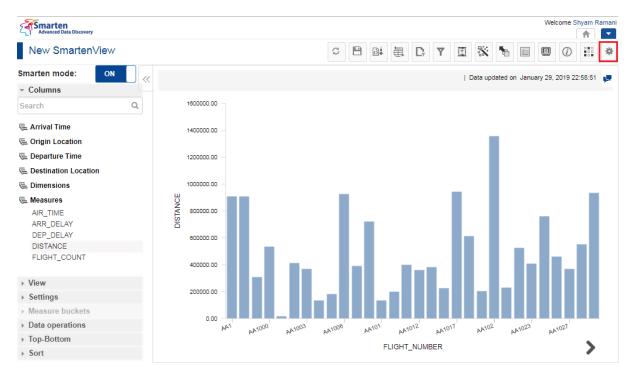
Reference: Concept Manual > Filters and Expressions > Rank

About this task

Use this task to assign ranks to columns for SmartenView.

Procedure

- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Settings icon on the toolbar.



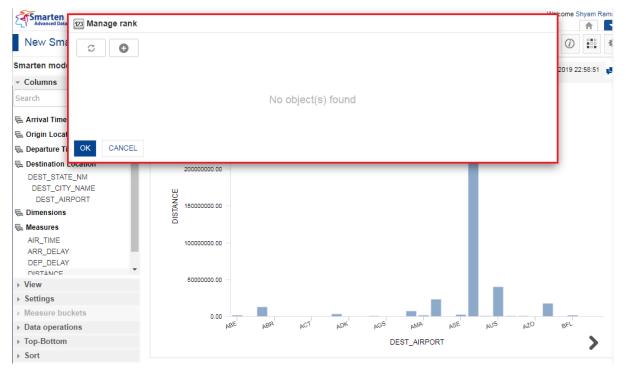
OPERATIONS ON A CHART—THE SETTINGS ICON

4. Click the Manage rank icon.

Advanced Data Discovery											Welcon	ne Shyam I	Ramani
New SmartenView					S 🗎			Y	* 1			D	*
Smarten mode: ON	«						F		: 123	VDDC VDHC		32 🕄	6
- Columns													
Search	Q	30000000.00											
🖷 Arrival Time													
🖷 Origin Location		25000000.00 -											
🖶 Departure Time													
Network Contraction		20000000.00 -											
DEST_STATE_NM		20000000.00											
DEST_CITY_NAME		н											
DEST_AIRPORT		U V Y S S S S S											
🖷 Dimensions		LSIC											
🔁 Measures													
AIR_TIME		10000000.00											
ARR_DELAY													
DEP_DELAY	-												
► View		5000000.00 -											
 Settings 													
Measure buckets													
		0.00 ABE	ABR	ACT	ADK	AGS	AMA	ASE	AUS	NZO	BF	N.	
Data operations		P.D.	P.D.	Poor .	PD.				P0	PLO	Br		
▹ Top-Bottom						DE	ST_AIRPOR	T				>	
▹ Sort													

OPERATIONS ON A CHART—THE MANAGE RANK OPTION

The system displays the Manage rank dialog box.





5. Click the Add icon.

C C		
	No object(s) found	
OK CANCEL		

OPERATIONS ON A CHART—THE ADD RANK OPTION

The system displays the **Add rank** dialog box.

Advanced Data Discovery	23 Add rank	Welcome Shyam Ram
New SmartenView	Name	* 🐂 🗉 🔍 🏭 *
Smarten mode: ON	Rank - 1 Rank dimension	updated on January 29, 2019 22:58:51 📮
- Columns	DEST_AIRPORT V	
Search Q	Measures	
🖷 Arrival Time	DISTANCE	
🖶 Origin Location	Ranking criteria	
🖶 Departure Time	Top Bottom	
 Destination Location DEST_STATE_NM DEST_CITY_NAME DEST_AIRPORT Dimensions 	5 Band rank value Show others OK CANCEL	
Measures AIR_TIME ARR_DELAY DEP_DELAY DISTANCE	10000000.00 -	
▶ View	5000000.00 -	
▹ Settings		
 Measure buckets 		
 Data operations 	BEA AMA EDA XOA TOA RBA BBA	AUS AZO BEL
▶ Top-Bottom	DEST_AIRPORT	>
▹ Sort		

OPERATIONS ON A CHART-THE ADD RANK DIALOG BOX

- 6. Specify a name for the rank in the **Name** field.
- 7. Select a dimension from the **Rank dimension** list.
- 8. Select a measure from the Measures list.
- 9. Select the **Top** or the **Bottom** option to specify the ranking criteria.
- 10. Specify the number of values on which you want to apply ranking the Ranking Criteria field.
- 11. Select the Band rank value option to apply band ranking.
- 12. Select the Show others option to show other columns.
- 13. Click OK.

5.5.3 Sort

Data can be sorted in ascending, descending, and custom (user defined) orders, using particular Dimension or Measure fields.

Reference: Concept Manual > Analytic Functions > Sort

5.5.3.1 Simple Sort

Simple sorting in ascending or descending order.

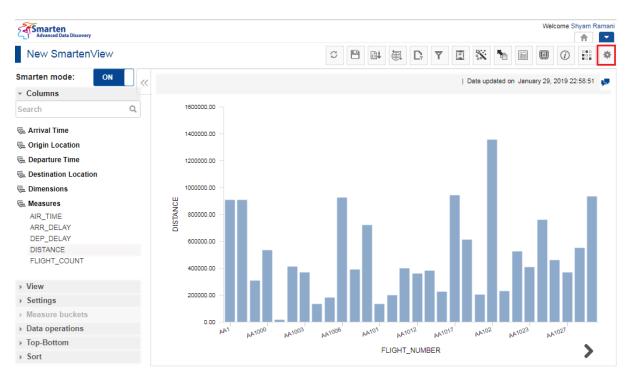
Reference: Concept Manual > Analytic Functions > Sort > Simple Sort

About this task

Use this task to manage simple sort on columns.

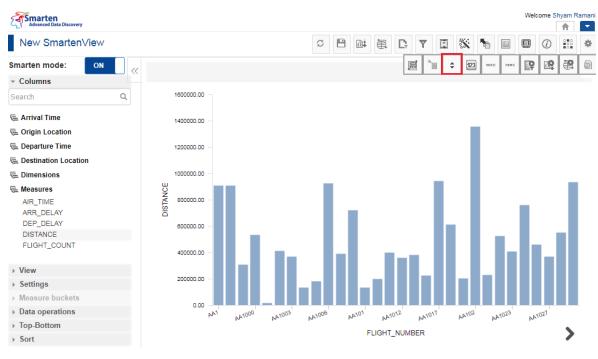
Procedure

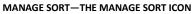
- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Settings icon on the toolbar.



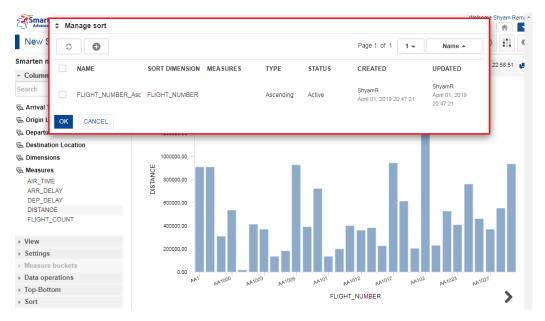
MANAGE SORT—THE SETTINGS ICON

4. Click the Manage sort icon.





The system displays the Manage sort dialog box.



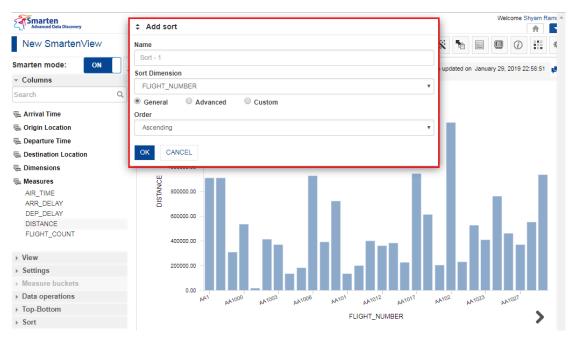


5. Click the Add icon.

						Page 1 of 1 1 -	Name 🔺
NA	AME	SORT DIMENSION	MEASURES	TYPE	STATUS	CREATED	UPDATED
FL	.IGHT_NUMBER_Asc	FLIGHT_NUMBER		Ascending	Active	ShyamR April 01, 2019 20:47:21	ShyamR April 01, 2019 20:47:21

MANAGE SORT-THE ADD ICON

The system displays the Add sort dialog box.



MANAGE SORT-THE ADD SORT DIALOG BOX

- 6. Specify a name for the sort in the **Name** field.
- 7. Select an option from the **Sort Dimensions** list to specify the column on which you want to apply sort.
- 8. Click the General option.
- 9. Select an option from the **Order** list to specify the sort order, and then click **OK**.

5.5.3.2 Advanced Sort

Users can also apply sorting of data by using various data operations on a particular measure. For example, users can sort the ProductCategory column in "descending" order on the Sum of GrossSales for the state of Arizona.

Reference: Concept Manual > Analytic Functions > Sort > Advance Sort

About this task

Use this task to manage advanced sort on columns.

- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Specify a name for the sort in the **Name** field.

Name	
Sort - 1	
Sort Dimension	
DEST_AIRPORT	•
General Advanced Custom	
Order	
Ascending	•
on	
DISTANCE	•
Data operation of "DISTANCE"	
Sum	
OK CANCEL	

ADVANCED SORT—ADDING CRITERIA FOR ADVANCED SORT

- 4. Select an option from the **Sort Dimensions** list to specify the column on which you want to apply sort.
- 5. Click the **Advanced** option.
- 6. Select an option from the **Order** list to specify the sort order.
- 7. Select an option from the on list to specify the measure column on which you want to apply the sort.
- 8. Select an option from the **Data operation** list, and then click **OK**.

5.5.3.3 Custom Sort

Users can also sort data in custom order based on specific requirements.

Reference: Concept Manual > Analytic Functions > Sort > Custom Sort

About this task

Use this task to manage custom sort on columns.

- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Specify a name for the sort in the **Name** field.
- 4. Select an option from the **Sort Dimensions** list to specify the column on which you want to apply sort.
- 5. Click the **Custom** option.
- 6. Select the values from the **Available Values** section that you want to use to specify sort order.

-	Δdd	sort

Name				
Sort - 1				
Sort Dimensio	on			
DEST_AIRF	PORT			Ŧ
General	Advanced	Custom		
Available Valu	ies		Select values	
		0		0
ABI		+ *	\$ ABE	-
ABR		+	‡ ABQ	-
ACK		+	\$ ABY	-
ACT		+		
ACV		+		
ACY		+		
		+		
ADK				

CUSTOM SORT—SELECT THE VALUES

- 7. You can rearrange the selected values to specify the sort order.
- 8. Click **OK**.

5.5.4 Grouping Dimension Values in a Chart

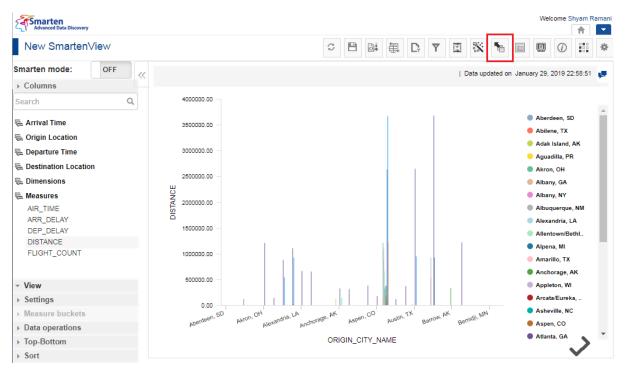
You can use the Group option to merge two or more Dimension values. Users can create multiple groups for a Dimension. In case there is more than one Dimension in the visualization, users can create groups for multiple Dimensions as well.

Reference: Concept Manual > Operations on charts > Group

About this task

Use this task to group data of various columns in a chart for SmartenView.

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Group option on the toolbar.





The system displays the Group dialog box.

Advanced Data Discovery	The Group	Welcome Shyam Ram
New SmartenView	Name	X 🐂 🗐 🗊 📰 🕴
Smarten mode: OFF	Graph - Group - 1	
	Group label	updated on January 29, 2019 22:58:51 📮
Columns	Group - 1	
Search Q	Dimensions	_
🖷 Arrival Time	ORIGIN_CITY_NAME	Aberdeen, SD
🖷 Origin Location	Dimensions Select values	 Abilene, TX Adak Island, AK
🖶 Departure Time	ORIGIN_CITY_NAME	Aguadilla, PR
hestination Location		Akron, OH
🖷 Dimensions	ADD NEW	Albany, GA
🖶 Measures	Name Group label Dimensions Value	Albany, NY
AIR_TIME		Albuquerque, NM
ARR_DELAY		Alexandria, LA
DEP_DELAY DISTANCE		Allentown/Bethl.
FLIGHT_COUNT		 Alpena, MI
	OK CANCEL	Amarillo, TX
	500000.00	Anchorage, AK
- View		Appleton, WI
▹ Settings		Arcata/Eureka,
Measure buckets	Aberdeen, SD Akron, OH Nexandria, IA Aspen, CO Austin, TX Barrow, AK	emidl ^{I, MN} Asheville, NC Aspen, CO
▹ Data operations	Aperus An Alexan Anchoros Ash, Aus Ban, B	
▹ Top-Bottom	ORIGIN_CITY_NAME	Atlanta, GA
▹ Sort		×

OPERATIONS ON A CHART—THE GROUP DIALOG BOX

4. Type a name for the group in the **Name** field.

Group			
Name			
Graph - Group - 1			
Group label			
Group - 1			
Dimensions			
ORIGIN_CITY_NAI	ME		•
Dimensions		Select values	
ORIGIN_CITY_NAM	E		
ADD NEW			
Name	Group label	Dimensions Val	ue
OK CANCEL			

GROUPING DATA—SPECIFY NAME FOR THE GROUP

5. Type a name for the group label in the **Group label** field.

🖣 Group			
Name			
Graph - Group - 1			
Group label			
Group - 1			
Dimensions			
ORIGIN_CITY_NA	ME		•
Dimensions		Select values	
ORIGIN_CITY_NAM	IE		
ADD NEW			
Name	Group label	Dimensions Value	
OK CANCEL			

GROUPING DATA—SPECIFY A NAME FOR THE GROUP LABEL

6. Select a Dimension column whose data you want to group from the **Dimensions** list.

Group			
Name			
Graph - Group - 1			
Group label			
Group - 1			
Dimensions			
ORIGIN_CITY_N	AME		•
Dimensions		Select values	
ORIGIN_CITY_NAI	ME		
ADD NEW			
Name	Group label	Dimensions Value	
OK CANCEL			

GROUPING DATA—SELECT THE DIMENSION COLUMN

7. Select a value you want to group from the **Select values** list.

Group			
Name			
Graph - Group - 1			
Group label			
Group - 1			
Dimensions			
ORIGIN_CITY_N/	AME		•
Dimensions		Select values	
ORIGIN_CITY_NAM	ME		
ADD NEW			
Name	Group label	Dimensions Value	
OK CANCEL			

GROUPING DATA—SELECTING THE VALUES TO BE GROUPED

- 8. Click ADD NEW.
- 9. You can perform steps 4 to 8 to add more values you want to group.
- 10. Click **OK**.

5.5.5 Filters

Various kinds of filters are available in Smarten. These filters are Retrieval Filters, Advanced Filters, Time Series Filters, Data Filters (Custom Cube Dimension and Custom Cube Measure Filters), and Page Filters.

Filters are made interdependent throughout the system. If you have used two filters, setting the value in one filter will filter values in the other filter.

Reference: Concept Manual > Filters and Expression

5.5.5.1 Time Series

Time Series is defined as an ordered sequence of equally spaced time intervals. When monitoring business processes or tracking corporate business metrics, a need often arises for usage of time series data across financial and calendar years and then down to half years, quarters, months, weeks, days and dates, days of the year, and weeks of the year.

The Smarten built-in customizable time series lets you analyze what has changed over the previous years, half years, quarters, months, weeks, days, dates, and other critical measures.

