Smarten
Augmented Analytics
Powered by ElegantJ BI

Administrator Manual

Version 5.1

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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.

Contents

1 About this document

This document is designed to provide the administrator with fundamental skills to administer Smarten in the organisation. This guide provides step-by-step information on all administrative features of Smarten.

This chapter contains topics relating to the scope and use of the Smarten Advanced Data Discovery Administrator Guide.

1.1 Intended audience

This document is primarily intended for administrators who use Smarten. It assumes that the reader is familiar with the following:

- Overview of concepts and features of Smarten
- Data source management and connections
- User management and access rights privileges
- Security, authentication, and server management
- Java Enterprise Application management

1.2 Scope and organisation of topic areas

The content in this manual is organised according to the user interface components included in the Administration Interface and are arranged in the following topics:

Chapter 1	About this Document
Chapter 2	Introducing Smarten
Chapter 3	Getting Started with Smarten
Chapter 4	Application Configuration Settings
Chapter 5	Configuring Data Sources
Chapter 6	Cube Repository Management
Chapter 7	Create Cube
Chapter 8	Create Linked Cube
Chapter 9	Rebuild Cube
Chapter 10	Working with Repository
Chapter 11	Using Scheduler
Chapter 12	Managing Security & Permissions
Chapter 13	Configuring R server
Chapter 14	Configuring TeamUp
Chapter 15	Working with Logs
Chapter 16	Managing Admin profile
Chapter 17	Taking Backup
Chapter 18	Product & Support Information

1.3 Conventions used

This guide 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:

- Field names are mentioned in boldface font:
  Select **Page Setup** tab under **Page Setup Template**

- Important notes are indicated in a different font colour

  > Note:
  > Query Schema is not accessible in MS - Access Database.

- References to **other Manuals** are mentioned in highlights

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Update Process > Types of Cube Updates—From scratch or incremental**

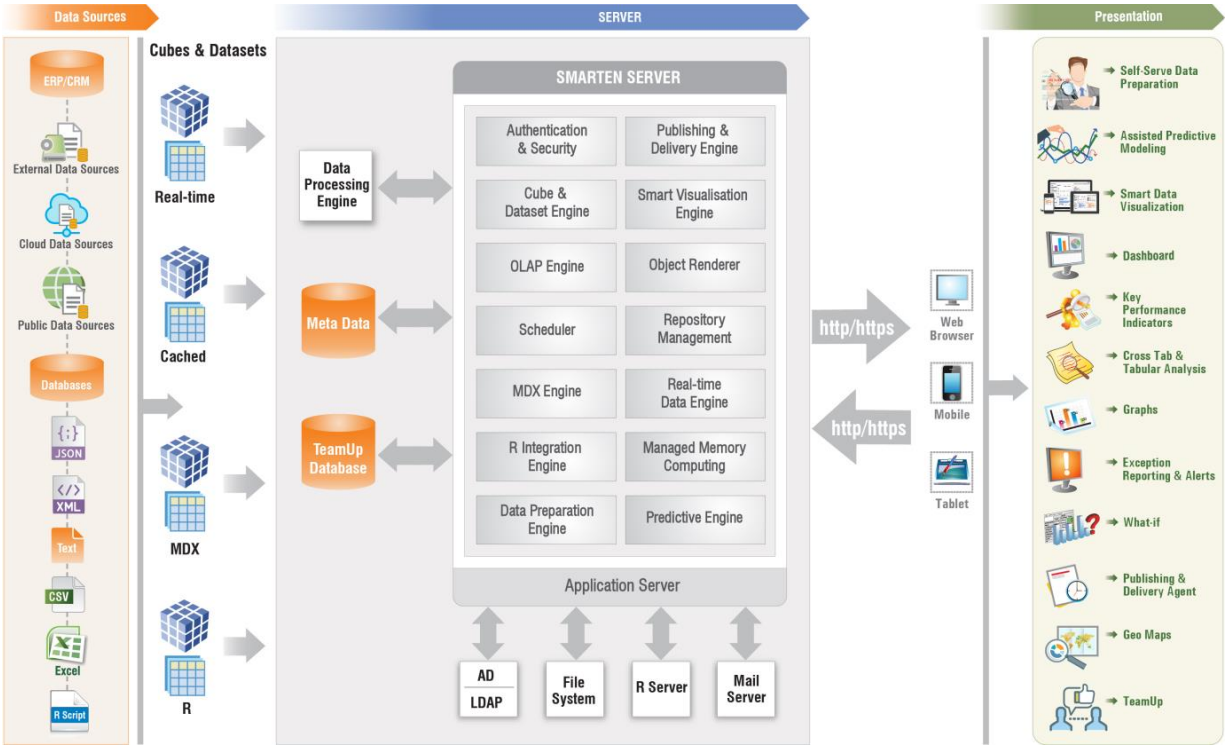
2 Introducing Smarten

This section provides an overview of the Smarten platform and covers the components and capabilities for Advanced Data Discovery and Corporate Performance Management.

2.1 High-level architecture

Smarten provides a comprehensive and integrated set of features and functions that deliver information to end users through Crosstab, tabular, graphical charts, GeoMap, KPI, and dashboards, thereby allowing users to use data in an interactive manner.

To understand how Smarten provides a complete BI framework for corporate performance management and advanced data discovery with enterprise-wide implementation, refer to the following high-level architecture diagram:



SMARTEN BI SUITE - HIGH-LEVEL ARCHITECTURE

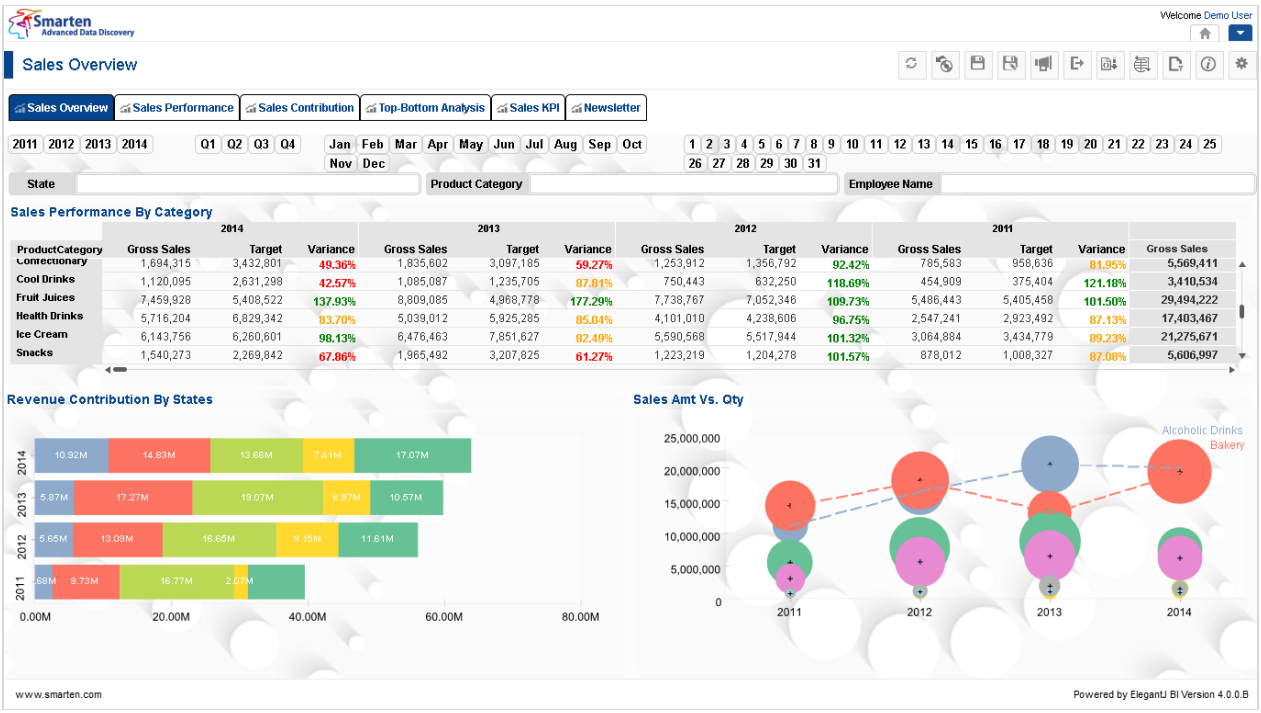
Refer to documents related to Managed Memory Computing to understand concept and working of Managed Memory Computing.

2.2 Responsive user interface

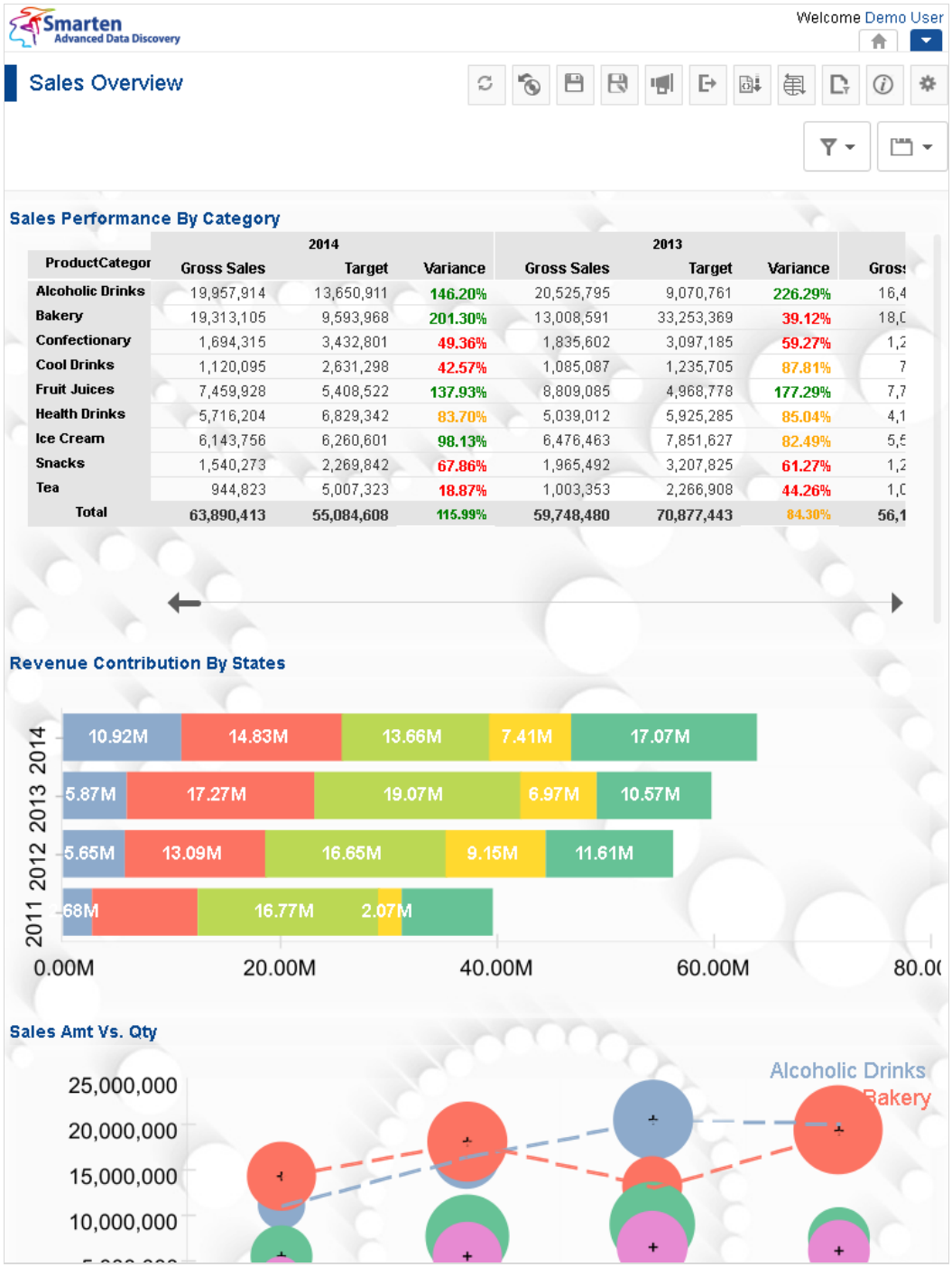
Smarten is designed with an adaptive and responsive user interface that renders the UI elements based on the resolution of the target device. The following three resolutions are taken into consideration:

- Desktop view: screen width of 980 px and above
- Tablet portrait view: screen width between 671px and 979px
- Smartphone view: screen width of 670 px and below

The following images explain how different target devices display the same dashboard objects:

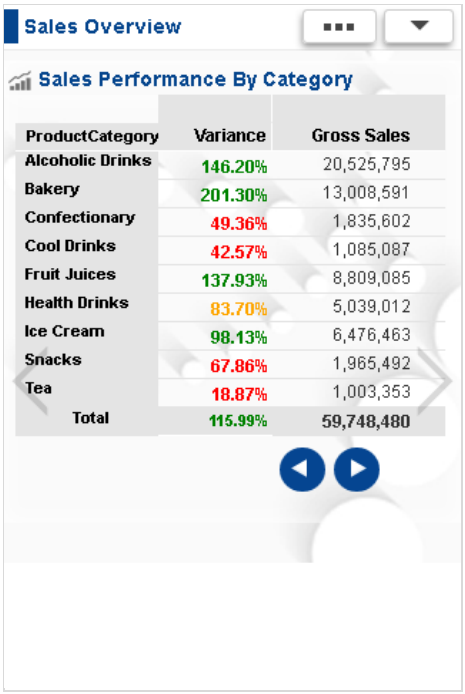


DESKTOP VIEW



ProductCategor	2014 Gross Sales	2014 Target	2014 Variance	2013 Gross Sales	2013 Target	2013 Variance	Gross
Alcoholic Drinks	19,957,914	13,650,911	146.20%	20,525,795	9,070,761	226.29%	16,4
Bakery	19,313,105	9,593,968	201.30%	13,008,591	33,253,369	39.12%	18,0
Confectionary	1,694,315	3,432,801	49.36%	1,835,602	3,097,185	59.27%	1,2
Cool Drinks	1,120,095	2,631,298	42.57%	1,085,087	1,235,705	87.81%	7
Fruit Juices	7,459,928	5,408,522	137.93%	8,809,085	4,968,778	177.29%	7,7
Health Drinks	5,716,204	6,829,342	83.70%	5,039,012	5,925,285	85.04%	4,1
Ice Cream	6,143,756	6,260,601	98.13%	6,476,463	7,851,627	82.49%	5,5
Snacks	1,540,273	2,269,842	67.86%	1,965,492	3,207,825	61.27%	1,2
Tea	944,823	5,007,323	18.87%	1,003,353	2,266,908	44.26%	1,0
Total	63,890,413	55,084,608	115.99%	59,748,480	70,877,443	84.30%	56,1

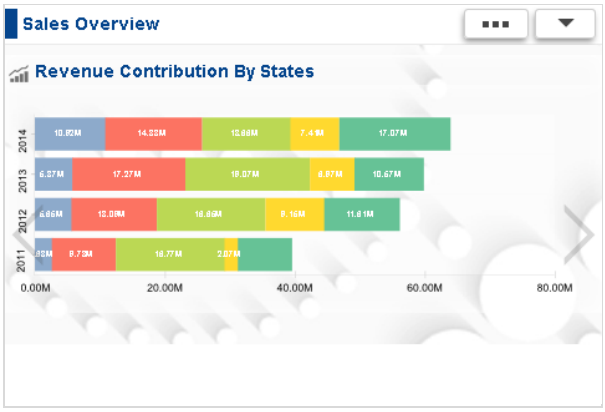
TABLET VIEW



SMARTPHONE VIEW (PORTRAIT)

SMARTPHONE VIEW (LANDSCAPE)

SMARTPHONE VIEW (PORTRAIT)



SMARTPHONE VIEW (LANDSCAPE)

2.3 Smarten modules

Smarten fulfils enterprise wide Advanced Data Discovery needs with crosstab, graphs, GeoMap, tabular, KPIs, dashboards, executive alerts and integrated information delivery agent.

Module	Description
Data Extraction, Data Transformation, Cube Management	Data extraction, data transformation, and data management allow you to extract, load, and transform (ETL) data using an intuitive graphical interface through a unified, powerful browser-based platform.
Dashboards	Dashboards provide a customized snapshot of daily operations, assist you in identifying problems and their source, and provide valuable, up-to-date information about financial results, sales, and other critical information—all in one place!
Key Performance Indicators (KPI)	Simplified KPI management and tracking with powerful features, formulae and expressions, flexible frequency, and threshold levels enable clear definition and tracking of KPIs for a period and measure performance as compared with any previous cycle. You can analyse performance with easy-to-use features, such as drill-down, drill through, slice and dice, and graphical data mining.
Cross-Tab Analysis	Cross-tab analysis offers a 360-degree view of business, seamless integration with data extraction and cube management features, and ad hoc queries and BI reporting for a clear view of corporate performance and the ability to slice and dice, drill-down, and drill through data to find the most relevant information.
Graphs	Graphical technology makes it easy for you to find, filter, and analyse data. It allows you to go beyond numbers and view information with stunning displays, valuable indicators and gauges, charts, and a variety of graph types from which you can choose.
GeoMap	GeoMap makes it easy for you to find, filter and analyse data using geographic maps. It provides such features as drill down, spot lighter, zoom in / zoom out, and other visual properties, and does not need any active connection to the Internet
Exception Reporting and Alerts	Exception Reporting allows you to define threshold points, monitor Key Performance Indicators and metrics, and receive alerts when exception conditions occur. You have the ability to set, modify, and delete alerts based on specific thresholds.
Tabular Analysis	Reports deliver web-based Advanced Data Discovery reports to anyone in the organisation within minutes! It is simple to use, easy to implement, and affordable for every organization. Use the point-and-click and drag-and-drop features to create a tabular analysis and summarize performance metrics and operational data and the ability to drill-down, and drill through data to find the most relevant information.
Publishing and Delivery Agent	This module ensures that every user has the information they need. Objects, tabular, cross-tab, graphs, GeoMap and dashboards are automatically delivered so that you are aware of issues, opportunities, finances, and sales. You can access information from anywhere and see information in a form that is meaningful to you on a schedule that you define.
Self-serve data preparation (SSDP)	The Self-Serve Data Preparation component of the Smarten Advanced Data Discovery solution allows business users to prepare and analyze data with clear results without the assistance of technology staff or analysts.
SmartenView – SmartVisualizatio	Smart Data Visualization allows business users to analyze, share, and present information without waiting for assistance from visualization

n	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.
SmatenInsight – Plug n play predictive modelling	SmartenInsight provides predictive modelling capability and auto-recommendations and auto-suggestions to simplify use and allow business users to leverage predictive algorithms without the expertise and skill of a data scientist.

3 Getting started with Smarten Administration

3.1 Logging in to Smarten

This section provides an overview of the Smarten Administration tool and covers the simple administrative tasks you need to perform to start administering Smarten.

Before you begin

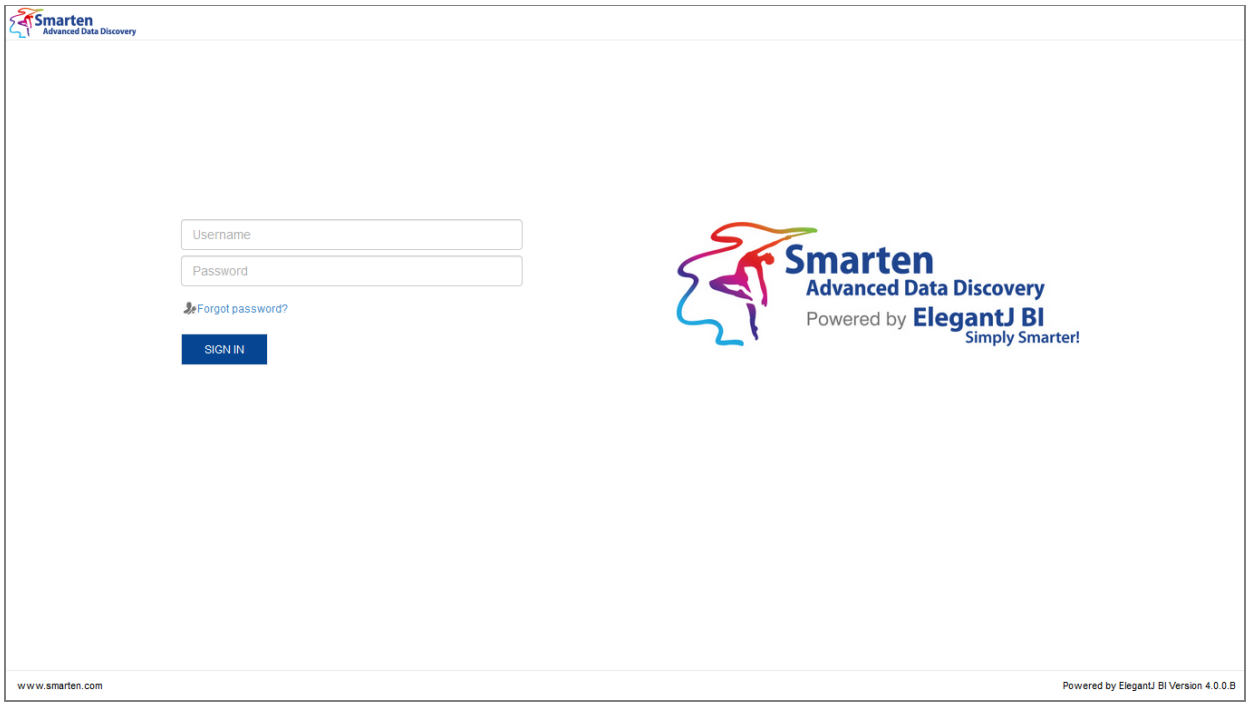
Install the compatible browser on your device. For more information about compatible browsers, see the *Technical Specifications* guide.

You need to have Administration access rights to access Smarten administration features.

To access the Smarten Administrator interface:

Procedure

1 In the address field of the web browser, enter the following URL:
http://<host name> :< port number> where
host name is the host name or IP address or host name of the server.
port number is the port number of the application server. The default port number is 8080.
For example: http://localhost:8080/smarten/ or http://10.0.0.85:8080/smarten



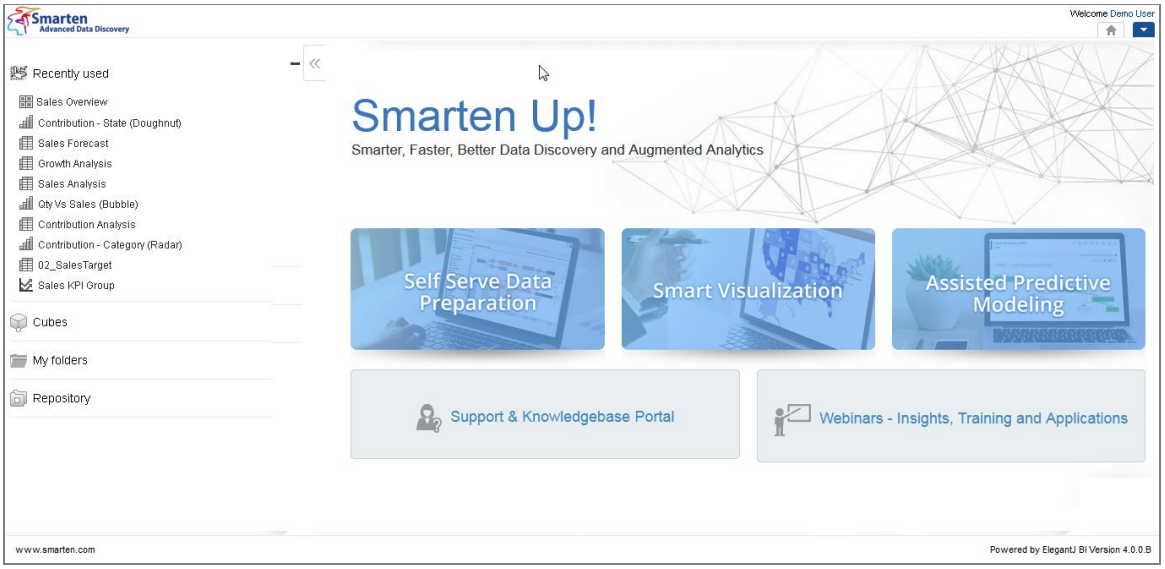
LOGIN SCREEN—DESKTOP VIEW

2 Log in to the application with a default user name and password given below:
User name—**admin**
Password—**admin**

3 Click **Login** to log on to the interface.

On successful login, you will be taken to the home page of Smarten.

> Note:
> This is the default password setting in Smarten. For your system's security, change this default password as soon as possible.



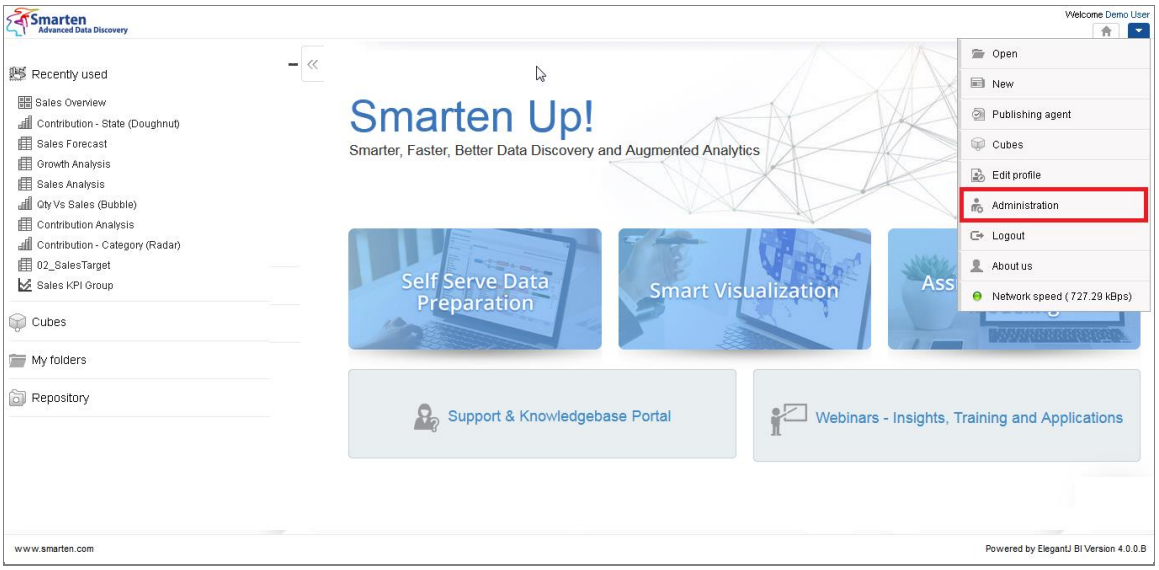
HOME PAGE—DESKTOP VIEW

To go to Administrator interface:

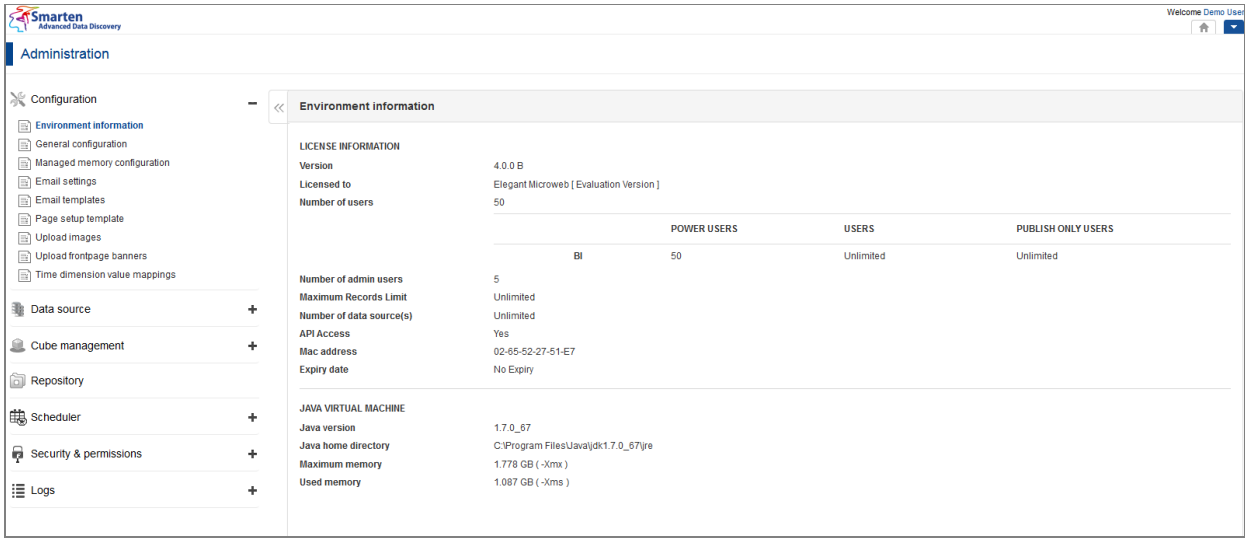
Procedure

1 In the upper right-hand corner, click the **down arrow** icon.
The system displays the Main Menu.

2 In the Main Menu, click **Administration.**
The system displays the Administrator interface.



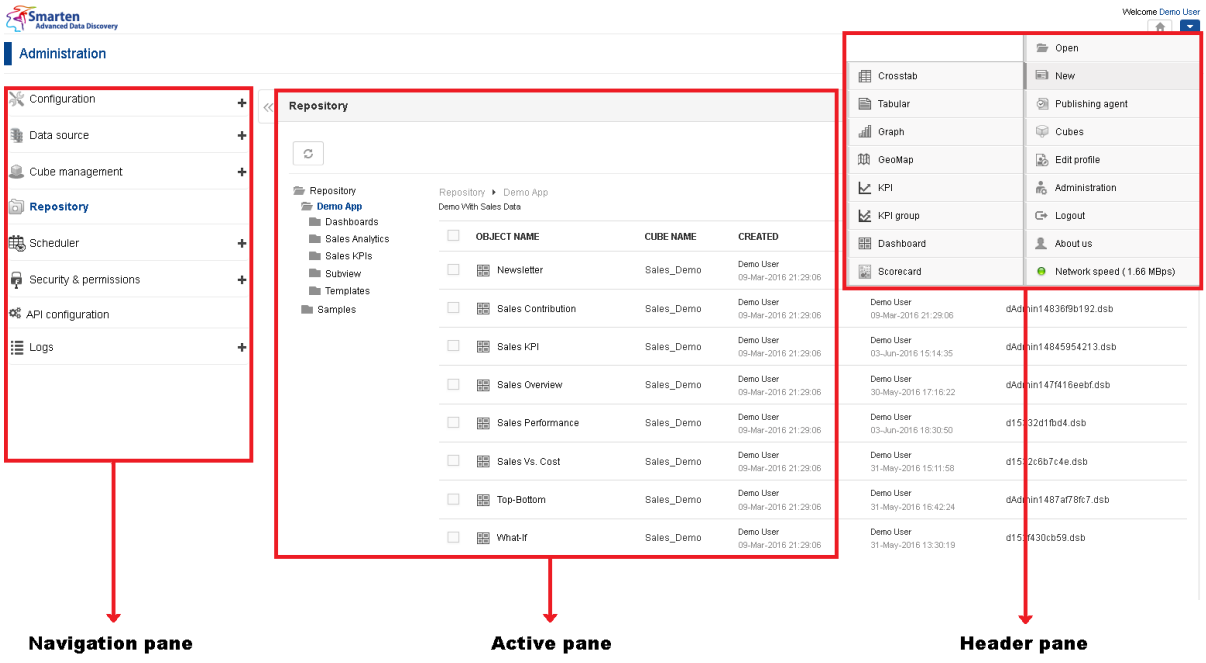
HOME PAGE—ADMINISTRATION LINK



HOME PAGE—ADMINISTRATOR INTERFACE

3.2 Components of the Smarten interface

The Smarten Administrator interface displays the user name of the user who is logged on. Navigation panel on the left side of the interface contains hierarchical menu items for different administrative features provided. The active window on the right displays screens for the feature selected in Navigation panel.

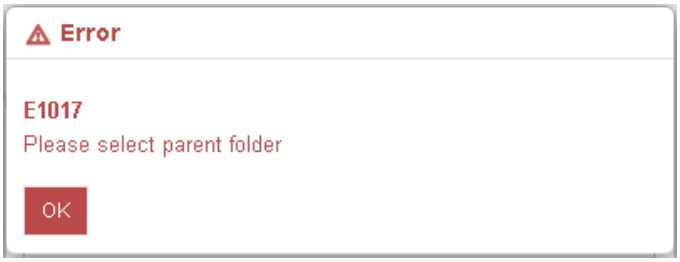


COMPONENTS OF THE SMARTEN INTERFACE

Pane	Description
Navigation pane	The Navigation pane is on the left side of the interface. It contains Configuration, Data source, Cube management, Repository, Scheduler, Security & permissions, and logs.
Header pane	The Header pane displays the login information and the drop-down menu that lists various functions available to the logged-in user as per access rights granted by the administrator.
Active pane	The Active pane is to the right of the Navigation pane and under the Header pane. The contents of the Active pane change depending on the function you are performing on Smarten. For example, when you log in to the application, the Active pane displays the Environment information.

The system displays Error-, Warning-, and Info-type dialogue boxes.

Error dialog box
The system displays the error dialog box when you perform an incorrect action.

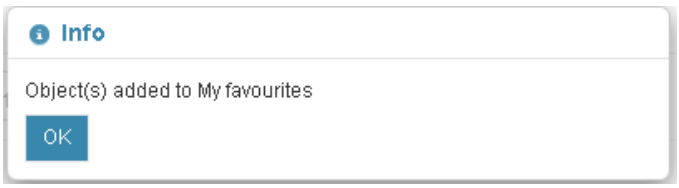


ERROR DIALOG BOX

Warning dialog box
The system displays the warning dialog box to alert you of a condition that might cause a problem in the future.

WARNING DIALOG BOX

Info dialog box
The system displays the info dialog box to display relevant messages, such as tips, updates, or help regarding your current action.



INFO DIALOG BOX

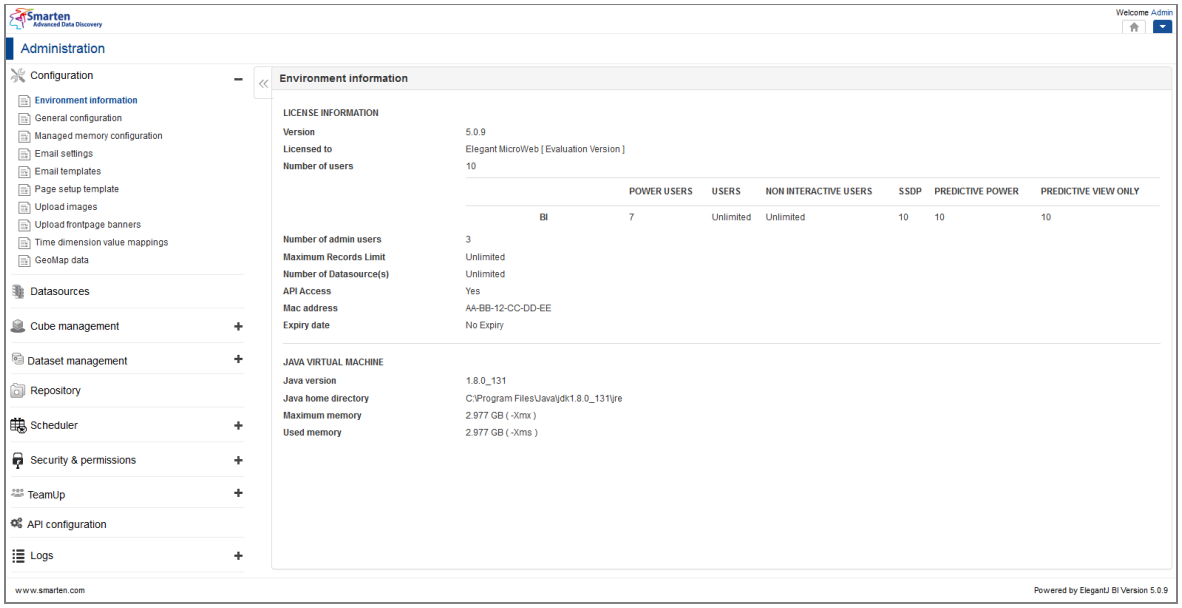
4 Application Configuration Settings

This section provides an overview of system configuration under Configuration settings available in Smarten.

In Configuration, you can view environmental information, general configuration, managed memory configuration, time dimension value mappings, and other related information.

4.1 Environment Information

If you have successfully installed Smarten, you should be able to view the environment information, such as license information, product version, and Java Virtual Machine details.



ENVIRONMENT INFORMATION

4.1.1License Information

To check the product version of Smarten installed and license-related information:

Procedure

1 In the **Navigation Panel**, click **Configuration**.
The system displays the Environment Information.
In the License Information section, you can view Smarten version, information related to license, records, data source(s,) and expiry date.

Field	Description
Version	Smarten Software License version
Licensed to	Name of company or a person to whom license is assigned
Number of users	Maximum number of power users, users, and publish-only users allowed for BI and BSC
Number of admin users	Maximum number of administrators allowed for BI and BSC
Maximum Records Limit	Maximum number of records limit
Number of data source(s)	Maximum number of data source(s) limit
API Access	Yes/No
Mac Address	Mac Address of server host machine, e.g., 00-16-76-99-DD-4E
Expiry date	Date / No Expiry

4.1.2Java Virtual Machine

To view Java Virtual Machine details:

Procedure

1 In the **Navigation Panel**, click **Configuration**.
The system displays the Environment Information.
In the **Java Virtual Machine** section, you can view information on Java home directory, maximum memory, and used memory.

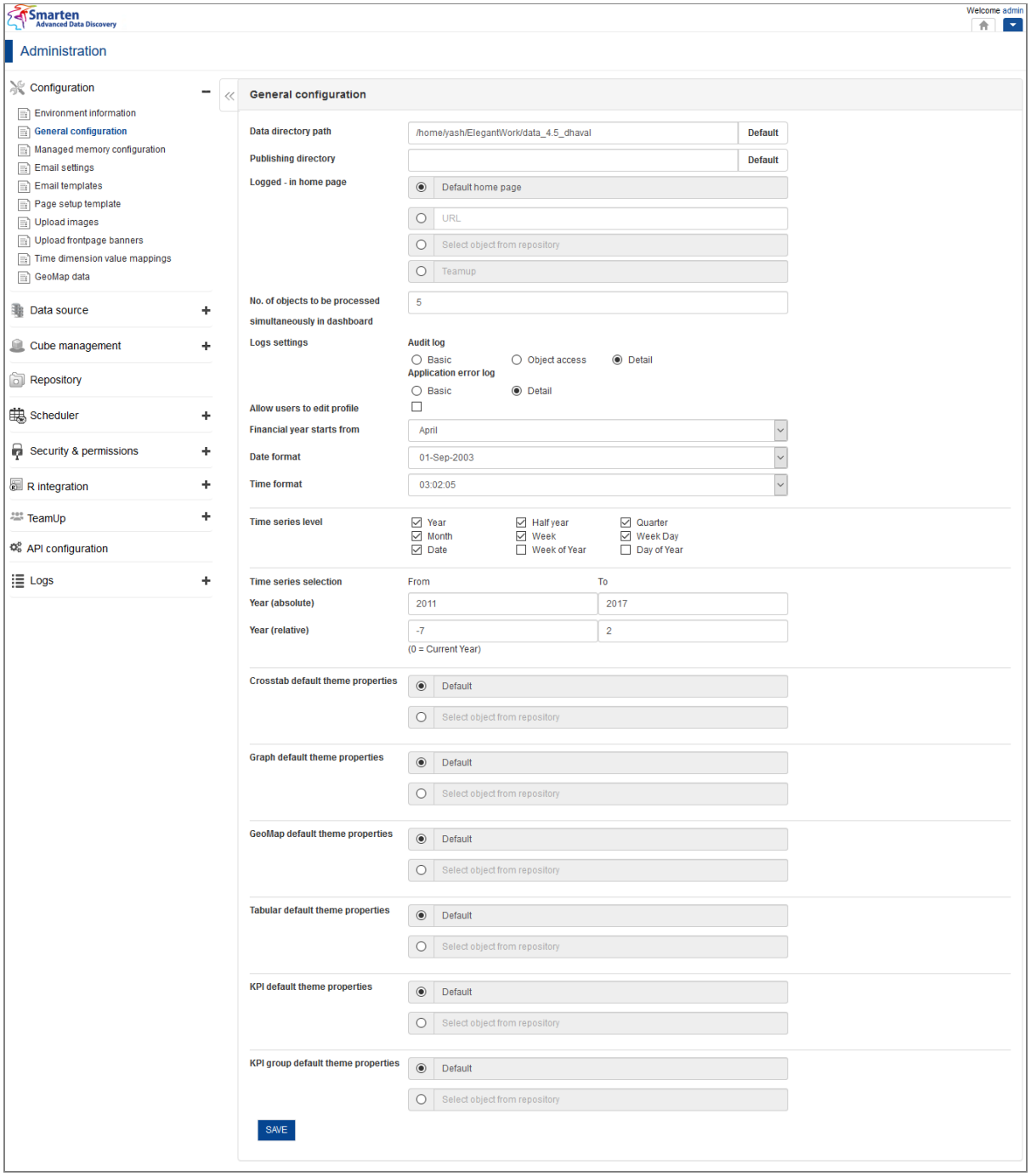
Field	Description
Java Version	Installed version of JVM on which the application server is running
Java Home Directory	Location of default Java home directory
Maximum Memory	Maximum allocated JVM memory
Used Memory	JVM memory currently used

> Note:
> If you have more than one version of JVM installed on your server, this dialogue would display information for the JVM being used by application server on which Smarten is deployed.

4.2 General Configuration

You can set the application data directory path to specify a location where all application objects, such as crosstab, tabular, graphs, GeoMap, dashboards and configuration files, will be saved by default.

Using the **General Configuration** dialog, you can set the data directory path, publishing directory, Logged in Home Page Icons, Log settings, set date & time format, and manage time series hierarchy.



GENERAL CONFIGURATION

To view and modify General Configuration settings:

Procedure

1 In the **Navigation Panel**, click **Configuration**.
2 In the **Configuration** menu, click **General configuration**.
The system displays the **General configuration** page.
3 In the **General Configuration** page, enter or update all the required information.
4 Click Save to save the changes.

Field	Description
Data Directory Path	This is the directory where application data is to be stored. It contains the following sub-directories: Cubes directory contains Cube repository DB directory contains Smarten metadata database files Logs directory contains all log files Uploaded files directory contains all uploaded files, such as CSV files used for cube creation Uploaded images directory contains logos and other uploaded images Temp directory contains object cache files Path: <Smarten Installation/data> can be set on any drive of the system. Click on “Default” button to set default Data Directory path
Publishing Directory	Directory where objects published by Delivery & Publishing agent (scheduler) are stored. Click on “Default” button to add default Publishing Directory path
Logged-in home page	Logged-in home page that is displayed after logging in Default—Default Smarten home page URL—Any URL as the home page Select object from repository - any Smarten object (e.g., a dashboard or crosstab or graph or GeoMap or KPI) from Smarten repository as home page Selected object will be shown as homepage by default to all the users in the system. If any homepage for the group has been configured, this group homepage will be given priority over the default homepage configured by admin. If any home page for individual has been configured, priority will be given to personal homepage over the group homepage. TeamUp — TeamUp home page will be displayed after logging in
No. of objects to be processed simultaneously in dashboard	Number of objects that will be processed simultaneously in a dashboard.
Logs settings	Audit log – Basic, Object access or Detail log Application error log – Basic or Detail log
Allow users to edit profile	Yes / No
Financial Year Starts from	Start (month) of financial year, e.g., April or January Reference: Concept Manual > Designing the Data Model > Cube > Time Dimension > Time dimension based on a financial year
Date format	Default Date format from various
Time format	Default Time format
Time Series Level	Time Series level options to be displayed in Time Series Dialogue throughout the application Reference: Concept Manual Designing the Data Model > Cube > Time Dimension > Time dimension hierarchy
Time Series Selection	Range of Absolute and Relative Year values to be displayed in Time series dialog throughout the application

Crosstab Default Theme Properties	Crosstab object that will be used as default theme for new crosstab created
Graph Default Theme Properties	Graph object that will be used as default theme for new graph created
GeoMap Default Theme Properties	GeoMap object that will be used as default theme for new GeoMap created
Tabular Default Theme Properties	Tabular object that will be used as default theme for new tabular created
KPI Default Theme Properties	KPI object that will be used as default theme for new KPI created
KPI Group Default Theme Properties	KPI Group object that will be used as default theme for new KPI Group created
Google map key	Specify google map API key for creating Geomap using Google maps.

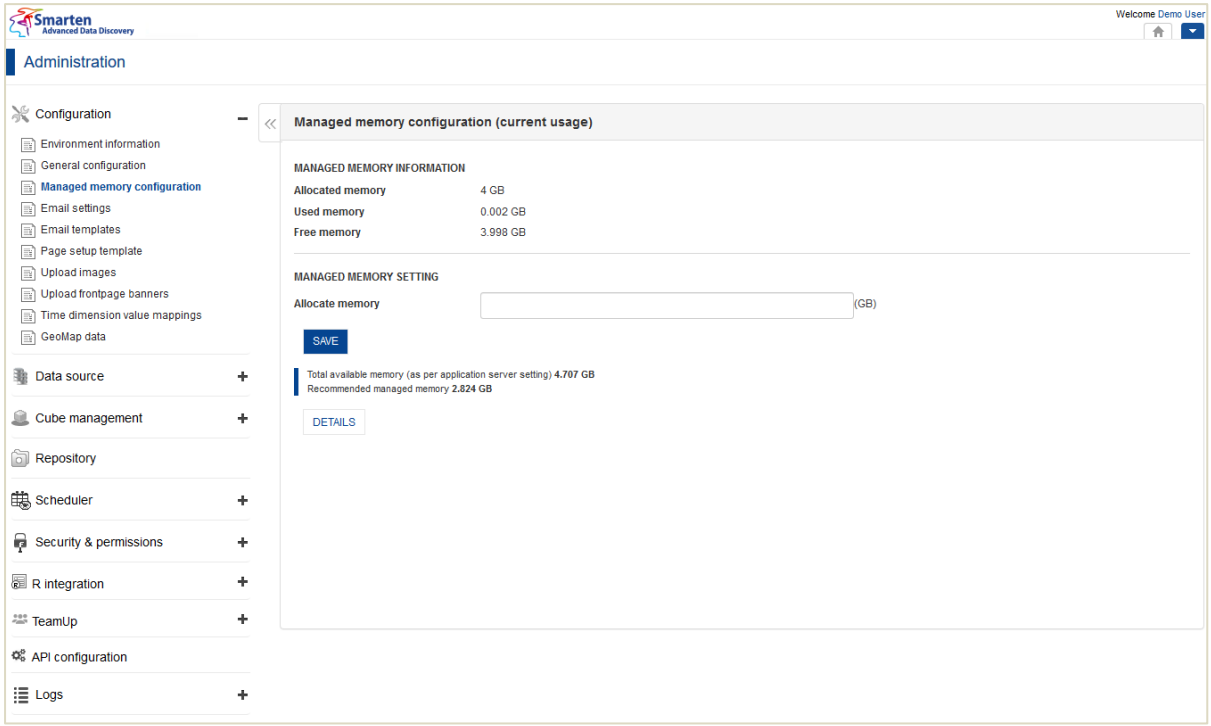
4.3 Managed Memory Configuration

In the managed memory configuration section, you can view details regarding allocated memory, used memory, and free memory. You can set the managed memory working using allocated memory and memory eviction scheme.

To view and modify Managed Memory Configuration settings:

Procedure

1 In the **Navigation Panel**, click **Configuration**.
2 In the **Configuration** menu, click **Managed memory configuration**.
3 The system displays the **Managed memory configuration** page.
4 In the **Managed memory configuration** page, enter or update all the required information.
5 Click Save to **save** the changes.



MANAGED MEMORY CONFIGURATION

4.3.1Managed Memory Information

Managed Memory Information:

Procedure

1 In the **Navigation Panel**, click **Configuration**.
2 In the **Configuration** menu, click **Managed memory configuration**.
The system displays the **Managed memory configuration** page.
In the **Managed Memory Information** section, you can view information about allocated memory, used memory, and free memory.

Field	Description
Allocated Memory	View total allocated memory for managed memory computing
Used Memory	View memory used by managed memory computing
Free Memory	View memory available for managed memory computing

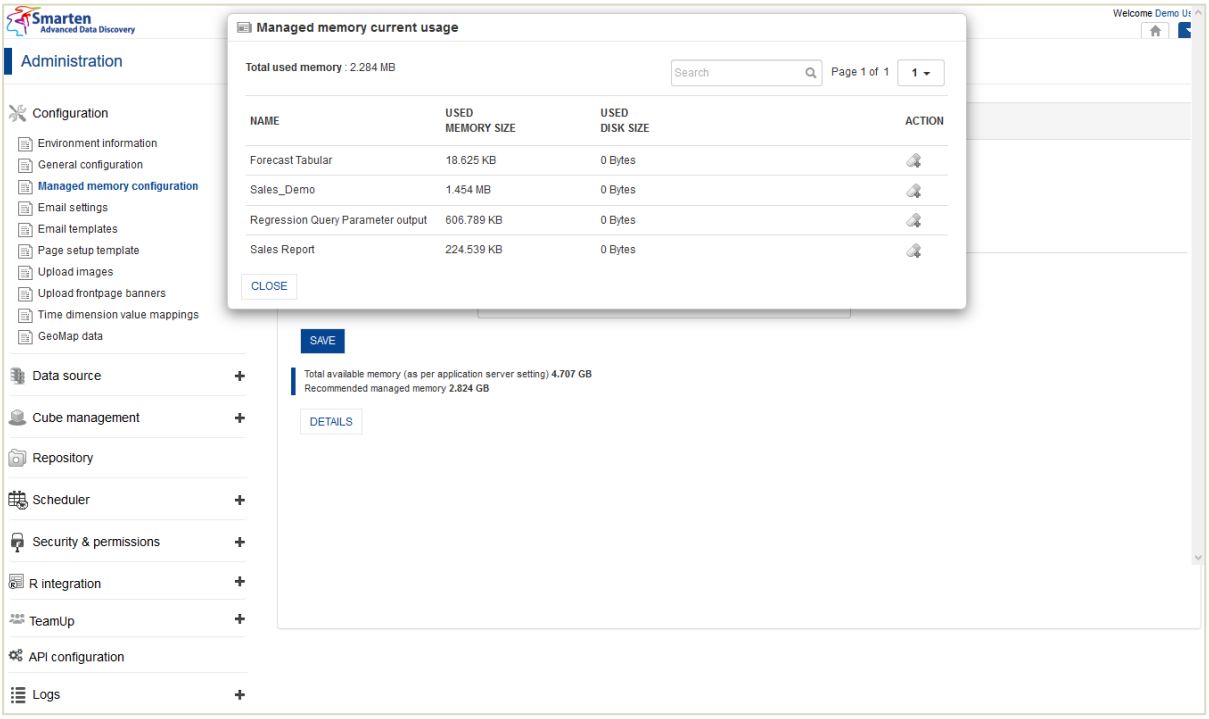
4.3.2Managed Memory Settings

Managed Memory Settings:

Procedure

1 In the **Navigation Panel**, click **Configuration**.
2 In the **Configuration** menu, click **Managed memory configuration**.
3 The system displays the **Managed memory configuration** page.
4 Go to **Managed Memory Settings** section.
5 In the **Allocate memory** field, enter the memory to be allocated for managed memory computing.
6 Click **Save** to save the changes.
7 Click **Details**.
8 The system displays the **Managed memory current usage** dialog box. You can see managed memory allocated and utilized by those cubes and objects for which the “Enable managed memory” checkbox has been selected. You can also flush data from managed memory by clicking the **Flush data from managed memory** icon against a cube or object name.
9 Click **Close** to exit the dialog box.

Reference: **Managed Memory computing concept document**



MANAGED MEMORY SETTINGS—DETAILS

> Note:
> "Flush data from managed memory" is a forced eviction of cube or object data from managed memory. If cube data is being accessed by users, system will wait till user request for data access is over and will flush the data only when cube data is not being used by any user.

4.4 Email Settings

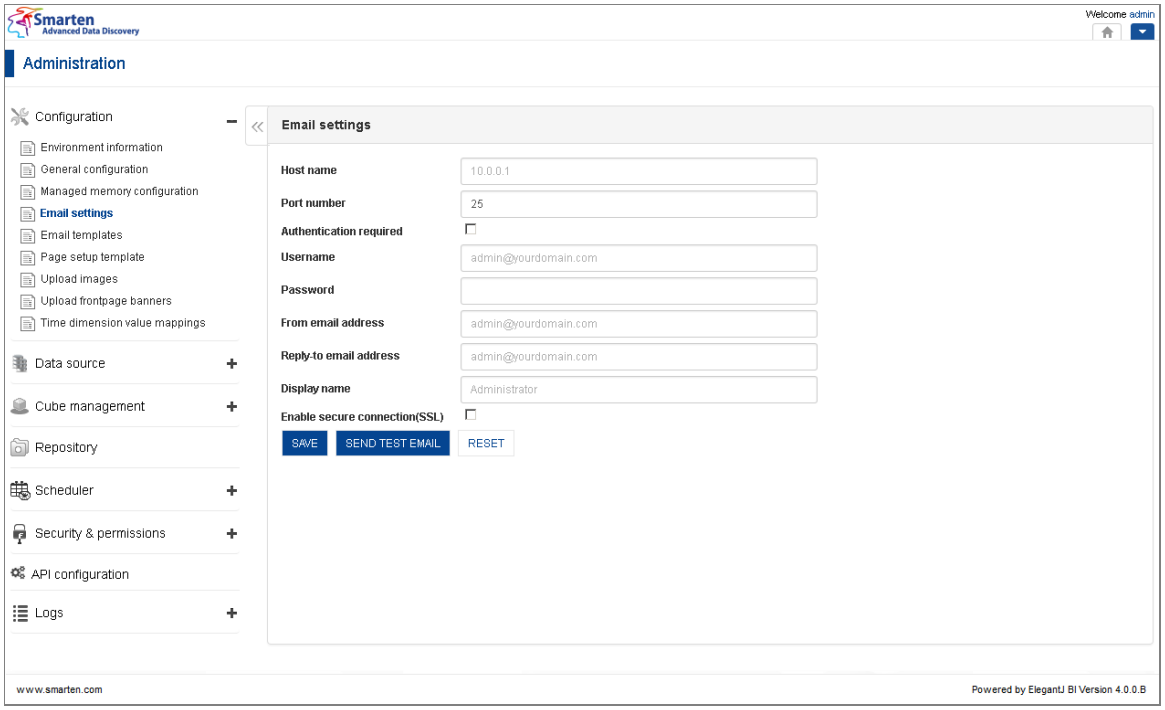
By using Email settings, you can configure Simple Mail Transfer Protocol (SMTP) server parameters to send your email messages to users.

You can set host name, port no., authentication, user name, password, From Email address, Reply To address, Email Display Name, and Secure Connection.

To configure Email Template settings:

Procedure

1 In the **Navigation Panel**, click **Configuration**.
2 In the **Configuration** menu, click **Email settings**.
3 The system displays the **Email settings** page.
4 In the **Email settings** page, enter or update all the required information.
5 Click **Save** to save the changes.



EMAIL SETTINGS

Field	Description
Host name	SMTP Host Name
Port number	SMTP Port Number
Authentication required	Select the checkbox if authentication is required by the SMTP server for sending the email
User name	User name for SMTP authentication
Password	Password for SMTP authentication
From email address	Email address to be displayed as From email address in the outgoing email messages
Reply to email address	Email address on which you want to get replies back
Display name	Display name for email sender
Enable secure connection (SSL)	Select the checkbox if secure connection to mail server (SSL) is required

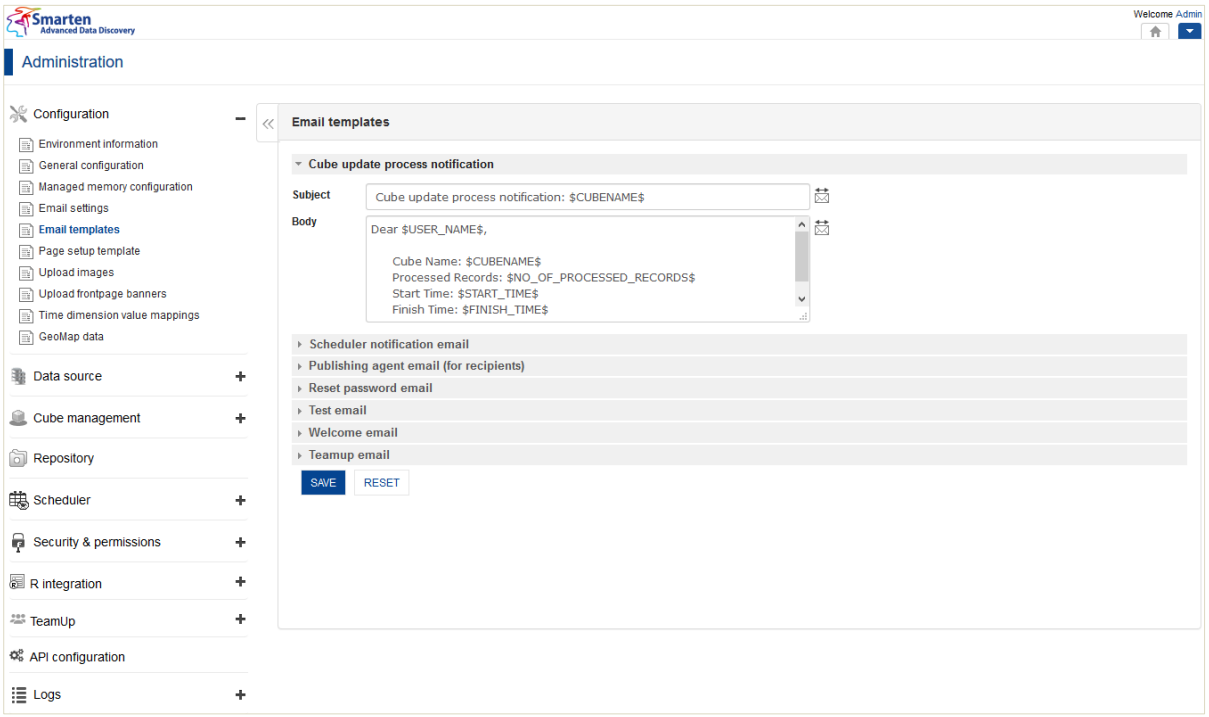
4.5 Email Templates

The application uses predefined email templates to automatically generate email messages for various events, such as Cube Creation, Scheduler Events, and Publishing & Delivery Agent.

To configure Email Template settings:

Procedure

1 In the **Navigation Panel**, click **Configuration**.
2 In the **Configuration** menu, click **Email templates**.
The system displays the **Email templates** page.



EMAIL TEMPLATES

3 Select an email template to edit content.
The system displays the **Subject** and **Body** fields of the selected template.
4 Click the email parameter icon for the **Subject** and **Body** fields and select parameter from the list.
5 In the **Subject** and **Body** fields, edit the subject line and email body as required.
6 Click **Save** to save the changes in the template.
7 Click **Reset** to reset to default template.

4.5.1Cube Update Process Notification Email

The cube update process notification email template is used to send email notification to the owner for success or failure of the cube update process. Owner is the user who has created that cube.

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Update Process**

Tags	Description
$USER_NAME$	User name
$CUBENAME$	Cube name
$NO_OF_PROCESSED_RECORDS$	Total number of records processed
$START_TIME$	Start time
$FINISH_TIME$	Finish time
$RESULT$	Result, success or failure

4.5.2Scheduler Notification Email

The Scheduler Notification Email template is used to send email notification to owner for success or failure of scheduler task. Owner is the user who has created that scheduler task.
Owner should have checked the email notification option in scheduler general settings to receive such notifications.

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Update Process > Through Automatic Scheduler**

Tags	Description
$TASKTYPES$	Cube rebuild task / Delivery & publishing agent task
$USER_NAME$	User name
$SCHEDULER_NAME$	Scheduler name
$START_TIME$	Start time
$FINISH_TIME$	Finish time
$RESULT$	Result, success or failure

4.5.3Publishing Agent Email for Recipients

The Publishing Agent Email template is used to form an email message for recipients of various emails sent by publishing agent.

Reference: **Concept Manual > Delivery & Publishing Agent**

Tags	Description
$USER_NAME$	User name
$SCHEDULER_NAME$	Scheduler name
$OBJECTS$	Object name
$PUBLISH_TIME$	Publishing time

4.5.4Reset password email

The reset password email template is used to send email to the user during “Forget password” process.

4.5.5Test email

The test email template is used to send test email to verify SMTP settings.

4.5.6Welcome email

Welcome email is sent to a new user whose registration is successful.

4.5.7TeamUp email

The TeamUp Notification Email template is used to send email notification by the owner to users who have been invited to join a conversation. Owner is the user who has created that conversation.

Reference: **Concept Manual > Working with TeamUp**

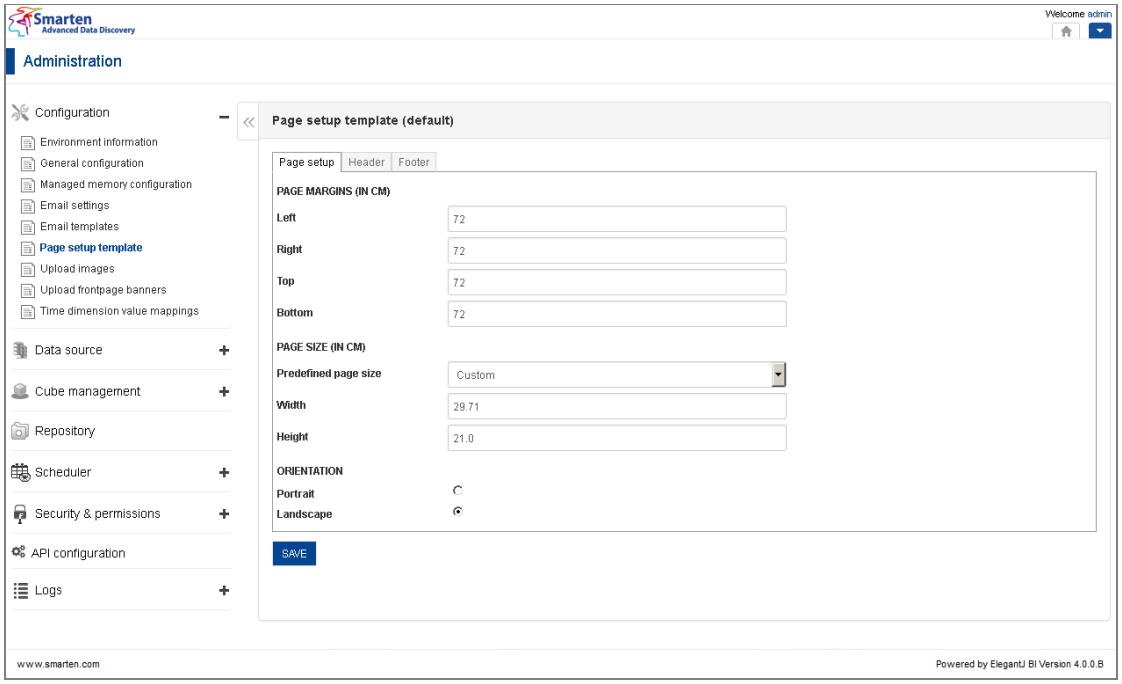
4.6 Page Setup Template

The Page Setup template is used as the default template for PDF files generated for various BI objects through export option. It contains settings for page margins, size, orientation, header, footer, and other related parameters.

To set the page for printing:

Procedure

1. In the **Navigation Panel**, click **Configuration**.
2. In the **Configuration** menu, click **Page setup template**.
   The system displays the **Page setup template** page.



PAGE SETUP TEMPLATE

3. **Page setup:**
   - Enter **Page Margins** to set top, bottom, left, and right margins for page.
   - From the **Predefined page size** drop-down list, select size.
   - Customize the **Height** and **Width** for page
   - Select the page orientation, either **Portrait** or **Landscape.**
4. **Header:**
   - Click a specific panel from **left, centre,** and **right** panels.
   - Click **Save** to save the changes.
5. **Footer:**
   - Click a specific panel from **left, centre,** and **right** panels.
   - Click **Save** to save the changes.

Tools	Description
	Font Colour
	Font Name
	Font Size
	Bold Style
	Italic Style
	Underline
	Left Alignment
	Centre Alignment
	Right Alignment
	Insert Page Number
	Insert Number of Pages
	Insert Printing Date
	Insert Printing Time
	Insert Object Title
	Insert Image

PAGE SETUP TOOLBAR OPTIONS

> Note:
> These page setup settings would be applied by default for all PDF export files. They can be changed by the user as required.

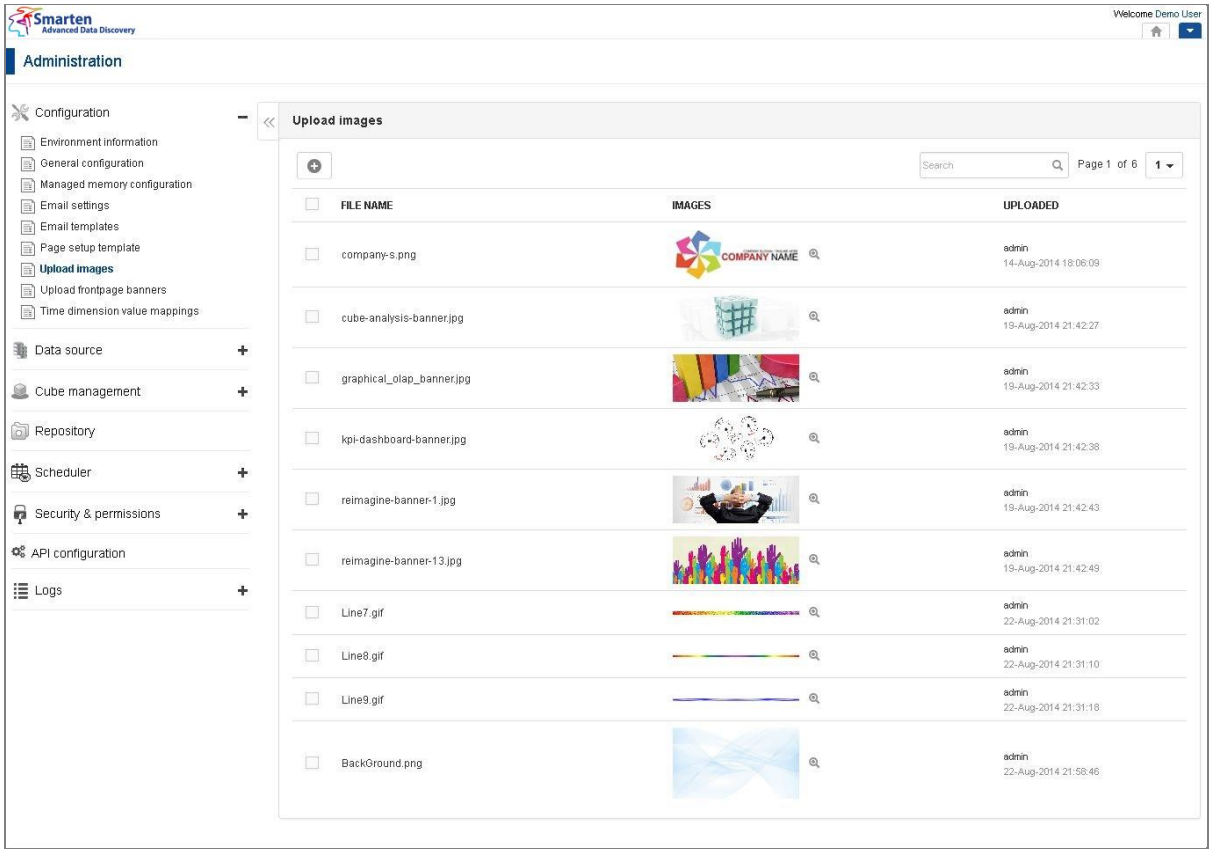
4.7 Upload images

Administrator can manage repository of all the images used throughout the application. Users cannot upload and use their own images from user interface; only the administrator can upload images that can be used by users. These images can be used throughout the application by users for various purposes, such as background images for various BI objects, images within dashboards, and headers and footers for PDF exports.

To upload the images:

Procedure

1 In the **Navigation Panel**, click **Configuration.**
2 In the **Configuration** menu, click **Upload images.**
The system displays the **Upload images** page.



UPLOAD IMAGE

To add image:

Procedure

1 Click the **Add** icon to upload new images.
The system displays the **Upload image** dialog box.
2 Click **Browse** to browse images.
3 Select the image and click **Upload.**

To delete image:

Procedure

1 Select the checkbox displayed against the image, and click the **Delete** icon.
The system will display a confirmation message to delete the selected image.
2 Click **OK** to delete the image or click **Cancel.**
3 Click **Check All box** to select all the uploaded images.
4 Click **Uncheck All box** to deselect all the uploaded images.

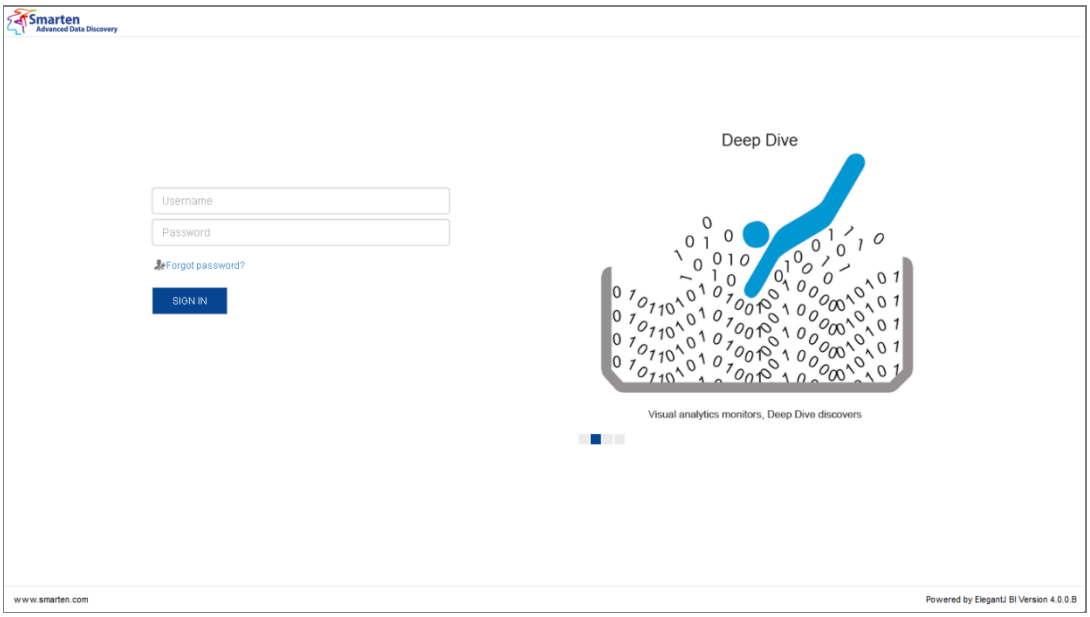
4.8 Upload Login page Banner

Administrator can manage repository of all the frontpage banners used in login page of the application.

To upload the images for banners:

Procedure

1 In the **Navigation Panel**, click **Configuration**.
2 In the **Configuration** menu, click **Upload frontpage banners**.
The system displays the **Upload frontpage banners** page.



UPLOAD FRONTPAGE BANNER

To add image:

Procedure

1 Click the **Add** icon to upload new images.
The system displays the**Upload image** dialog box.
2 Click **Browse** to browse images.
3 Select the image and click **Upload.**

To delete image:

Procedure

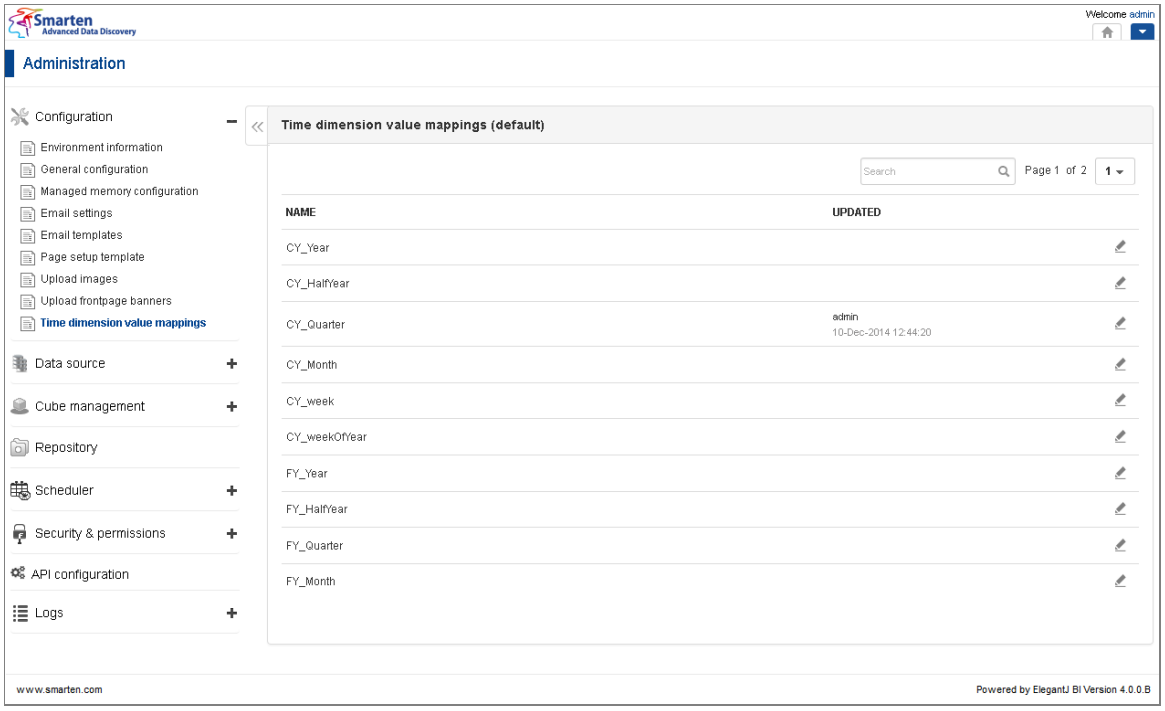
1 Select the checkbox displayed against the image and click the **Delete** icon.
The system will display a confirmation message to delete the selected image.
2 Click **OK** to delete the image or click **Cancel.**
3 Click **Check All box** to select all the uploaded images.
4 Click **Uncheck All box** to deselect all the uploaded images.

4.9 Time dimension value mappings (default)

Administrator can edit the time dimension values for various time series hierarchy, such as year, half year, month, etc., to suit their naming convention needs throughout the application.

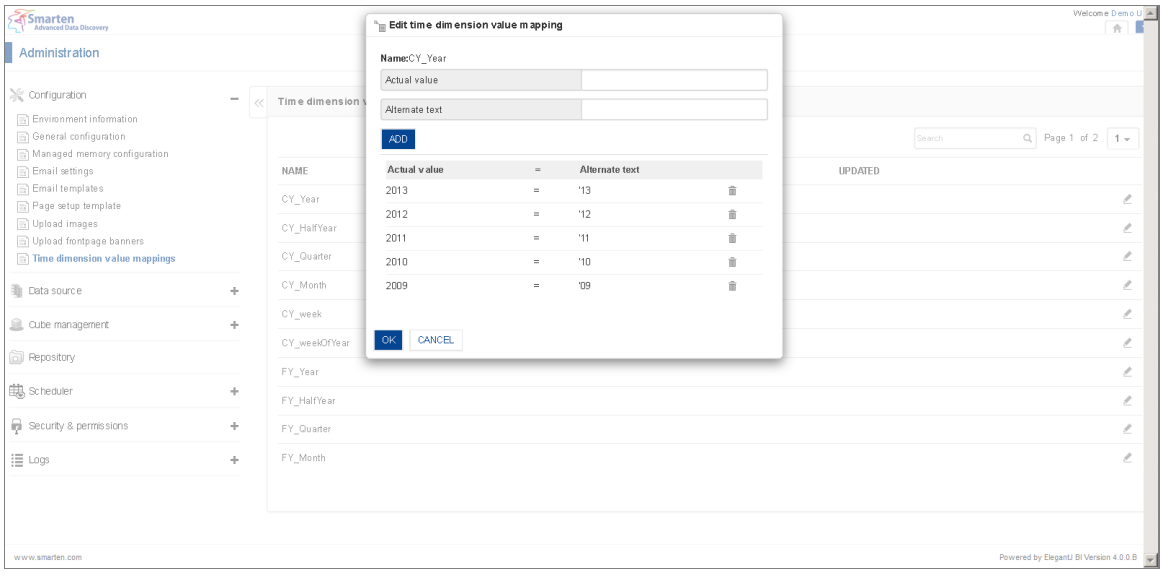
Procedure

1 In the **Navigation Panel**, click **Configuration**.
2 In the **Configuration** menu, click **Time dimension value mappings**.
The system displays the **Time dimension value mappings** page.



TIME DIMENSION VALUE MAPPINGS

3 Click the **Edit** icon of a time dimension.
The system displays the **Edit time dimension value mapping** dialog box.



EDIT TIME DIMENSION VALUE MAPPINGS

4 In the **Actual value** field, enter value.
5 In the **Alternate text** field, enter text.
6 Click **Add** to save. You can delete the entered valued by clicking the **Delete** icon.
7 Click **OK.**

When automatic time series is created during create cube process, system allocates integer numbers to time series dimensions—quarter, month, half year, and week. For example, first quarter would have value “1,” and the second quarter would have value “2.” Using this default dimension value

mapping, administrator can give user-friendly names to these values, e.g., “Q1” instead of “1” and “Q2” instead of “2.”

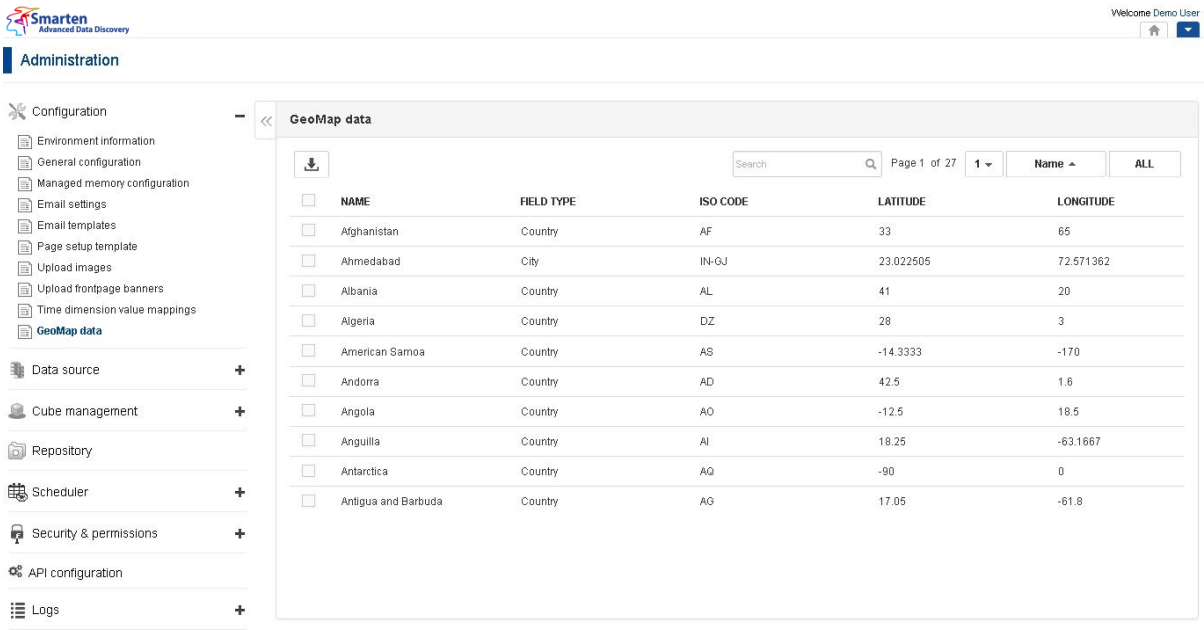
This is the default setting for time dimension value mapping, which is applied by default for all cubes created in the system. Administrator can remove or edit these values for a specific cube by using **Data display value mapping** configuration option under Cube management.

4.10 GeoMap Data

Administrator can add or edit the GeoMap data for various GeoMap field types, such as country, county, state, city, area, etc.

Procedure

1 In the **Navigation Panel**, click **Configuration**.
2 In the **Configuration** menu, click **GeoMap data**.
The system displays the **GeoMap data** page.



GEOMAP DATA

To import GeoMap data from file:

Procedure

1 Click the **Import** icon.
The system displays the **Import GeoMap data from file** dialog box.

IMPORT GEOMAP DATA FROM FILE

To Append GeoMap data:

1 In the **Select file** field, browse the file.
2 From the **Field type** drop down, select a filed type.
3 Select **Append** radio option, to import new records from the file.
4 Click **OK**

To Delete & Import GeoMap data:

1 In the **Select file** field, browse the file.
2 From the **Field type** drop down, select a filed type.
3 Select **Delete & import** radio option, to delete all existing records for the selected field type and import new records from the file.
4 Click **OK**

Note: Sample import formats are available in <Smarten Installation Dir >/Docs/Sample files.

To delete GeoMap data:

Procedure

1 Select the checkbox displayed against the GeoMap data and click the **Delete** icon.
The system will display a confirmation message to delete the selected data.
2 Click **OK** to delete or click **Cancel.**
3 Click **Check All box** to select all the GeoMap data.
4 Click **Uncheck All box** to deselect all the GeoMap data.

5 Data Source

Smarten allows you to extract data from various transactional, historical, and reference data sources.

Reference: **User manual – SSDP >> Data source management**

6 Cube Management

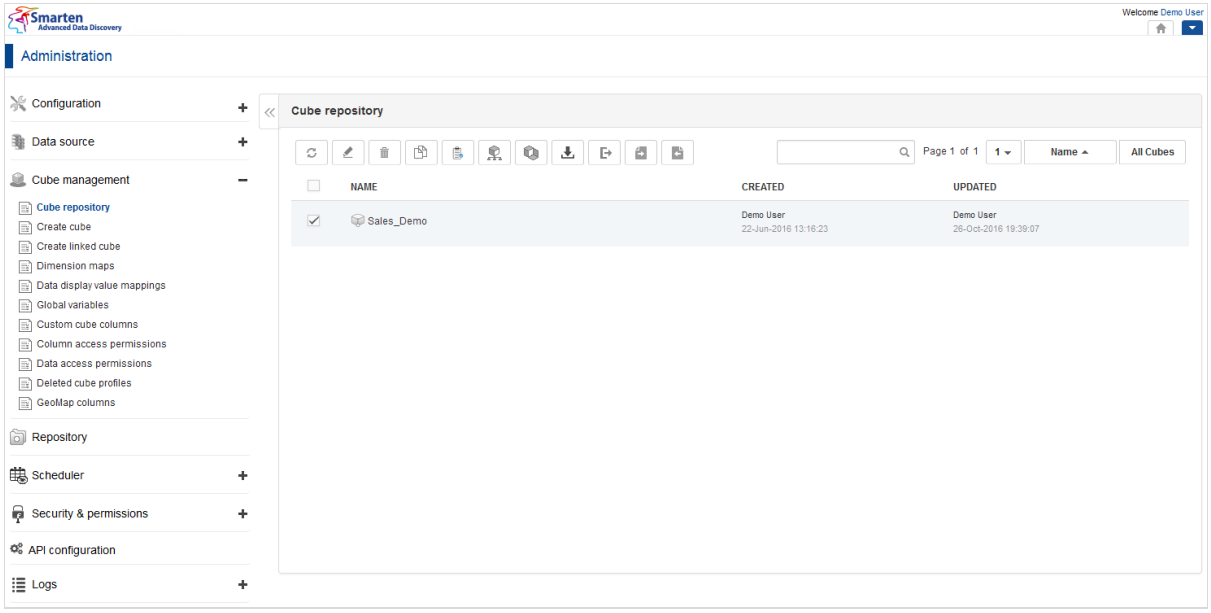
Cube is a set of data organised and summarised into a multidimensional structure with an easy-to-use mechanism for querying, with quick and uniform response times.

6.1 Cube Repository

To view and manage cube repository:

Procedure

1. In the Smarten Navigation Panel, click **Cube Management.**
2. In **Cube Management,** click **Cube Repository.**
   The system displays all the available cubes.



CUBE REPOSITORY

From the cube repository, you can view **Cube Name, Description, Created By, Created Date, Updated By,** and **Updated Date.**

> Note:
> A cube for social BI named “TeamUp” is by default available and displayed in the cube repository. This cube is used to access predefined dashboards for TeamUp Analytics. A user need not create it. Neither can a user delete or edit this cube.

Reference: **Working with TeamUp > TeamUp Analytics**

You can Search for the cube by **Cube Name** or **Description**. You can also sort the Cube Name by clicking on options **Name, Created, or Updated**. You can also filter cube list by cube type by clicking on **All Cubes, Cache, Real-Time, CSV, Linked, MDX, R real-time, or R cache**

Icon	Icon name
	Refresh
	Edit
	Delete
	Copy
	Permissions

Icon	Icon name
	Cube information
	Rebuild
	Import cube
	Export cube
	Export cube permissions
	Import cube permissions

CUBE TOOLBAR OPTIONS

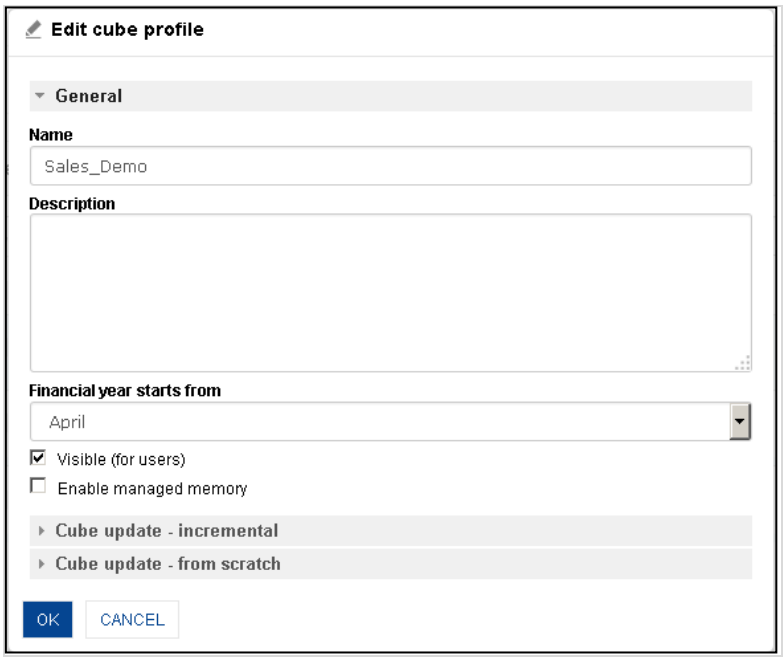
6.1.1Edit Cube Profile

6.1.1.1 General

To edit cube profile:

Procedure

1. Select a cube profile from the Cube Repository.
2. Click the **Edit** icon.
   The system displays the **Edit cube profile** dialog box.



EDIT CUBE PROFILE

3. Edit the **Name, Description**, and **Financial Year Starts** From fields as required.
4. Click the **Visible (for users)** checkbox to show/hide cube.
5. Click the **Enable Managed Memory** checkbox as per your need.

Field	Description
Name	Cube Profile Name
Description	Description of Cube Profile
Financial Year Starts From	Start (month) of financial year, e.g., April or January
Visible	Show/Hide the cube to make cube available /unavailable to users
Enable Managed Memory	Yes / No

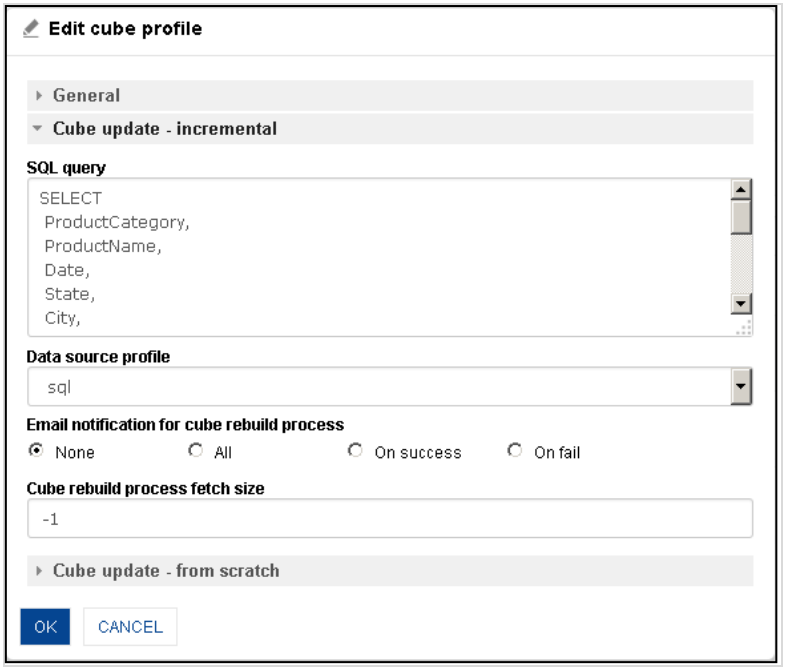
6.1.1.2 Cube Update—Incremental

6.1.1.2.1 Cube created using Database Profile

To update cube:

Procedure

1 Follow the **Procedure** of **Edit Cube**.
2 Click **Cube update – Incremental**.
3 The system displays the various fields for editing.