Reference: Concept Manual > Filters and Expressions > Time Series

5.5.5.1.1 Absolute Time Series

The absolute time filtering option is used to know the value of a measure at a particular year or half year or quarter or month or week or day or date. It has no dependency or relevance to the current date.

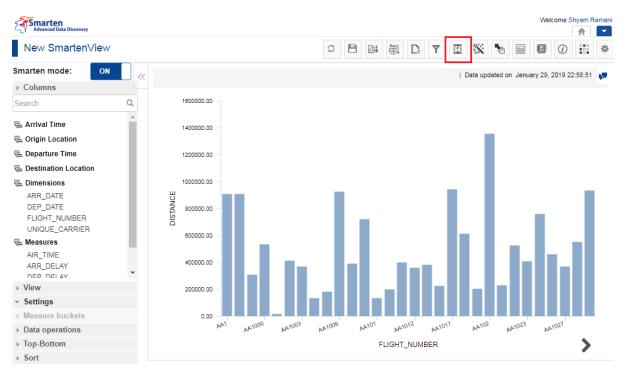
Reference: Concept Manual > Filters and Expressions > Time Series > Absolute Time Series

About this task

Use this task to apply absolute time series analysis on a chart for SmartenView.

Procedure

- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Time series option on the toolbar.



TIME SERIES ANALYSIS ON A CHART—THE TIME SERIES OPTION

The system displays the Time series dialog box.

Image: Note of Year Image: Note of Year ARR_DATE Image: Note of Year	Sma Measures					Date dim	ension								<i>(i)</i>	
Image: Second and Control of Second and Contrele and Contrele and Control of Second and Control of Se						ARR_[DATE			,	,					
• Calendar • Financial Absolute Relative Range Year 2019 2018 2017 2016 2015 2014 2013 2012 2011 2010 2009 2008 Immediate 2007 2006 2005 2004 2003 2002 2001 1999 1998 1997 1996 Immediate 2007 2006 2005 2004 2003 2002 2001 1999 1998 1997 1996 Immediate 1995 1994 1993 1992 1991 1995 1994 1993 1992 1991 Immediate Mare H1 H2 H2 H2 H3 H4	node														2019 2	2:58:51
Time Year 2019 2018 2017 2016 2015 2014 2013 2012 2011 2010 2009 2008 1000 1995 1994 1993 1992 1991 1999 1998 1997 1996 1995 1994 1993 1992 1991 1991 1998 1997 1996 Ions Half year H1 H2 H2 H1 H2 H2 H1 H2 Mare Are Are Are Are Are Are Are Are Are A		Financial														
Year 2019 2018 2017 2016 2015 2014 2013 2012 2011 2010 2003 2003 2007 2006 2005 2004 2003 2002 2001 2000 1999 1998 1997 1996 1995 1994 1993 1992 1991 1991 1998 1997 1996 Half year H1 H2	Absolute Relativ	e Range														
Image: Construction of the second state of the second s	Year	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	Î		
1995 1994 1993 1991 Half year H1 H2 Quarter Q1 Q2 Q3 Q4 Month Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Week of Year <	at	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	- H		
Image: Margin Bargin		1995	1994	1993	1992	1991	1							- H		
Auguster Q1 Q2 Q3 Q4 Month Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec CA Week of Year <1				1										- H		
Clairer	-													- H		
Cr Week of Year < 1 2 3 4 5 6 7 8 9 10 11 > Week W1 W2 W3 W4 W5 W6	Quarter	Q1	Q2	Q3	Q4									- H		
Week of Year < 1 2 3 4 5 6 7 8 9 10 11 > Week W1 W2 W3 W4 W5 W6 <td< td=""><td></td><td>Jan</td><td>Feb</td><td>Mar</td><td>Apr</td><td>Мау</td><td>Jun</td><td>Jul</td><td>Aug</td><td>Sep</td><td>Oct</td><td>Nov</td><td>Dec</td><td>- H</td><td></td><td></td></td<>		Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	- H		
Week W1 W2 W3 W4 W5 W6 Av av Day Sun Mon Tue Wed Thu Fri Sat Date 1 2 3 4 5 6 7 8 9 10 11 12	Week of Year	<	1	2 :	3	4	5 (6 7	7	8	9 1	0	11 >	•		_
Day Sun Mon Tue Wed Thu Fri Sat Date 1 2 3 4 5 6 7 8 9 10 11 12		W1	W2	W3	W4	W5	W6									
Date 1 2 3 4 5 6 7 8 9 10 11 12		Sun	Mon	Tue	Wed	Thu	Fri	Sat								
		1	2	3	4	5	6	7	8	Q	10	11	12			
	Date		-		-						10			+		
1027	s re bu	other column	15													

TIME SERIES ANALYSIS ON A CHART—THE TIME SERIES DIALOG BOX

4. Select an option from the **Measures** and **Date dimension** lists to specify the measure and date dimension on which you want to apply time series.

leasures					Date dime	ension						
DISTANCE				•	ARR_D	DATE				·		
Calendar O F	inancial											
Absolute Relative	Range											
Year	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
	1995	1994	1993	1992	1991							
Half year	1995 H1	1994 H2	1993	1992	1991							
Half year Quarter			1993 Q3	1992 Q4	1991							
	H1	H2			1991 May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Quarter	H1 Q1	H2 Q2 Feb	Q3 Mar	Q4 Apr								Dec 11 >
Quarter Month	H1 Q1 Jan	H2 Q2 Feb	Q3 Mar	Q4 Apr	Мау							
Quarter Month Week of Year	H1 Q1 Jan	H2 Q2 Feb	Q3 Mar 2 3	Q4 Apr 3	May 4	5 6						

TIME SERIES ANALYSIS ON A CHART—SELECTING THE MEASURE AND DATE DIMENSION

5. Select the **Calendar** or the **Financial** option to specify the year type you want to use.

🕎 Time series

				Date dime	ension						
			•	ARR_D	ATE			*			
ncial											
ange											
2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
1995	1994	1993	1992	1991							
H1	H2										
Q1	Q2	Q3	Q4								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
< 1	1	2 3	3 4	4 5	5 (5	7 8	3 9	9	10 1	11 >
W1	W2	W3	W4	W5	W6						
Sun	Mon	Tue	Wed	Thu	Fri	Sat					
1	2	3	4	5	6	7	8	9	10	11	12
	2007 1995 H1 Q1 Jan < 1 W1	ange 2019 2018 2007 2006 1995 1994 H1 H2 Q1 Q2 Jan Feb < 1 2 W1 W2	ange 2019 2018 2017 2007 2006 2005 1995 1994 1993 H1 H2 201 Q1 Q2 Q3 Jan Feb Mar 1 2 3 W1 W2 W3 3	ncial ange 2019 2018 2017 2016 2007 2006 2005 2004 1995 1994 1993 1992 H1 H2 Q1 Q2 Q3 Q4 Jan Feb Mar Apr 1 2 3 4	ncial ange 2019 2018 2017 2016 2015 2007 2006 2005 2004 2003 1995 1994 1993 1992 1991 H1 H2	ncial ange 2019 2018 2017 2016 2015 2014 2007 2006 2005 2004 2003 2002 1995 1994 1993 1992 1991 H1 H2	ncial ange 2019 2018 2017 2016 2015 2014 2013 2007 2006 2005 2004 2003 2002 2001 1995 1994 1993 1992 1991 1991 H1 H2	ncial ange 2019 2018 2017 2016 2015 2014 2013 2012 2007 2006 2005 2004 2003 2002 2001 2000 1995 1994 1993 1992 1991 1991 1991 H1 H2	Incial ange 2019 2018 2017 2016 2015 2014 2013 2012 2011 2007 2006 2005 2004 2003 2002 2001 2000 1999 1995 1994 1993 1992 1991 1991 1991 1911 11 H2 Q1 Q2 Q3 Q4 Q4 1 Apr May Jun Jul Aug Sep 1 2 3 4 5 6 7 8 9 W1 W2 W3 W4 W5 W6 1 1 1 1	ncial ange 2019 2018 2017 2016 2015 2014 2013 2012 2011 2010 2007 2006 2005 2004 2003 2002 2001 2000 1999 1998 1995 1994 1993 1992 1991 1991 1991 1911 11 H2 1 Q2 Q3 Q4 Q4 <td>ncial ange 2019 2018 2017 2016 2015 2014 2013 2012 2011 2010 2009 2007 2006 2005 2004 2003 2002 2001 2000 1999 1998 1997 1995 1994 1993 1992 1991 1991 1991 1995 1994 1993 1992 1991 H1 H2 Q1 Q2 Q3 Q4 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov 1 2 3 4 5 6 7 8 9 10 1 W1 W2 W3 W4 W5 W6</td>	ncial ange 2019 2018 2017 2016 2015 2014 2013 2012 2011 2010 2009 2007 2006 2005 2004 2003 2002 2001 2000 1999 1998 1997 1995 1994 1993 1992 1991 1991 1991 1995 1994 1993 1992 1991 H1 H2 Q1 Q2 Q3 Q4 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov 1 2 3 4 5 6 7 8 9 10 1 W1 W2 W3 W4 W5 W6

TIME SERIES ANALYSIS ON A CHART—SPECIFYING THE YEAR TYPE

6. Click the **Absolute** tab.

Veasures					Date dime	ension						
DISTANCE				•	ARR_D	ATE			•			
🖲 Calendar 🛛 🗧 F	inancial											
Absolute Relative	Range											
Year	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
	1995	1994	1993	1992	1991							
Half year	H1	H2										
Quarter	Q1	Q2	Q3	Q4								
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Week of Year	< 1	1	2 :	3	4 5	5 (3	7 8	3	9 1	0 1	1 >
Week	W1	W2	W3	W4	W5	W6						
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat					
Day		2	3	4	5	6	7	8	9	10	11	12

TIME SERIES ANALYSIS ON A CHART—ABSOLUTE TIME SERIES FILTER

7. Select the options to specify the filters you want to apply.

🕎 Time series

Measures					Date dim	ension							
DISTANCE				•	ARR_E	DATE				·			
	ancial Range									_			
Year	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008]
	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996]
	1995	1994	1993	1992	1991								
Half year	H1	H2											
Quarter	Q1	Q2	Q3	Q4									
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Week of Year	< 1	2	2 3	3	4 !	5 (5 7	7 8	3 9	9 1	0 1	1 >	
Week	W1	W2	W3	W4	W5	W6							
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat						
Date	1	2	3	4	5	6	7	8	9	10	11	12	
 Apply condition to oth 	er column	s											
OK CANCEL	CLEAR												

TIME SERIES ANALYSIS ON A CHART—SELECTING THE FILTER OPTIONS

- 8. Click the **Apply condition to other columns** to apply the condition on other columns in the SmartenView.
- 9. Click **OK**.

5.5.5.1.2 Relative Time Series

Relative time filtering is used to know the value of a measure at a particular period relative to the current date. Here the current date value affects the definition of time series periods.

Reference: Concept Manual > Filters and Expressions > Time Series > Relative Time Series

About this task

Use this task to apply relative time series analysis on a chart for SmartenView.

- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Relative** tab.

leasures				Date din	nension							
DISTANCE			•	ARR_	DATE				•			
🖲 Calendar 🔵 Fin	ancial											
	Range											
Full period												
Year	+2	+1	Year	-1	-2	-3	-4	-5	-6	-7		
Half year	Half year	-1										
Quarter	Quarter	-1	-2	-3								
Month	Month	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11
Week of Year	< Week of	Year -1	-2	-3	-4	-5	-6	-7	-8	5	-9 -1	0 >
Week	Week	-1	-2	-3	-4	-5						
Day	Day	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11
	-12 -	13 -14	4 -15	-16	-17	-18	-19	-20	-21	1 -	-22 -2	3
	-24 -	25 -20	6 -27	-28	-29	-30	-31					
Skip empty period	s 🔲 🦻 Škip to	previous h	igher level j	period		-	-	-	-			-

TIME SERIES ANALYSIS ON A CHART—RELATIVE TIME SERIES FILTER

4. Select the options from the **Full period** section to specify the filters you want to apply.

Measures					Date of	limensio	n								
DISTANCE				*	AR	R_DATE					•				
🖲 Calendar 🛛 🔵 Fir	nancial														
Absolute Relative	Range														
Full period															
Year	+2	+1		rear	-1	-2	-3	-4	-5		-6	-7			
Half year	Half ye	ar	-1												
Quarter	Quarte	r	-1	-2	-3										
Month	Month	1	-1	-2	-3	-4	-5	-6	-7		-8	-9		-10	-11
Week of Year	< Weel	k of Yea	r -1	-2	-3	-	4 -	5	-6	-7	-{	3	-9	-10) >
Week	Week		-1	-2	-3	-4	-5								
Day	Day		-1	-2	-3	-4	-5	-6	-7		-8	-9		-10	-11
	-12	-13	-14	i -15	-16	5 -1	7 -1	8 -	19	-20	-2	1	-22	-23	,
	-24	-25	-26	5 -27	-28	3 -2	9 -3	0 -	31						
Skip empty period	s 🗌 Skip	to prev	ious h	gher level	period				-	-	· .		-	·	
· Apply applition to atk	er celumpe														
 Apply condition to oth 	ner columns														

TIME SERIES ANALYSIS—THE RELATIVE TIME FILTER OPTIONS

Or,

Select the options from the **Period to date** section to specify the filters you want to apply.

leasures					Date	dime	nsion	n								
DISTANCE					AF	RR_D	ATE					۳				
	nancial Range															
Day of Year	< Da	y of Year	-1	-2		3	-4		-5	-6	-7	-8	3 -	9 -1	D	
	-11	-12	-13	-14	-	15	-16	; -	17	-18	-19	-20) -2	21 -22	2	
	-23	-24	-25	-26	-2	27	-28	-	29	-30	-31	-32	2 -3	33 -34	4 >	
Period to date																
Year to date	+2	+1	Y	TD	-1	-	2	-3		-4	-5	-6	-7			
Half year to date	HTC)	-1													
Quarter to date	QTE)	-1	-2	-3											
Month to date	MTE)	1	-2	-3	-	4	-5		-6	-7	-8	-9	-10	-11	
	Date	up to														
Week to date	WT)	-1	-2	-3	-	4	-5		Day up	to 🔻					
Skip empty period	ls 🗌 Skip	to previ	ous hig	jher leve	l period											
 Apply condition to other 	her column	s														
OK CANCEL	CLEAR															

TIME SERIES ANALYSIS—THE PERIOD TO DATE FILTER OPTIONS

- 5. Select the Skip empty periods option to skip empty periods.
- 6. Select the **Skip to previous higher level period** option to skip to the previous higher level period.
- 7. Click the **Apply condition to other columns** to apply the condition on other columns in the cross-tab.
- 8. Click **OK**.

5.5.5.1.3 Range Time Series

This option is used to filter time based on range and custom periods. Users can apply simple time filtering based on before, after, range, and other conditions.

Reference: Concept Manual > Filters and Expressions > Time Series > Range Time Series

About this task

Use this task to apply filter time based on a range of period on a chart for SmartenView.

- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. You can click the **Range** tab to filter time based on range and custom periods.

leasures		Date dimens	ion				
DISTANCE	٣	ARR_DAT	E		•		
Calendar							
Absolute Relative Range							
Value							
Absolute Relative Global	bal variables						
DD-MM-YYYY			G	HH:MM			
ADD							
Date dimension	Operators			Value			
 Apply condition to other columns 							
r repry conduction to other columns							

TIME SERIES ANALYSIS—THE RANGE TAB

- 4. Select an option from the Value list.
- 5. You can select the Absolute, Relative, or Global variables option.
- 6. If you have selected the Absolute option, specify a date and time within the respective fields.
- 7. If you have selected the Relative or the Global variables field, specify a value.

10.00		
1.00	Time	series
Long L	1 IIII II	261162

Measures	Date dimension
DISTANCE	ARR_DATE v
Calendar Financial Absolute Relative Range Value	•
Absolute Relative Global variables	
DD-MM-YYYY	O HH:MM
ADD	
Date dimension Operators	Value
Apply condition to other columns	
OK CANCEL CLEAR	

TIME SERIES ANALYSIS—THE ABSOLUTE RANGE OPTION

8. Click ADD.

You can repeat steps 7–11 to add more filters.

- 9. Click the **Apply condition to other columns** to apply the condition on other columns in the cross-tab.
- 10. Click **OK**.

5.5.5.2 Advanced Filters on the Object Data

The advanced filter is a type of filter that can be applied on the dimensions as well as measures. Users can create filters based on various string, arithmetic, date, statistics, trigonometry, or

conditional statements using various arithmetic operators (such as +, -, /, etc.) or comparison operators (such as =, >, < etc.)

Reference: Concept Manual > Filters and Expression > Advanced Filter

About this task

Use this task to apply filters on the object data in a chart for SmartenView using the advanced option.

Procedure

- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Select the Advanced filter option.

lame					
Filter - 1					
Cube/dataset da	ta	Object data			
Filter	۲	Advanced filter			
xpression	-				
Apression					
imension values		Functions		Operators	
LIGHT_NUMBER		Functions		Operators	5
LIGHT_NUMBER		Arithmetic	Ţ		5
LIGHT_NUMBER		Arithmetic	v	+	5
LIGHT_NUMBER		Arithmetic abs ceil	•	+	\$
LIGHT_NUMBER		Arithmetic abs cell exp	v	+ - * /	5
LIGHT_NUMBER		Arithmetic abs cell exp fact	•	+ - * / ^ >	\$
FLIGHT_NUMBER		Arithmetic abs cell exp fact floor	•	+ - * / ^ < > <=	5
Dimension values FLIGHT_NUMBER DISTANCE		Arithmetic abs cell exp fact		+ - * / ^ >	5

FILTER OBJECT DATA-THE FILTER OPTION

4. You can build an expression that you want to use to filter the data. You can use the dimensions available in the Dimension values, Functions, and Operators section.

▼ Add Filter				
Name				
Filter - 1				
Cube/dataset da	ta	Object data		
Filter	۲	Advanced filter		
Expression				
DISTANCE+FLIG	нт_	соилт		
Dimension values		Functions		// Operators
DEST_AIRPORT ORIGIN_AIRPORT DISTANCE FLIGHT_COUNT	•	Arithmetic mod pi random round sign sqrt truncate	A	* A * / / / / / / / / / / / / / /
exp Returns exponential of Argument 1 : The exp Returns : a number				
OK CANCEL				

FILTER OBJECT DATA—BUILDING A FILTER EXPRESSION

5. Click **OK**.

5.5.5.2.1 Filters on the Cube or Dataset Data

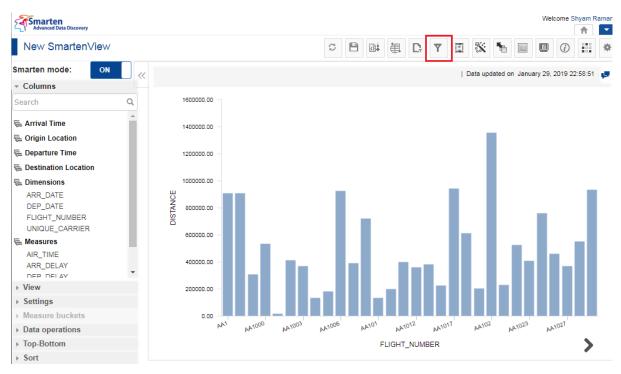
You can apply filters on the cube or dataset data. These filters are known as backend filters.

Reference: Concept Manual > Filters and Expressions

About this task

Use this task to apply filters on the cube or dataset data in a chart for SmartenView.

- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the **Filter** option on the toolbar.



FILTERING CUBE OR DATASET DATA—THE FILTER OPTION

The system displays the **Filter** dialog box.



FILTER CUBE OR DATASET DATA—THE FILTER DIALOG BOX

4. Click the Add icon.

The system displays the Add Filter dialog box.

Advanced Data Discovery	Y Add Filter	Welcome Shyam Ram
New SmartenView	Name	× 🐂 🗉 🔍 📰 🕴
Smarten mode: ON	Filter - 1	updated on January 29, 2019 22:58:51
✓ Columns Search Q	Cube/dataset data Object data Column name	updated on dandary 28, 2019 22:30:31
Arrival Time Grigin Location E Departure Time	DEP_YEAR	
E Destination Location	ADD	
Dimensions ARR_DATE DEP_DATE FLIGHT_NUMBER UNIQUE_CARRIER Measures	Column Operators Value > Apply condition to below columns OK	
	40000.00	1.11111
Settings Measure buckets		
 Data operations Top-Bottom Sort 	и ^{'10} 044 ^{'20} 044 ^{'800} /44 ^{'800} /44 ^{'800} /44 ^{'000} /44 '144 FLIGHT_NUMBER	⁵⁰¹ 44 ⁶⁵⁰¹ 44 ²⁰¹ 4

FILTER CUBE OR DATASET DATA—THE ADD FILTER DIALOG BOX

5. Select a name for the filter in the **Name** field.

Y Add Filter							
Name							
Filter - 1							
Cube/dataset data							
Column name							
DEP_YEAR			•				
=			•				
ADD							
Column	Operators	Value					
Apply condition to below columns	3						
OK CANCEL							

FILTER CUBE OR DATASET DATA—SPECIFYING A NAME FOR THE FILTER

6. Select the **Cube/dataset data** option.

▼ Add Filter						
Name						
Filter - 1						
Cube/dataset data	ct data					
Column name						
DEP_YEAR			•			
=			•			
ADD						
Column	Operators	Value				
 Apply condition to below columns 						
OK CANCEL						

FILTER CUBE OR DATASET DATA—THE CUBE OR DATASET DATA OPTION

7. Select an option from the **Column name** list to specify the column on which you want to apply a filter.

Y Add Filter						
Name						
Filter - 1						
Cube/dataset data	Object data					
Column name						
DEP_YEAR			•			
=			•			
ADD						
Column	Operators	Value				
Apply condition to below columns						
OK CANCEL						

FILTER CUBE OR DATASET DATA—SELECTING THE COLUMN

8. Select an operation from the list.

▼ Add Filter						
Name						
Filter - 1						
Cube/dataset data	Object data					
Column name						
DEP_YEAR			•			
=			Ŧ			
ADD						
Column	Operators	Value				
Apply condition to below columns						
OK CANCEL						

FILTER CUBE OR DATASET DATA—SELECTING THE OPERATION

9. Specify a value in the field, and then click **ADD**.

▼ Add Filter						
Name						
Filter - 1						
Cube/dataset data Object data						
Column name						
DEP_YEAR	DEP_YEAR T					
=						
ADD						
Column	Operators	Value				
Apply condition to below columns						
OK CANCEL						

FILTER CUBE OR DATASET DATA—SPECIFYING THE VALUE

- 10. You can repeat steps 7–9 to add more conditions.
- 11. Click the **Apply condition to other columns** to apply the condition on other columns in the SmartenView.
- 12. Click **OK**.

5.5.5.2.2 Filters on the Object Data

You can apply filters on the object data. These filters are known as frontend filters.

Reference: Co	oncept Manual	> Filters and E	xpressions
---------------	---------------	-----------------	------------

About this task

Use this task to apply filters on the object data in a chart for SmartenView.

Procedure

- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Select the **Object data** option.

▼ Add Filter			
Name			
Filter - 1			
Cube/dataset data	Object data		
Filter	Advanced filter		
Column name			
DISTANCE			*
=			Ŧ
ADD			
Colum	n Operators	Value	
OK CANCEL			

FILTER OBJECT DATA—THE OBJECT DATA OPTION

4. Select the Filter option.

▼ Add Filter				
Name				
Filter - 1				
Cube/dataset data	Object data			
Filter	Advanced filter			
Column name				
DISTANCE			•	
=			*	
ADD				
Column	Operators	Value		
OK CANCEL				

FILTER OBJECT DATA-THE FILTER OPTION

5. Select an option from the **Column name** list to specify the column on which you want to apply a filter.

₹ Add	Filter			
Name				
Filter -	1			
Cube	e/dataset data 🛛 🖲	Object data		
Filter	r 🔍 Advar	ced filter		
Column DISTA				Ţ
=				٣
ADD				
	Column	Operators	Value	
ОК	CANCEL			

FILTER CUBE OR DATASET DATA—SELECTING THE COLUMN

6. Select an operation from the list.

₹ Add F	Filter			
Name				
Filter - 1				
Cube/o	dataset data 🛛 🖲	Object data		
Filter	Advan	ced filter		
Column n	name			
DISTAN	ICE			*
=				*
ADD				
	Column	Operators	Value	
ОК	CANCEL			

FILTER CUBE OR DATASET DATA—SELECTING THE OPERATION

7. Specify a value in the field, and then click **ADD**.

▼ Add Filter			
Name			
Filter - 1			
Cube/dataset data	Object data anced filter		
Column name			
DISTANCE			٣
=			•
ADD			
Column	Operators	Value	
OK CANCEL			

FILTER CUBE OR DATASET DATA—SPECIFYING THE VALUE

- 8. You can repeat steps 7–9 to add more conditions.
- 9. Click the **Apply condition to other columns** to apply the condition on other columns in the cross-tab.
- 10. Click **OK**.

5.5.5.3 Global Variables

Global variables are defined at the cube or dataset level. They can be accessed globally with various expressions and filters for BI objects within Smarten.

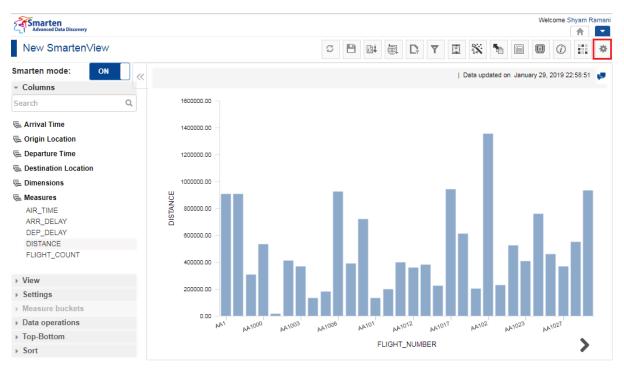
Reference: Concept Manual > Filters and Expressions > Global Variables

About this task

Use this task to manage global variables for SmartenView.

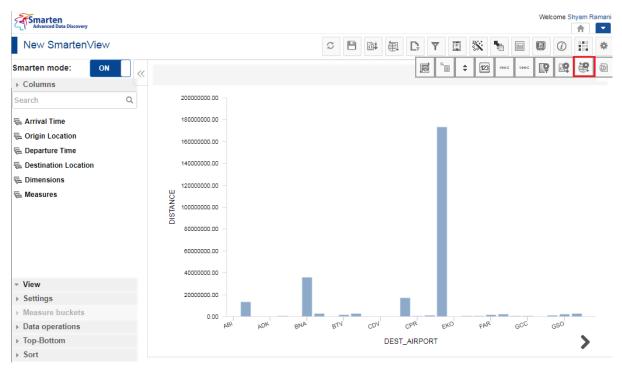
- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Settings icon on the toolbar.





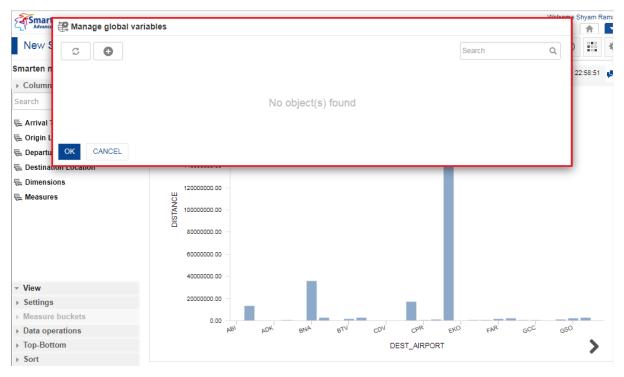
OPERATIONS ON A CHART—THE SETTINGS ICON

4. Click the Manage global variables icon.



OPERATIONS ON A CHART-THE MANAGE GLOBAL VARIABLES ICON

The system displays the Manage global variables dialog box.



OPERATIONS ON A CHART-THE MANAGE GLOBAL VARIABLES DIALOG BOX

5. Click the Add icon.

Anage global variables		
	Search	Q
No object(s) found		
OK CANCEL		
OPERATIONS ON A CHART—THE ADD ICON		

The system displays the Add Global Variable dialog box.

Advanced Data Discovery	Add Global Variable	Welcome Shyam Ram
New SmartenView	Name	
Smarten mode: ON	GlobalVariable - 1	lated on January 29, 2019 22:58:51 📕
▹ Columns	Display name Display name	
Search Q	Display name Type	
ᡄ Arrival Time 즕 Origin Location	String	
🖷 Departure Time		
🖷 Destination Location	● Single List	
🖷 Dimensions	Default value	
🗲 Measures	OK CANCEL	
	40000000.00	
- View		
▹ Settings	2000000.00 -	
 Measure buckets 		
Data operations	ABI ADK BNA BTU CON CPR EKO FAR	GCC GSO
► Top-Bottom	DEST_AIRPORT	>
▹ Sort		

OPERATIONS ON A CHART-THE ADD GLOBAL VARIABLE DIALOG BOX

- 6. Specify a name for the measure in the **Name** field.
- 7. Specify a name that you want to be displayed instead of the actual value in the **Display name** field.
- 8. Select an option from the **Type** list.
- 9. You can select the **Single** option from the Allowable Values section if you want to allow only one value for the variable.

Or,

You can select the **List** option from the Allowable Values section if you want to allow more than one value for the variable.

- 10. Specify a value in the **Default value** field.
- 11. Click **OK**.

5.5.5.4 Retrieval Parameters

SmartenView objects are created from a cube or a dataset, and by default these objects are fully loaded with data from the cube or dataset, but in order to see filtered views, run time parameters/retrieval parameters are provided.

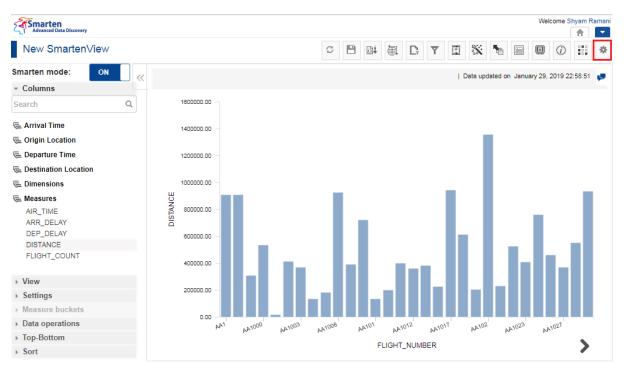
Reference: Concept Manual > Filters and Expressions > Retrieval Parameters

About this task

Use this task to manage retrieval parameters for SmartenView.

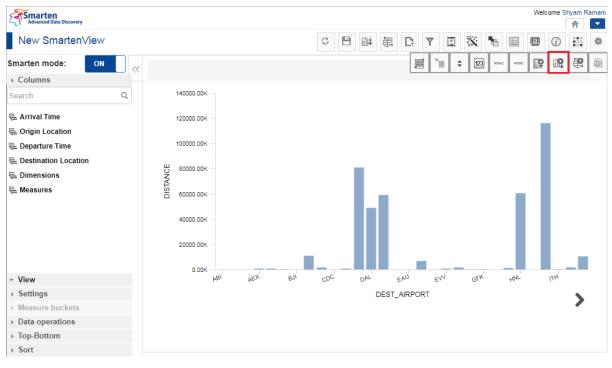
- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Settings icon on the toolbar.





OPERATIONS ON A CHART—THE SETTINGS ICON

4. Click the Manage retrieval parameter icon.





The system displays the Manage retrieval parameters dialog box.