CUBE UPDATE INCREMENTAL: CUBE CREATED USING DATABASE PROFILE

4 In the **SQL Query** list, modify the query for cube update.
5 From the **Data Source Profile** drop-down list, select a profile.
6 Select an option for **Email Notification for cube rebuild process**.
7 In the **Cube rebuild process fetch size** field, enter a value, -1 for auto selection by the system.
8 Click **OK** to proceed, or click **Cancel** to go back to Cube Repository.

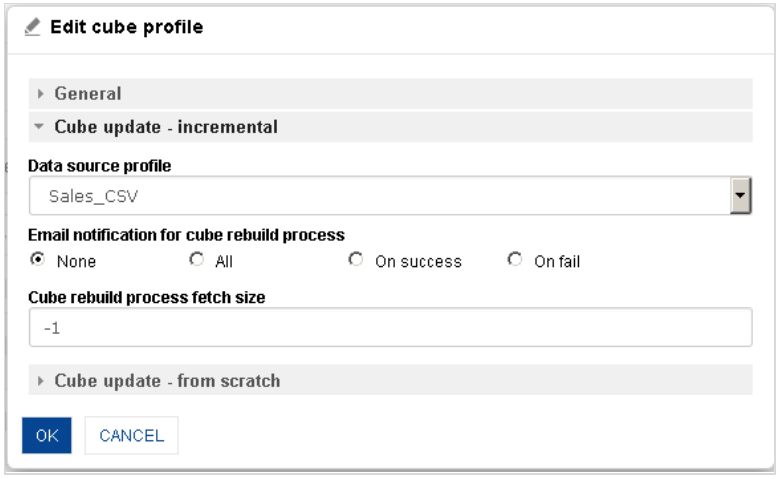
Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Update Process > Types of Cube Updates—From scratch or incremental**

6.1.1.2.2 Cube created using CSV profile

To update cube:

Procedure

1 Follow the **Procedure** of **Edit Cube**.
2 Click **Cube update – Incremental**.
The system displays the various fields for editing.



CUBE UPDATE INCREMENTAL: CUBE CREATED USING CSV

3 From the **Data Source Profile** drop-down list, select CSV profile.
4 Select an option for **Email Notification for cube rebuild process**.
5 In the **Cube rebuild process fetch size** field, enter a value, -1 for auto selection by the system.
6 Click **OK** to proceed, or click **Cancel** to go back to Cube Repository.

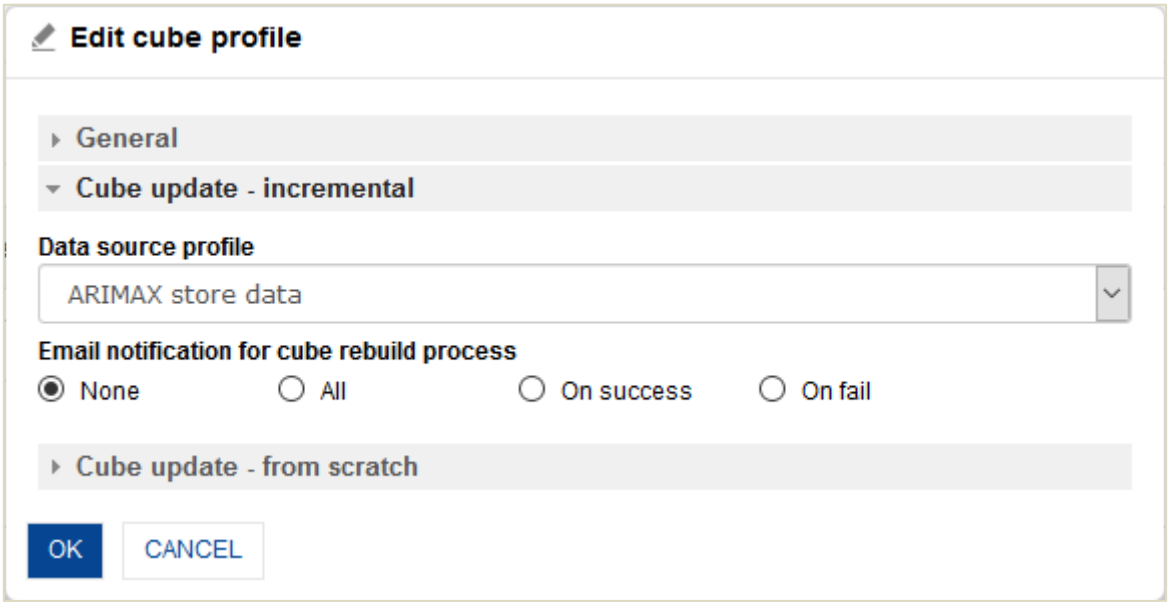
Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Update Process > Types of Cube Updates—From scratch or incremental**

6.1.1.2.3 Cube created using R script profile

To update cube:

Procedure

1 Follow the **Procedure** of **Edit Cube**.
2 Click **Cube update – Incremental**.
The system displays the various fields for editing.



CUBE UPDATE INCREMENTAL: CUBE CREATED USING R SCRIPT

3 From the **Data Source Profile** drop-down list, select R script profile.
4 Select an option for **Email Notification for cube rebuild process**.
5 Click **OK** to proceed, or click **Cancel** to go back to Cube Repository.

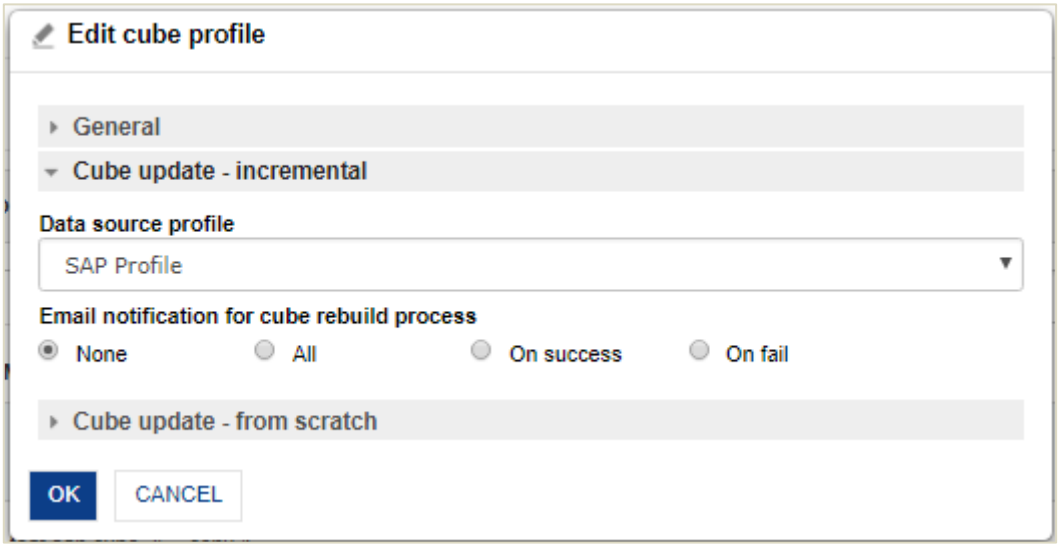
Reference: **Working with R integration > Create R cube with R Script Profile as data source**

6.1.1.2.4 Cube created using SAP profile

To update cube:

Procedure

1 Follow the **Procedure** of **Edit Cube**.
2 Click **Cube update – Incremental**.
The system displays the various fields for editing.



CUBE UPDATE INCREMENTAL: CUBE CREATED USING SAP PROFILE

3 From the **Data Source Profile** drop-down list, select SAP profile.
4 Select an option for **Email Notification for cube rebuild process**.
5 Click **OK** to proceed, or click **Cancel** to go back to Cube Repository.

Reference: **Integration with SAP > Create SAP cube with SAP Profile as a data source**

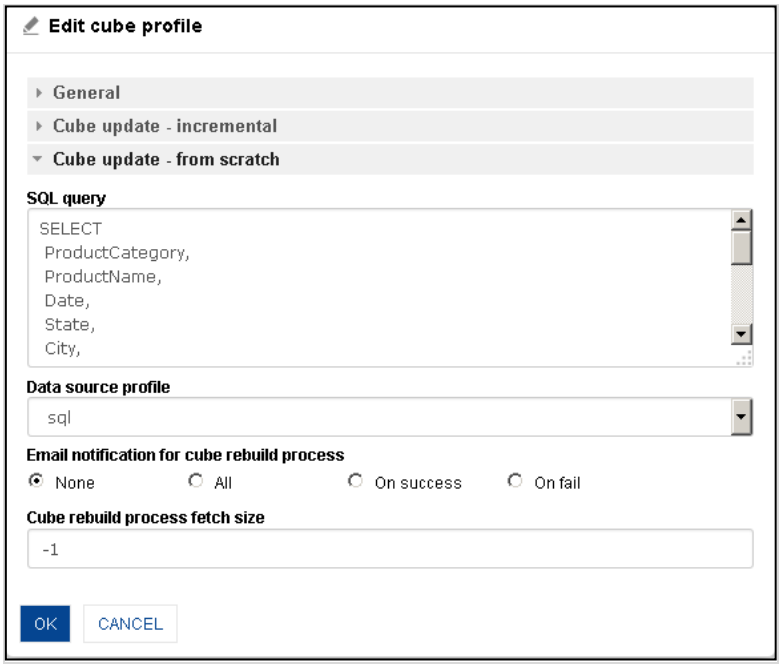
6.1.1.3 Cube update—from scratch

6.1.1.3.1 Cube created using database profile

To update cube:

Procedure

1 Follow the **Procedure** of **Edit Cube.**
2 Click **Cube update – from scratch**.
The system displays the various fields for editing.



CUBE UPDATE FROM SCRATCH: CUBE USING DATABASE PROFILE

3 In the **SQL query** list, enter the query.
4 From the **Data Source Profile** drop-down list, select a profile.
5 Select an option for **Email Notification for cube rebuild process**.
6 In the **Cube rebuild process fetch size** field, enter a value, -1 for auto selection by the system.
7 Click **OK** to proceed, or click **Cancel** to go back to Cube Repository.

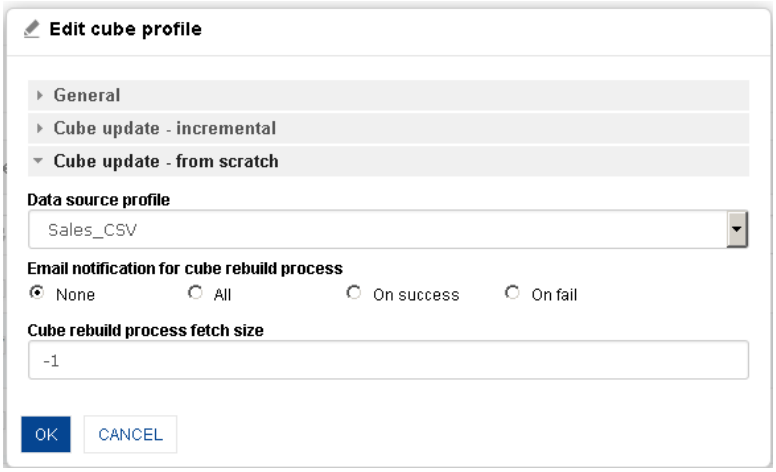
Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Update Process > Types of Cube Updates—From scratch or incremental**

6.1.1.3.2 Cube created using CSV profile

To update cube:

Procedure

1. Follow the **Procedure** of **Edit Cube**.
2. Click **Cube update – from scratch**.
The system displays the various fields for editing.



CUBE UPDATE FROM SCRATCH: CUBE USING CSV PROFILE

3. From the **Data Source Profile** drop-down list, select CSV profile.
4. Select an option for **Email Notification for cube rebuild process.**
5. In the **Cube rebuild process fetch size** field, enter a value, -1 for auto selection by the system.
6. Click **OK** to proceed, or click **Cancel** to go back to Cube Repository.

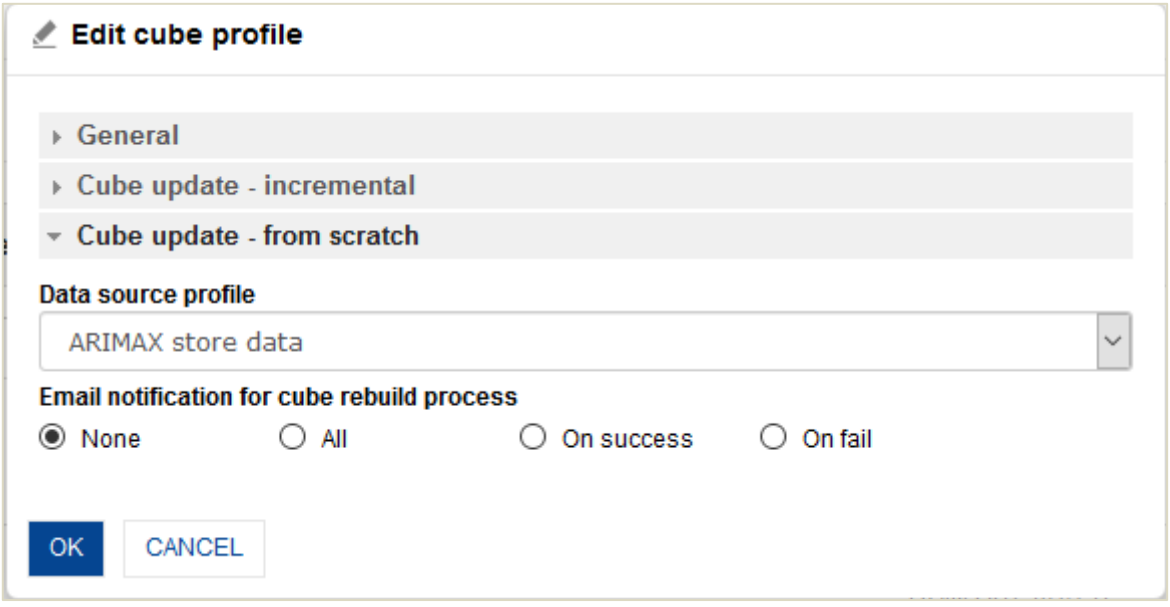
Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Update Process > Types of Cube Updates—From scratch or incremental**

6.1.1.3.3 Cube created using R script profile

To update cube:

Procedure

1. Follow the **Procedure** of **Edit Cube**.
2. Click **Cube update – from scratch**.
   The system displays the various fields for editing.



CUBE UPDATE FROM SCRATCH: CUBE USING R SCRIPT PROFILE

3. From the **Data Source Profile** drop-down list, select R script profile.
4. Select an option for **Email Notification for cube rebuild process.**
5. Click **OK** to proceed, or click **Cancel** to go back to Cube Repository.

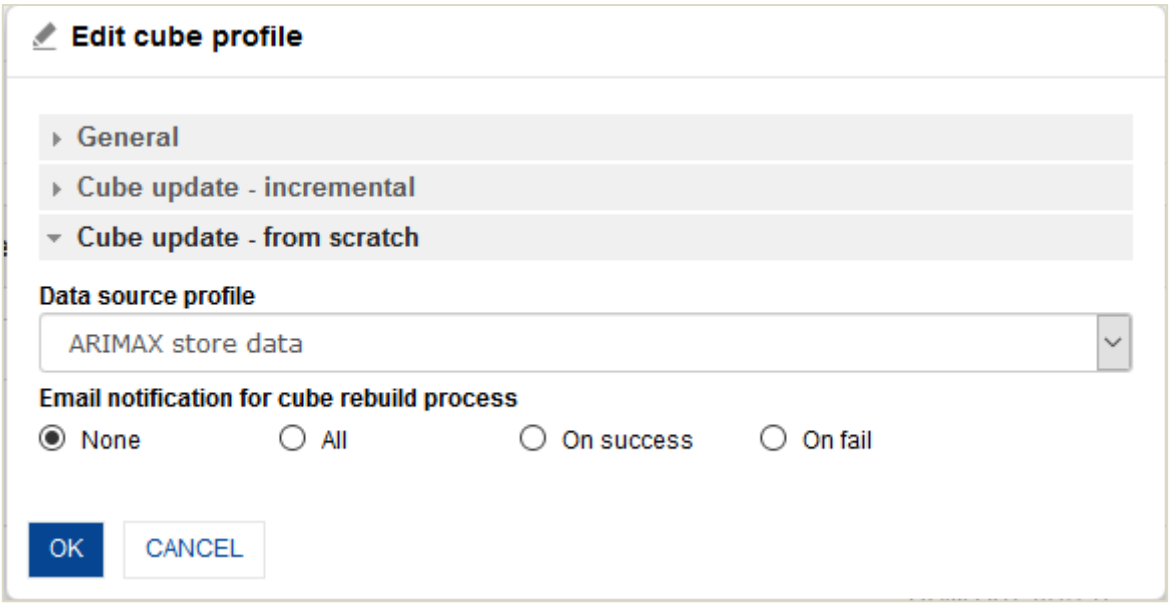
Reference: **Working with R integration > Create R cube with R Script Profile as data source**

6.1.1.3.4 Cube created using SAP profile

To update cube:

Procedure

1. Follow the **Procedure** of **Edit Cube**.
2. Click **Cube update – from scratch**.
   The system displays the various fields for editing.



CUBE UPDATE FROM SCRATCH: CUBE USING SAP PROFILE

3. From the **Data Source Profile** drop-down list, select SAP profile.
4. Select an option for **Email Notification for cube rebuild process.**
5. Click **OK** to proceed, or click **Cancel** to go back to Cube Repository.

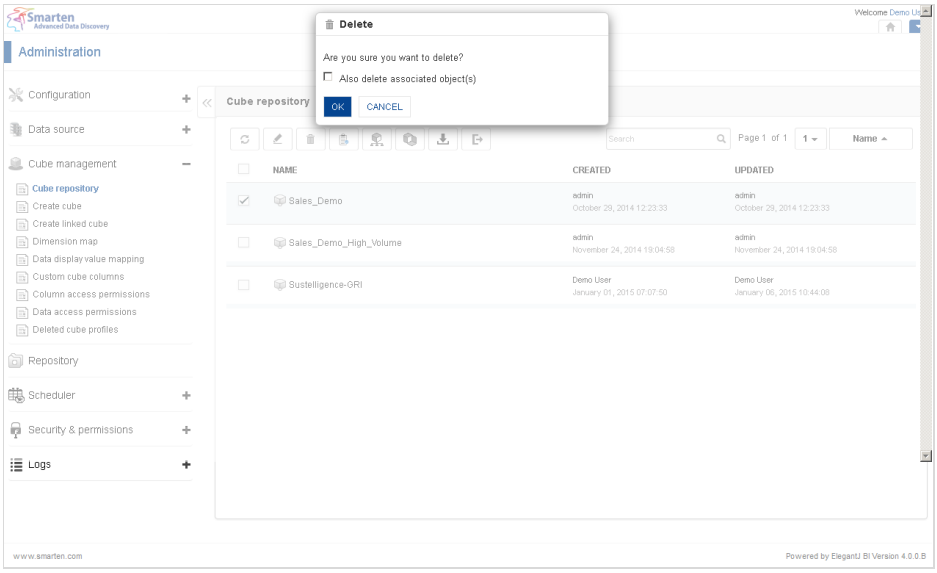
Reference: **Integration with SAP > Create SAP cube with SAP Profile as a data source**

6.1.2 Delete Cube Profile

To delete cube profile:

Procedure

1. Select a cube profile from the Cube Repository.
2. Click the **Delete** icon.
   The system displays the **Delete** dialog box.



DELETE CUBE PROFILE

3. Select the **Also delete associated object(s)** checkbox if required.
4. Click **OK** to confirm deletion, or click **Cancel** to go back to Cube Repository.
   If you wish to delete the entire cube profile list, select the checkbox on the top to select all the cubes listed in the list view. You can deselect all profiles by clicking this checkbox again.

6.1.3Copy Cube Profile

This feature will copy a cube with its metadata and tool templates. This will improve the process of replicating cubes and the reusability for a template-driven deployment process.

To copy cube profile:

Procedure

1. Select a cube profile from the Cube Repository.
2. Click the **Copy** icon.
   The system displays the **Copy** dialog box.

COPY CUBE PROFILE

3. In the **New Cube Name** field, enter a name for new cube.
4. Click **OK** to proceed, or click **Cancel** to go back to Cube Repository.

Reference: **Concept Manual > Designing the Data Model > Cube & Object Management > Copy cube**

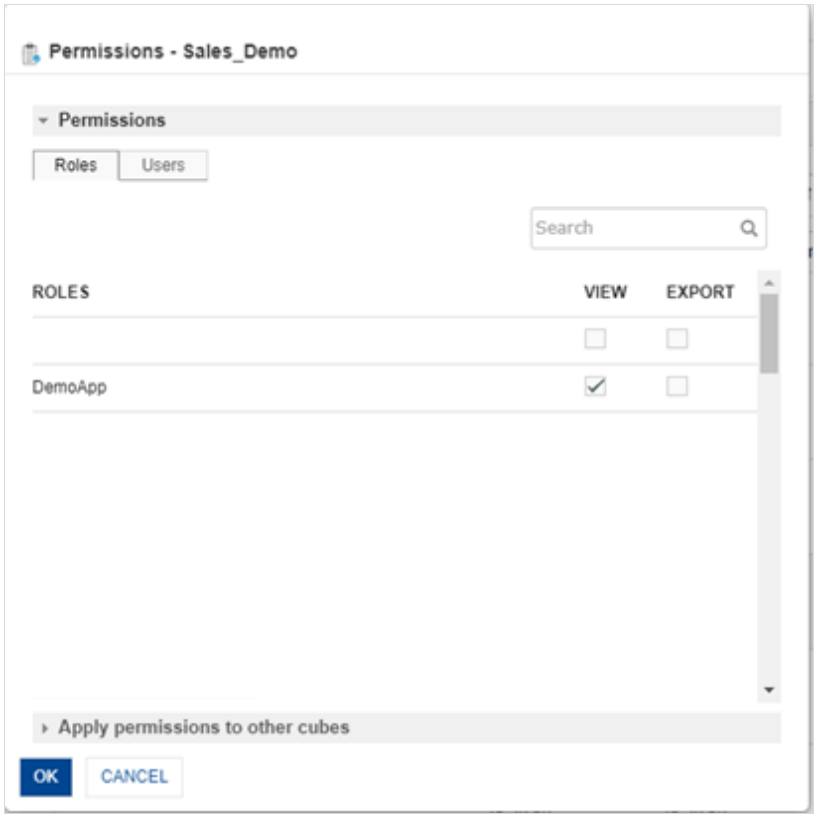
6.1.4Permissions for Cube

You can grant permissions to roles and users to enable them to view or export cubes.

Cube Permissions

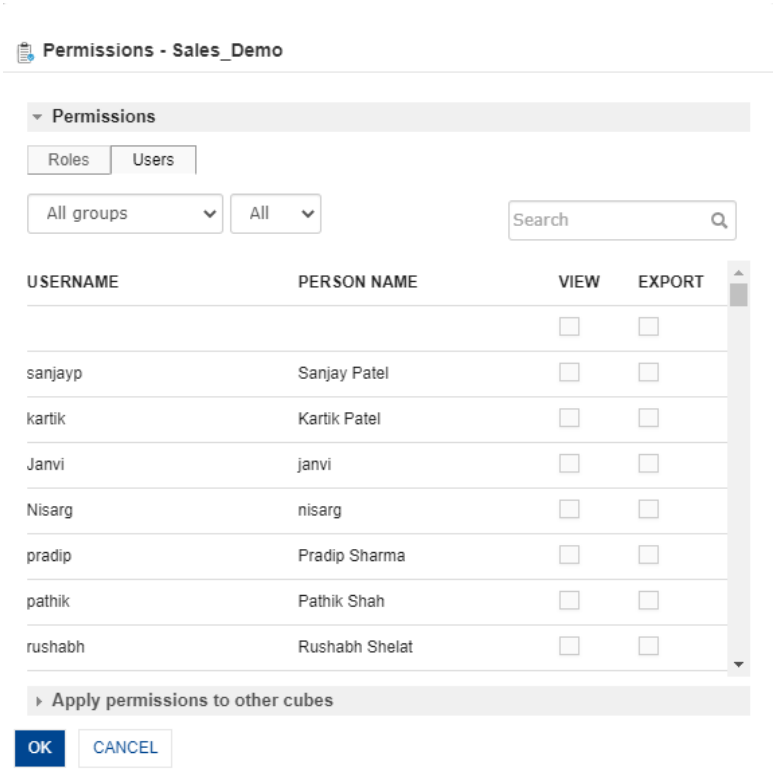
Procedure

1 Select a cube profile from the Cube Repository.
2 Click the **Permissions** icon.
The system displays the **Permissions – "Cube profile name"** dialog box, in this example Sales_Demo.



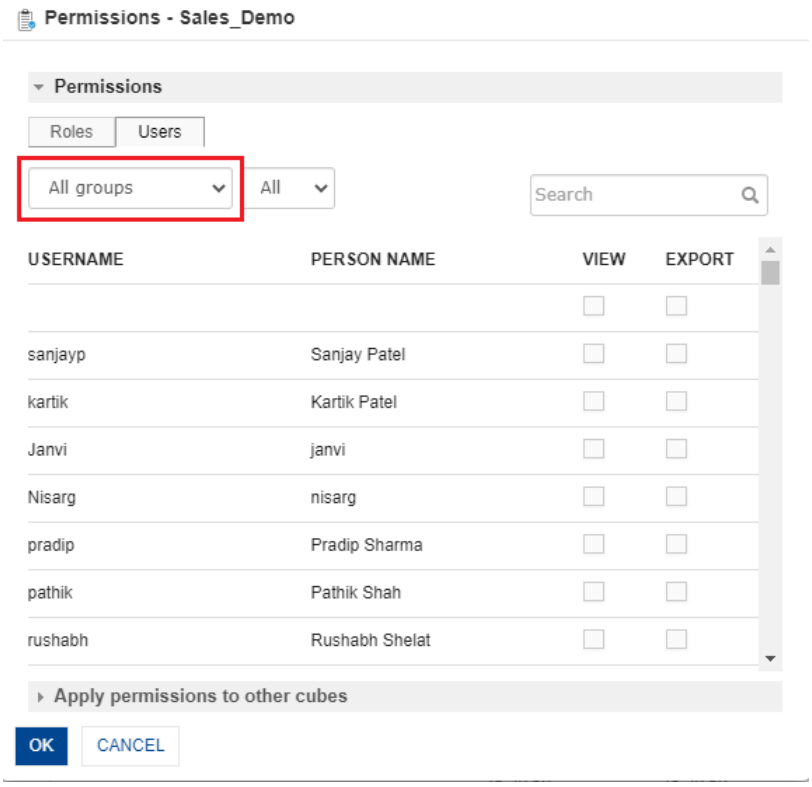
CUBE PERMISSIONS: ROLES

3 In the **Roles** tab, manage **View**and **Export**permissions for roles as required.
4 Select the **View**or **Export**checkboxes for the roles for which you want to grant the view or export permission.
You can filter roles by searching for a specific role using the **Search**field.
5 In the **Users** tab, manage **View**or**Export**permissions for users as required.
6 Select the **View** or **Export** check boxes for the users for which you want to grant the view or export permission.



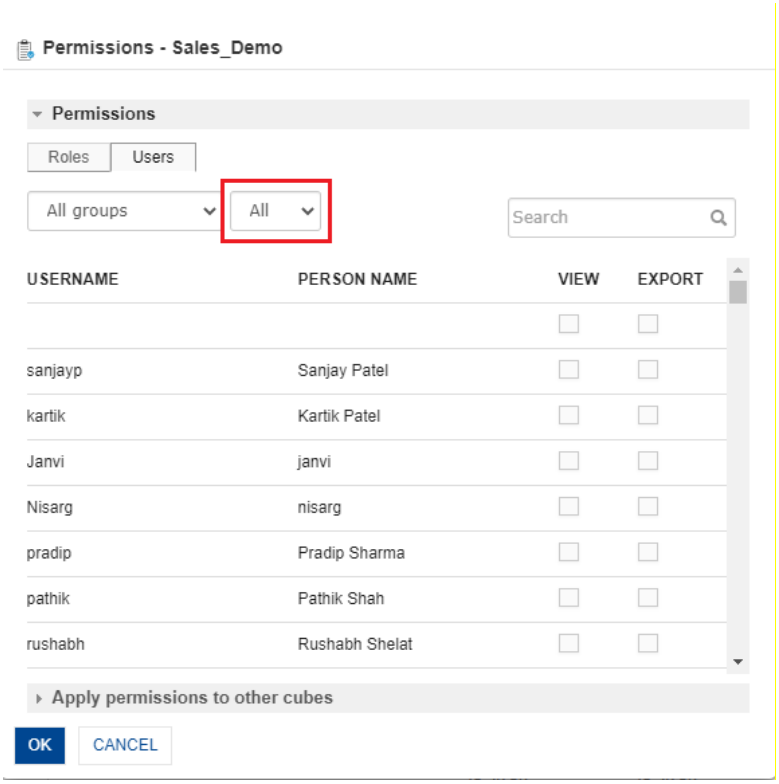
CUBE PERMISSIONS: GRANT PERMISSIONS TO USERS

7 You can filter the users based on the group they belong to by selecting a group from the list.



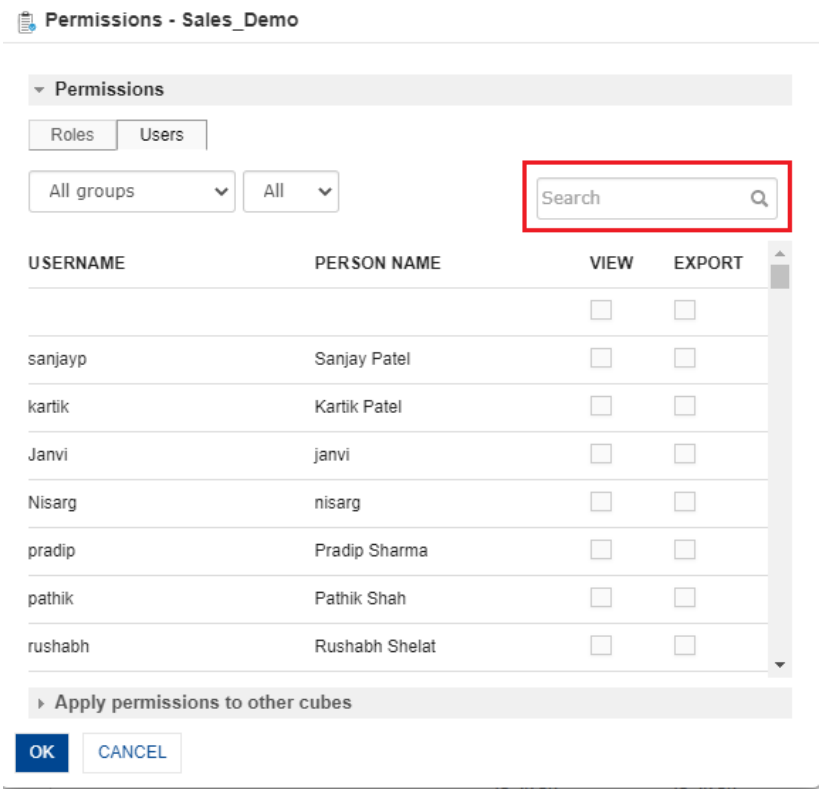
CUBE PERMISSION: FILTER USERS BASED ON GROUP

8 You can further filter the users based on the numeric and alphabetical range.
For example, if you have selected A – E from the list. The system displays only those usernames that start with alphabets A, B, C, D, or E.



CUBE PERMISSION: FILTER USERS BASED ON NUMERIC OR ALPHABET RANGE

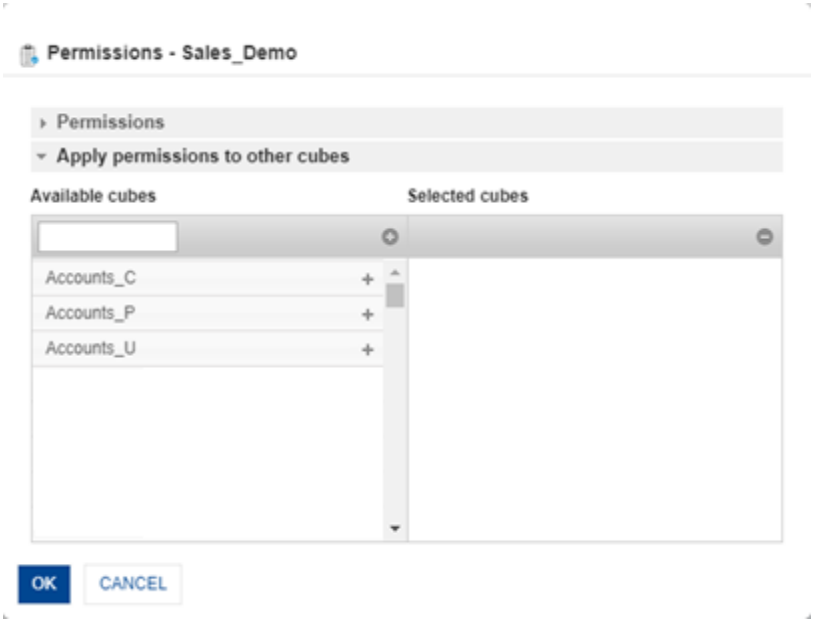
9 You can also search for specific user by using the **Search** field.



CUBE PERMISSION: FILTER USERS USING SEARCH

10 Click **Apply permissions to other cubes**option to grant the same permissions to other cubes which you have grantedto roles and users in the previous step.

This option allows you to grant the same set of permissions you have granted to a role to other cubes instead of granting the same set of permissions to the role for each cube separately. For example, if you have grated view and export permissions to Role 1 and want to grant the same permissions for Cube1,Cube2, and Cube3, you can use the **Apply permissions to other cubes** option to grant the view and export permissions to Role 1 for Cube1, Cube2, and Cube3.



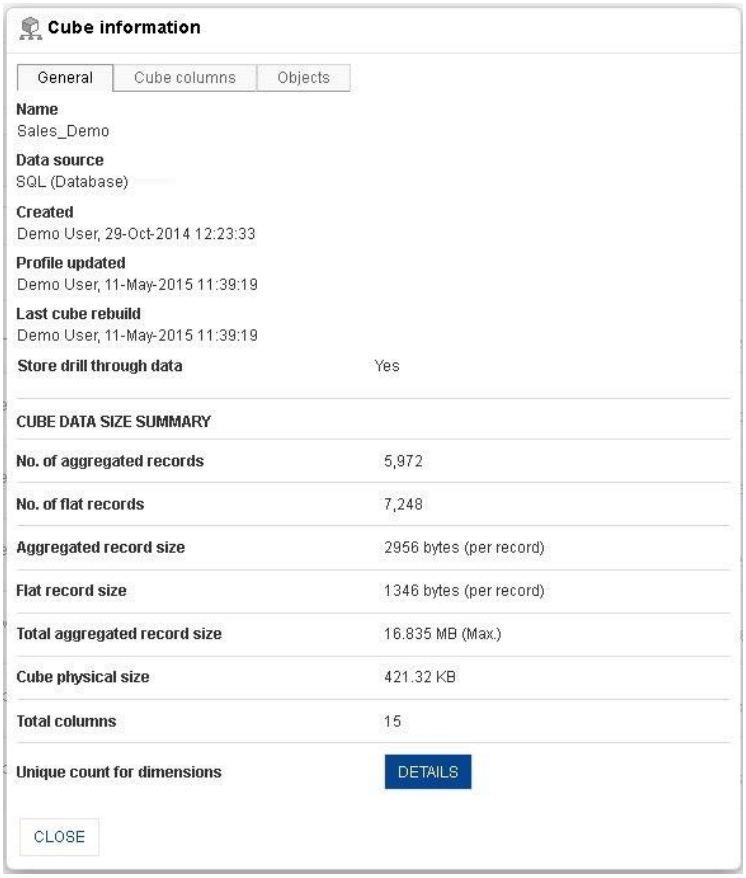
CUBE PERMISSION: APPLY PERMISSIONS TO OTHER CUBES

11 Click the plus sign adjacent to the cubes to select cubes to grant the permissions you have granted to the roles in the earlier step.
12 Click **OK**togrant the permissions you have selected for roles and usersor click **Cancel** to go back to Cube Repository.

6.1.4.1 General

Procedure

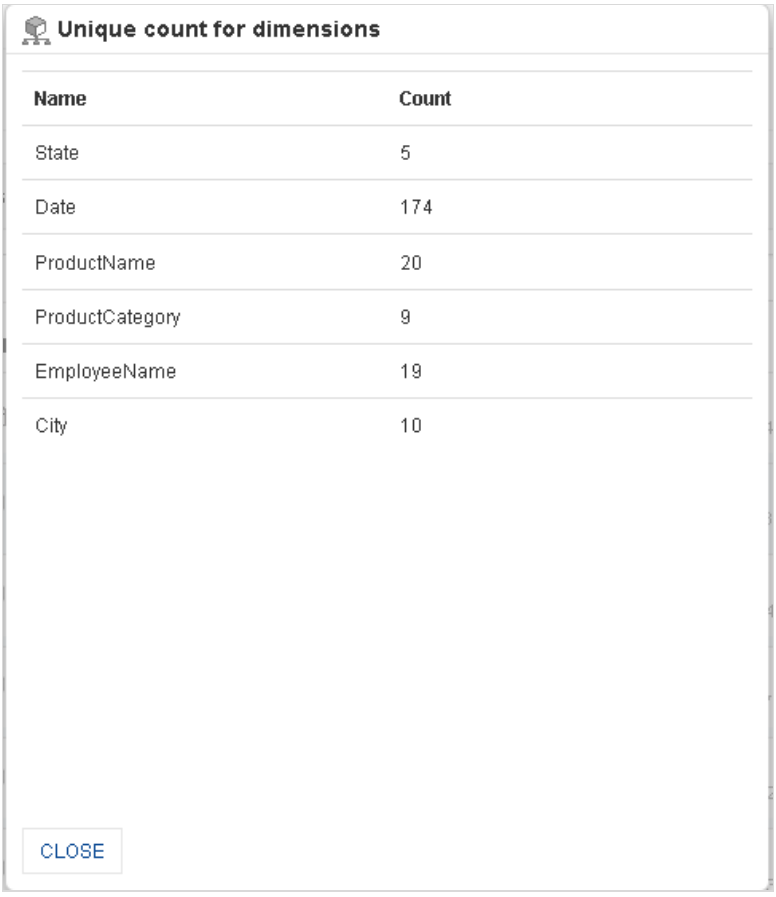
1. Select a cube profile from the Cube Repository.
2. Click the **Cube Information** icon.
   The system displays the **Cube Information** dialog box.



CUBE INFORMATION

The **General** tab displays metadata information of the cube and its size and aggregation-related parameters. You can view information under **CUBE DATA SIZE SUMMARY** section, such as No. of aggregated records, No. of flat records, Aggregated record size, Flat record size, Total aggregated record size, Cube physical size, and Total columns.

3. Click **Details** to view unique count for dimensions.



UNIQUE COUNT FOR DIMENSIONS: DETAILS

You can view the name and count of all cube dimensions.

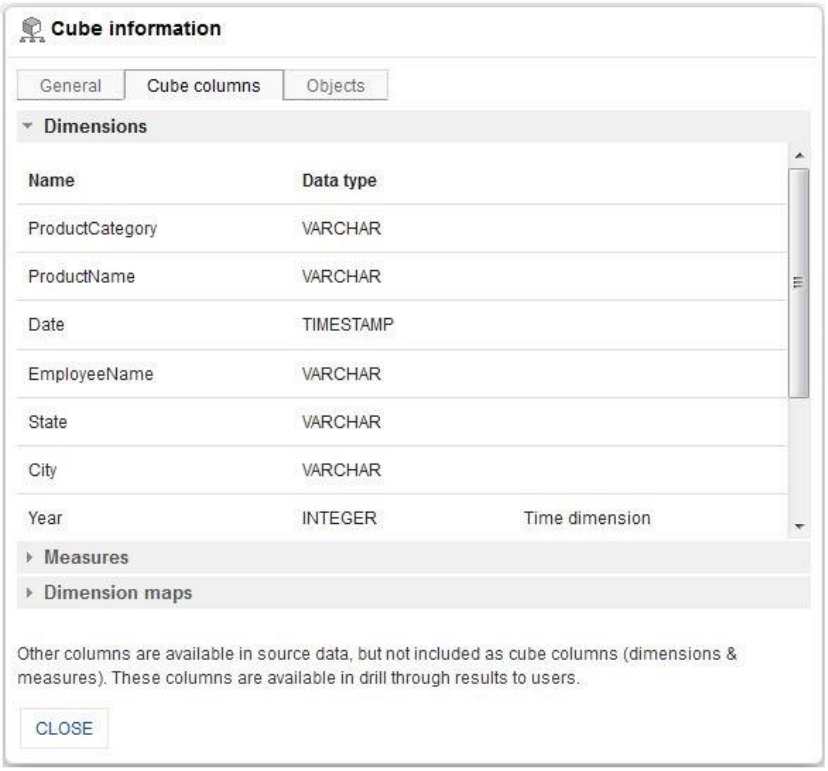
4. Click **Close** to exit the dialog box.

6.1.4.2 Cube Columns

Dimensions and Measures:

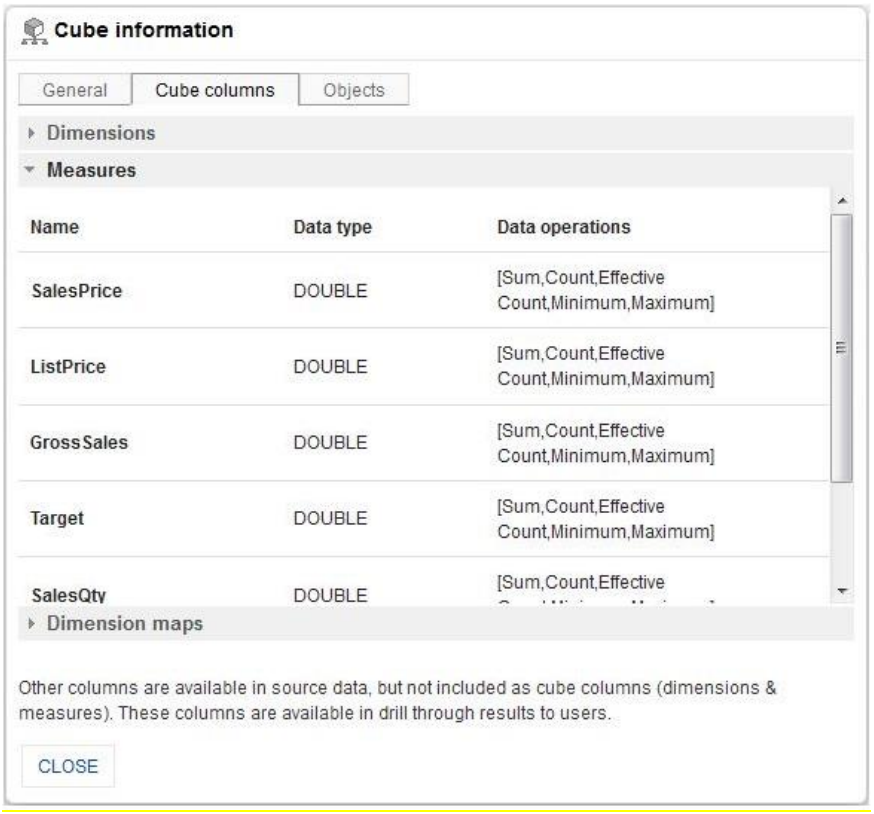
Procedure

1. Follow the **Procedure** of **General**.
2. Select the **Cube columns** tab.



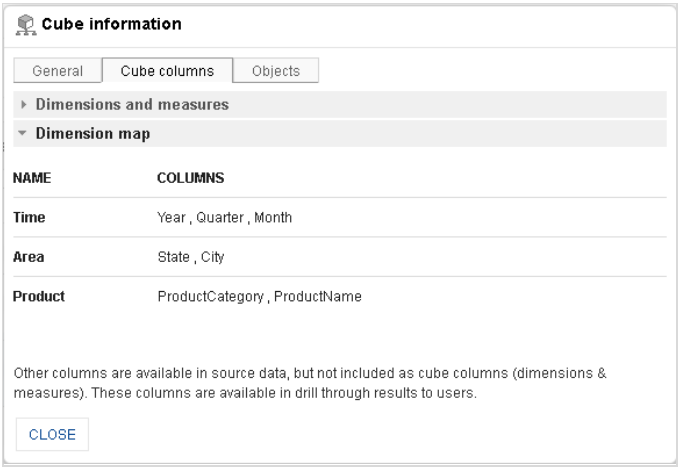
CUBE COLUMNS: DIMENSIONS

You can view Dimensions and Custom dimensions along with their data types.



CUBE COLUMNS: MEASURES

You can view Measures and Custom measures along with their data types and data operations.



CUBE COLUMNS: DIMENSION MAP

You can view information related to Dimension map, such as columns for Time, Area, and Product.

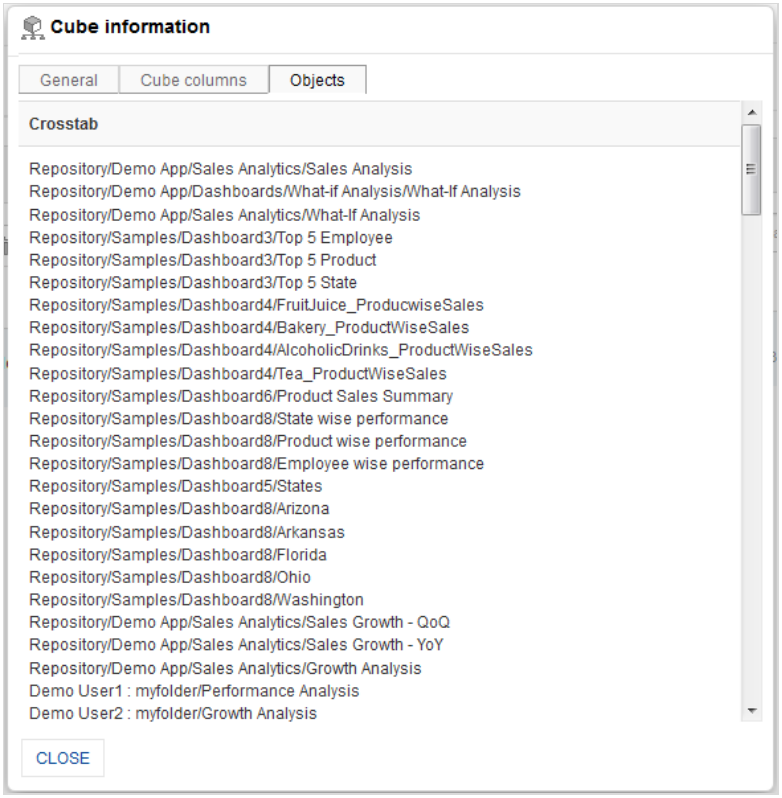
3. Click **Close** to exit the dialogue box.

6.1.4.3 Objects

Objects:

Procedure

1. Follow the **Procedure** of **General**.
2. Select the **Objects** tab.



CUBE INFORMATION: OBJECTS

You can view information about various BI objects, such as **Crosstab, Graph, GeoMap, Tabular, and KPIs** associated with a cube

3. Click **Close** to exit the dialogue box.

6.1.5Rebuild Cube

To rebuild cube:

Procedure

1. Select a cube profile from the Cube Repository.
2. Click the **Rebuild** icon.
   The system displays the **Cube rebuild- options** dialog box.

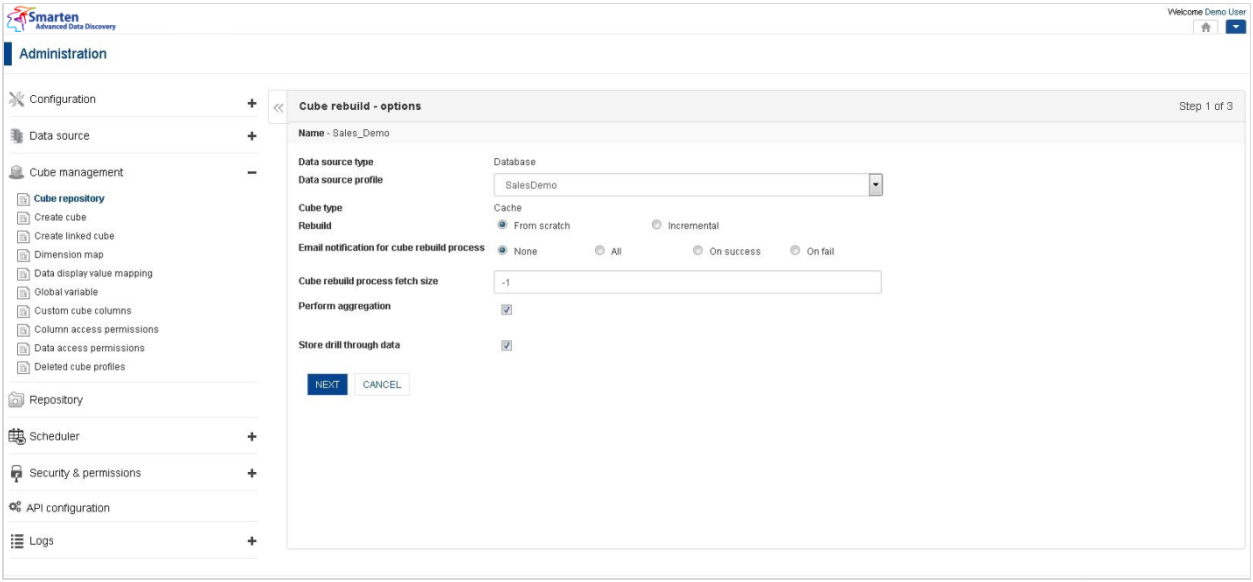
6.1.5.1 Cube created using Database Profile

Rebuild cube options:

STEP 1

Procedure

1. Follow the **Procedure** of **Rebuild Cube**.
   The system displays the **Cube rebuild- options** dialog box.



REBUILD CUBE OPTIONS: CUBE CREATED USING DATABASE PROFILE

2. From the **Data source profile**, select database profile and cube update option, either **From scratch** or **Incremental**.
3. In the **Cube rebuild process fetch size** field, enter a value, -1 for auto selection by the system.
4. Select an option for **Email Notification for cube rebuild process**.
5. Click **Next** to move on to **STEP 2** or click **Cancel**.

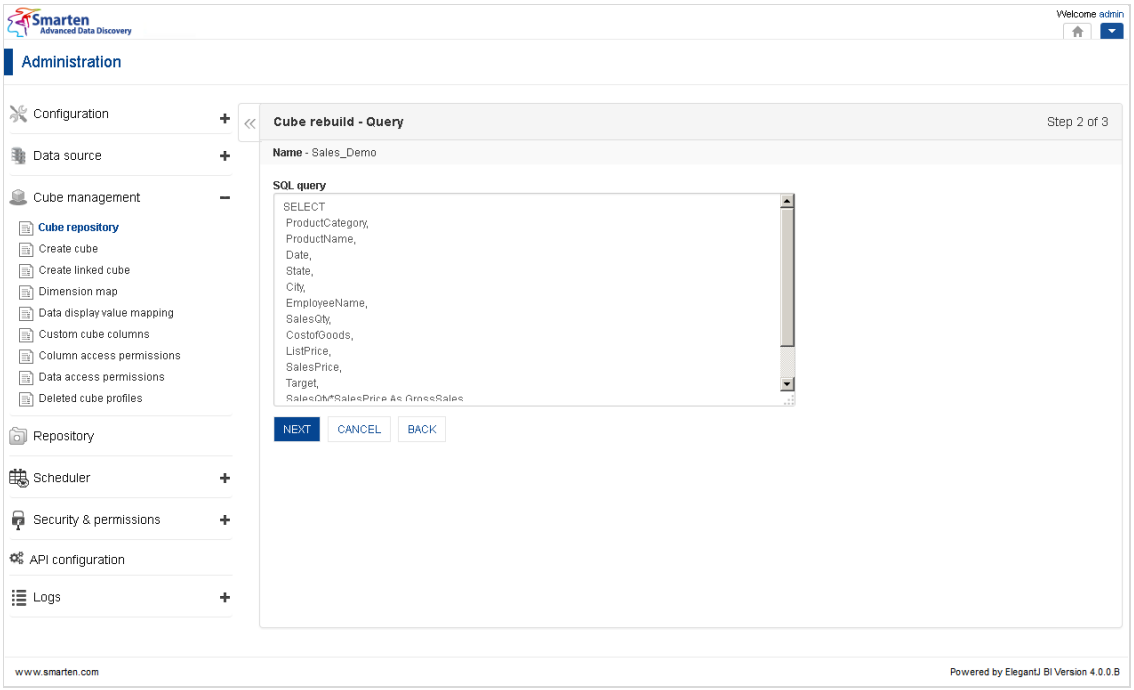
> **Note:**
> Perform aggregation option is not visible for Incremental option.
> Store to drill though option is disabled for Incremental option.

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Update Process > Types of Cube Updates—From scratch or incremental**

STEP 2

Procedure

1. Follow the **Procedure** of **STEP 1**.
   The system displays the **Cube rebuild- Query** dialog box.
2. In the **SQL query** field, enter the query.
3. Click **Next** to move on to **STEP 3,** click **Back** to go back to **STEP 1,** or click **Cancel**.

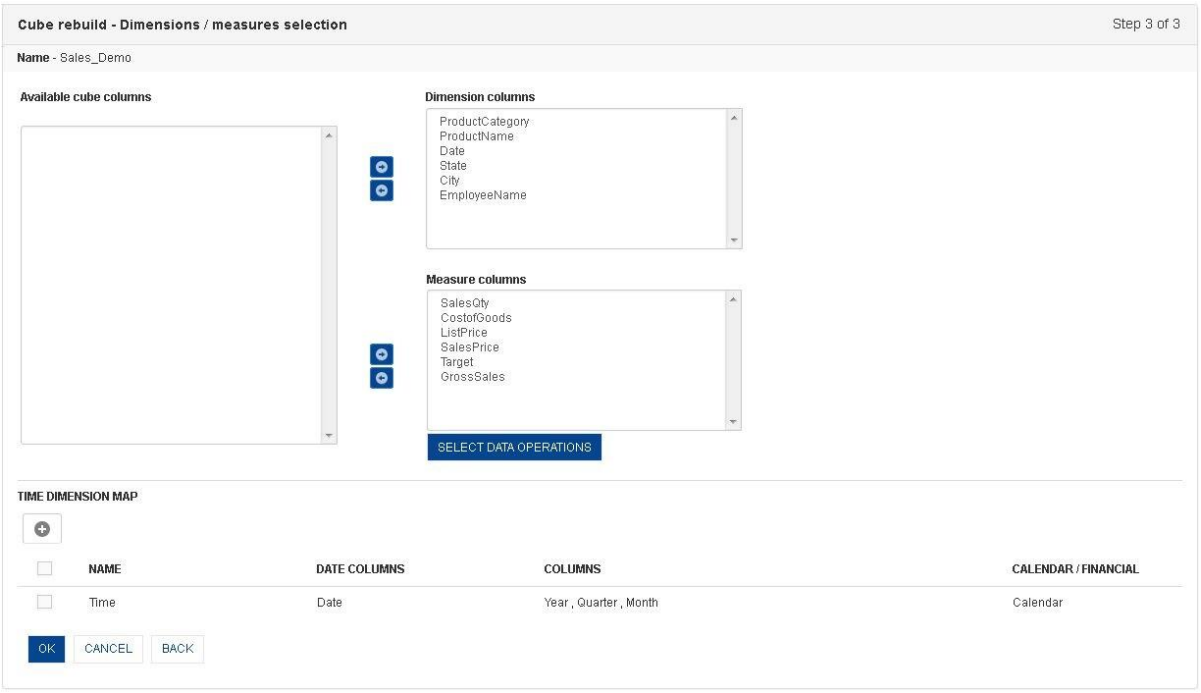


REBUILD CUBE: CUBE CREATED USING DATABASE PROFILE: QUERY

STEP 3

Procedure

1. Follow the **Procedure** of **STEP 2.**
   The system displays the **Cube rebuild - Dimensions / measures selection** dialog box.
2. Move columns from **Available cube columns** to **Dimension columns** and **Measure columns** by clicking the **right arrow**.
   To deselect and move any column to **Available cube columns**, select from **Dimension columns** and **Measure columns** and click the **left arrow** icon.



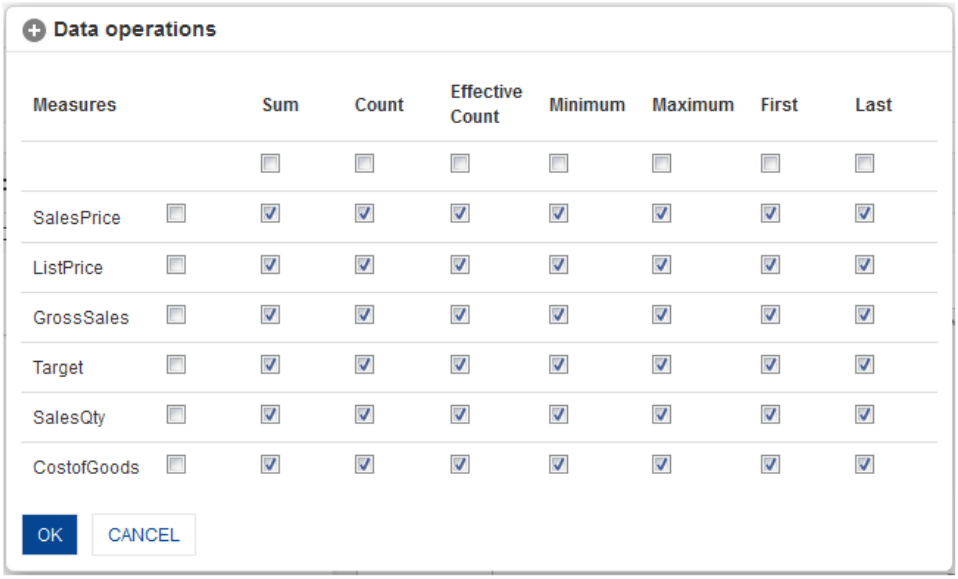
REBUILD CUBE: DIMENSIONS / MEASURES SELECTION

3. Click on **SELECT DATA OPERATIONS** to select pre-defined data operations for selected measures
4. Click **Add** to generate a time dimension map.
5. Click the checkbox to edit or delete the existing time dimension map.
6. To update cube, click **OK** to confirm, click **Back** to move back to **STEP 2**, or click **Cancel**.

To Select Data operations:

Procedure

1. Click on the **SELECT DATA OPERATIONS** button below the **Measures columns** section. The system displays the **Data operations dialog box.**



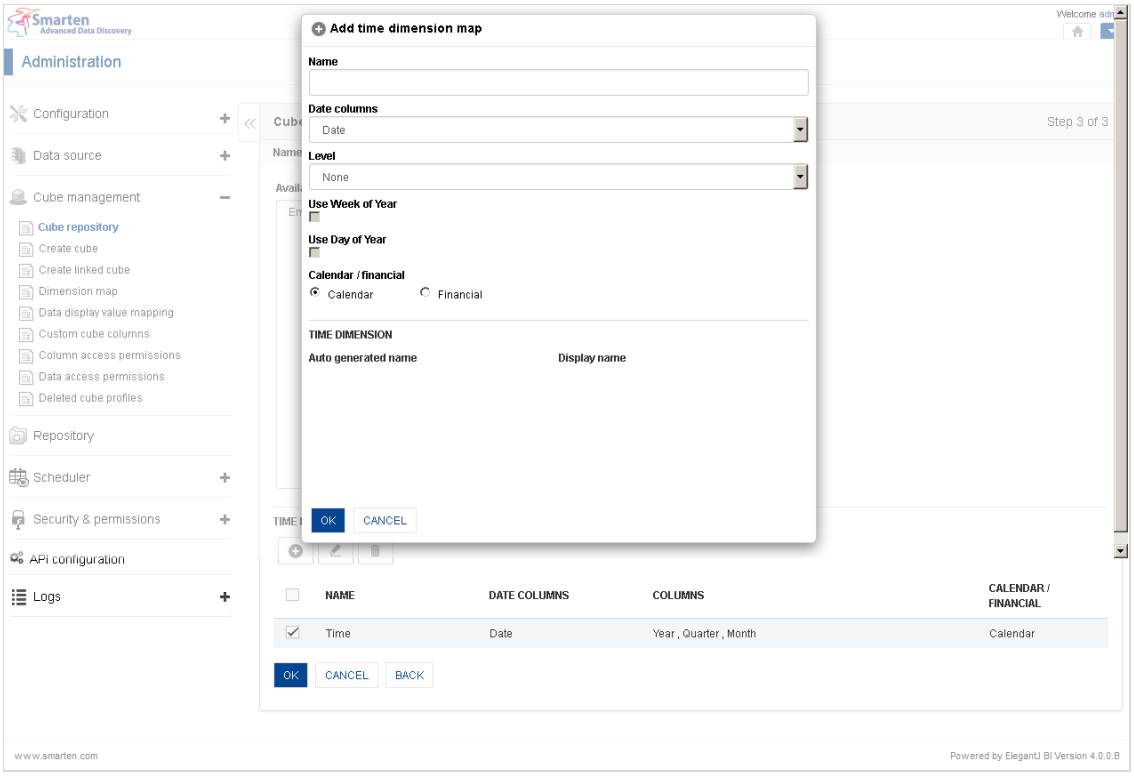
SELECT DATA OPERATIONS

2. Click the checkboxes to select pre-defined data operations against each measure.
3. Click **OK** to confirm or click **Cancel**.

To add time dimension map:

Procedure

4. Click **Add** to generate a time dimension map.
   The system displays the **Add time dimension map dialog box.**



ADD TIME DIMENSION MAP

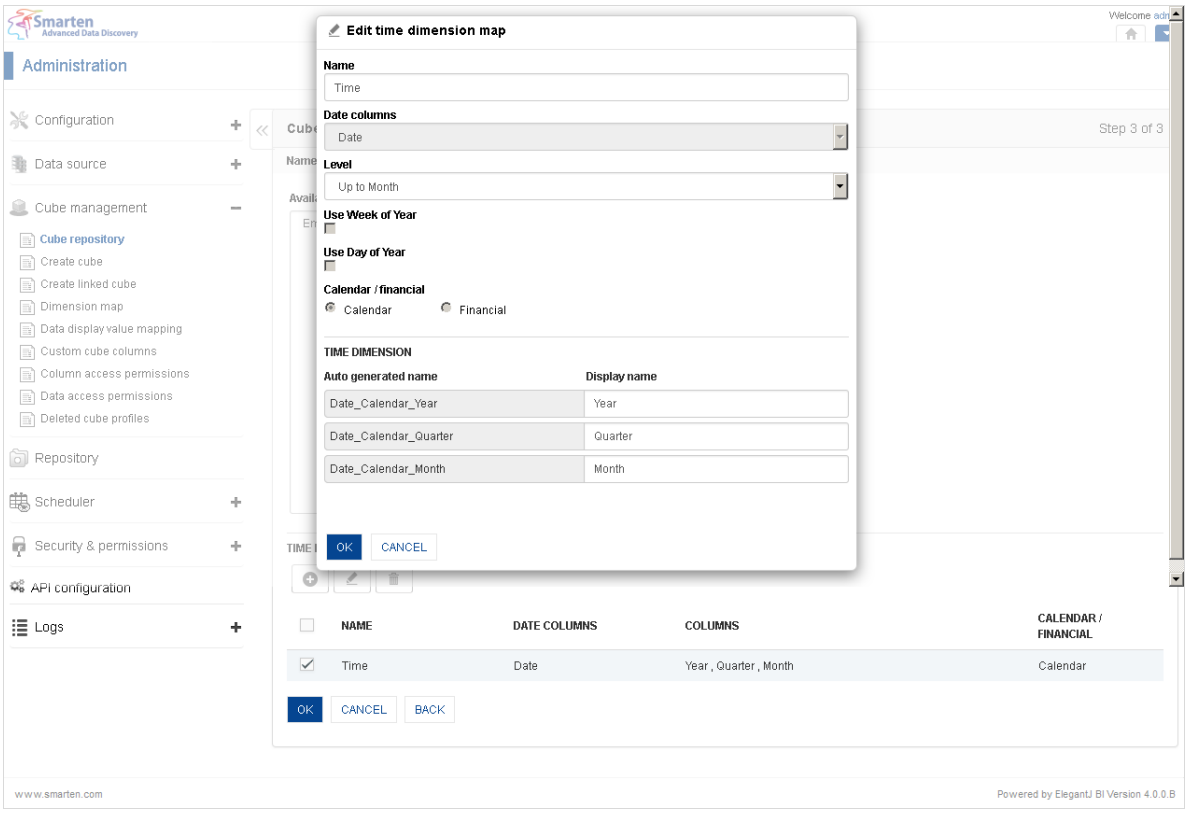
5. In the **Name** field, enter the name.
6. In the **Date column** drop-down list, select a column.
7. In the **Level** drop-down list, select a level.
8. Select an option for **Calendar / financial.**
9. Click **OK** to confirm or click **Cancel**.

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Time Dimension**

To edit time dimension map:

Procedure

1. **In the TIME DIMENSION MAP** section, select the time dimension map from the list.
2. Click the **Edit** icon.
   The system displays the **Edit time dimension map** dialog box.



EDIT TIME DIMENSION MAP

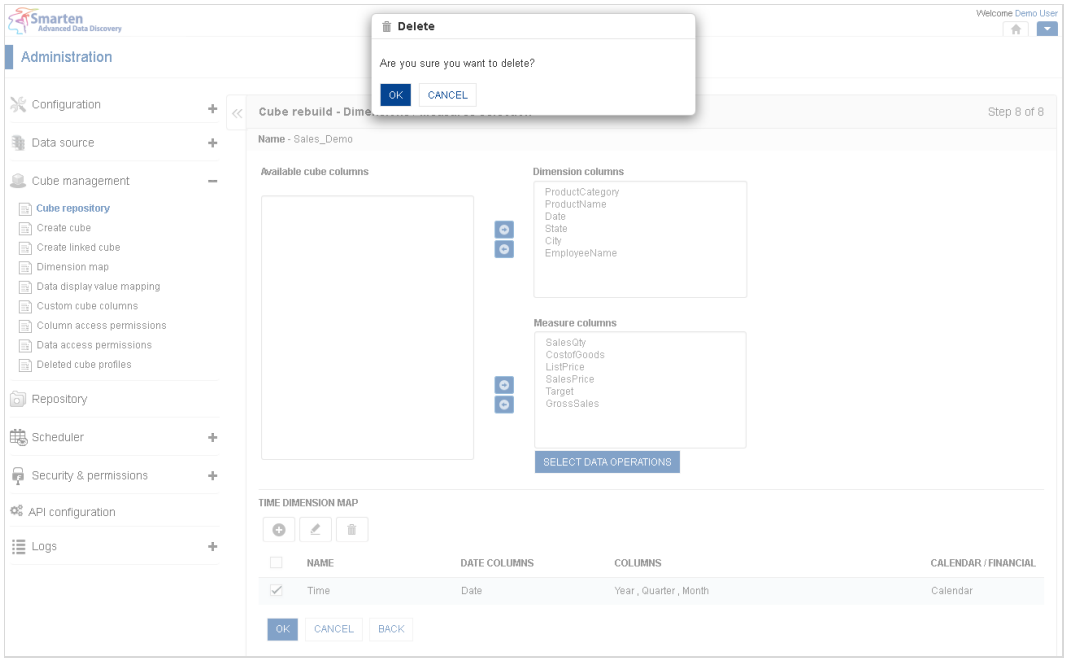
3. In the **Name** field, edit the name.
4. In the **Level** drop-down list, edit the level.
5. Edit the **Display name** of each **Auto-generated name.**
6. Click **OK** to confirm or click **Cancel**.

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Time Dimension**

To delete time dimension map:

Procedure

1. **In the TIME DIMENSION MAP** section, select the time dimension map from the list.
2. Click the **Delete** icon.
   The system displays the **Delete** dialog box.



DELETE TIME DIMENSION MAP

3. Click **OK** to confirm or click **Cancel**.

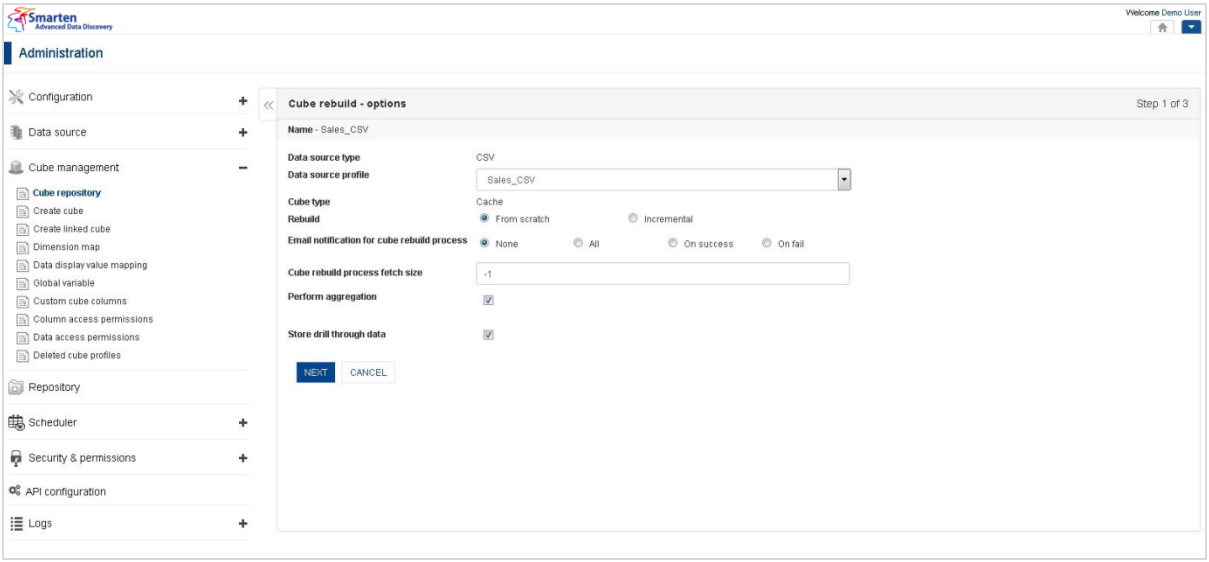
6.1.5.2 Cube created using CSV Profile

Rebuild cube options:

STEP 1

Procedure

1. Follow the **Procedure** of **Rebuild Cube**.
2. The system displays the **Cube rebuild- options** dialog box.



CUBE REBUILD OPTIONS: CUBE CREATED USING CSV PROFILE

3. From the **Data source profile**, select CSV profile and cube update option, either **From scratch** or **Incremental.**
4. In the **Cube rebuild process fetch size** field, enter a value, -1 for auto selection by the system.
5. Select an option for **Email Notification for cube rebuild process.**
6. Click **Next** to move on to **STEP 2** or click **Cancel**.

> **Note:**
> Store to drill though option is disabled for Incremental option

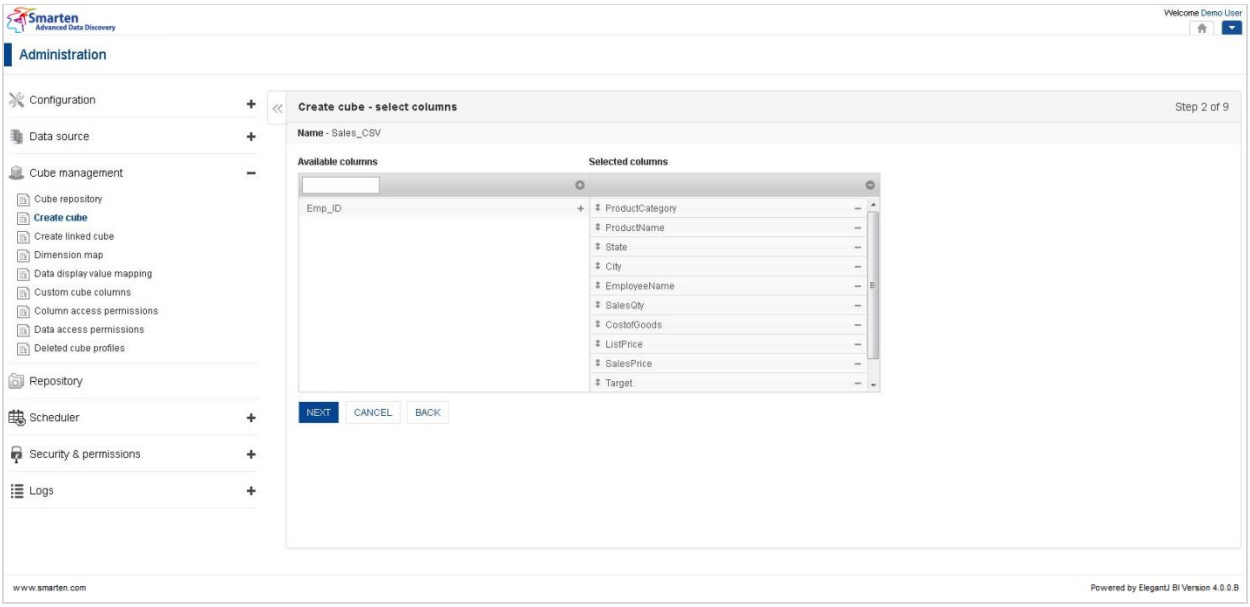
Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Update Process > Types of Cube Updates—From scratch or incremental**

Cube Rebuild Select Columns:

STEP 2

Procedure

1. Follow the **Procedure** of **STEP 1**.
   The system displays the **Create cube - select columns** dialog box.



CUBE REBUILD: SELECT COLUMNS

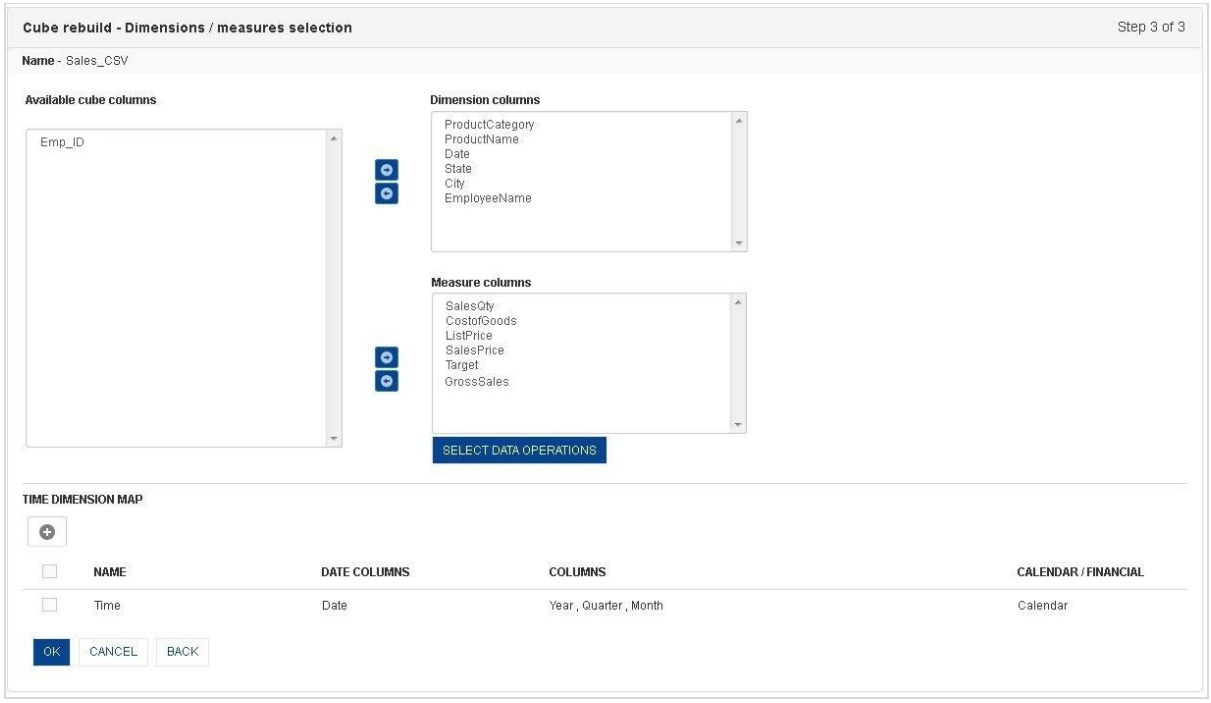
2. From the **Available Columns** list, drag and drop the columns to the **Selected columns** list or deselect the columns by moving the columns back from the **Selected columns**. Also, move up and down to change the order of columns in the **Selected columns.**
3. Click **Next** to move on to **STEP 3**, click **Back** to go back to **STEP 1,** or click **Cancel.**

Cube rebuild dimensions measures selection:

STEP 3

Procedure

1. Follow the **Procedure** of **STEP 2**.
   The system displays the **Cube rebuild - Dimensions / measures selection** dialog box.
2. Move columns from **Available cube columns** to **Dimension columns** and **Measure columns** by clicking the **right arrow**.
3. To deselect and move any column to **Available cube columns**, select from **Dimension columns** and **Measure columns** and click the **left arrow** icon.



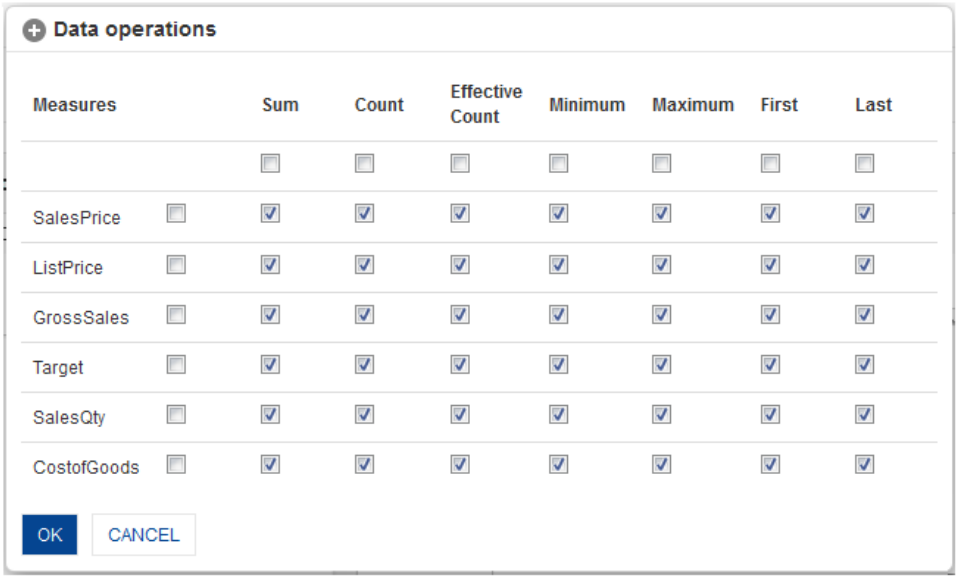
CUBE REBUILD: DIMENSIONS / MEASURES SELECTION

4. Click on **SELECT DATA OPERATIONS** to select pre-defined data operations for selected measures
5. Click **Add** to generate a time dimension map.
6. Click the checkbox to edit or delete the existing time dimension map.
7. To update cube, click **OK** to confirm, click **Back** to move back to **STEP 2**, or click **Cancel**.

To Select Data operations:

Procedure

1. Click on the **SELECT DATA OPERATIONS** button below the **Measures columns** section. The system displays the **Data operations dialog box.**



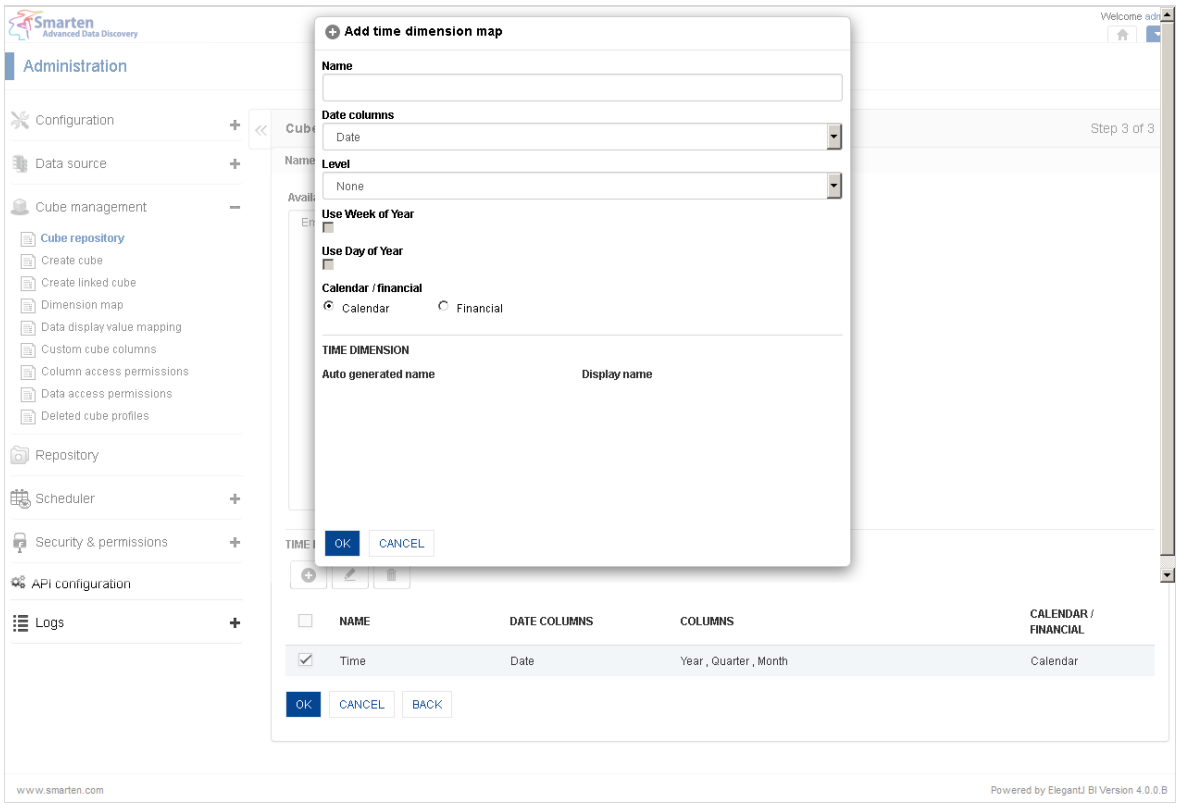
SELECT DATA OPERATIONS

2. Click the checkboxes to select pre-defined data operations against each measure..
3. Click **OK** to confirm or click **Cancel**.

To add time dimension map:

Procedure

1. Click **Add** to generate a time dimension map.
   The system displays the **Add time dimension map dialog box.**



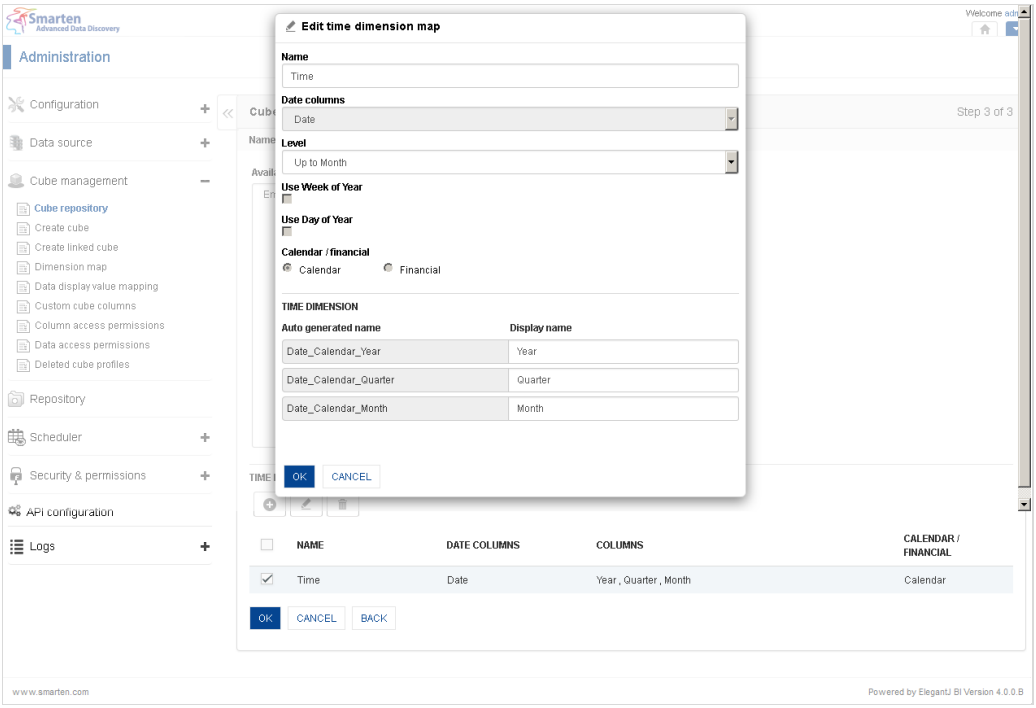
ADD TIME DIMENSION MAP

2. In the **Name** field, enter the name.
3. In the **Date column** drop-down list, select a column.
4. In the **Level** drop-down list, select a level.
5. Select an option for **Calendar / financial.**
6. Click **OK** to confirm or click **Cancel**.

To edit time dimension map:

Procedure

1. **In the TIME DIMENSION MAP** section, select the time dimension map from the list.
2. Click the **Edit** icon.
   The system displays the **Edit time dimension map** dialog box.



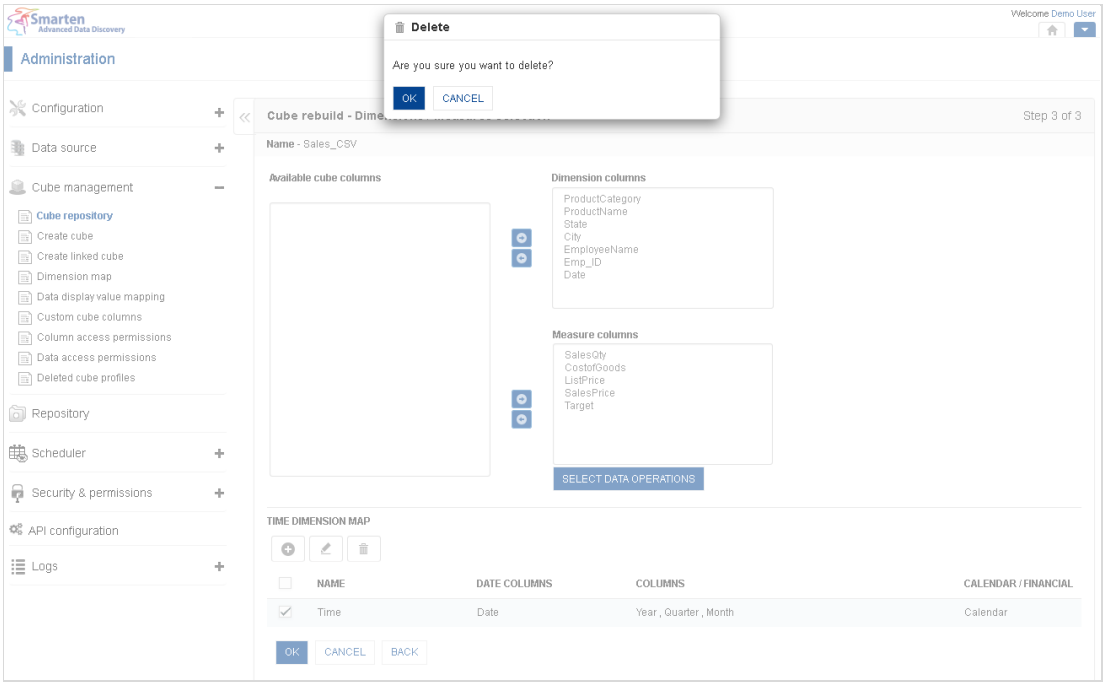
EDIT TIME DIMENSION MAP

3. In the **Name** field, edit the name.
4. In the **Level** drop-down list, edit the level.
5. Edit the **Display name** of each **Auto-generated name.**
6. Click **OK** to confirm or click **Cancel**.

To delete time dimension map:

Procedure

1. In the **TIME DIMENSION MAP** section, select the time dimension map from the list.
2. Click the **Delete** icon.
   The system displays the **Delete** dialog box.