Advanced Data Discovery	Manage retrieval parameters	Welcome Shyam Ram
New SmartenView	Show dialog on object load	* 🖿 🗉 🕖 🏭 *
Smarten mode: ON	Cube/dataset FlightData_2016_SV	updated on January 29, 2019 22:58:51 📮
Columns	Available columns Selected columns	
Search Q	0 0	
🖷 Arrival Time	ARR_DATE [FlightData_2016_SV] +	_
🖷 Origin Location	ARR_DAY_OF_MONTH [FlightData_2016_ +	
🖷 Departure Time	ARR_HOUR [FlightData_2016_SV] +	
Network Contraction	ARR_MONTH [FlightData_2016_SV] +	
🖷 Dimensions	ARR_QUARTER [FlightData_2016_SV] +	
🖷 Measures	ARR_YEAR [FlightData_2016_SV] +	
	DEP_DATE [FlightData_2016_SV] +	
	DEP_DAY_OF_MONTH [FlightData_2016_ +	
	OK CANCEL	
- View	M3 UA3 LAD DOS ILB X34 IBA	GEK HNL ITH
▹ Settings	DEST_AIRPORT	
▹ Measure buckets		/
 Data operations 		
▹ Top-Bottom		
▹ Sort		

OPERATIONS ON A CHART—THE MANAGE RETRIEVAL PARAMETERS DIALOG BOX

5. You can select the Show dialog on object load option to display the retrieval parameters dialog box when an object is loaded.

🕂 Manage retrieval parameters			
Show dialog on object load			
Cube/dataset			
FlightData_2016_SV		۳	
Available columns			Selected columns
		0	
ARR_DATE [FlightData_2016_SV]	+	*	
ARR_DAY_OF_MONTH [FlightData_2016_	+		
ARR_HOUR [FlightData_2016_SV]			
ARR_MONTH [FlightData_2016_SV]			
ARR_QUARTER [FlightData_2016_SV]			
ARR_YEAR [FlightData_2016_SV]			
DEP_DATE [FlightData_2016_SV]			
DEP_DAY_OF_MONTH [FlightData_2016_	+	+	

OPERATIONS ON A CHART—THE ADD ICON

6. Select the cube or dataset from which you want to retrieve parameters from the **Cube/dataset** list.



🔐 Manage retrieval parameters			
Show dialog on object load			۷
Cube/dataset]
FlightData_2016_SV		۳	
Available columns			Selected columns
		0	
ARR_DATE [FlightData_2016_SV]	+		
ARR_DAY_OF_MONTH [FlightData_2016_	+		
ARR_HOUR [FlightData_2016_SV]	+		
ARR_MONTH [FlightData_2016_SV]	+		
ARR_QUARTER [FlightData_2016_SV]	+		
ARR_YEAR [FlightData_2016_SV]	÷		
DEP_DATE [FlightData_2016_SV]	÷		
DEP_DAY_OF_MONTH [FlightData_2016_	+	-	

OPERATIONS ON A CHART—SELECTING THE CUBE/DATASET

7. Click the Add icon adjacent to the column you want to select from the **Available columns** section.

Show dialog on object load		
Cube/dataset		
FlightData_2016_SV		۳
Available columns		
		0
ARR_DATE [FlightData_2016_SV]	+	
ARR_DAY_OF_MONTH [FlightData_2016_	+	
ARR_HOUR [FlightData_2016_SV]	+	
ARR_MONTH [FlightData_2016_SV]	+	
ARR_QUARTER [FlightData_2016_SV]	+	
ARR_YEAR [FlightData_2016_SV]	+	
DEP_DATE [FlightData_2016_SV]	+	
DEP_DAY_OF_MONTH [FlightData_2016_	+	-

OPERATIONS ON A CHART—SELECTING THE COLUMNS

The selected columns are available in the **Selected columns** section.



🕞 Manage retrieval parameters				
Show dialog on object load			Ø	
Cube/dataset				
FlightData_2016_SV •				
Available columns			Selected columns	
	-	0		0
ARR_HOUR [FlightData_2016_SV]	+	4		-
ARR_MONTH [FlightData_2016_SV]	+		ARR_DAY_OF_MONTH [FlightData_2016_	٤ –
ARR_QUARTER [FlightData_2016_SV]	+			
ARR_YEAR [FlightData_2016_SV]	+	4		
DEP_DATE [FlightData_2016_SV]	+			
DEP_DAY_OF_MONTH [FlightData_2016_	+			
DEP_HOUR [FlightData_2016_SV]	+			
DEP_MONTH [FlightData_2016_SV]	+	÷		

OPERATIONS ON A CHART—THE ADD RANK DIALOG BOX

8. Click **OK**.

5.5.6 Creating Custom Measures

The custom measures in Smarten are easy to build. They can be created by building a formula on existing columns according to the SmartenView requirements. The custom measures are also known as **User Defined Data Columns (UDDC)**.

Users can create custom Measure columns from existing measures by performing various string, arithmetic, date, statistics, trigonometry, or conditional statements using various arithmetic operators (such as +, -, /, etc.) or comparison operators (such as =, >, < etc.).

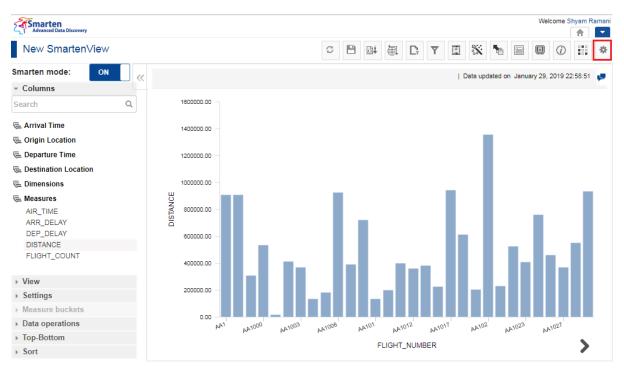


About this task

Use this task to create custom measures for SmartenView.

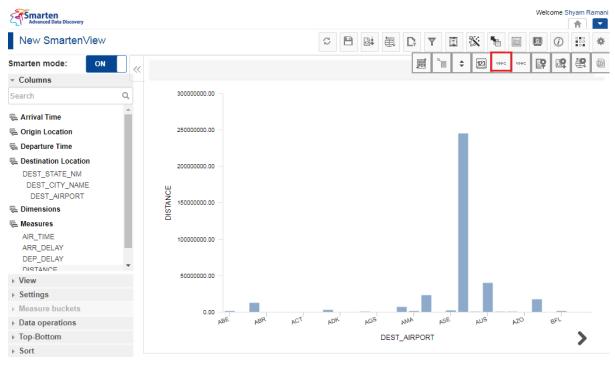
- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Settings icon on the toolbar.





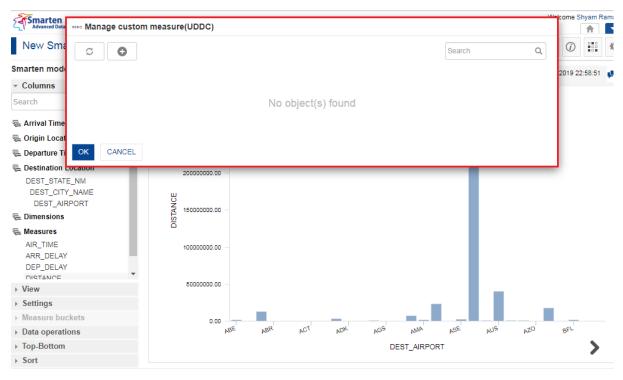


4. Click the Manage UDDC icon.



OPERATIONS ON A CHART-THE MANAGE UDDC ICON

The system displays the Manage custom measure (UDDC) dialog box.



OPERATIONS ON A CHART-THE MANAGE CUSTOM MEASURE DIALOG BOX

5. Click the Add icon.

Manage custom measure(UDDC)			
		Search Q	
	No object(s) found		
OK CANCEL			

OPERATIONS ON A CHART—THE ADD ICON

The system displays the Add custom measure (UDDC) dialog box.

Advanced Data Discovery	we Add custom measure(UDDC)	Welcome Shyam Ram:
New SmartenView	Name	* 🖿 🗉 🕖 🏭 *
Smarten mode: ON	UDDC-1	updated on January 29, 2019 22:58:51
- Columns	Expression	
Search C	2	
🖷 Arrival Time	A	
🖶 Origin Location		
🖷 Departure Time	Columns Functions Operators	
Destination Location DEST_STATE_NM DEST_CITY_NAME DEST_AIRPORT Dimensions Measures AIR_TIME ARR_DELAY DEF_DELAY DISTANCE	Measures Arithmetic + FLIGHT_COUNT abs - DEP_DELAY abs - ARR_DELAY - - Iog - -	
 View Settings Measure buckets Data operations Top-Bottom Sort 	0.00 ABE ABR ACT ADK AGS ANA ASE DEST_AIRPORT	NUS NZO BFL

OPERATIONS ON A CHART-THE ADD CUSTOM MEASURE DIALOG BOX

- 6. Specify a name for the measure in the Name field.
- 7. You can select values from the **Columns**, **Functions**, and **Operators** sections to create or edit an expression.
- 8. You can click the VERIFY EXPRESSION to verify the expression you have created.
- 9. Click **OK**.

5.5.7 Sampling Data on a Chart

Rendering visualizations with a large amount of data takes a lot of time or sometimes visualization loses the purpose. To overcome this, Smart Visualization provides a feature to create a visualization with a sample of such data instead of the whole data.

Reference: Concept Manual > Operations on charts > Sampling

5.5.7.1 Working with Auto Sampling Mode

The auto mode automatically applies sampling on the columns that contain more than certain records and generates visualization with sample data instead of the whole data. The size of the sample depends upon the size of the data.

Reference: Concept Manual > Operations on charts > Sampling > Sampling – Auto

About this task

Use this task to perform auto sampling of data on a chart for SmartenView.

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- Select the columns you want to use to generate a SmartenView.
 The system automatically performs sampling on the columns that contain more than certain

records. When you perform sampling in the **Auto** mode, you cannot change other options in the **Sampling** dialog box. The system performs random sampling if you have selected only one Dimension column. If you have selected more than one Dimension column, stratified sampling is applied.

You can click the **Sampling** option on the toolbar to view information about the sampling method applied and the size of the sample. By default, the **Auto** option is selected, and if you want to change the sampling method or sampling size, you must select the **Manual** option to change sampling parameters.

You cannot change other options in the **Sampling** dialog box.

5.5.7.2 Working with Manual Sampling Mode

The manual mode of sampling allows you to change the limit of records that should be considered for a sample. You can also select the method of sampling using manual mode.

You can create samples by using two sampling methods:

- Simple random sampling
- Stratified sampling

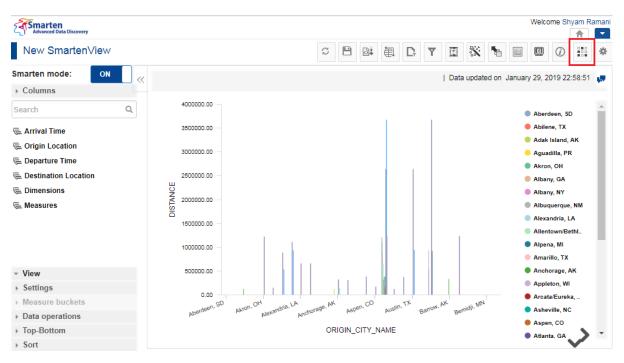
Reference: Concept Manual > Operations on charts > Sampling > Sampling - Manual

About this task

Use this task to perform manual sampling of data on a chart for SmartenView.

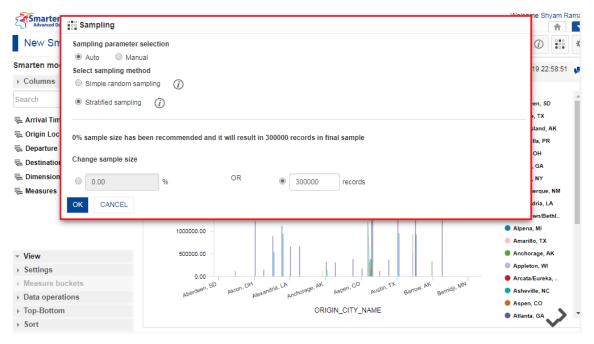
Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Sampling option on the toolbar.



OPERATIONS ON A CHART-THE SAMPLING OPTION

The system displays the Sampling dialog box.



OPERATIONS ON A CHART-THE SAMPLING DIALOG BOX

- 4. Click Manual.
- 5. Select an option to specify the sampling method you want to use.

The following options are available:

- Simple random sampling: Simple random sampling is a method of sampling in which the selection is based purely on chance, and every item has an equal chance of being selected. For example, in a lottery system, each member of the population is assigned a number after which the numbers are selected at random.
- Stratified sampling: Stratified random sampling is a method of sampling that involves the division of a population into smaller groups known as strata. In stratified random sampling or stratification, the strata are formed based on members' shared attributes or characteristics. For example, subgroups of customers can be formed on the basis of any of their demographics, such as income group, region, and gender. A random sample from each of these subgroups is taken in proportion to the subgroup size relative to the population size, and these samples are then added to form a final stratified random sample.

Sampling			
Sampling parameter selection			
Auto Manual Auto Auto			
Select sampling method			
Simple random sampling (j)			
Stratified sampling			
0% sample size has been recommen Change sample size	ded and it will result in 3 OR	00000 records in final sample	
	SAMPLING DATA	SELECTING A SAMPLING METHOD	

- 6. Select an option to specify the sample size in percentage or number of records.

Sampling					
Sampling parameter selection	on				
Auto Manual					
Select sampling method					
Simple random sampling	(i)				
 Stratified sampling (i) 	5				
Change sample size					
	%	OR	4206	records	
Change sample size 100.00 CANCEL	%	OR	4206	records	
 100.00 	%		4206		

7. Click **OK**.

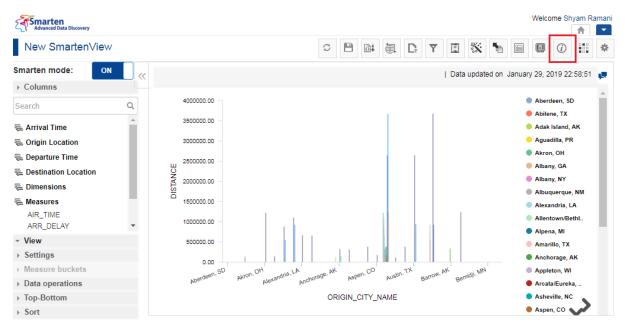
5.5.7.3 Viewing Object Information for a Chart

You can view information about the SmartenView, such as a name of the SmartenView, the title of the SmartenView, name of the user who created it, name of the dataset or cube, and others.

About this task

Use this task to view dimensions that contain the highest and lowest values in a chart.

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Object information option on the toolbar.



OBJECT INFORMATION—THE OBJECT INFORMATION OPTION

Welcome Shyam Rama Advanced Data Discovery Object Information * 5 New SmartenView • 旧 i 귂 General Operations summary Smarten mode: ON Name ed on January 29, 2019 22:58:51 New SmartenView ▶ Columns Title Aberdeen, SD SmartenView Title Search Abilene, TX Created 🖷 Arrival Time Adak Island, AK Shyam Ramani 🕨 Aguadilla, PR 🖷 Origin Location Data Akron, OH 🖳 Departure Time FlightData_2016_SV, Data updated on January 29, 2019 22:58:51 Albany, GA **E** Destination Location Albany, NY CLOSE **E** Dimensions Albuquerque, NM 🖷 Measures Alexandria, LA AIR_TIME Allentown/Beth 1000000.00 ARR_DELAY Alpena, MI - View 500000.00 Amarillo, TX ▶ Settings Anchorage, AK 0.00 Measure buckets Appleton, WI M Barro ilbim adf Austi 86 -h Data operations Arcata/Eureka Asheville, NC ORIGIN CITY NAME ▶ Top-Bottom Aspen, CO ▹ Sort

The system displays the **Object Information** dialog box.

OBJECT INFORMATION—THE OBJECT INFORMATION DIALOG BOX

- 4. Click the **General** tab to view general information about the dataset. The following information is displayed:
 - Name: Name of the SmartenView.
 - **Title**: Title of the SmartenView.
 - Created: Name of the user who created the SmartenView.
 - Data: Name of the dataset or cube and the time it was last updated.

General	Operations summary
ame ew Smarten'	леw
itle ≅martenView	Title
reated hyam Rama	n
) ata lightData_20	16_SV, Data updated on January 29, 2019 22:58:51

OBJECT INFORMATION—THE GENERAL TAB

5. Click the **Operations summary** tab.

The **Operations Summary** tab contains two tabs: **General** and **Others**. The **General** tab contains the **Outliner** and **Data operations** sections.

Information about the columns added to outliner is displayed within the Outliner tab.

General Ot	Operations summary	
- Out liner		
Row Column Data	DEST_CITY_NAME ORIGIN_CITY_NAME DISTANCE	
Dala	DISTANCE	
▹ Data ope	rations	

OPERATIONS SUMMARY—THE OUTLINER SUMMARY

6. Click the **Data operations** tab to view information about data operations applied to the chart.

(j) Object Information					
General Operations summary General Others • Out liner - Data executions					
✓ Data operations					
Measures	Data operations				
DISTANCE	Sum				
CLOSE					

OBJECT INFORMATION—DATA OPERATIONS INFORMATION

7. Click the **Others** tab.

Object in	formation		
General	Operations summary		
General O	thers		
► Out line	r		
→ Data ope	erations		
Measures		Data operations	
DISTANCE		Sum	
CLOSE			

OBJECT INFORMATION—THE OTHERS TAB

8. Information about the type of sort applied on various columns.

) Object Information	
General Operations summa General Others	ary
▼ Sort	
Column name	Туре
DEST_CITY_NAME	Ascending
ORIGIN_CITY_NAME	Ascending

OBJECT INFORMATION—THE OTHERS TAB

9. Click CLOSE.

5.5.7.4 Working with Outliner

Outliner allows you to specify the placement of Dimension and Measure columns to generate the SmartenView chart.

Reference: Concept Manual > Working with Smarten Mode On > Outliner

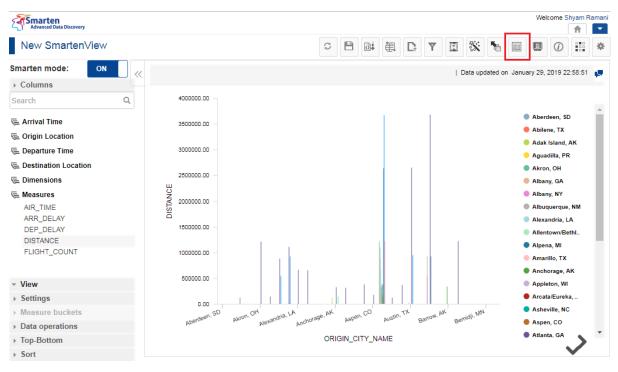
About this task

Use this task to manage columns that are used to generate the chart.

Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Outliner option.

The system shows the **Select columns** pane.



MANAGING COLUMNS—THE OUTLINER OPTION

4. You can drag and drop columns in the Select columns pane to use those columns for generating the SmartenView chart.

If **Smarten mode** is on, the system displays the columns in a single list within the **Select columns** pane.

Advanced Data Discovery										Welc	ome Sh	hyam Ri	amani
New SmartenView		S		围	${\rm P}_{\rm r}$	Y	1	*	•		<i>(i)</i>		\$
Smarten mode: ON	Select columns											50-00	1
▹ Columns												Add	
Search Q	- ORIGIN_CITY_NAME												
🖷 Arrival Time	- DEST_CITY_NAME												
🖷 Origin Location	- DISTANCE												
🖷 Departure Time													
Cation Location													
🖷 Dimensions													
🖷 Measures													
AIR_TIME													
ARR_DELAY	· · · · · · · · · · · · · · · · · · ·												
DEP_DELAY													
DISTANCE FLIGHT_COUNT													
FLIGHT_COUNT													
- View													- 1
▹ Settings													
Measure buckets													- 1
Data operations													
Top-Bottom		OND	-conni-	N/NIL								-	
Fort	APPLY CANCEL												

MANAGING COLUMNS—THE SELECT COLUMNS PANE WITH SMARTEN MODE TURNED ON

If the Smarten mode is off, the system displays the columns within various sections. These sections represent various aspects of a chart, for example, the X-Axis and Y-Axis section represent the x-axis and y-axis of the chart. You can add columns to a section to use data of those columns to generate the aspect of the chart that section represents.

Advanced Data Discovery															Wel	icome S	hyam F	Ramani
New SmartenView						C	•	目	${\textstyle \Box}_{r}$	Ŧ		*	•		E	<i>(i)</i>		\$
Smarten mode: OFF	= //	Outli	ner									Data up	dated o	n Janu	ary 29,	2019 22	2:58.51	1.0
→ Columns																	Add	1-
Search	Q	Rows	4000000.00		Columns													
🖷 Arrival Time																		
🖷 Origin Location																		
E Departure Time																		
E Destination Location					X-Axis						Leger	nd			Akro	a . 04		
E Dimensions					- ORIG	IN_CITY	NAME				Color				ANTO	n, on		
E Measures											[DEST_0	CITY_N	IAME				
AIR_TIME																		
ARR_DELAY															Alexa	anona, L	A	_
DEP_DELAY											Size				Allen	town/Be	thl	_
DISTANCE FLIGHT_COUNT					Y-Axis													
PLIGHT_COUNT					- DISTA	NCE												
								_										
 View 											Shape	÷			Apple	eton, Wi		
 Settings 																		
 Measure buckets 																		
 Data operations 			-												a designed			
▹ Top-Bottom		APP		NCEL											Atlan	ita, GA	>	
→ Sort			U. OA															

MANAGING COLUMNS-THE SELECT COLUMN PANE WITH SMARTEN MODE TURNED OFF

5. You can click the minus sign for a column to remove that column from the **Select columns** pane.

			1 on January 29, 2019 22 58 51 Add
OWS 400000.00	Columns		
	X-Axis	Legend	- Agusuma, i iv
		Color	Akron, OH
	- ORIGIN_CITY_NAME	- DEST_CITY	NAME
			Alexandria, LA
		Size	Allentown/Bethl
	Y-Axis		
	- DISTANCE		
		Shape	Appleton, WI
			🕘 Atlanta GA 👞
APPLY CANCEL			

MANAGING VALUES-REMOVING COLUMNS FROM THE SELECT COLUMNS PANE

6. Click APPLY.

5.5.8 Changing Smart Visualization Type

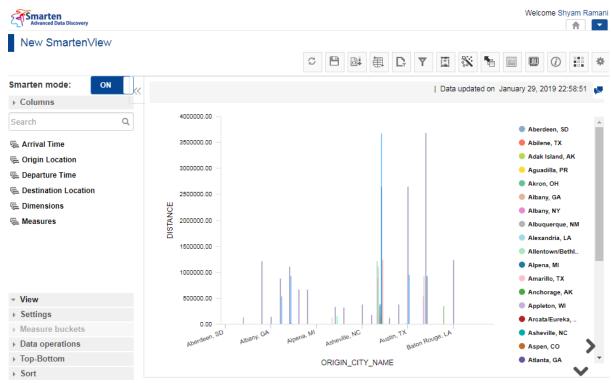
You can change the graph type used for a chart based on your requirement. By default, the system uses the graph type that it seems most appropriate based on the columns you have selected for a SmartenView.



About this task

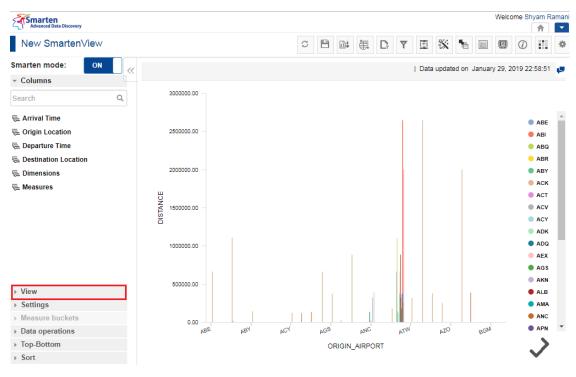
Use this task to change the graph type for SmartenView.

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. The system automatically generated the visualization based on the data you select.



NEW SMARTENVIEW – SYSTEM AUTOMATICALLY GENERATES THE VISUALIZATION

5. Click the View tab.

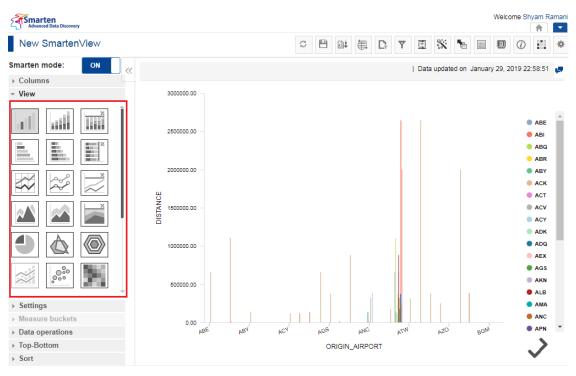




6. Select the graph type you want to apply on the SmartenView.

Note:

The graph types available in the **View** section depends on the columns you have selected for SmartenView.



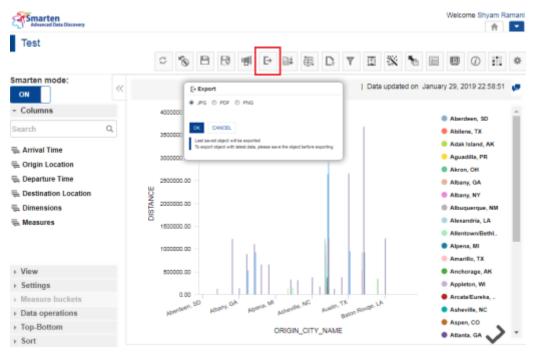
CHANGING GRAPH TYPE – THE VIEW SECTION

The selected graph type is applied on the SmartenView.

5.5.9 Export SmartenView

This option is used to export a chart data to PDF, PNG, and JPG file formats.

- 1. In the **Repository**, open chart.
- 2. The system displays the chart.
- 3. In the SmartenView Toolbar, click **Export**.
- 4. The system displays the **Export** dialog box.
- 5. Select the desired radio button (JPG, PDF, or PNG).
- 6. Click **OK**.



SMARTENVIEW: EXPORT ICON & DIALOG

5.5.10 Save SmartenView

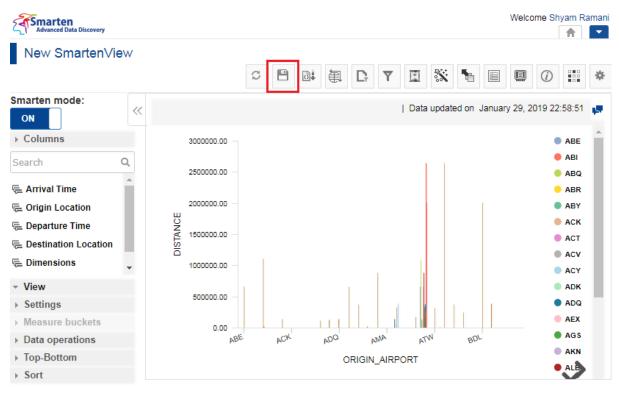
5.5.10.1 Save

You can either create and save a new SmartenView or modify and save an existing SmartenView.

About this task

Use this task to save a SmartenView.

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Make the required changes in the SmartenView.
- 4. Click the Save icon.



OPERATIONS ON A CHART—THE SAVE ICON

The system displays the **Save** dialog box.

Advanced Data Discovery	民 Save	Welcome Shyam Ram:
New SmartenVie	W	
-	New SmartenView	
Smarten mode:	Title	
ON ON	SmartenView Title	ted on January 29, 2019 22:58:51 📕
▹ Columns	Select folder	ABE
	My Folders	ABL
Search	Q. Repository	ABI ABQ
🖷 Arrival Time	A	ABQ
<u> </u>		
🖷 Origin Location		ABY
🖷 Departure Time		ACK
hestination Location		ACT
🖷 Dimensions		ACV
		• ACY
 View 		ADK
Settings		● ADQ
Measure buckets		AEX
▶ Data operations	OK CANCEL	BDL AGS
▶ Top-Bottom	ORIGIN_AIRPORT	AKN
→ Sort		ALB

OPERATIONS ON A CHART—THE SAVE DIALOG BOX

5. Specify a name for the SmartenView in the New SmartenView field.



R Save
New SmartenView
SmartenView Title
Select folder
My Folders
Repository
OK CANCEL

OPERATIONS ON A CHART—SPECIFY A NAME FOR THE SMARTENVIEW

6. Specify a title for the SmartenView in the **Title** field.

💾 Save			
New Sm	artenView		
Title			
Smarter	View Title		
Select fol	der		
My F	olders		
Repo	sitory		
ок	CANCEL		

OPERATIONS ON A CHART—SPECIFYING A TITLE

7. Select the folder from the **Select Folder** section in which you want to save the SmartenView.

🕄 Save	
New SmartenView	
Title	
SmartenView Title	
Select folder	
My Folders	
Repository	
	1
OK CANCEL	

OPERATIONS ON A CHART-SELECTING THE FOLDER

8. Click **OK**.

5.5.10.2 Save As

You can use this option to save a copy of an existing SmartenView with a new name.

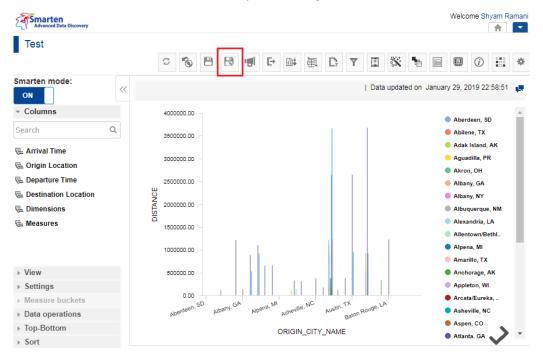
About this task

Use this task to save a copy of an existing SmartenView.

Procedure

- 1. Open the existing SmartenView you want to save.
- 2. Click the Save As icon.

Note: The Save As icon is available only for existing SmartenView.



OPERATIONS ON A CHART—THE SAVE AS ICON

The system displays the **Save As** dialog box.

Smarten

Advanced Data Discovery	🕄 Save as	Welcome Shyam Rama
Test		
	New SmartenView	💥 🐂 🗉 💷 🕖 🏭 🕯
Smarten mode:	Title	
ON K	SmartenView Title	a updated on January 29, 2019 22:58:51 📮
✓ Columns	Select folder	_
	My Folders	Aberdeen, SD
Search Q	Repository	Abilene, TX
🖷 Arrival Time		Adak Island, AK
-		Aguadilla, PR
Crigin Location		Akron, OH
🖷 Departure Time		Albany, GA
hestination Location		Albany, NY
🖳 Dimensions		Albuquerque, NM
🖷 Measures		Alexandria, LA
		Allentown/Bethl
		Alpena, MI
	OK CANCEL	Amarillo, TX
▶ View	OK CANGEL	Anchorage, AK
► Settings		Appleton, WI
Measure buckets	0.00 Aberdeen, SD Alberna, Mi Asheville, NC Austin, TX Austin, TX	Arcata/Eureka,
▶ Data operations	Aberdeen, SD Albany, GA Alpena, MI Asheville, NC Austin, TX Baton Roi	ug ^{g, ♥} ● Asheville, NC
▶ Top-Bottom	ORIGIN_CITY_NAME	Aspen, CO
→ Sort		Atlanta, GA

OPERATIONS ON A CHART-THE SAVE AS DIALOG BOX

3. Specify a name for the SmartenView in the New SmartenView field.

New SmartenView Title SmartenView Title Select folder My Folders Repository	H Save as			
SmartenView Title Select folder My Folders	New Smarten	liew		
Select folder My Folders	Title			
My Folders	SmartenView	litle		
	Select folder			
Repository	My Folders			
	Repository			
OK CANCEL	OK CAN	2EL		

OPERATIONS ON A CHART-SPECIFY A NAME FOR THE SMARTENVIEW

4. Specify a title for the SmartenView in the **Title** field.



🕄 Save as
New SmartenView
Title
SmartenView Title
Select folder
My Folders
Repository
OK CANCEL

OPERATIONS ON A CHART—SPECIFYING A TITLE

5. Select the folder from the **Select Folder** section in which you want to save the SmartenView.

🕀 Save as
New SmartenView
Title
SmartenView Title
Select folder
My Folders
Repository
OK CANCEL

OPERATIONS ON A CHART-SELECTING THE FOLDER

6. Click **OK**.

5.5.11 Refresh

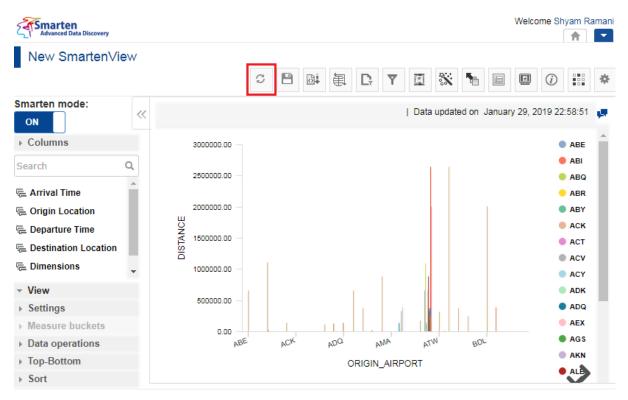
This option is used to update SmartenView data from its source cube or dataset.