DELETE TIME DIMENSION MAP

3. Click **OK** to confirm or click **Cancel**.

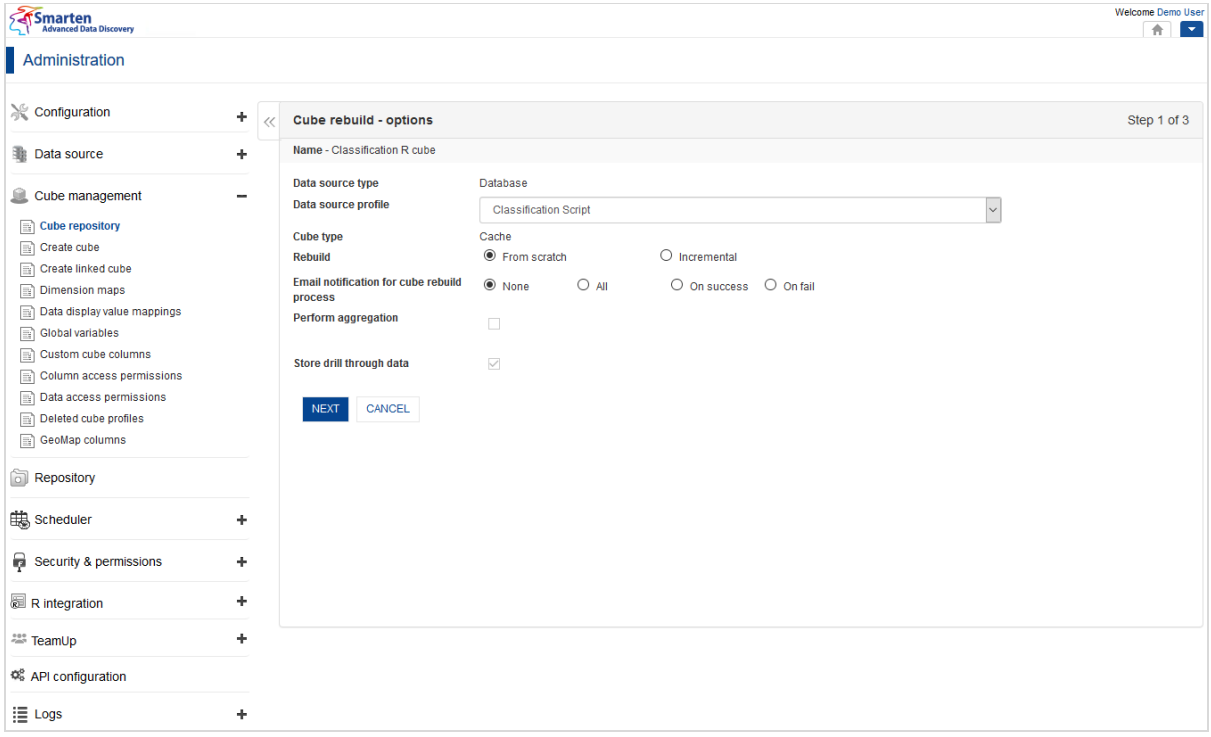
6.1.5.3 Cube created using R script Profile

Rebuild cube options:

STEP 1

Procedure

1. Follow the **Procedure** of **Rebuild Cube**.
2. The system displays the **Cube rebuild- options** dialog box.



CUBE REBUILD OPTIONS: CUBE CREATED USING R SCRIPT PROFILE

3. From the **Data source profile**, select R script profile and cube update option, either **From scratch** or **Incremental.**
4. Select an option for **Email Notification for cube rebuild process.**
5. Click **Next** to move on to **STEP 2** or click **Cancel**.

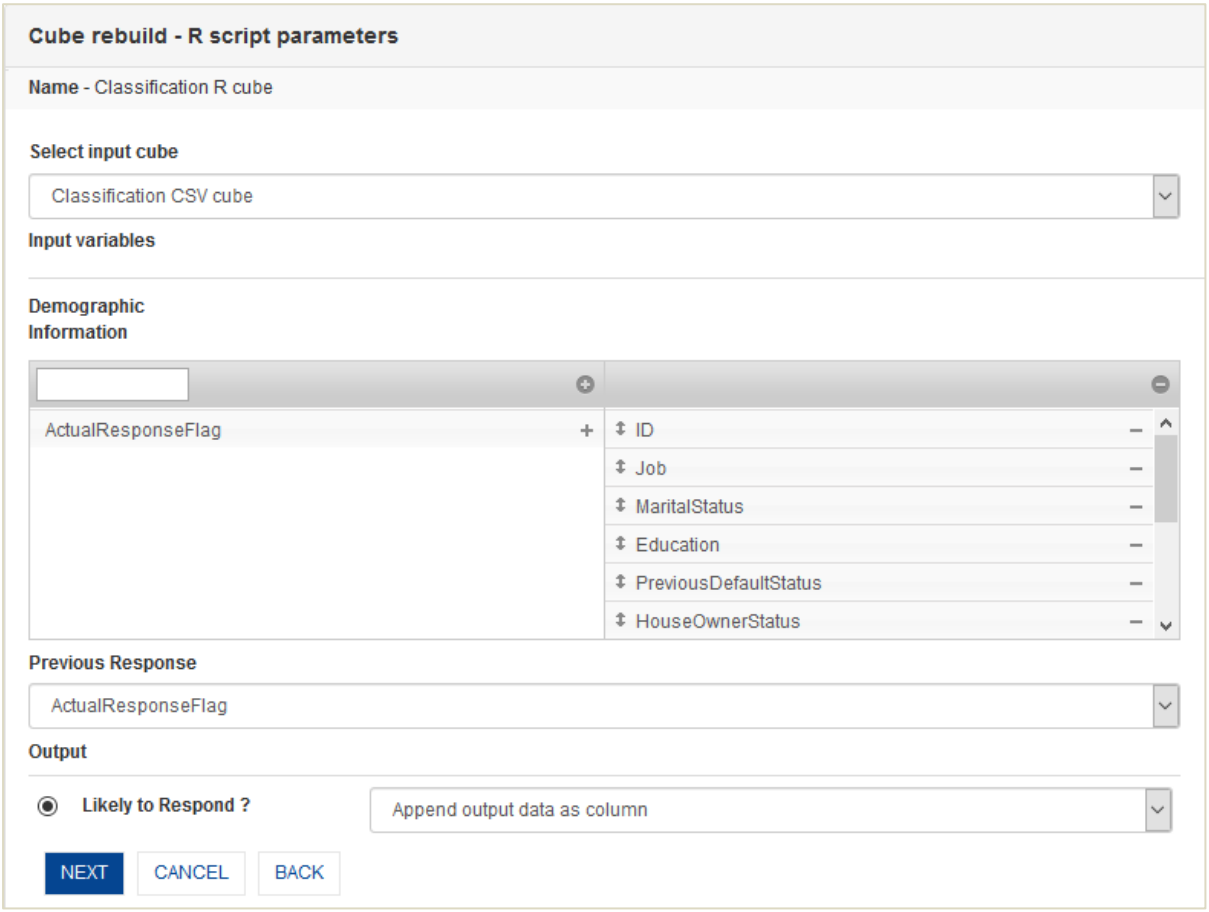
Reference: **Working with R integration**

Cube Rebuild Select Columns:

STEP 2

Procedure

1. Follow the **Procedure** of **STEP 1**.
   The system displays the **Cube Rebuild – R script parameters** dialog box.



CUBE REBUILD: R SCRIPT PARAMETERS

2. Select the **Input cube** from the drop-down list.

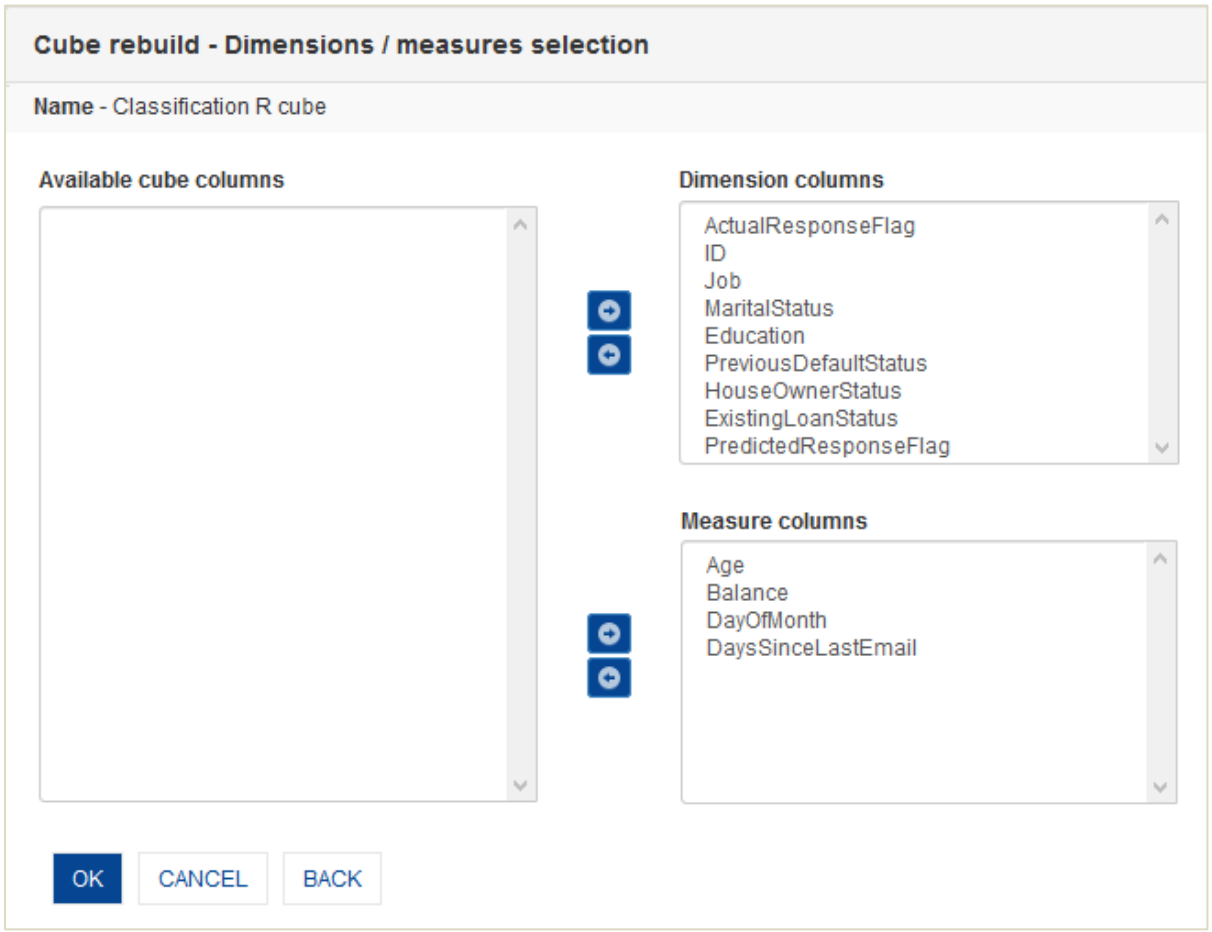
   Note:
   In case the source of data for the Input variables of selected R script profile is “Cube data/Manual input”, select the **Input cube** from the drop-down list. In case the source of data for the Input variables of selected R script profile is “Manual input”, this field will not appear at all.
3. Map the **Input variables** with Smarten input cube by selecting the cube columns for each input variable.
   OR
   Enter the data for the **manual Input variable(s)**.
4. Select the radio button of the **Output variable**. From the drop-down list, select either Output data as individual table, or Append output data as column, or Append output data as row.

5. Click **BACK** to go back to the **Cube rebuild** page.
6. Click **CANCEL** to go back to **Cube rebuild** page without saving any change.
7. Click **NEXT.**
   The system displays the **Cube rebuild - Dimensions/measures selection** page.

STEP 3

Procedure

1. Follow the **Procedure** of **STEP 2.**
   The system displays the **Cube rebuild - Dimensions / measures selection** dialog box.
2. Move columns from **Available cube columns** to **Dimension columns** and **Measure columns** by clicking the **right arrow**.
3. To deselect and move any column to **Available cube columns**, select from **Dimension columns** and **Measure columns** and click the **left arrow** icon.
4. Click **BACK** to go back to the **Cube rebuild – R script parameters** page.
5. Click **CANCEL** to go back to the **Cube rebuild - cube column selection** page without saving any change.
6. Click **OK** to rebuild cube.



REBUILD CUBE: R SCRIPT PROFILE: DIMENSION COLUMN SELECTION

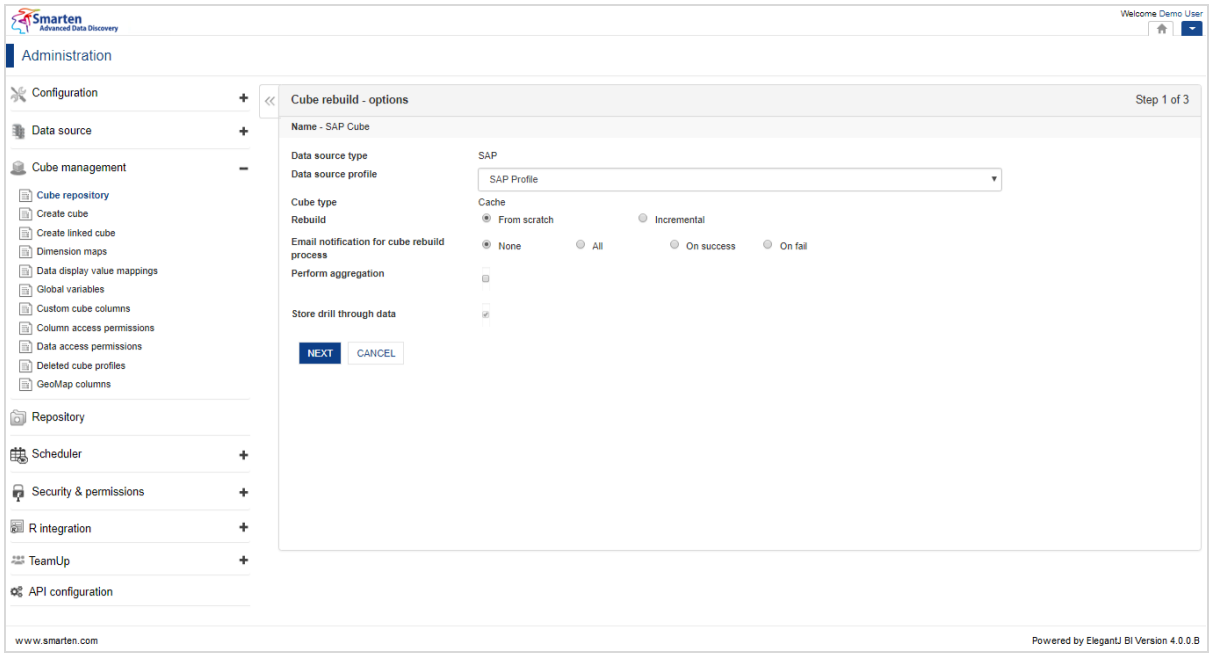
6.1.5.4 Cube created using SAP Profile

Rebuild cube options:

STEP 1

Procedure

1. Follow the **Procedure** of **Rebuild Cube**.
2. The system displays the **Cube rebuild- options** dialog box.



CUBE REBUILD OPTIONS: CUBE CREATED USING SAP PROFILE

3. From the **Data source profile**, select SAP profile and cube update option, either **From scratch** or **Incremental.**
4. Select an option for **Email Notification for cube rebuild process.**
5. Click **Next** to move on to **STEP 2** or click **Cancel**.

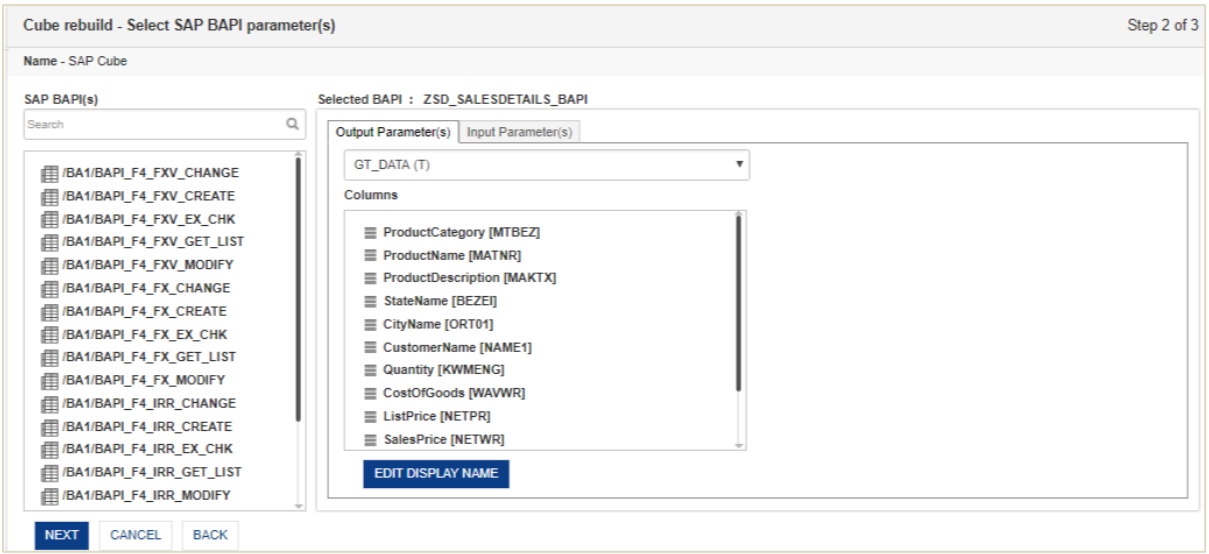
Reference: **Integration with SAP**

Cube Rebuild Select Columns:

STEP 2

Procedure

1. Follow the **Procedure** of **STEP 1**.
   The system displays the **Cube Rebuild – Select SAP BAPI parameter(s)** dialog box.

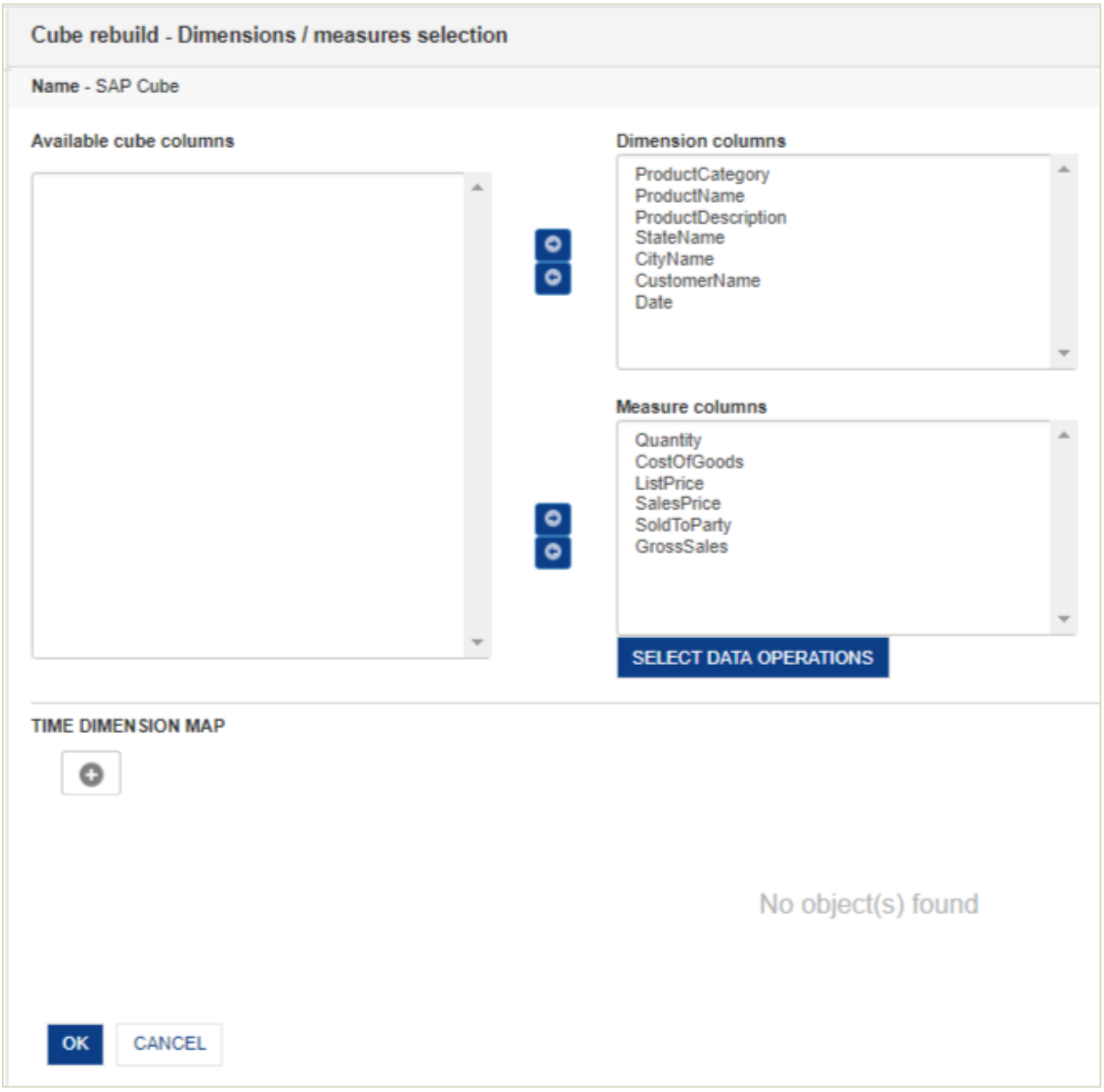


2. In the **SAP BAPPI(s)** list, look for the required BAPI. You can also search it by entering its name in the search box.
   Double click on the BAPI name in the list.
3. From the **Output Parameters** tab, select the Output parameter from the drop-down list.
   The system displays a list of Columns belonging to the selected Output parameter.
4. Click **EDIT DISPLAY NAME**.
   The system displays the **Edit Display Name** dialog box.
5. Under the **Column display name** section, edit the display name for a column in the field adjacent to that column.
6. Click **OK** to save the settings.
7. Click **CANCEL** to go back to the **Create cube – Select SAP BAPI Parameters** page.
8. Click **Input Parameters** tab.
   The system displays all the input parameters of the selected BAPI.
9. Enter data, if required for the input parameters. Input data which is mandatory to be entered is indicated by an asterisk.
10. Click **BACK** to go back to the **Create Cube** page.
11. Click **CANCEL** to go back to **Create Cube** page without saving any change.
12. Click **NEXT.**
    The system displays the **Create cube - Dimensions/measures selection** page.

STEP 3

Procedure

1. Follow the **Procedure** of **STEP 2.**
   The system displays the **Cube rebuild - Dimensions / measures selection** dialog box.
2. Move columns from **Available cube columns** to **Dimension columns** and **Measure columns** by clicking the **right arrow**.
3. To deselect and move any column to **Available cube columns**, select from **Dimension columns** and **Measure columns** and click the **left arrow** icon.
4. Click **BACK** to go back to the **Cube rebuild – R script parameters** page.
5. Click **CANCEL** to go back to the **Cube rebuild - cube column selection** page without saving any change.
6. Click **OK** to rebuild cube.

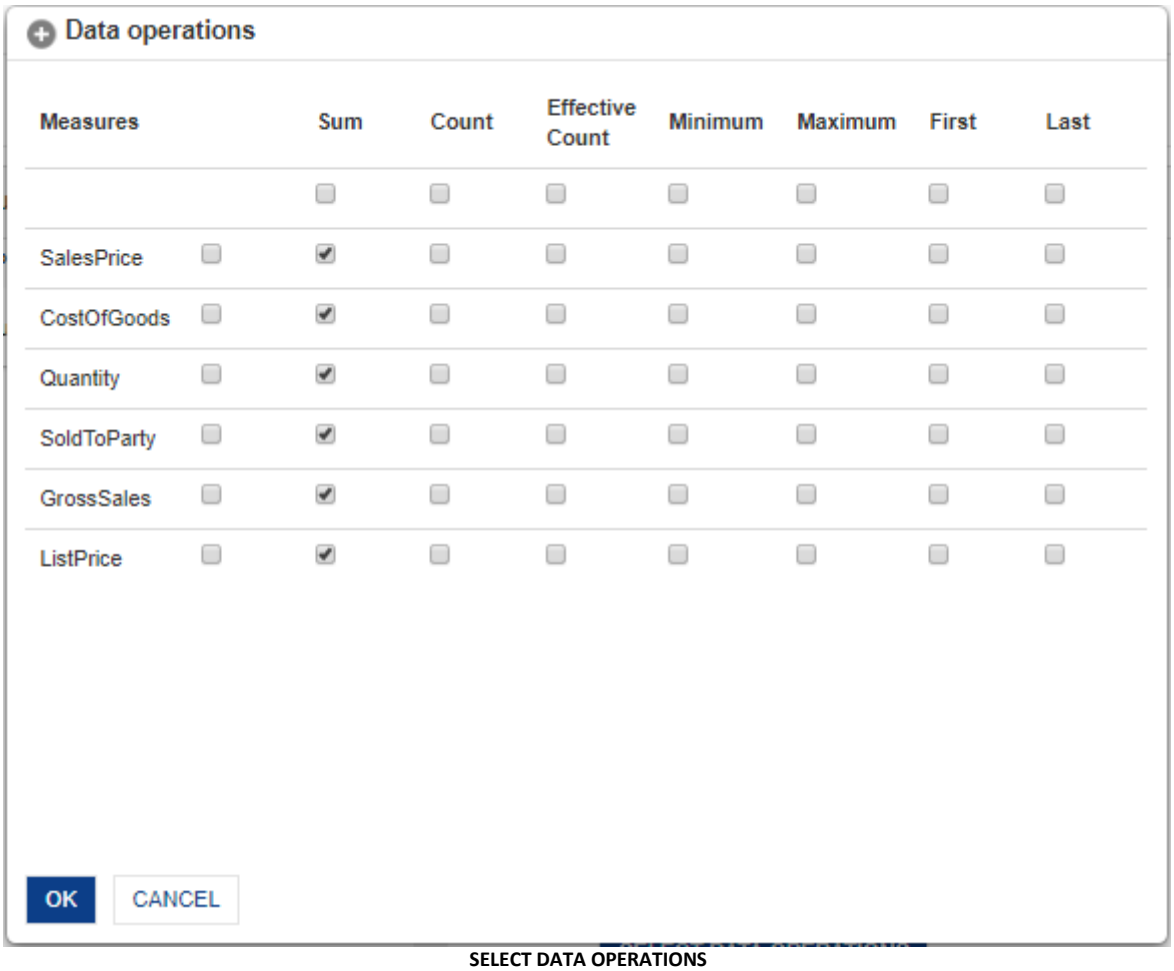


7. Click on **SELECT DATA OPERATIONS** to select pre-defined data operations for selected measures
8. Click **Add** to generate a time dimension map.
9. Click the checkbox to edit or delete the existing time dimension map.
10. To update cube, click **OK** to confirm, click **Back** to move back to **STEP 2**, or click **Cancel**.

To Select Data operations:

Procedure

1. Click on the **SELECT DATA OPERATIONS** button below the **Measures columns** section. The system displays the **Data operations dialog box.**



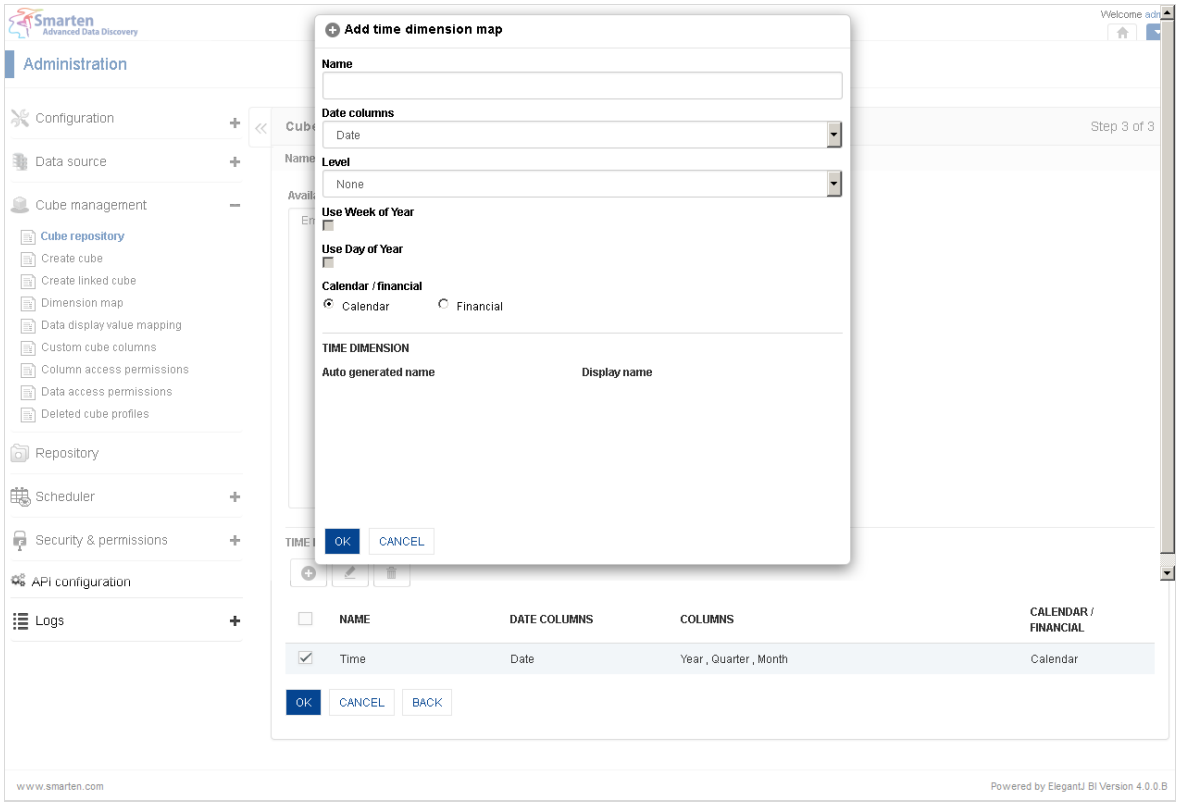
SELECT DATA OPERATIONS

2. Click the checkboxes to select pre-defined data operations against each measure..
3. Click **OK** to confirm or click **Cancel**.

To add time dimension map:

Procedure

1. Click **Add** to generate a time dimension map.
   The system displays the **Add time dimension map dialog box.**



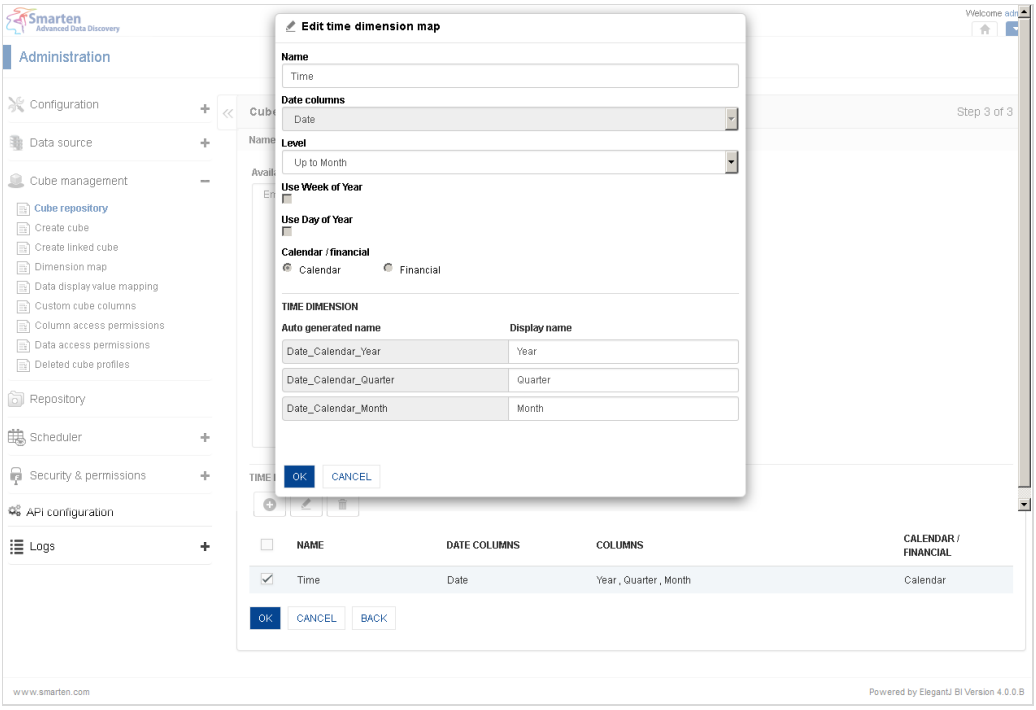
ADD TIME DIMENSION MAP

2. In the **Name** field, enter the name.
3. In the **Date column** drop-down list, select a column.
4. In the **Level** drop-down list, select a level.
5. Select an option for **Calendar / financial.**
6. Click **OK** to confirm or click **Cancel**.

To edit time dimension map:

Procedure

1. **In the TIME DIMENSION MAP** section, select the time dimension map from the list.
2. Click the **Edit** icon.
   The system displays the **Edit time dimension map** dialog box.



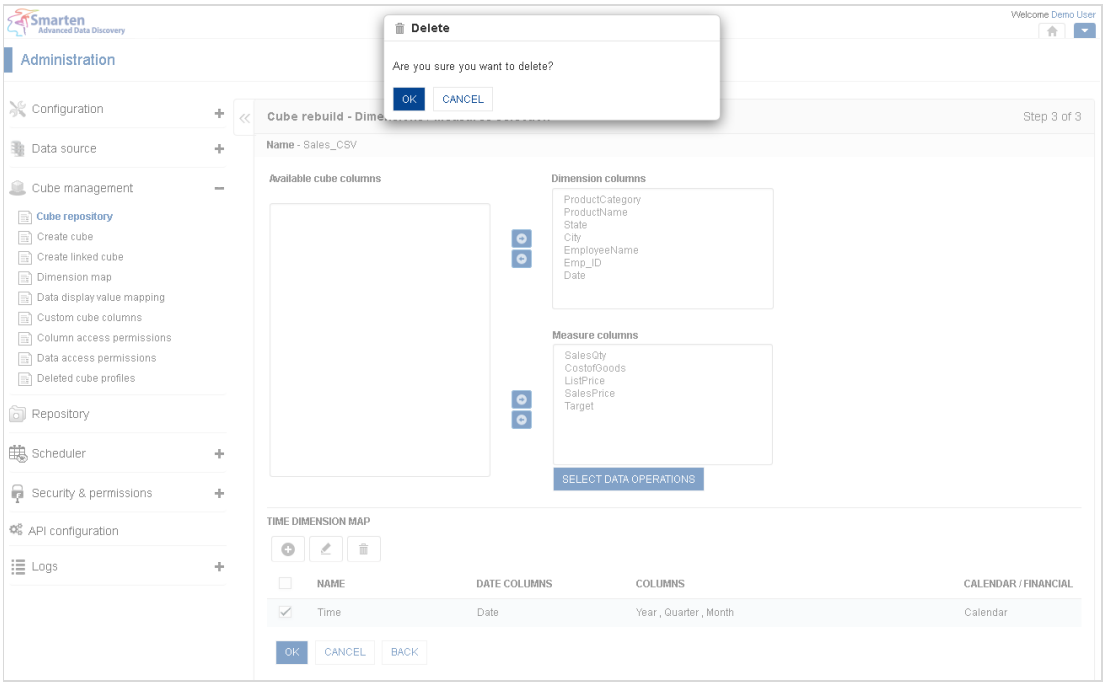
EDIT TIME DIMENSION MAP

3. In the **Name** field, edit the name.
4. In the **Level** drop-down list, edit the level.
5. Edit the **Display name** of each **Auto-generated name.**
6. Click **OK** to confirm or click **Cancel**.

To delete time dimension map:

Procedure

1. In the **TIME DIMENSION MAP** section, select the time dimension map from the list.
2. Click the **Delete** icon.
   The system displays the **Delete** dialog box.



DELETE TIME DIMENSION MAP

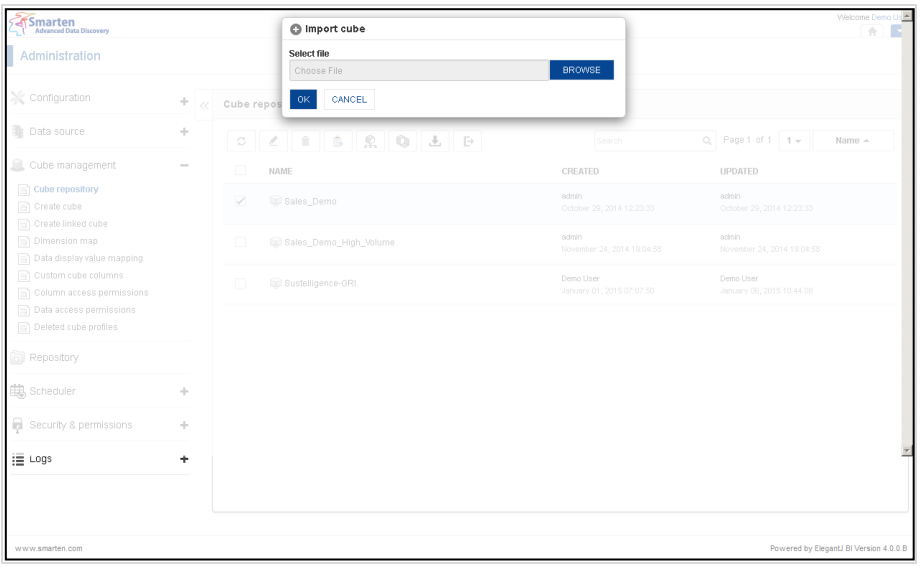
3. Click **OK** to confirm or click **Cancel**.

6.1.6Import Cube Profile

To import cube profile:

Procedure

1. Select a cube profile from the Cube Repository.
2. Click the **Import Cube** icon.
   The system displays the **Import cube** dialog box.
3. Click the **Browse** button to select **XML** file generated through Export Cube Profile.
4. Click **OK** to confirm or click **Cancel**.



IMPORT CUBE PROFILE

> Note:
> If the cube is already available in the system, then it will overwrite that particular cube.

6.1.7Export Cube Profile

To export cube profile:

Procedure

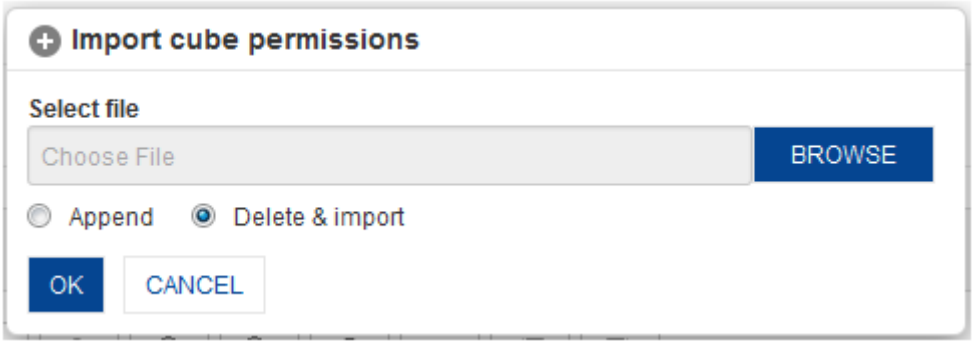
1. Select a cube profile from the Cube Repository.
2. Click the E**xport Cube** icon.
   The system displays a dialog box to save the file.
3. Cube profile is exported in **XML** file. This file can be used to import cube profile using Import Cube Profile.

6.1.8Import Cube Permissions

To import cube permissions:

Procedure

1. Select a cube profile from the Cube Repository.
2. Click the **Import Cube Permissions** icon.
   The system displays the **Import cube permissions** dialog box.



IMPORT CUBE PERMISSIONS

To Append Cube Permissions:

1. In the **Select file** field, browse the file.
2. Select **Append** radio option, to import new permissions from the file.
3. Click OK

To Delete & Import Cube Permissions:

1. In the Select file field, browse the file.
2. Select **Delete & import** radio option, to delete all existing permissions and import new permissions from the file.
3. Click OK

> Note:
> Sample Import formats are available in <Smarten Installation Dir>/Docs/Sample files.

6.1.9Export Cube Permissions

To export cube permissions:

Procedure

1. Select a cube profile from the Cube Repository.
2. Click the **Export Cube** icon.
   The system displays a dialog box to save the file.
3. Cube permissions are exported in **XLS** file. This file can be used to import cube permissions using Import Cube Permissions as required.

7 Create Cube

You can create the cube using **Create Cube** using different data sources.

- Using Database Profile
- Using CSV Profile
- Using MDX Profile
- Using R script Profile
- Using SAP Profile

> Note:
> Cache cubes will store indexed, pre-aggregated data along with metadata in the cubes. MDX and Real-time cubes will store only metadata information and will not store any data in the cubes.

To create cube:

Procedure

1. In the **Navigation Panel**, click **Cube Management**.
2. In the **Cube Management** menu, click **Create Cube**.
   The system displays the **Create Cube** page.

7.1 Using Database profile

7.1.1Cache cube using Graphical query generation

The cube creation process through graphical query generation is divided into the following easy steps:

- Table Selection
- Cube Column Selection
- Where Criteria
- Group By
- Having Criteria
- Order By
- Cube Options
- Dimension Column Selection

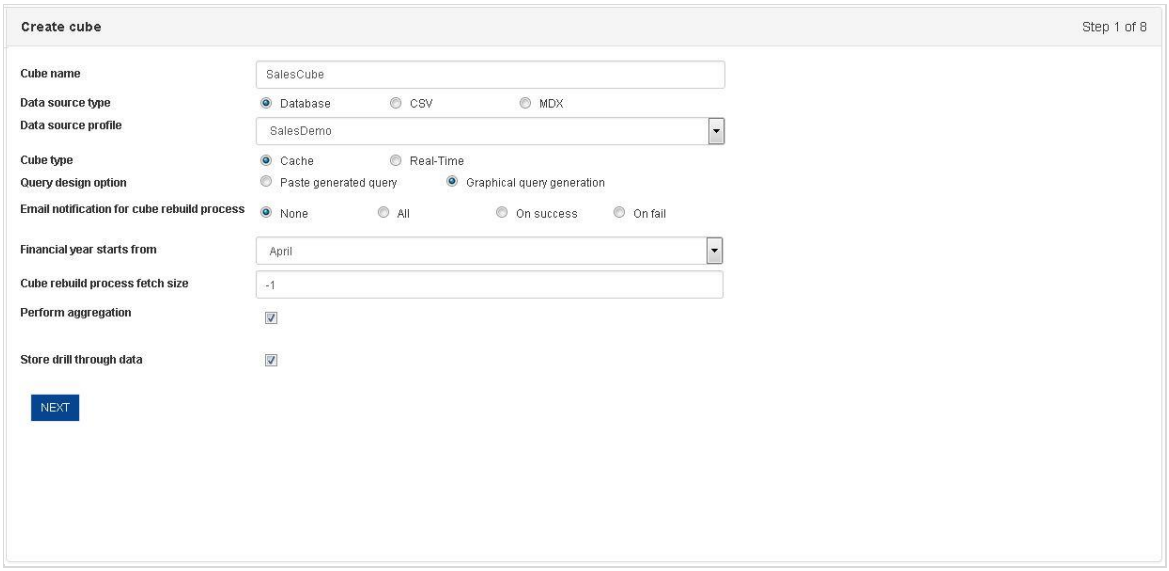
Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Generation Process > Extraction from Database**

To create cache cube using graphical query generation:

STEP 1

Procedure

1. In the **Navigation Panel**, click **Cube Management**.
2. In the **Cube Management** menu, click **Create Cube**.
   The system displays the **Create Cube** page.



CREATE CUBE: CUBE OPTIONS

3. In the **Cube name** field, enter a name.
4. In the **Data source type** field, select the **Database** radio button, and select an option from the **Data source profile** drop-down list.
5. In the **Cube type** filed, select the **Cache** radio button.
6. In the **Query design option** field, select the **Graphical query generation** radio button.
7. In the **Email notification for cube rebuild process** field, select a radio button (None, All, On success, and Fail).
8. From the **Financial year starts from** drop-down list, select a month.
9. In the **Cube rebuild process fetch size** field, enter a number of records per iteration to be processed for cube aggregation and indexing process. Enter 0 or any negative value to automatically set fetch size.
10. Select the checkbox **Perform aggregation** to write aggregation data
11. Select the checkbox **Store drill through data** to write drill though data.
12. Click **Next**.
13. The system displays the **Create cube - select tables** page.

STEP 2

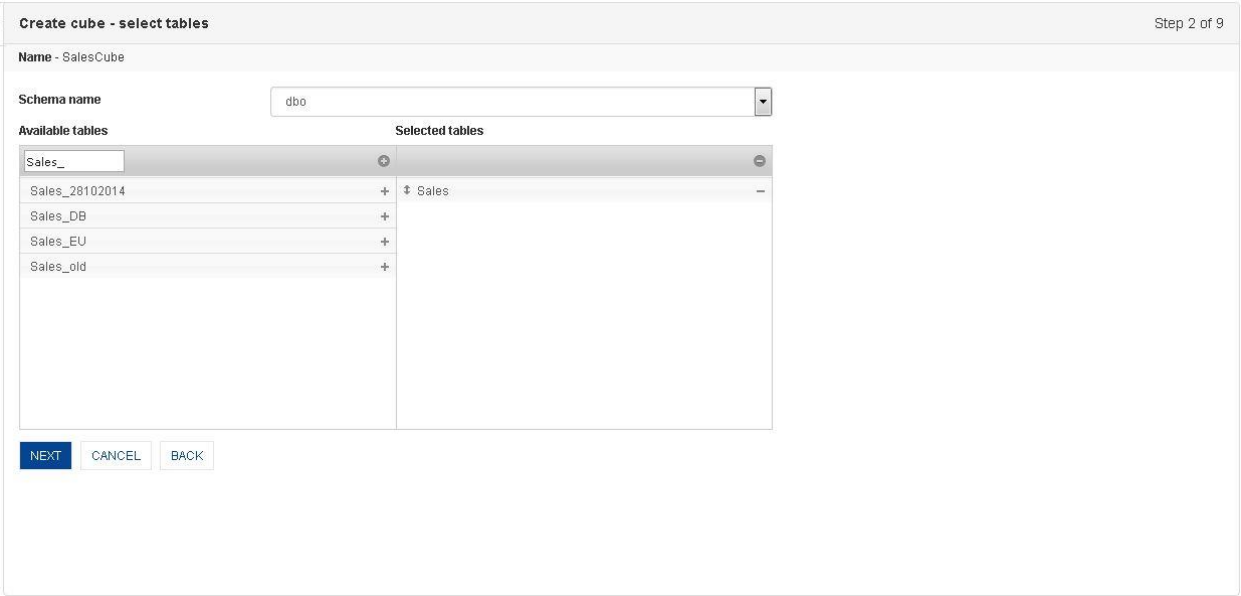
Table Selection

The table selection option is used to select table(s) for creating the cube.

> Note:
> Query Schema is not available in some databases, for example, MS - Access Database.

Procedure

1. Follow the **Procedure** of **STEP 1**.
2. From the **Available tables** list, you can drag and drop the tables to the **Selected tables** list or deselect the selected tables by moving the tables back from the **Selected tables**.
3. Click **BACK** to go back to **Create Cube** dialog box.
4. Click **CANCEL** to go back to **Create Cube** dialog box without saving any change.
5. Click **Next**.
   The system displays the **Create cube - cube column selection** page.



CREATE CUBE: GRAPHICAL QUERY GENERATION: SELECT TABLE

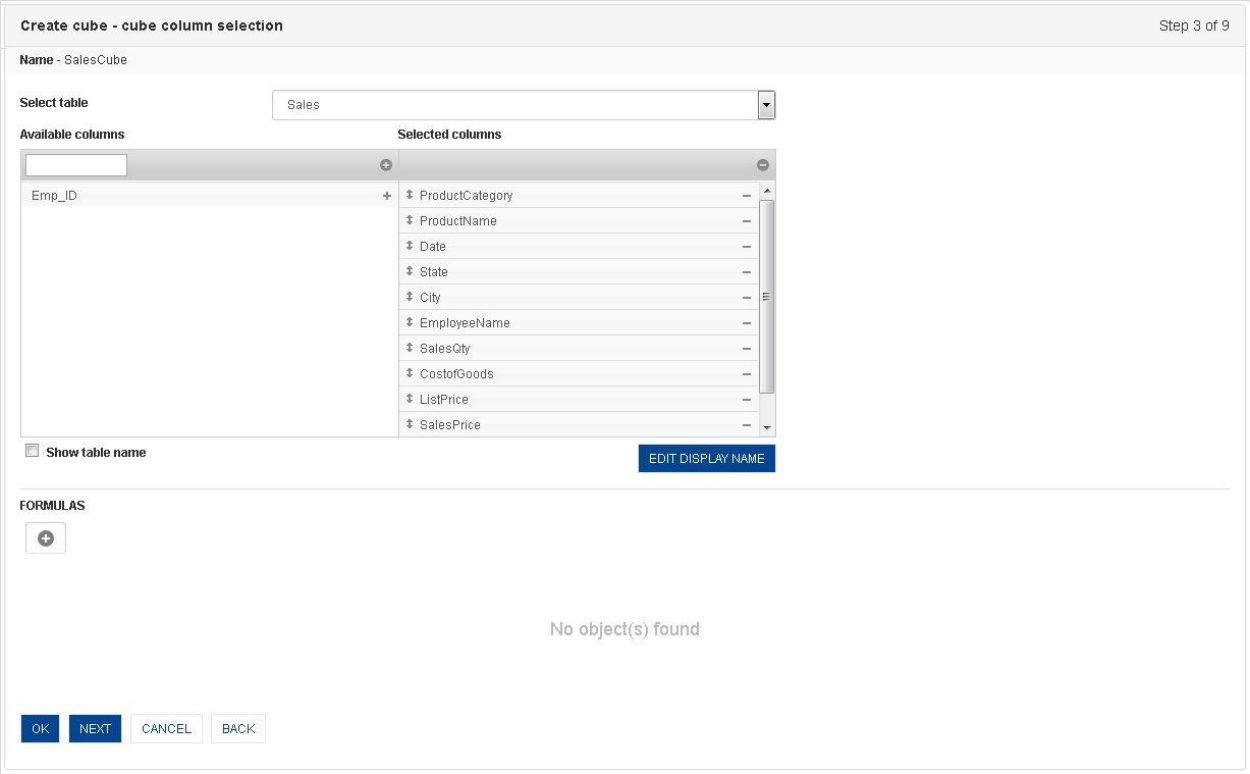
STEP 3

Cube Column Selection

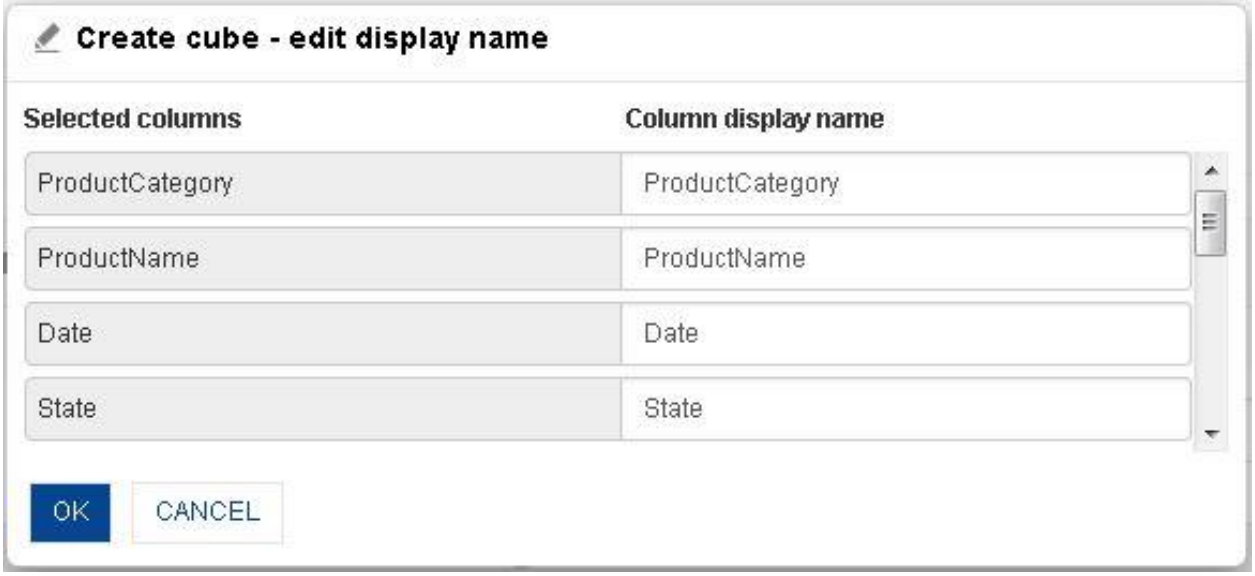
In the Cube Column Selection option, you can select columns that are used for creating cube, changing display value name of cube columns, and creating custom cube columns using formula.

Procedure

1. Follow the **Procedure** of **STEP 2**.
2. From the **Select table** drop-down list, select table name.
3. From the **Available columns** list, you can drag and drop the columns to the **Selected columns** list or deselect the selected columns by moving the columns back from the **Selected columns**.
4. From the table list, you can select columns from multiple tables by selecting table.
5. Select the checkbox **Show table name** to see table name in the **Selected columns** list.
6. You can move the columns up and down by drag and drop within **Selected columns** list to set the order of cube columns.
7. Click **EDIT DISPLAY NAME**.
   The system displays the **Create cube - edit display name** dialog box.

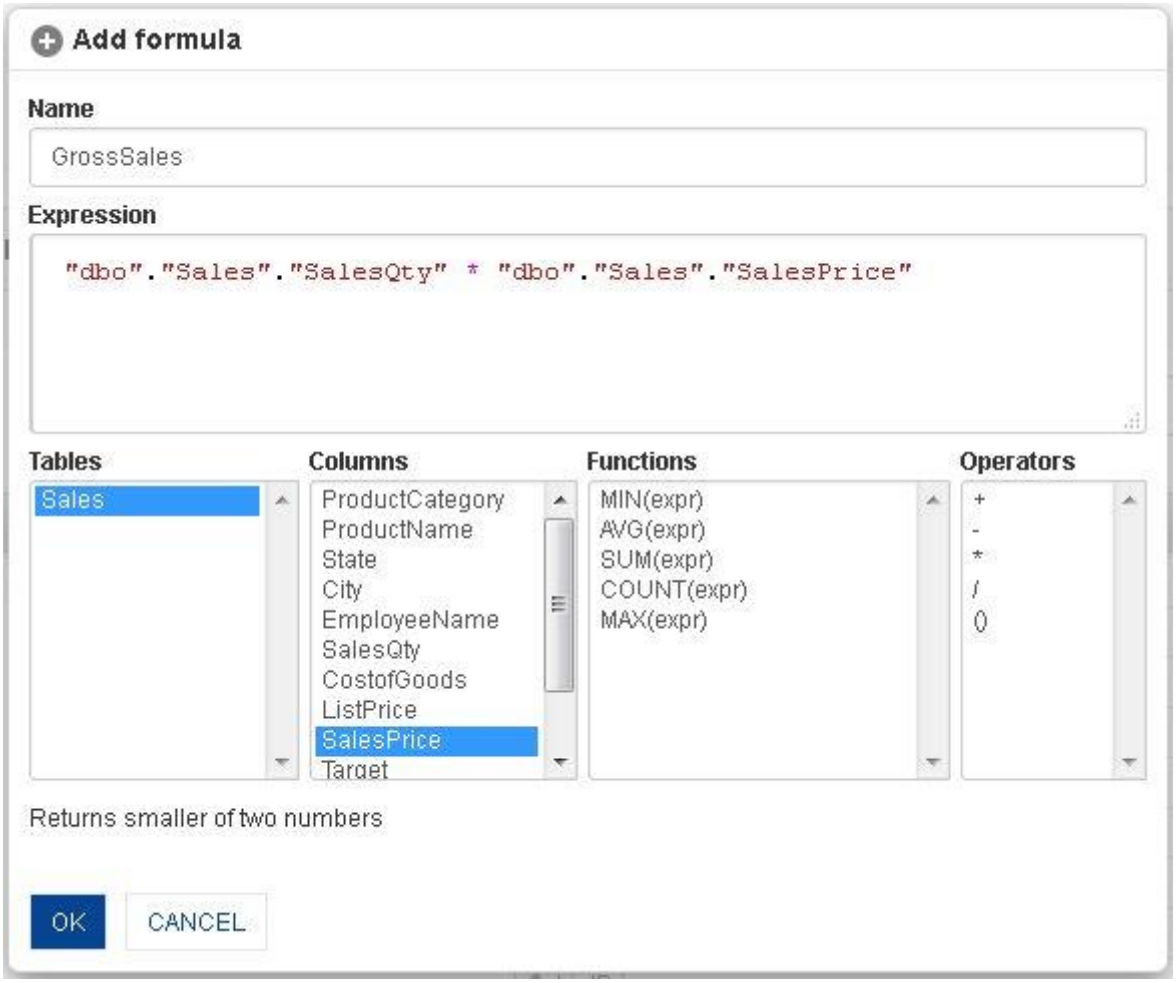


CREATE CUBE: GRAPHICAL QUERY GENERATION: CUBE COLUMN SELECTION



CREATE CUBE: GRAPHICAL QUERY GENERATION: DISPLAY NAME SETTING

8. In the **Create cube - edit display name** dialog box, edit the display name for the selected columns.
9. Click **OK.**
10. To add custom column using formulas, click the **Add** icon in the **Create cube - cube column selection** page.
    The system displays the **Add formula** dialog box.



CREATE CUBE: GRAPHICAL QUERY GENERATION: ADD CUSTOM COLUMN USING FORMULA

11. In the **Name** field, enter a name.
12. In the **Expression box**, enter the expression.
13. You can create or edit expression by direct edit in the **Expression** box or by selecting values from Tables, Columns, Functions, and Operators boxes.
14. Click **OK.**
15. The system displays the **Create cube - where criteria** page.

STEP 4

Where Criteria

This option is used to specify Where criteria for the database query.

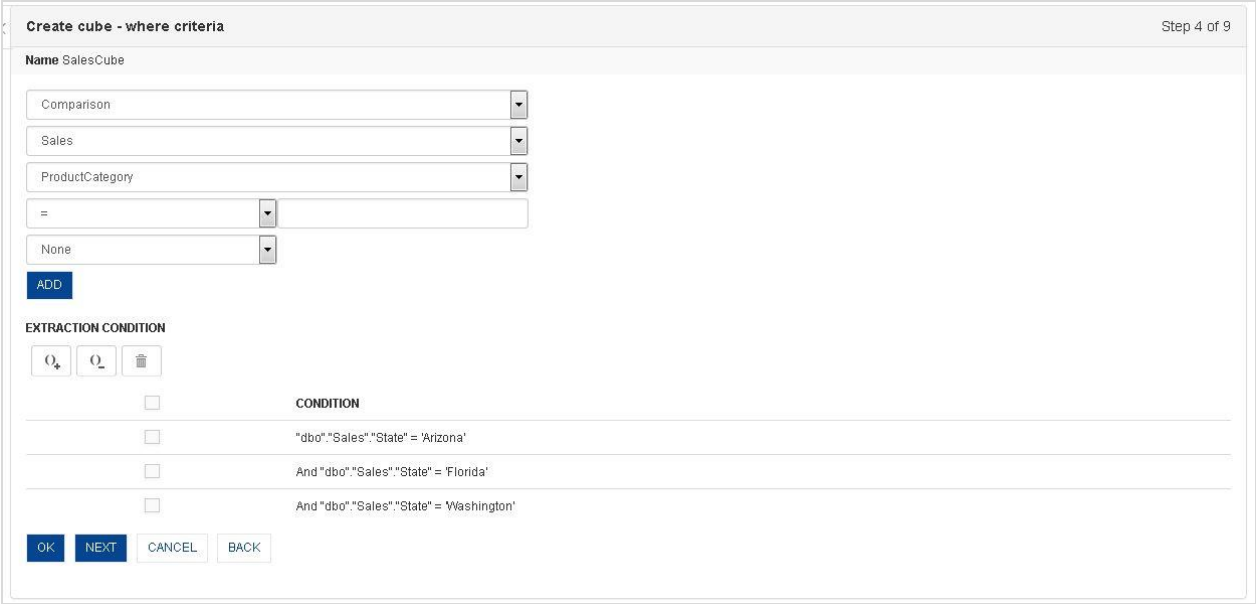
From the **Create Cube - where Criteria** page, you can set various conditions using the following:

- Comparison of Values
- Range Specification
- Pattern Matching
- Relation

Procedure

1. Follow the **Procedure** of **STEP 3**
2. From the topmost drop-down list, select a condition (Comparison, Range, Pattern, and Range). The system displays the fields according to the selected condition.
3. Select the values for the displayed fields.
4. Click **ADD**.
5. Under the **Extraction condition** section, group two or more conditions by enclosing them together using the **Enclose Parenthesis** icon.
6. Select the **Remove parenthesis** icon to remove parenthesis.

7. Click the **Delete** icon to delete a condition.
   The system displays a confirmation message to delete the selected condition.
8. Click **OK** to delete the profile or click **Cancel**.
9. Click **Back** to go back to **Create Cube - cube column selection** page.
10. Click **Next**.
    The system displays the **Create cube - group by** page.



CREATE CUBE: GRAPHICAL QUERY GENERATION: WHERE CRITERIA

CREATE CUBE: GRAPHICAL QUERY GENERATION: WHERE CRITERIA: COMPARISON

CREATE CUBE: GRAPHICAL QUERY GENERATION: WHERE CRITERIA: RANGE SPECIFICATION

CREATE CUBE: GRAPHICAL QUERY GENERATION: WHERE CRITERIA: PATTERN MATCHING

CREATE CUBE: GRAPHICAL QUERY GENERATION: WHERE CRITERIA: RELATION

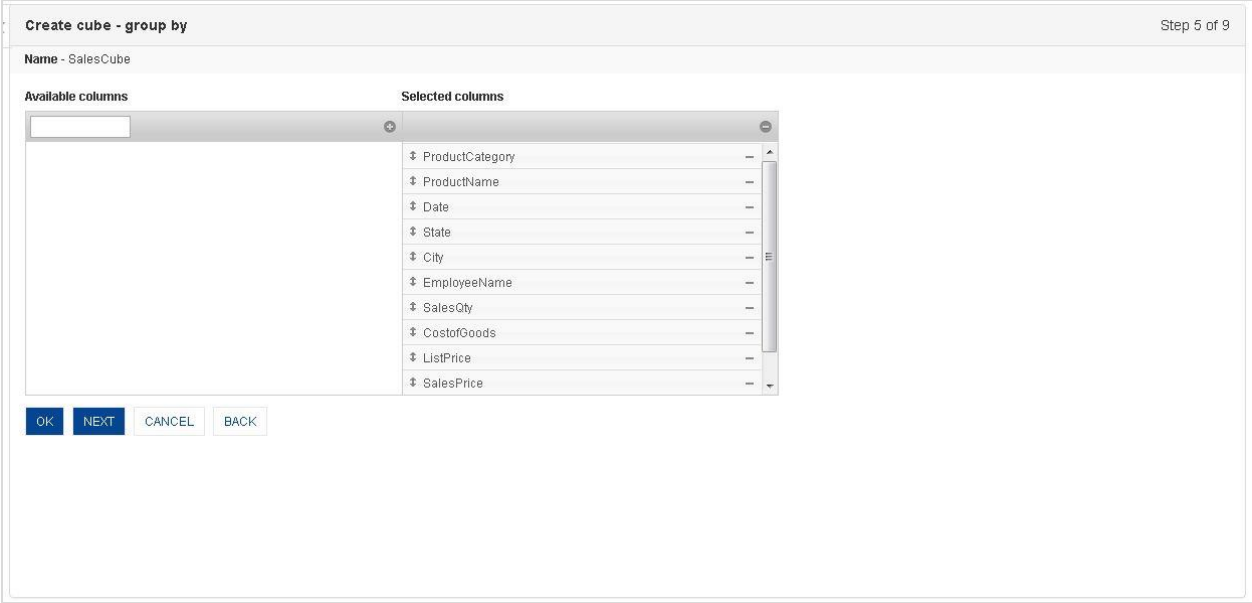
STEP 5

Group By

The Group By option is used to group the data by specific column.

Procedure

1. Follow the **Procedure** of **STEP 4**.
2. From the **Available columns** list, you can drag and drop the columns to the **Selected columns** list or deselect the selected columns by moving the columns back from the **Selected columns**.
3. You can move the columns up and down by drag and drop within the **Selected columns** list to set the order of group by columns.
4. Click **OK**.
5. Click **BACK** to go back to **Create cube - where criteria** page.
6. Click **Next**.
   The system displays the **Create cube - having criteria** page.



CREATE CUBE: GRAPHICAL QUERY GENERATION: GROUP BY

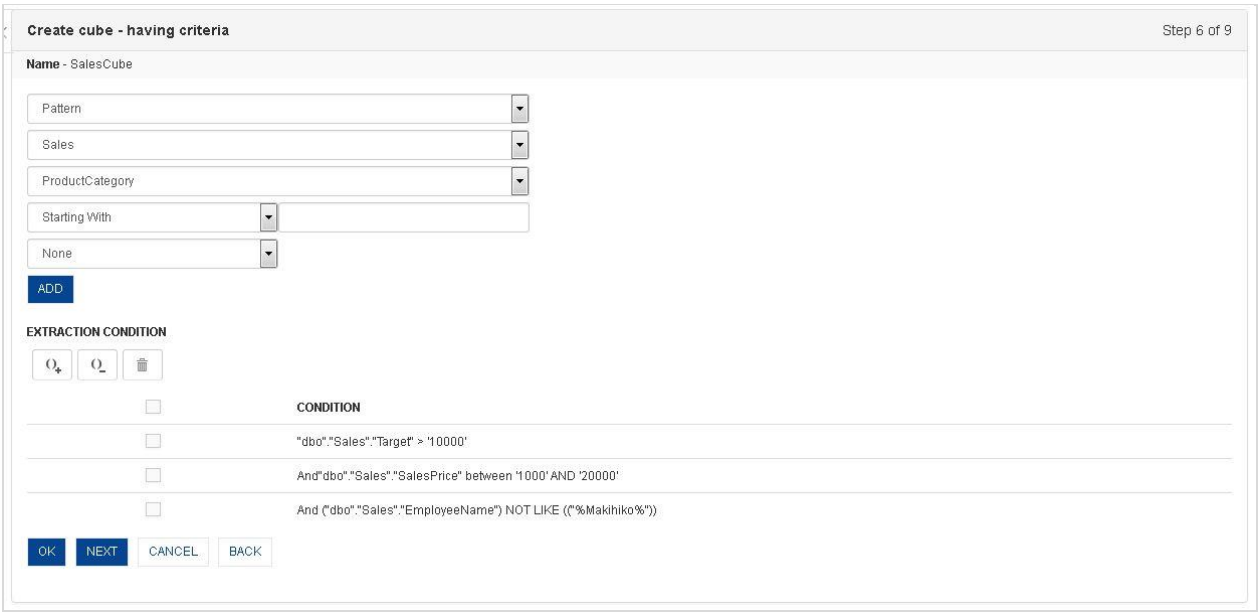
STEP 6
Having Criteria
This option is used to specify Having criteria for a grouped data.

From the **Create Cube - having criteria** page, you can set various conditions using the following:

- Comparison of Values
- Range Specification
- Pattern Matching

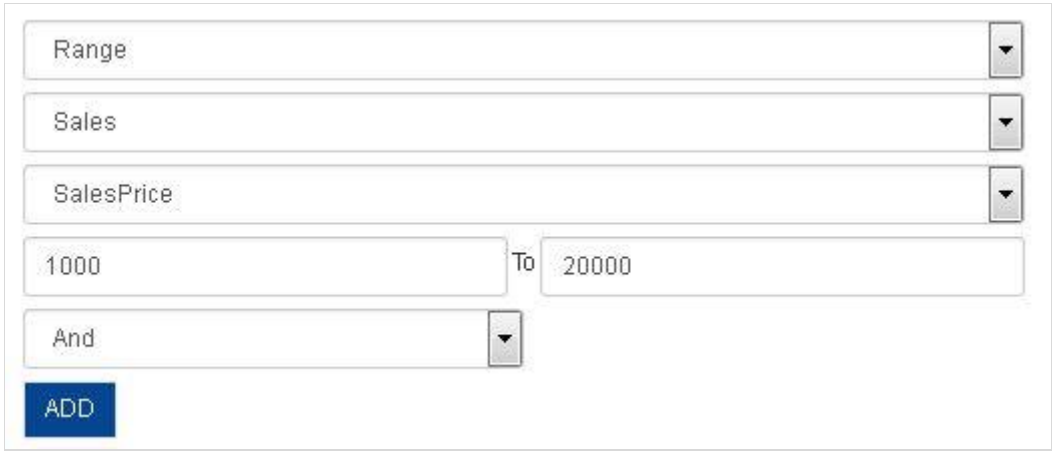
Procedure

1. Follow the **Procedure** of **STEP 5.**
2. From the topmost drop-down list, select a condition (Comparison of values, Range specification, and Pattern matching).
3. The system displays the fields according to the selected condition.
4. Select the values for the displayed fields.
5. Click **ADD.**
6. Under the **Extraction condition** section, group two or more conditions by enclosing them together using the **Enclose Parenthesis** icon.
7. Select the **Remove parenthesis** icon to remove parenthesis.
8. Click the **Delete** icon to delete a condition.
9. The system displays a confirmation message to delete the selected condition.
10. Click **OK** to delete the profile or click **Cancel.**
11. Click **Back** to go back to **Create cube - where criteria** page.
12. Click **Next.**
13. The system displays the **Create cube - order by** page.



CREATE CUBE: GRAPHICAL QUERY GENERATION: HAVING CRITERIA

CREATE CUBE: GRAPHICAL QUERY GENERATION: HAVING CRITERIA: COMPARISON OF VALUES



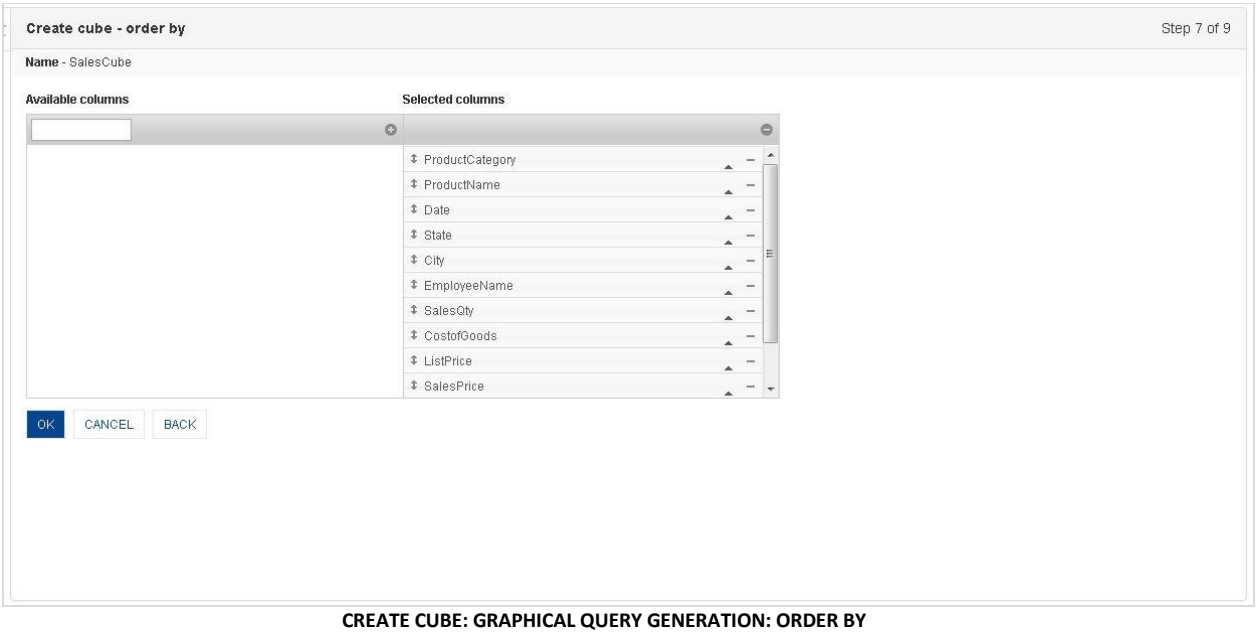
CREATE CUBE: GRAPHICAL QUERY GENERATION: HAVING CRITERIA: RANGE SPECIFICATION

CREATE CUBE: GRAPHICAL QUERY GENERATION: HAVING CRITERIA: PATTERN MATCHING

STEP 7
Order By
This option is used to set specific selected columns in ascending or descending order.

Procedure

1. Follow the **Procedure** of **STEP 6.**
2. From the **Available columns** list, you can drag and drop the columns to the **Selected columns** list or deselect the selected columns by moving the columns back from the **Selected columns.**
3. You can set ascending or descending order by clicking cube column: up arrow for ascending and down arrow for descending.
4. You can move the columns up and down by drag and drop within the **Selected column** lists to set the order of columns.
5. Click **OK.**
6. Click **BACK** to go back to **Create cube - where criteria** dialog box.
7. Click **Next.**
8. The system displays the **Create cube - dimension/measure selection** page.



CREATE CUBE: GRAPHICAL QUERY GENERATION: ORDER BY

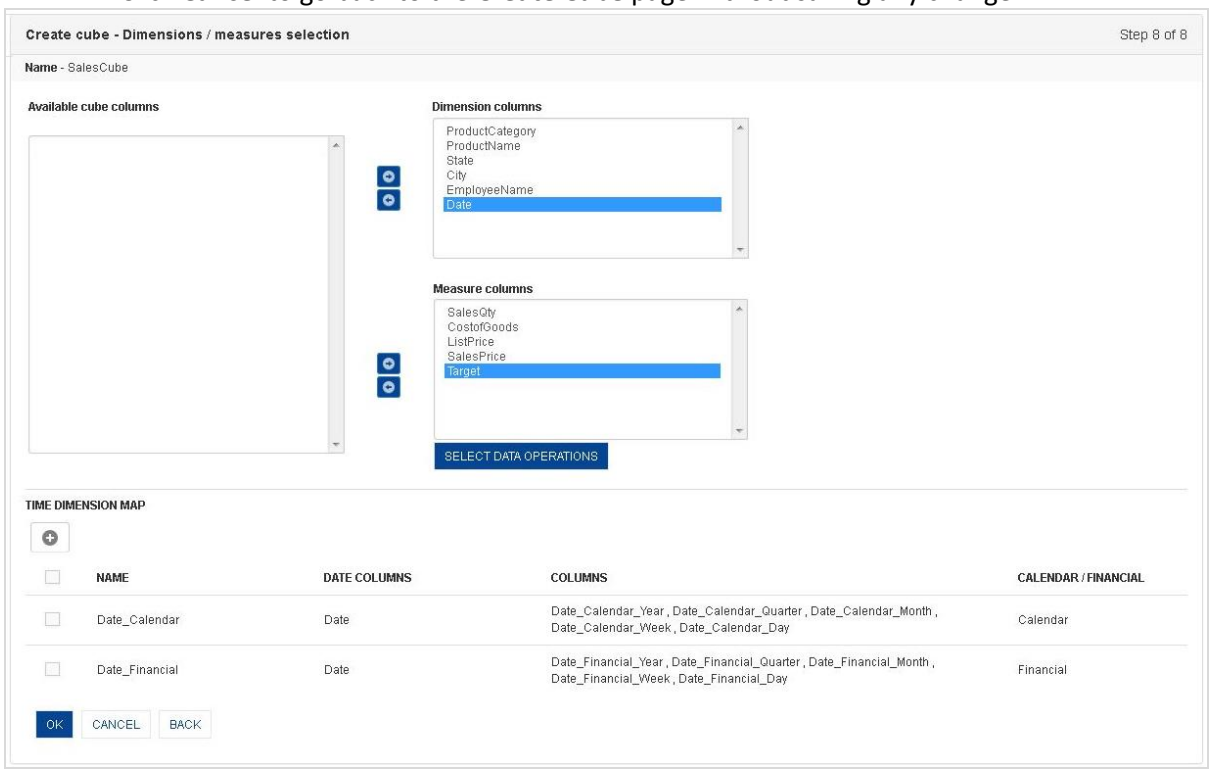
STEP 8
Dimensions/ measures selection

This option is used to bifurcate the selected columns from the created cube in dimensions and **measures.**

Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Dimension**
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Measure**
Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Time Dimensions**

Procedure

1. Follow the **Procedure** of **STEP 7.**
2. From the **Available cube columns** list, you can drag and drop the columns to the **Dimension columns** list and **Measure columns** list. You can deselect the selected columns by moving the columns back from the **Dimension columns** and **Measure columns.**
3. Click on **SELECT DATA OPERATIONS** to select pre-defined data operations for selected measures
4. Under the **TIME DIMENSION MAP** section,
   - Click the **Add** icon.
   - The system displays the **Add time dimension map** dialog box.
   - From the **Date column** drop-down list, select a column name.
   - From the **Level** drop-down list, select level.
   - Select the **Use week of Year** checkbox if you want to use week of the year in time series hierarchy.
   - Select the **Use day of Year** checkbox if you want to use day of the year in time series hierarchy.
   - Select the checkbox against **Calendar Year** and **Financial Year** for generating time dimension for specified year.
   - From the **Starting month** drop-down list, select a month.
   - In the **Display name** field, you can change the display name of time dimension columns.
   - Click **OK** to create cube.
   - Click **Cancel** to go back to the **Create Cube** page without saving any change.

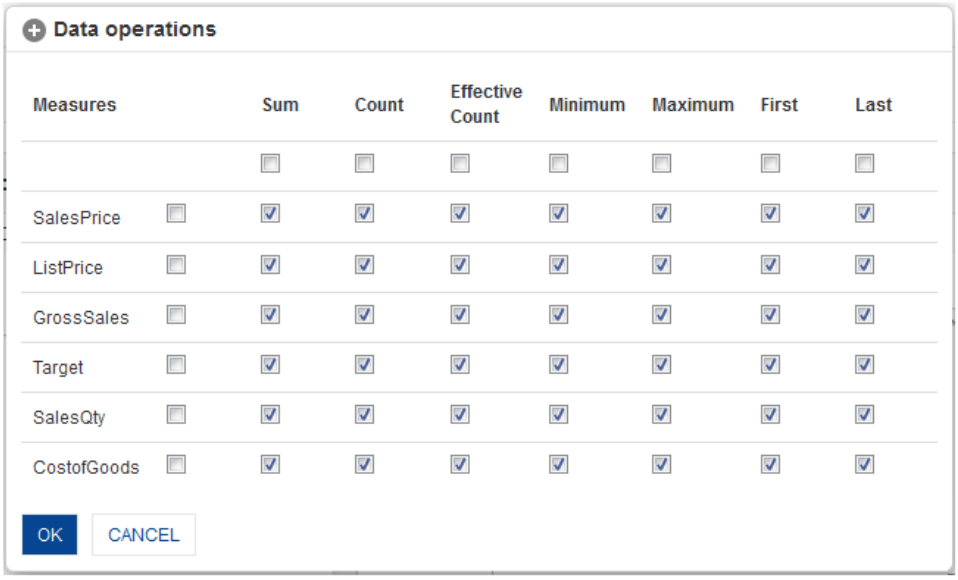


CREATE CUBE: GRAPHICAL QUERY GENERATION: DIMENSION COLUMN SELECTION

To Select Data operations:

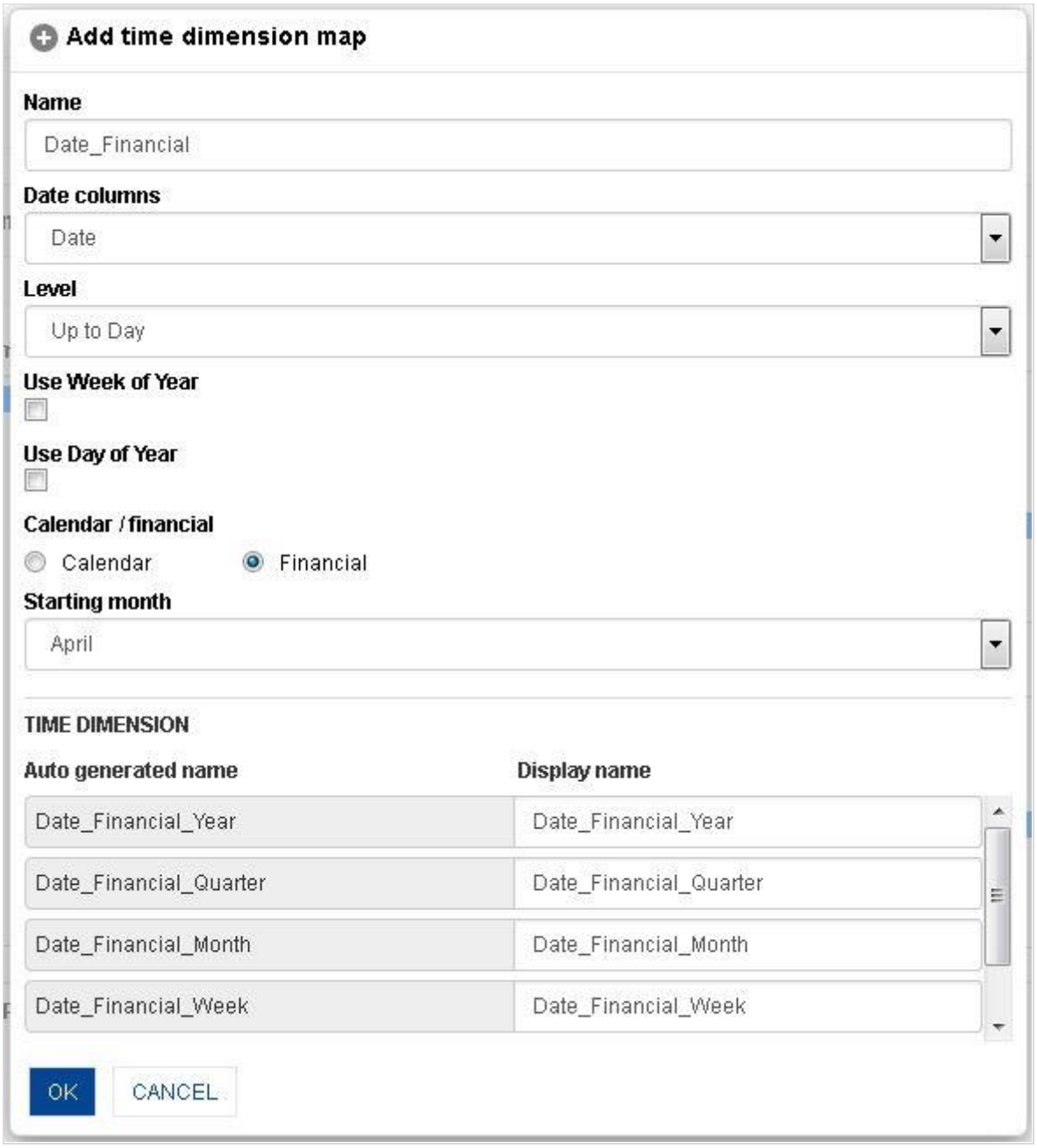
Procedure

1. Click on the **SELECT DATA OPERATIONS** button below the **Measures columns** section. The system displays the **Data operations dialog box.**

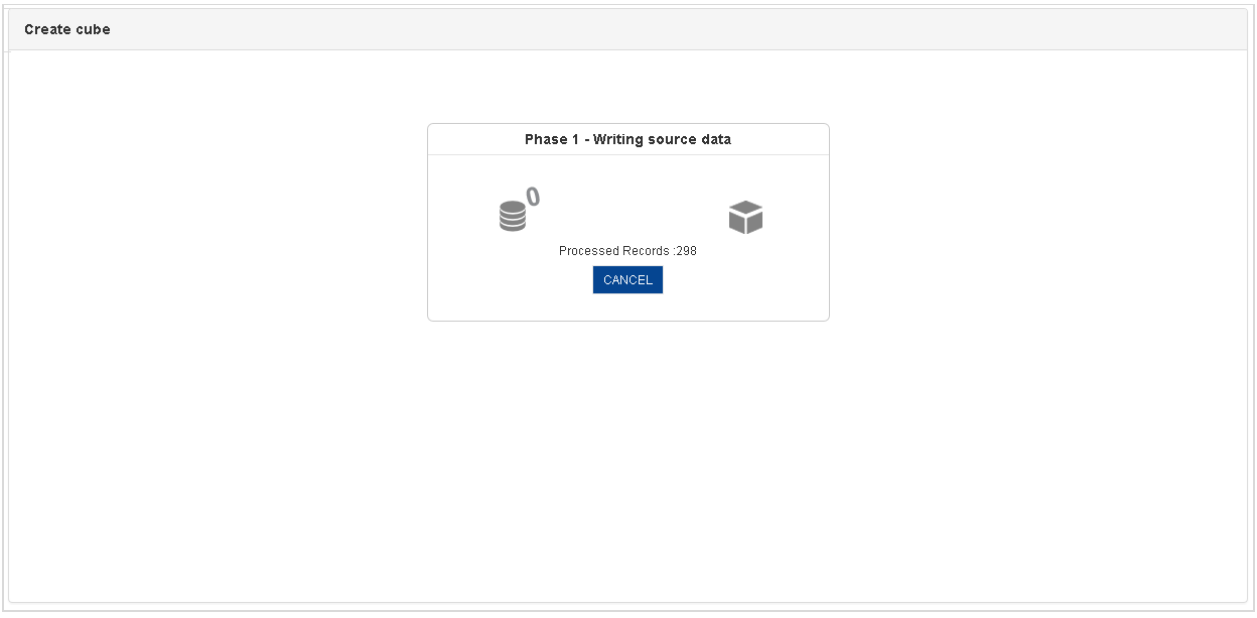


SELECT DATA OPERATIONS

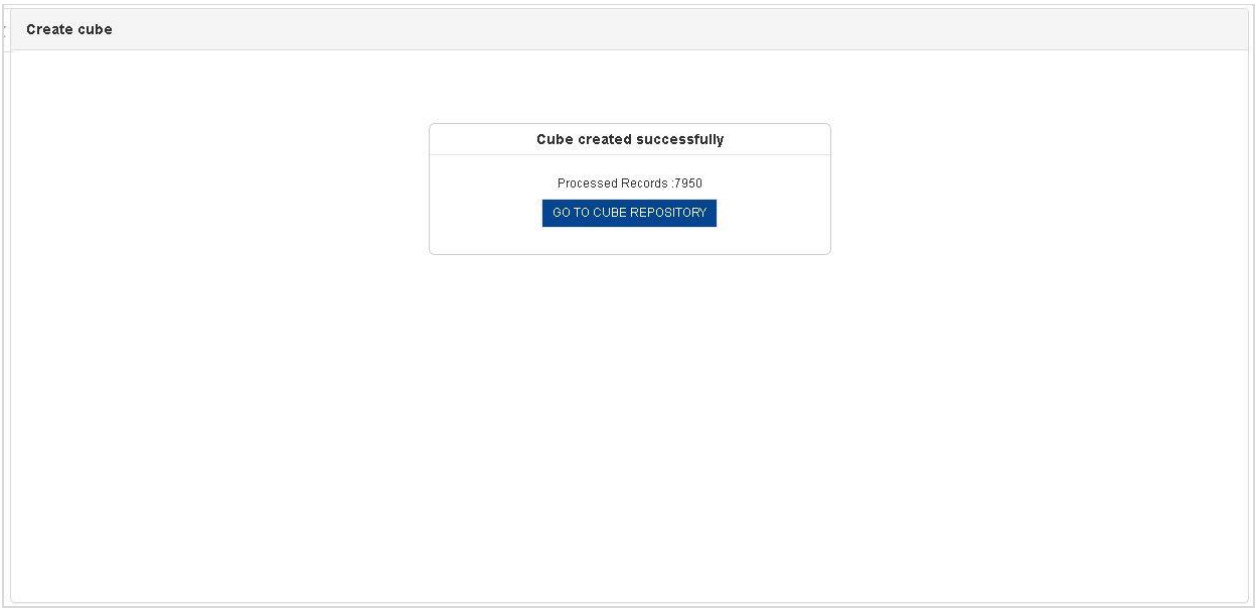
2. Click the checkboxes to select pre-defined data operations against each measure.
3. Click **OK** to confirm or click **Cancel**.



CREATE CUBE: GRAPHICAL QUERY GENERATION: DIMENSION COLUMN SELECTION: ADD TIME DIMENSION



CREATE CUBE: GRAPHICAL QUERY GENERATION: CREATING CUBE



CREATE CUBE: GRAPHICAL QUERY GENERATION: CUBE CREATED

7.1.2 Cache cube using Paste-generated query

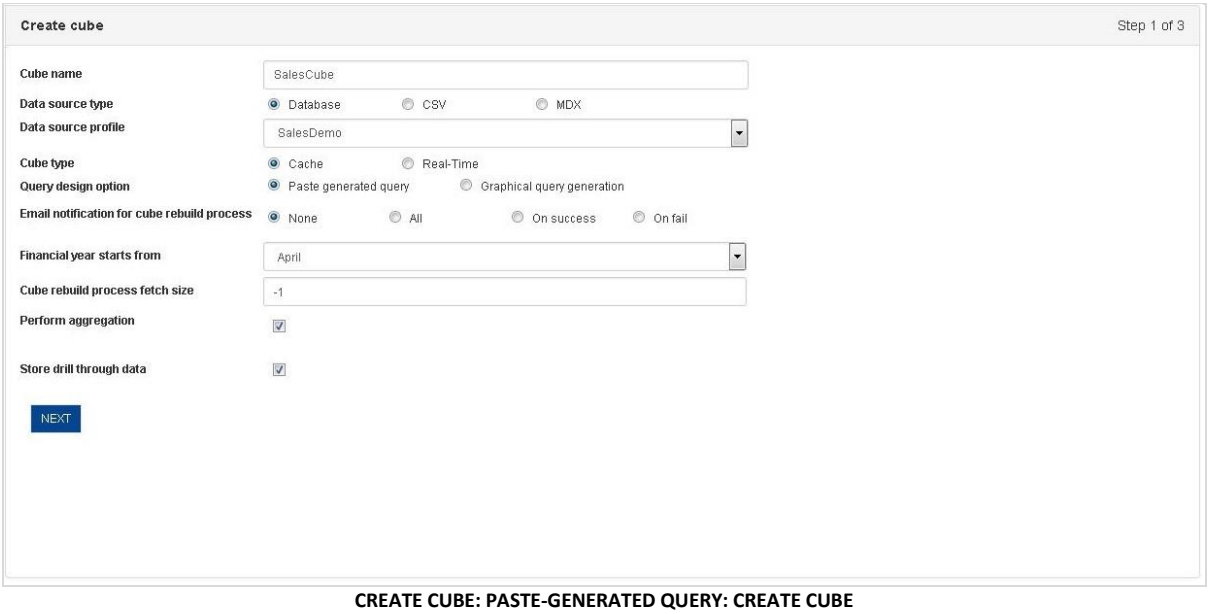
The paste-generated query option is used to enter the pregenerated database query.

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Generation Process > Extraction from Database**

To create cache cube using paste-generated query:
STEP 1

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Create Cube.**
   The system displays the **Create Cube** page.



CREATE CUBE: PASTE-GENERATED QUERY: CREATE CUBE

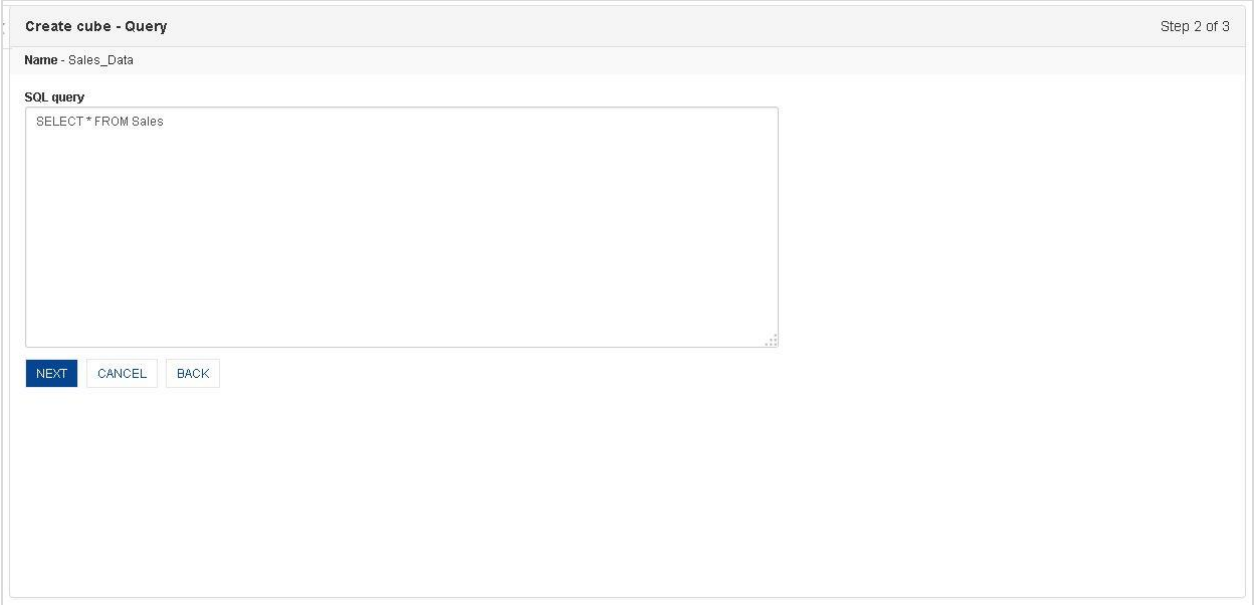
3. In the **Cube name** field, enter a name.

4. In the **Data source type** field, select the **Database** radio button and select an option from the **Data source profile** drop-down list.
5. In the **Cube type** filed, select the **Cache** radio button.
6. In the Query design option **field, select the Paste-generated query** radio button.
7. **In the Email notification for cube rebuild process** field, select a radio button (None, All, On success, and Fail).
8. From the Financial year starts from **drop-down list, select a month.**
9. **In the** Cube rebuild process fetch size **field,** enter a number of records per iteration to be processed for cube aggregation and indexing process. Enter 0 or any negative value to automatically set fetch size.
10. Select the checkbox **Perform aggregation** to write aggregated data.
11. Select the checkbox **Store drill through data** to write drill though data.
12. Click **Next.**
    The system displays the **Create cube - query** page.

STEP 2

Procedure

1. Follow the **Procedure** of **STEP 1.**
2. In the **SQL query** box, enter the query.
3. Click **Next**.
   The system displays the **Create cube - Dimensions/measures selection** page.



CREATE CUBE: PASTE-GENERATED QUERY: PASTE QUERY

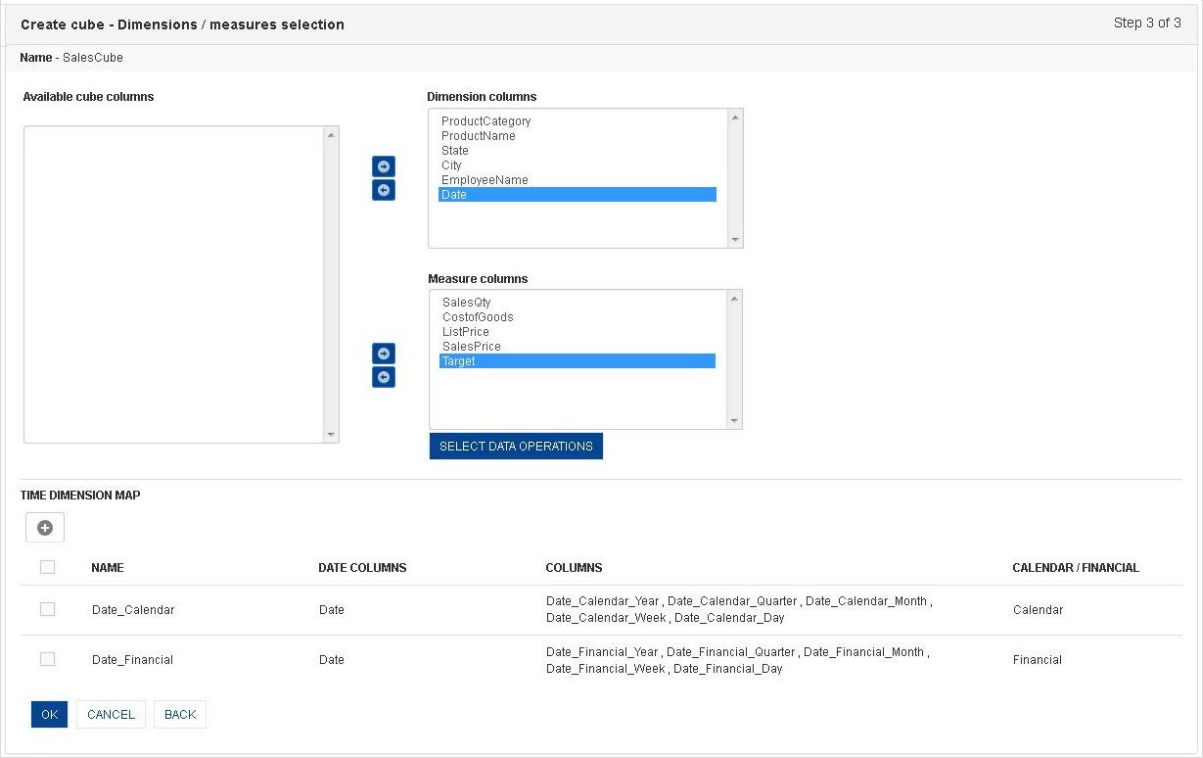
STEP 3

Procedure

1. Follow the **Procedure** of **STEP 2.**
2. From the Available cube columns list, you can drag and drop the columns to the Dimension columns list and Measure columns list. You can deselect the selected columns by moving the columns back from the Dimension columns and Measure columns.
3. Click on **SELECT DATA OPERATIONS** to select pre-defined data operations for selected measures
4. Under the TIME DIMENSION MAP section,
   - Select the checkbox against a column name to add time dimension.
   - Click the **Add** icon.
     The system displays the **Add time dimension map** dialog box.
   - From the **Date columns** drop-down list, select a column name.

- From the **Level** drop-down list, select level.
- Select the **Use week of Year** checkbox if you want to use week of the year in time series hierarchy.
- Select the **Use day of Year** checkbox if you want to use day of the year in time series hierarchy.
- Select the checkbox against **Calendar Year** and **Financial Year** for generating time dimension for specified year.
- From the **Starting month** drop-down list, select a month.
- In the **Display name** field, you can change the display name of time dimension columns.
- Click **OK** to create cube.
- Click **Cancel** to go back to the **Create Cube - Query** page without saving any change.

Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Dimension**
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Measure**
Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Time Dimension**

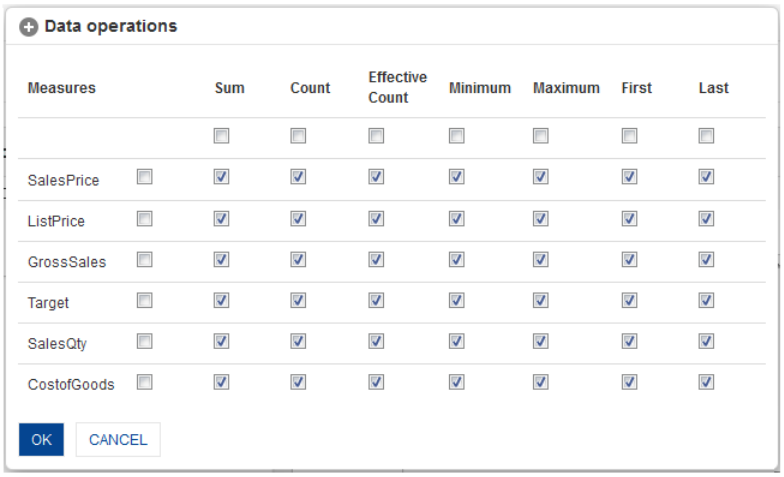


CREATE CUBE: PASTE-GENERATED QUERY: DIMENSION COLUMN SELECTION

To Select Data operations:

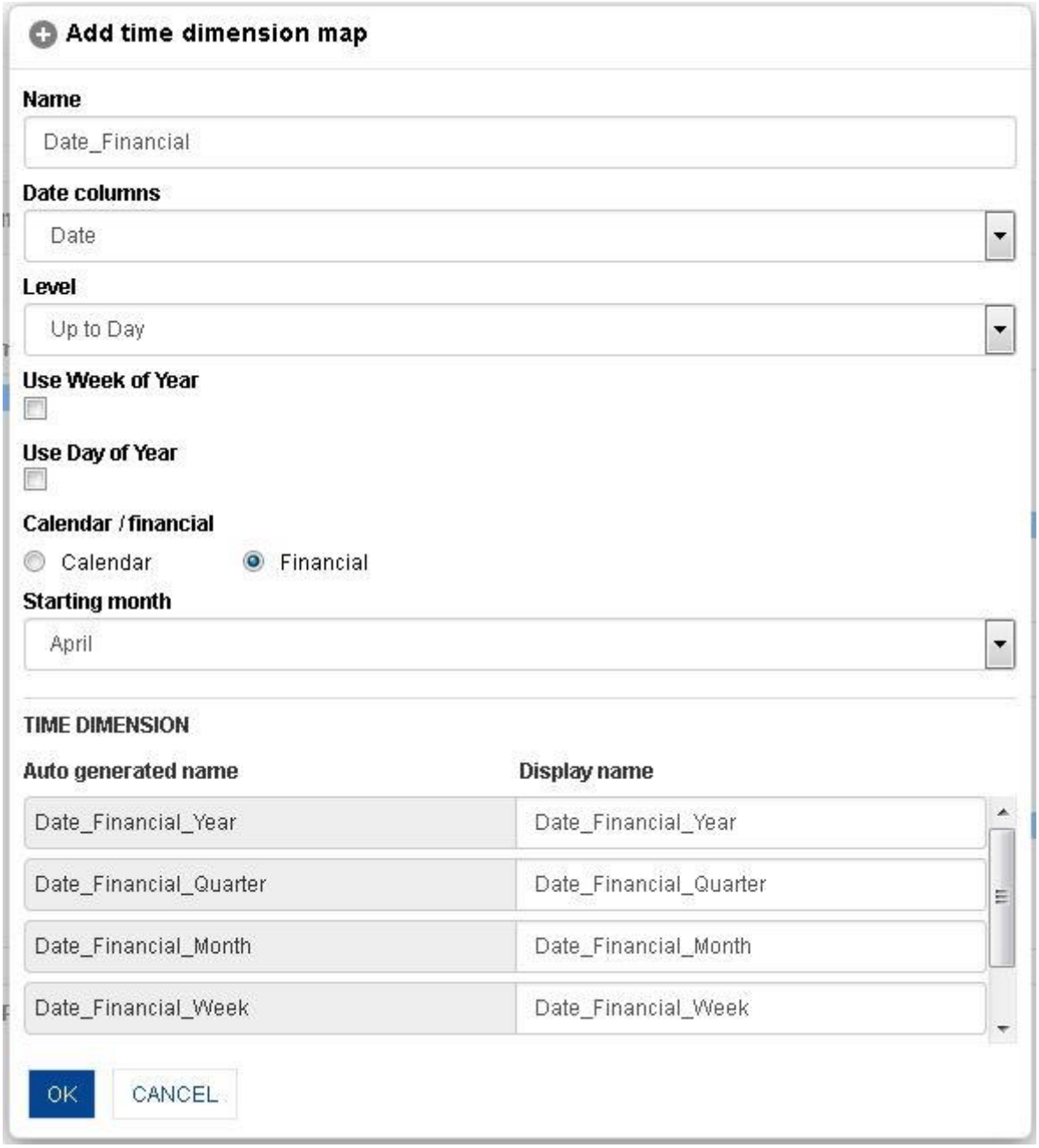
Procedure

1. Click on the **SELECT DATA OPERATIONS** button below the **Measures columns** section the system displays the **Data operations dialog box.**

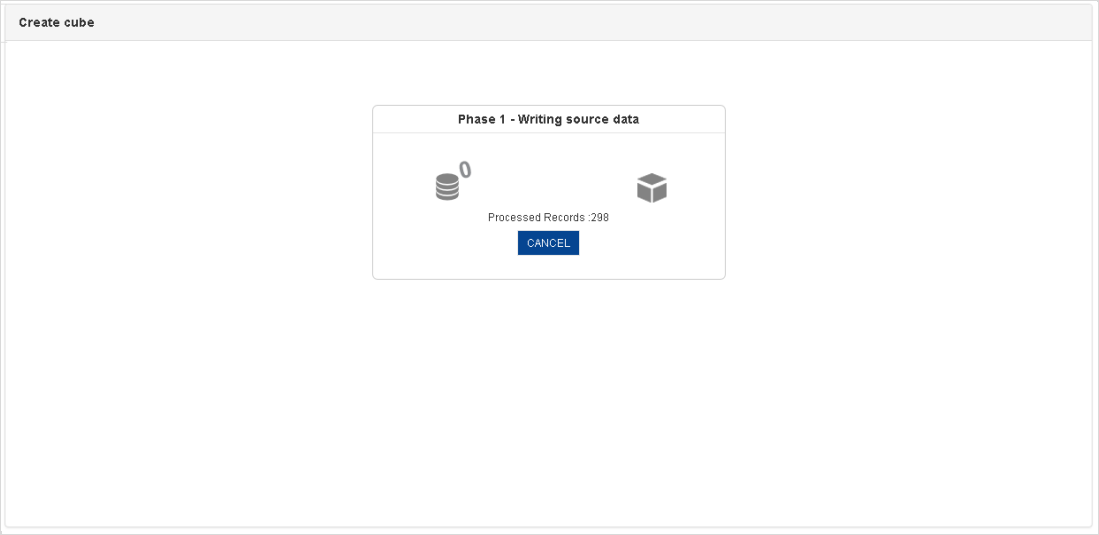


SELECT DATA OPERATIONS

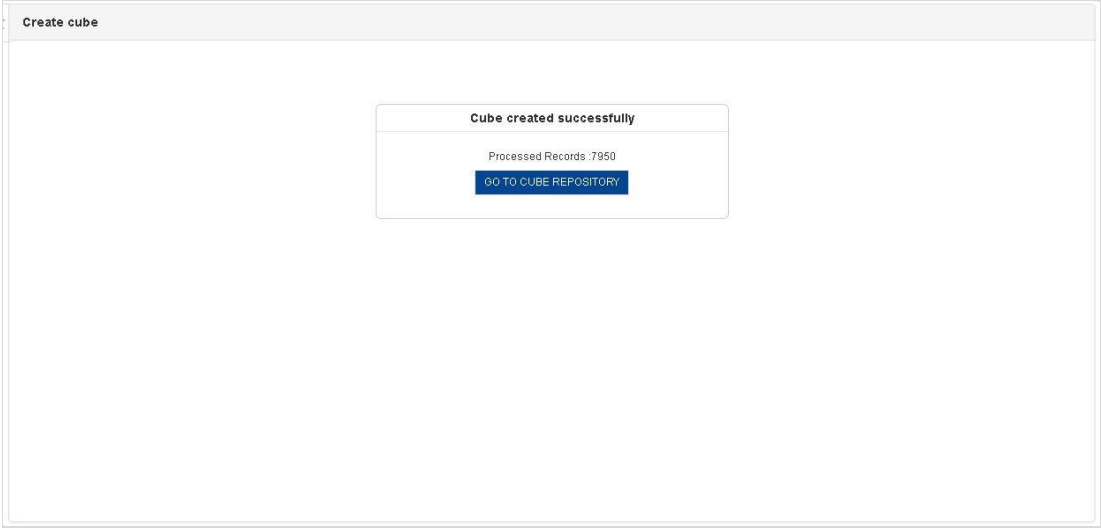
2. Click the checkboxes to select pre-defined data operations against each measure
3. Click **OK** to confirm or click **Cancel**.



CREATE CUBE: PASTE-GENERATED QUERY: DIMENSION COLUMN SELECTION: ADD TIME DIMENSION



CREATE CUBE: PASTE-GENERATED QUERY: CREATING CUBE



CREATE CUBE: PASTE-GENERATED QUERY: CUBE CREATED

7.1.3Real-Time cube using graphical query generation

The cube creation process through graphical query generation is divided into the following easy steps:

- Table Selection
- Cube Column Selection
- Where Criteria
- Group By
- Having Criteria
- Order By
- Cube Options
- Dimension Column Selection

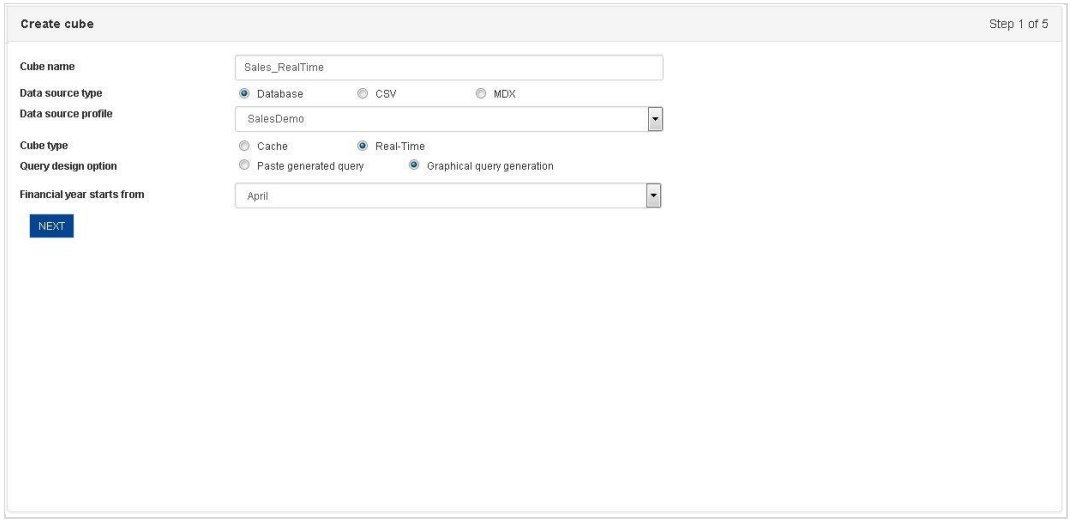
Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Generation Process > Extraction from Database**

To create Real-Time cube using graphical query generation:

STEP 1

Procedure

1. In the **Navigation Panel**, click **Cube Management**.
2. In the **Cube Management** menu, click **Create Cube**.
   The system displays the **Create Cube** page.



CREATE REAL-TIME CUBE: CUBE OPTIONS

3. In the **Cube name** field, enter a name.
4. In the **Data source type** field, select the **Database** radio button, and select an option from the **Data source profile** drop-down list.
5. In the **Cube type** filed, select the **Real-Time** radio button.
6. In the **Query design option** field, select the **Graphical query generation** radio button.
7. From the **Financial year starts from** drop-down list, select a month.
8. Click **Next**.
9. The system displays the **Create cube - select tables** page.

STEP 2

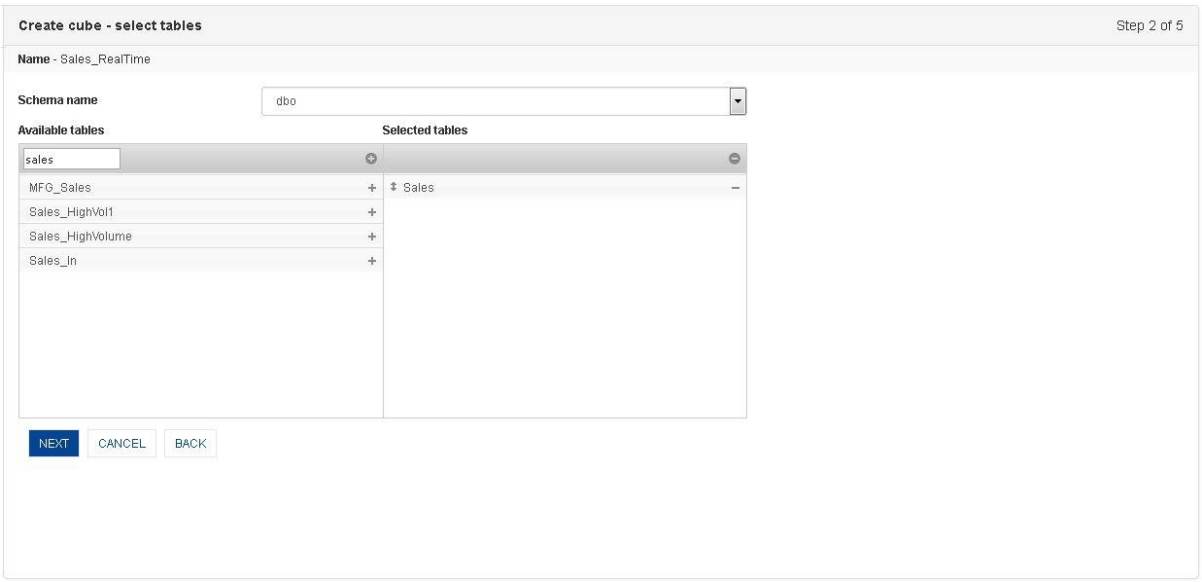
Table Selection

The table selection option is used to select table(s) for creating the cube.

> Note:
> Query Schema is not available in some databases, for example, MS - Access Database.

Procedure

1. Follow the **Procedure** of **STEP 1**.
2. From the **Available tables** list, you can drag and drop the tables to the **Selected tables** list or deselect the selected tables by moving the tables back from the **Selected tables**.
3. Click **BACK** to go back to **Create Cube** dialog box.
4. Click **CANCEL** to go back to **Create Cube** dialog box without saving any change.
5. Click **Next**.
   The system displays the **Create cube - cube column selection** page.



CREATE REAL-TIME CUBE: GRAPHICAL QUERY GENERATION: SELECT TABLE

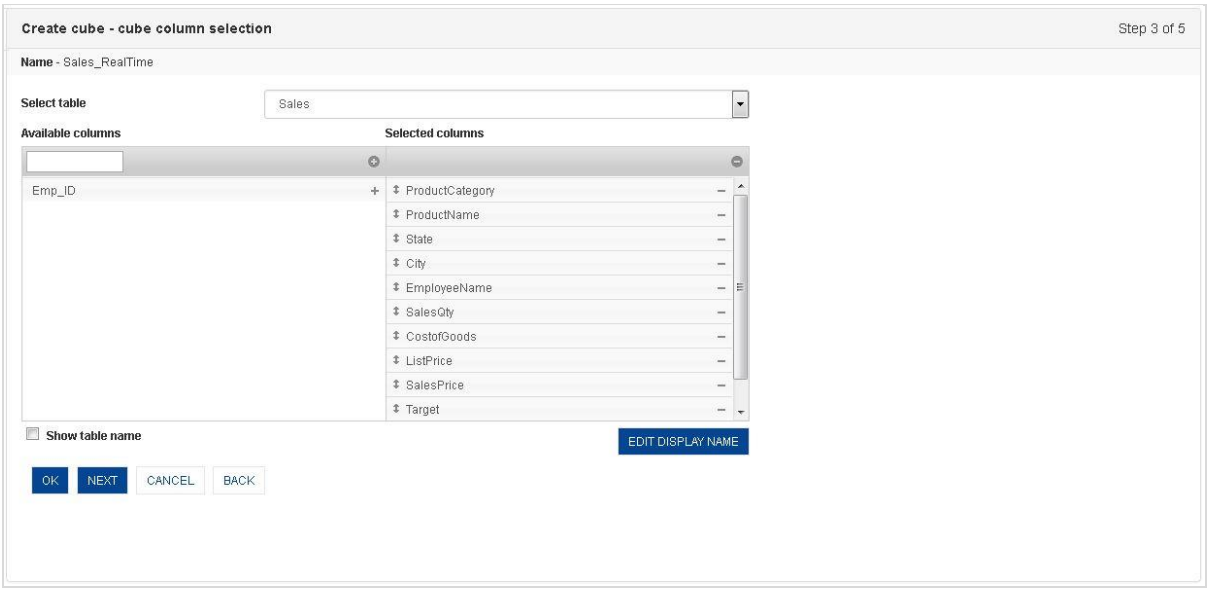
STEP 3

Cube Column Selection

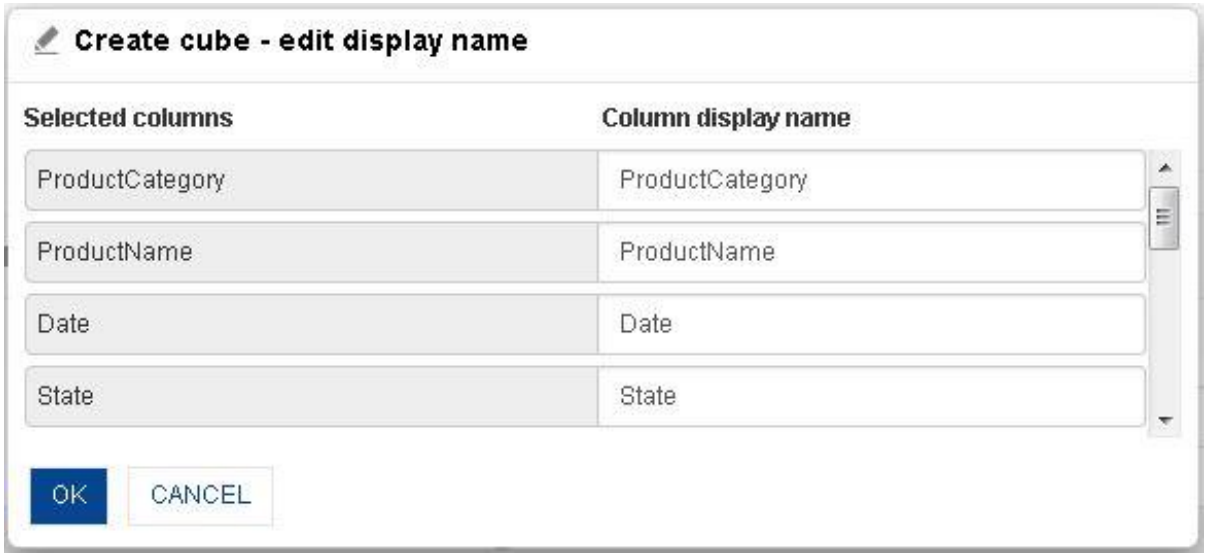
In the Cube Column Selection option, you can select columns that are used for creating cube, changing display value name of cube columns, and creating custom cube columns using formula.

Procedure

1. Follow the **Procedure** of **STEP 2**.
2. From the **Select table** drop-down list, select table name.
3. From the **Available columns** list, you can drag and drop the columns to the **Selected columns** list or deselect the selected columns by moving the columns back from the **Selected columns**.
4. From the table list, you can select columns from multiple tables by selecting table.
5. Select the checkbox **Show table name** to see table name in the **Selected columns** list.
6. You can move the columns up and down by drag and drop within **Selected columns** list to set the order of cube columns.
7. Click **EDIT DISPLAY NAME**.
   The system displays the **Create cube - edit display name** dialog box.



CREATE CUBE: GRAPHICAL QUERY GENERATION: CUBE COLUMN SELECTION



CREATE REAL-TIME CUBE: GRAPHICAL QUERY GENERATION: DISPLAY NAME SETTING

8. In the **Create cube - edit display name** dialog box, edit the display name for the selected columns.
9. Click **OK.**
10. The system displays the **Create cube - where criteria** page.

STEP 4

Where Criteria

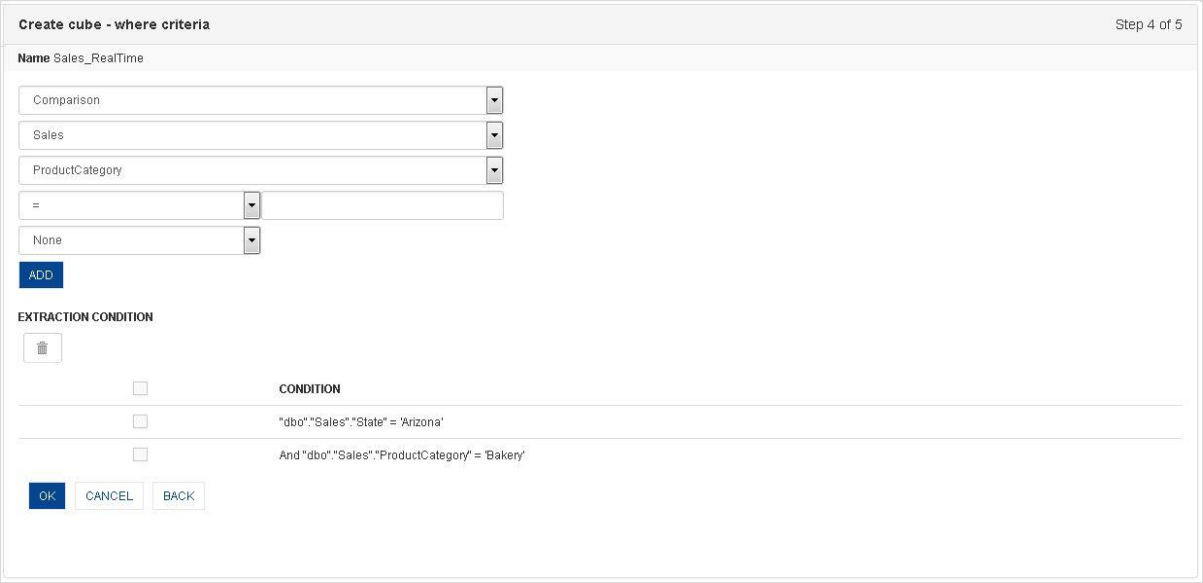
This option is used to specify Where criteria for the database query.

From the **Create Cube - where Criteria** page, you can set various conditions using the following:

- Comparison of Values
- Range Specification
- Pattern Matching
- Relation

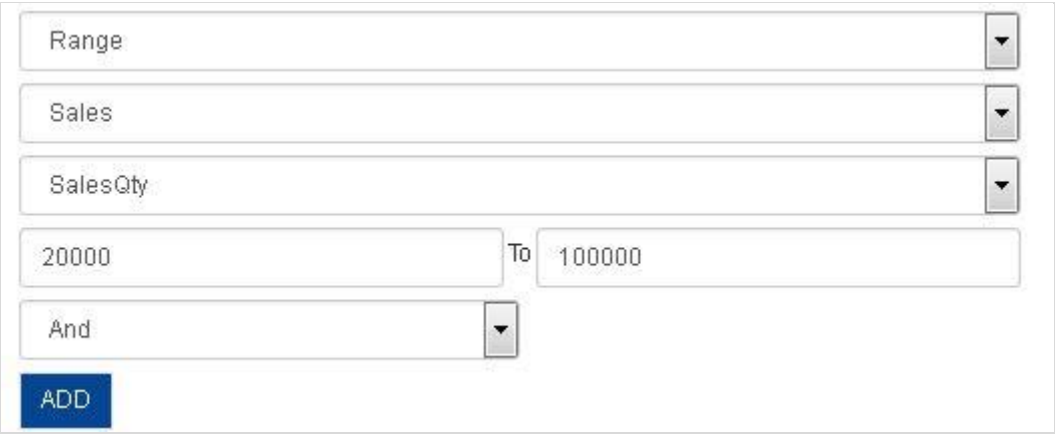
Procedure

1. Follow the **Procedure** of **STEP 3**
2. From the topmost drop-down list, select a condition (Comparison, Range, Pattern, and Range). The system displays the fields according to the selected condition.
3. Select the values for the displayed fields.
4. Click **ADD**.
5. Under the **Extraction condition** section, group two or more conditions by enclosing them together using the **Enclose Parenthesis** icon.
6. Select the **Remove parenthesis** icon to remove parenthesis.
7. Click the **Delete** icon to delete a condition.
   The system displays a confirmation message to delete the selected condition.
8. Click **OK** to delete the profile or click **Cancel**.
9. Click **Back** to go back to **Create Cube - cube column selection** page.
10. Click **OK**.
    The system displays the **Create cube - dimension/measure selection** page.



CREATE REAL-TIME CUBE: GRAPHICAL QUERY GENERATION: WHERE CRITERIA

CREATE REAL-TIME CUBE: GRAPHICAL QUERY GENERATION: WHERE CRITERIA: COMPARISON



CREATE REAL-TIME CUBE: GRAPHICAL QUERY GENERATION: WHERE CRITERIA: RANGE SPECIFICATION

CREATE REAL-TIME CUBE: GRAPHICAL QUERY GENERATION: WHERE CRITERIA: PATTERN MATCHING

CREATE REAL-TIME CUBE: GRAPHICAL QUERY GENERATION: WHERE CRITERIA: RELATION

STEP 5

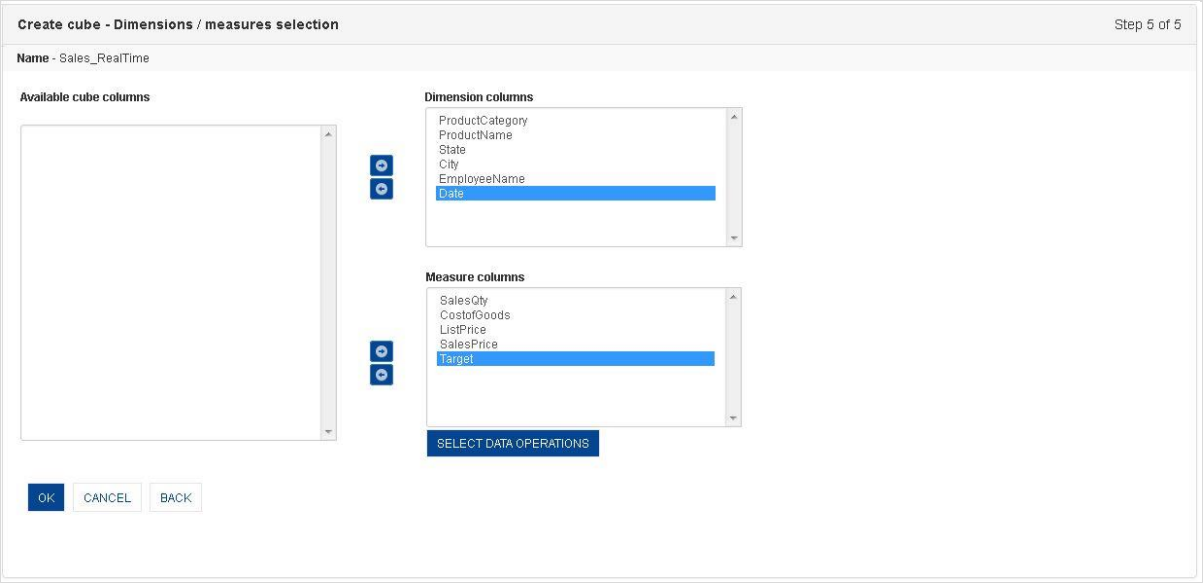
Dimensions/ measures selection

This option is used to bifurcate the selected columns from the created cube in dimensions and **measures.**

Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Dimension**
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Measure**

Procedure

1. Follow the **Procedure** of **STEP 4.**
2. From the **Available cube columns** list, you can drag and drop the columns to the **Dimension columns** list and **Measure columns** list. You can deselect the selected columns by moving the columns back from the **Dimension columns** and **Measure columns.**
3. Click on **SELECT DATA OPERATIONS** to select pre-defined data operations for selected measures

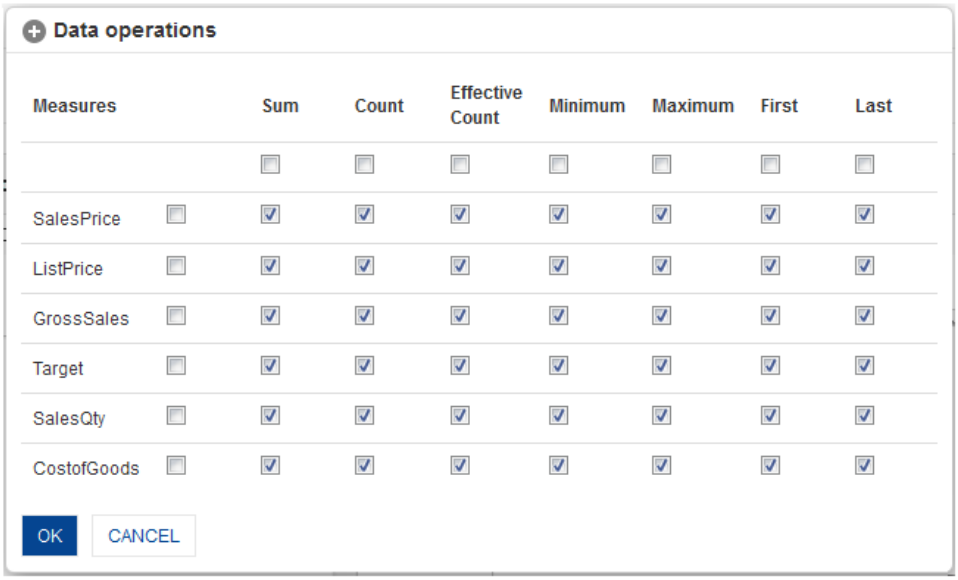


CREATE REAL-TIME CUBE: GRAPHICAL QUERY GENERATION: DIMENSION COLUMN SELECTION

To Select Data operations:

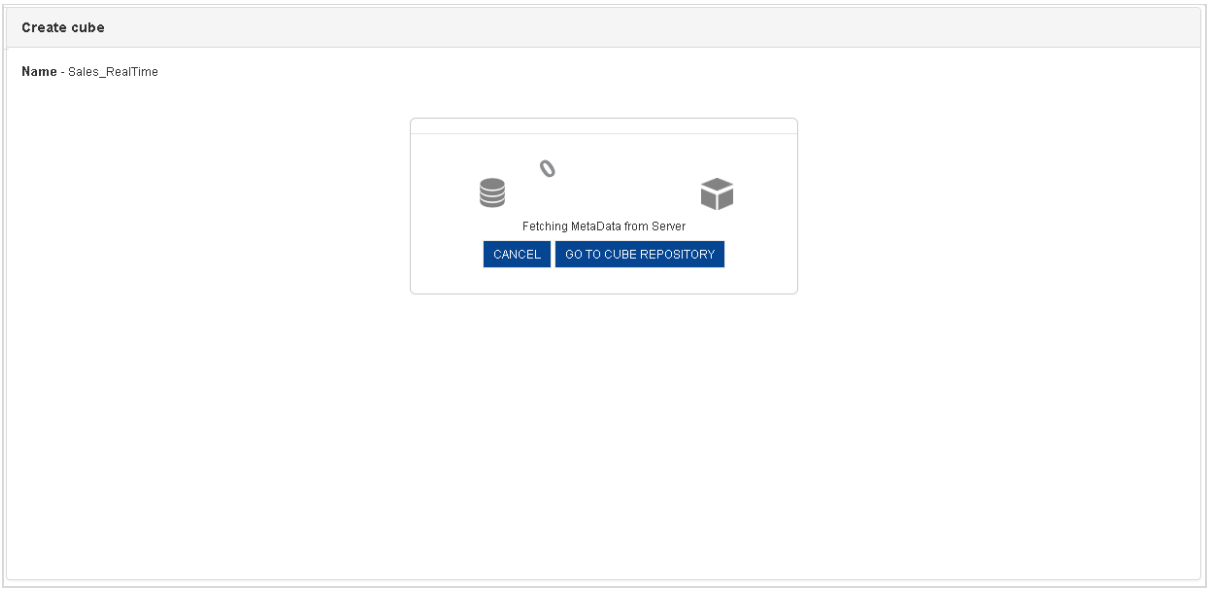
Procedure

4. Click on the **SELECT DATA OPERATIONS** button below the **Measures columns** section. The system displays the **Data operations dialog box.**

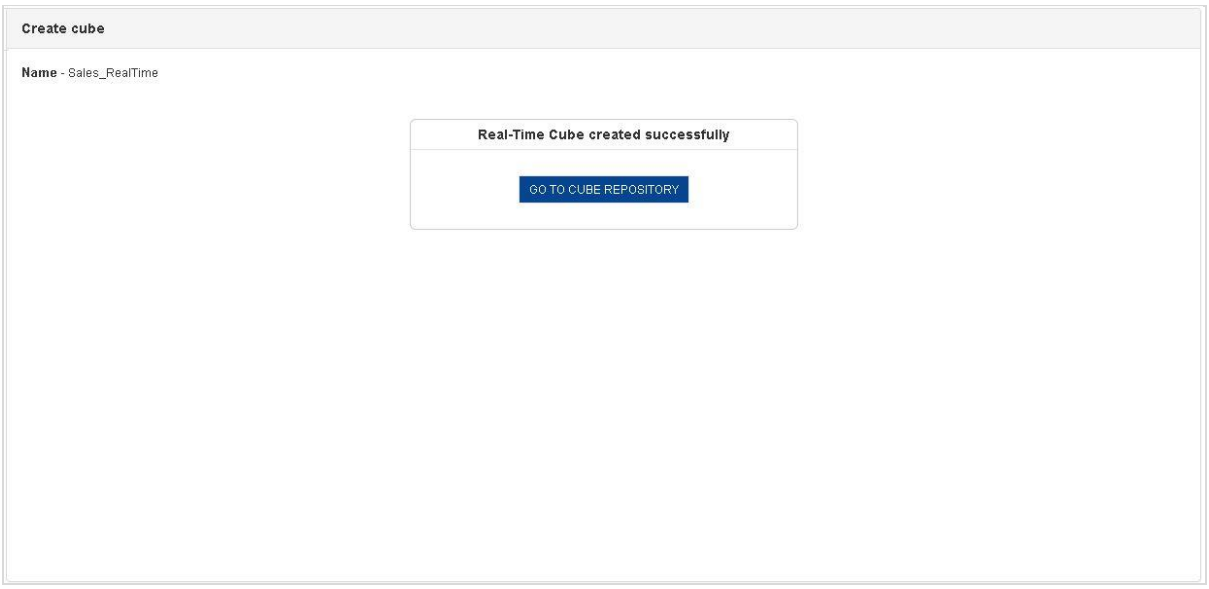


SELECT DATA OPERATIONS

5. Click the checkboxes to select pre-defined data operations against each measure.
6. Click **OK** to confirm or click **Cancel**.



CREATE REAL-TIME CUBE: GRAPHICAL QUERY GENERATION: FETCHING META DATA FROM SERVER



CREATE REAL-TIME CUBE: GRAPHICAL QUERY GENERATION: CUBE CREATED

7.1.4Real-Time cube using Paste-generated query

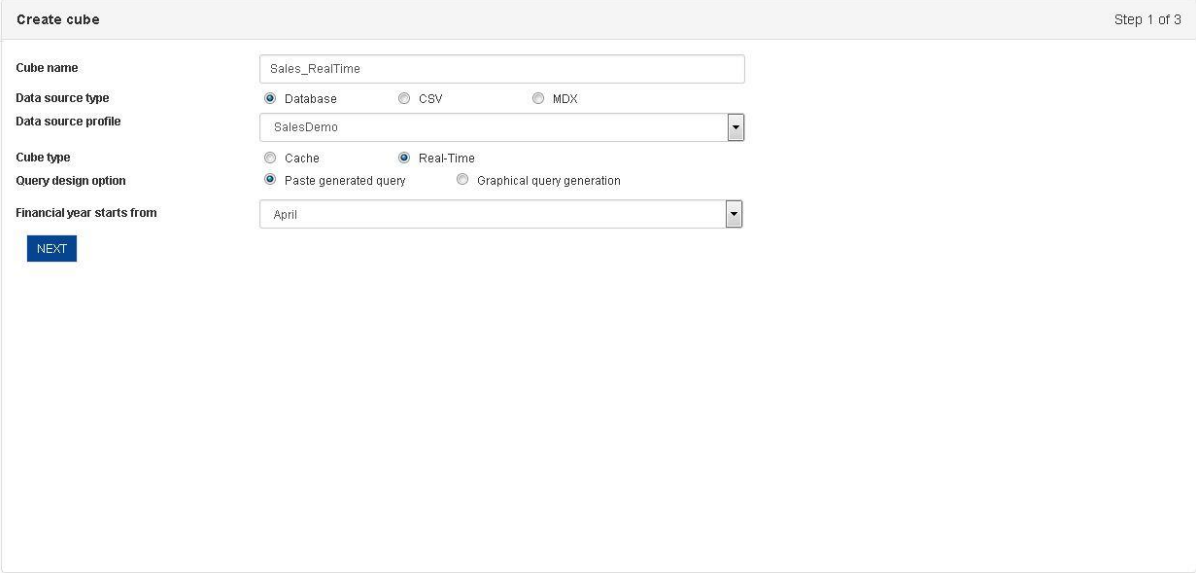
The paste-generated query option is used to enter the pregenerated database query.

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Generation Process > Extraction from Database**

To create Real-Time cube using paste-generated query:
STEP 1

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Create Cube.**
   The system displays the **Create Cube** page.



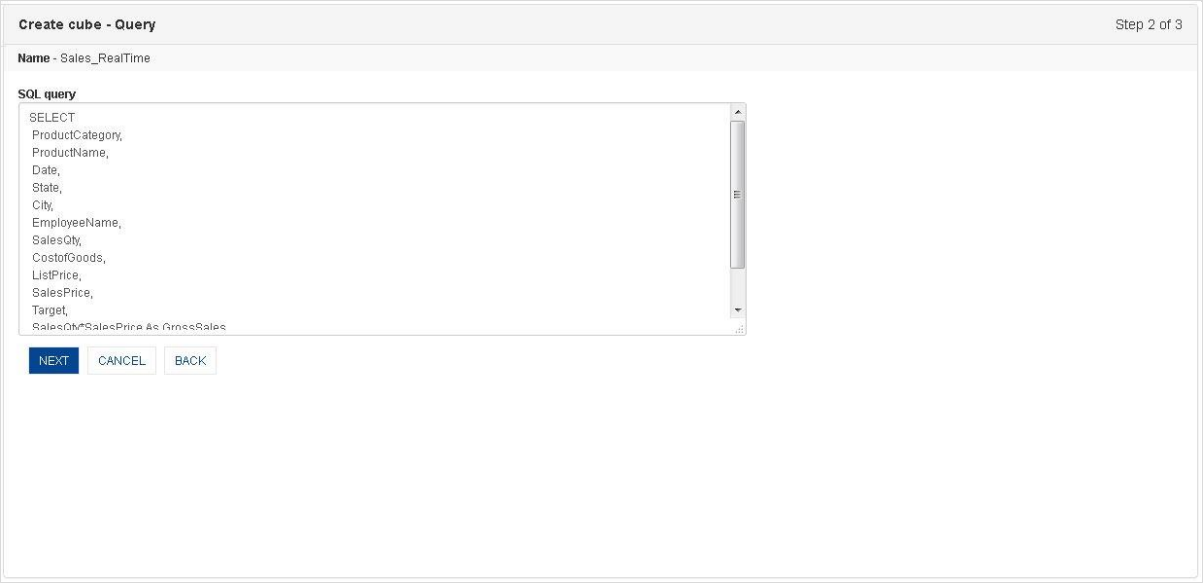
CREATE REAL-TIME CUBE: PASTE-GENERATED QUERY: CREATE CUBE

3. In the **Cube name** field, enter a name.
4. In the **Data source type** field, select the **Database** radio button and select an option from the **Data source profile** drop-down list.
5. In the **Cube type** filed, select the **Real-Time** radio button.
6. In the Query design option **field, select the Paste-generated query** radio button.
7. From the Financial year starts from **drop-down list, select a month.**
8. Click **Next.**
   The system displays the **Create cube - query** page.

STEP 2

Procedure

1. Follow the **Procedure** of **STEP 1.**
2. In the **SQL query** box, enter the query.
3. Click **Next**.
   The system displays the **Create cube - Dimensions/measures selection** page.



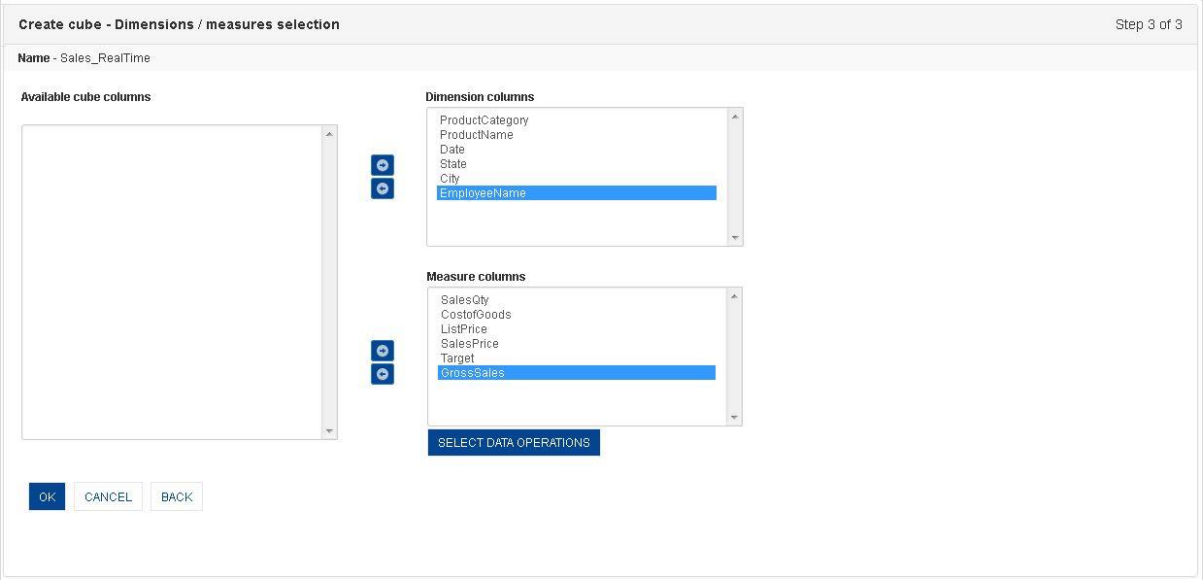
CREATE REAL-TIME CUBE: PASTE-GENERATED QUERY: PASTE QUERY

STEP 3

Procedure

1. Follow the **Procedure** of **STEP 2.**
2. From the Available cube columns list, you can drag and drop the columns to the Dimension columns list and Measure columns list. You can deselect the selected columns by moving the columns back from the Dimension columns and Measure columns.
3. Click on **SELECT DATA OPERATIONS** to select pre-defined data operations for selected measures

Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Dimension**
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Measure**

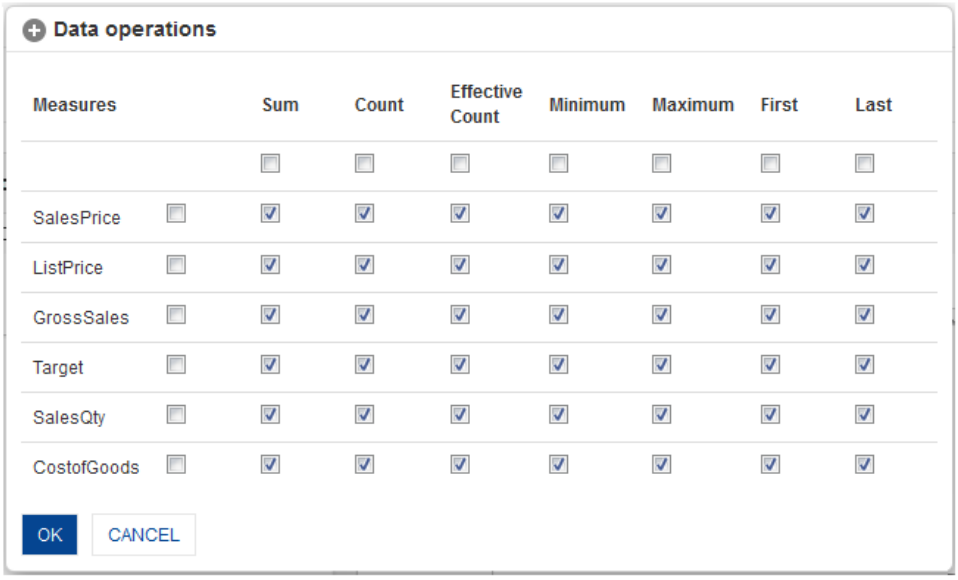


CREATE REAL-TIME CUBE: PASTE-GENERATED QUERY: DIMENSION COLUMN SELECTION

To Select Data operations:

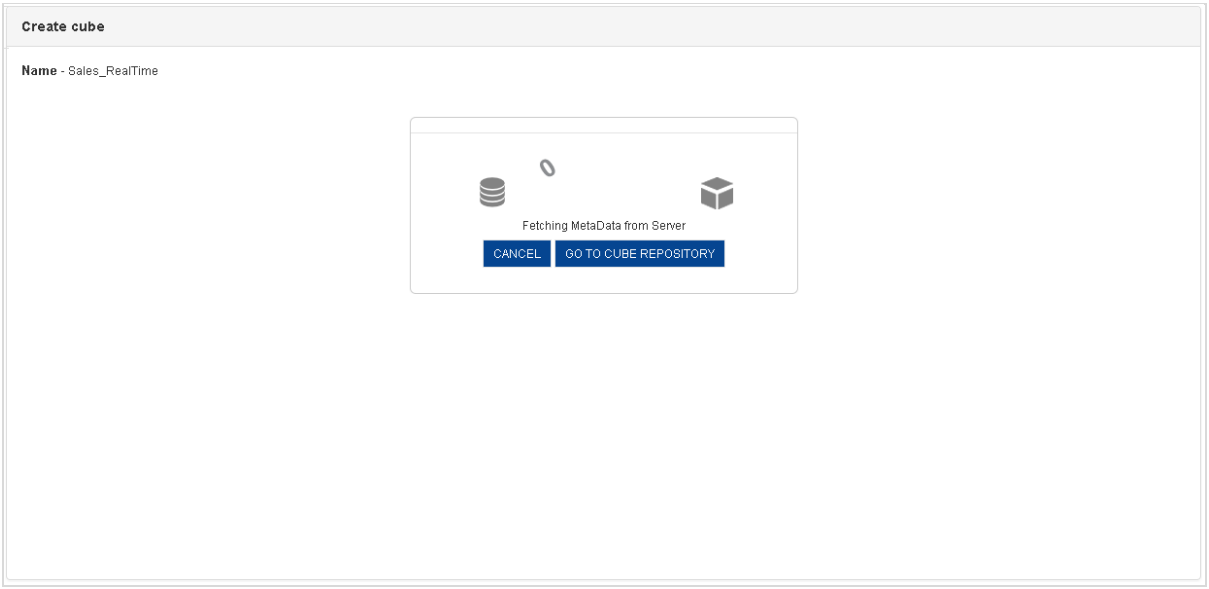
Procedure

4. Click on the **SELECT DATA OPERATIONS** button below the **Measures columns** section the system displays the **Data operations dialog box.**

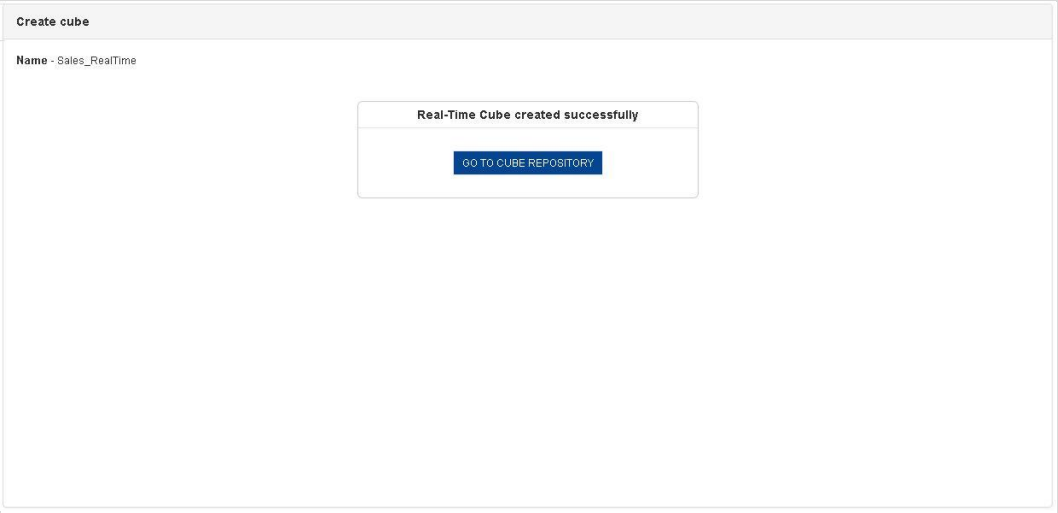


SELECT DATA OPERATIONS

5. Click the checkboxes to select pre-defined data operations against each measure
6. Click **OK** to confirm or click **Cancel**.



CREATE REAL-TIME CUBE: PASTE-GENERATED QUERY: FETCHING META DATA FROM SERVER



CREATE REAL-TIME CUBE: PASTE-GENERATED QUERY: CUBE CREATED

> Note:
> Users can use global variables in cube query while rebuilding Real-Time cubes.
> Users can also use the predefined system level global variable '$currentuser$' in cube query while creating or rebuilding Real-Time cubes.

7.2 Using CSV profile

You can create the cube using CSV file using this option.

The Cube Creation process through CSV Profile is divided into the following easy steps:

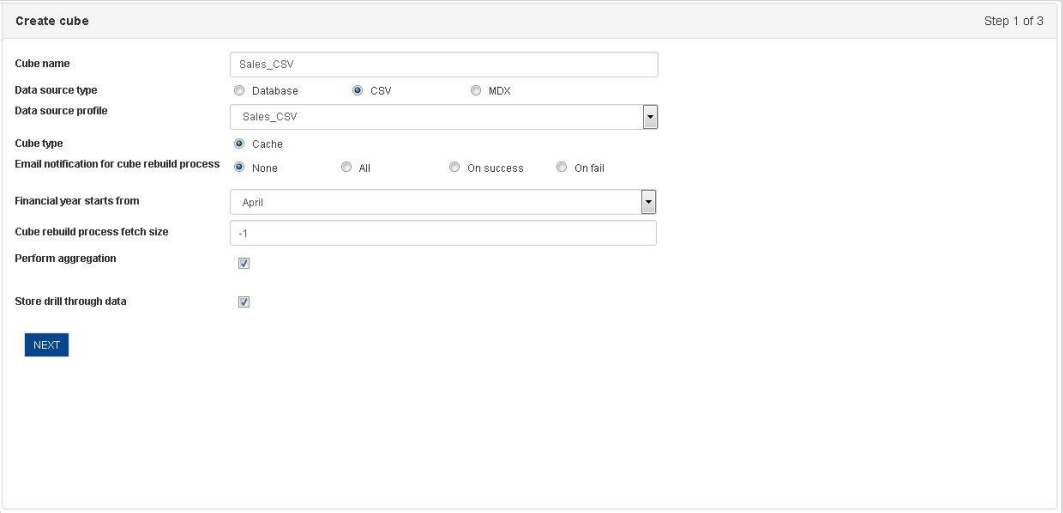
- Cube Column Selection
- Cube Options
- Dimension Column Selection

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Generation Process > Extraction from CSV or flat files**

STEP 1

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Create Cube.**
   The system displays the **Create Cube** page.



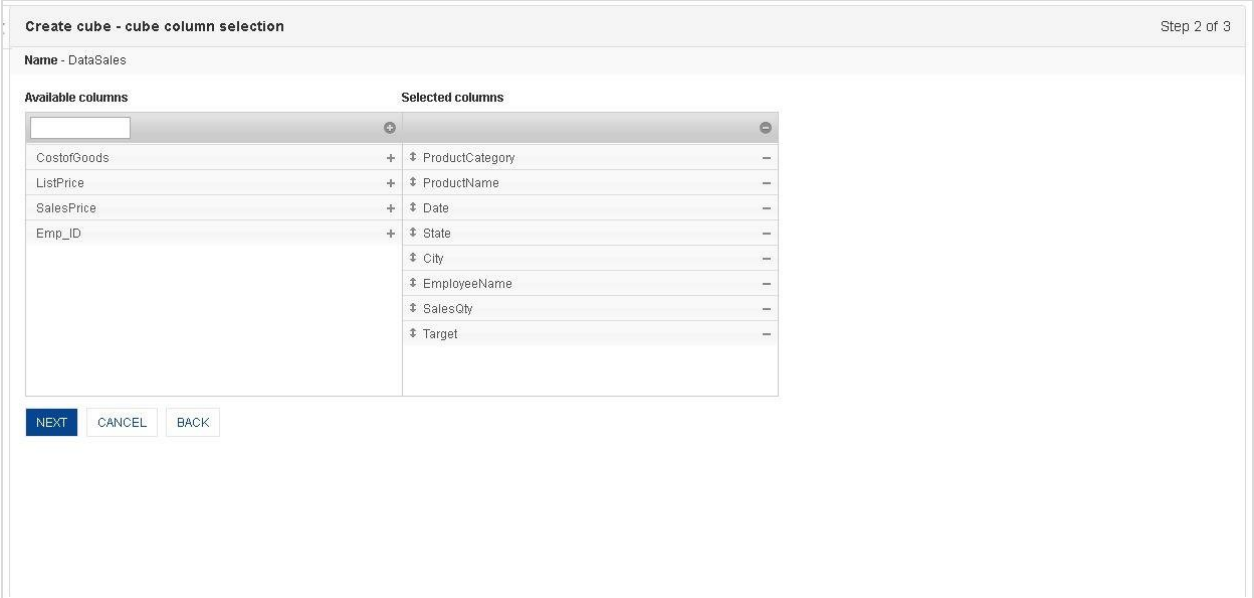
CREATE CUBE: CSV PROFILE: CUBE OPTIONS

3. In the **Cube name** field, enter a name.
4. In the **Data source type** field, select the **CSV** radio button and select an option from the **Data source profile** drop-down list.
5. In the **Cube type** filed, select the **Cache** radio button.
6. **In the Email notification for cube rebuild process** field, select a radio button (None, All, On success, and Fail).
7. From the Financial year starts from **drop-down list, select a month.**
8. **In the** Cube rebuild process fetch size **field,** enter a number of records per iteration to be processed for cube aggregation and indexing process. Enter 0 or any negative value to automatically set fetch size.
9. Select the checkbox **Perform aggregation** to write aggregated data.
10. Select the checkbox **Store drill through data** to write drill though data.
11. Click **Next.**
    The system displays the **Create cube - cube column selection** page.

STEP 2

Procedure

1. Follow the **Procedure** of **STEP 1.**
2. From the **Available columns** list, you can drag and drop the columns to the **Selected columns** list. You can deselect the selected columns by moving the columns back from the **Selected columns.**
3. You can move the columns up and down by drag and drop within the **Selected column** lists to set the order of columns.
4. Click **BACK** to go back to the **Create Cube** page.
5. Click **CANCEL** to go back to **Create Cube** page without saving any change.
6. Click **NEXT.**
   The system displays the **Create cube - Dimensions/measures selection** page.



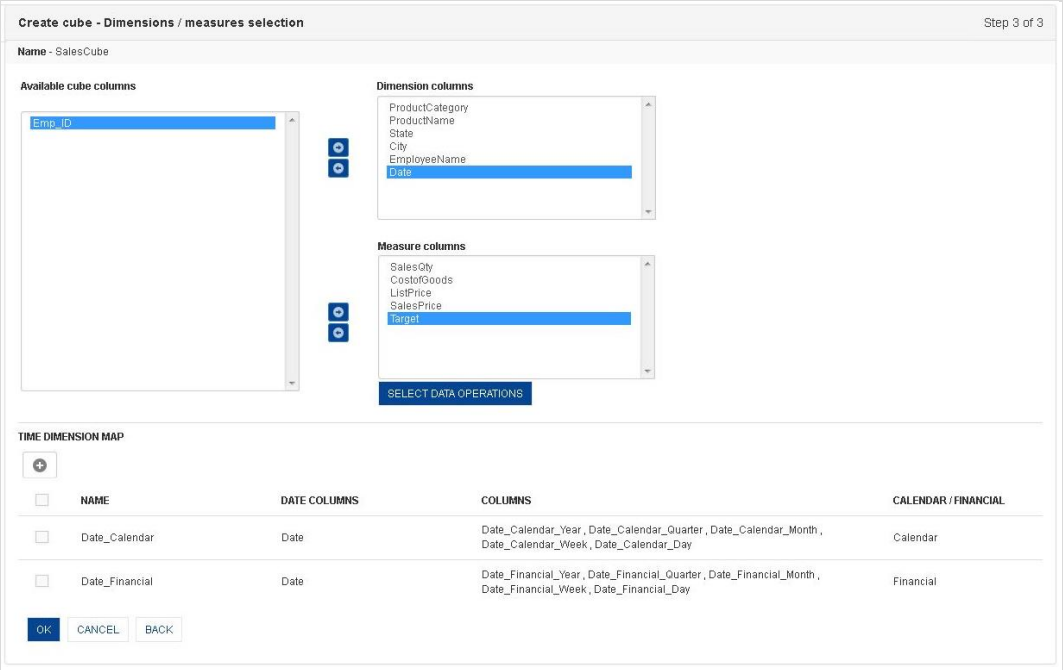
CREATE CUBE: CSV PROFILE: CUBE COLUMN SELECTION

STEP 3

Procedure

1. Follow the **Procedure** of **STEP 2.**
2. From the **Available cube columns** list, you can drag and drop the columns to the **Dimension columns** list and **Measure columns** list. You can deselect the selected columns by moving the columns back from the **Dimension columns** and **Measure columns.**
3. Click on **SELECT DATA OPERATIONS** to select pre-defined data operations for selected measures
4. Under the **TIME DIMENSION MAP** section,
   - Click the **Add** icon.
   - The system displays the **Add time dimension map** dialog box.
   - From the **Date columns** drop-down list, select a column name.
   - From the **Level** drop-down list, select level.
   - Select the **Use week of Year** checkbox if you want to use week of the year in time series hierarchy.
   - Select the **Use day of Year** checkbox if you want to use day of the year in time series hierarchy.
   - Select the checkbox against **Calendar Year** and **Financial Year** for generating time dimension for specified year.
   - From the **Starting month** drop-down list, select a month.
   - In the **Display name** field, you can change the display name of time dimension columns
   - Click **OK** to create cube.
   - Click **CANCEL** to go back to the **Create cube - cube column selection** page without saving any change.

Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Dimension**
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data> Measure**
Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Time Dimension**

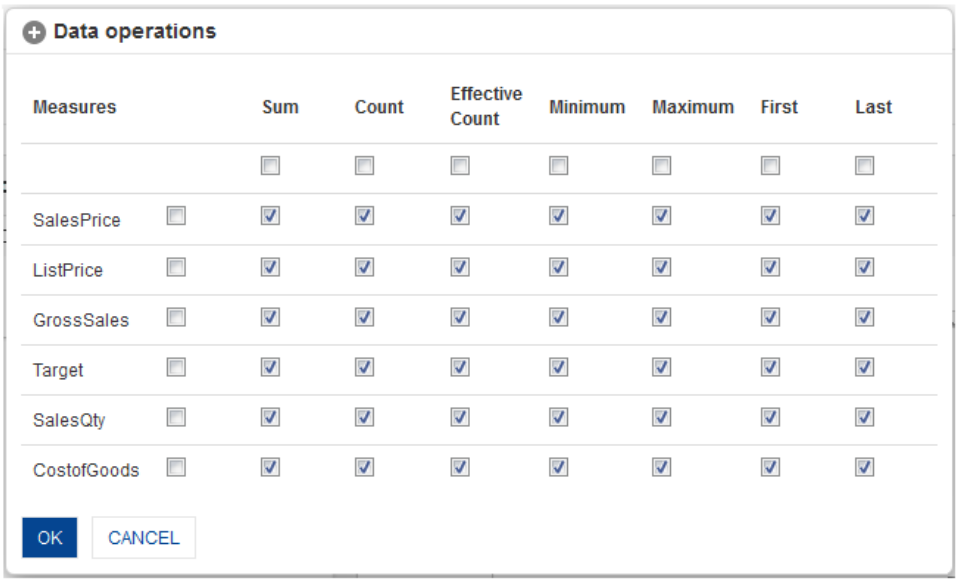


CREATE CUBE: CSV PROFILE: DIMENSION COLUMN SELECTION

To Select Data operations:

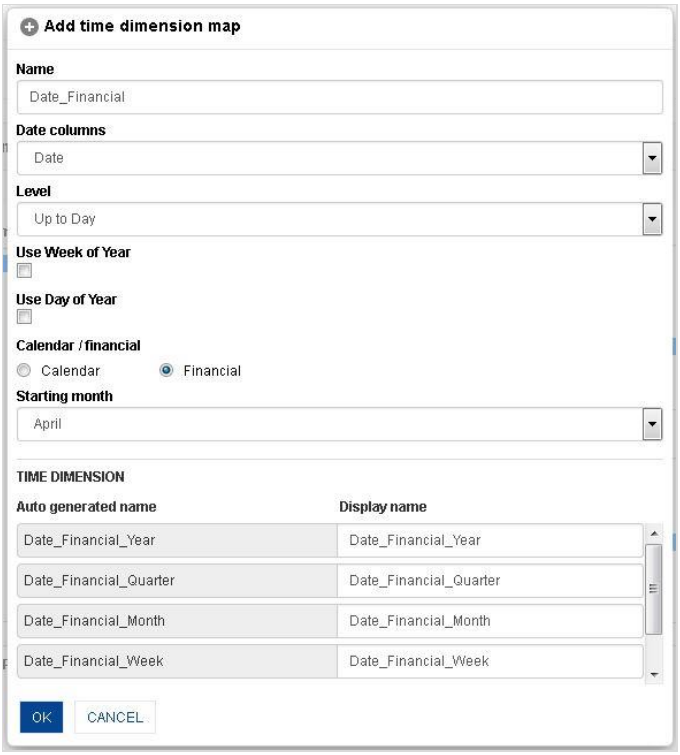
Procedure

1. Click on the **SELECT DATA OPERATIONS** button below the **Measures columns** section. The system displays the **Data operations dialog box.**

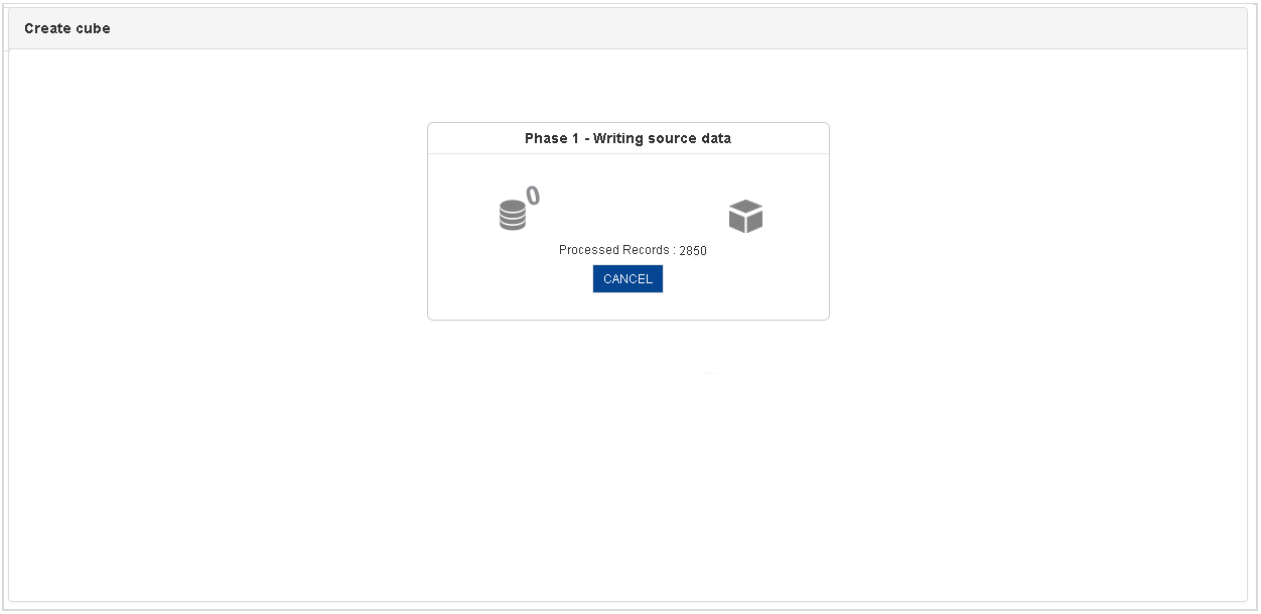


SELECT DATA OPERATIONS

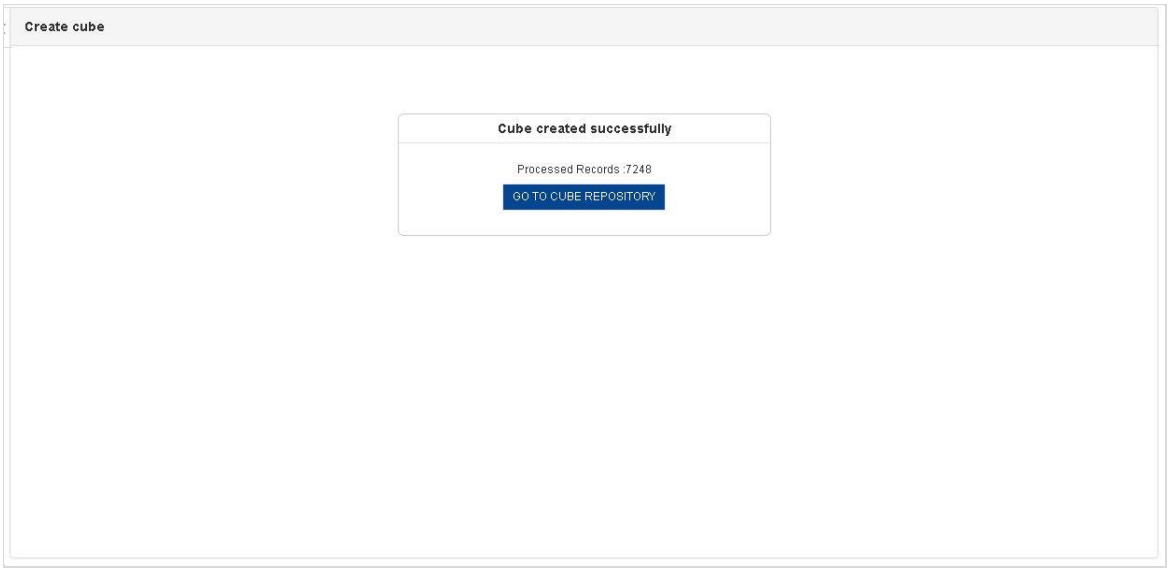
2. Click the checkboxes to select pre-defined data operations against each measure
3. Click **OK** to confirm or click **Cancel**.



CREATE CUBE: CSV PROFILE: DIMENSION COLUMN SELECTION: ADD TIME DIMENSION



CREATE CUBE: CSV PROFILE: CREATING CUBE



CREATE CUBE: CSV PROFILE: CUBE CREATED

7.3 Using MDX profile

The Cube Creation process through MDX Profile is divided into the following easy steps:

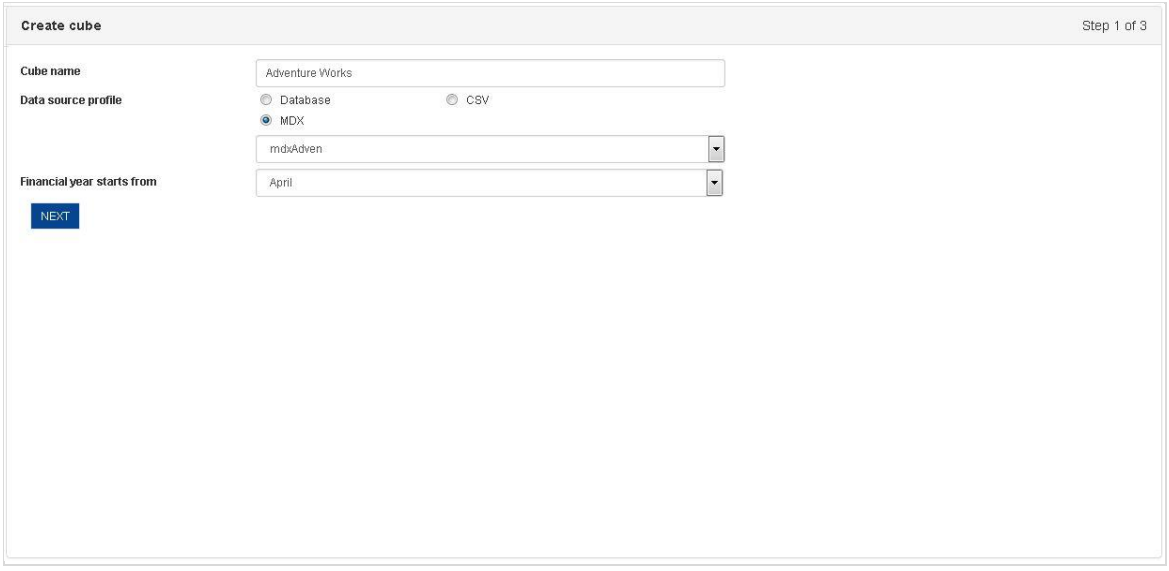
- Initial catalog selection
- Select cube
- Dimension and Measure selection

Reference: **Concept Manual > Designing the Data Model > MDX Cubes**

STEP 1

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Create Cube.**
   The system displays the **Create Cube** page.



CREATE CUBE: MDX PROFILE: CUBE OPTIONS

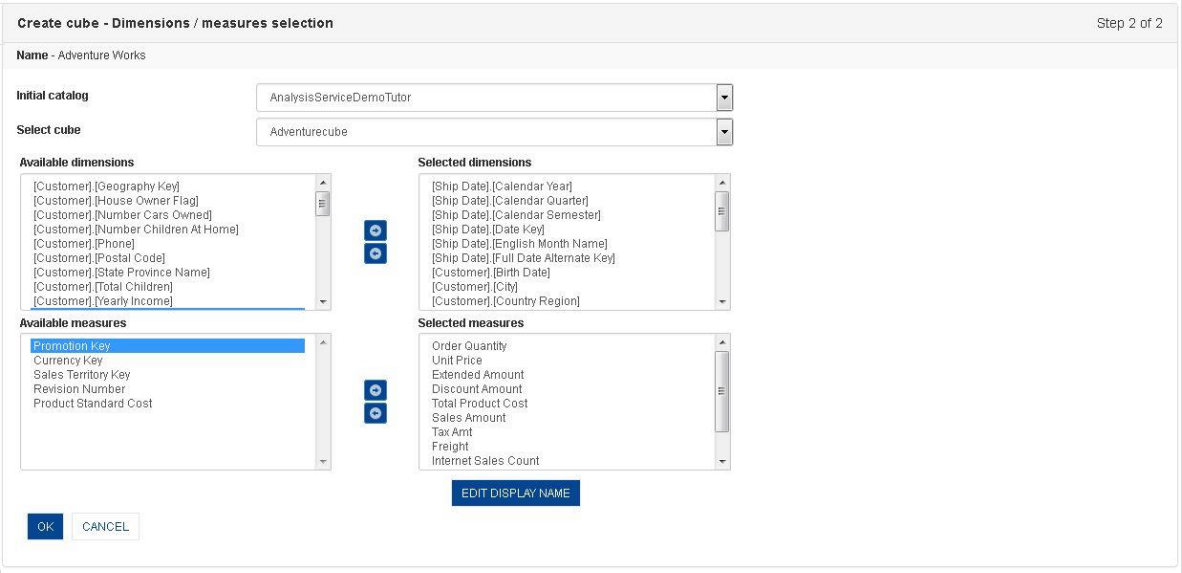
3. In the **Cube name** field, enter a name.
4. In the Data source profile field, select the **MDX** radio button and select an option from the drop-down list.

5. From the Financial year starts from **drop-down list, select a month.**
6. Click **Next.**
   The system displays the **Create cube - Dimensions/measures selection** page.

STEP 2

Procedure

1. Follow the **Procedure** of **STEP 1.**
2. From the **Initial catalog** drop-down list**,** select **Initial catalog**
3. From the Select cube drop-down list, select a **Cube**
4. From the **Available dimensions** list, you can move the dimensions to the **Selected dimensions** list. You can deselect the selected columns by moving the columns back from the **Selected dimensions.**
5. From the **Available measures** list, you can move the measures to the **Selected measures** list. You can deselect the selected columns by moving the columns back from the **Selected measures.**
6. Click **CANCEL** to go back to **Create Cube** page without saving any change.
7. Click **OK** to create cube**.**



CREATE CUBE: MDX PROFILE: DIMENSION AND MEASURE COLUMN SELECTION

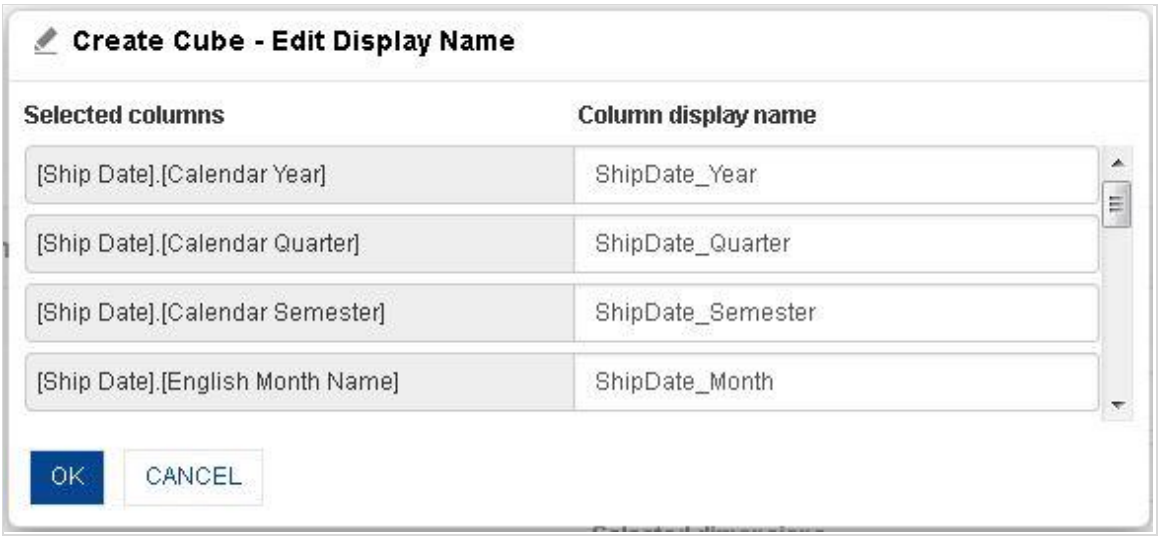
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Dimension**
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Measure**

To edit cube column display name

You can provide a name that will be displayed for the columns instead of their original name. To provide a display name for columns, click on the **EDIT DISPLAY NAME** button below the **Selected measures** section. The **Create cube – Edit Display Name** dialog box opens.

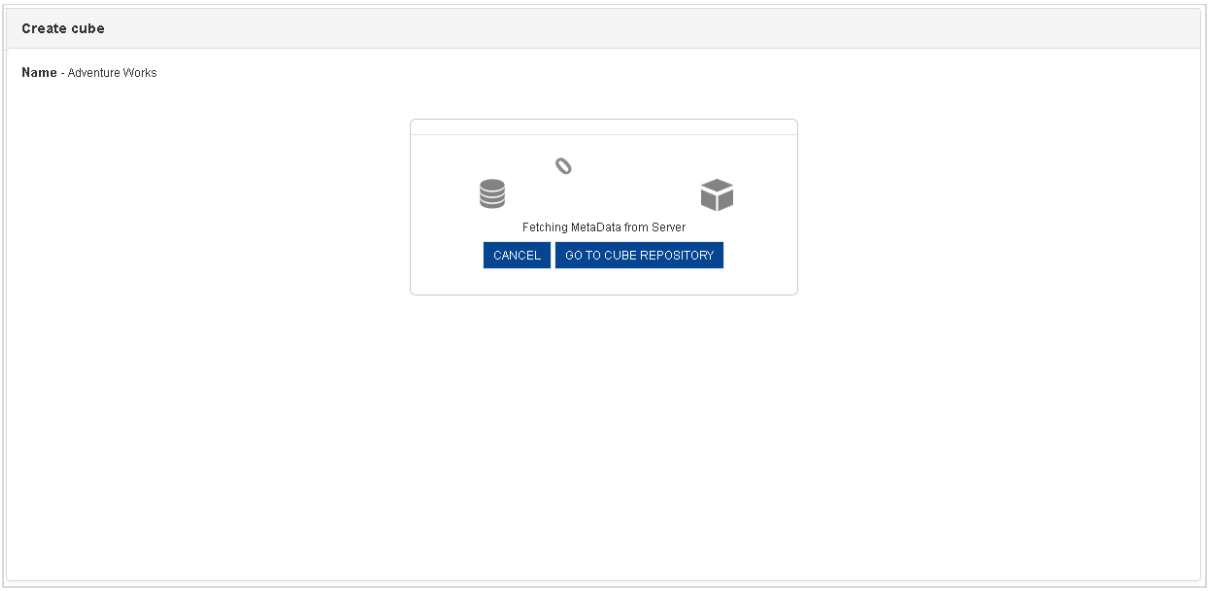
Procedure

1. In the **Create cube - Dimensions/measures selection** page, click **EDIT DISPLAY NAME.**
   The system displays the **Create cube – Edit Display Name** dialog box.

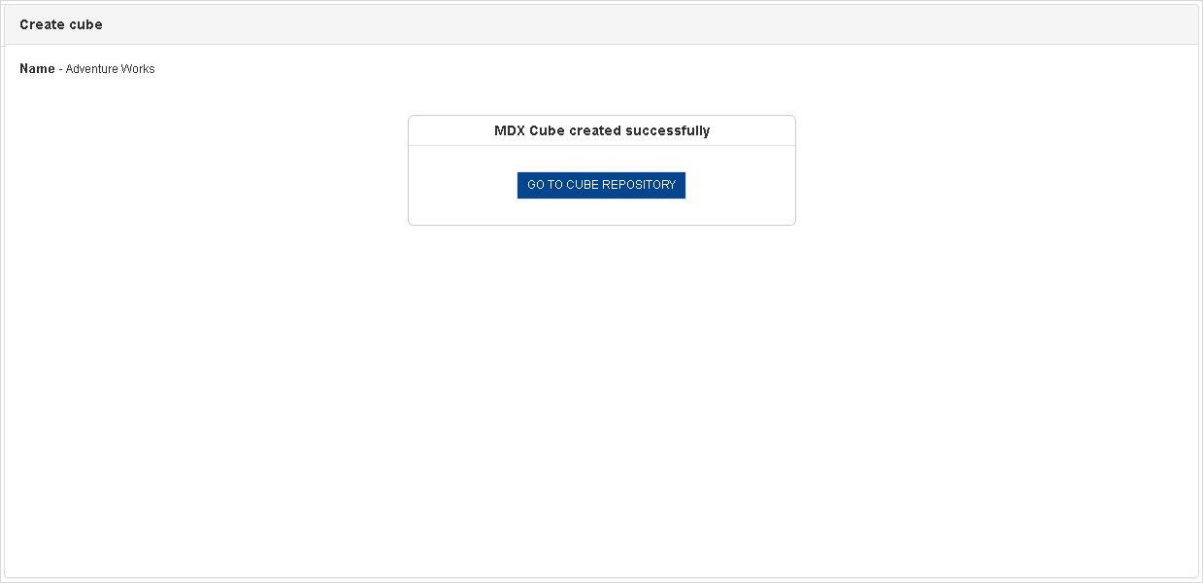


CREATE LINKED CUBE: DISPLAY NAME SETTING

2. Under the **Column display name** section, edit the display name for a column in the field adjacent to that column.
3. Click **OK** to save the settings.
4. Click **CANCEL** to go back to the **Create cube - Dimensions/measures selection** page.



CREATE CUBE: MDX PROFILE: FETCHING METADATA FROM SERVER



CREATE CUBE: MDX PROFILE: CUBE CREATED

7.4 Using R script profile

You can create the R cube using R script profile using this option.