About this task

Use this task to refresh the data used for a SmartenView.

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.

- 3. Make the required changes in the SmartenView.
- 4. Click the Refresh icon.



OPERATIONS ON A CHART—THE REFRESH ICON

The system refreshes the data.

5.5.12 Page Filters

Page filters are applied on the cube or dataset data and are backend filters.

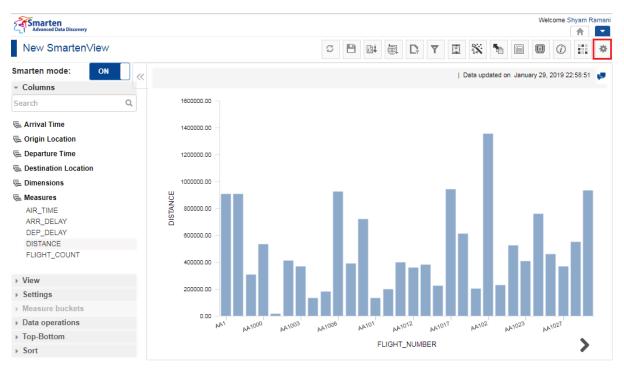


About this task

Use this task to manage page filters on a chart for SmartenView.

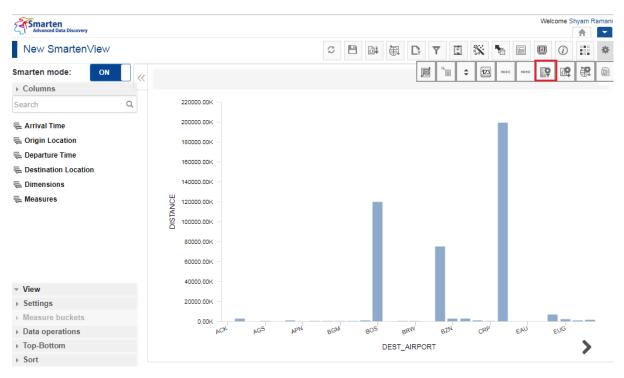
- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Settings icon on the toolbar.





OPERATIONS ON A CHART—THE SETTINGS ICON

4. Click the Manage page filters icon.



OPERATIONS ON A CHART-THE MANAGE PAGE FILTER OPTION

The system displays the Manage page filters dialog box.

Advanced Data Discovery	💽 Manage page filters				1		Welc	ome Shy	am Ram
New SmartenView	Available columns	Selected c	olumns		8 1			<i>(i)</i>	1
Smarten mode: ON		0		0	update	ed on Janua	arv 29. 2	019 22:5	8:51
▶ Columns	ARR_DATE	+ ^			opulation		, 20, 2		
Search Q	ARR_DAY_OF_MONTH	+							
	ARR_QUARTER	+							
🖷 Arrival Time	ARR_YEAR	+							
🖷 Origin Location	DEP_DATE	+							
🖷 Departure Time	DEP_DAY_OF_MONTH	+							
Nestination Location	DEP_HOUR	+							
🖷 Dimensions	DEP_MONTH	+ +							
न्द्र Measures	OK CANCEL			-	J				
	60000.00K -								
- View	40000.00K -								
▹ Settings	20000.00K -								
▹ Measure buckets	0.00K								
Data operations	ACK AGS	APN BGM	BOS BRW	BZN	CRP	EAU	1	EUG	
▹ Top-Bottom			DEST_AIRPO	RT					>
▶ Sort									•

OPERATIONS ON A CHART-THE MANAGE PAGE FILTER DIALOG BOX

5. Click the Add icon adjacent to the column you want to select from the **Available columns** section.

vailable columns	Selected columns	
	0	
ARR_DATE	+ ^	
ARR_DAY_OF_MONTH	+	
ARR_QUARTER	+	
ARR_YEAR	+	
DEP_DATE	+	
DEP_DAY_OF_MONTH	+	
DEP_HOUR	+	
DEP_MONTH	+ +	

OPERATIONS ON A CHART-SELECTING THE COLUMNS

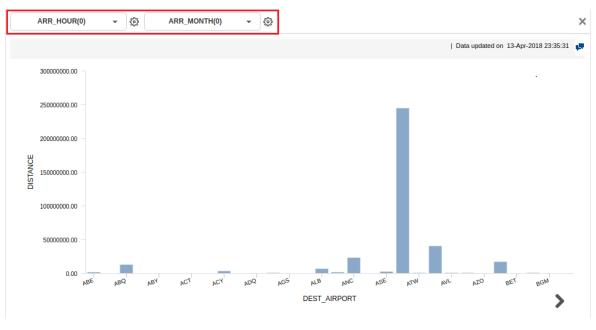
The selected columns are available in the **Selected columns** section.

vailable columns		Selected columns	
	0		-
ARR_DATE	+ *	‡ ARR_HOUR	-
ARR_DAY_OF_MONTH	+	<pre>\$ ARR_MONTH</pre>	-
ARR_QUARTER	+		
ARR_YEAR	+		
DEP_DATE	+		
DEP_DAY_OF_MONTH	+		
DEP_HOUR	+		
DEP_MONTH	+ •		

OPERATIONS ON A CHART—THE ADD RANK DIALOG BOX

6. Click OK.

The selected columns are available as page filters.



OPERATIONS ON A CHART—PAGE FILTER CRITERIA

7. Select the values from the page filter criteria to filter the data based on the selected values.

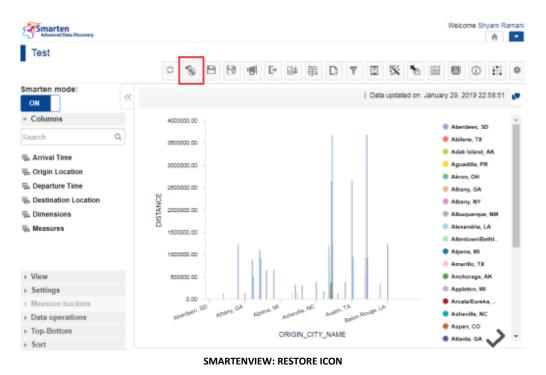
5.5.13 Restore

This option is used to restore chart in Smarten. Restore will restore the chart settings as per the last saved version. It will not query source data.

Procedure

- 1. In the **Repository**, open chart.
- 2. The system displays the chart.

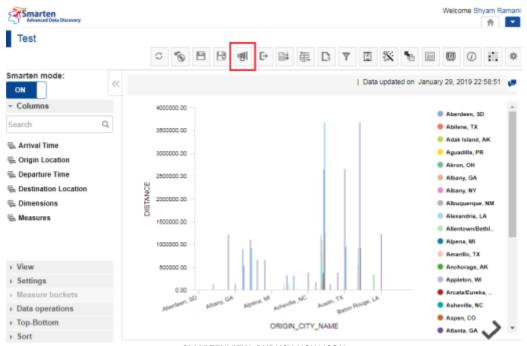
In the SmartenView Toolbar, click Restore.



@ 2019, Smarten

5.5.14 Publish Now

This option is used to define the chart publish settings. It is visible only after saving the chart.



SMARTENVIEW: PUBLISH NOW ICON

Procedure

- In the **Repository**, open chart. The system displays the chart.
- In the SmartenView Toolbar, click Publish now.
 The system displays the Publish now dialog box.

Delivery method & recipi			ð
By email I To fol Select Group	der (as pi	er administrator setting	1)
All groups	-	All	-
wailable users		Selected users	
	0		0
		Demo User	_
Nessage			
Aessage Dear \$USER_NAME\$,			*
	3\$		

SMARTENVIEW: PUBLISH NOW SETTINGS

- 3. In the **Publish now** dialog box, select the checkbox to choose the output type (JPG, PNG or PDF).
- 4. In the **Delivery method & recipients** section, select the checkbox(es) (by email and to folder).
- In the Select group section, select the group from the drop-down list.
 The system displays the list of users in the Available users column according to the group selected.
- 6. In the **Available users** column, select the users. System displays list of users as per access rights policy defined by Administrator.

The system displays the selected users in the Selected users column.

- 7. In the Message box, enter the message.
- 8. Click **OK**.

5.5.15 Viewing Object Information for a Chart

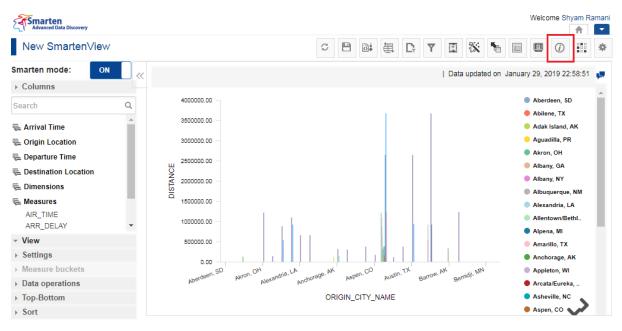
You can view information about the SmartenView, such as a name of the SmartenView, the title of the SmartenView, name of the user who created it, name of the dataset or cube, and others.

About this task

Use this task to view dimensions that contain the highest and lowest values in a chart.

Procedure

- 1. Select the dataset or cube you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Object information option on the toolbar.



OBJECT INFORMATION—THE OBJECT INFORMATION OPTION

The system displays the **Object Information** dialog box.

Advanced Data Discovery	(i) Object Information	Welcome Shyam Ram:
New SmartenView	General Operations summary	
Smarten mode: ON	Name	ated on January 29, 2019 22:58:51 🔳
▹ Columns	New Smarten/View Title	
Search	SmartenView Title	Aberdeen, SD
🖷 Arrival Time	Created Shyam Ramani	 Abilene, TX Adak Island, AK
🖷 Origin Location	Data	😑 Aguadilla, PR
🖶 Departure Time	FlightData_2016_SV, Data updated on January 29, 2019 22:58:51	Akron, OH
hestination Location		Albany, GA Albany, NY
🖷 Dimensions	CLOSE	Albuquerque, NM
🖶 Measures		Alexandria, LA
AIR_TIME	1000000.00 -	Allentown/Bethl
ARR_DELAY	· · · · · · · · · · · · · · · · · · ·	Alpena, MI
 View 	500000.00 -	Amarillo, TX
 Settings 		Anchorage, AK
 Measure buckets 	Aberdeen, SD Akron, OH Alexandria, LA Aspen, CO Austin, TX Barrow, AK Bernidi), L	NN Appleton, WI
 Data operations 	Vpeton, Wn, Viekain, Vucyotaa Vaha Vina, Balia Bellina	Arcata/Eureka,
► Top-Bottom	ORIGIN_CITY_NAME	Asheville, NC
▹ Sort		🔴 Aspen, CO 👽

OBJECT INFORMATION—THE OBJECT INFORMATION DIALOG BOX

- 4. Click the **General** tab to view general information about the dataset. The following information is displayed:
 - Name: Name of the SmartenView.
 - **Title**: Title of the SmartenView.
 - Created: Name of the user who created the SmartenView.
 - Data: Name of the dataset or cube and the time it was last updated.

General	Operations summary
Name New Smarten'	/iew
Title Smarten∨iew	Title
Created Shyam Rama	n
Data FlightData_20	16_SV, Data updated on January 29, 2019 22:58:51

OBJECT INFORMATION—THE GENERAL TAB

5. Click the **Operations summary** tab.

The **Operations Summary** tab contains two tabs: **General** and **Others**. The **General** tab contains the **Outliner** and **Data operations** sections.

Information about the columns added to outliner is displayed within the Outliner tab.

General C General Other	operations summary	
Row Column Data	DEST_CITY_NAME ORIGIN_CITY_NAME DISTANCE	
▹ Data operation	ions	

OPERATIONS SUMMARY—THE OUTLINER SUMMARY

6. Click the **Data operations** tab to view information about data operations applied to the chart.

(i) Object Information	
General Operations summary	
General Others	
▶ Out liner	
Measures	Data operations
DISTANCE	Sum
CLOSE	

OBJECT INFORMATION—DATA OPERATIONS INFORMATION

7. Click the **Others** tab.

General Operations summary		
General Others		
Out liner		
 Data operations 		
Measures	Data operations	
DISTANCE	Sum	

OBJECT INFORMATION—THE OTHERS TAB

- Smarten
 - 8. Information about the type of sort applied on various columns.

i) Object Information	
General Operations summary General Others	
✓ Sort	
Column name	Туре
DEST_CITY_NAME	Ascending
ORIGIN_CITY_NAME	Ascending
CLOSE	
OBJECT IN	FORMATION—THE OTHERS TAB

9. Click CLOSE.

5.5.16 Configuring PDF Setup

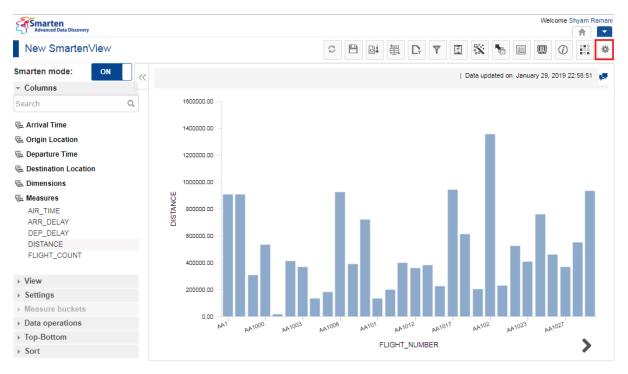
You can specify various settings for a PDF page, such as margin, size of the page, footer, and header.

About this task

Use this task to set configuration for a PDF page of a chart for SmartenView.

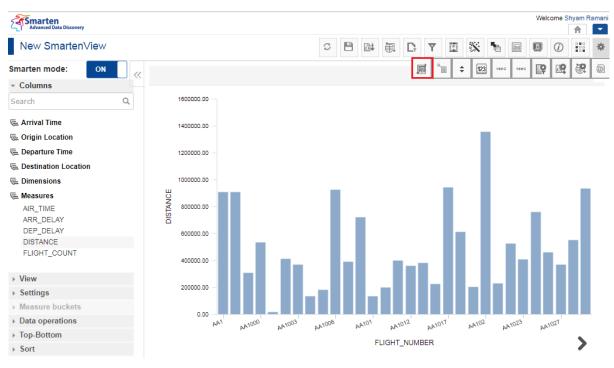
Procedure

- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Settings icon on the toolbar.



PDF PAGE SETUP—THE SETTINGS ICON

4. Click the PDF Setup icon.



OPERATIONS ON A CHART—THE PDF SETUP OPTION

The system displays the **PDF setup** dialog box.