The Cube Creation process through R script Profile is divided into the following easy steps:

- R script parameters
- Dimension Column Selection

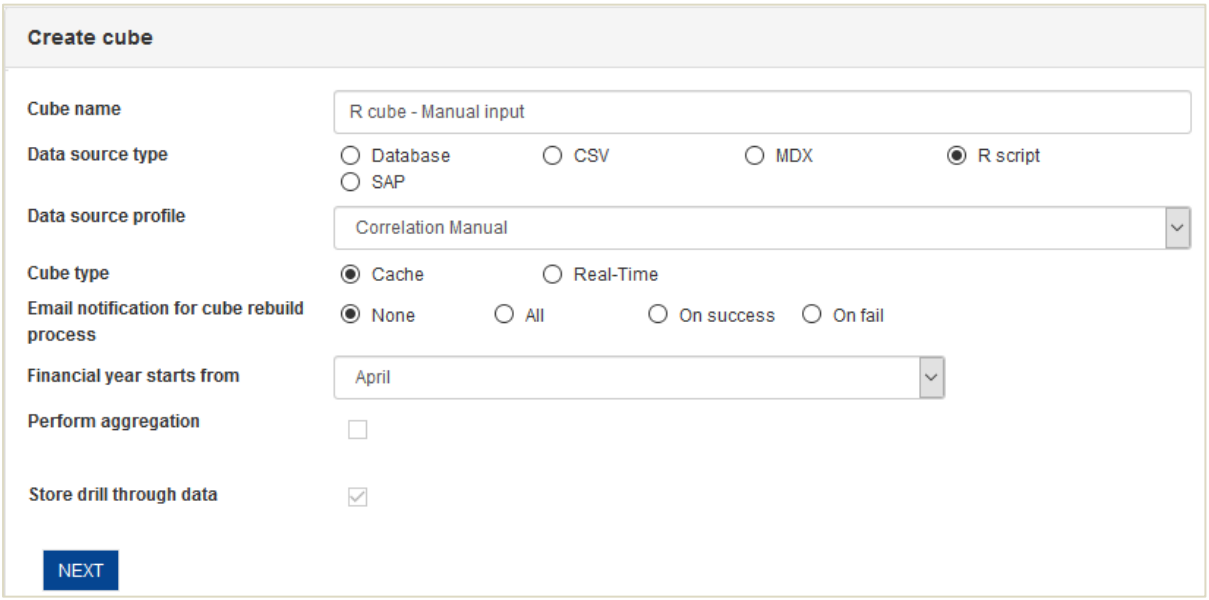
Reference: **Working with R integration > Create R cube with R Script Profile as data source**

7.4.1Cache R cube with Manual input

STEP 1

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Create Cube.**
   The system displays the **Create Cube** page.



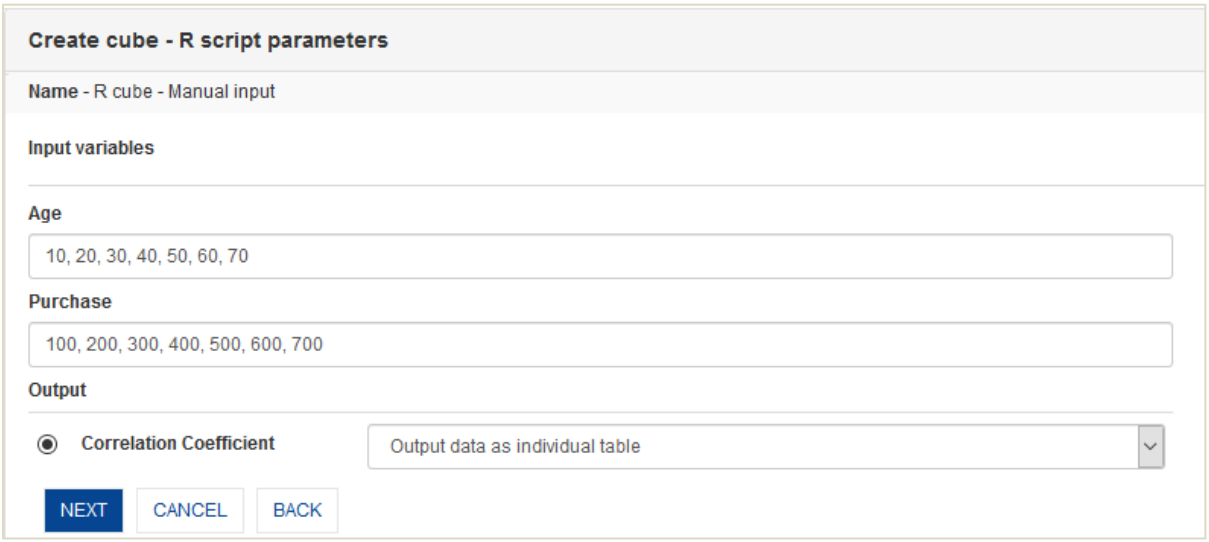
CREATE CUBE: R SCRIPT PROFILE: CUBE OPTIONS

3. In the **Cube name** field, enter a name.
4. In the **Data source type** field, select the **R script** radio button and select an option from the **Data source profile** drop-down list.
5. In the **Cube type** filed, select the **Cache** radio button.
6. **In the Email notification for cube rebuild process** field, select a radio button (None, All, On success, and Fail).
7. From the **Financial year starts from** drop-down list, select a month.
8. Click **Next.**
   The system displays the **Create cube – R script parameters** page.

STEP 2

Procedure

1. Follow the **Procedure** of **STEP 1.**
2. Enter the values for all the **Input variables** separated by a comma.
3. Select the radio button of the **Output variable**. From the drop-down list, select either Output data as individual table, or Append output data as column, or Append output data as row.
4. Click **BACK** to go back to the **Create Cube** page.
5. Click **CANCEL** to go back to **Create Cube** page without saving any change.
6. Click **NEXT.**
   The system displays the **Create cube - Dimensions/measures selection** page.

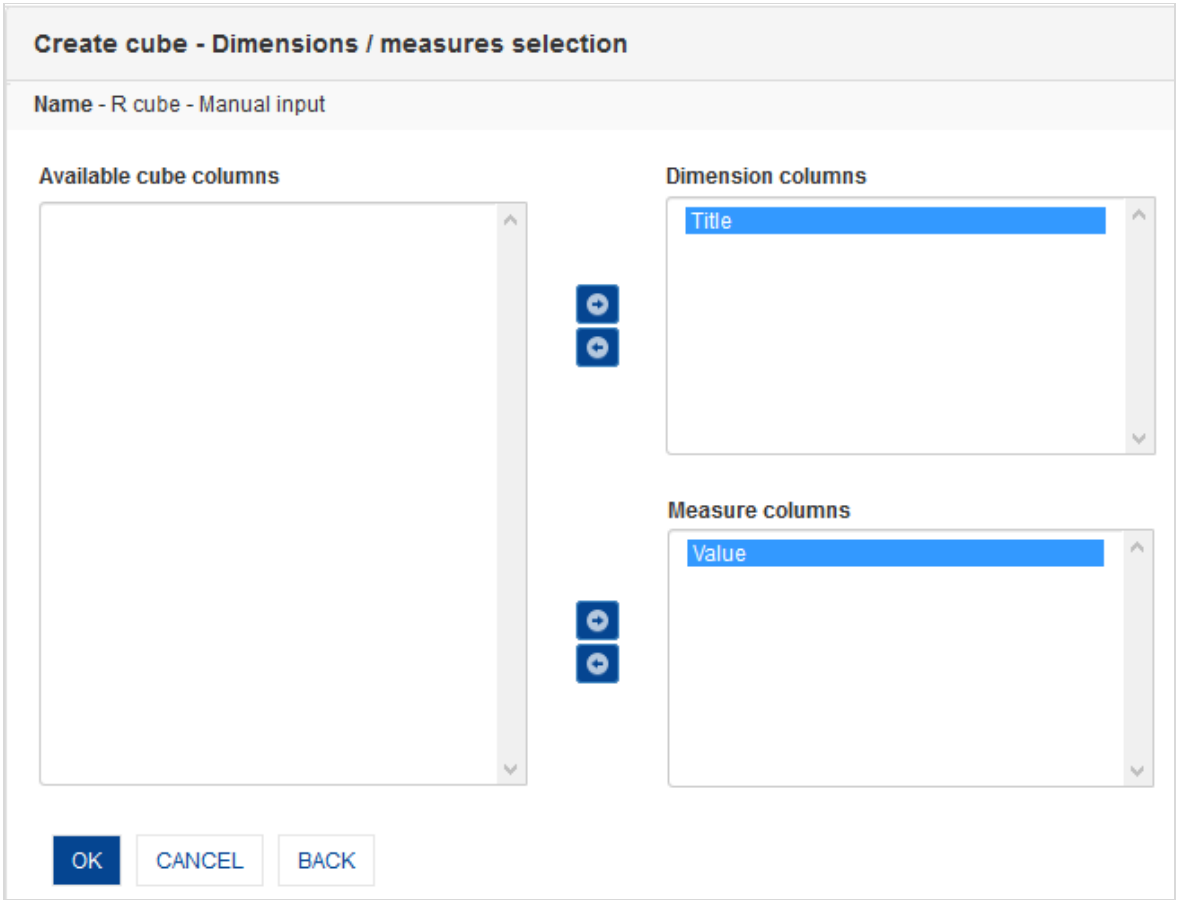


CREATE CUBE: R SCRIPT PROFILE: R SCRIPT PARAMETERS

STEP 3

Procedure

1. Follow the **Procedure** of **STEP 2.**
2. From the **Available cube columns** list, you can drag and drop the columns to the **Dimension columns** list and **Measure columns** list. You can deselect the selected columns by moving the columns back from the **Dimension columns** and **Measure columns.**
3. Click **BACK** to go back to the **Create Cube – R script parameters** page.
4. Click **CANCEL** to go back to the **Create cube - cube column selection** page without saving any change.
5. Click **OK** to create cube.



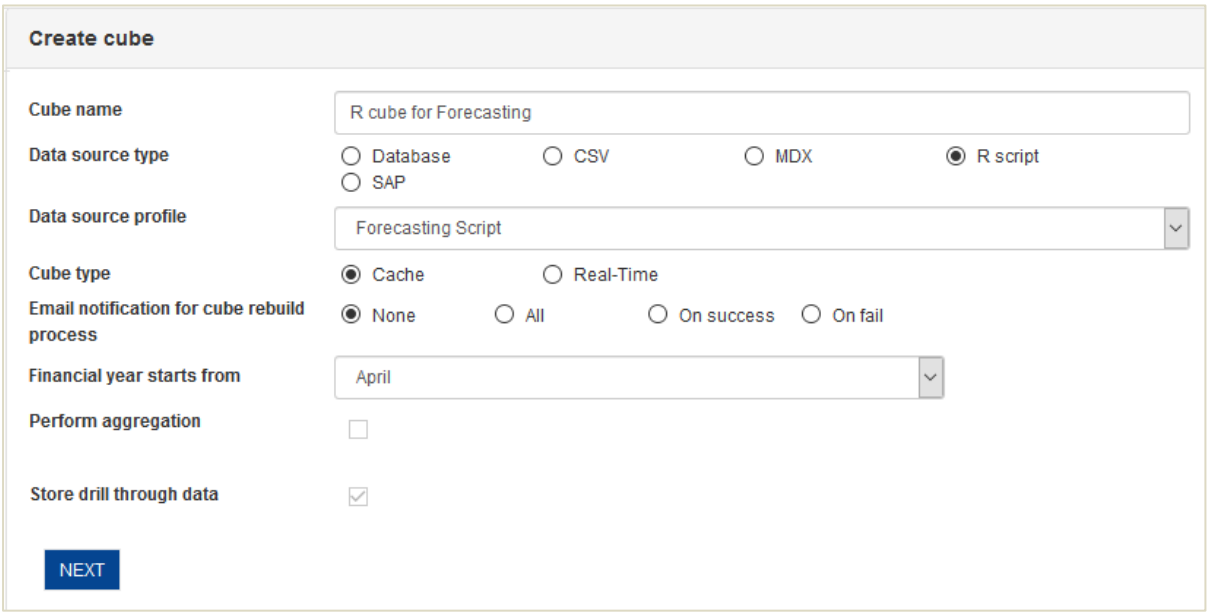
CREATE CUBE: R SCRIPT PROFILE: DIMENSION COLUMN SELECTION

7.4.2Cache R cube with Cube data/Manual input

STEP 1

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Create Cube.**
   The system displays the **Create Cube** page.



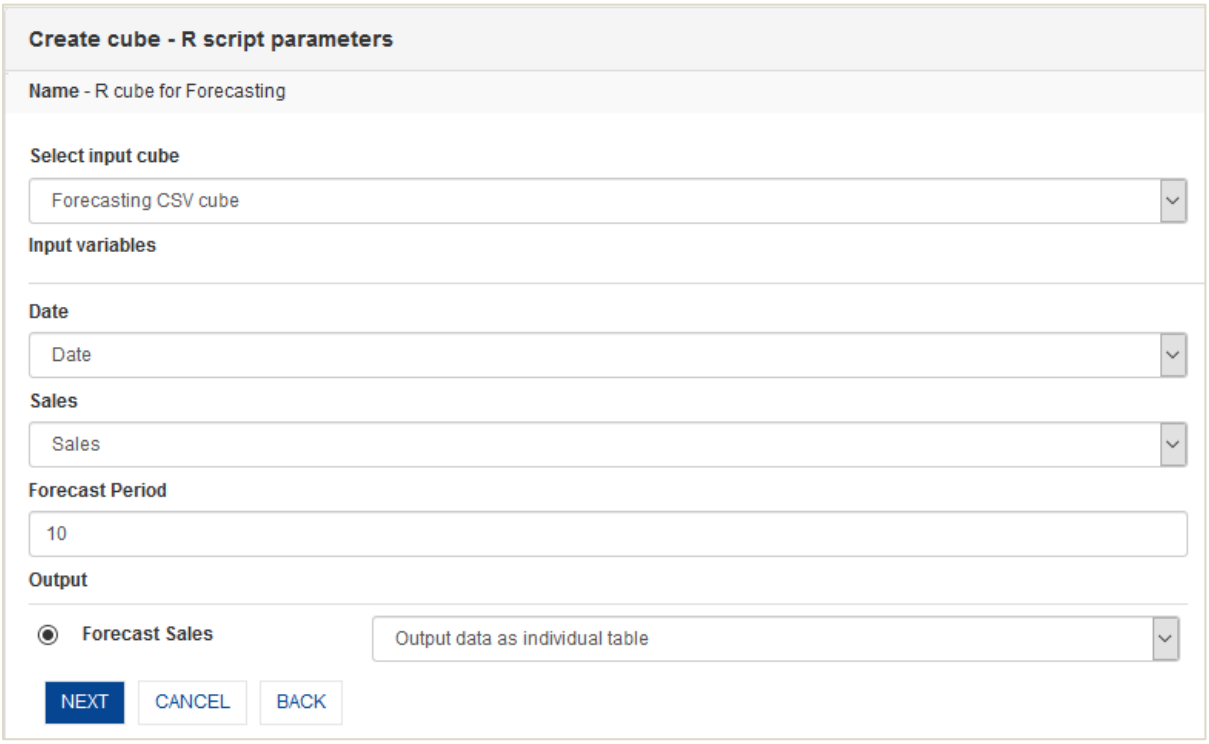
CREATE CUBE: R SCRIPT PROFILE: CUBE OPTIONS

3. In the **Cube name** field, enter a name.
4. In the **Data source type** field, select the **R script** radio button and select an option from the **Data source profile** drop-down list.
5. In the **Cube type** filed, select the **Cache** radio button.
6. **In the Email notification for cube rebuild process** field, select a radio button (None, All, On success, and Fail).
7. From the Financial year starts from **drop-down list, select a month.**
8. Click **Next.**
   The system displays the **Create cube – R script parameters** page.

STEP 2

Procedure

1. Follow the **Procedure** of **STEP 1.**
2. Select the **Input cube** from the drop-down list.
3. Map the **Input variables** with Smarten input cube by selecting the cube columns for each input variable.
4. Enter the data for the **manual Input variable(s)**.
5. Select the radio button of the **Output variable**. From the drop-down list, select either Output data as individual table, or Append output data as column, or Append output data as row.
6. Click **BACK** to go back to the **Create Cube** page.
7. Click **CANCEL** to go back to **Create Cube** page without saving any change.
8. Click **NEXT.**
   The system displays the **Create cube - Dimensions/measures selection** page.

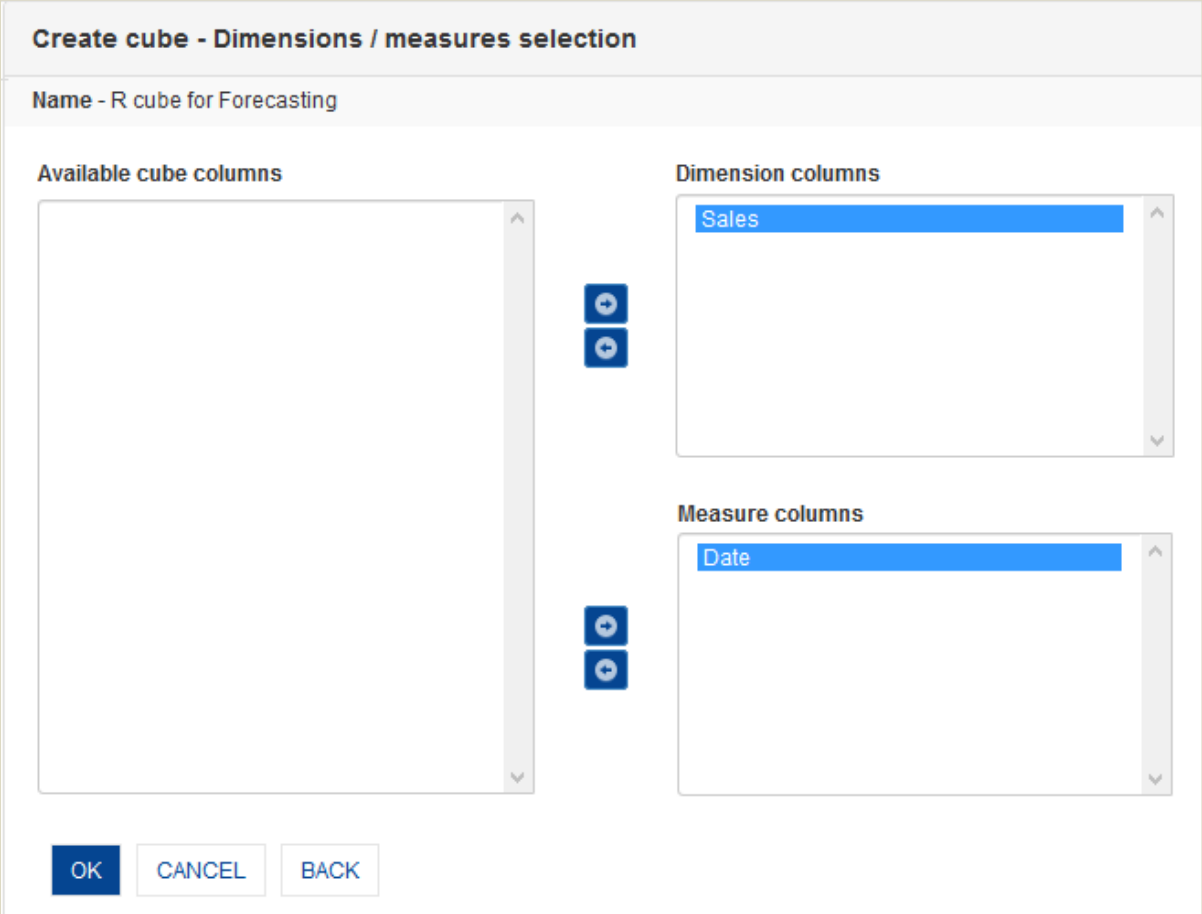


CREATE CUBE: R SCRIPT PROFILE: R SCRIPT PARAMETERS

STEP 3

Procedure

1. Follow the **Procedure** of **STEP 2.**
2. From the **Available cube columns** list, you can drag and drop the columns to the **Dimension columns** list and **Measure columns** list. You can deselect the selected columns by moving the columns back from the **Dimension columns** and **Measure columns.**
3. Click **BACK** to go back to the **Create Cube – R script parameters** page.
4. Click **CANCEL** to go back to the **Create cube - cube column selection** page without saving any change.
5. Click **OK** to create cube.



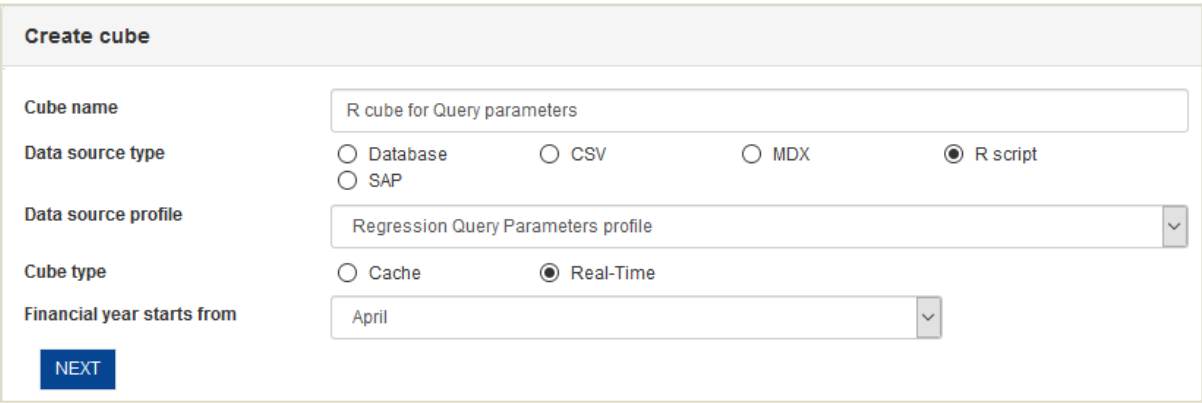
CREATE CUBE: R SCRIPT PROFILE: DIMENSION COLUMN SELECTION

7.4.3Real-time R cube with Query parameters

STEP 1

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Create Cube.**
   The system displays the **Create Cube** page.



CREATE CUBE: R SCRIPT PROFILE: CUBE OPTIONS

3. In the **Cube name** field, enter a name.
4. In the **Data source type** field, select the **R script** radio button and select an option from the **Data source profile** drop-down list.

5. In the **Cube type** filed, select the **Real-Time** radio button.
6. From the Financial year starts from **drop-down list, select a month.**
7. Click **Next.**
   The system displays the **Create cube – R script parameters** page.

Reference: User Manual > **Working with Dashboard > R script parameters**

STEP 2

Procedure

1. Follow the **Procedure** of **STEP 1.**
2. Select the **Input cube** from the drop-down list.
3. Map the **Input variables** with Smarten input cube by selecting the cube columns for each input variable.
4. Enter the data manually for all the **Query parameters**.
3. Select the radio button of the **Output variable**. From the drop-down list, select either Output data as individual table, or Append output data as column, or Append output data as row.
5. Click **BACK** to go back to the **Create Cube** page.
6. Click **CANCEL** to go back to **Create Cube** page without saving any change.
7. Click **NEXT.**
   The system displays the **Create cube - Dimensions/measures selection** page.

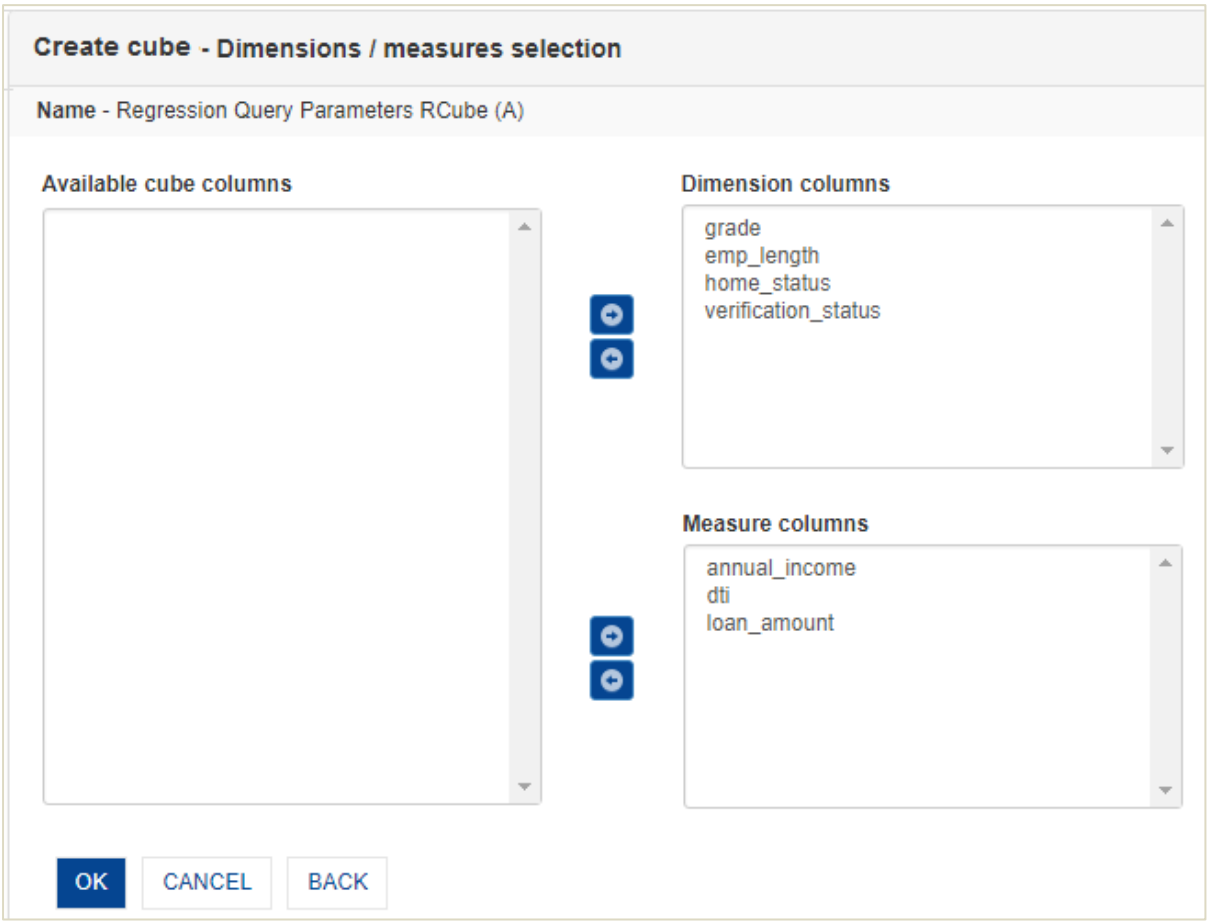
CREATE CUBE: R SCRIPT PROFILE: R SCRIPT PARAMETERS

STEP 3

Procedure

1. Follow the **Procedure** of **STEP 2.**
2. From the **Available cube columns** list, you can drag and drop the columns to the **Dimension columns** list and **Measure columns** list. You can deselect the selected columns by moving the columns back from the **Dimension columns** and **Measure columns.**
3. Click **BACK** to go back to the **Create Cube – R script parameters** page.

4. Click **CANCEL** to go back to the **Create cube - cube column selection** page without saving any change.
5. Click **OK** to create cube.



CREATE CUBE: R SCRIPT PROFILE: DIMENSION COLUMN SELECTION

7.5 Using SAP profile

You can create the SAP cube using SAP profile using this option.

The Cube Creation process through SAP Profile is divided into the following easy steps:

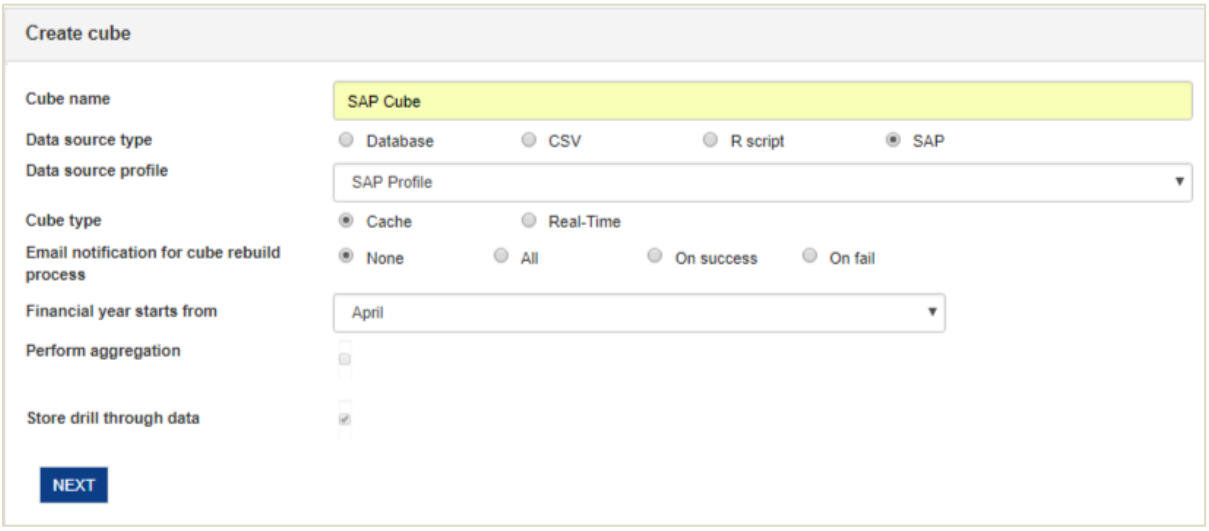
- BAPI selection
- SAP BAPI parameters
- Dimension Column Selection

Reference: I**ntegration with SAP > Create SAP cube with SAP Profile as data source**

STEP 1

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Create Cube.**
   The system displays the **Create Cube** page.



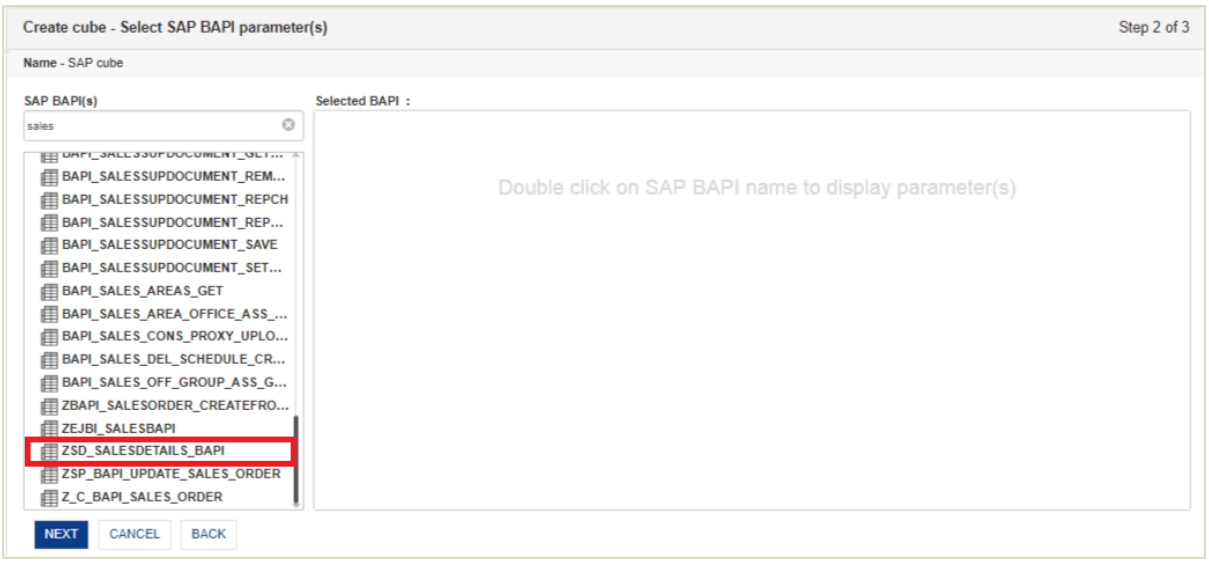
CREATE CUBE: SAP PROFILE: CUBE OPTIONS

3. In the **Cube name** field, enter a name.
4. In the **Data source type** field, select the **SAP** radio button and select an option from the **Data source profile** drop-down list.
5. In the **Cube type** filed, select a radio button (Cache or Real-Time).
6. For Cache cube, in the **Email notification for cube rebuild process** field, select a radio button (None, All, On success, and Fail).
7. From the **Financial year starts from** drop-down list, select a month.
8. Click **Next.**
   The system displays the **Create cube – Select SAP BAPI parameters** page.

STEP 2

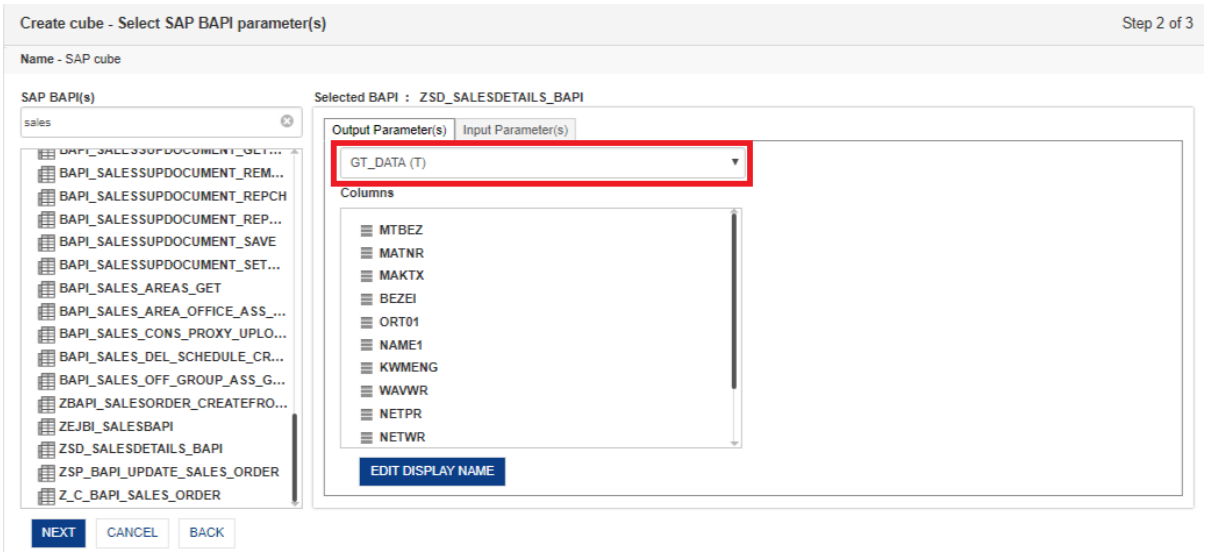
Procedure

1. Follow the **Procedure** of **STEP 1.**
2. In the **SAP BAPPI(s)** list, look for the required BAPI. You can also search it by entering its name in the search box.
   Double click on the BAPI name in the list.



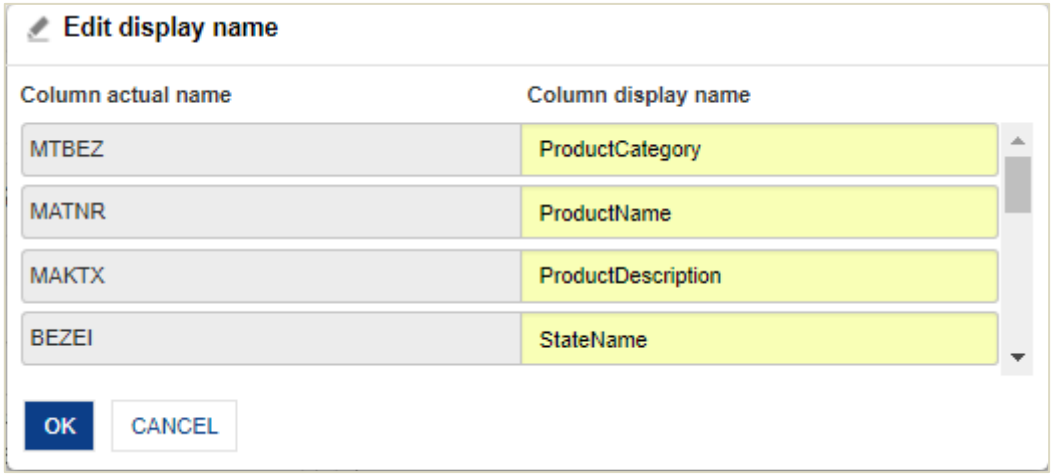
CREATE CUBE: SELECT SAP BAPI PARAMETERS

3. From the **Output Parameters** tab, select the Output parameter from the drop-down list.
   The system displays a list of Columns belonging to the selected Output parameter.



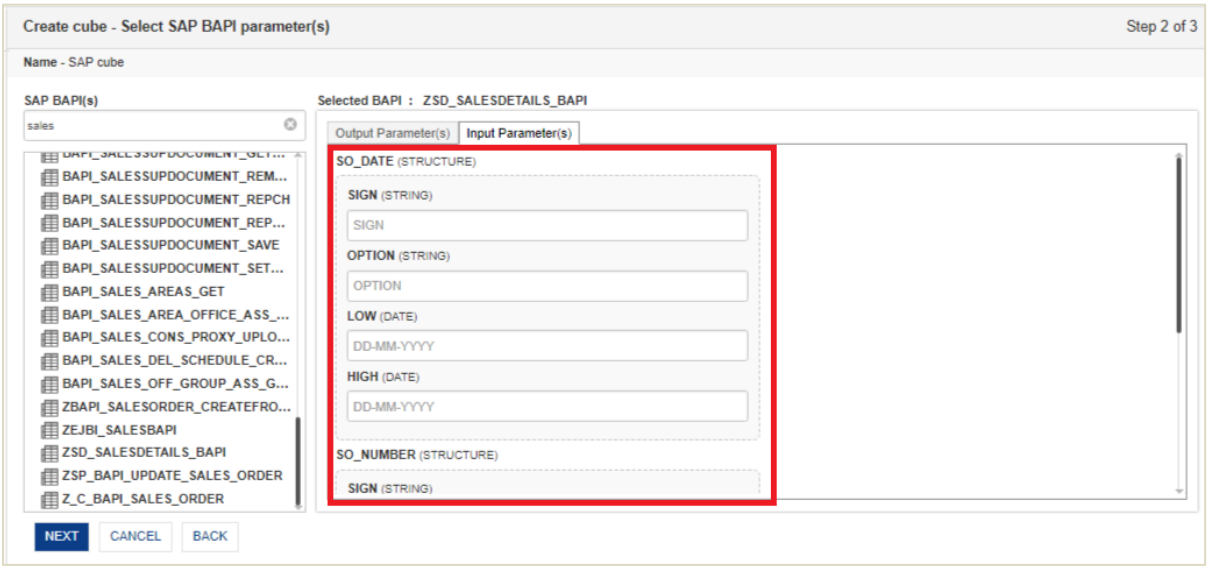
CREATE CUBE: OUTPUT PARAMETERS

4. Click **EDIT DISPLAY NAME**.
   The system displays the **Edit Display Name** dialog box.



CREATE CUBE: DISPLAY NAME SETTING

5. Under the **Column display name** section, edit the display name for a column in the field adjacent to that column.
6. Click **OK** to save the settings.
7. Click **CANCEL** to go back to the **Create cube – Select SAP BAPI Parameters** page.
8. Click **Input Parameters** tab.
   The system displays all the input parameters of the selected BAPI.



CREATE CUBE: INPUT PARAMETERS

9. Enter data, if required for the input parameters. Input data which is mandatory to be entered is indicated by an asterisk.
10. Click **BACK** to go back to the **Create Cube** page.
11. Click **CANCEL** to go back to **Create Cube** page without saving any change.
12. Click **NEXT.**
    The system displays the **Create cube - Dimensions/measures selection** page.

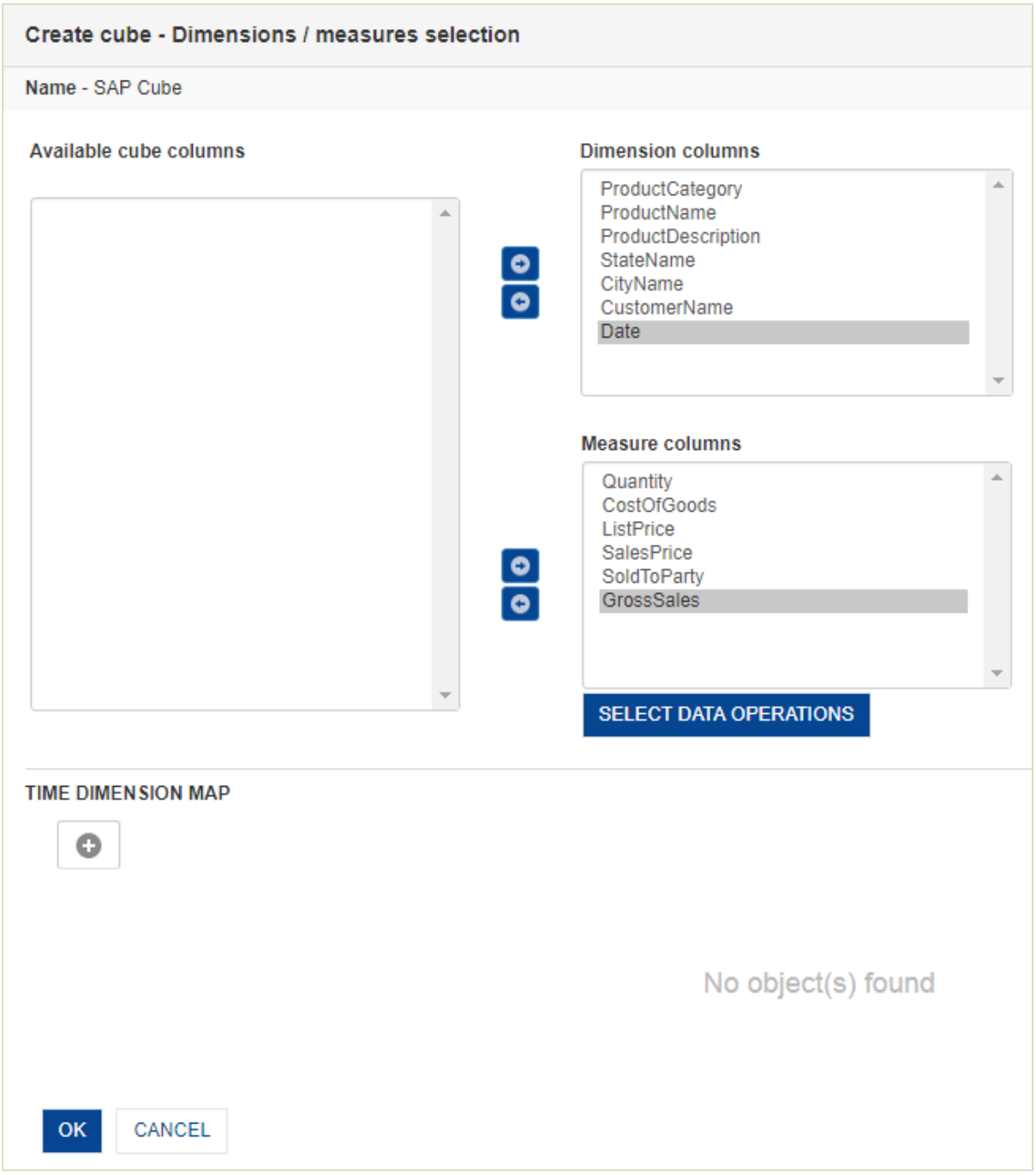
STEP 3

Procedure

1. Follow the **Procedure** of **STEP 2.**
2. From the **Available cube columns** list, you can drag and drop the columns to the **Dimension columns** list and **Measure columns** list. You can deselect the selected columns by moving the columns back from the **Dimension columns** and **Measure columns.**
3. Click on **SELECT DATA OPERATIONS** to select pre-defined data operations for selected measures.
4. Under the **TIME DIMENSION MAP** section,
    - Select the checkbox against a column name to add time dimension.
    - Click the **Add** icon.
      The system displays the **Add time dimension map** dialog box.
    - From the **Date columns** drop-down list, select a column name.
    - From the **Level** drop-down list, select level.
    - Select the **Use week of Year** checkbox if you want to use week of the year in time series hierarchy.
    - Select the **Use day of Year** checkbox if you want to use day of the year in time series hierarchy.
    - Select the checkbox against **Calendar Year** and **Financial Year** for generating time dimension for specified year.
    - From the **Starting month** drop-down list, select a month.
    - In the **Display name** field, you can change the display name of time dimension columns.
5. Click **CANCEL** to go back to the **Create cube** page without saving any change.
6. Click **OK** to create cube.

Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Dimension**
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Measure**

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Time Dimension**

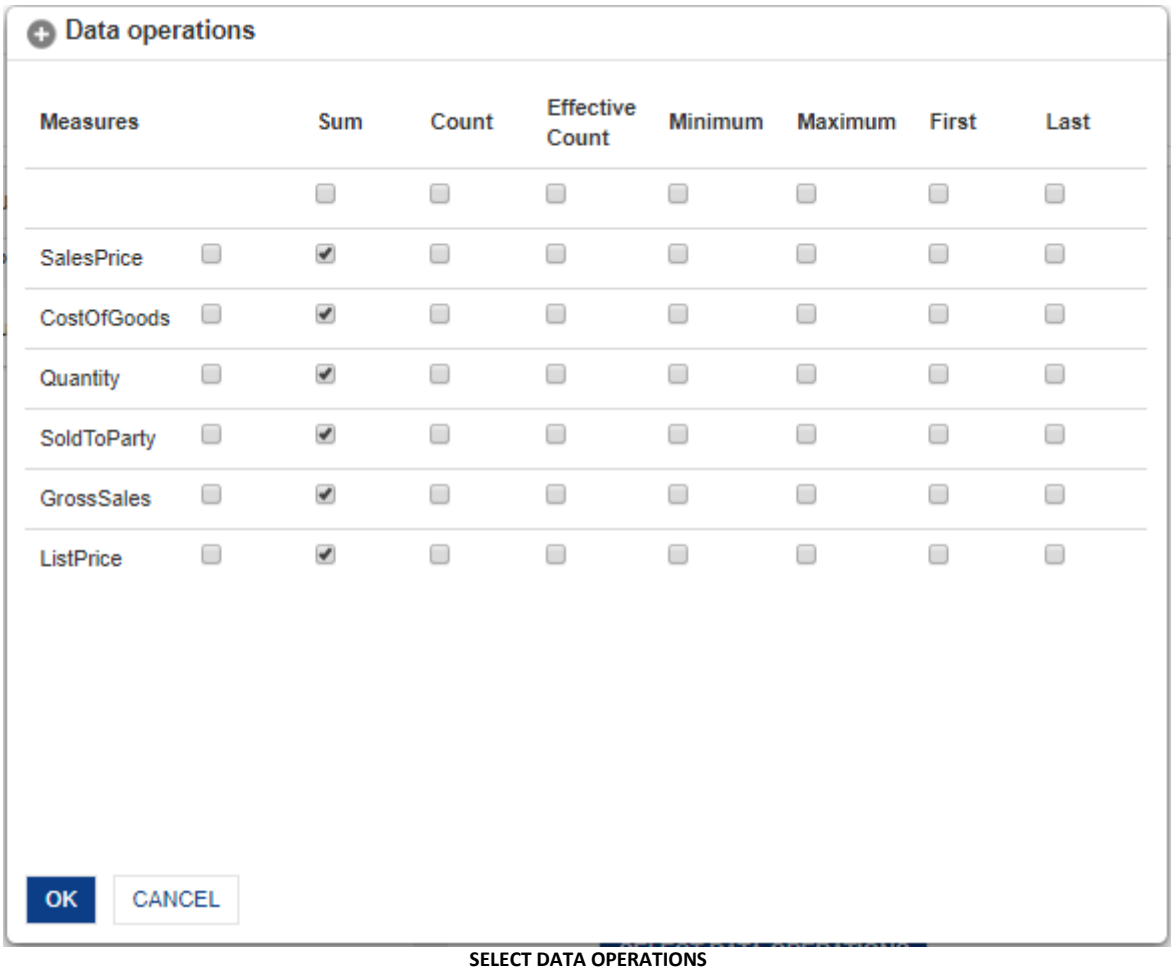


CREATE CUBE: SAP PROFILE: DIMENSION COLUMN SELECTION

To Select Data operations:

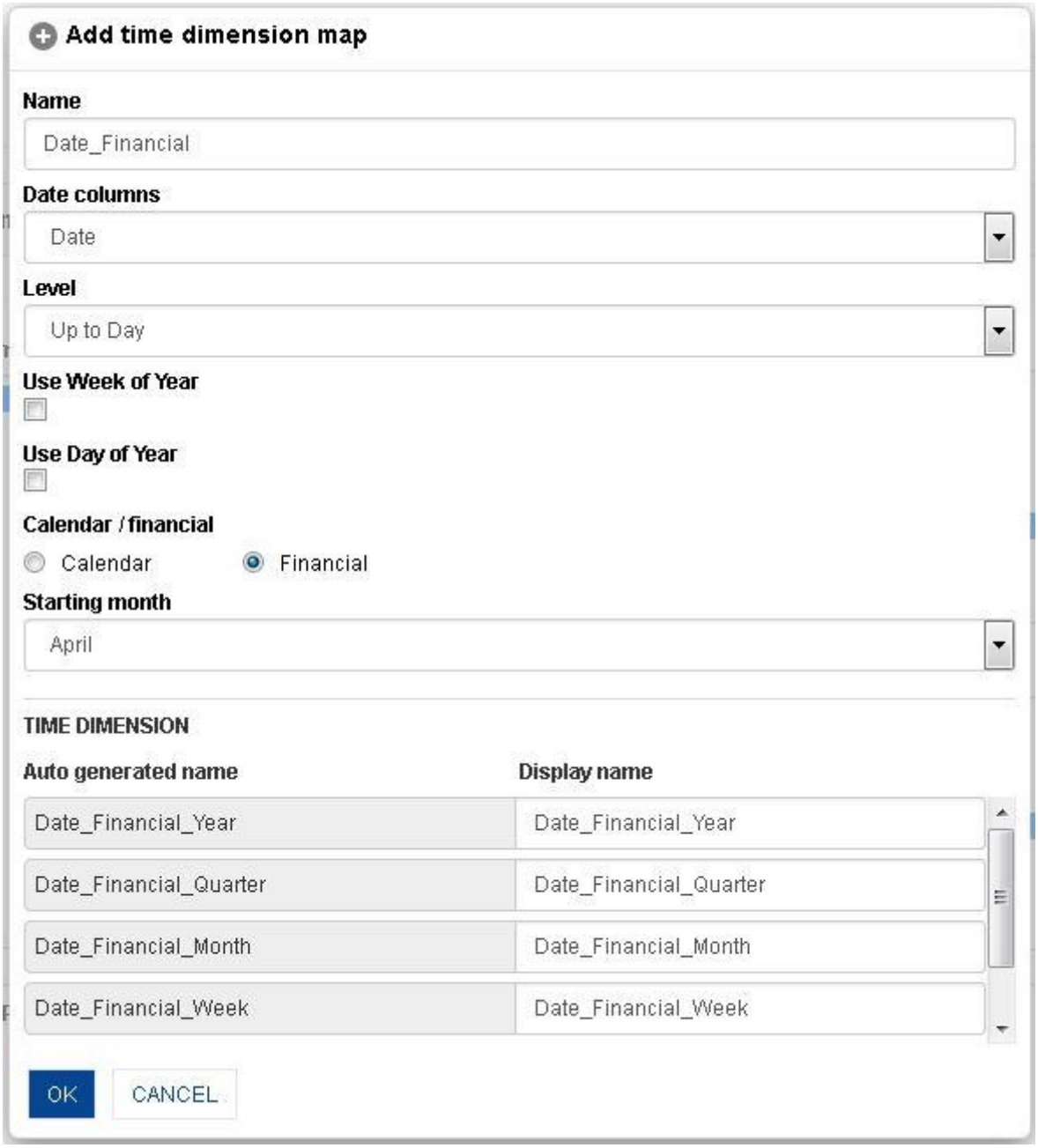
Procedure

1. Click on the **SELECT DATA OPERATIONS** button below the **Measures columns** section. The system displays the **Data operations dialog box.**

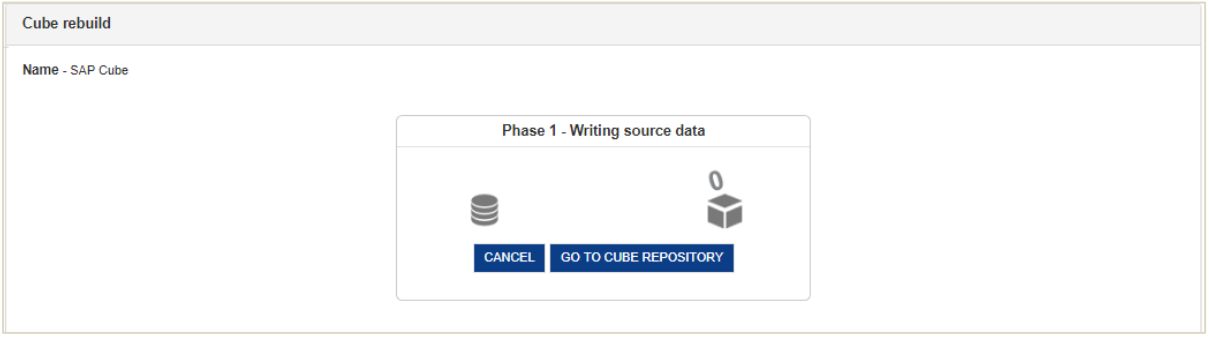


SELECT DATA OPERATIONS

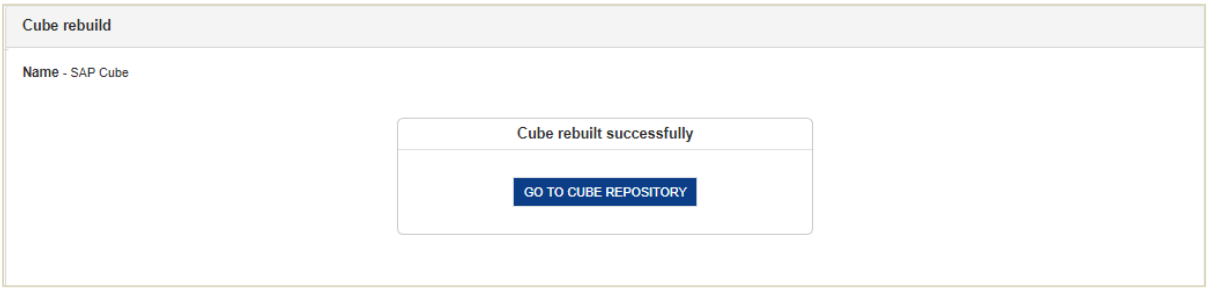
2. Click the checkboxes to select pre-defined data operations against each measure.
3. Click **OK** to confirm or click **Cancel**.



CREATE SAP CUBE: DIMENSION COLUMN SELECTION: ADD TIME DIMENSION



CREATE CUBE: CREATING CUBE



CREATE CUBE: CUBE CREATED

7.6 Configure Dimension Map

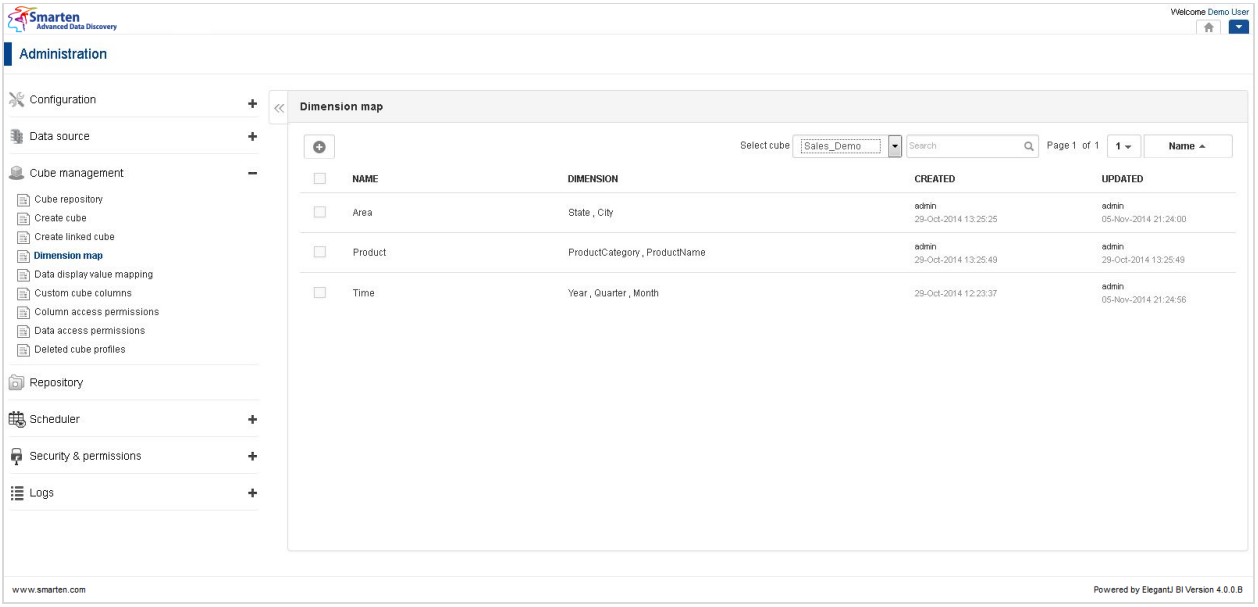
Dimension Hierarchy refers to hierarchical levels of data within dimension map. Dimension maps can be defined at Cube level and enable automatic drill down and drill up to users.
For example, Dimension Columns, such as **State** and **City,** can be specified together with common name as **Region**.

Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Dimension Hierarchy**

To add dimension map:

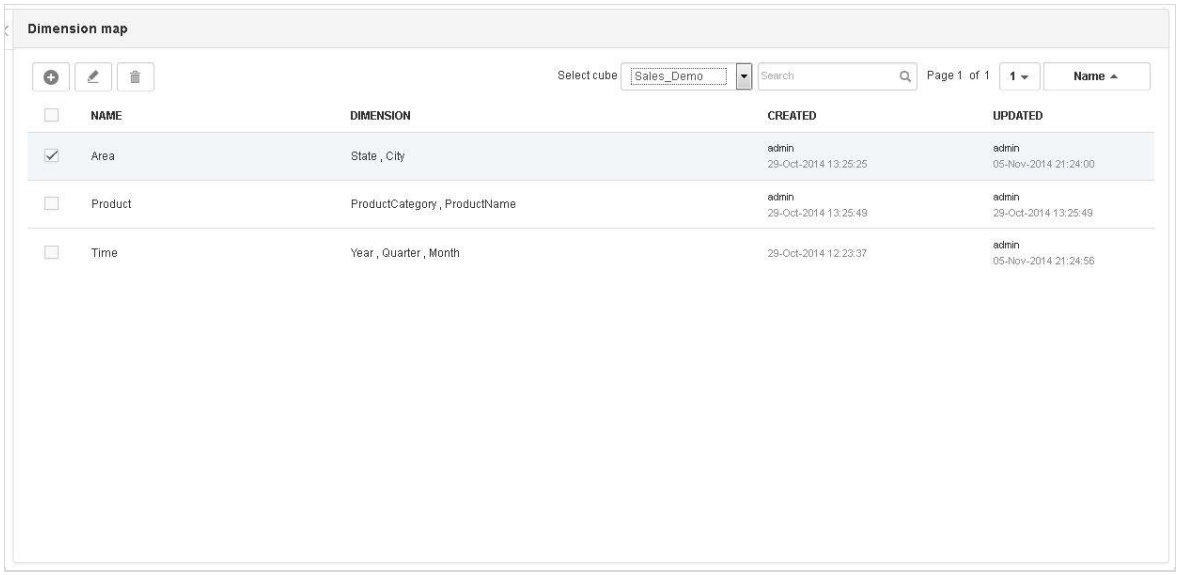
Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Dimension map.**
   The system displays the **Dimension map** page.
3. Click the **Add** icon.
   The system displays the **Add dimension map** dialog box.

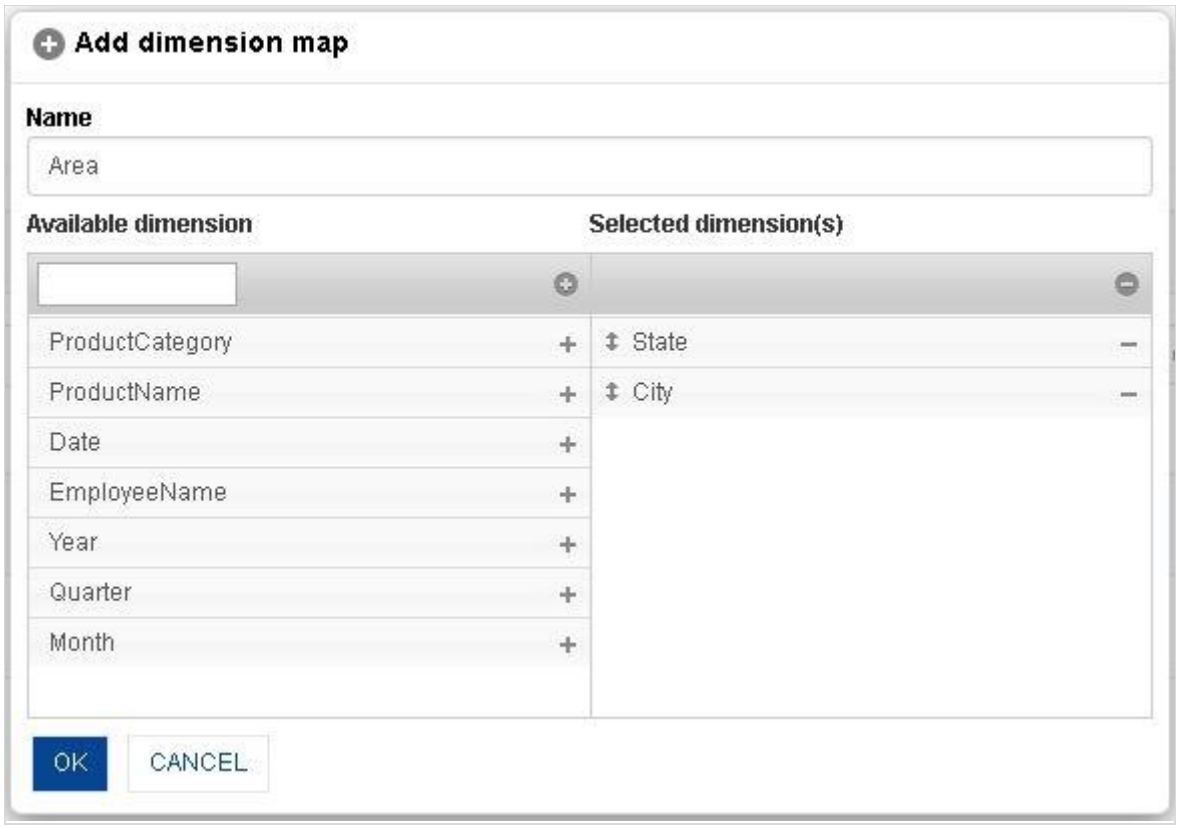


DIMENSION MAP LINK

The dimension map list shows all the available dimension map(s) of selected cube. From the dimension map list, you can view dimension name and dimension columns.



DIMENSION MAP LIST



ADD NEW DIMENSION MAP

4. In the **Name** field, enter a name.
5. From the **Available dimension** list, you can drag and drop the columns to the **Selected dimension(s)** list. You can deselect the selected columns by moving the columns back from the **Selected dimension(s).**
6. You can move the columns up and down by drag and drop within the **Selected column** lists to set the hierarchy level of columns.
7. Click **OK.**

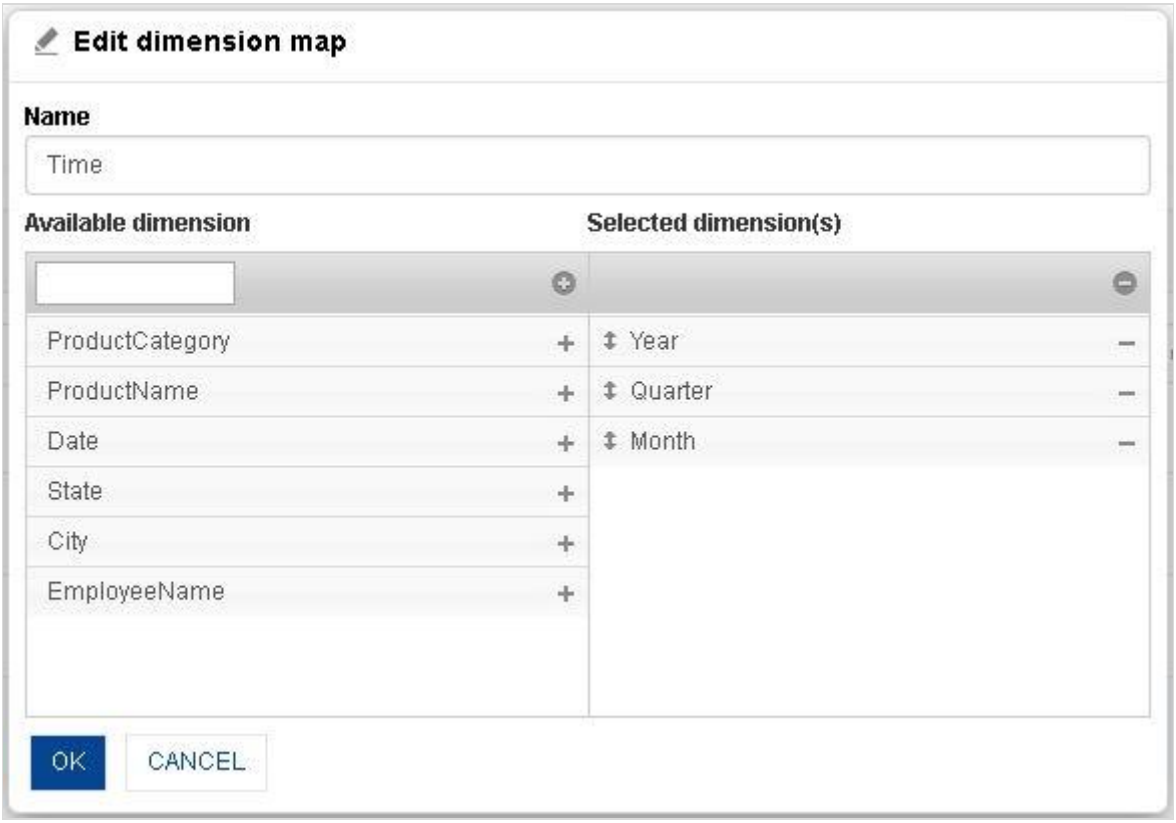
To edit dimension map:

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Dimension map.**

The system displays the **Dimension map** page.

3. Select the checkbox against a dimension map.
4. Click the **Edit** icon.
   The system displays the **Edit dimension map** dialog box.



EDIT DIMENSION MAP

5. In the **Name** field, edit the name.
6. From the **Available dimension** list, drag and drop the columns to the **Selected dimension(s)** list. You can deselect the selected columns by moving the columns back from the **Selected dimension(s).**
7. You can move the columns up and down by drag and drop within the **Selected column** lists to set the hierarchy level of columns.
8. Click **OK.**

7.7 Global Variables

You can create global variables for cubes using this option. These global variables will be available to users in global variable templates (under Manage global variables feature, as Public access), and users can readily use these templates in their crosstab, tabular, graph, GeoMap and other BI objects. Users can also use these global variables in cube query while rebuilding Cache or Real-Time cubes. User can also use the predefined system level global variable '$currentuser$' in Real-Time cube query.

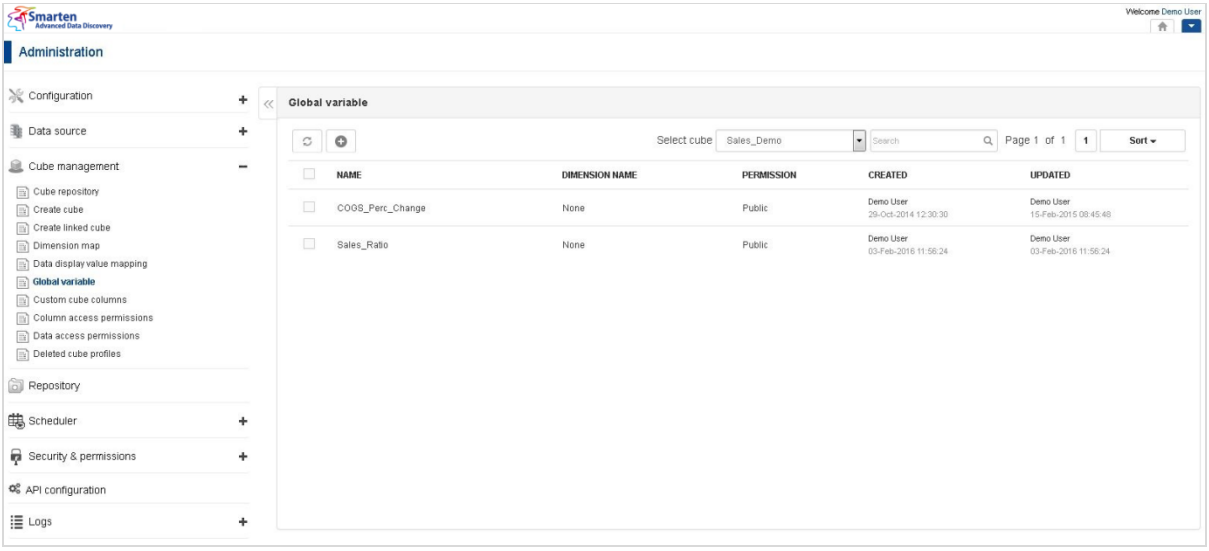
> Note:
> Global variables created for one cube cannot be accessed within objects created from another cube.

Reference: Concept Manual > **Analytic Functions > Global Variables**

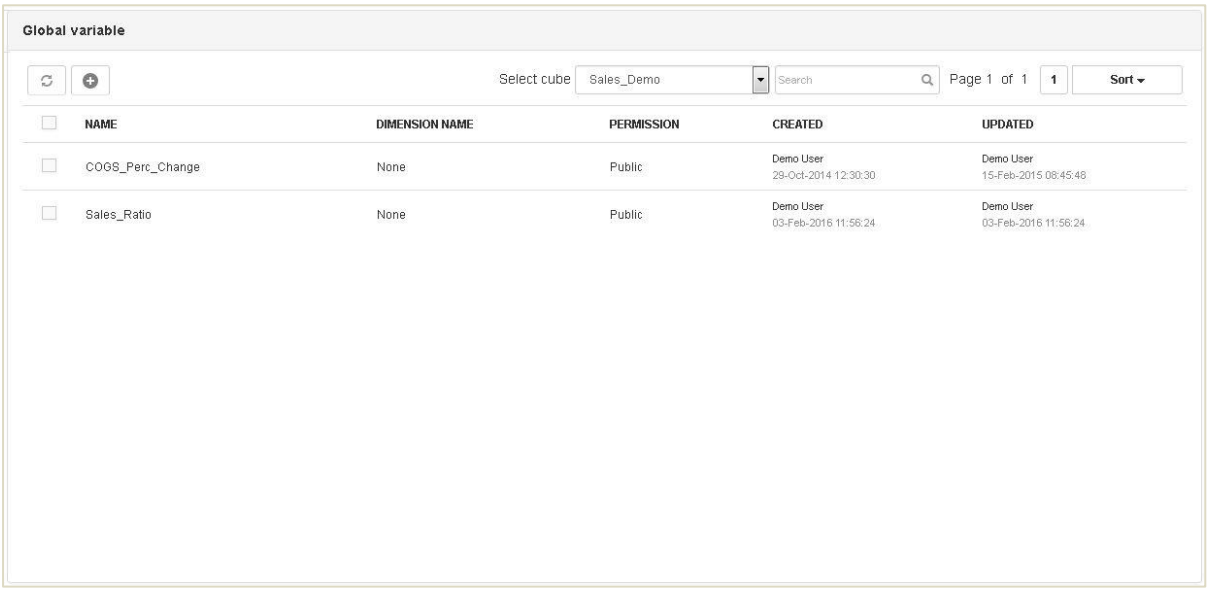
To add global variable with Single value option:

Procedure

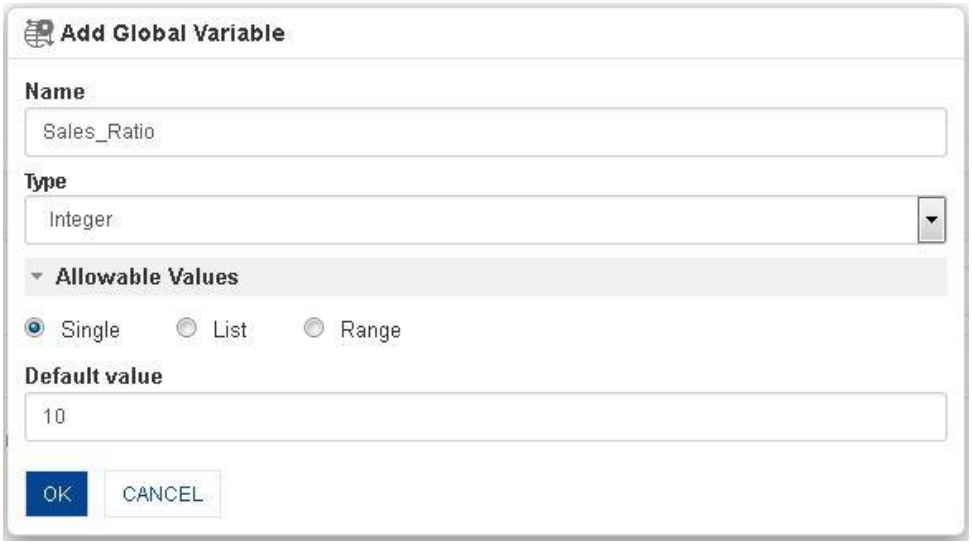
1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Global variable.**
   The system displays the **Global variable** page.
3. From the Select cube drop-down list, select a **Cube**
4. Click the **Add** icon.
   The system displays the **Add Global Variable** dialog box.



GLOBAL VARIABLE LINK



GLOBAL VARIABLE LIST



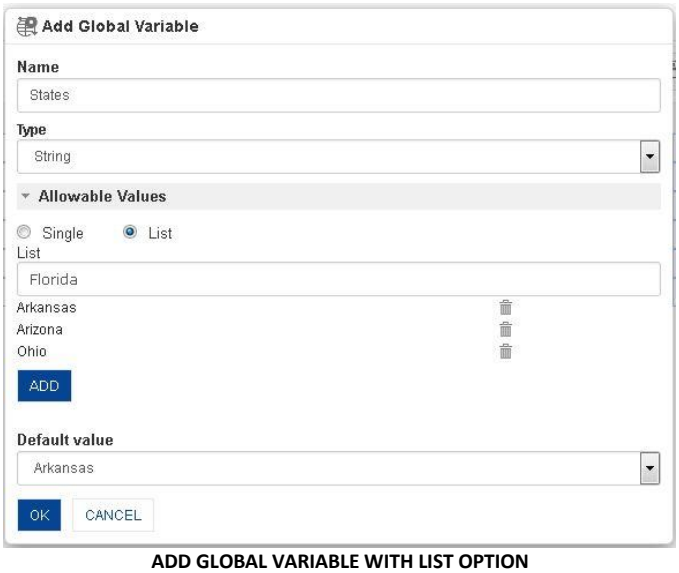
ADD GLOBAL VARIABLE WITH SINGLE VALUE OPTION

5. In the **Name** field, enter a name.
6. In the **Type** field, select the **Type** from the drop-down list.
7. In the **Allowable Values** field, select a Single radio button option.
8. In the **Default value** field, enter default value.
9. Click **OK.**

To add global variable with List value option:

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Global variable.**
   The system displays the **Global variable** page.
3. From the Select cube drop-down list, select a **Cube**
4. Click the **Add** icon.
   The system displays the **Add Global Variable** dialog box.



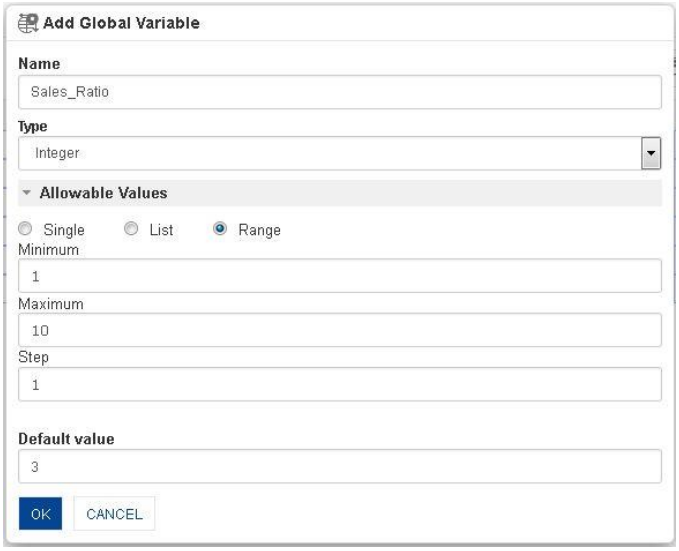
ADD GLOBAL VARIABLE WITH LIST OPTION

5. In the **Name** field, enter a name.
6. In the **Type** field, select the **Type** from the drop-down list.
7. In the **Allowable Values** field, select a **List** radio button option.
8. In the **Default value** field, enter default value.
9. Click **OK.**

To add global variable with Range value option:

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Global variable.**
   The system displays the **Global variable** page.
3. From the Select cube drop-down list, select a **Cube**
4. Click the **Add** icon.
   The system displays the **Add Global Variable** dialog box.



ADD GLOBAL VARIABLE WITH RANGE OPTION

5. In the **Name** field, enter a name.
6. In the **Type** field, select the **Type** from the drop-down list.
7. In the **Allowable Values** field, select a **Range** radio button option.
8. In the **Default value** field, enter default value.
9. Click **OK.**

To edit global variable:

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Global variable.**
   The system displays the **Global variable** page.
3. From the Select cube drop-down list, select a **Cube**
4. Select the checkbox against a Global variable.
5. Click the **Edit** icon.
   The system displays the **Edit Global Variable** dialog box.

EDIT GLOBAL VARIABLE

6. In the **Type** field, change the value.
7. In the **Allowable values** field, change the value.
8. In the **Default value**, change the value.
9. Click **OK.**

7.8 Data display value mapping

You can create data display value mapping for cubes using this option. This data display value mapping will be available to users in data display value templates (under Manage data display value feature, as Public access), and users can readily use these templates in their crosstab, tabular, graph, GeoMap and other BI objects.

> Note:
> Default data display value mapping templates for time series (as defined by administrator using Time dimension value mappings under Configuration) will be applied to all the new cubes created in the system and will be displayed in this page. You can edit these default templates as required.

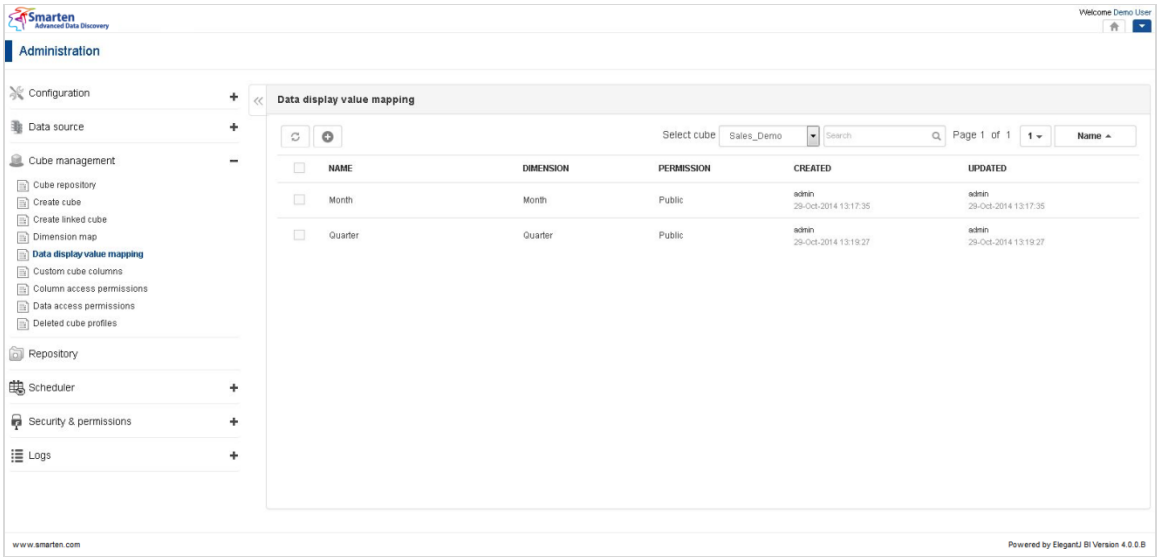
Reference: Concept Manual > **Analytic Functions > Data value / Display value mapping**

To add data display value mapping:

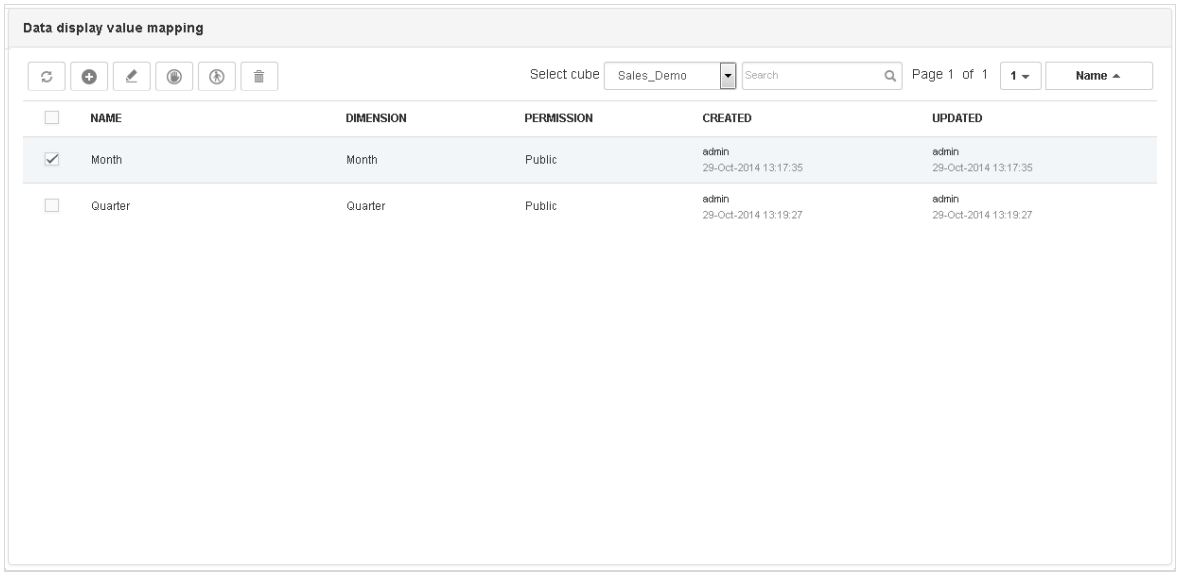
Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Data display value mapping.**
   The system displays the **Data display value mapping** page.

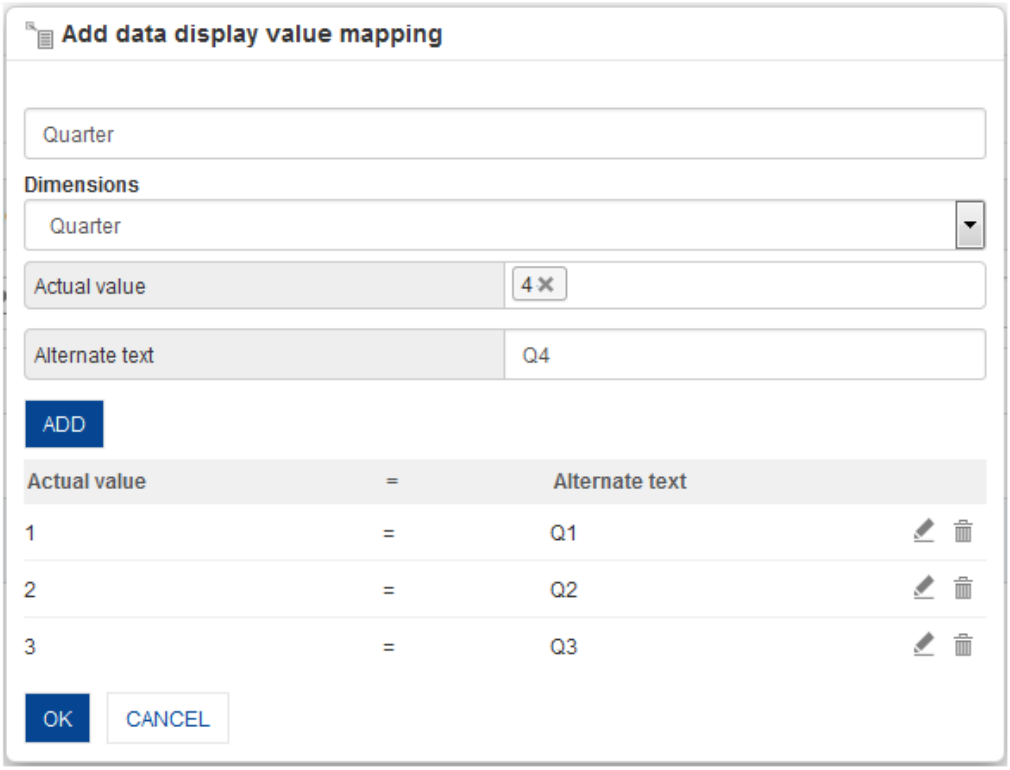
3. Click the **Add** icon.
   The system displays the **Add data display value mapping** dialog box.



DATA DISPLAY VALUE MAPPING LINK



DATA DISPLAY VALUE MAPPING LIST



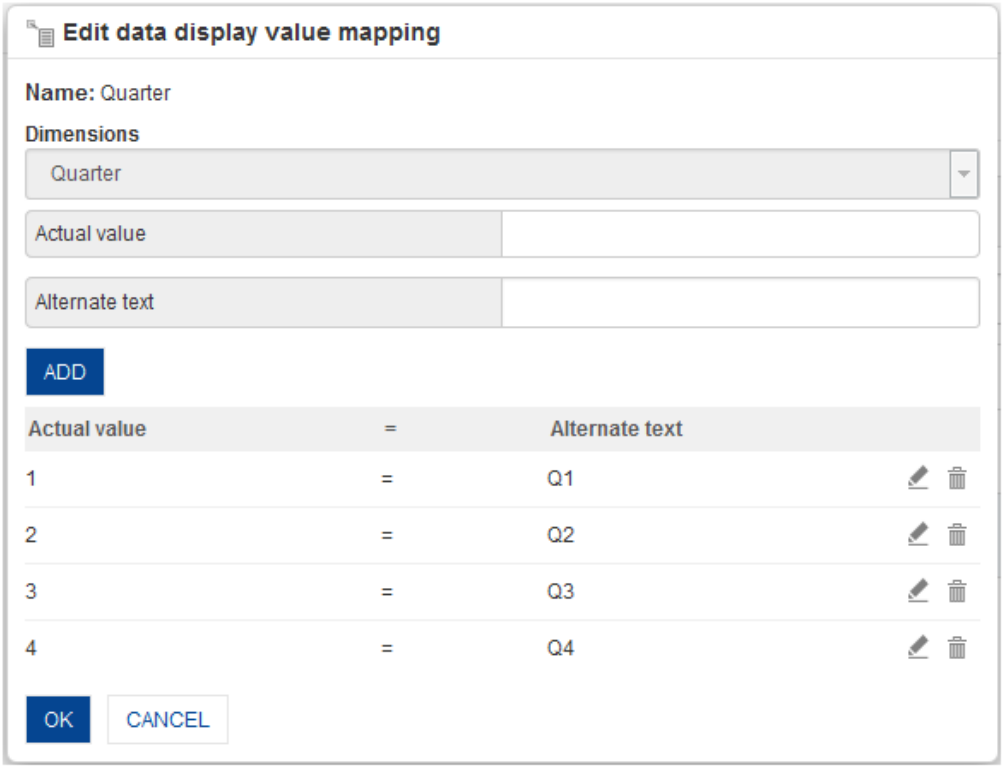
ADD DATA DISPLAY VALUE MAPPING

4. In the **Dimension** field, select the dimension from the drop-down list.
5. In the **Actual value** field, select a value.
6. In the **Alternate text** field, select a value.
7. Click **ADD.**
   The system displays the actual value against the alternate text with **Edit** and **Delete** icon.
   To edit the selected value, click the **Edit** icon.
   To delete the selected value, click the **Delete** icon.
8. Click **OK.**

To edit dimension map:

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Data display value mapping.**
   The system displays the **Data display value mapping** page.
3. Select the checkbox against a data display value.
4. Click the **Edit** icon.
   The system displays the **Edit Data display value mapping** dialog box.