Advanced Data Discovery	Welcome Shyam Ra	im: ^
New SmartenView	Page setup Header Footer	×
Smarten mode: ON	Page margins (in px) Left updated on January 29, 2019 22:58:51	ø
- Columns	72	
Search O		
🖷 Arrival Time	Right 72	
🖷 Origin Location	Тор	
🖶 Departure Time	72	
The Destination Location	Bottom	
🖷 Dimensions	72	
Measures	Page size (in cm)	
ARR_DELAY	Predefined page size	
DEP_DELAY	A4 (21.0 x 29.71)	
DISTANCE	Width	
FLIGHT_COUNT	29.71	
▹ View	Height	
▹ Settings		
Measure buckets	OK CANCEL	
 Data operations 	NAM ANOUS	
▹ Top-Bottom	FLIGHT_NUMBER	
▹ Sort	FLIGHT_NUMBER	

OPERATIONS ON A CHART-THE PDF SETUP DIALOG BOX

5. Click the Page setup tab.

PDF setup
Page setup Header Footer
Page margins (in px) Left
72
Right
72
Тор
72
Bottom
72
Page size (in cm) Predefined page size
A4 (21.0 × 29.71) 🔹
Width
29.71
Height
CANCEL

PDF SETUP—THE PAGE SETUP TAB

- 6. Specify a value for the left margin in the **Left** field.
- 7. Specify a value for the right margin in the **Right** field.
- 8. Specify a value for the top margin in the **Top** field.
- 9. Specify a value for the bottom margin in the **Bottom** field.
- 10. Select an option from the Page size list to specify the size of the page.
- 11. If you have selected the **Custom** option from the list:
- 12. Specify a value for the width of the page in the **Width** field.
- 13. Specify a value for the height of the page in the Height field.
- 14. Select the **Portrait** or **Landscape** option to specify the orientation of the page.
- 15. Click the **Header** tab.

Page setup Header Footer															
□ ▼ ∯4▼	A [‡] ▼	в	I	<u>u</u>	I.	Ē	Ē	1	T		ħ	12:0	Ø	I	
Left															
Center															/
															/
Right															
															/

PDF SETUP—THE HEADER TAB

16. Enter values or variables required for left, center, and right sections of the header.

You can select Page Number, Number of Pages, Date, Time, Object Title, and Image as a variable.

You can also add custom text along with variables.

17. Click the **Footer** tab.

•	<u>₿</u> 4 •	A [‡] ▼	в	z	U	T	Ē	ŧ	1	I	ĥ	17:	ø	I	
Left															
Cente	F														
Right															

PDF SETUP-THE FOOTER TAB

18. Enter values or variables required for left, <u>center</u>, and right sections of the header.

You can select Page Number, Number of Pages, Date, Time, Object Title, and Image as a variable.

You can also add custom text along with variables.

19. Click OK.

5.5.17 SmartenView Properties

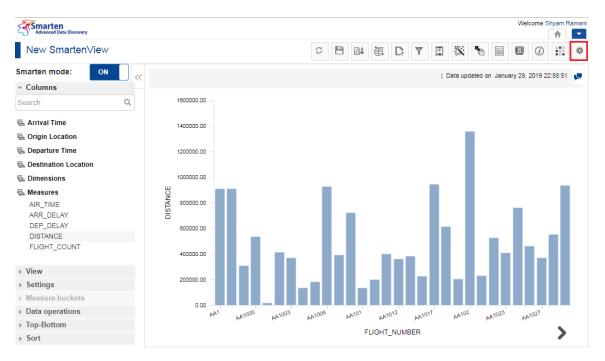
You can configure various properties in a SmartenView.

About this task

Use this task to configure graph properties in a SmartenView.

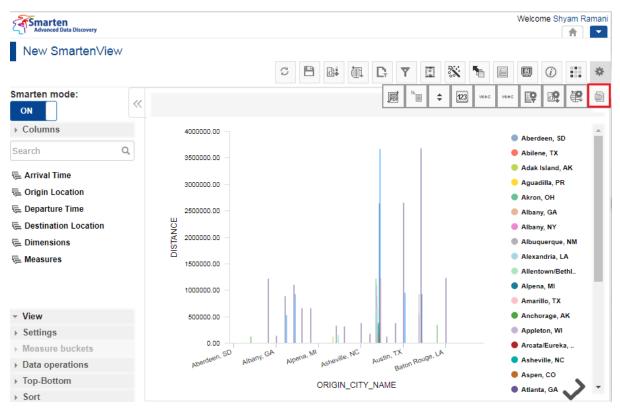
Procedure

- 1. Open the SmartenView for which you want to configure graph properties.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Settings icon on the toolbar.



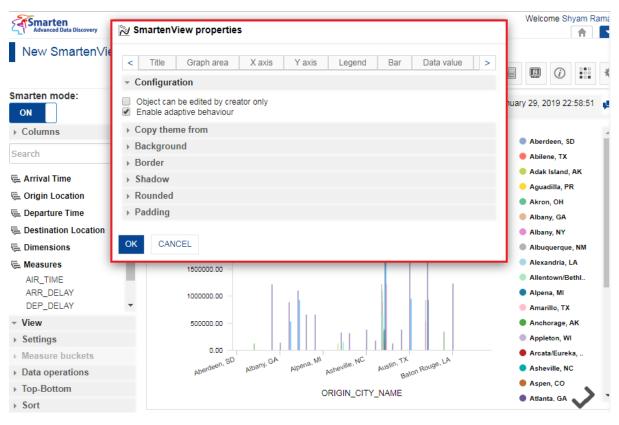
OPERATIONS ON A CHART—THE SETTINGS ICON

4. Click the Graph Properties icon.



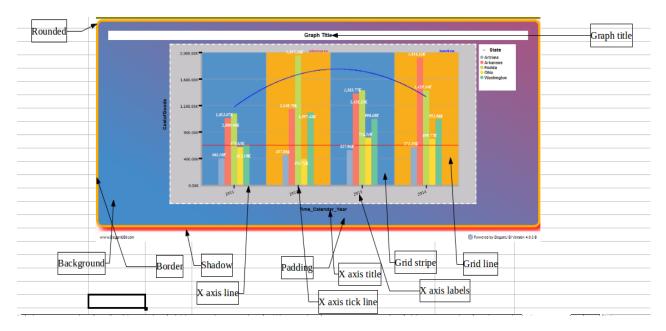
OPERATIONS ON A CHART—THE MANAGE PAGE FILTER OPTION

The system displays the SmartenView properties dialog box.

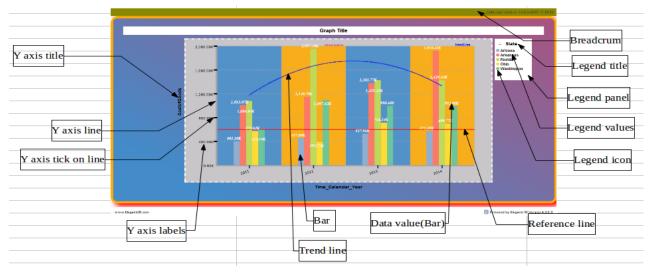


OPERATIONS ON A CHART-THE SMARTENVIEW PROPERTIES DIALOG BOX

5. You can configure various graph properties for SmartenView, and then click **OK**. Refer to the tables below for the options that you can configure:



TYPICAL GRAPH COMPONENTS-1



TYPICAL GRAPH COMPONENTS-2

Property	Option	Valid Values
Configuration	Object can be edited by creator only	Selected/Clear
	Enable adaptive behavior	Selected/Clear
Copy theme from	My folder	Search box
	Repository	
Background	Visible	Selected/Clear

Property	Option	Valid Values
	Color	#000000 - #FFFFFF
	Transparent	Selected/Clear
	Image	.jpg, .png (image formats)
	Background repeat	Repeat/No repeat/Repeat X/Repeat Y
	Background position	Center/Left/Right/Top/Bottom
	Gradient	
	 Visible 	Selected/Clear
	 Style 	Linear gradient
	 Angle 	0–360
	 Extent 	0–100
	Color	#000000 - #FFFFFF
Border	Visible	Selected/Clear
	All	Width: 0–10
		Style: None, Solid, Dash, Dot
		Color: #000000 - #FFFFFF
	Left	Width: 0–10
		Style: None, Solid, Dash, Dot
		Color: #000000 - #FFFFFF
	Right	Width: 0–10
		Style: None, Solid, Dash, Dot
		Color: #000000 - #FFFFFF
	Тор	Width: 0–10
		Style: None, Solid, Dash, Dot
		Color: #000000 - #FFFFFF
	Bottom	Width: 0–10
		Style: None, Solid, Dash, Dot
		Color: #000000 - #FFFFFF
Shadow	Left to right	-10–10
	Top to bottom	-10–10
	Fade	0–20

Property	Option	Valid Values
	Color	#000000 - #FFFFF
Rounded	All	0–20
	Top left	0–20
	Top right	0–20
	Bottom left	0–20
	Bottom right	0–20
Padding	All	0–100%
	Тор	0–100%
	Bottom	0–100%
	Left	0–100%
	Right	0–100%

SMARTENVIEW—GENERAL PROPERTIES

SmartenView—Title properties

Property	Option	Valid Values
Configuration	Visible	Selected/Clear
	Title	Any String Values
	Title Panel Position Adjust width to text	Left/Center/Right Selected/Clear
Font and text	Name	System Fonts
	Style	B, I, U
	Size	8–25
	Color	#000000 - #FFFFF
	Text transform	None/Uppercase/Lowercase/ Capitalize
	Letter spacing	-3–5

Property	Option	Valid Values
	Word spacing	-3–5
	Text alignment	Left/Center/Right/Justify
	Text shadow	
	Visible	Selected/Clear
	Left to right	-5–5
	Top to bottom	-5–5
	Fade	0–5
	Color	#000000 - #FFFFF
Background	Visible	Selected/Clear
	Color	#000000 - #FFFFF
	Transparent	Selected/Clear
	Image	.jpg, .png (image formats)
	Background repeat	Repeat/No repeat/ Repeat X/Repeat Y
	Background position	Center/Left/Right/Top/Bottom
	Gradient	
	Visible	Selected/Clear
	Style	Linear gradient
	Angle	0–360
	Extent	0–100
	Color	#000000 - #FFFFF
Border	Visible	Selected/Clear
		Width: 0–10
	All	Style: None, Solid, Dash, Dot Color: #000000 - #FFFFFF
		Width: 0–10
		Style: None, Solid, Dash, Dot
	Left	Color: #000000 - #FFFFFF

Property	Option	Valid Values
	Right	Width: 0–10 Style: None, Solid, Dash, Dot Color: #000000 - #FFFFFF
	Тор	Width: 0–10 Style: None, Solid, Dash, Dot Color: #000000 - #FFFFFF
	Bottom	Width: 0–10 Style: None, Solid, Dash, Dot Color: #000000 - #FFFFFF
Shadow	Left to right	-10–10
	Top to bottom	-10–10
	Fade	0–20
	Color	#000000 - #FFFFF
Rounded	All	0–20
	Top left	0–20
	Top right	0–20
	Bottom left	0–20
	Bottom right	0–20
Margin	All	0–100%
	Тор	0–100%
	Bottom	0–100%
	Left	0–100%
	Right	0–100%
Padding	All	0–100%
	Тор	0–100%

Property	Option	Valid Values
	Bottom	0–100%
	Left	0–100%
	Right	0–100%

SMARTENVIEW—TITLE PROPERTIES

SmartenView–Graph Area properties

Property	Option	Valid Values
Configuration	Graph 3D Effect Visible Angle Depth Pagination CategoryAxis pagination Legend pagination	Selected/Clear 0–90 px 0–90 px -1 for no pagination -1 for no pagination
Background	Visible Color Transparent Image Background repeat Background position	Selected/Clear #000000 - #FFFFF Selected/Clear .jpg, .png (image formats) Repeat/No repeat/ Repeat X/Repeat Y Center/Left/Right/Top/Bottom
Border	Gradient Visible Style Angle Extent Color Visible	Selected/Clear Linear gradient 0–360 0–100 #000000 - #FFFFFF Selected/Clear

Property	Option	Valid Values
	All	Width: 0–10 Style: None, Solid, Dash, Dot Color: #000000 - #FFFFFF
	Left	Width: 0–10 Style: None, Solid, Dash, Dot Color: #000000 - #FFFFFF
	Right	Width: 0–10 Style: None, Solid, Dash, Dot Color: #000000 - #FFFFFF
	Тор	Width: 0–10 Style: None, Solid, Dash, Dot Color: #000000 - #FFFFFF
	Bottom	Width: 0–10 Style: None, Solid, Dash, Dot Color: #000000 - #FFFFFF
Shadow	Left to right	-10–10
	Top to bottom	-10–10
	Fade	0–20
	Color	#000000 - #FFFFF
Rounded	All	0–20
	Top left	0–20
	Top right	0–20
	Bottom left	0–20
	Bottom right	0–20
Margin	All	0–100%
Background grid		
Grid line	Visible	Selected/Clear
	Thickness	1–10
	Style	Solid/Dash/Dot

Property	Option	Valid Values
	Color	#000000 - #FFFFF
Minor grid	Enable	Selected/Clear
Grid stripe	Visible	Selected/Clear
	Odd	#000000 - #FFFFF
	Transparency	0–100%
Zoom		
Zoom though area selection	Enable	Selected/Clear
		Both/Horizontal/Vertical
Scrollbar	Enable	Selected/Clear

SMARTENVIEW—GRAPH AREA PROPERTIES

SmartenView—X-Axis properties

Property	Option	Valid Values	
Title	Title		
Configuration	Visible	Selected/Clear	
	Title	Any String Values	
Font and Text	Name	System Fonts	
	Style	B, I, U	
	Size	8–12	
	Color	#000000 - #FFFFFF	
	Text transform	None/Uppercase/Lowercase/ Capitalize	
	Letter spacing	-3–5	
	Word spacing	-3–5	
	Text alignment	Left/Center/Right/Justify	
	Text shadow Visible Left to right Top to bottom Fade Color	Selected/Clear -5–5 -5–5 0–5 #000000 - #FFFFF	
Label	1	1	

Property	Option	Valid Values
Configuration	Visible	Selected/Clear
	Show all values	Selected/Clear
	Distance from axis line	0–10
	Stagger Enable Start from top Start from bottom Rotation	Selected/Clear Selected/Clear Selected/Clear -90–90
Font and Text	Name	System Fonts
	Style	B, I, U
	Size	8–25
	Color	#000000 - #FFFFFF
	Text transform	None/Uppercase/Lowercase/ Capitalize
	Characters limits	None/Auto/Custom
Date format		
Time format		
Line		
Configuration	Visible	Selected/Clear
	Thickness	0–10
	Style	None/Solid/Dash/Dot/Dashdot /Dashdotdot/
	Color	#000000 - #FFFFFF
	Position	Top/Bottom
Tick on axis	Visible	Selected/Clear
	Alignment	Left/Center
	Thickness	1–10
	Length	1–10
	Color	#000000 - #FFFFFF

SMARTENVIEW—X-AXIS PROPERTIES

SmartenView–Y-Axis properties

Property	Option	Valid Values
Title		

Property	Option	Valid Values
Configuration	Visible	Selected/Clear
	Title	Any String Values
	Title Panel	
	 Rotate Character 	0/90
Font and Text	Name	System Fonts
	Style	B, I, U
	Size	8–25
	Color	#000000 - #FFFFF
	Text transform	None/Uppercase/Lowercase/ Capitalize
	Text shadow	
	 Visible 	Selected/Clear
	 Left to right 	-5–5
	 Top to bottom 	-5–5
	 Fade 	0–5
	 Color 	#000000 - #FFFFFF
Label		
Configuration	Visible	Selected/Clear
	Maximum value	Auto/Custom
	Minimum value	Auto/Custom

Distance from axis line

Name

Style

Size

Color

Comma separator

Font and Text

Number format

154

0–10

B, I, U

8–25

System Fonts

#000000 - #FFFFF

Selected/Clear

Property	Option	Valid Values
	Comma format	1, 234, 567/ 12, 34 , 567
	Digits after decimal point	0–5
	Adjusted digits Show suffix	0 1/10000000Bn Selected/Clear
Line	<u> </u>	<u> </u>
Configuration	Visible	Selected/Clear
	Thickness	0–10
	Style	None/Solid/Dash/Dot/Dashdot / Dashdotdot/Raised/Lowered
	Color	#000000 - #FFFFF
	Position	Left/Right
Major tick	Visible	Selected/Clear
	Thickness	1–10
	Length	1–10
	Color	#000000 - #FFFFFF

SMARTENVIEW—Y-AXIS PROPERTIES

SmartenView – Legend properties

Property	Option	Valid Values	
Panel	Panel		
Configuration	Visible	Selected/Clear	
	Position	Top/Left/Right/Bottom	
	Drill down	Selected/Clear	
Background	Visible	Selected/Clear	
	Color	#000000 - #FFFFFF	
	Transparent	Selected/Clear	