EDIT DATA DISPLAY VALUE MAPPING

5. In the **Actual value** field, change the value.
6. In the **Alternate text** field, change the value.
7. Click **ADD.**
   The system displays the actual value against the alternate text with **Edit** and **Delete** icon.
   To edit the selected value, click the **Edit** icon.
   To delete the selected values, click the **Delete** icon.
8. Click **OK.**

7.9 Configure Custom Cube Dimensions and Measures

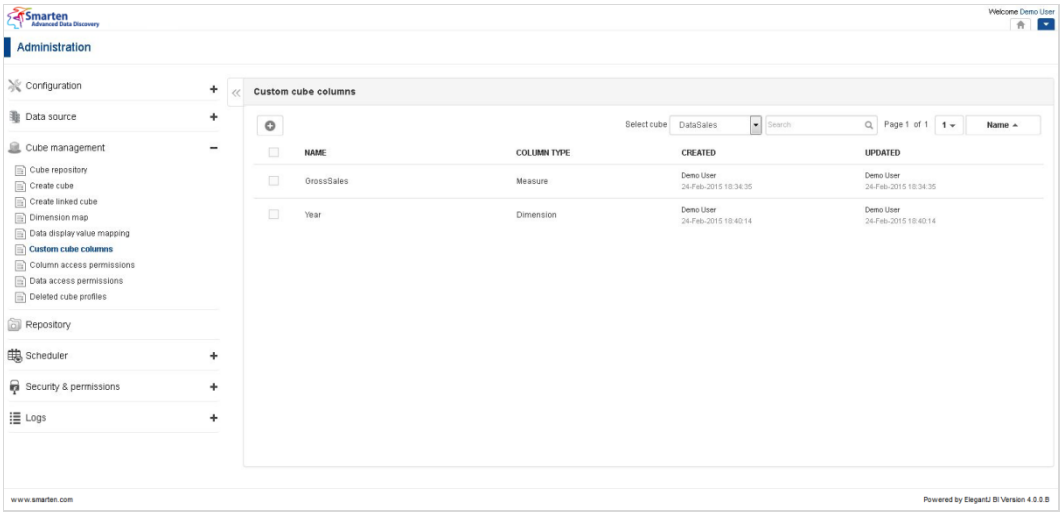
You can define custom cube dimensions and measures by defining formula on existing columns using this option.

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Custom Cube Columns**

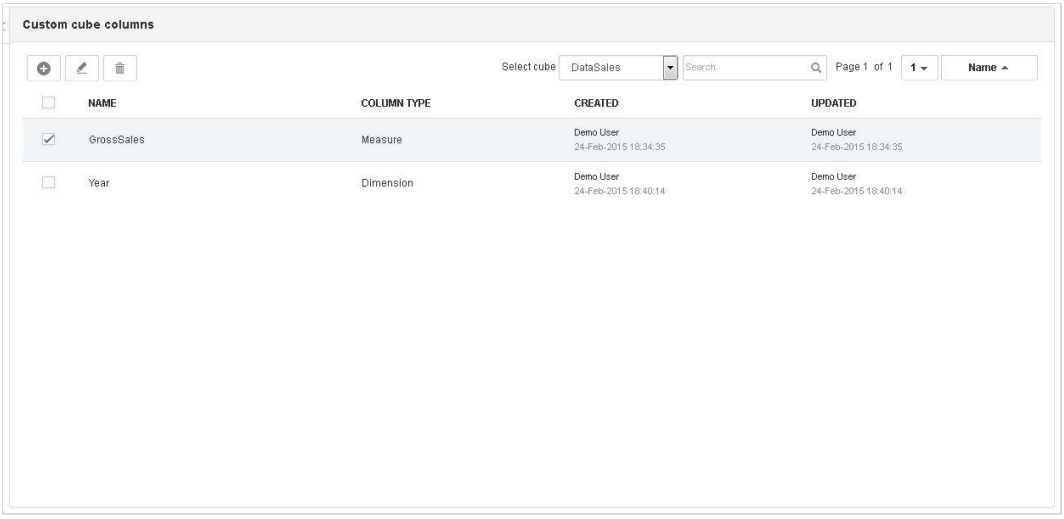
To add custom cube dimension/measure details:

Procedure

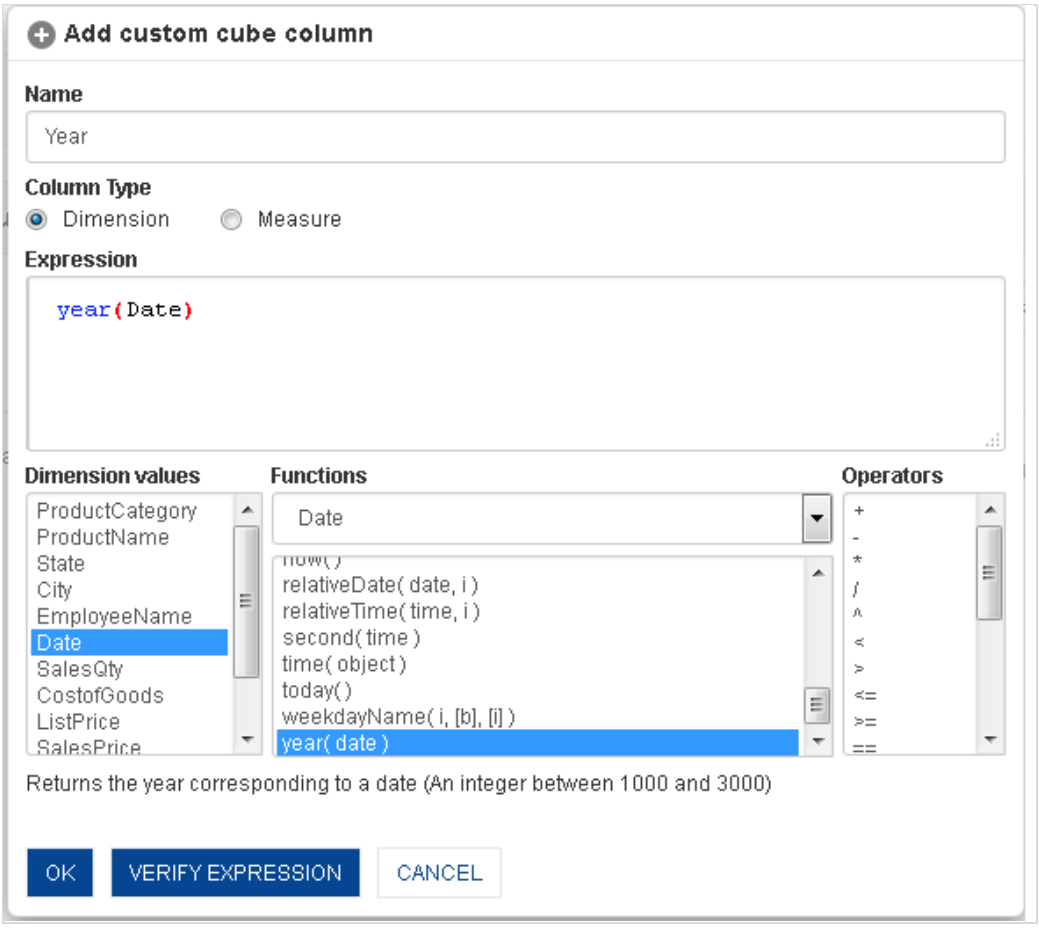
1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Custom cube columns.**
   The system displays the **Custom cube columns** page.
3. Click the **Add** icon.
   The system displays the **Add custom cube columns** dialog box.



CUSTOM CUBE COLUMNS LINK

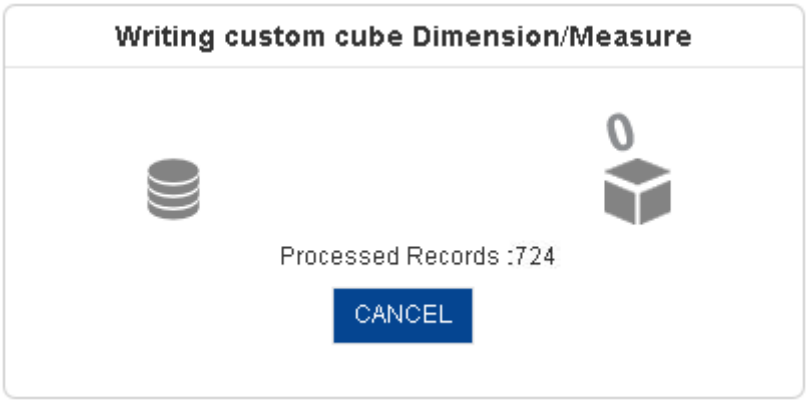


CUSTOM CUBE COLUMNS LIST

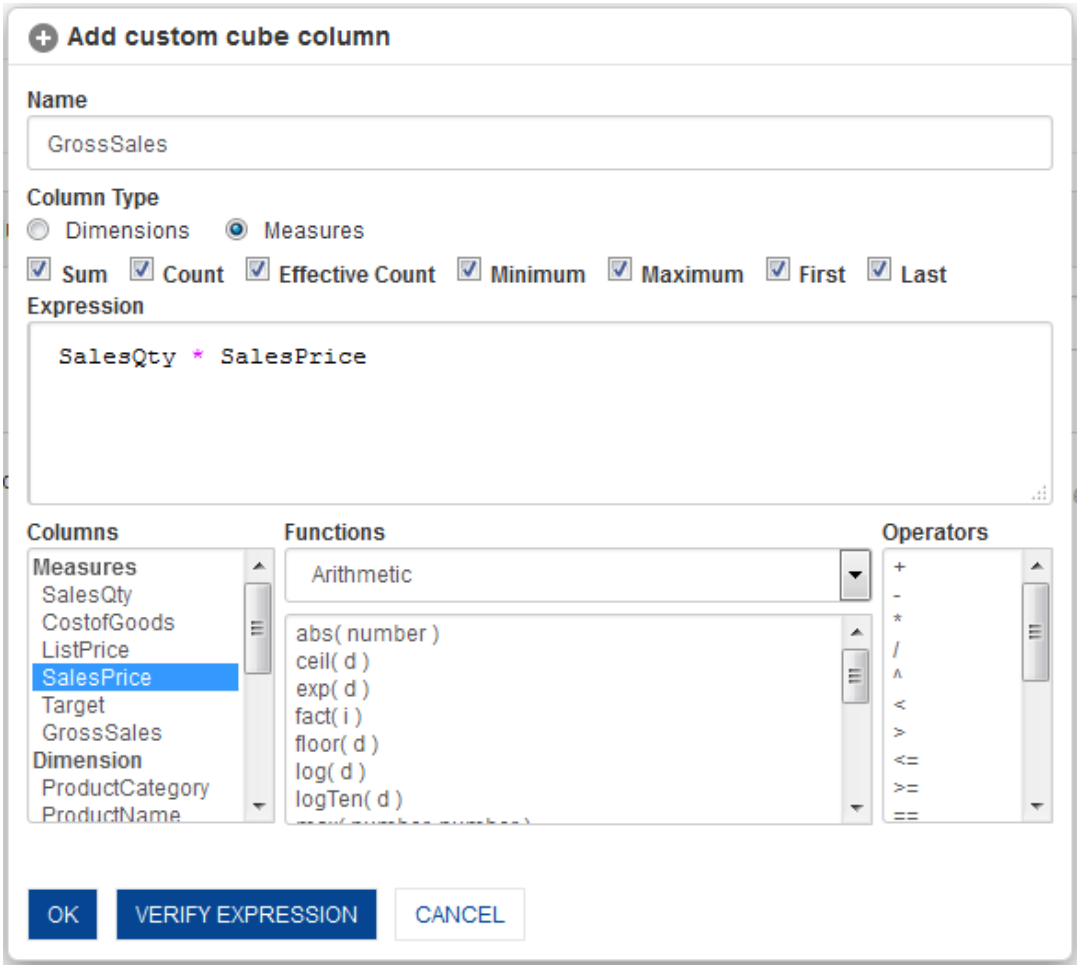


ADD CUSTOM CUBE DIMENSION

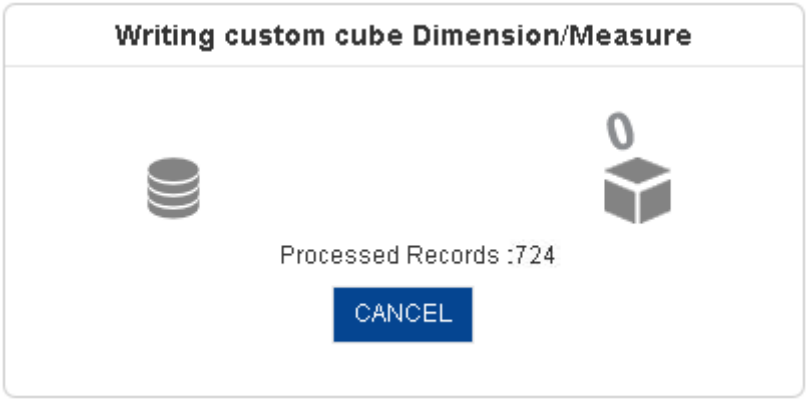
4. In the **Name** field, enter a name.
5. In **Column type**, select either **Dimension** or **Measure.**
6. In the **Expression box**, enter the expression.
7. You can create or edit expression by direct edit in the **Expression** box or by selecting values from Dimension values, Functions, and Operators boxes.
8. Click **VERIFY EXPRESSION.**
9. Click **OK.**



ADD NEW DIMENSION: CREATING CUSTOM CUBE DIMENSION



ADD CUSTOM CUBE MEASURE

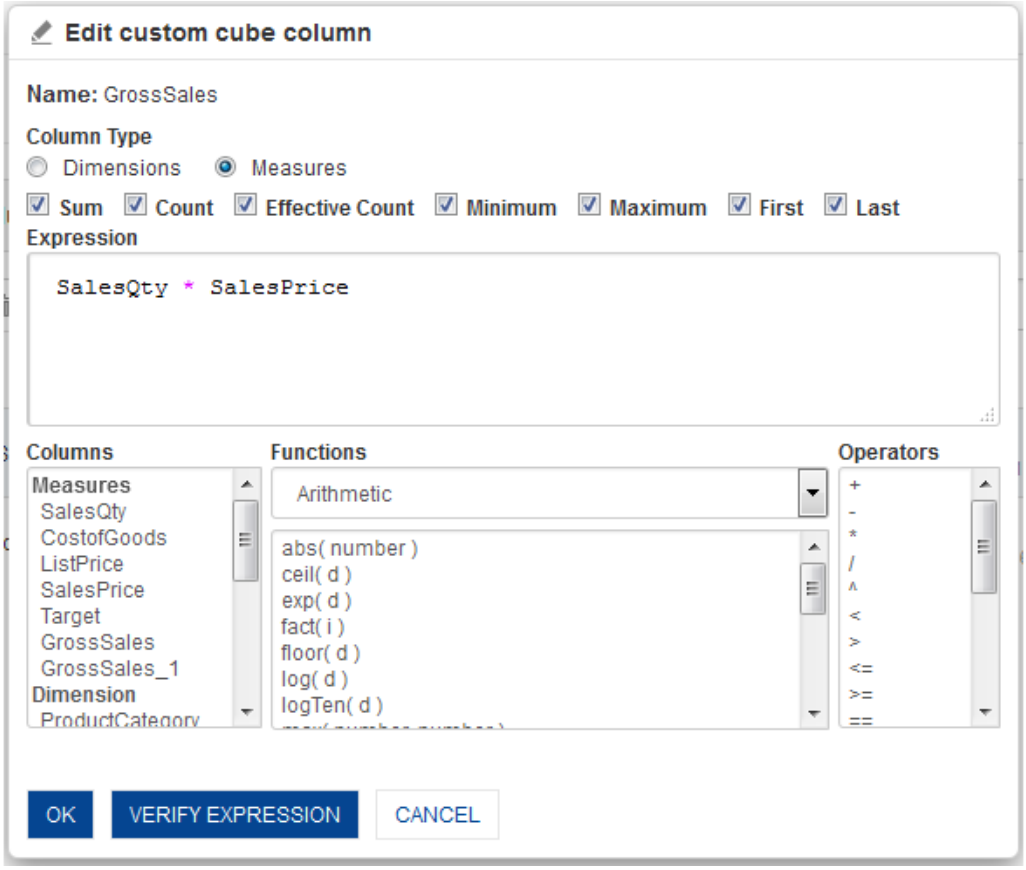


ADD NEW MEASURE: CREATING CUSTOM CUBE MEASURE

To edit custom cube dimension/measure details:

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Custom cube columns.**
   The system displays the **Custom cube columns** page.
3. Select the checkbox against a custom cube column.
4. Click the **Edit** icon.
   The system displays the **Edit custom cube column** dialog box.



EDIT CUSTOM CUBE COLUMN

5. In **Column type**, select either **Dimension** or **Measure.**
6. In the **Expression box**, edit the expression.
7. You can create or edit expression by direct edit in the **Expression** box or by selecting values from Dimension values, Functions, and Operators boxes.
8. Click **VERIFY EXPRESSION.**
9. Click **OK.**

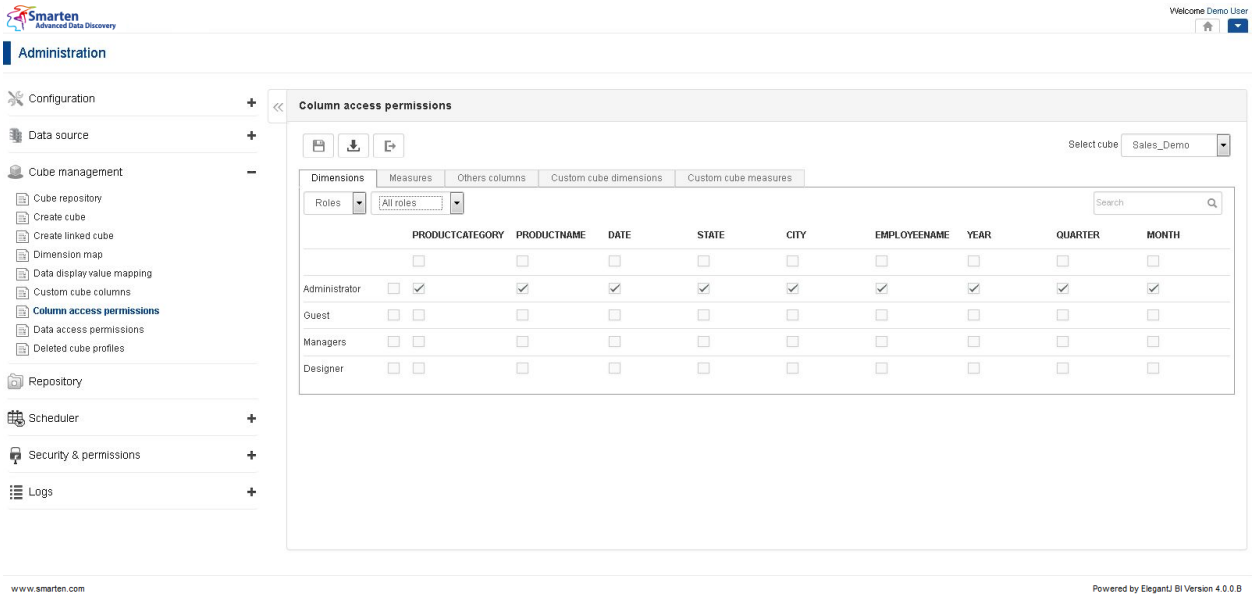
7.10 Column Access Permissions

You can grant or restrict access to cube columns using this option.

To configure column access permissions:

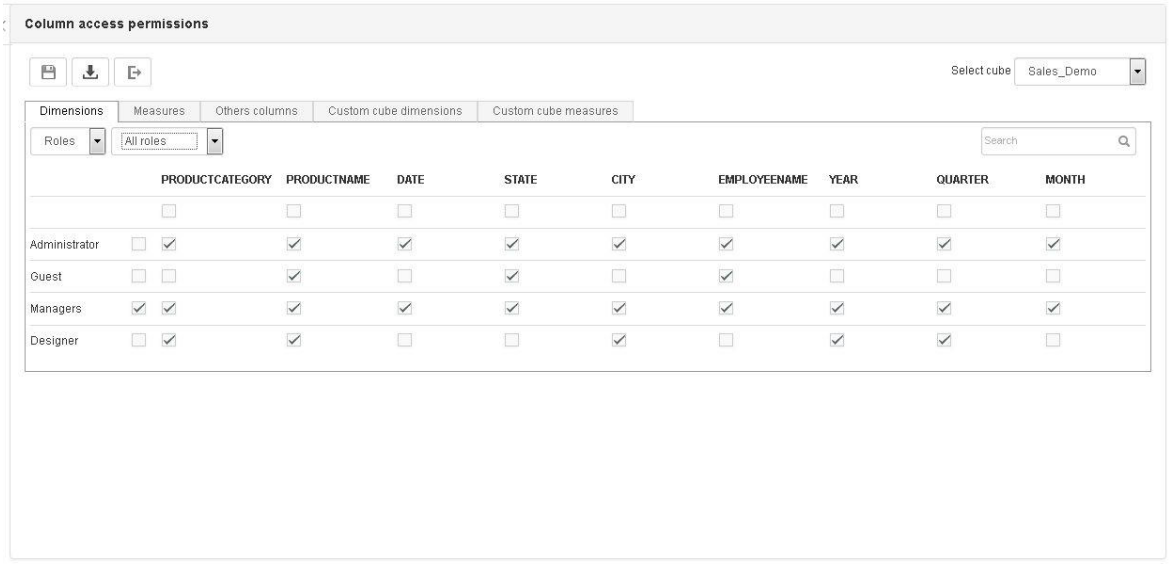
Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Column access permissions.**
   The system displays the **Column access permissions** page.

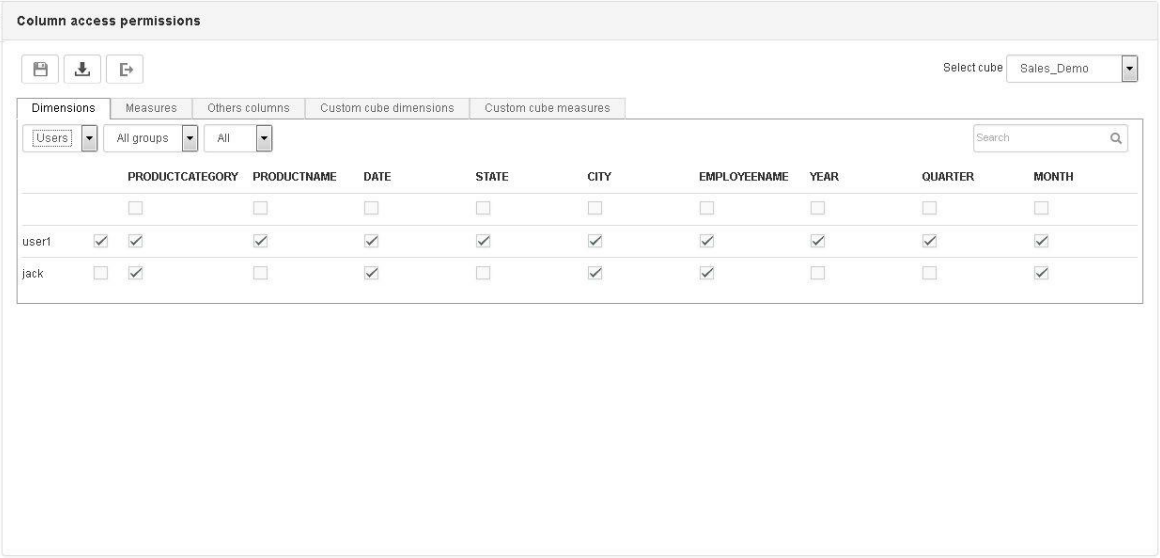


COLUMN ACCESS PERMISSIONS LINK

3. From the **Select Cube** drop-down list, select a cube.
   The system displays all the cube columns in different tabs (**Dimensions**, **Measures**, **Others columns**, **Custom Cube Dimensions,** and **Custom Cube Measures**).
4. Click a specific tab from **Dimensions**, **Measures**, **Others columns**, **Custom Cube Dimensions,** and **Custom Cube Measures** to assign column access permission.
5. Select **Roles** or **Users** option to manage access rights by roles or users. You can select role from **Roles** drop-down list and users by user groups and A–Z drop-down list.
6. Check/Uncheck the checkbox against **Role names** and / or **User names** to set the column access permission.



COLUMN ACCESS PERMISSIONS—ROLES



COLUMN ACCESS PERMISSIONS—USERS

7. Click the **Save** icon to save the changes.
8. Click the **Import icon** to import column access permissions from file.
9. The system displays the **Import column access permissions from file** dialog box.

IMPORT COLUMN ACCESS PERMISSIONS FROM FILE

10. Click **BROWSE** to select a file.
11. Click **OK** to import the column access permissions or click **CANCEL** to go back to **Column Access Permissions** dialog box.

> Note:
> Sample Import formats are available in <Smarten Installation Dir>/Docs/Sample files.

Reference: **Concept Manual > Access Rights & Security > Column-based Access Rights (Column Access Permission)**

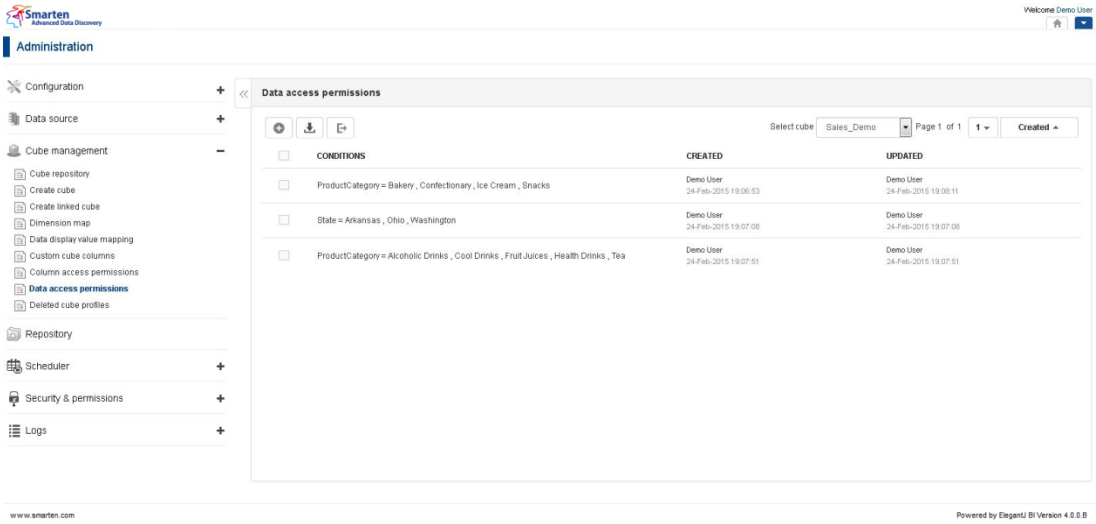
7.11 Column Data Access Permissions

You can manage access rights at column value level, for example, City = London or New York, using this option.

To add data access permissions:

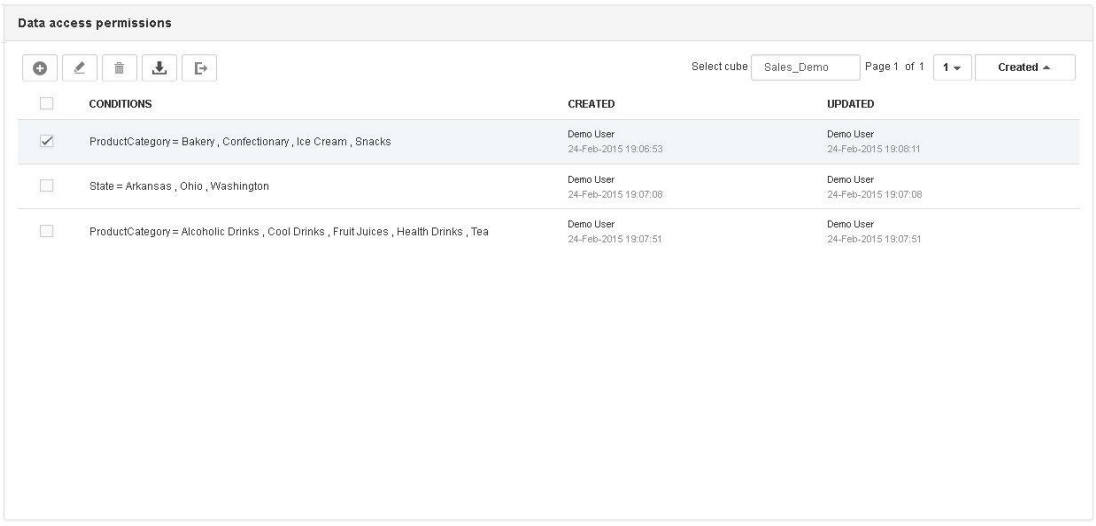
Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Data access permissions.**
   The system displays the **Data access permissions** page.

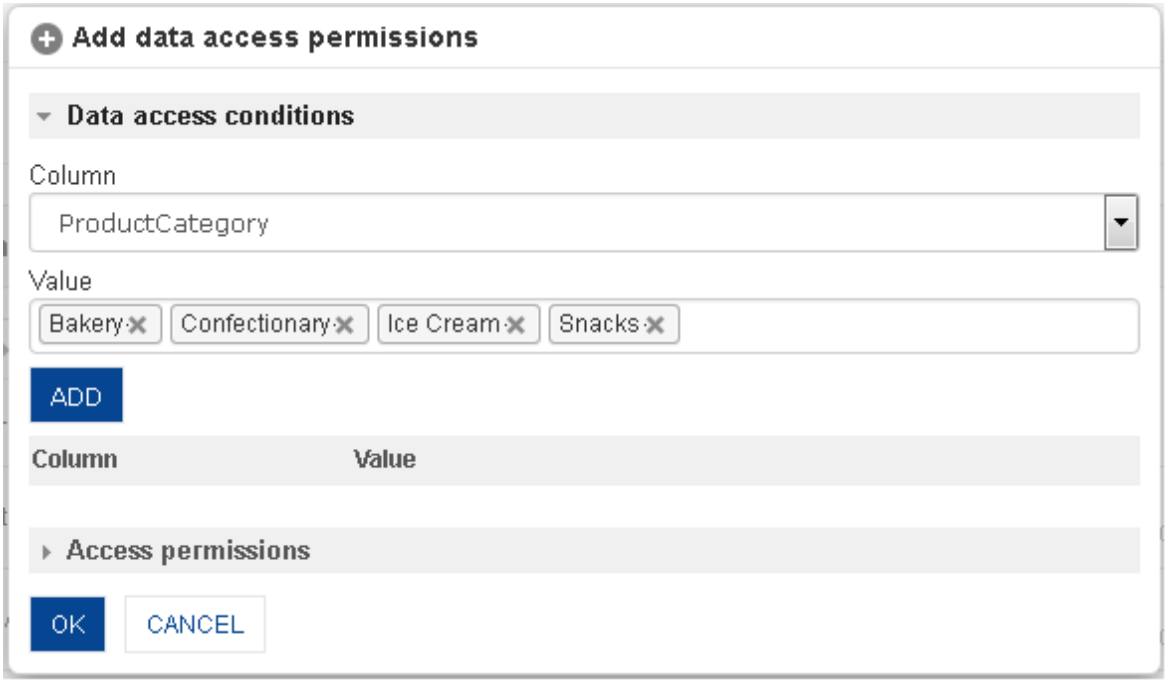


COLUMN DATA ACCESS PERMISSIONS LINK

3. From the **Select cube** drop-down list, select a cube.
   The system displays a list of column data access conditions.
4. Click the **Add** icon to add new data access permissions.
   The system displays the **Add data access permissions** dialog box.

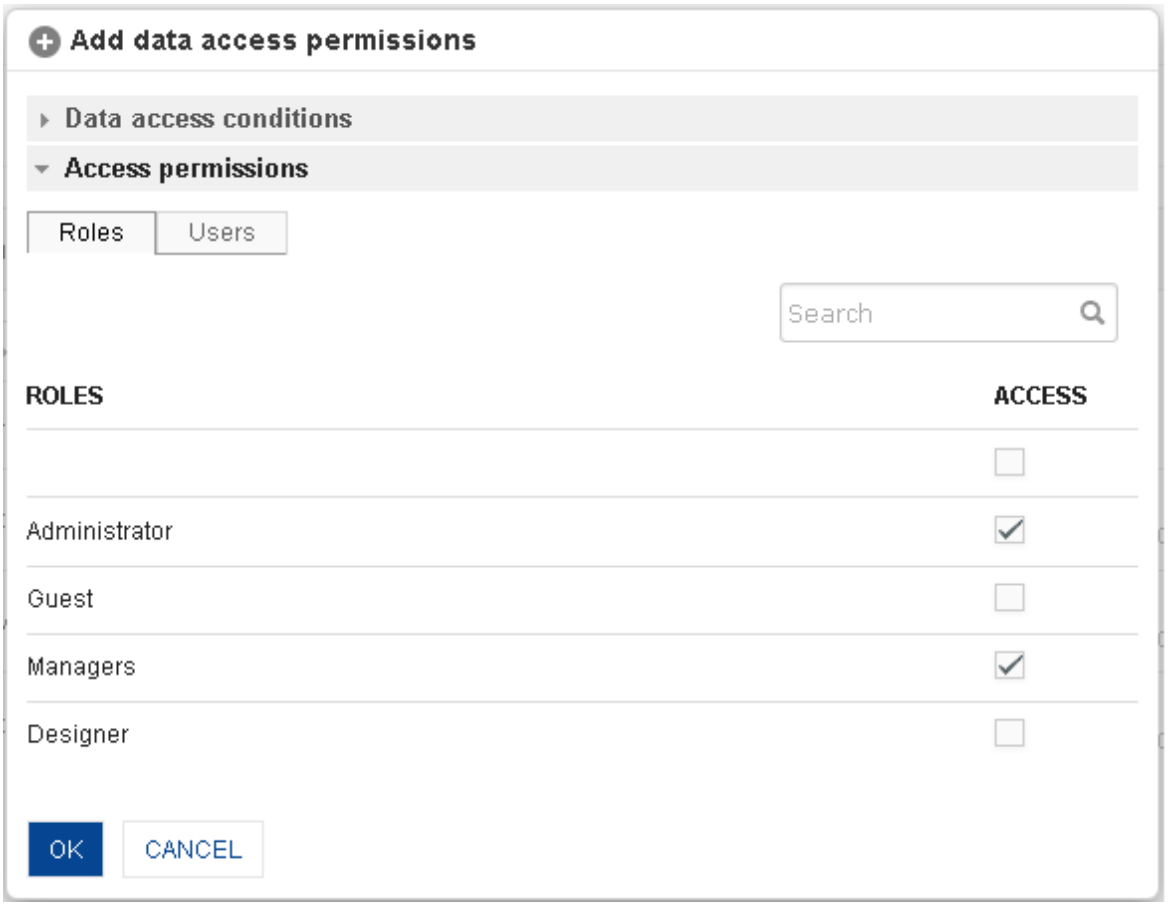


DATA ACCESS PERMISSIONS LIST



ADD DATA ACCESS PERMISSIONS—ADD CONDITIONS

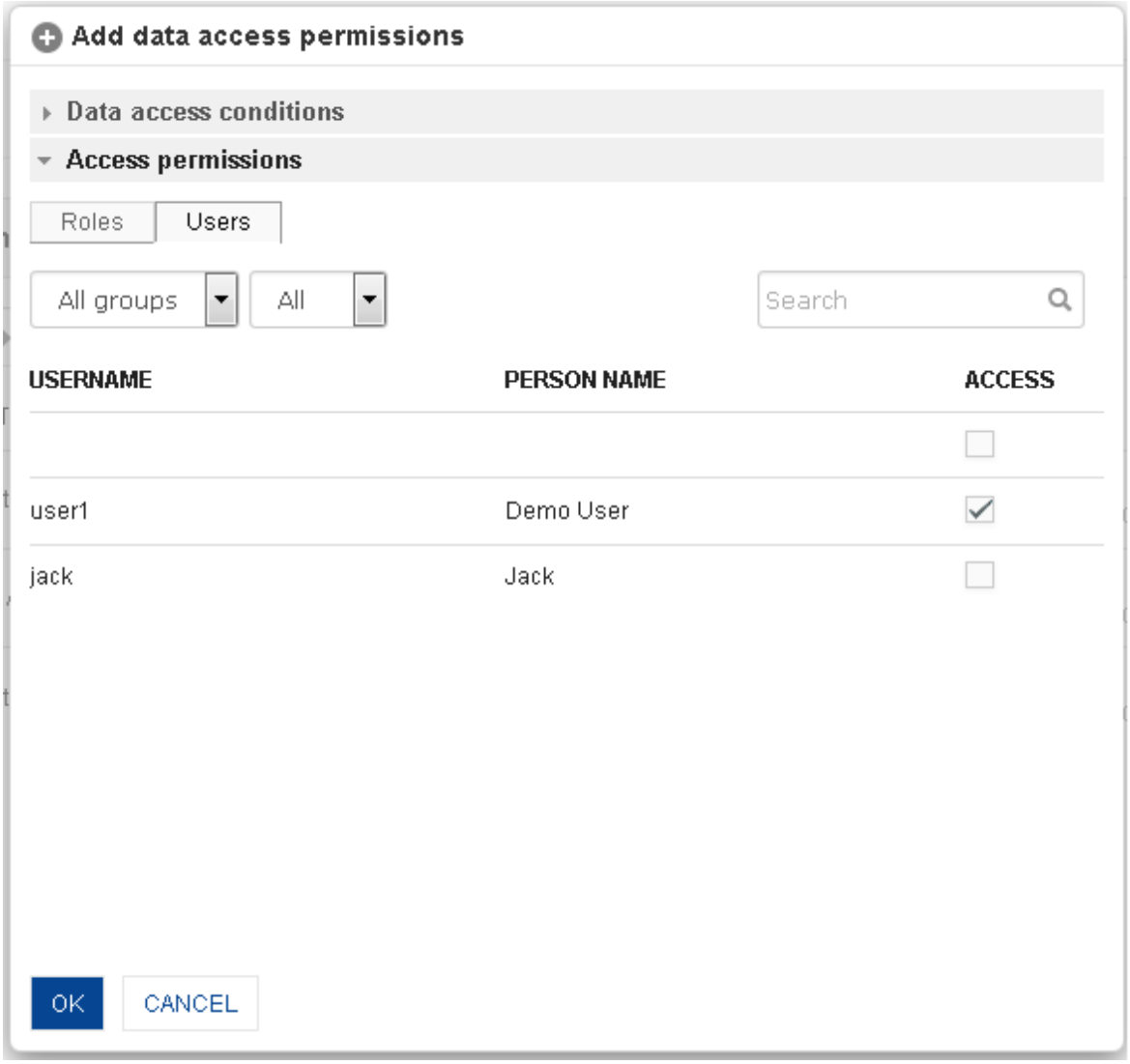
5. In the **Data access conditions** section, select a column and a value.
6. Click **ADD.** You can add multiple conditions and delete them by clicking the **Delete** icon.



ADD DATA ACCESS PERMISSIONS—SET PERMISSIONS—ROLES

7. In the **Access permissions** section, click on the **Roles** and **Users** tab to set the data access permission.
8. Select **Roles** or **Users** option to manage access rights by roles or users. You can select roles by selecting the checkbox against role and users by user groups and A–Z drop-down list.

9. Check/Uncheck the checkbox against **Role names** and / or **User names** to set the data access permission.



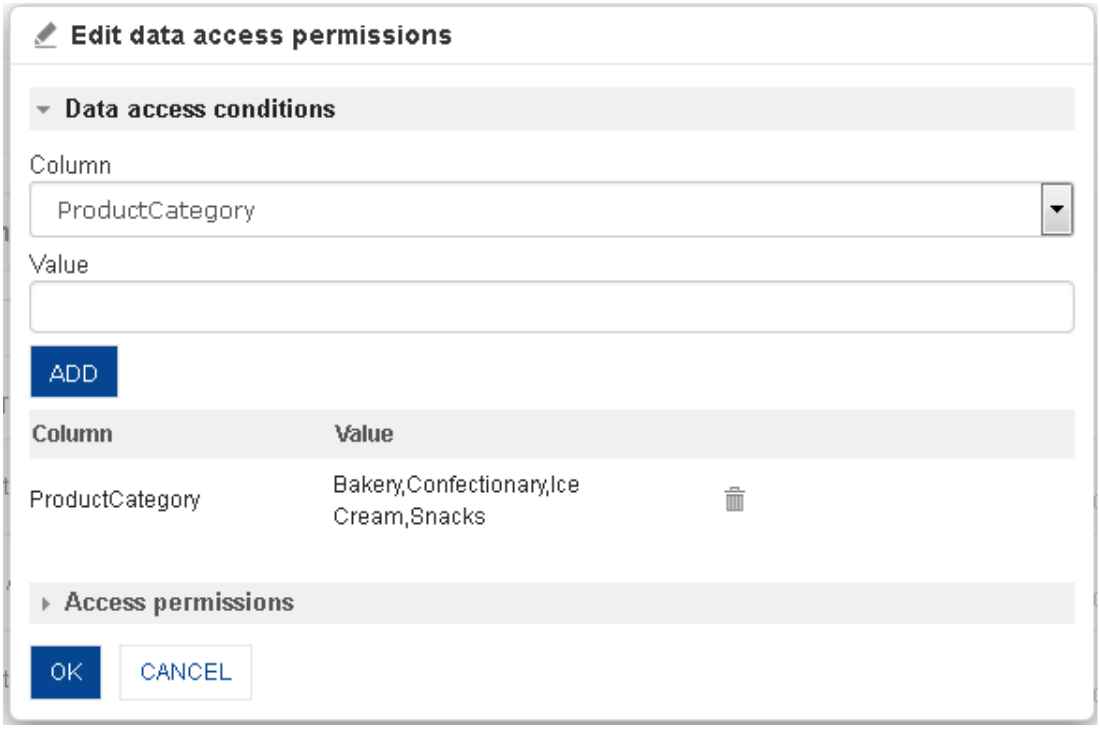
ADD DATA ACCESS PERMISSIONS—SET PERMISSIONS—USERS

10. Click **OK.**

To edit data access permissions:

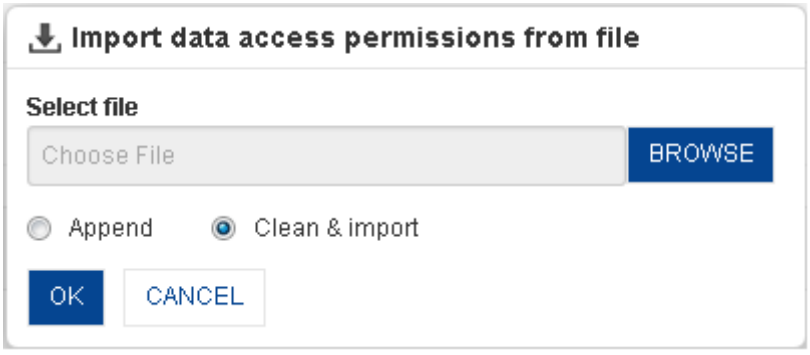
Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Data access permissions.**
   The system displays the **Data access permissions** page.
3. Select the checkbox against a specific condition, and click the **Edit** icon to edit the condition.
   The system displays the **Edit data access permissions** dialog box.



EDIT DATA ACCESS PERMISSIONS

4. In the **Data access conditions** section, change the column and value.
5. Click **ADD.**
   The system displays the selected column and value. You can delete the column and value by clicking the **Delete** icon.
6. In the **Access permissions** section, click the **Roles** and **Users** tab to set the data access permission.
7. Select **Roles** or **Users** option to manage access rights by roles or users. You can select roles by selecting the checkbox against role and users by user groups and A–Z drop-down list.
8. Check/Uncheck the checkbox against **Role names** and / or **User names** to set data access permission.
9. Click **OK.**
10. Click the **Import icon** to import data access permissions from file.
11. The system displays the **Import data access permissions from file** dialog box.



IMPORT DATA ACCESS PERMISSIONS FROM FILE

12. Click **BROWSE** to select a file.
13. Click **OK** to import the data access permissions, or click **CANCEL** to go back to **Data Access Permissions** dialog box.

> Note:
> Sample Import formats are available in <Smarten Installation Dir>/Docs/Sample files.

Reference: **Concept Manual > Access Rights & Security > Dimension Value Based Access Rights (Data Access Permissions)**

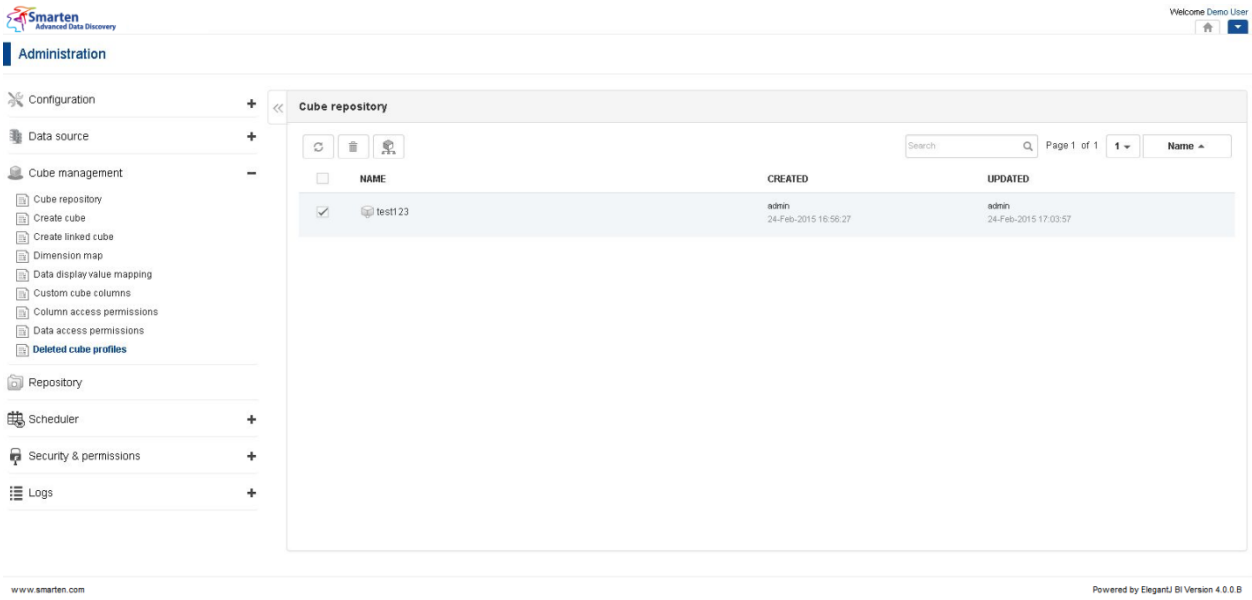
7.12 Deleted cube profiles

You can view the list of all cube profiles deleted using Delete Cube feature from Cube Repository. Deleting cube from Cube Repository deletes cube data but does not delete cube profile permanently from the system. The cube profile is retained in the system for future reference. You can permanently delete these cube profiles using this option.

To delete cube profile:

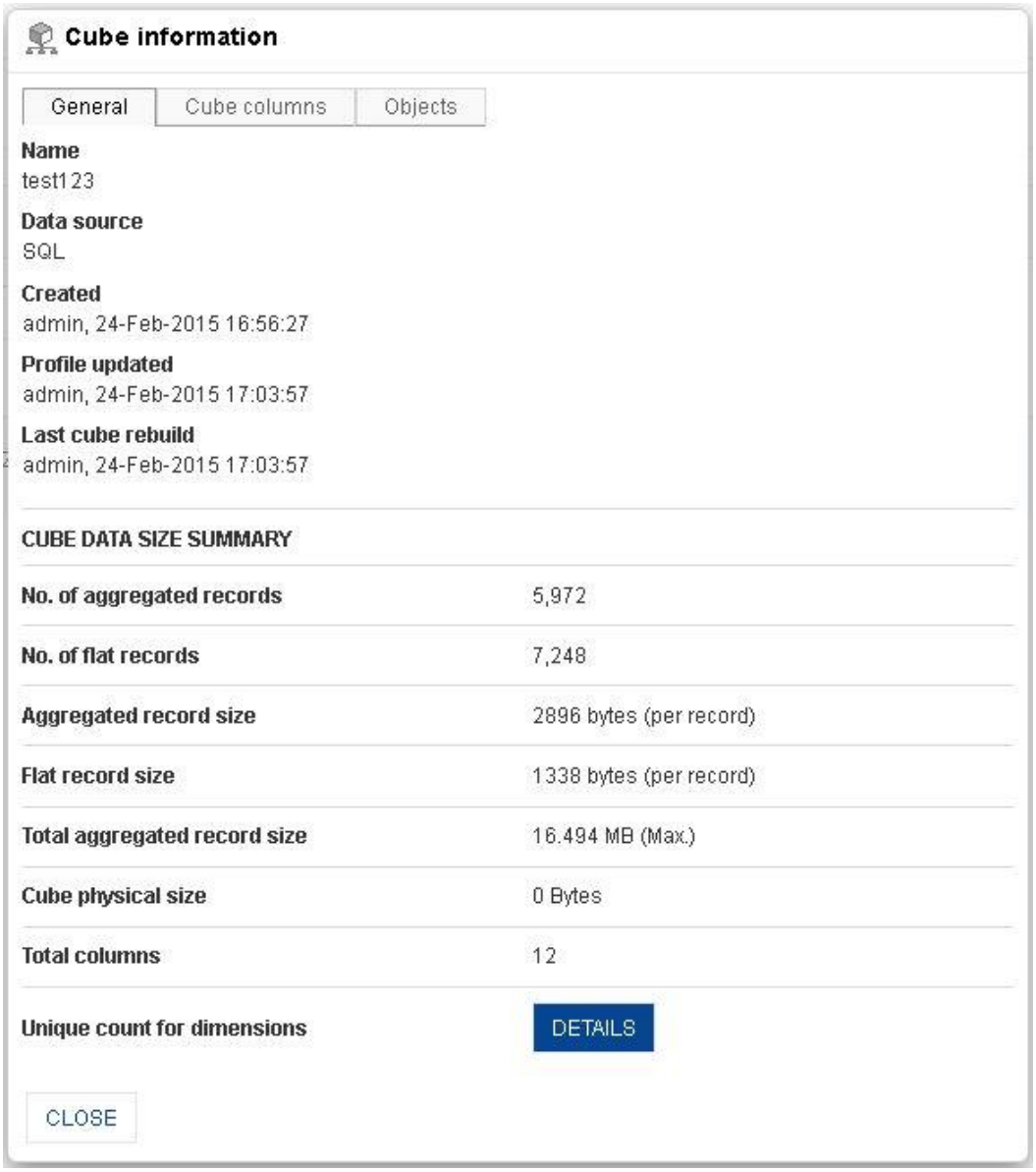
Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **Deleted cube profiles.**
   The system displays the **Cube repository** page displaying the deleted cubes.



DELETED CUBE PROFILE LIST

3. Select the checkbox against a cube to view its details.
4. Click **Cube Info** to view cube information.
   The system displays the **Cube information** dialog box. You can view General, Cube columns, and Objects information.
5. Click **CLOSE** to close the dialog box.
6. Click the **Delete** icon to permanently delete a cube profile from the system.



DELETED CUBE PROFILE

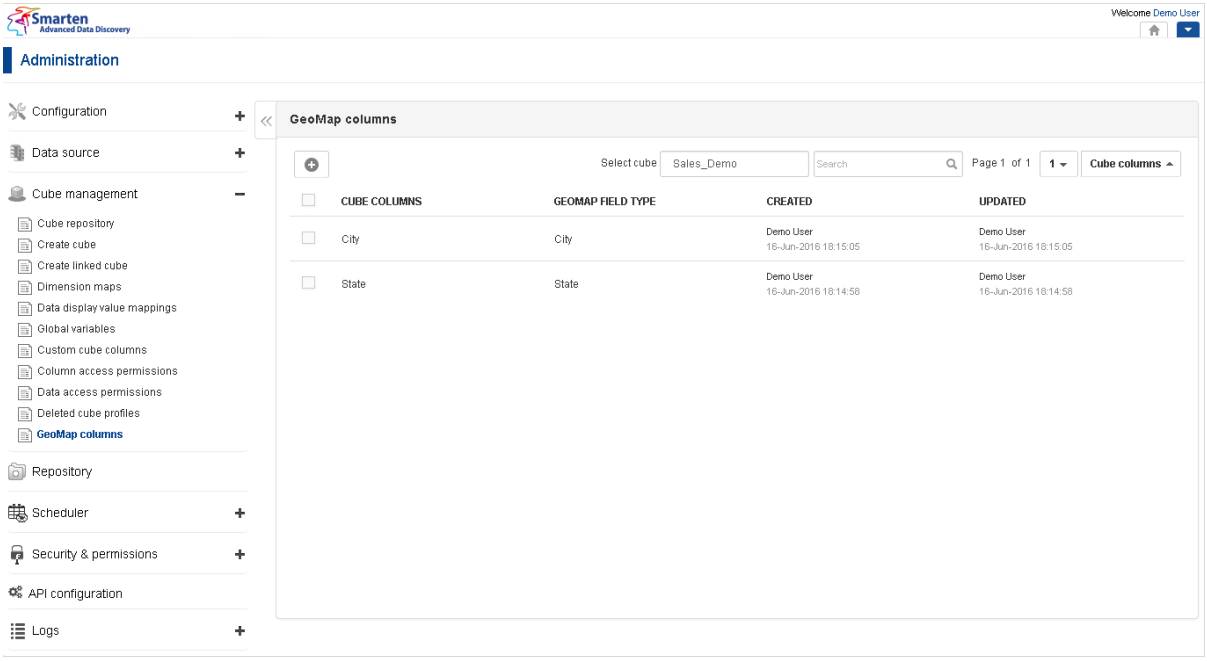
7.13 GeoMap Columns

Cube columns that represent geographic locations need to be marked as GeoMap columns. GeoMap columns should be associated with GeoMap field type.

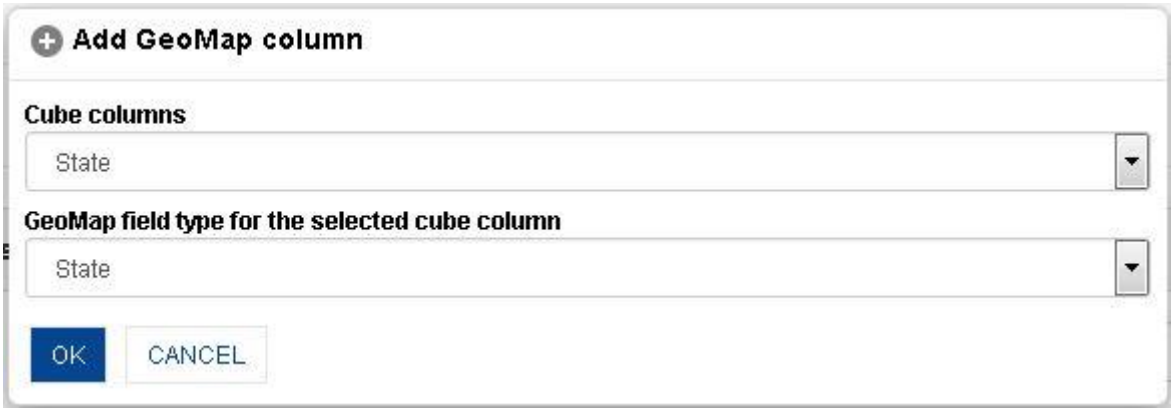
To add GeoMap columns:

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **GeoMap columns.**
   The system displays the **GeoMap columns** page.
3. From the **Select Cube** drop down, select a cube.
4. Click the **Add** icon.
   The system displays the **Add GeoMap column** dialog box.



GEOMAP COLUMNS LIST



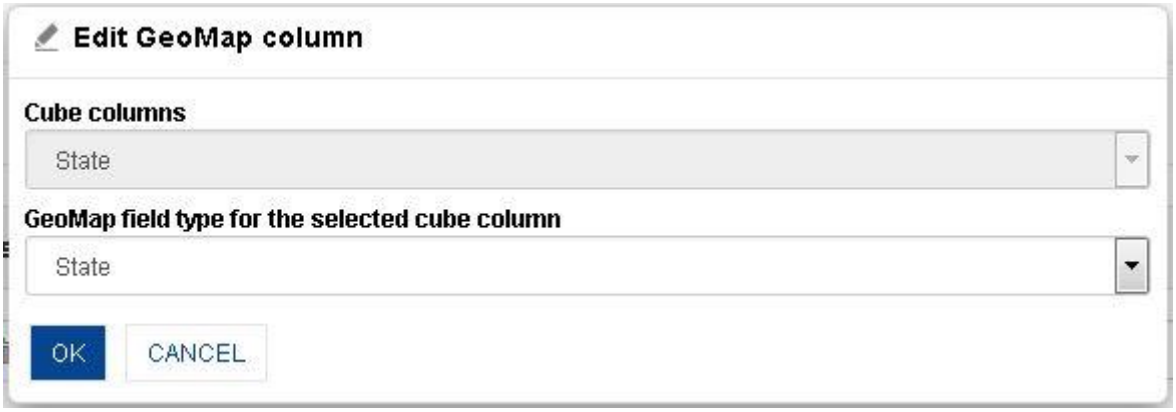
ADD GEOMAP COLUMN

5. In the **Cube columns** field, select **Dimension**.
6. In **GeoMap field type for the selected cube column**, select **Field type.**
7. Click **OK.**

To edit GeoMap columns:

Procedure

1. In the **Navigation Panel**, click **Cube Management.**
2. In the **Cube Management** menu, click **GeoMapcolumns.**
   The system displays the **GeoMap columns** page.
3. In the **Select cube** filed, select **Cube.**
4. Select the checkbox against a GeoMap column.
5. Click the **Edit** icon.
   The system displays the **Edit GeoMap column** dialog box.



EDIT GEOMAP COLUMN

6. In **GeoMap field type for the selected cube column**, change the **Field type.**
7. Click **OK.**

8 Create Linked Cube

A linked cube combines records from two or more cubes, resulting in a new cube. Two or more than two cubes can be linked by **UNION (union query)** or **JOIN (join query)**.

To create a linked cube, you need to define a base cube (master cube) and a secondary cube (detail cube). When you apply join on multiple cubes, the cubes will be merged based on join criteria, and on applying union, the information contained within the cubes will be appended based on union criteria.

> Note:
> Linked cube cannot be created using Real-Time and MDX cubes.

You can create a linked cube using graphical user interface.

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Linked Cube**

To create a linked cube:

Procedure

1. In the Smarten Navigation Panel, click **Cube Management.**
2. In **Cube Management**, click **Create linked cube**.
   The system displays the **Create linked cube** page.

8.1 Create a Linked Cube using Graphical User Interface

8.1.1Using JOIN

When you create a linked cube using JOIN, the information in the base cube (master cube) and the secondary cubes (detail cubes) is merged and made available in the newly created linked cube.

The Linked Cube Creation process can be divided into the following steps:

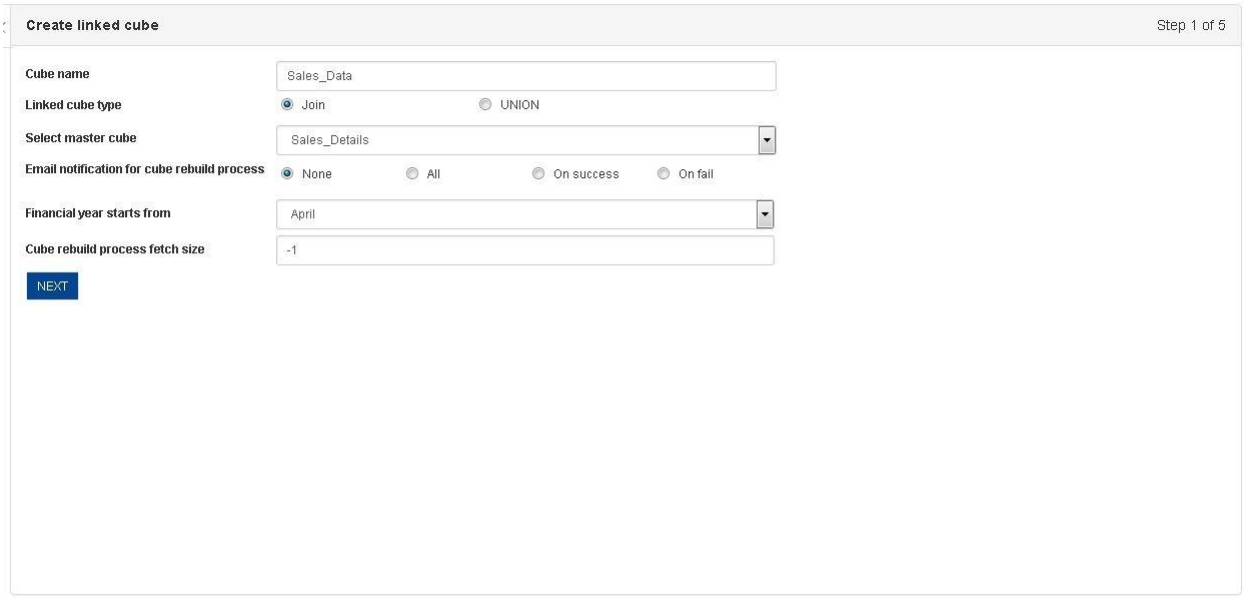
1. Master Cube selection
2. Detail Cube Selection
3. Cube Column Selection
4. Define Cube Relationship
5. Dimensions and Measures Selection

To create a cube using Join:

STEP 1
Master cube selection & basic information

Procedure

1. In the Navigation Panel, click **Cube Management.**
2. In the **Cube Management** menu, click **Create linked cube.**
   The system displays the **Create linked cube** page.



CREATE LINKED CUBE: CUBE INFORMATION

3. In the **Cube name** field, enter a name for the cube.
4. Select the **Join** radio button to create linked cube by using the JOIN type.
5. From the **Select master cube** drop-down list, select an option to specify the master cube to be used.
6. For **Email notification for cube rebuild process,** select appropriate radio button to specify when the email notification will be sent for the cube rebuild process. You can specify whether to send notification email if the event is successful, failure, both, or none.
7. From the **Financial year starts from** drop-down list, select a month to specify the month as the start of a new financial year.
8. In the **Cube rebuild process fetch size** field, enter a number of records per iteration to be processed for cube aggregation and indexing process. Enter 0 or any negative value to automatically set fetch size.
9. Click **NEXT** to open the **Create linked cube – Select cubes** page.

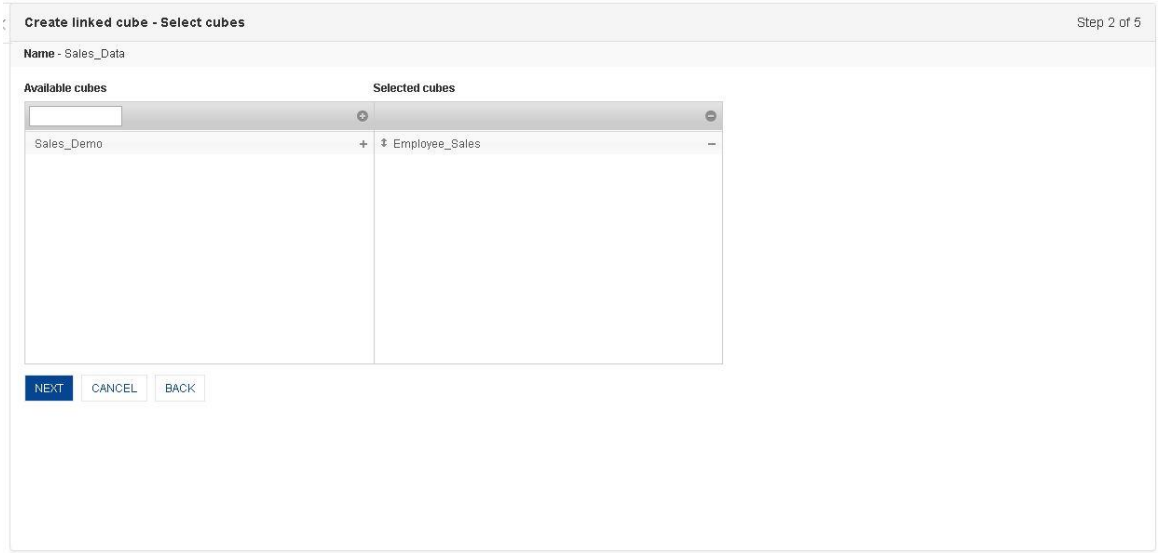
STEP 2

Detail cube selection

You need to select secondary cubes that will be used for creating the new linked cube within the **Create linked cube – Select cubes** page.

Procedure

1. Follow the **Procedure** of **STEP 1.**
2. From the **Available Cubes** list drag and drop the cubes to the **Selected cubes** list or deselect the cubes by moving the cubes back from the **Selected cubes**.
3. Click **NEXT** to open the **Create linked cube – Select cube columns** page.
4. Click **CANCEL** to go back to the **Create linked cube** page.
5. Click **BACK** to go back to the previous page.



CREATE LINKED CUBE: SELECT CUBE

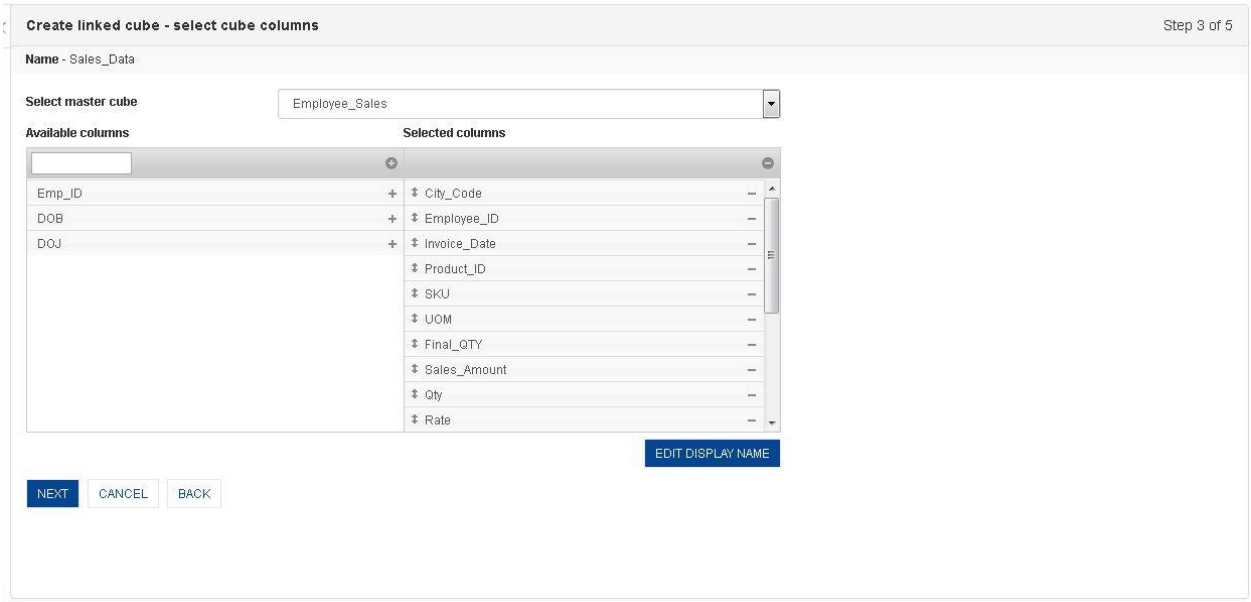
STEP 3

Select cube columns

You need to select columns that will be used for creating the new linked cube within the **Create linked cube – Select cube columns** page.

Procedure

1. Follow the **Procedure** of **STEP 2.**
2. From the **Select master cube** drop-down list, select a cube.
3. From the **Available Columns** list, drag and drop the columns to the **Selected columns** list or deselect the columns by moving the columns back from the **Selected columns**.
4. Click **NEXT** to open the **Create linked cube – select cube relationships** page.
5. Click **CANCEL** to go back to the **Create linked cube** page.
6. Click **BACK** to go back to the previous page.



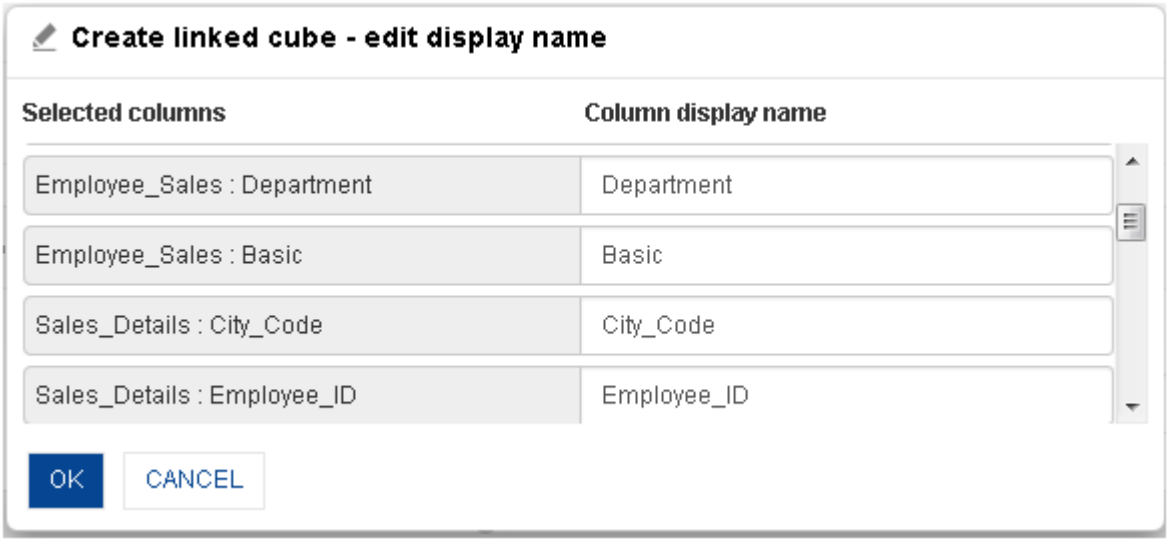
CREATE LINKED CUBE: SELECT CUBE COLUMNS

To edit cube column display name

You can provide a name that will be displayed for the columns instead of their original name. To provide a display name for columns, click on the **EDIT DISPLAY NAME** button below the **Selected columns** section. The **Create linked cube – edit display name** dialog box opens.

Procedure

1. In the **Create linked cube – select cube relationships** page, click **EDIT DISPLAY NAME.**
   The system displays the **Create linked cube – edit display name** dialog box.



CREATE LINKED CUBE: DISPLAY NAME SETTING

2. Under the **Column display name** section, edit the display name for a column in the field adjacent to that column.
3. Click **OK** to save the settings.
4. Click **CANCEL** to go back to the **Create linked cube – select cube columns** page.

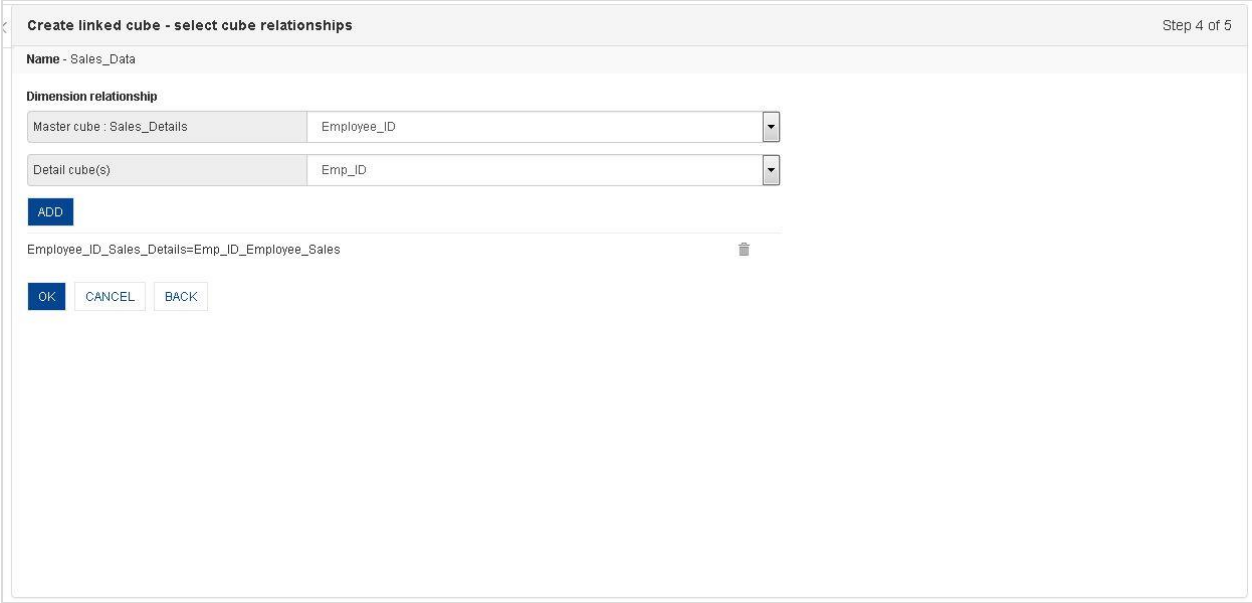
STEP 4

Cube relationships selection

The cube relationships selection allows you to specify the relationship between columns of both cubes.

Procedure

1. Follow the **Procedure** of **STEP 3.**
2. From the master cube list, select a column.
3. From the secondary cube list, select a column.
4. Click **ADD** to add the relationship for the selected columns. You can repeat the above process to add multiple relationships.
   You can delete a relationship by clicking on the **Delete** button adjacent to a relationship.
5. Click **OK** to save the specified relationships.
6. Click **CANCEL** to go back to the **Create linked cube** page.
7. Click **BACK** to go back to the previous page.



CREATE LINKED CUBE: CUBE RELATIONSHIPS SELECTION

STEP 5

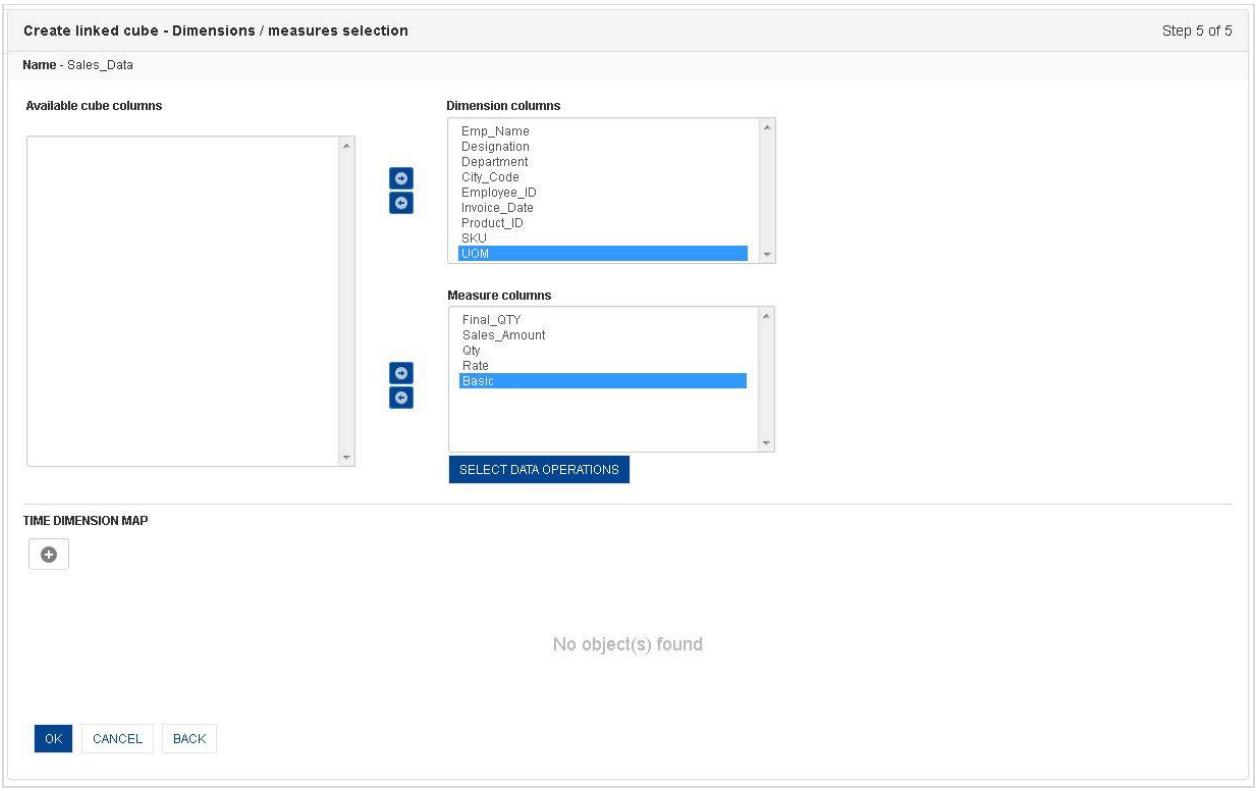
Dimension/measures selection

You can specify the dimensions and measures from the available cube columns. You can also specify the time dimension map to determine the level of time series for the cube.

Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Dimension**
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Measure**
Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Time Dimension**

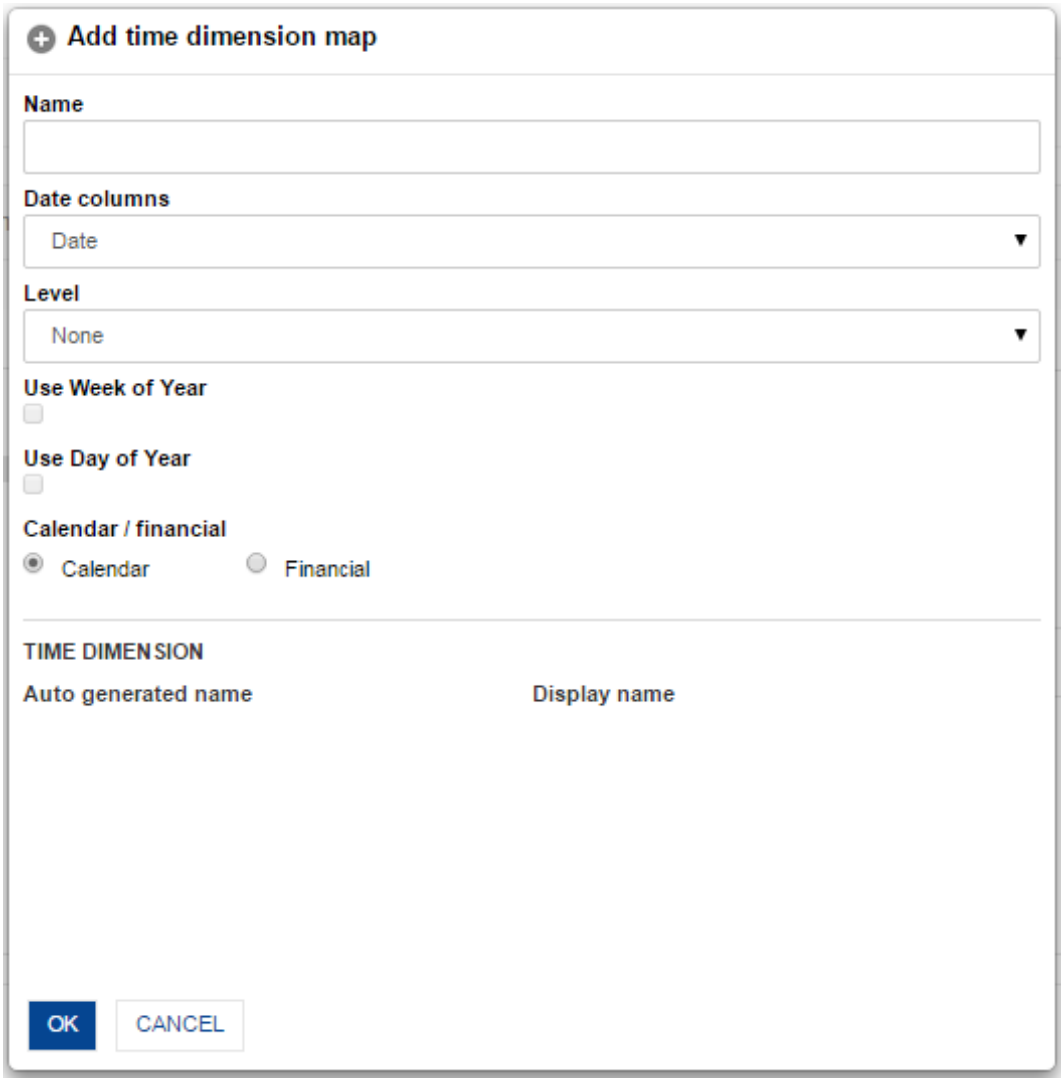
Procedure

1. Follow the **Procedure** of **STEP 4.**
2. From the **Available cube columns** list, you can drag and drop the columns to the **Dimension columns** list and **Measure columns** list. You can deselect the selected columns by moving the columns back from the **Dimension columns** and **Measure columns.**
3. Click on **SELECT DATA OPERATIONS** to select pre-defined data operations for selected measures
4. Under the **TIME DIMENSION MAP** section,
   - Click the **Add** icon.
   - The system displays the **Add time dimension map** dialog box.
   - From the **Date column** drop-down list, select a column name.
   - From the **Level** drop-down list, select level.
   - Select the **Use week of Year** checkbox if you want to use week of the year in time series hierarchy.
   - Select the **Use day of Year** checkbox if you want to use day of the year in time series hierarchy.
   - Select the checkbox against **Calendar Year** and **Financial Year** for generating time dimension for specified year.
   - Click **OK** to add a time dimension map.
5. In the **Create linked cube – Dimensions/measures selection** page, click **OK.**
   The system displays a dialog box showing the process of creating a linked cube.
6. Click **CANCEL** to go back to the **Create linked cube** page.
7. Click **BACK** to go back to the previous page.

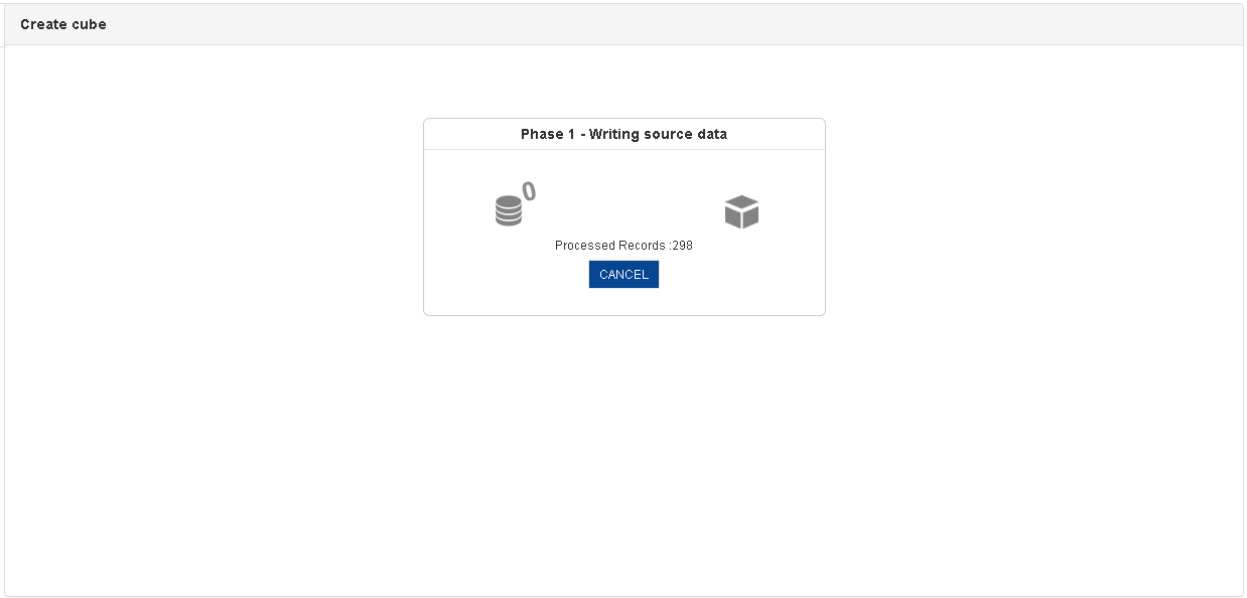


CREATE LINKED CUBE—DIMENSIONS/MEASURES SELECTION

DIMENSIONS/MEASURES SELECTION: SELECT DATA OPERATIONS

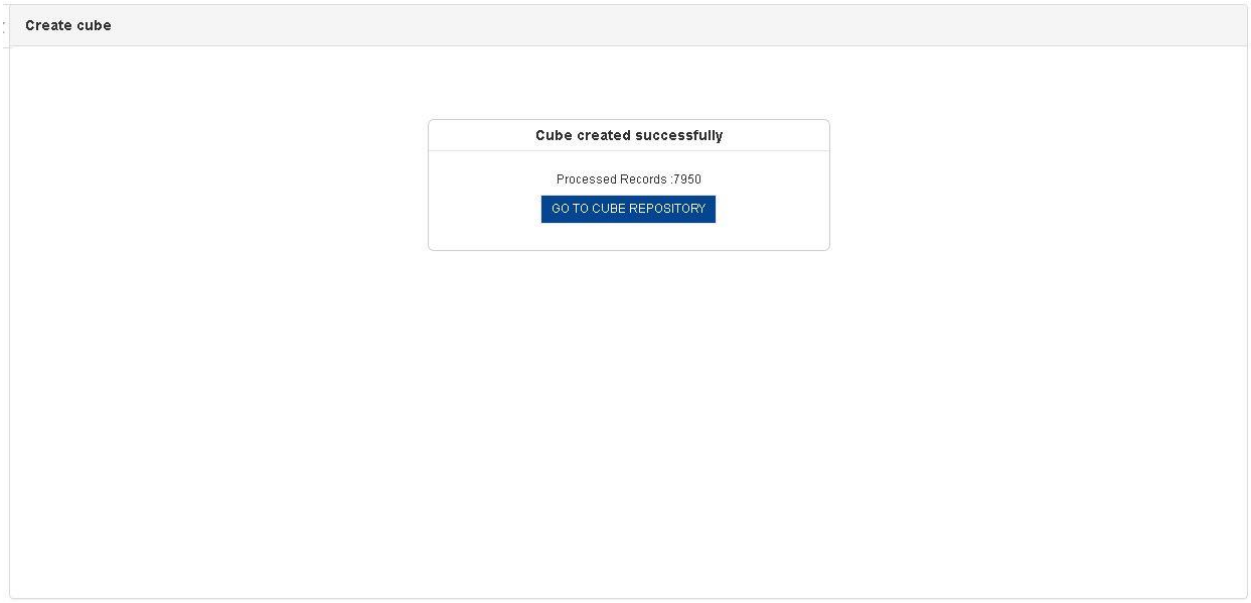


DIMENSIONS/MEASURES SELECTION: ADD TIME DIMENSION MAP



CREATE LINKED CUBE: CUBE DATA WRITING PROCESS

If the linked cube is created successfully, a prompt mentioning the same is displayed.
Click **CANCEL** to go back to the **Create linked cube** page.



CUBE CREATED SUCCESSFULLY MESSAGE

8. Click **GO TO CUBE REPOSITORY** to go to the cube repository.

8.1.2Using UNION

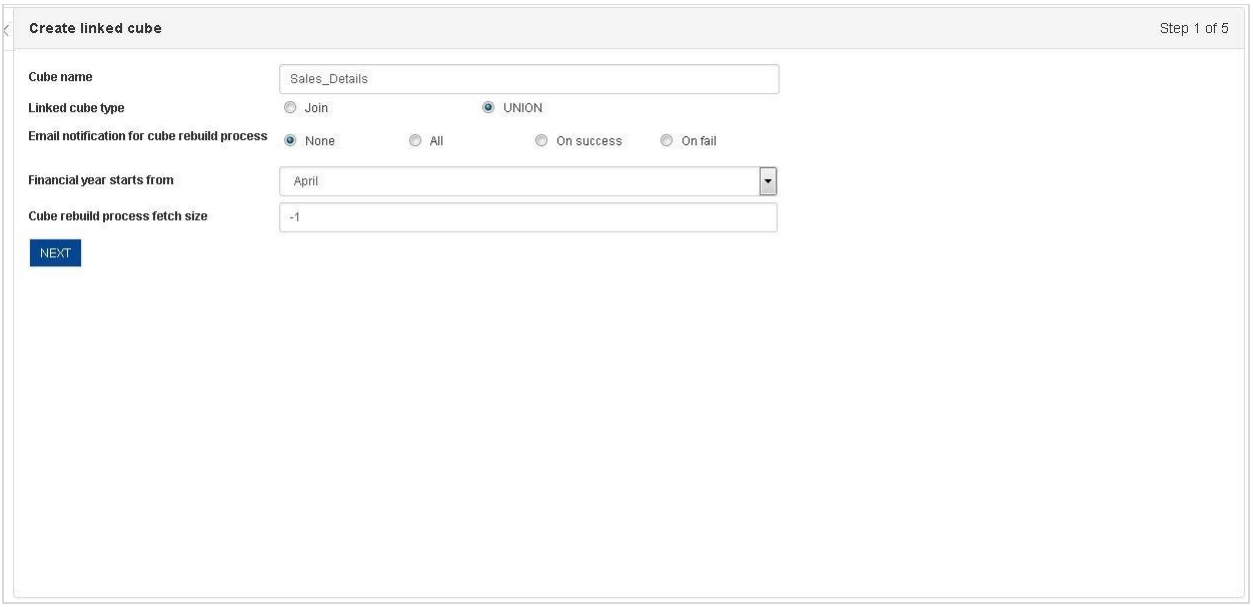
You can create a linked cube using UNION only if the column names are the same in two or more cubes.

To create a cube using Union:

STEP 1
Linked cube basic information

Procedure

1. In the Navigation Panel, click **Cube Management.**
2. In the **Cube Management** menu, click **Create linked cube.**
   The system displays the **Create linked cube** page.



CREATE LINKED CUBE USING UNION: CUBE INFORMATION

3. In the **Cube name** field, enter a name for the cube.
4. Select the **UNION** radio button to create a linked cube by using the UNION type.