Property	Option	Valid Values
	Image	.jpg, .png (image formats)
	Background repeat	Repeat/No repeat/ Repeat X/ Repeat Y
	Background position	Center/Left/Right/Top/Bottom
	Transparency	None, 5–100
	Gradient	
	 Visible 	Selected/Clear
	 Style 	Linear gradient
	 Angle 	0–360
	 Extent 	0–100
	Color	#000000 - #FFFFF
	 Transparent 	Selected/Clear
Border	Visible	
	All	Width: 0–5
		Style: None, Solid, Dash, Dot
		Color: #000000 - #FFFFFF
Shadow	Left to right	-10–10
	Top to bottom	-10–10
	Fade	0–20
	Color	#000000 - #FFFFF
Margin	All	0–100%
	Тор	0-100%
	Bottom	0–100%
	Left	0–100%
	Right	0-100%
Padding	All	0–100%
	Тор	0–100%
	Bottom	0–100%
	Left	0–100%
	Right	0–100%

Property	Option	Valid Values	
Values	Values		
Configuration	Column	Free flow/1/2/3/4	
	Order	Ascending/Descending	
Font and Text	Name	System Fonts	
	Style	B, I, U	
	Size	8–25	
	Color	#000000 - #FFFFFF	
	Text transform	None/Uppercase/Lowercase/ Capitalize	
	Characters limits	None/Auto/Custom	
Date format			
Time format			
lcon			
Configuration	Width	0–20 screen units	
Shape	Select shape	None, Square/Circle/,Triangle Up & Triangle Left, Triangle Right, Triangle Down, Diamond, Bubble	
Border	Visible	Selected/Clear	
	All	Width: 0–10	
		Style: None, Solid	
		Color: #000000 - #FFFFFF	

SMARTENVIEW—LEGEND PROPERTIES

SmartenView—Bar properties

Property	Option	Valid values
Configuration	Туре	Bar/Cylinder/Cone
	Corner radius	Any number value
	Bar width	0–100%
Bar Color	Auto	Auto/Custom/Show same color

	Color - total bar		#000000 - #FFFFFF
	Transparency		Any number value
Gradient	Visible		Selected/Clear
	Color		#000000 - #FFFFFF
	Transparent		Selected/Clear
Border	Visible		Selected/Clear
	All	width	0-10
		style	None/Solid/Dash/Dot
		color	#000000 - #FFFFF

SMARTENVIEW—BAR GRAPH PROPERTIES

SmartenView—Data value properties

Property	Option	Valid Values
Point		
Configuration	Visible	Selected/Clear
	Position	Top/Center/Bottom
	Angle	-360 to 360
	Offset	-100 to 100
	Format text	\$Y-AXIS_VALUE\$
		\$X-AXIS_VALUE\$
		\$Y-AXIS_TITLE\$
		\$X-AXIS_TITLE\$
		\$Z-AXIS_VALUE\$
		\$Z-AXIS_TITLE\$
		\$ROWS_VALUE(n)\$
		\$ROWS_TITLE(n)\$
		\$COLS_VALUE(n)\$
		\$COLS_TITLE(n)\$
		\$Geographic_Column\$[map only]
		[n=0 - 4]

Property	Option	Valid Values
Font and Text	Name	System Fonts
	Style	B, I, U
	Size	8–25
	Color	#000000 - #FFFFF
Mouse over		
Configuration	Enable mouse over text	Selected/Clear
	Format text	\$Y-AXIS_VALUE\$
		\$X-AXIS_VALUE\$
		\$Y-AXIS_TITLE\$
		\$X-AXIS_TITLE\$
		\$Z-AXIS_VALUE\$
		\$Z-AXIS_TITLE\$
		\$ROWS_VALUE(n)\$
		\$ROWS_TITLE(n)\$
		\$COLS_VALUE(n)\$
		\$COLS_TITLE(n)\$
		\$Geographic_Column\$[map only]
		[n=0 - 4]
Font and text	Name	System Fonts
	Style	B, I, U
	Size	8–25
	Color	#000000 - #FFFFF
	Text transform	None/Uppercase/Lowercase/ Capitalize
	Letter spacing	-3–5
	Word spacing	-3–5

Property	Option	Valid Values
	Text shadow	
	 Visible 	Selected/Clear
	 Left to right 	-5–5
	 Top to bottom 	-5–5
	■ Fade	0–5
	 Color 	#000000 - #FFFFF
Background	Visible	Selected/Clear
	Color	#000000 - #FFFFF
Border	Visible	Selected/Clear
	All	#000000 - #FFFFF
Shadow	Left to right	-10–10
	Top to bottom	-10–10
	Fade	0–20
	Color	#000000 - #FFFFFF

SMARTENVIEW-DATA VALUE PROPERTIES

SmartenView—Reference line properties

Property	Valid Values
Label	Any String Values
Value	Numeric Value according to data
Line style	Solid/Dash/Dot
Line width	1–10
Line color	#000000 - #FFFFF

SMARTENVIEW—REFERENCE LINE PROPERTIES

SmartenView—Trend line properties

Property	Valid Values
Name	Any String Values
Trend column	Column Values
Algorithm	Linear/Logarithmic / Exponential/Moving Average

Style	Solid/Dash/Dot
Thickness	1–10
Color	#000000 - #FFFFF

SMARTENVIEW—TREND LINE PROPERTIES

SmartenView—Breadcrumb properties

Property	Valid Values
Font and Text	#000000 - #FFFFF
Background Visible Color Transparent 	Selected/Clear #000000 - #FFFFF Selected/Clear

SMARTENVIEW—BREADCRUMB PROPERTIES

SmartenView—Column labels properties

Property	Valid Values
Available Columns	List of columns selected in graph
Column display name	Any String Values

SMARTENVIEW—COLUMN LABELS PROPERTIES

SmartenView—Value selection properties

Property	Option	Valid Values
Font and Text	Name	System Fonts
	Style	B, I, U
	Size	8–72
	Color	#000000 - #FFFFFF
	Text Transform	None/Uppercase/Lowercase
	Letter spacing	-3 to 5
	Word spacing	-3 to 5

SMARTENVIEW—VALUE SELECTION PROPERTIES

5.5.18 Creating Custom Dimensions

Custom dimension value columns can be created by defining and applying mathematical formula on existing column values as per your needs. This is also known as **User Defined Header Columns (UDHC).**

Users can create new dimension value columns by performing various conditional statements, such as string, arithmetic, date, statistics, trigonometry, or using various arithmetic operators (such as +, -, /, etc.) or comparison operators (such as =, >, < etc.) on two or more existing Dimension columns.

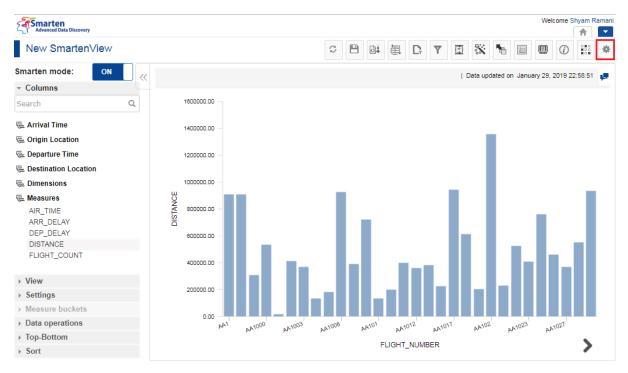
Reference: Concept Manual > Analytic Functions > UDDC & UDHC > Custom Dimension Value

About this task

Use this task to create custom dimensions for SmartenView.

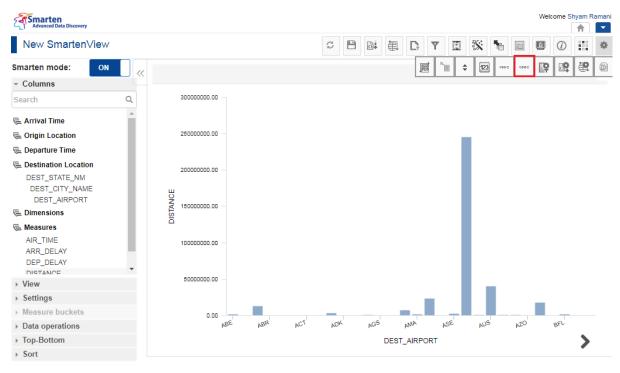
Procedure

- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Settings icon on the toolbar.



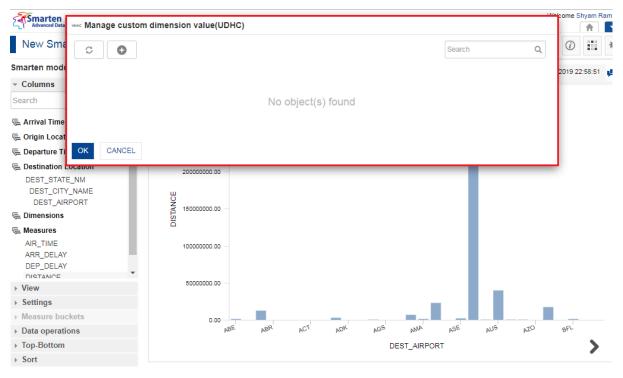
OPERATIONS ON A CHART—THE SETTINGS ICON

4. Click the Manage UDHC icon.



OPERATIONS ON A CHART—THE MANAGE UDHC ICON

The system displays the Manage custom dimension value (UDHC) dialog box.





5. Click the Add icon.

VONC Manage custom dimension value(UD	HC)		
3		Search	Q,
	No object(s) found		
OK CANCEL			

OPERATIONS ON A CHART—THE ADD ICON

The system displays the Add custom dimension value (UDHC) dialog box.

Advanced Data Discovery	VDHG Add custor	n dim	ension value(UDHC)				Welc	ome Shyan	n Ram:
New SmartenView	Name						š 🐂 🗉 🔍	0	. *
Smarten mode: ON	UDHC - 1						updated on January 29, 2	010 22-50-1	E1
- Columns	Dimensions						updated on Sandary 25, 2	019 22.30.	" P
Search	DEP_YEAR					•			
⊊ Arrival Time ⊊ Origin Location	Calculation pr		ver Custom Measure er Expression						
E Departure Time									
E Destination Location DEST_STATE_NM DEST_CITY_NAME DEST_AIRPORT						11			
🖷 Dimensions	Dimension value	5	Functions		Operators +				
E Measures AIR_TIME ARR_DELAY DEP_DELAY DISTANCE	2016		Arithmetic abs ceil exp fact floor	Î	- * / ~ >				
▶ View			log logTen		<= >=				
 Settings 		~	mov	*	==	*			
Measure buckets								_	
Data operations	OK VERIF	Y EXP	RESSION CANCEL				AUS AZO	BFL	
Top-Bottom		_							>
▹ Sort									

OPERATIONS ON A CHART—THE ADD CUSTOM DIMENSION VALUE DIALOG BOX

- 6. Specify a name for the measure in the **Name** field.
- 7. You can select the **Calculation priority over Custom Measure** option to override the priority of custom measure display value.
- 8. You can select the **Show Summary as per Expression** option to calculate the summary value of UDHC dimension based on the UDHC expression.
- 9. You can select values from the **Dimension values**, **Functions**, and **Operators** sections to create or edit an expression.
- 10. You can click the **VERIFY EXPRESSION** to verify the expression you have created.
- 11. Click **OK**.

5.5.19 Mapping Data Display Value

Data value / Display value mapping can display alternate text for specific field values. Displayed data names (column headings) can be changed based on data values. For example, if quarters are available as numbers 1 to 4 (e.g., 1 for Quarter1, 2 for Quarter2), the user can specify display value for the corresponding data values from the cube or dataset. Users can view the quarter names instead of quarter numbers for a user-friendly experience.

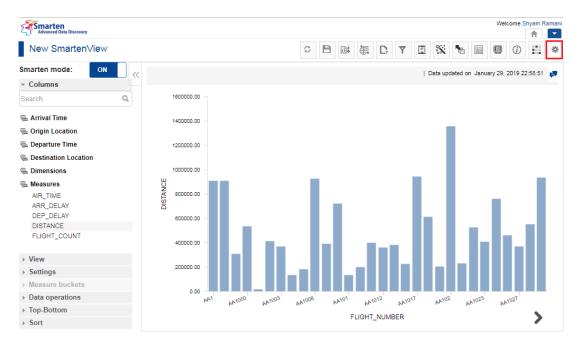
Reference: Concept Manual > Analytics Functions > Data Value / Display Value Mapping

About this task

Use this task to specify display value mapping for SmartenView.

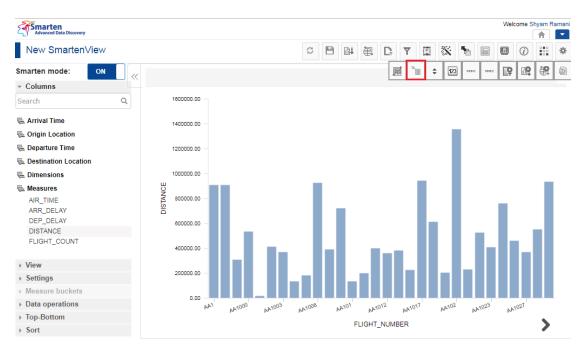
Procedure

- 1. Select the cube or dataset you want to use to generate a SmartenView.
- 2. Select the columns you want to use to generate a SmartenView.
- 3. Click the Settings icon on the toolbar.



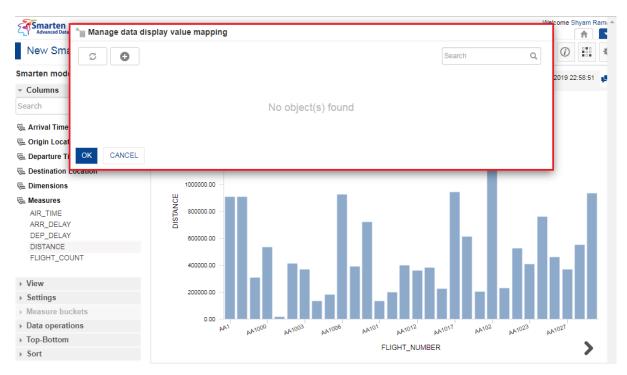
MANAGE DISPLAY NAME—THE SETTINGS ICON

4. Click the Manage data display icon.



MANAGE DISPLAY NAME—THE MANAGE DISPLAY NAME ICON

The system displays the Manage data display value mapping dialog box.

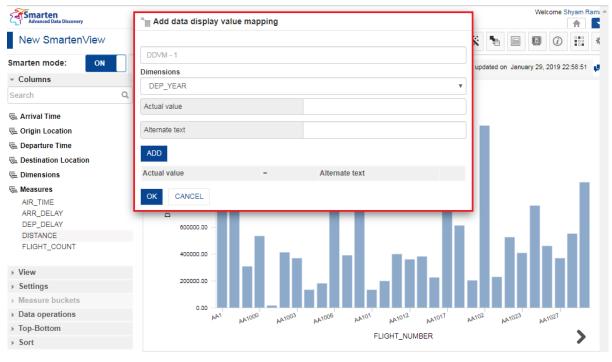


MANAGE DATA DISPLAY—THE MANAGE DATA DISPLAY VALUE MAPPING

5. Click the Add icon.

[™] ≣ Manage data display value ma	pping		
S O		Search	Q
	No object(s) found		
OK CANCEL			
	MANAGE DATA DISPLAY—THE ADD ICON		

The system displays the Add data display value mapping dialog box.



MANAGE DATA DISPLAY—THE ADD DATA DISPLAY VALUE MAPPING DIALOG BOX

- 6. Specify a name for the mapping in the field.
- 7. Select an option from the **Dimensions** list to specify the column for which you want to add data display mapping.
- 8. Select a value for which you want to specify alternate text from the Actual value list.
- 9. Specify the alternate text for the value in the Alternate text field, and then click ADD.
- 10. You can repeat steps 7–9 to add more than one mapping, and then click OK.
- 11. Click OK.

6 Product and Support Information

Find more information about Smarten and its features at <u>www.smarten.com</u> Support: <u>support@smarten.com</u> Sales: <u>sales@smarten.com</u> Feedback & Suggestions: <u>support@smarten.com</u>

Support & Knowledgebase Portal: <u>support.smarten.com</u>