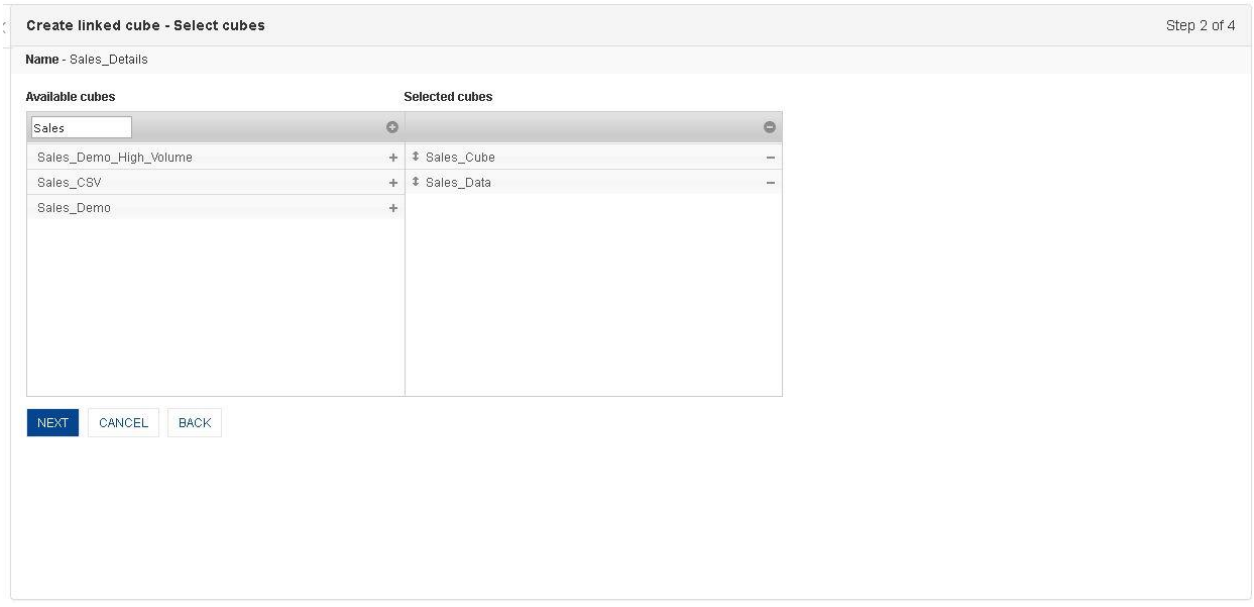
5. For **Email notification for cube rebuild process,** select appropriate radio button to specify when the email notification will be sent for the cube rebuild process. You can specify whether to send notification email if the event is successful, failure, both, or none.
6. From the **Financial year starts from** drop-down list, select a month to specify the month as the start of a new financial year.
7. In the **Cube rebuild process fetch size** field, enter a number of records per iteration to be processed for cube aggregation and indexing process. Enter 0 or any negative value to automatically set fetch size.
8. Click **NEXT** to open the **Create linked cube – Select cubes** page.

STEP 2
Cube selection

You need to select cubes that will be used for creating the new linked cube within the **Create linked cube – Select cubes** page.

Procedure

1. Follow the **Procedure** of **STEP 1.**
2. From the **Available Cubes** list, drag and drop the columns to the **Selected cubes** list or deselect the cubes by moving the cubes back from the **Selected cubes**.
3. Click **NEXT** to open the **Create linked cube – Select cubes** columns page.
4. Click **CANCEL** to go back to the **Create linked cube** page.
5. Click **BACK** to go back to the previous page.



CREATE LINKED CUBE: SELECT CUBE

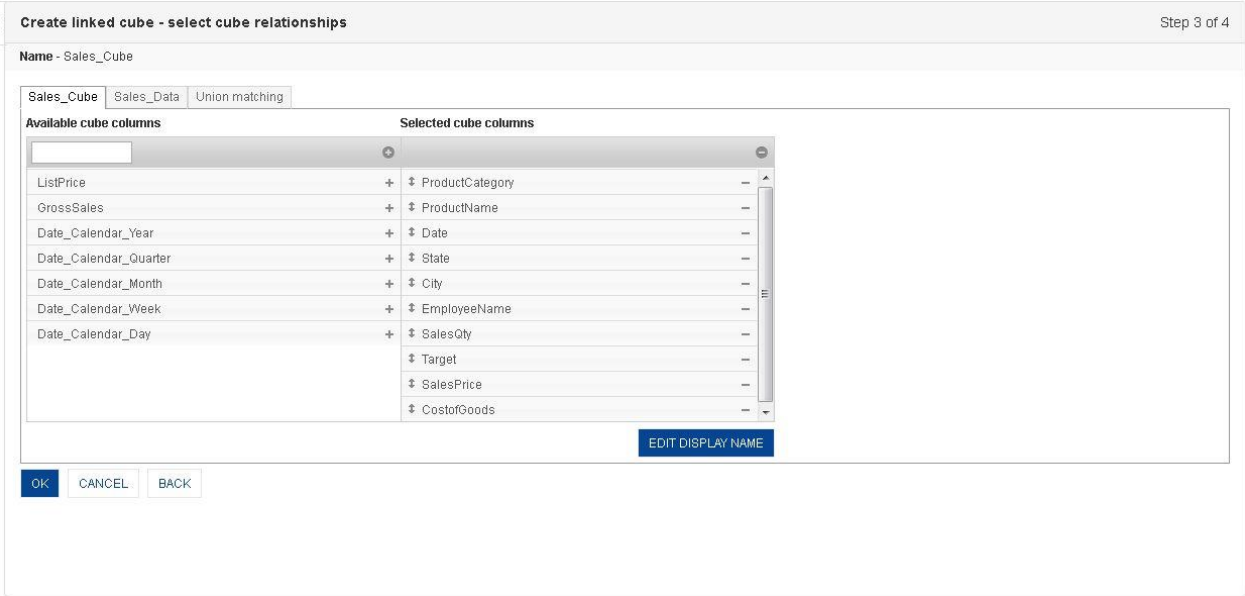
STEP 3
Select cube columns
You need to select columns that will be used for creating the new linked cube within the **Create linked cube – Select cube relationships** page.

Procedure

1. Follow the **Procedure** of **STEP 2.**
   The system will display all the cubes selected to create linked cubes as tabs.
2. Click a tab to select a cube you want to select columns for.
3. From the **Available cube Columns** list, drag and drop the columns to the **Selected cube columns** list or deselect the columns by moving the columns back from the **Selected cube columns**. You can repeat the above process to add multiple columns. You can delete a column by clicking **Delete** adjacent to a column within the **Selected cube columns** section. You can move the

columns up and down by drag and drop within **Selected cubes** list to set the order of cube columns.

4. Click **NEXT** to open the **Create linked cube – Select cube relationships** page.
5. Click **CANCEL** to go back to the **Create linked cube** page.
6. Click **BACK** to go back to the previous page.



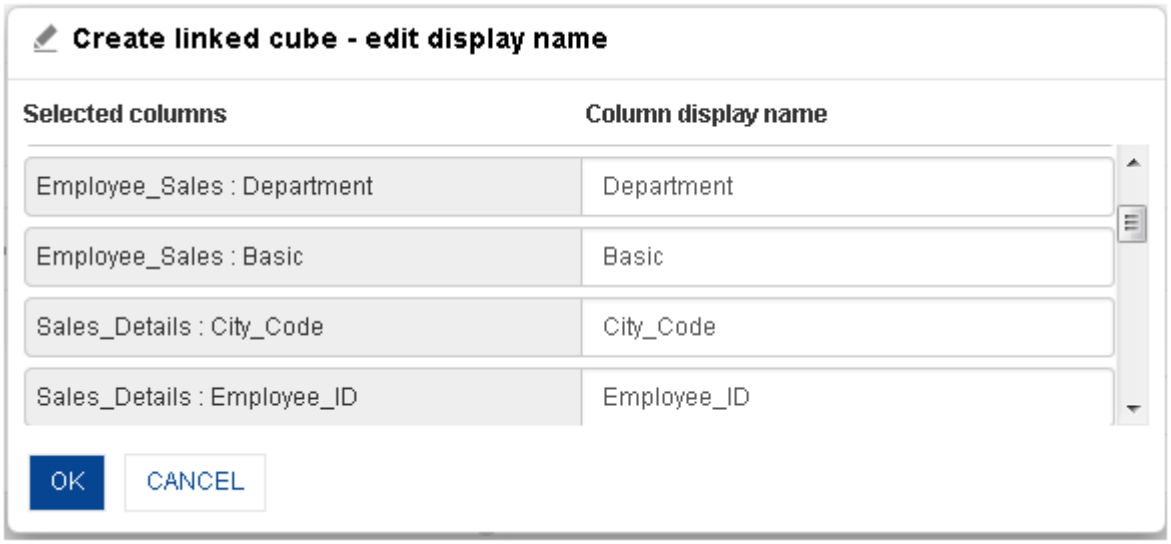
CREATE LINKED CUBE: SELECT CUBE RELATIONSHIPS

To edit cube column display name

You can provide a name that will be displayed for the columns instead of their original name. To provide a display name for columns, click on the **EDIT DISPLAY NAME** button below the **Selected columns** section. The **Create linked cube – edit display name** dialog box opens.

Procedure

1. In the Create linked cube – select cube relationships page, click EDIT DISPLAY NAME. The system displays the **Create linked cube – edit display name** dialog box.



CREATE LINKED CUBE: DISPLAY NAME SETTING

2. Under the **Column display name** section, edit the display name for a column in the field adjacent to that column.
3. Click **OK** to save the settings.
4. Click **CANCEL** to go back to the **Create linked cube – select cube columns** page

STEP 4

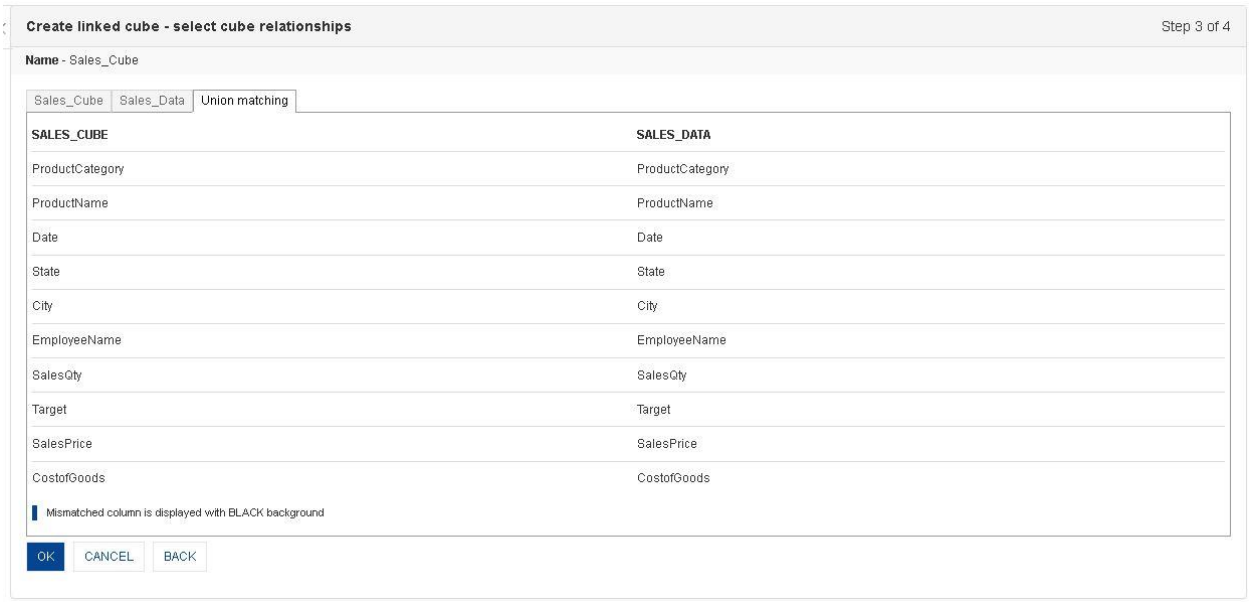
Union cube column matching

Union column matching for Linked Cube is used to automatically match columns from source cubes. Columns will be matched based on data type of columns. Columns that do not match are displayed in black background. The following table explains matching criteria with examples.

Cube 1		Cube 2		Match (Yes / No)
Column Name	Data Type	Column Name	Data Type	
ProductCategory	String	ProductCategory	String	**Yes**
EmployeeName	String	EmployeeName	String	**Yes**
SalesDate	Date	SalesDate	String	**No**
OrderDate	Date	OrderDate	Date	**Yes**
SalesQty	Integer	SalesQty	Integer	**Yes**
SalesPrice	Integer	SalesPrice	Integer	**Yes**
GrossSales	Integer	GrossSales	Double	**No**

Procedure

1. Follow the **Procedure** of **STEP 3.**
2. Click **Union Matching** tab to display all the matching columns.
3. Click **CANCEL** to go back to the **Create linked cube** page.
4. Click **BACK** to go back to the previous page.
5. Click **OK.**
   The system displays the **Create linked cube – Dimensions/measures selection** page.



CREATE LINKED CUBE USING UNION: UNION MATCHING

STEP 5

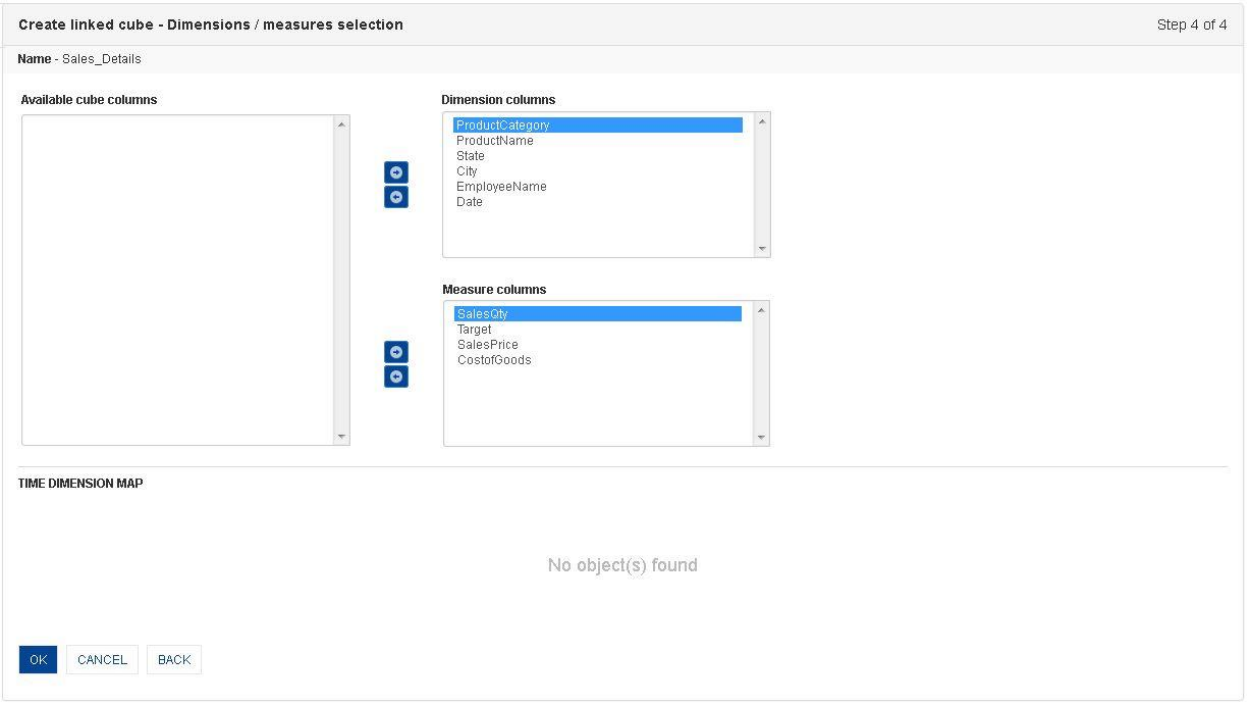
Dimension/measures selection

You can specify the dimensions and measures from the available cube columns. You can also specify the time dimension map to determine the level of the time series for the cube.

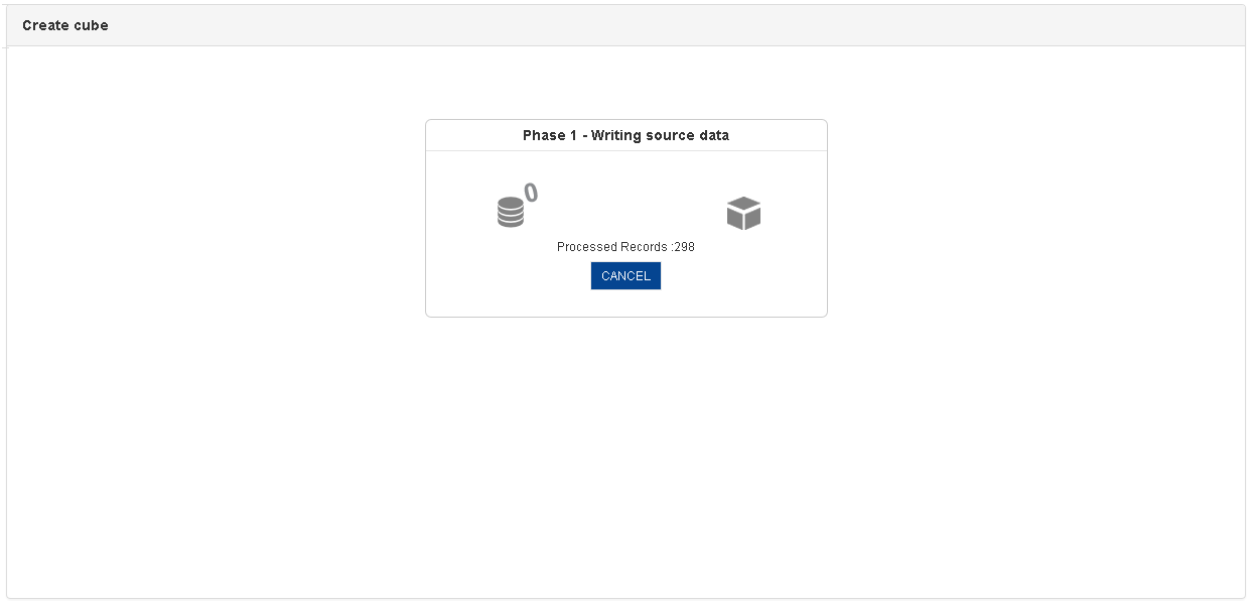
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Dimension**
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Measure**
Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Time Dimension**

Procedure

1. Follow the **Procedure** of **STEP 4.**
2. From the **Available cube columns** list, you can drag and drop the columns to the **Dimension columns** list and **Measure columns** list. You can deselect the selected columns by moving the columns back from the **Dimension columns** and **Measure columns.**
3. The information about the dimension time map is displayed in the **TIME DIMENSION MAP** section. You can create the time dimension as per the **Procedure** of **STEP 5 Dimension/measures selection** under **Using JOIN** section.
4. In the **Create linked cube – Dimensions/measures selection** page, click **OK**.
   The system displays a dialog box showing the process of creating linked cube.
5. Click **CANCEL** to go back to the **Create linked cube** page.
6. Click **BACK** to go back to the previous page.
7. STEP 5
8. Dimension/measures selection

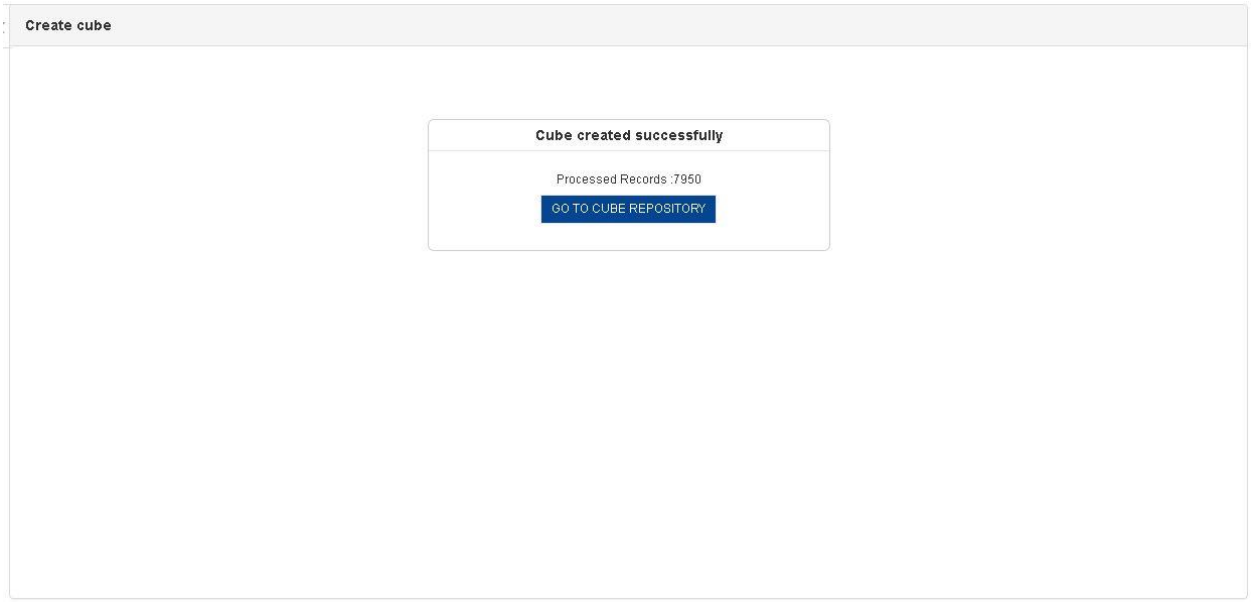


CREATE LINKED CUBE—DIMENSIONS/MEASURES SELECTION



CREATE LINKED CUBE: CUBE DATA WRITING PROCESS

9. If the linked cube is created successfully, a prompt mentioning the same is displayed.
10. Click **CANCEL** to go back to the **Create linked cube** page.



CUBE CREATED SUCCESSFULLY MESSAGE

11. Click **GO TO CUBE REPOSITORY** to go to the cube repository.

9 Rebuild Cube (with/without Incremental Update)

You need to use the cube rebuild process to refresh a cube with the latest data. This process runs a predefined extraction query on data sources defined and updates the cube as per parameters specified.

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Update Process**

9.1 Rebuild Cube Using Graphical User Interface

You can rebuild the following types of cubes:

- Using Database Profile
- Using CSV Profile

To rebuild cube:

Procedure

1. In the Navigation Panel, click **Cube Management.**
2. In the **Cube Management** menu, click **Cube repository.**
   The system displays the **Cube repository** page.

9.1.1Using Database Profile

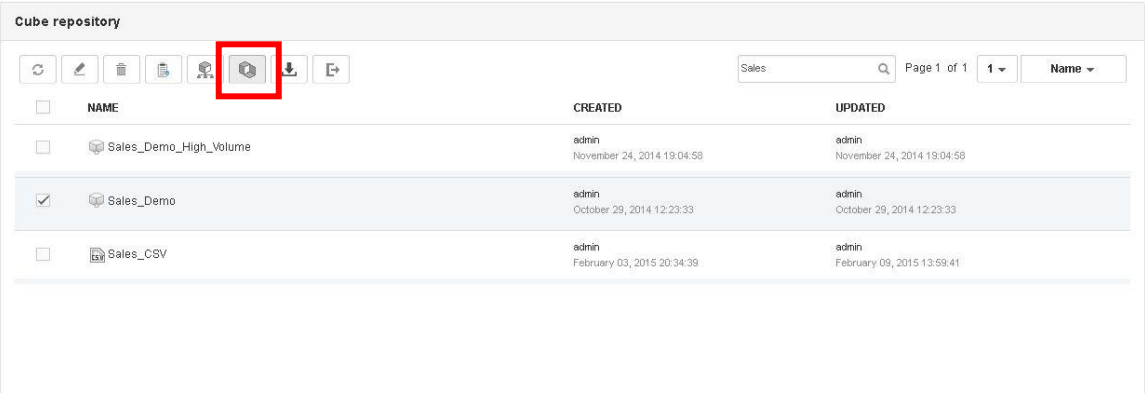
If the data source for a specific cube is a database, the rebuild cube using database profile option is used to refresh cube data.

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Generation Process > Extraction from Database**

STEP 1
Cube Selection
You can select a cube and rebuild it.

Procedure

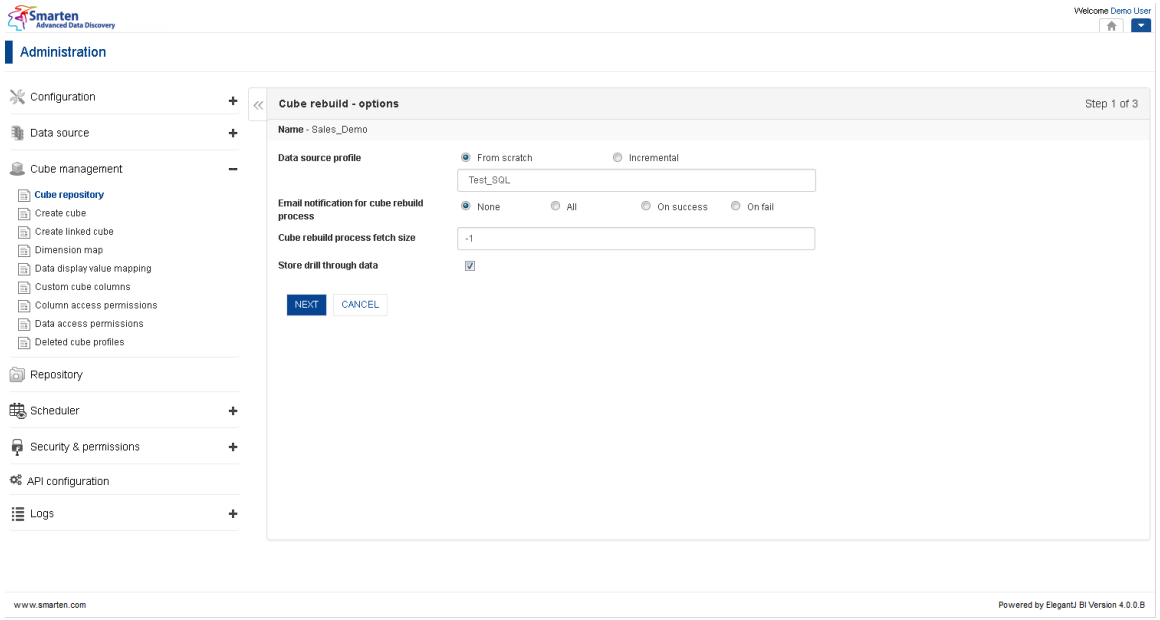
1. In the Navigation Panel, click **Cube Management.**
2. In the **Cube Management** menu, click **Cube repository.**
   The system displays the **Cube repository** page.



REBUILD CUBE: DATABASE PROFILE: CUBE SELECTION

3. Select the checkbox adjacent to the cube you want to rebuild.
4. Click the **Rebuild** icon.

The system displays the **Cube rebuild – options** page.



REBUILD CUBE: DATABASE PROFILE: CUBE OPTIONS SELECTION

5. From the **Data source profile** section, select an option.
   The following options are available:
   a. **From scratch**: Select this option if you want to rebuild a cube from scratch.
   b. **Incremental**: Select this option if you want to rebuild a cube with incremental update.
6. From the drop-down list, select a cube.
7. **In the Email notification for cube rebuild process** field, select a radio button to specify when the email notification will be sent for the cube rebuild process. You can specify whether to send notification email if the event is successful, failure, both, or none.
8. In the **Cube rebuild process fetch size** field, enter a number of records per iteration to be processed for cube aggregation and indexing process. Enter 0 or any negative value to automatically set the fetch size.
9. Select the checkbox **Store drill through data** to write drill though data
10. Click **NEXT** to open the **Cube rebuild – Query** page.
11. Click **CANCEL** to go back to the **Cube repository** page.

> **Note:**
> Store to drill though option is disabled for Incremental option

STEP 2
Cube rebuild query
You need to specify the query that will be executed to update or refresh the cube.

Procedure

1. Follow the **Procedure** of **STEP 1**.
2. From the **SQL query** section, enter a query.
3. Click **NEXT** to open the **Cube rebuild – Query** page.
4. Click **CANCEL** to go back to the **Cube repository** page.
5. Click **BACK** to go back to the previous page.

REBUILD CUBE: DATABASE PROFILE: PASTE-GENERATED QUERY

STEP 3

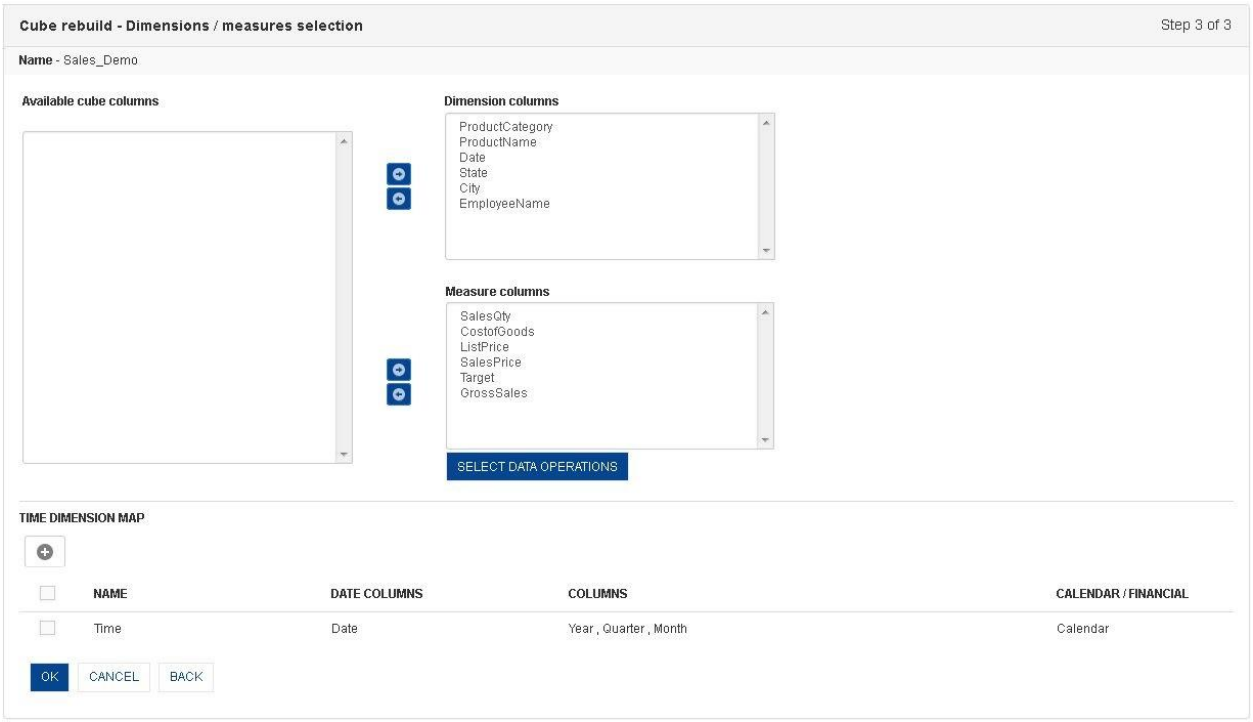
Dimension/measures selection

You can specify the dimensions and measures to be used for mapping the cubes. You can also specify the time series map to determine the level the date format will be mapped for both cubes. You can define the time series map up to various levels, such as year, month, week, day, hour, minute, and second.

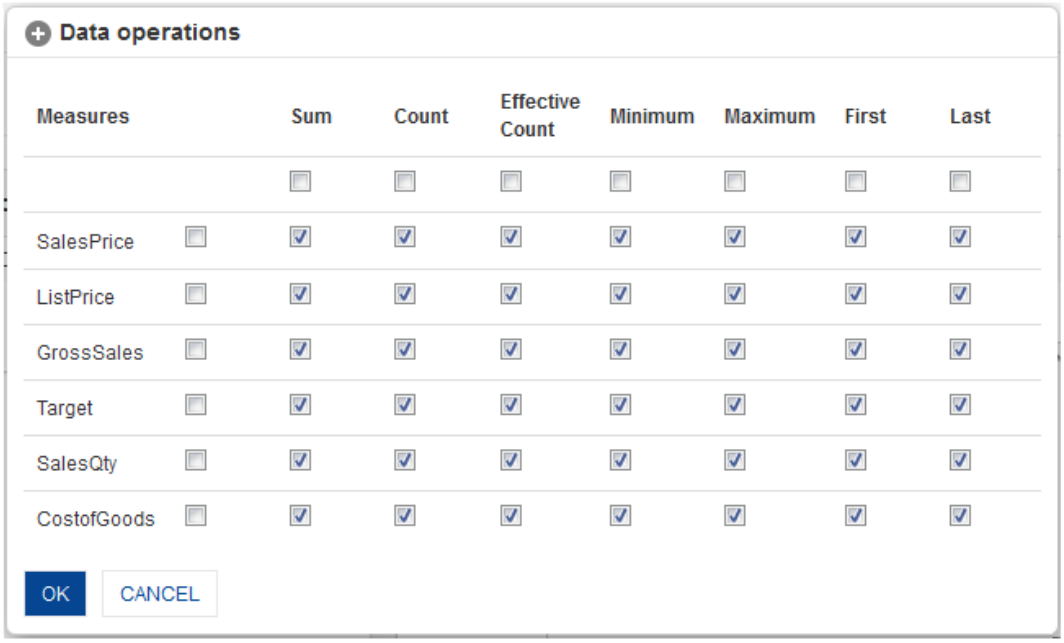
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Dimension**
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Measure**
Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Time Dimensions**

Procedure

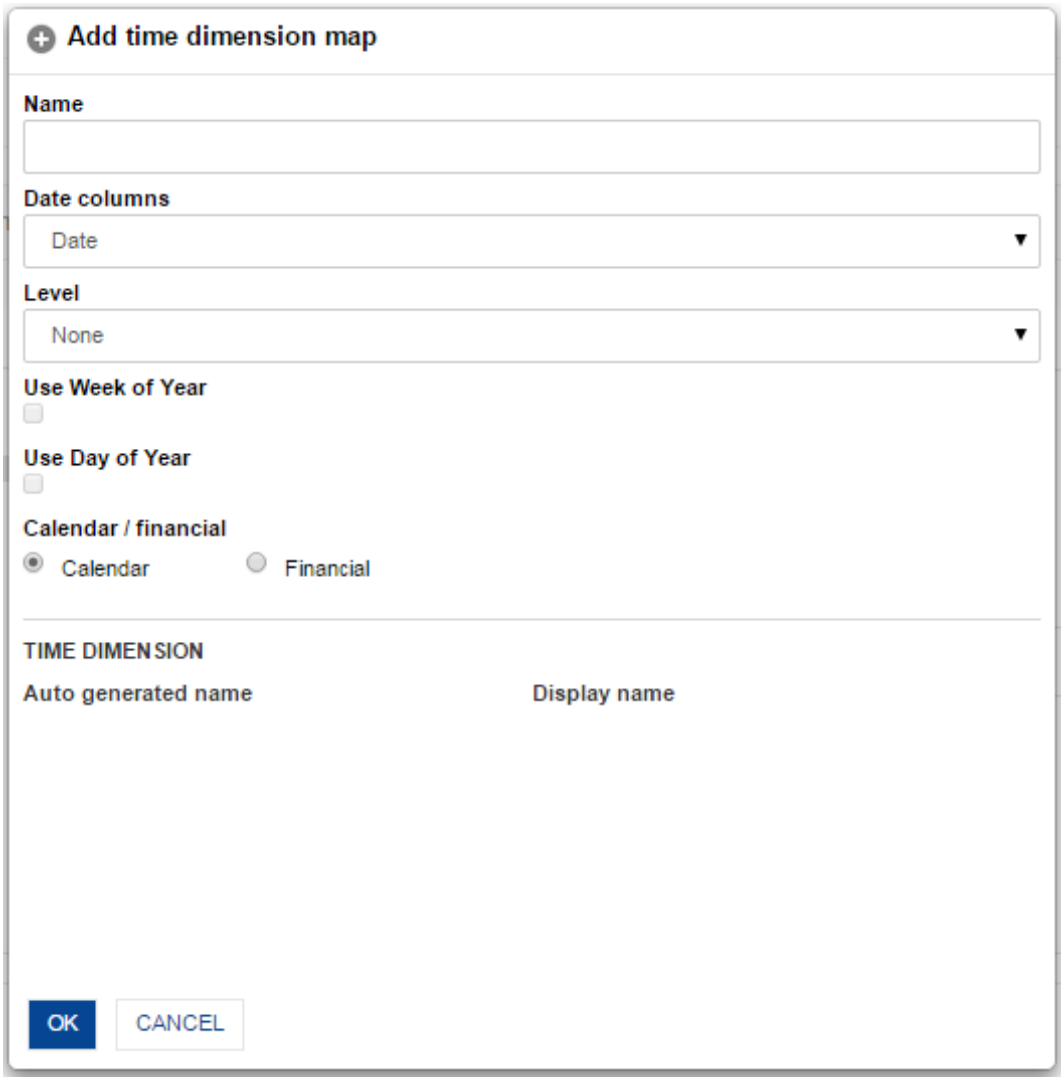
1. Follow the **Procedure** of **STEP 2**.
2. From the **Available cube columns** list, you can drag and drop the columns to the **Dimension columns** list and **Measure columns** list. You can deselect the selected columns by moving the columns back from the **Dimension columns** and **Measure columns.**
3. Click on **SELECT DATA OPERATIONS** to select pre-defined data operations for selected measures
4. Under the **TIME DIMENSION MAP** section,
   - Click the **Add** icon.
     The system displays the **Add time dimension map** dialog box.
   - From the **Date column** drop-down list, select a column name.
   - From the **Level** drop-down list, select level.
   - Select the **Use week of Year** checkbox if you want to use week of the year in time series hierarchy.
   - Select the **Use day of Year** checkbox if you want to use day of the year in time series hierarchy.
   - Select the checkbox against **Calendar Year** and **Financial Year** for generating time dimension for specified year.
   - Click **OK** to add a time dimension map.
   - Click **CANCEL** to go back to the **Cube rebuild – Dimensions/measures selection** page.
5. In the Cube rebuild – Dimensions/measures selection page, click **OK.**
6. The system displays a dialog box showing the process of creating a linked cube.
7. Click **CANCEL** to go back to the **Cube repository** page.
8. Click **BACK** to go back to the previous page.



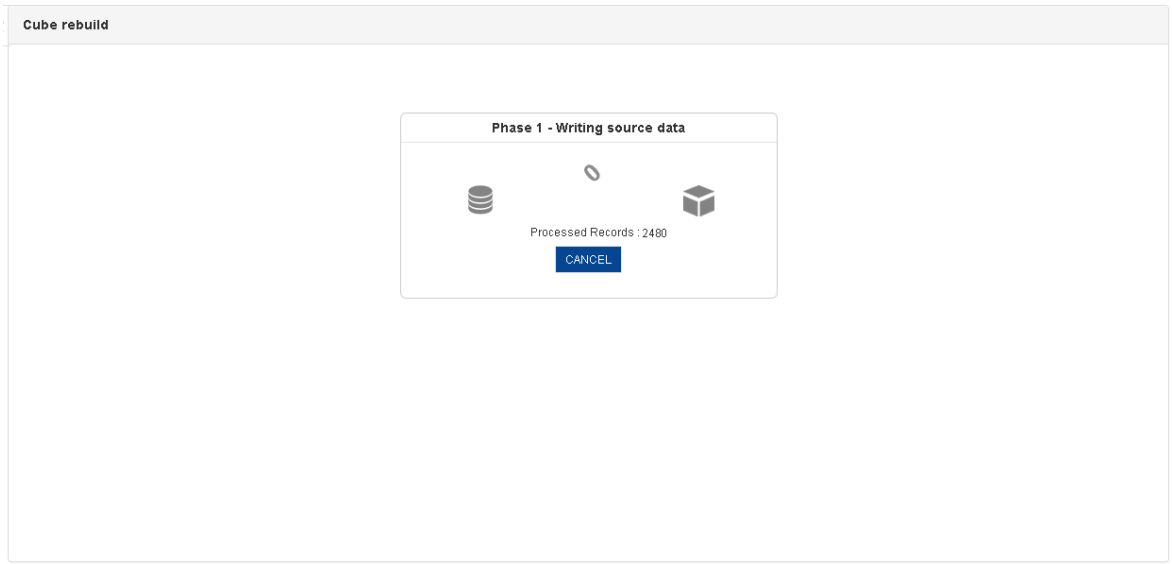
REBUILD CUBE: DATABASE PROFILE: DIMENSIONS / MEASURES SELECTION



REBUILD CUBE: DATABASE PROFILE: SELECT DATA OPERATIONS



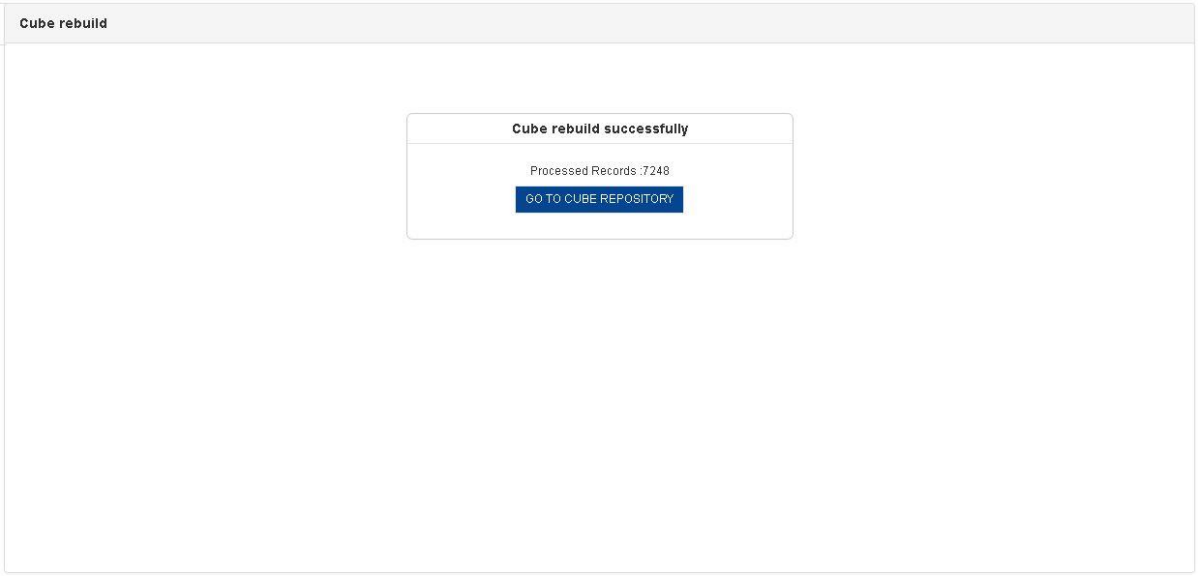
DIMENSIONS/MEASURES SELECTION: ADD TIME DIMENSION MAP



REBUILD CUBE: DATABASE PROFILE: WRITING CUBE DATA

If the cube rebuild is successful, a prompt mentioning the same is displayed.

9. Click **CANCEL** to go back to the **Cube repository** page.



CUBE REBUILD SUCCESSFULLY MESSAGE

10. Click **GO TO CUBE REPOSITORY** to go to the cube repository.

9.1.2Using CSV profile

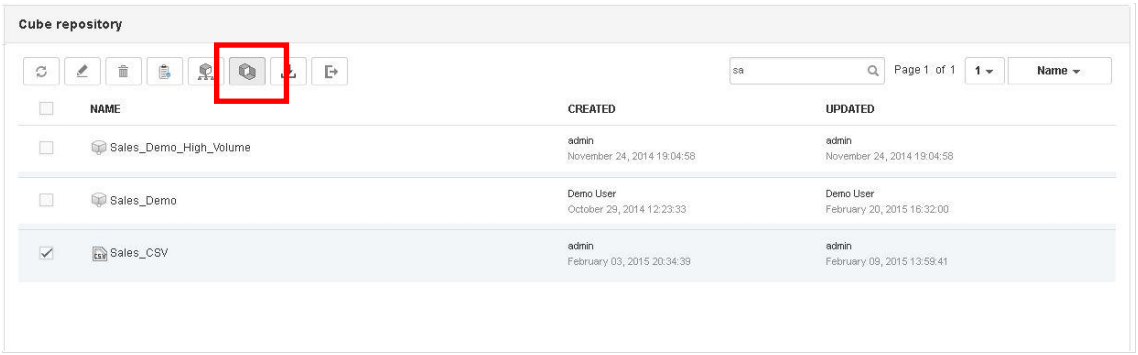
If the data source for a specific cube is CSV profile, the rebuild cube using CSV profile option is used to refresh cube data of objects.

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Generation Process > Extraction from CSV or flat files**

STEP 1
Cube selection
You can select a cube and rebuild it.

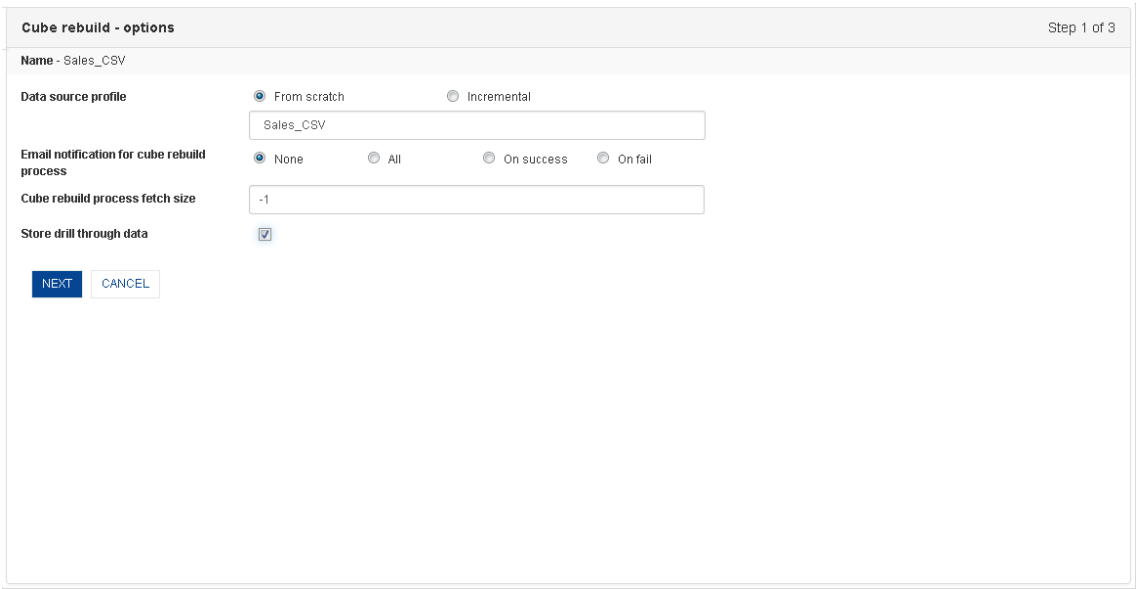
Procedure

1. In the Navigation Panel, click **Cube Management.**
2. In the **Cube Management** menu, click **Cube repository.**
   The system displays the **Cube repository** page.



REBUILD CUBE: CSV PROFILE: CUBE SELECTION

3. Select the checkbox adjacent to the cube you want to rebuild.
4. Click the **Rebuild** icon.
   The system displays the **Cube rebuild – options** page.



REBUILD CUBE: DATABASE PROFILE: CUBE OPTIONS SELECTION

5. From the **Data source profile** section, select an option.
   The following options are available:
   a. **From scratch**: Select this option if you want to rebuild cube from scratch.
   b. **Incremental**: Select this option if you want to rebuild cube with incremental update.

6. From the drop-down list, select a cube.
7. **In the Email notification for cube rebuild process** field, select a radio button to specify when the email notification will be sent for the cube rebuild process. You can specify whether to send notification email if the event is successful, failure, both, or none.
8. In the **Cube rebuild process fetch size** field, enter a number of records per iteration to be processed for cube aggregation and indexing process. Enter 0 or any negative value to automatically set the fetch size.
9. Select the checkbox **Store drill through data** to write drill though data
10. Click **NEXT** to open the **Cube rebuild – Query** page.
11. Click **CANCEL** to go back to the **Cube repository** page.

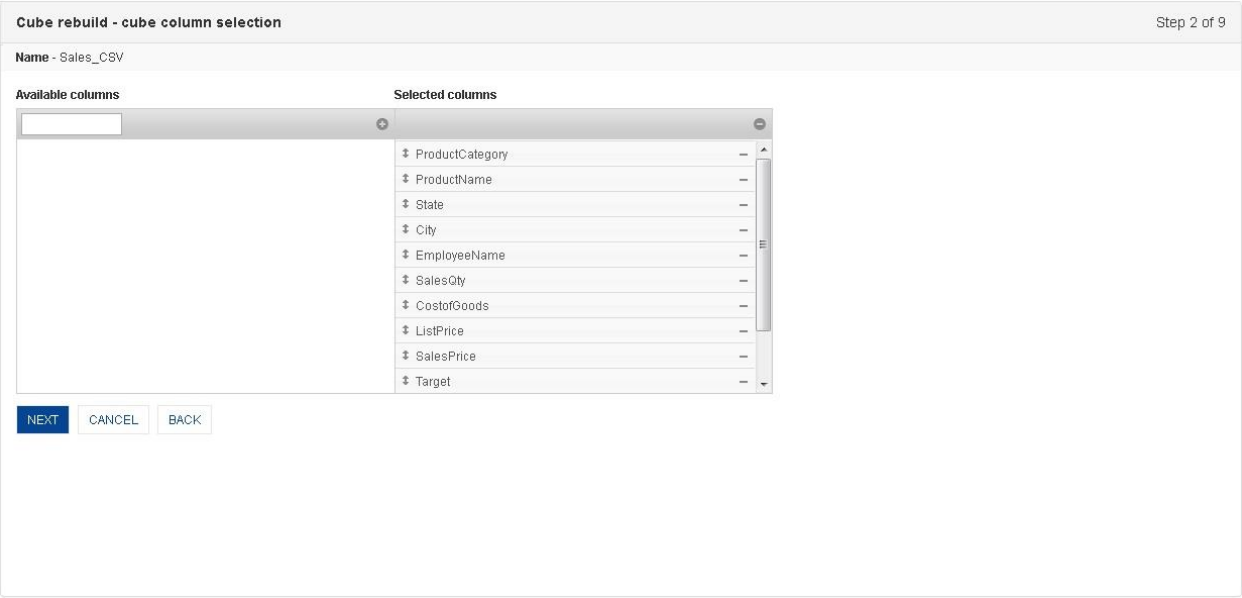
> **Note:**
> Store to drill though option is disabled for Incremental option

STEP 2
Cube rebuild – cube column selection
You need to select columns that will be used for rebuilding the cube within the **Cube rebuild – cube column selection** page.

This step will be available only if you have selected the "**From scratch**" option for the cube rebuilding process.

Procedure

1. Follow the **Procedure** of **STEP 1.**
2. From the **Available cube columns** list, you can drag and drop the columns to the **Selected columns** list. You can deselect the selected columns by moving the columns back from the **Selected columns.** You can delete a column by clicking on the **Delete** button adjacent to a column within the **Selected columns** section.
3. Click **NEXT** to open the **Cube rebuild – Dimensions/measures selection** page.
4. Click **CANCEL** to go back to the **Cube repository** page.
5. Click **BACK** to go back to the previous page.



CUBE REBUILD: CSV PROFILE: CUBE COLUMN SELECT

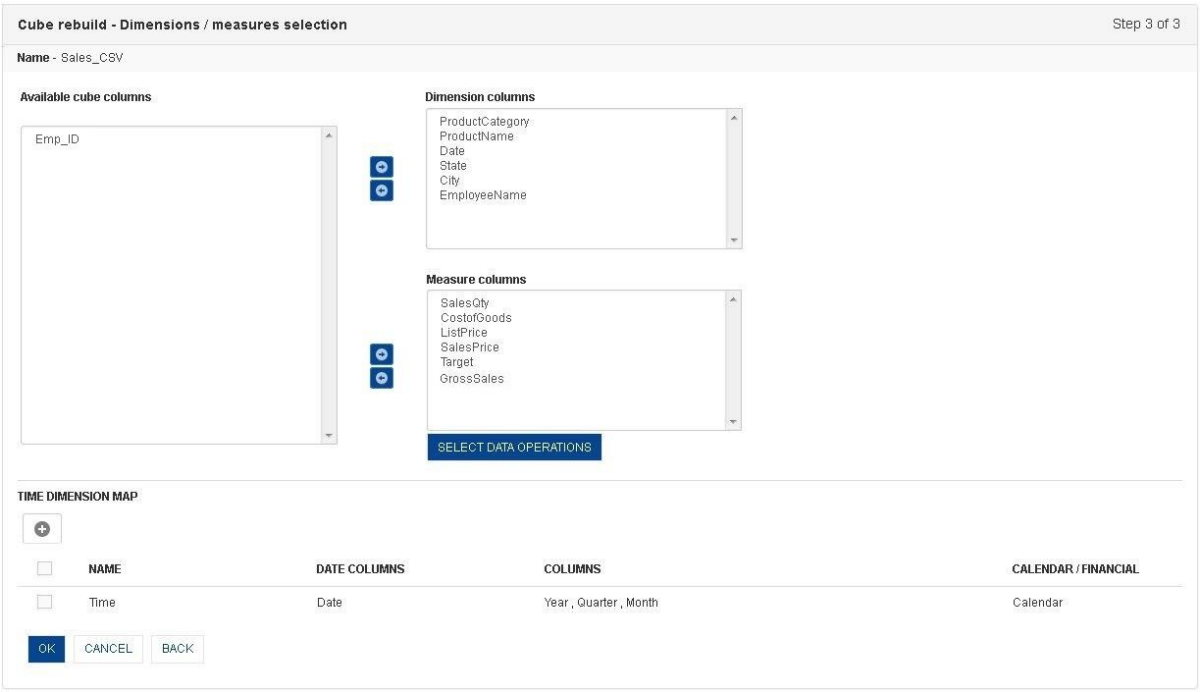
STEP 3
Dimension/measures selection
You can specify the dimensions and measures to be used for mapping the cubes. You can also specify the time series map to determine the level the date format will be mapped for both cubes.

You can define the time series map up to various levels, such as year, month, week, day, hour, minute, and second.

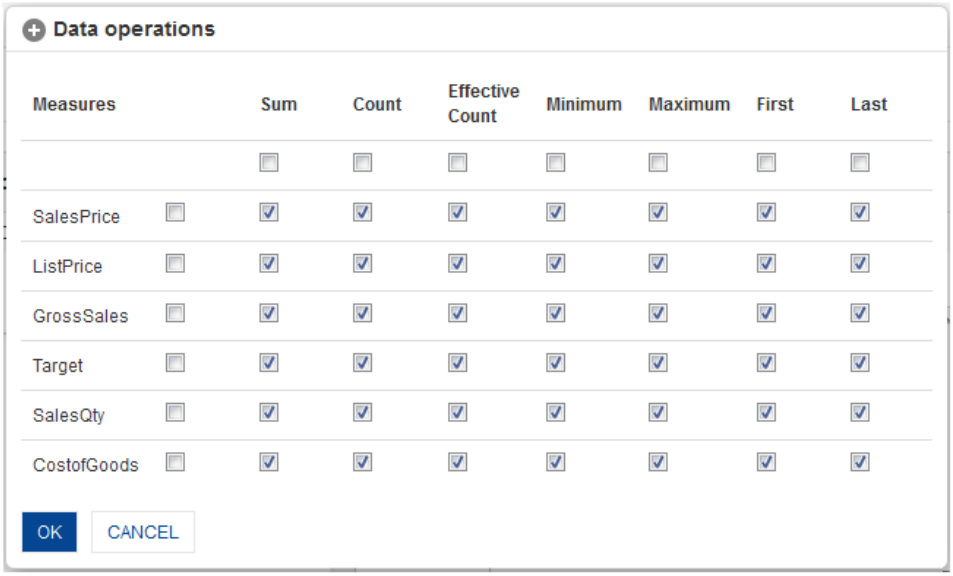
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Dimension**
Reference: **Concept Manual > Designing the Data Model > Cube Meta Data > Measure**
Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Time Dimensions**

Procedure

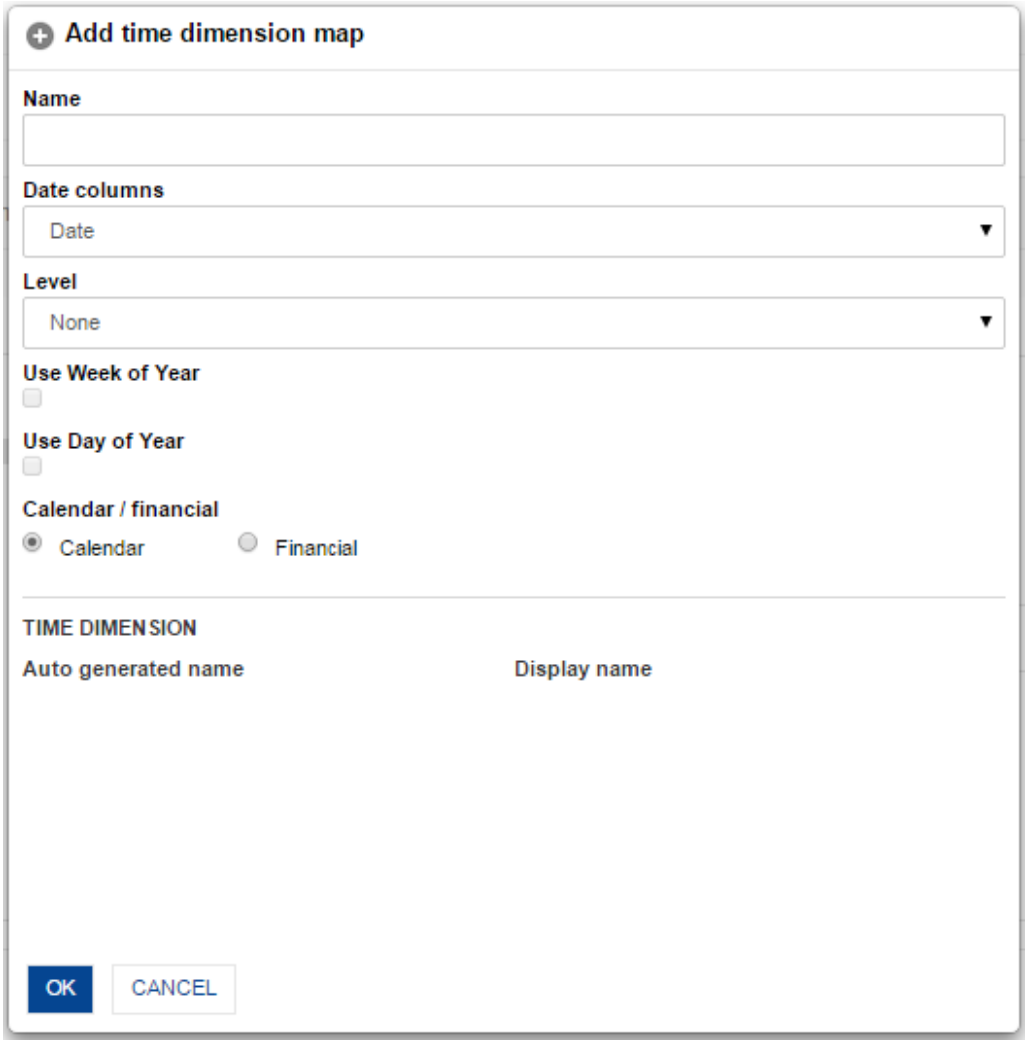
1. Follow the **Procedure** of **STEP 2.**
2. From the **Available cube columns** list, you can drag and drop the columns to the **Dimension columns** list and **Measure columns** list. You can deselect the selected columns by moving the columns back from the **Dimension columns** and **Measure columns.**
3. Click on **SELECT DATA OPERATIONS** to select pre-defined data operations for selected measures
4. For **TIME DIMENSION MAP** section, refer to **STEP 3 Dimension/measures selection** of **Using Database Profile** section.
5. In the **Cube rebuild – Dimensions/measures selection** page, click **OK**.
   The system displays a dialog box showing the process of creating a linked cube.
6. Click **CANCEL** to go back to the **Cube repository** page.
7. Click **BACK** to go back to the previous page.



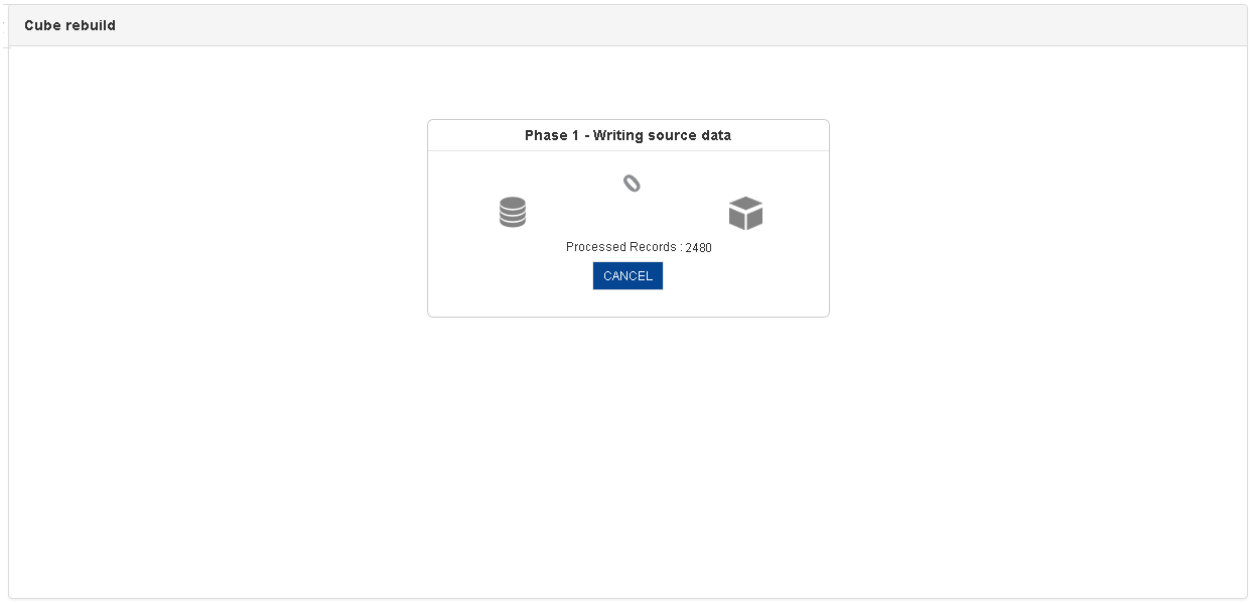
REBUILD CUBE: CSV PROFILE: DIMENSIONS / MEASURES SELECTION



REBUILD CUBE: CSV PROFILE: SELECT DATA OPERATIONS



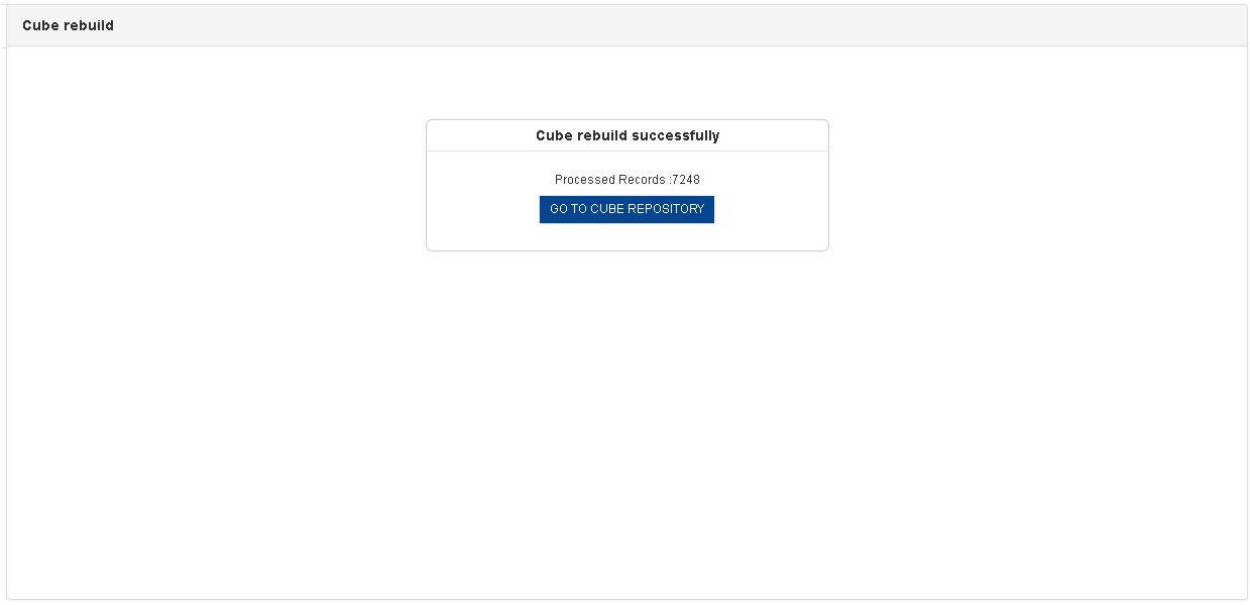
DIMENSIONS/MEASURES SELECTION: ADD TIME DIMENSION MAP



REBUILD CUBE: DATABASE PROFILE: WRITING CUBE DATA

If the cube rebuild is successful, a prompt mentioning the same is displayed.

8. Click **CANCEL** to go back to the **Cube repository** page.



CUBE REBUILD SUCCESSFULLY MESSAGE

9. Click **GO TO CUBE REPOSITORY** to go to the cube repository.

10 Working with Repository

The **Repository** is a centralized database that stores and maintains all Smarten objects, such as crosstab, tabular, dashboard, graphs, GeoMap and KPI.

Repository (/) is the main folder. A list of all folders will be shown under Repository in the Navigation Panel. You can view all folders and BI objects saved in Repository (/) by users. You can click on the folder name from the Navigation Panel to view details. You cannot delete or copy this Repository (/) folder.

To view the repository details:

Procedure

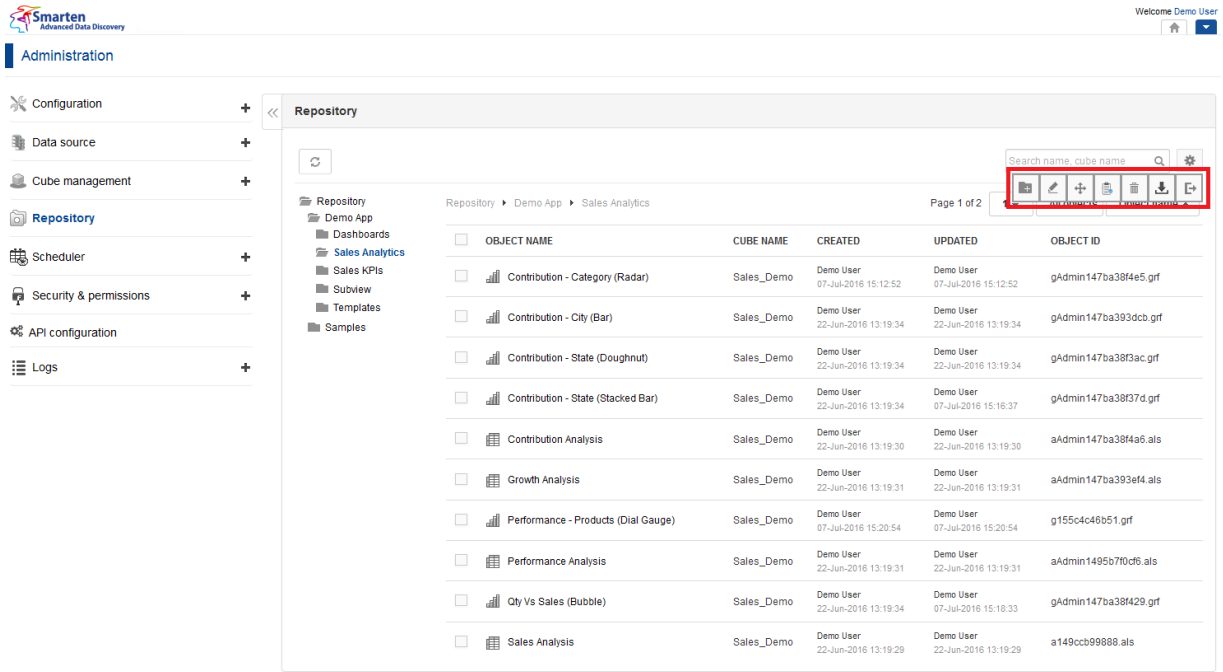
In the Smarten Navigation Panel, click **Repository.**
The system displays the **Repository** page.

10.1 Repository List

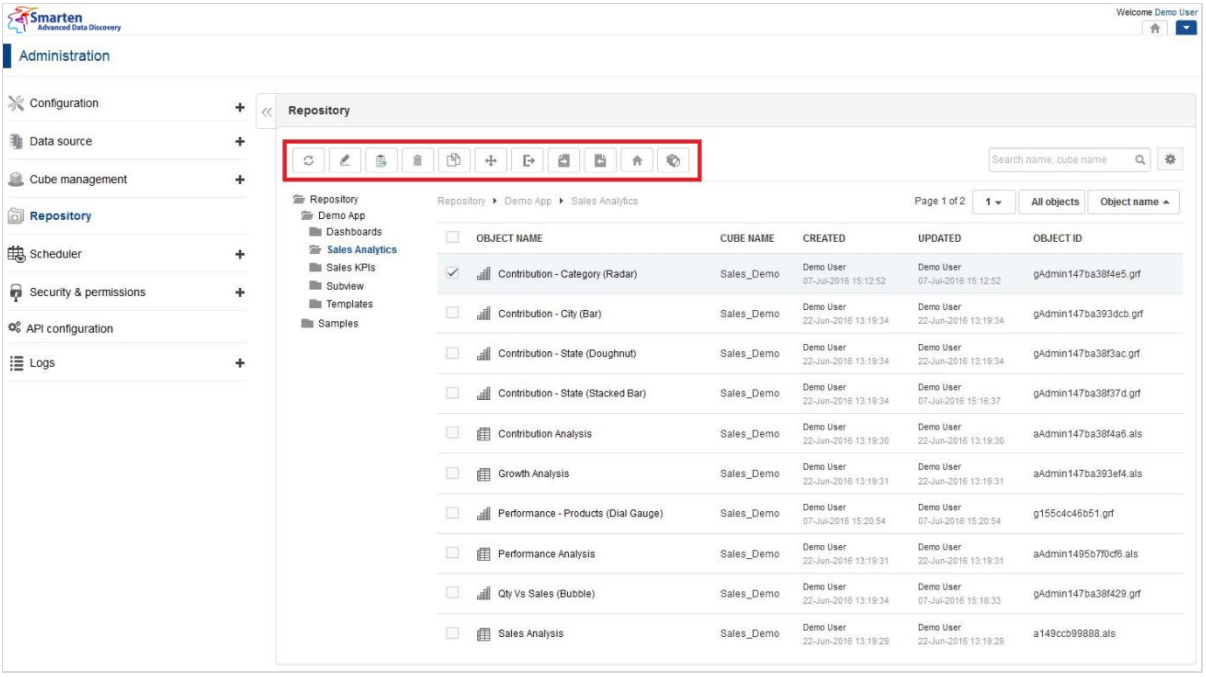
Repository (/) shows a list of all BI objects, such as dashboards, KPI, crosstab, graph, GeoMap and tabular. It shows **object name, cube name, created date**, **updated date, and object ID** for different objects, such as **Crosstab**, **Graph**, **GeoMap, Tabular**, **KPI,** and **Dashboard**.

Procedure

1. In the Smarten Navigation Panel, click **Repository.**
   The system displays the **Repository** page.
2. From the **Page** list, select an option to navigate to the selected page number.
   You can sort the objects based on the object name, cube name, the date they were created, and the date they were last modified by selecting an option from the list adjacent to the **Page** list.



REPOSITORY: FOLDER TOOLBAR MENU



REPOSITORY: OBJECT TOOLBAR MENU

Icon	Icon name
	Add folder
	Edit folder
	Move folder
	Manage permissions
	Delete folder
	Import object
	Export folder

FOLDER MENU: TOOLBAR OPTIONS

Icon	Icon name
	Refresh object list
	Edit object
	Manage permissions
	Delete object
	Copy object
	Move object
	Export object
	Export object permissions
	Import object permissions
	Set the object as home page
	Associate cube

OBJECT MENU: TOOLBAR OPTIONS

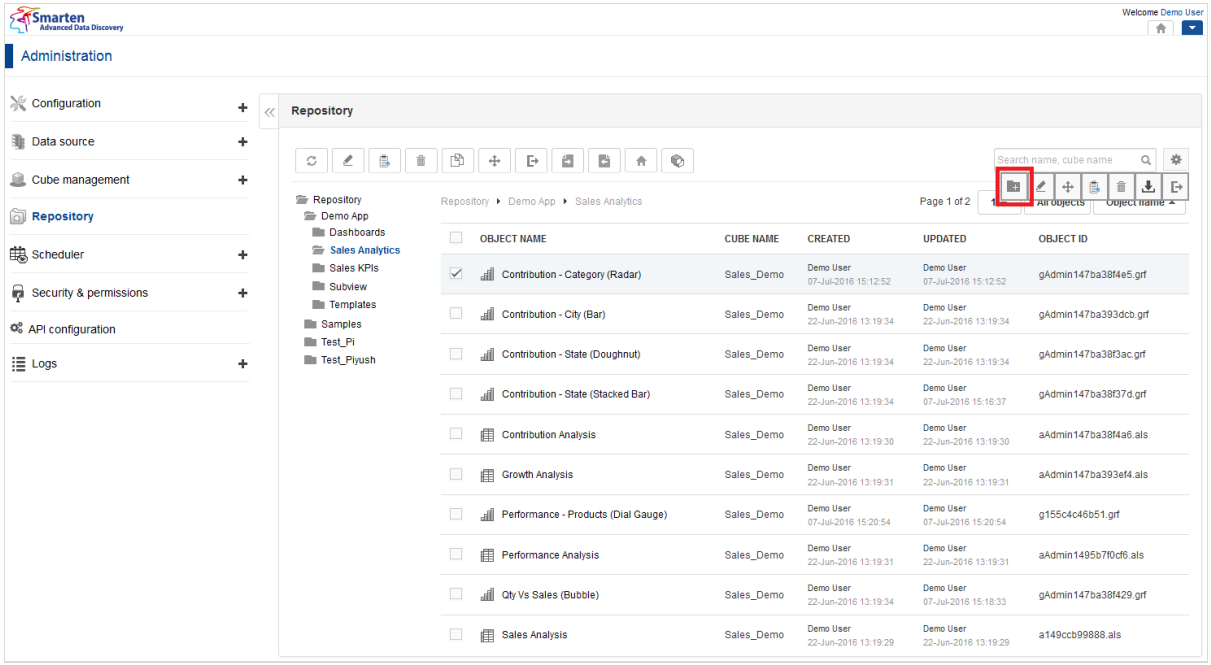
10.1.1 Add a New Folder

Add Folder is used to add a folder and subfolder for objects repository. Added folders will be accessible to users as per access rights granted to the users by the administrator. User can also add n level hierarchy of subfolders and save various Smarten objects in these folders.

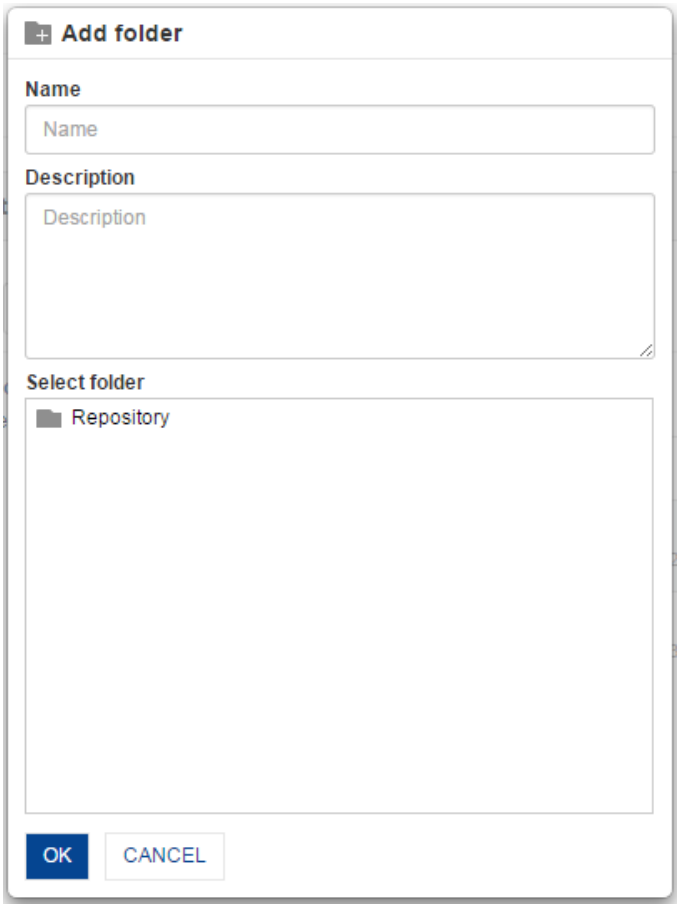
To add a new folder in Repository:

Procedure

1. In the Smarten Navigation Panel, click **Repository.**
   The system displays the **Repository** page.
2. Click the **Settings**.
   The system displays the Settings menu.
3. In the Settings menu, click **Add Folder**.
   The system displays the **Add Folder** dialog box.



REPOSITORY: ADD FOLDER



REPOSITORY: ADD NEW FOLDER

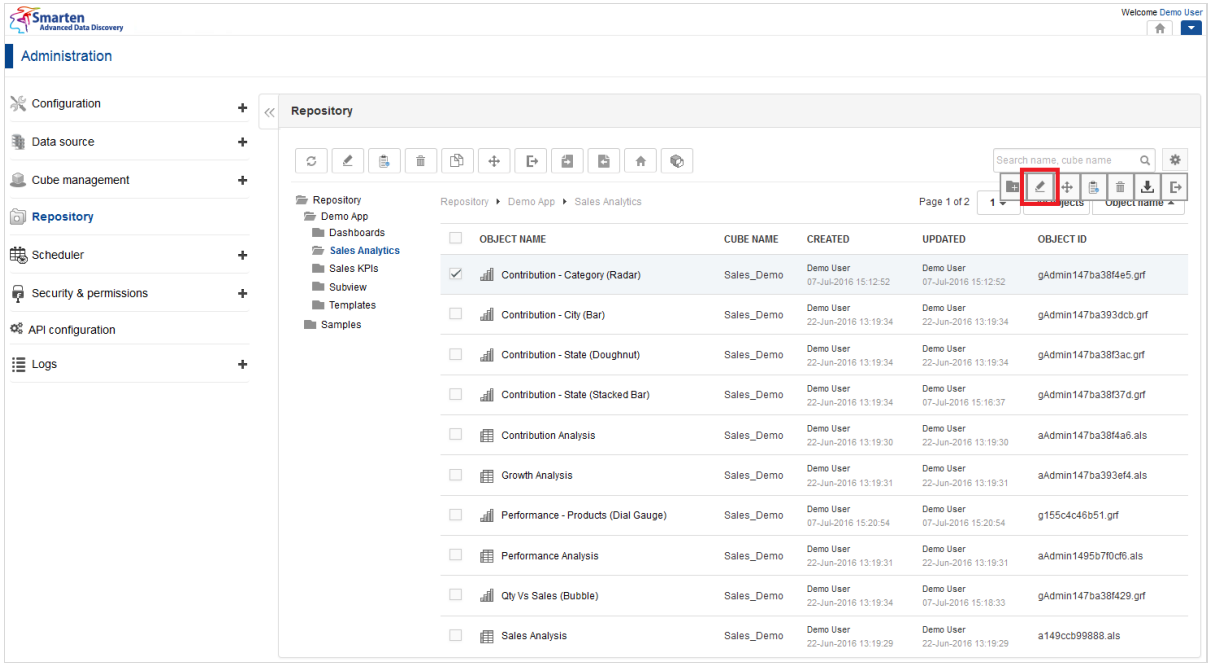
4. In the **Name** field, enter a name for the folder.
5. In the **Description** box, enter a description for the folder.
6. From the **Select folder** section, select the folder under which you want to add the folder.
7. Click **OK** to add the folder.

10.1.2 Edit a folder

To edit a folder in Repository:

Procedure

1. In the Smarten Navigation Panel, click **Repository.**
   The system displays the **Repository** page.
2. Click the **Settings**.
   The system displays the Settings menu.
3. In the Settings menu, click **Edit Folder**.
   The system displays the **Edit Folder details** dialog box.



REPOSITORY: EDIT FOLDER

REPOSITORY: EDIT FOLDER DETAILS

4. In the **Name** field, change the name of the folder.
5. In the **Description** box, change the description of the folder.
6. Select the **Visible (for users)** checkbox to make the folder visible to other users.
7. Click **OK** to save the changes.

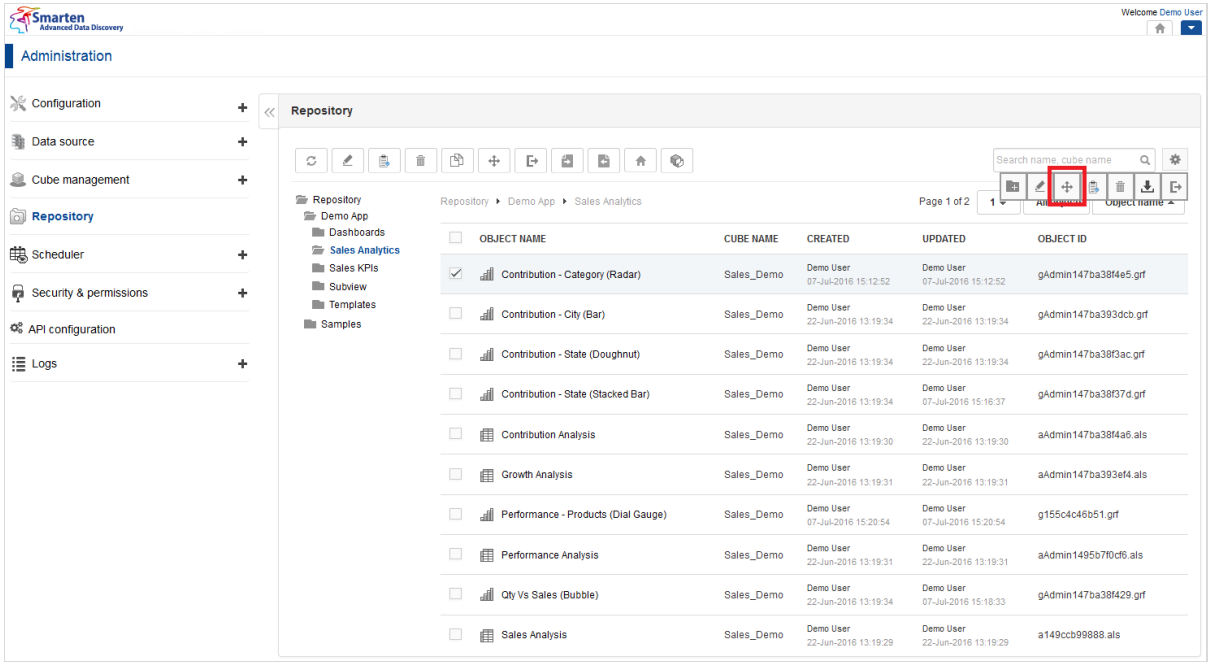
> **Note**: You cannot change the name of the **Repository** or make it invisible, as it is a main root folder in the system.

10.1.3 Move a folder

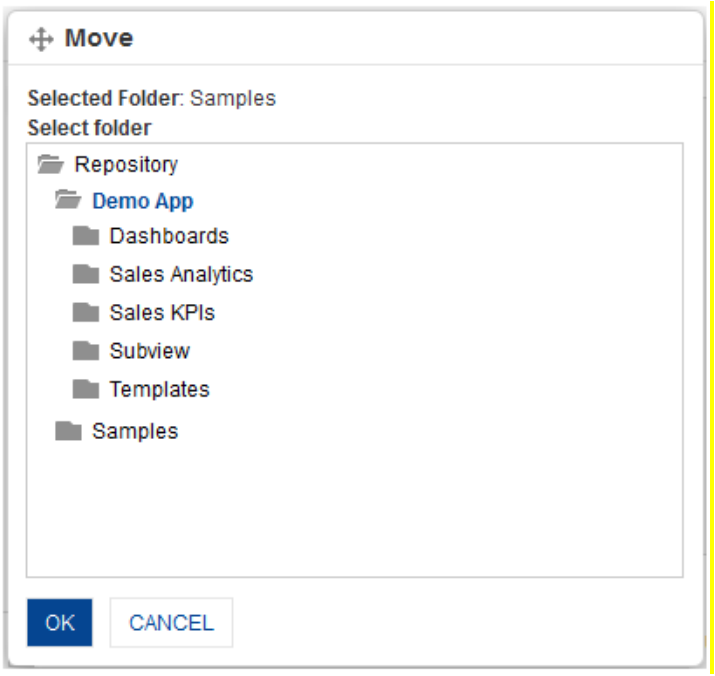
To Move a folder in Repository:

Procedure

1. In the Smarten Navigation Panel, click **Repository.**
   The system displays the **Repository** page.
2. Click the **Settings**.
   The system displays the Settings menu.
3. In the Settings menu, click **Move Folder**.
   The system displays the **Move folder** dialog box.



REPOSITORY: MOVE FOLDER



REPOSITORY: MOVE FOLDER

4. From the **Repository** folder structure, locate the folder where you want to paste the moved object.
5. Click **OK** to move the folder within the selected folder.

> **Note**: Entire folder is moved (including its objects and subfolders) from one location to another location.

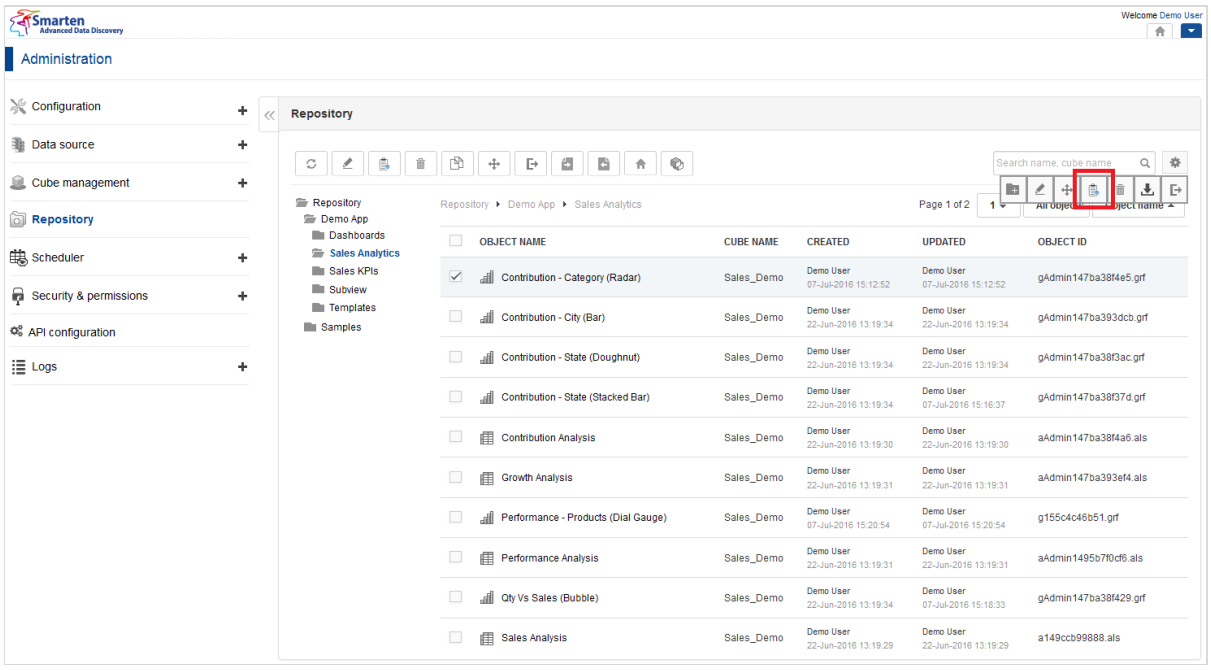
10.1.4 Permissions to Access a Folder

You can grant permissions to roles and individual users to access a folder and what activities they can perform on the folder.

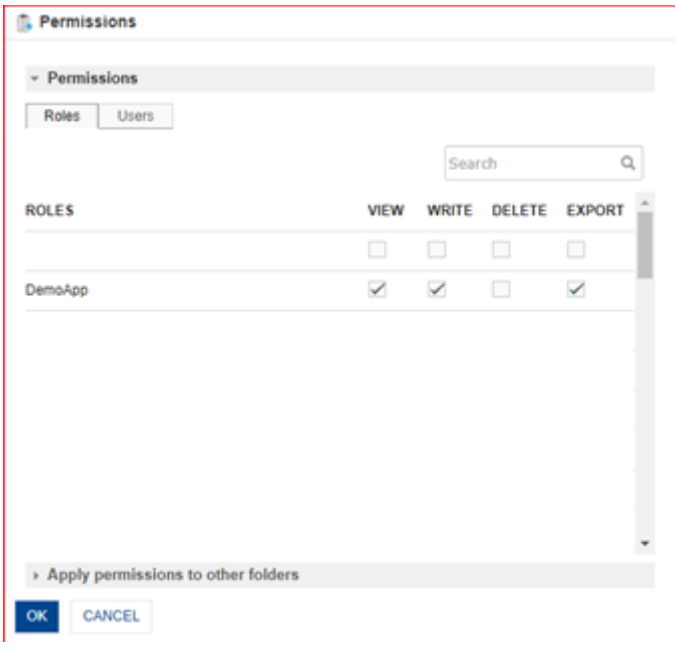
To grant permissions to access a folder:

Procedure

1. In the Smarten Navigation Panel, click **Repository.**
   The system displays the **Repository** page.
2. Click the **Settings**.
   The system displays the Settings menu.
3. In the Settings menu, click **Manage Permissions**.
   The system displays the **Permissions** dialog box.



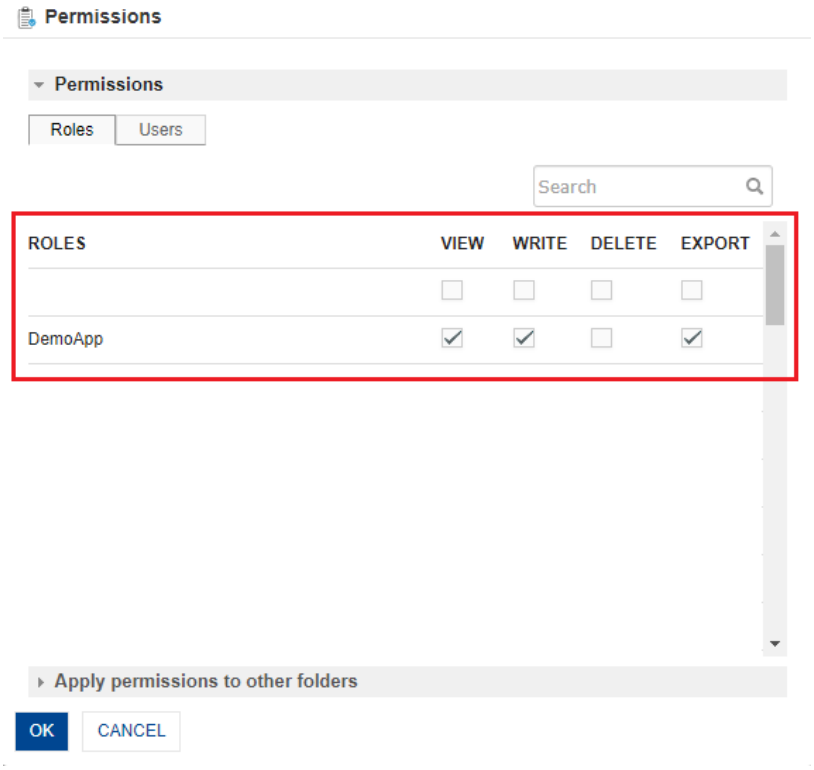
REPOSITORY: PERMISSIONS TO FOLDER



REPOSITORY: PERMISSIONS FOR ROLES AND USERS

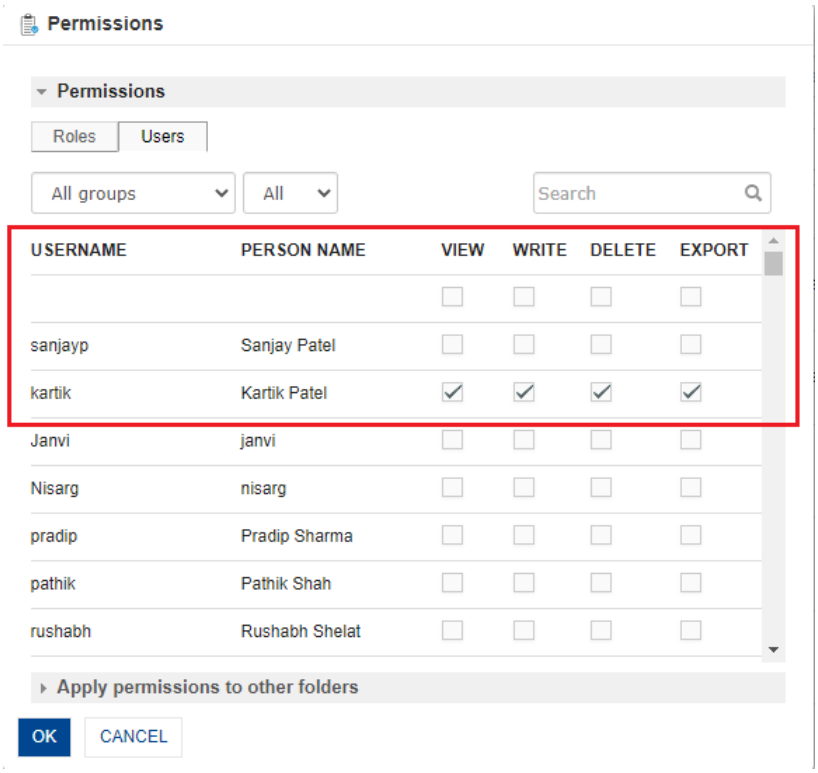
4. In the **Roles** tab, manage view, write, delete, and export permissions for roles as required.
5. Select the **VIEW**, **WRITE**, **DELETE**, or **EXPORT** check boxes for the roles for which you want to grant the view or export permission.

   You can filter roles by searching for a specific role using the **Search** field.



FOLDER PERMISSION: APPLY PERMISSIONS

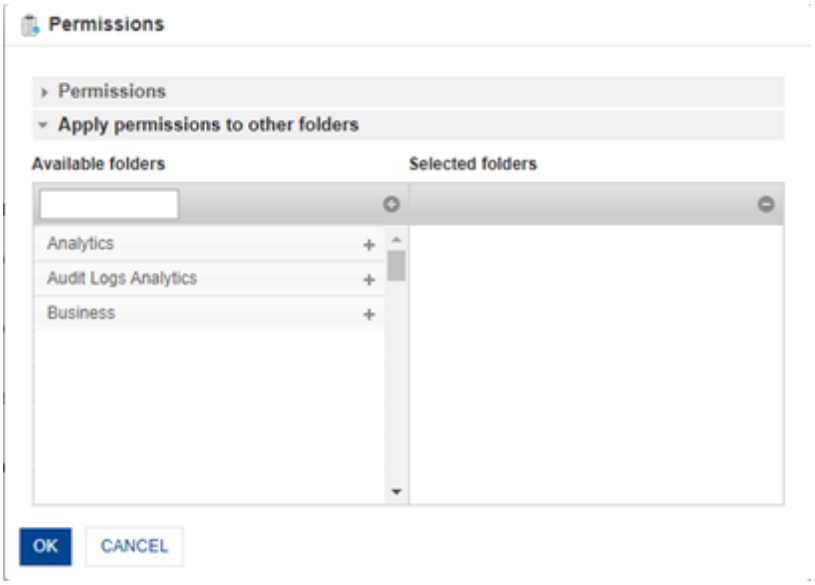
6. In the **Users** tab, manage view, write, delete, or export permissions for users as required.
7. Select the **VIEW**, **WRITE**, **DELETE**, or **EXPORT** check boxes for the users for which you want to grant the view or export permission. For example, in the image below, you can select the **VIEW**, **WRITE**, **DELETE,** and **EXPORT** boxes to allow “kartik” to view, modify, delete, or export the data source.



FOLDER PERMISSIONS: GRANT PERMISSIONS TO USERS

8. Click **Apply permissions to other folders** to grant the same permissions which you have granted to roles and users in the previous step to other folders.

   This option allows you to grant the same set of permissions you have granted to a role for other folders instead of granting the same set of permissions to the role for each folder separately. For example, if you have grated view and export permissions to Role 1 and want to grant the same permissions for Folder1, Folder2, and Folder3. You can use the **Apply permissions to other folders** option to grant the view and export permissions to Role 1 for Folder1, Folder2, and Folder3.



FOLDER PERMISSION: APPLY PERMISSIONS TO OTHER FOLDERS

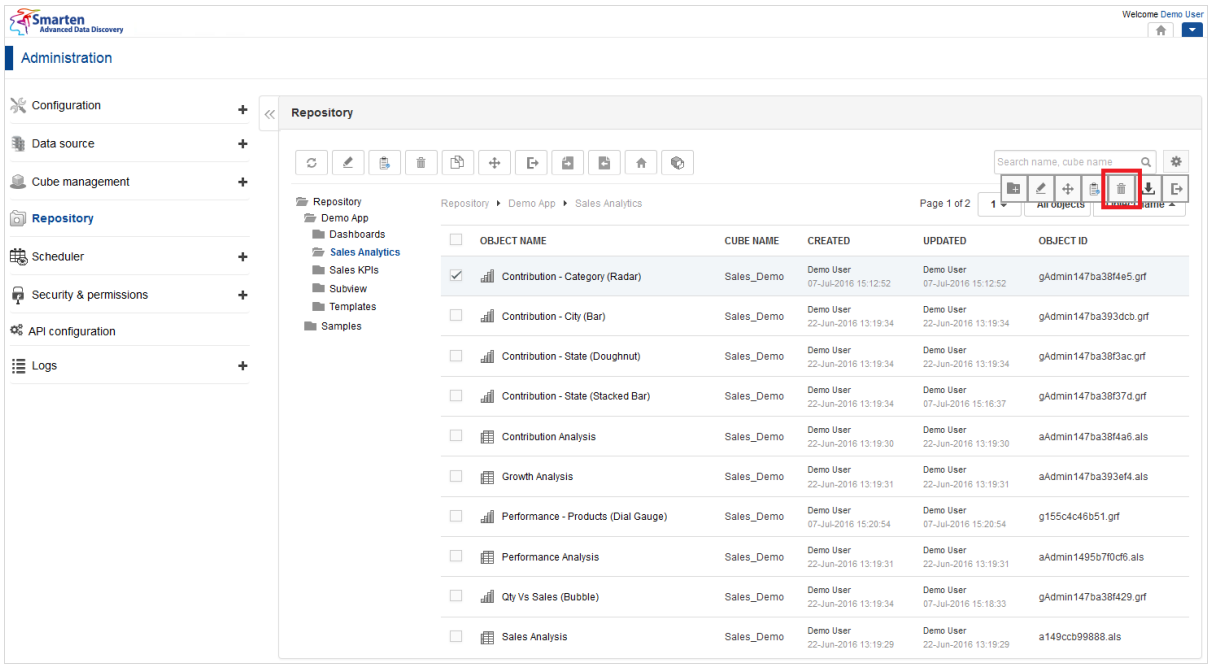
9. Click the plus sign adjacent to the folders for which you want to grant the permissions you have granted to the roles in the earlier step.

10.1.5 Delete a Folder

To delete a folder in Repository:

Procedure

1 In the Smarten Navigation Panel, click **Repository.**
The system displays the **Repository** page.
2 Click the **Settings**.
The system displays the Settings menu.
3 In the Settings menu, click **Delete**.
The system displays the **Delete** dialog box.
4 Click **OK** to confirm or click **Cancel**.



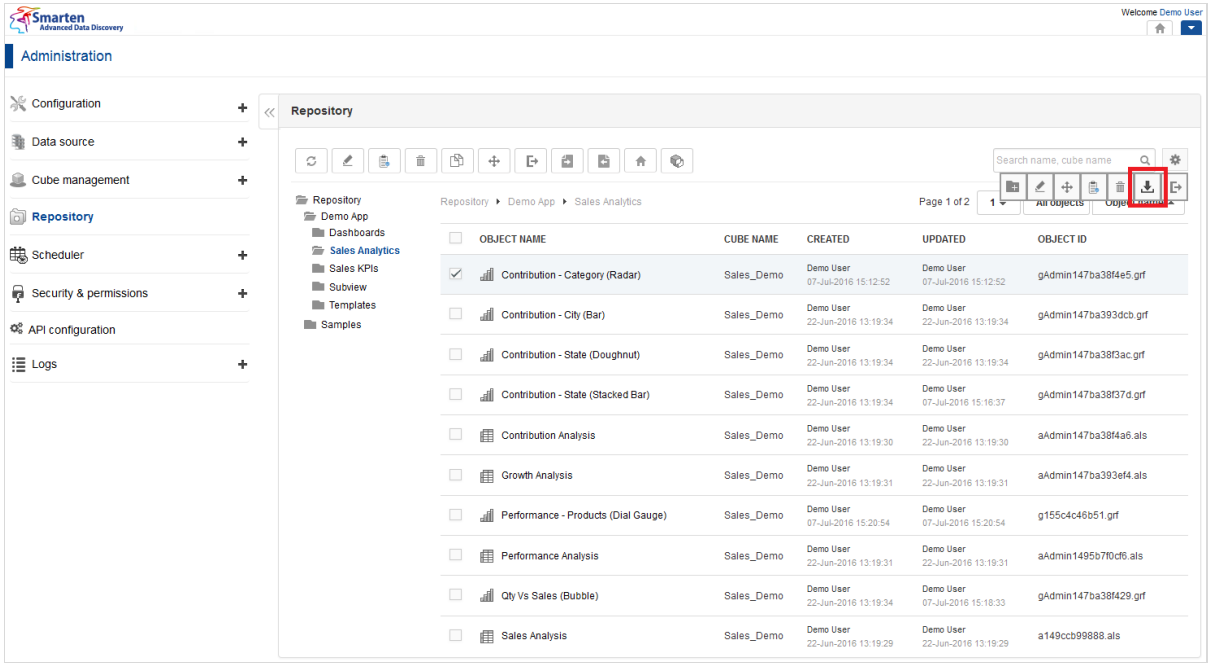
REPOSITORY: DELETE FOLDER

10.1.6 Import Objects to a Folder

To import objects into a folder:

Procedure

1 In the Smarten Navigation Panel, click **Repository.**
The system displays the **Repository** page.
2 Click the **Settings**.
The system displays the Settings menu.
3 In the Settings menu, click **Import Object**.
The system displays the **Import Object** dialog box.



REPOSITORY: IMPORT OBJECTS

REPOSITORY: IMPORT OBJECT

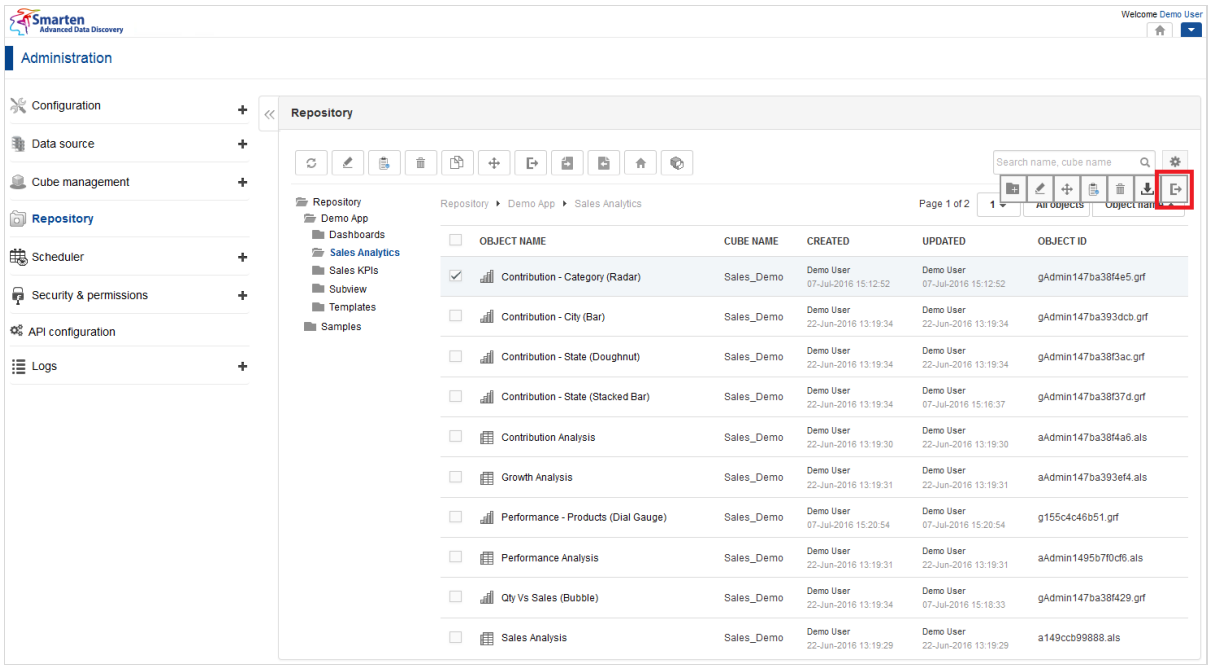
4 Click **BROWSE** to select a file you want to import.
5 Click **OK** to import the selected file.
6 Click **CANCEL** to go back to **Repository** dialog box.

10.1.7 Export Objects from a Folder

To export objects from a folder:

Procedure

1 In the Smarten Navigation Panel, click **Repository.**
The system displays the **Repository** page.
2 Click the **Settings**.
The system displays the Settings menu.
3 In the Settings menu, click **Export**.
All the objects within the current folder and subfolders are exported and downloaded to the default download location you have set for the browser.



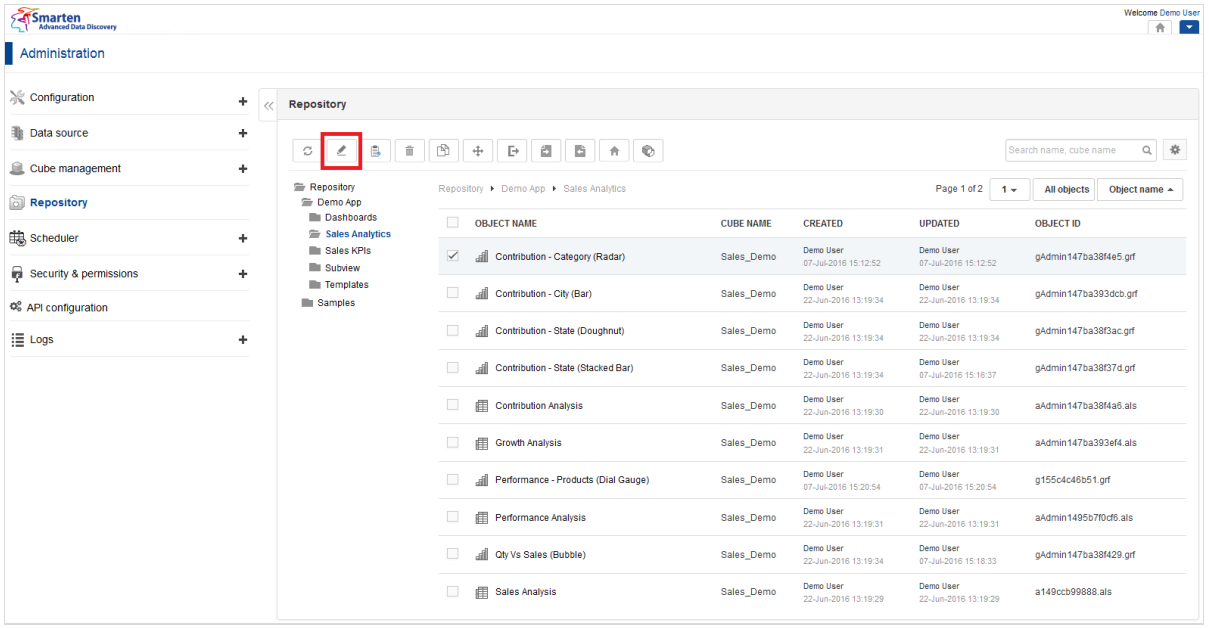
REPOSITORY: EXPORT OBJECT

10.1.8 Edit Object Details

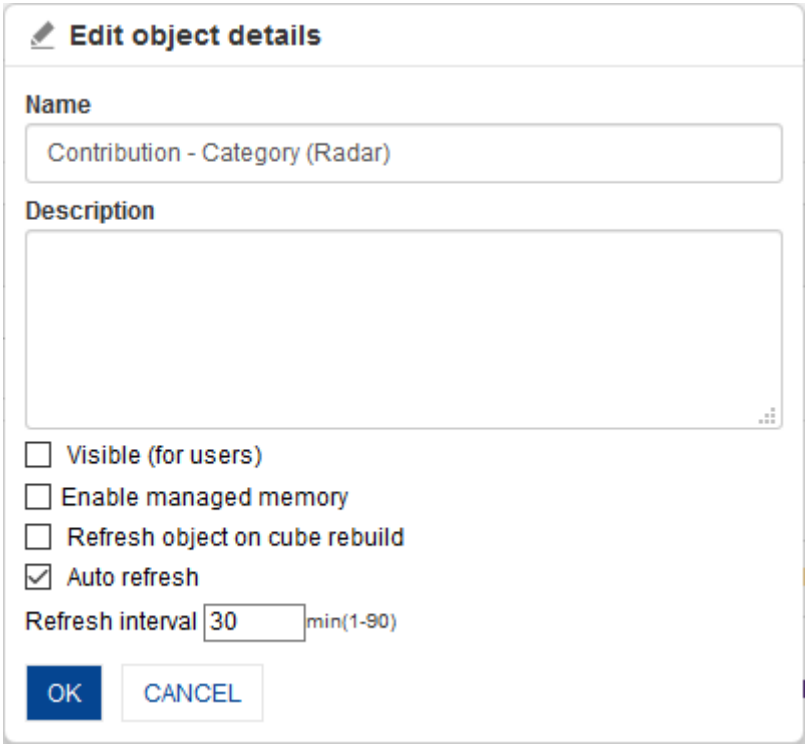
To edit object details:

Procedure

1 In the Smarten Navigation Panel, click **Repository.**
The system displays the **Repository** page.
2 From the **Repository** folder structure, locate the object.
3 Click the checkbox adjacent to the object you want to edit.
4 In the Object Toolbar menu, click **Edit.**
The system displays the **Edit object details** dialog box.



REPOSITORY: EDIT OBJECT DETAILS



REPOSITORY: EDIT OBJECT DETAILS

5 In the **Name** field, change the name of the folder.
6 In the **Description** box, change the description of the folder.
7 Select the **Visible (for users)** checkbox to make the folder visible to other users.
8 Select **Enable managed memory** checkbox as per your need.
9 Select **Refresh object on cube rebuild** checkbox to refresh the object automatically after its cube is rebuilt.
10 Select the **Auto refresh** checkbox to auto refresh object after specified interval.
11 In the **Refresh Interval**, enter a value.
12 Click **OK** to save the changes.

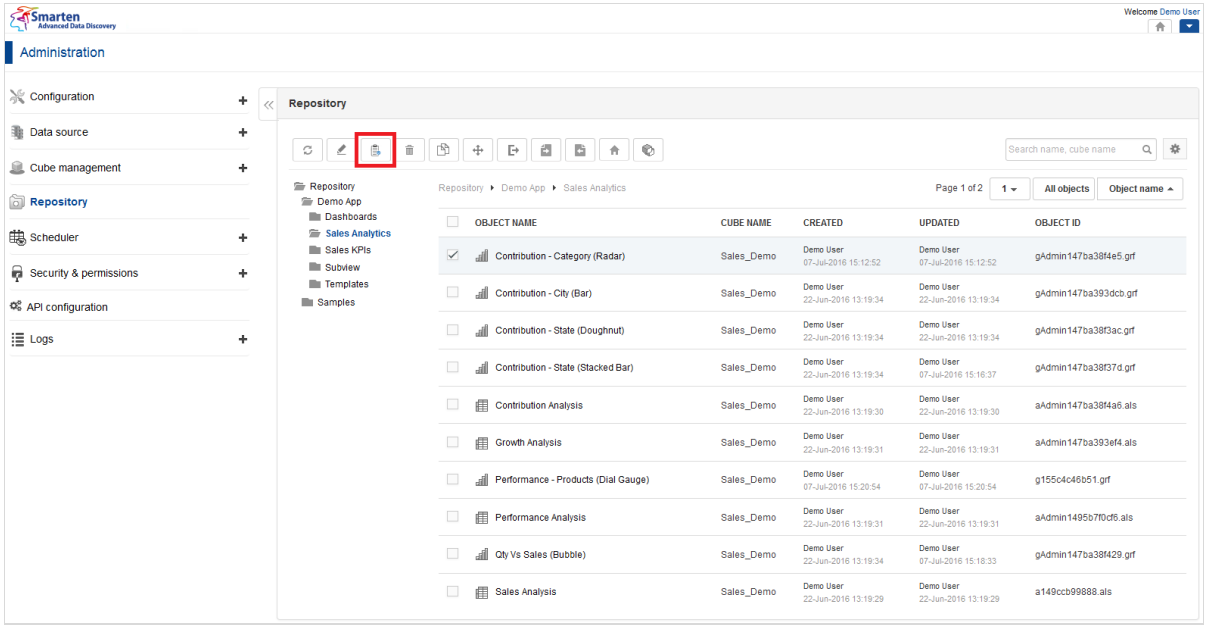
10.1.9 Permissions to Access an Object

You can grant permissions to roles and individual users to access an object and what activities they can perform on the object.

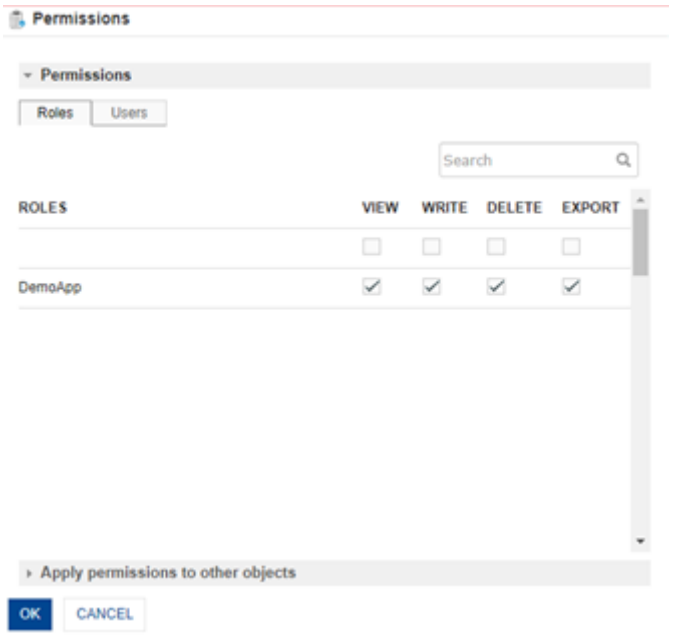
To grant permissions to access an object:

Procedure

1 In the Smarten Navigation Panel, click **Repository.**
The system displays the **Repository** page.
2 From the **Repository** folder structure, locate the object.
3 Click the checkbox adjacent to the object you want to edit.
4 In the Object Toolbar menu, click **Permissions.**
The system displays the **Permissions** dialog box.



REPOSITORY: OBJECT ACCESS PERMISSIONS

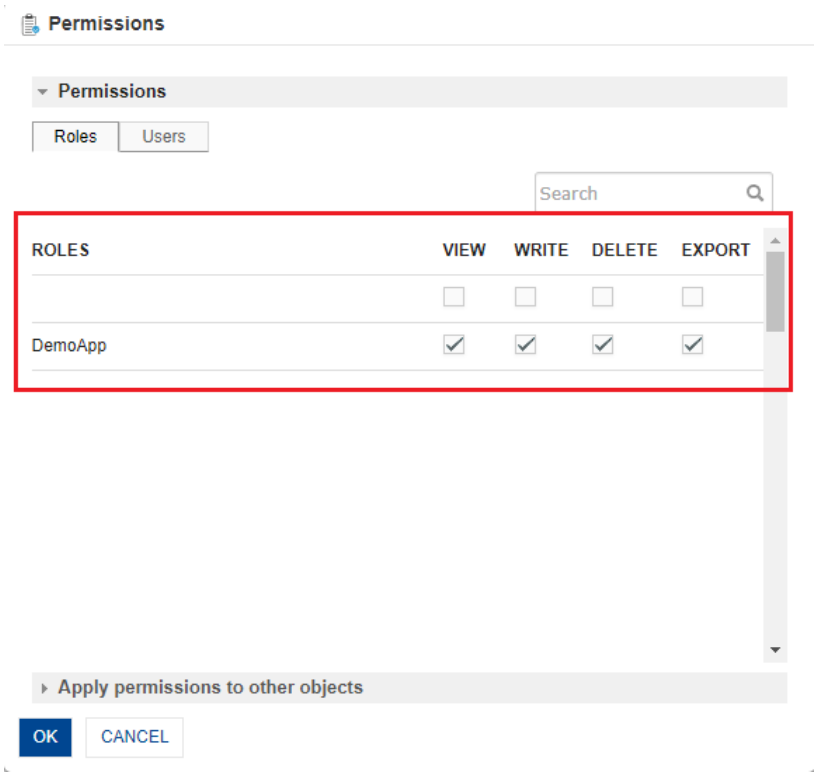


REPOSITORY: PERMISSIONS FOR ROLES AND USERS

5 In the **Roles** tab, manage view, write, delete, and export permissions for roles as required.

6 Select the **VIEW**, **WRITE**, **DELETE**, or **EXPORT** check boxes for the roles for which you want to grant the view or export permission.

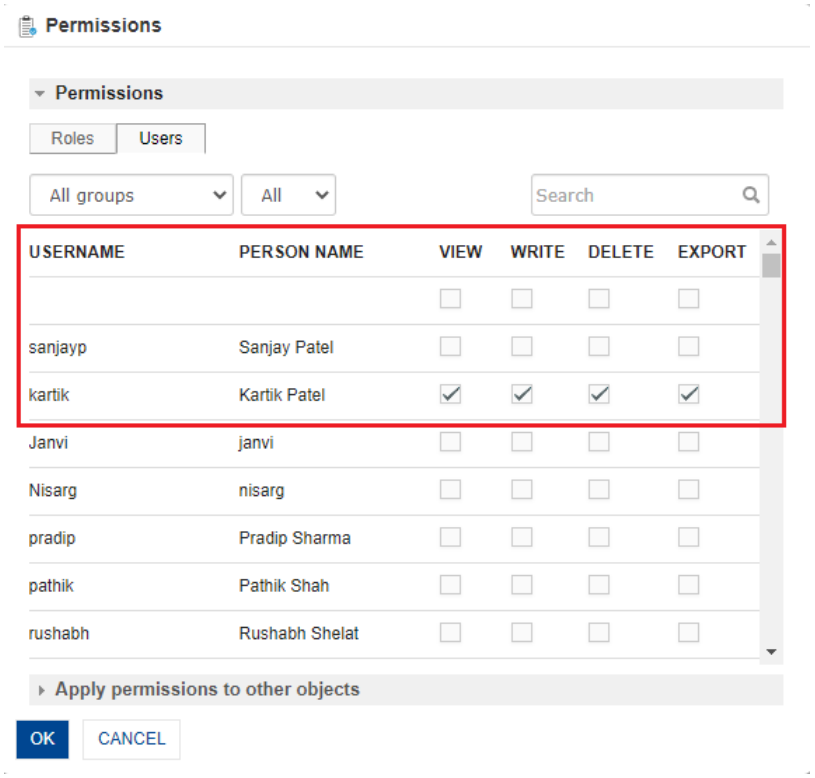
You can filter roles by searching for a specific role using the **Search** field.



OBJECT PERMISSION: APPLY PERMISSIONS

7 In the **Users** tab, manage view, write, delete, or export permissions for users as required.

8 Select the **VIEW**, **WRITE**, **DELETE**, or **EXPORT** check boxes for the users for which you want to grant the view or export permission. For example, in the image below, you can select the **VIEW**, **WRITE**, **DELETE,** and **EXPORT** boxes to allow "kartik" to view, modify, delete, or export the data source.

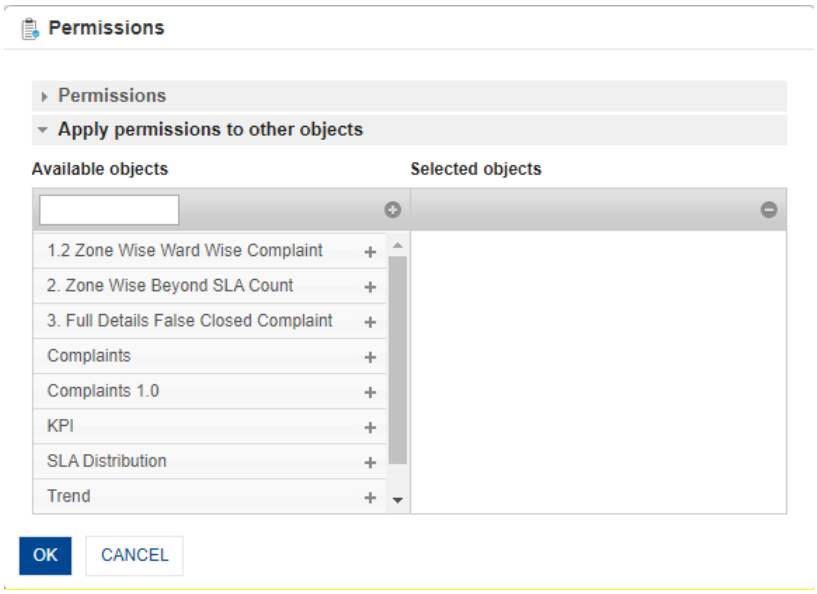


OBJECT PERMISSIONS: GRANT PERMISSIONS TO USERS

9 Click **Apply permissions to other objects** to grant the same permissions which you have granted to roles and user in the previous step to other objects.

This option allows you to grant the same set of permissions you have granted to a role for other

objects instead of granting the same set of permissions to the role for each object separately. For example, if you have grated view and export permissions to Role 1 and want to grant the same permissions for Object1, Object2, and Object3. You can use the **Apply permissions to other folders** option to grant the view and export permissions to Role 1 for Object1, Object2, and Object3.



OBJECT PERMISSION: APPLY PERMISSIONS TO OTHER OBJECTS

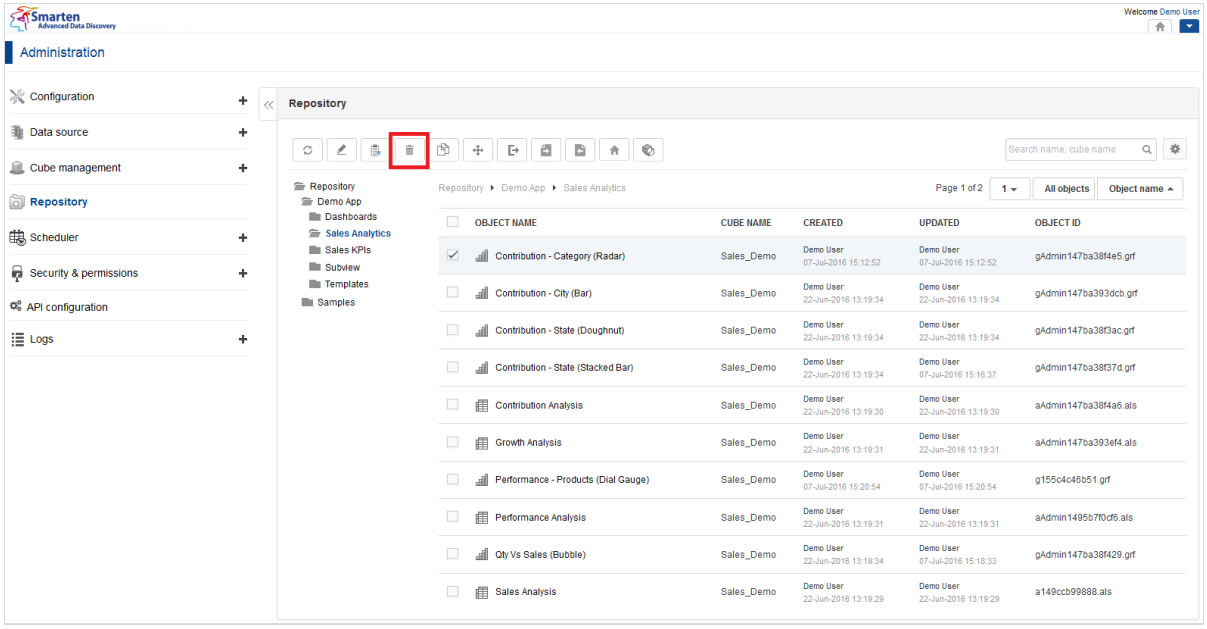
10 Click the plus sign adjacent to the objects for which you want to grant the permissions you have granted to the roles in the earlier step.
11 Click **OK** to grant the selected permissions for roles and users.

10.1.10Delete an Object

To delete an object:

Procedure

1 In the Smarten Navigation Panel, click **Repository.**
The system displays the **Repository** page.
2 From the **Repository** folder structure, locate the object.
3 Click the checkbox adjacent to the object you want to edit.
4 In the Object Toolbar menu, click **Delete.**
5 Click **OK** to confirm or click **Cancel**.



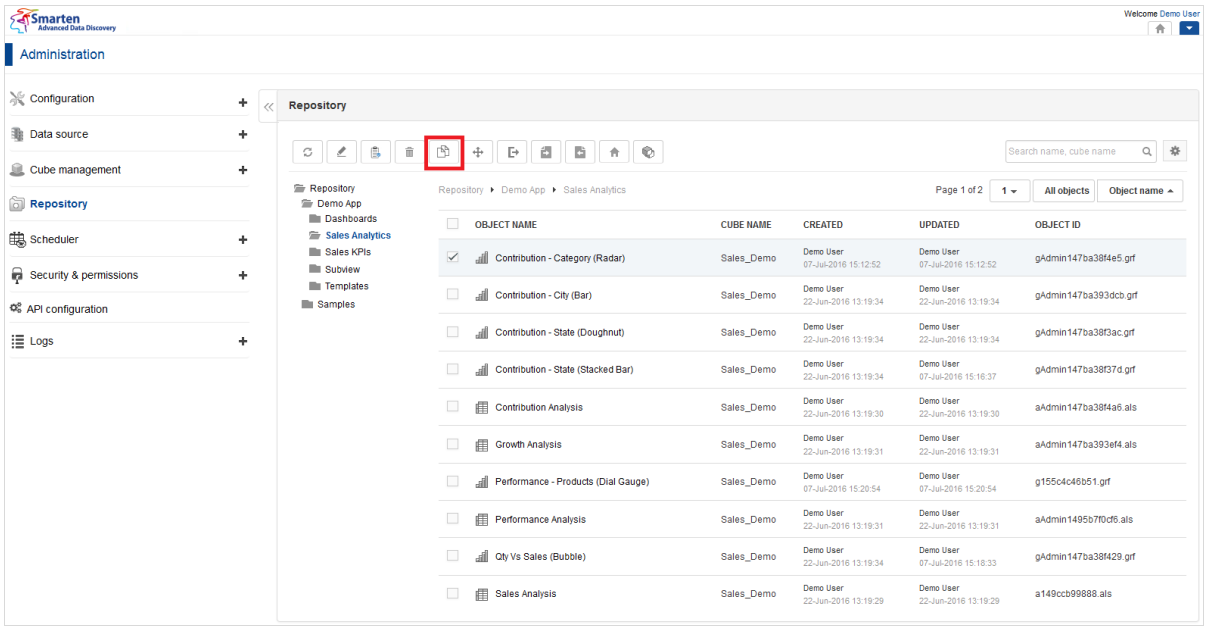
REPOSITORY: DELETE OBJECT

10.1.11Copy an Object

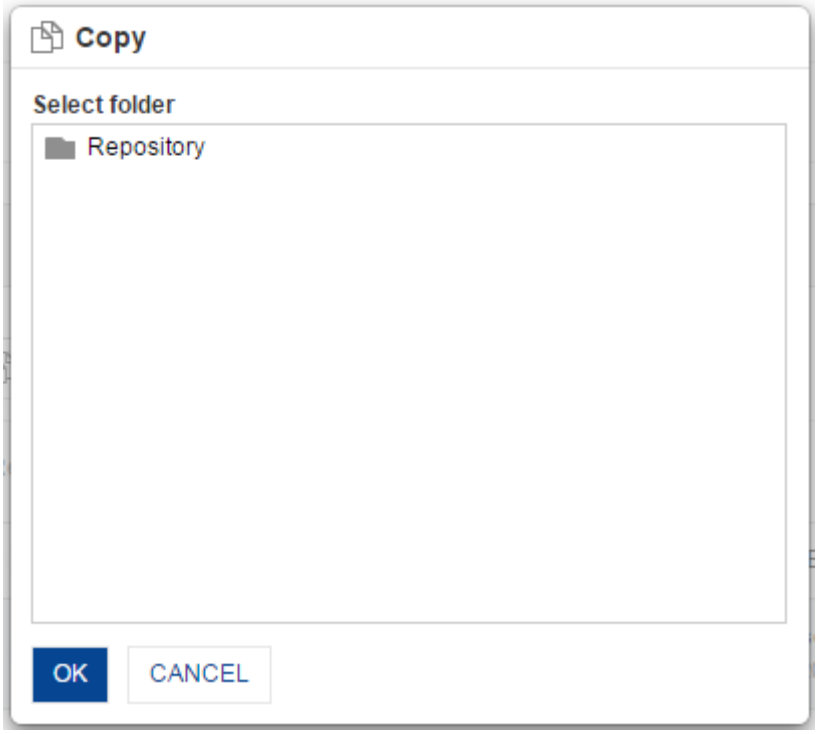
To copy an object:

Procedure

1 In the Smarten Navigation Panel, click **Repository.**
The system displays the **Repository** page.
2 From the **Repository** folder structure, locate the object.
3 Click the checkbox adjacent to the object you want to edit.
4 In the Object Toolbar menu, click **Copy.**
The system displays the **Copy** dialog box.



REPOSITORY: COPY OBJECT



REPOSITORY: COPY OBJECT

5 From the **Repository** folder structure, locate the folder where you want to paste the copied object.

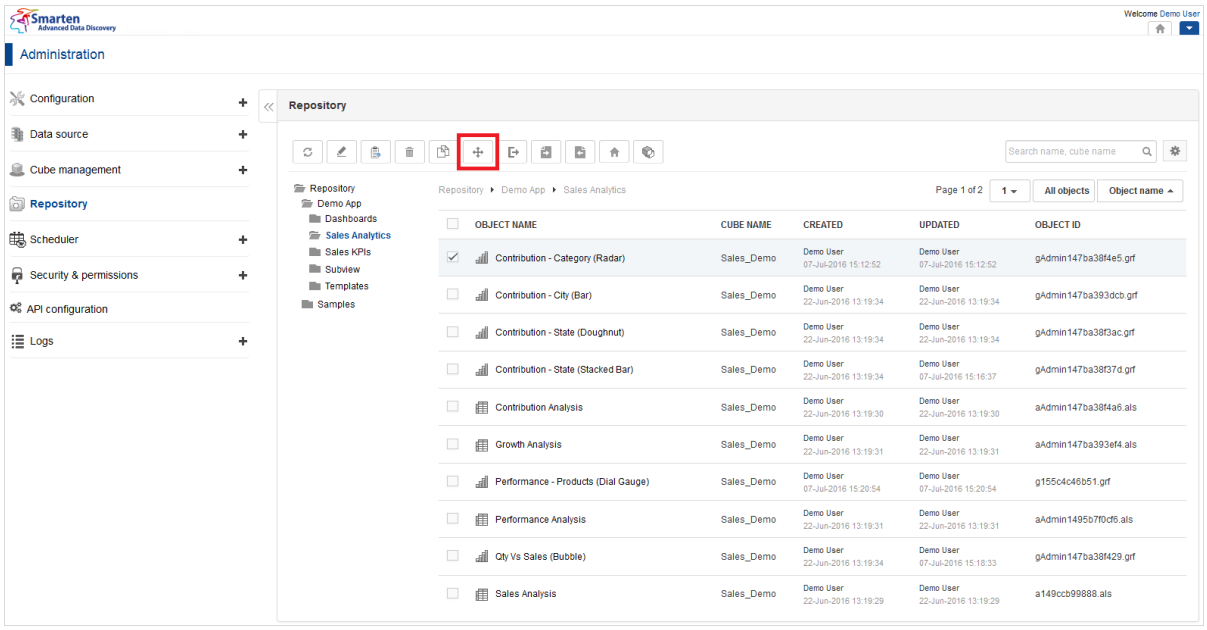
6 Click **OK** to copy the object within the selected folder.

10.1.12Move an Object

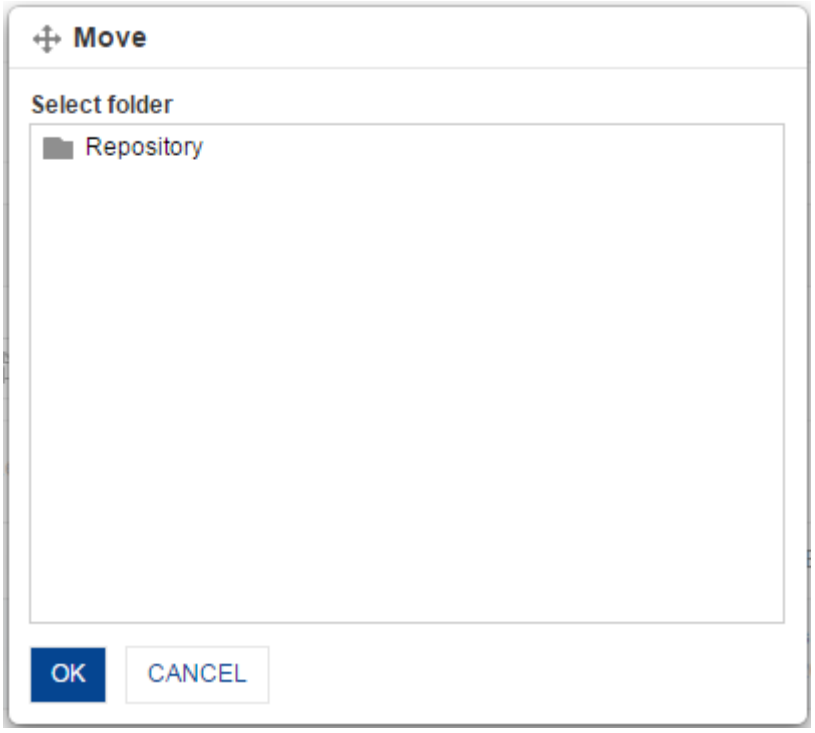
To move an object:

Procedure

1 In the Smarten Navigation Panel, click **Repository.**
The system displays the **Repository** page.
2 From the **Repository** folder structure, locate the object.
3 Click the checkbox adjacent to the object you want to edit.
4 In the Object Toolbar menu, click **Move.**
The system displays the **Move** dialog box.



REPOSITORY: MOVE OBJECT



REPOSITORY: MOVE OBJECT

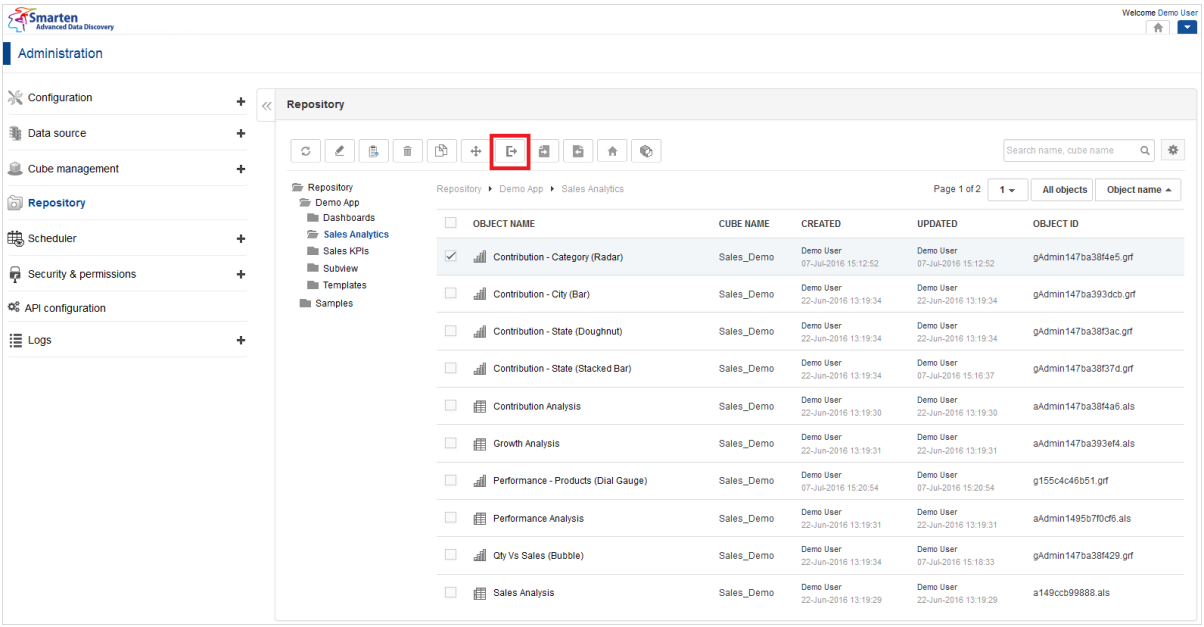
5 From the **Repository** folder structure, locate the folder where you want to paste the moved object.
6 Click **OK** to move the object within the selected folder.

10.1.13Export an Object

To export an object:

Procedure

1 In the Smarten Navigation Panel, click **Repository.**
The system displays the **Repository** page.
2 From the **Repository** folder structure, locate the object.
3 Click the checkbox adjacent to the object you want to export.
4 In the Object Toolbar menu, click **Export object.**
The selected object is downloaded to the default download location you have set for the browser.



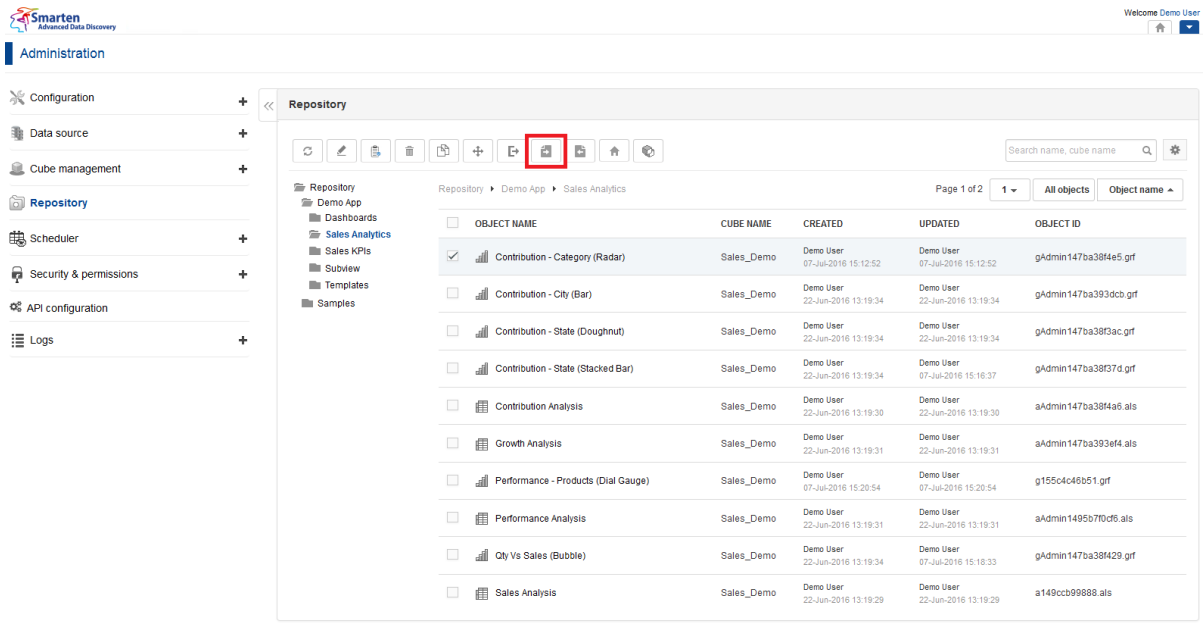
REPOSITORY: EXPORT AN OBJECT

10.1.14Export Object Permissions

To export object permissions:

Procedure

1. In the Smarten Navigation Panel, click **Repository.**
The system displays the **Repository** page.



REPOSITORY: EXPORT OBJECT PERMISSIONS

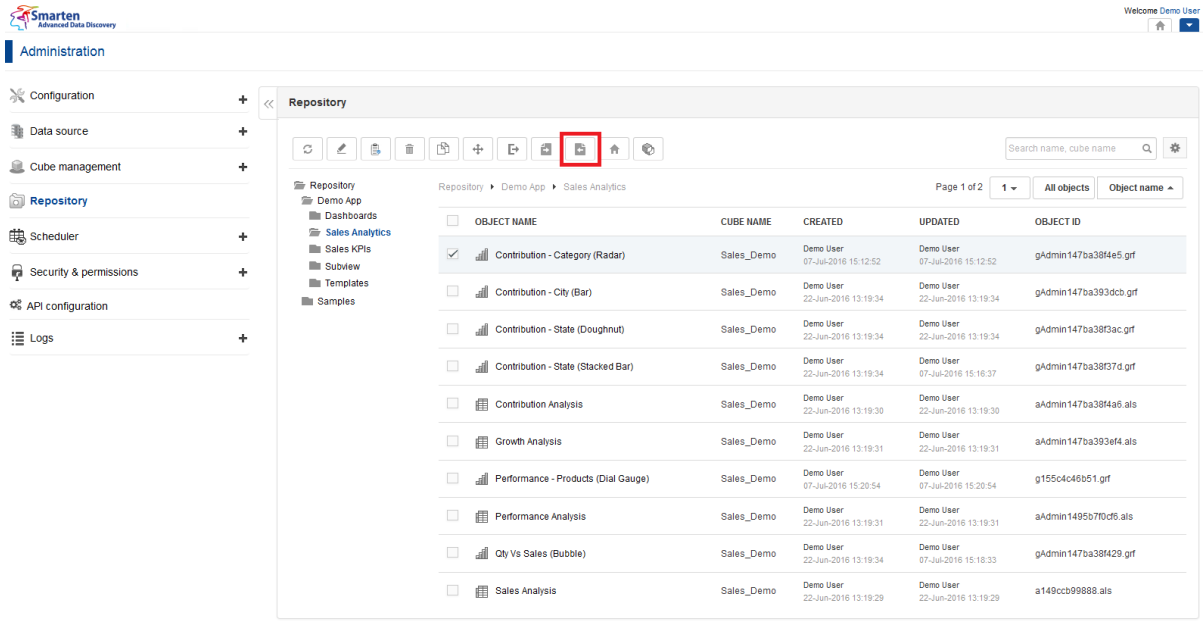
2. From the **Repository** folder structure, locate the object.
3. Click the checkbox adjacent to the object you want to export object permissions.
4. In the Object Toolbar menu, click **Export object permissions.**
   The system displays a dialog box to save the file.
5. Object permissions are exported in **XLS** file. This file can be used to import object permissions using Import Object Permissions.

10.1.15Import Object Permissions

To import object permissions:

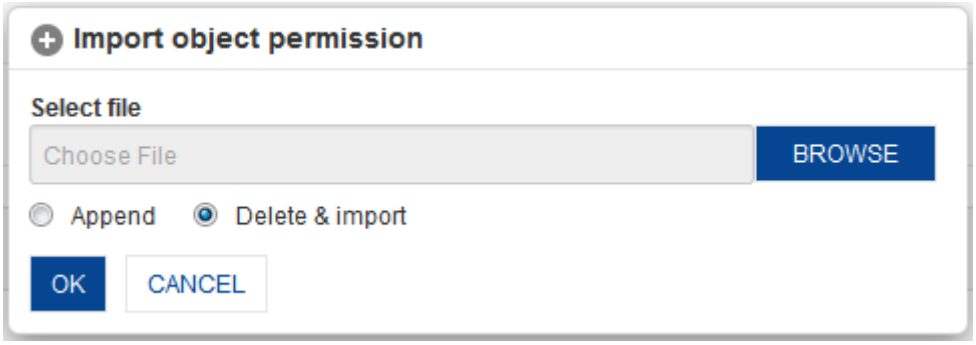
Procedure

1. In the Smarten Navigation Panel, click **Repository.**
   The system displays the **Repository** page.



REPOSITORY: IMPORT OBJECT PERMISSIONS

2. From the **Repository** folder structure, locate the object.
3. Click the checkbox adjacent to the object you want to import object permissions.
4. In the Object Toolbar menu, click Import object permissions.
   The system displays the **Import object permissions** dialog box.



IMPORT OBJECT PERMISSIONS

To Append Object Permissions:

1. In the **Select file** field, browse the file.
2. Select **Append** radio option, to import new permissions from the file.
3. Click OK

To Delete & Import Object Permissions:

1. In the Select file field, browse the file.
2. Select **Delete & import** radio option, to delete all existing permissions and import new permissions from the file.
3. Click OK

> Note:
> Sample Import formats are available in <Smarten Installation Dir>/Docs/Sample files.

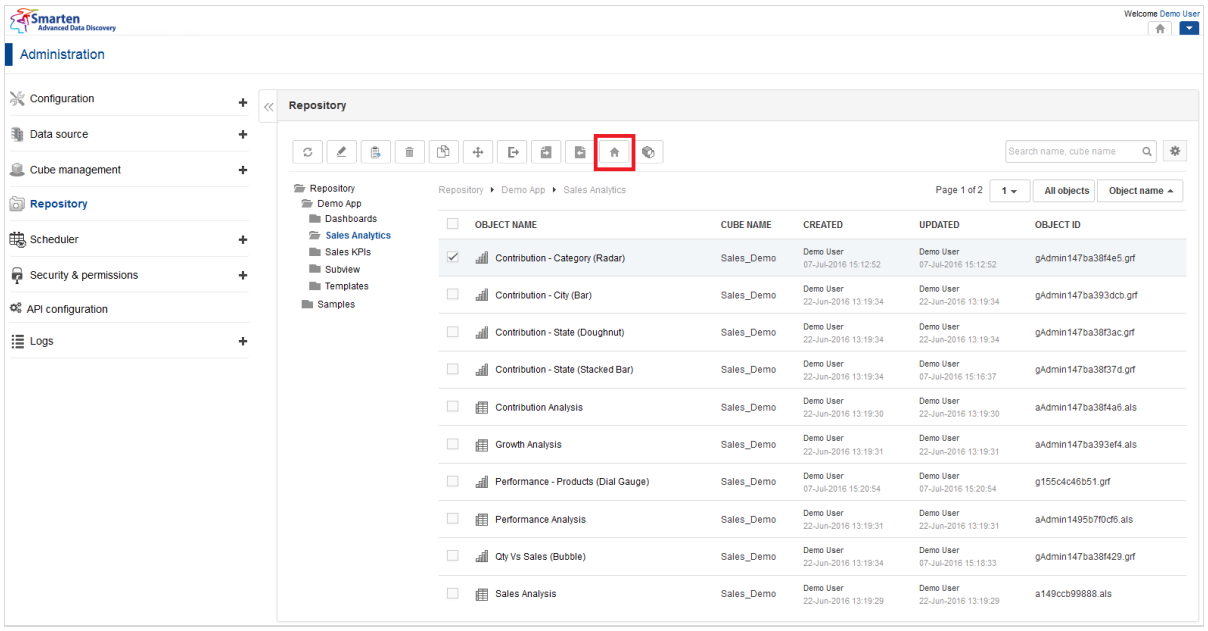
10.1.16Set Object as Home Page

You can set an object to be displayed on the home page. The object can be Crosstab, Graph, GeoMap, KPI, KPI Group, Tabular, or Dashboard. After an object is set as home page, the object is displayed within the right pane of the home page as the default logged in home page for users.

To set an object as home page:

Procedure

1 In the Smarten Navigation Panel, click **Repository.**
  The system displays the **Repository** page.
2 From the **Repository** folder structure, locate the object.
3 Click the checkbox adjacent to the object you want to edit.
4 In the Object Toolbar menu, click **Set as Home page.**
  The system displays a prompt mentioning that the selected object is set as home page.
5 Click **OK**.



REPOSITORY: SET AN OBJECT AS HOME PAGE

10.1.17Associate cube with an object

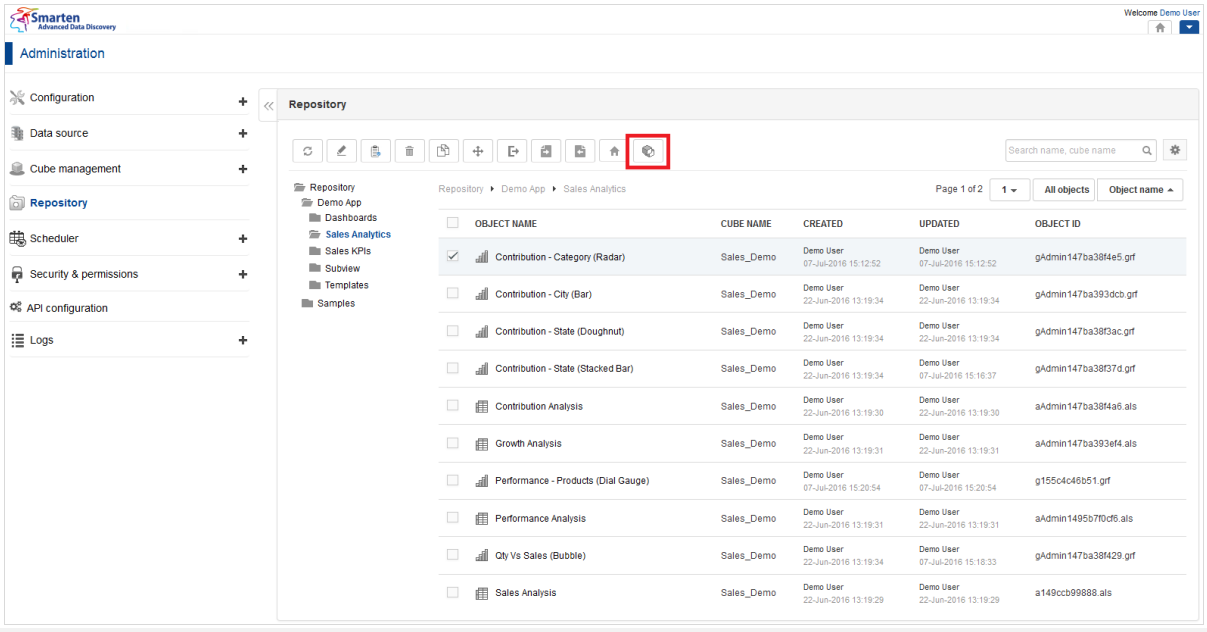
You can assign an object created from a cube to another matching cube. Columns in cubes will be matched as per the matching criteria.

Reference: **Concept Manual > Designing the Data Model > Cube & Object Management > Matching Cube Criteria**

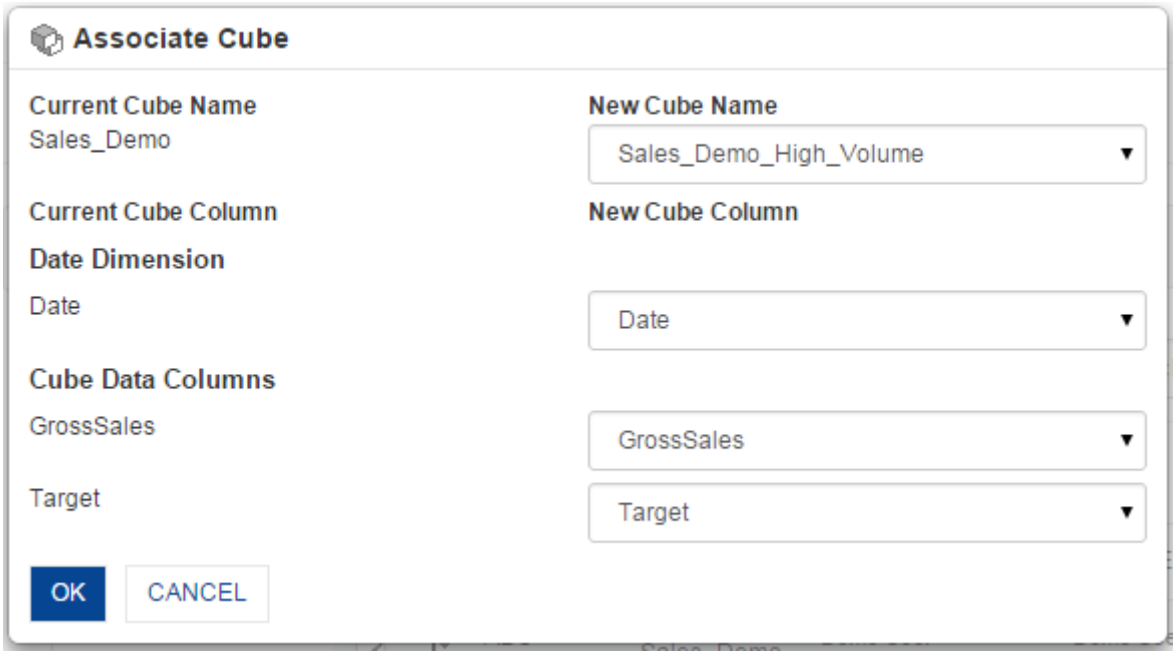
To associate a cube with an object:

Procedure

1 In the Smarten Navigation Panel, click **Repository.**
The system displays the **Repository** page.
2 From the **Repository** folder structure, locate the object.
3 Click the checkbox adjacent to the object you want to edit.
4 In the Object Toolbar menu, click **Associate cube.**
The system displays the **Associate cube** dialog box. The columns displayed will be based on the type of object and data type of cube column associated with that object.



REPOSITORY: ASSOCIATE CUBE



REPOSITORY: ASSOCIATE CUBE

5 Click the **New Cube Name** list to select the cube you want to associate an object to.
The system shows the matching columns from a new cube against all cube columns used in the object.
6 Select an appropriate matching column from the list of columns shown from the new cube.
7 Click **OK** to save the settings.

> Note:
> You can associate object created from one type of cube with any other type of cube. For example, you can associate a crosstab created from cache cube with real-time or MDX cube.

11 Using Scheduler

Scheduler is a service that monitors execution of tasks based on available computing resources as per scheduling policy.

Scheduler is used to create and manage cube rebuild tasks and delivery and publishing agent tasks.

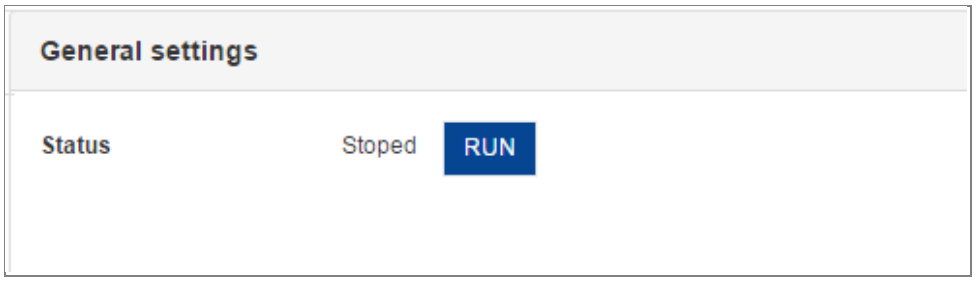
11.1 General Settings

General Settings is used to manage common settings for all tasks.

To configure general settings:

Procedure

1 In the Smarten Navigation Panel, click **Scheduler.**
2 In the **Scheduler**, click **General Settings.**
The system displays the **General Settings** page.



SCHEDULER: GENERAL SETTINGS

The **General Settings** page displays the following information about the scheduler:

- **Status**: This displays the status of the scheduler. The scheduler can be running or stopped. If the scheduler is running, you click the **STOP** button to stop the scheduler. If the scheduler is stopped, you can click the **RUN** button to start the scheduler.

11.2 Cube Rebuild Tasks

You can create and manage scheduler tasks for **Cube rebuild tasks**. You can view a list of all cube rebuild tasks from the scheduler tasks.

Reference: **Concept Manual > Designing the Data Model > Smarten Cubes > Cube Update Process > Through Automatic Scheduler**

To manage cube rebuild tasks:

Procedure

1 In the Smarten Navigation Panel, click **Scheduler.**
2 In the **Scheduler**, click **Cube rebuild tasks.**
The system displays the **Cube rebuild tasks** page.

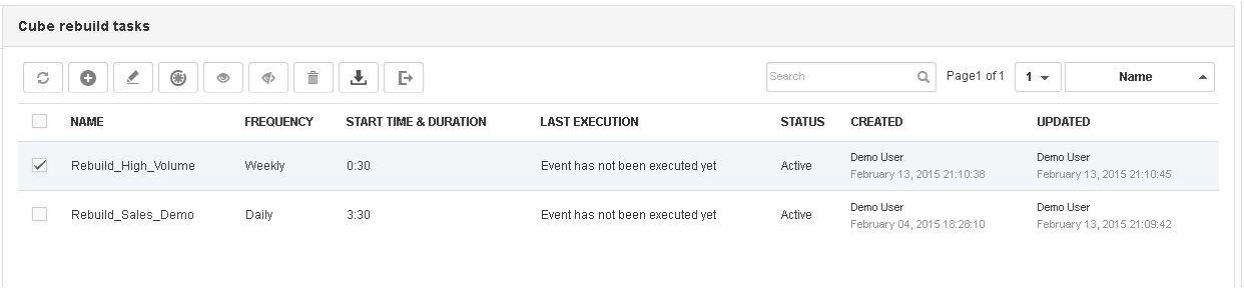
11.2.1 Task List

The scheduler task list shows all the available Cube rebuild task profile(s). From the scheduler task list, you can view name, cubes, scheduler frequency, and other options.

To view task list:

Procedure

1 In the Smarten Navigation Panel, click **Scheduler.**
2 In the Scheduler, click **Cube rebuild tasks**.
The system displays the **Cube rebuild tasks** page with the task list.
3 From the Page list, you can select an option to navigate to the selected page number.
4 You can sort the groups based on the role name, the date they were created, and the date they were last modified by selecting an option from the list adjacent to the **Page** list.



SCHEDULER: CUBE REBUILD TASKS

Icon	Icon name
	Refresh
	Add
	Edit
	Run now
	Activate
	Deactivate
	Delete
	Import
	Export

CUBE REBUILD TASK: TOOLBAR OPTIONS

11.2.2 Add a New Cube Rebuild Task

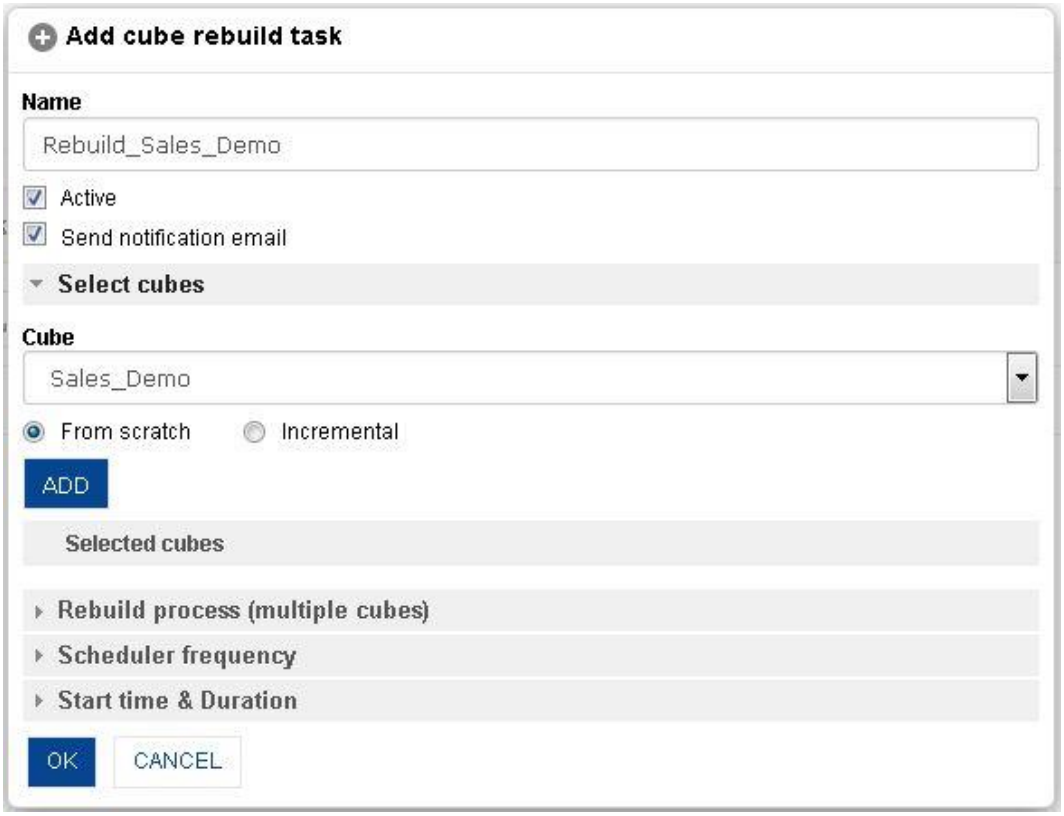
The New Cube Rebuild Task is added to rebuild cube from its data source with the latest data at a predefined schedule and frequency.

To add a new cube rebuild task:

Procedure

1. In the Smarten Navigation Panel, click **Scheduler.**
2. In the **Scheduler**, click **Cube rebuild tasks.**
   The system displays the **Cube rebuild tasks** page.
3. Click the **Add** icon.
   The system displays the **Add cube rebuild task** dialog box.

SCHEDULER: ADD CUBE REBUILD TASK OPTION



SCHEDULER: ADD CUBE REBUILD TASK

4. In the **Name** field, enter a name for the task.
5. You can select the **Active** checkbox if you want to make the task active.
6. You can select the **Send notification email** checkbox if you want to send notification email to the administrator when the task is complete.
7. From the **Cube** list, select a cube.
8. Select the **From scratch** button if you want to rebuild cube from scratch.
   Or,
   Select the **Incremental** button if you want to rebuild cube with incremental update.

Reference: Concept Manual > **Designing the Data Model > Smarten Cubes > Cube Update Process > Types of Cube Updates—From scratch or incremental**

9. Click **ADD** to add the task.
   The system displays the added task in the **Selected cubes** section.
   You can repeat the above process to add multiple cubes to the task. You can delete a task by clicking the **Delete** button adjacent to the task within the **Selected cubes** section.
10. From the **Rebuild process** section, select an option.
    The following options are available:

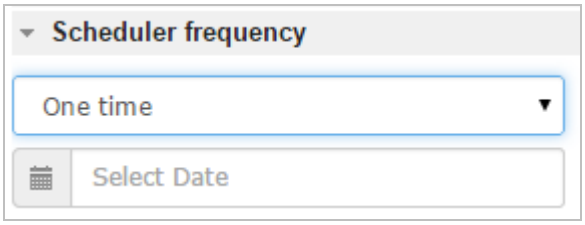
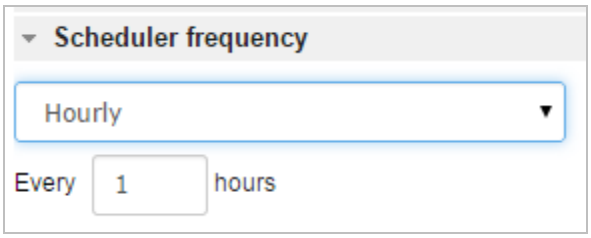
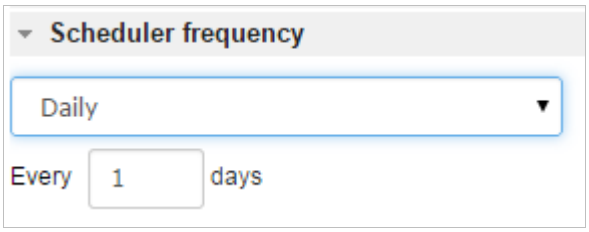
    a. **Serial**: Select this option if you want to execute cube update process sequentially. Only one cube update process will be executed at a time. In case there is more than one process, all cube update processes will be executed one by one; the next process will start after the previous cube update process is completed.
    b. **Parallel**: Select this option if you want to execute all cube update processes simultaneously.

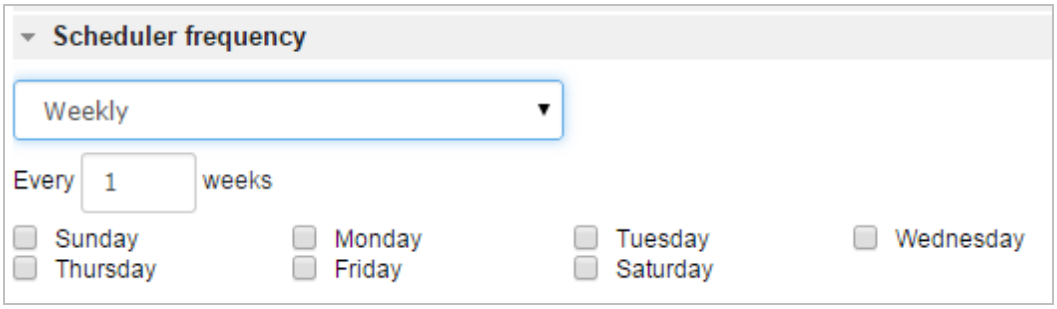
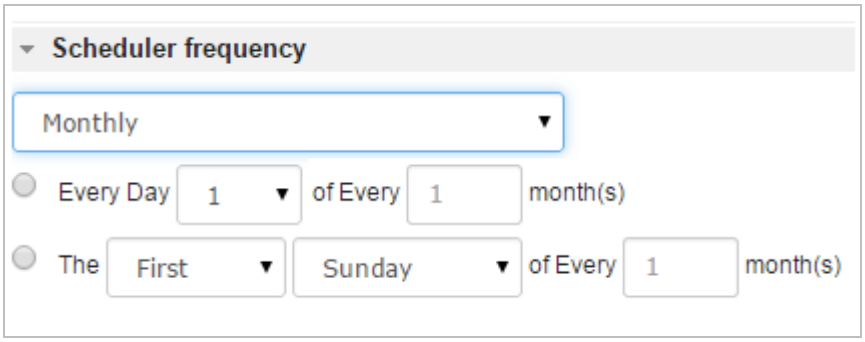
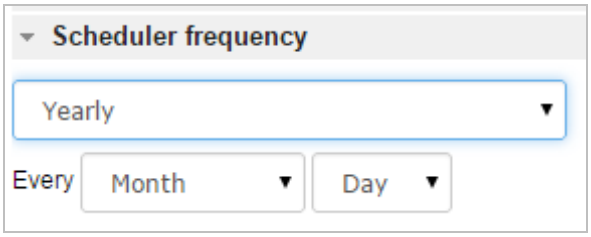
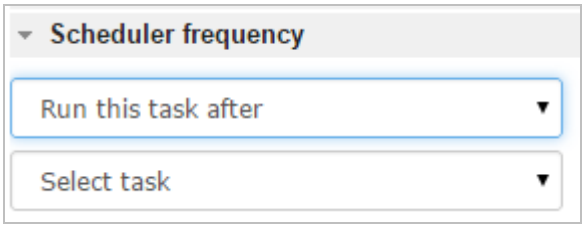
11. Click the **Scheduler frequency** option to expand the section.
12. Select an option from the list to specify the frequency for task execution.
    Based on the option selected, relevant fields will be displayed.
    The following options are available:

    c. **One time**

d. **Hourly**
e. **Daily**
f. **Weekly**
g. **Monthly**
h. **Yearly**
i. **Run this task after**: You can select this process for chain execution of the cube update process. You can select predecessor task using the option.

13. Click the **Start time & Duration** option to expand the section.
14. From the **Start time** lists, select an option to specify the hour and minute the cube rebuild task will start.
15. In the **Duration** section, click the **Calendar** options to specify the start date and end date of the duration for this task.
16. In the **Reoccurrence** section, select the Never **ends** option if you want the cube rebuild task to repeat endlessly as per frequency and other configuration parameters.
17. Or,
18. In the **End after occurrence** field, enter a value to specify the number of times the cube rebuild task will be repeated as per frequency and other configuration parameters.
19. Click **OK** to save the cube rebuild task.

Frequency	Options
One time	A calendar option is displayed that allows you to set the date the cube update process will be performed.
	
Hourly	The Hourly box is displayed that allows you to specify the hourly frequency for the cube update process.
	
Daily	The Daily box is displayed that allows you to specify the daily frequency for the cube update process.
	
Weekly	The Weekly option allows you to specify the weekly frequency for the cube update process. The checkbox for each day of the week is displayed that allows you to select the day(s) of the week when the cube update process will be executed.

Frequency	Options
	
Monthly	The Monthly option allows you to specify the monthly frequency for the cube update process.
	
Yearly	The Yearly option allows you to specify the yearly frequency for the cube update process.
	
Run this task after	The list allows you to specify a task after which the current task will be performed.
	

SCHEDULER: SCHEDULER FREQUENCY

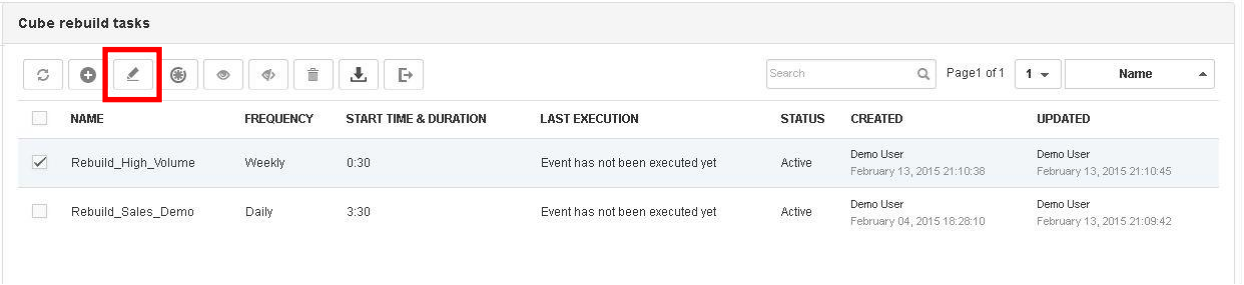
11.2.3 Edit a Cube Rebuild Task

You can edit a cube rebuild task using this procedure.

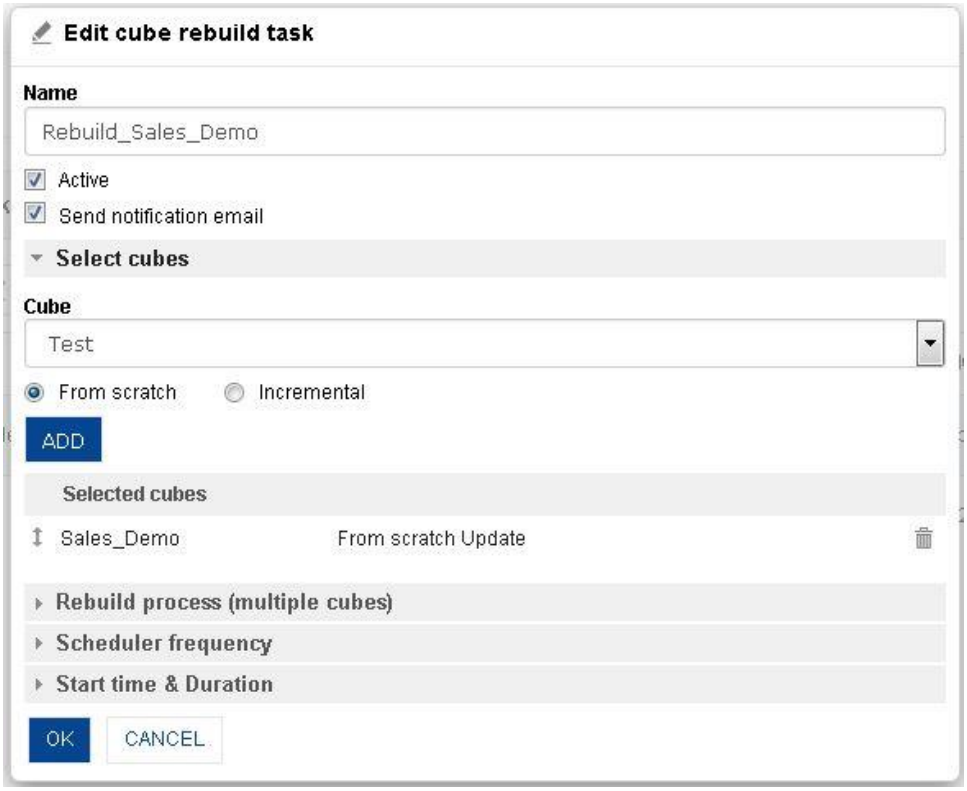
To edit a cube rebuild task:

Procedure

1. In the Smarten Navigation Panel, click **Scheduler.**
2. In the **Scheduler**, click **Cube rebuild tasks.**
   The system displays the **Cube rebuild tasks** page.
3. Select the checkbox adjacent to the cube rebuild task you want to edit.
4. Click the **Edit** icon.
   The system displays the **Edit cube rebuild task** dialog box.



SCHEDULER: EDIT CUBE REBUILD TASKS



SCHEDULER: EDIT CUBE REBUILD TASKS

5. Make the required change in the given fields.
6. Click **OK** to save the changes.
7. Click **CANCEL** to go back to **Cube rebuild tasks** dialog box without saving any changes.

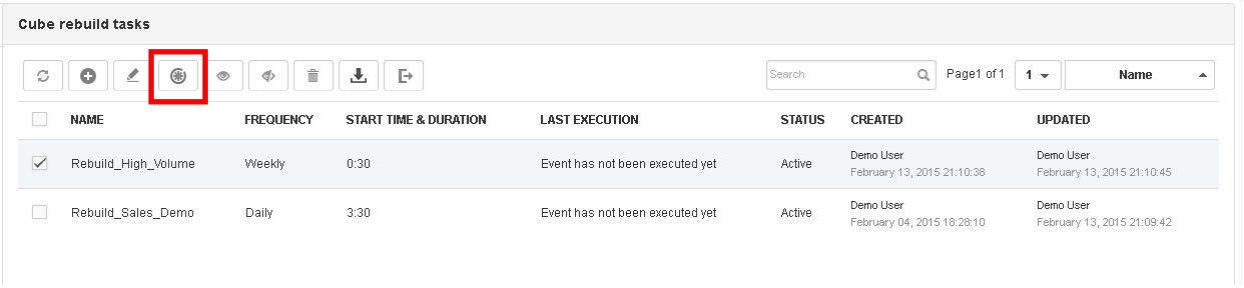
11.2.4 Run a Cube rebuild task Immediately (Run Now)

You can run a specific cube rebuild task immediately by using this option.

To run a cube rebuild task immediately:

Procedure

1 In the Smarten Navigation Panel, click **Scheduler.**
2 In the **Scheduler**, click **Cube rebuild tasks.**
The system displays the **Cube rebuild tasks** page.
3 Select the checkbox adjacent to the cube rebuild task you want to run.
4 Click **Run now.**



SCHEDULER: RUN A CUBE REBUILD TASK

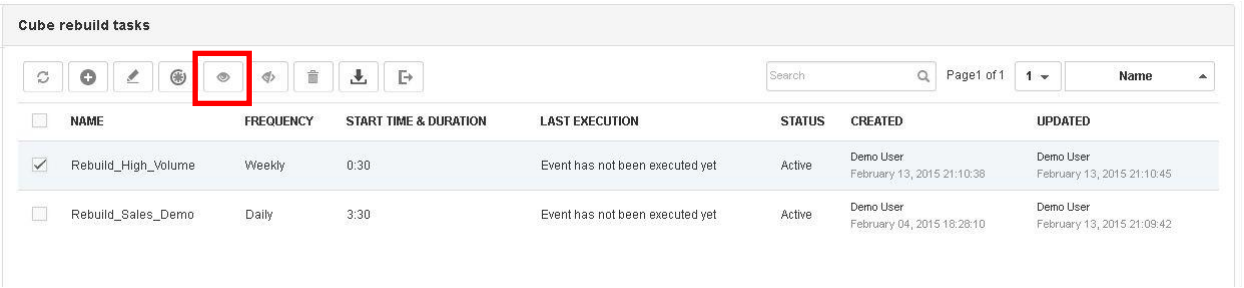
11.2.5 Activate a Cube Rebuild Task

You can change the state of a specific cube rebuild task by making the cube rebuild task **Active** or **Inactive**.

To activate a cube rebuild task:

Procedure

1 In the Smarten Navigation Panel, click **Scheduler.**
2 In the **Scheduler**, click **Cube rebuild tasks.**
The system displays the **Cube rebuild tasks** page.
3 Select the checkbox adjacent to the cube rebuild task you want to activate.
4 Click **Activate**.



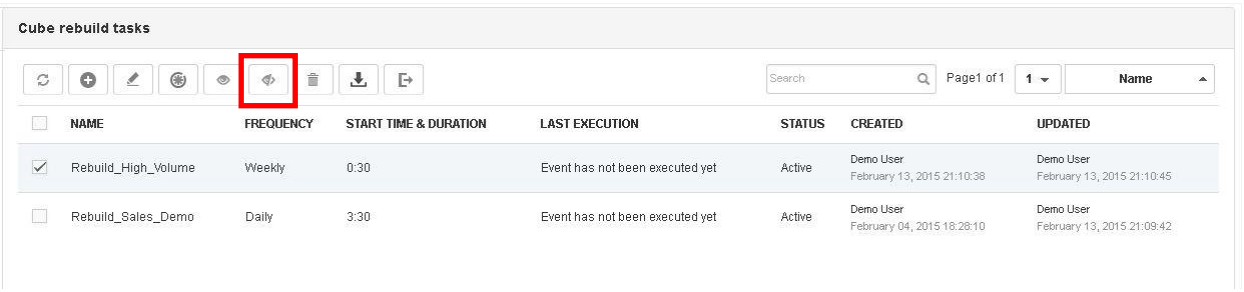
SCHEDULER: ACTIVATE A CUBE REBUILD TASK

11.2.6 Deactivate a Cube Rebuild Task

You can change the state of a specific cube rebuild task by making the cube rebuild task **Active** or **Inactive**.
To deactivate a cube rebuild task:

Procedure

1 In the Smarten Navigation Panel, click **Scheduler.**
2 In the **Scheduler**, click **Cube rebuild tasks.**
3 The system displays the **Cube rebuild tasks** page.
4 Select the checkbox adjacent to the cube rebuild task you want to deactivate.
5 Click **Deactivate**.



SCHEDULER: DEACTIVATE A CUBE REBUILD TASK

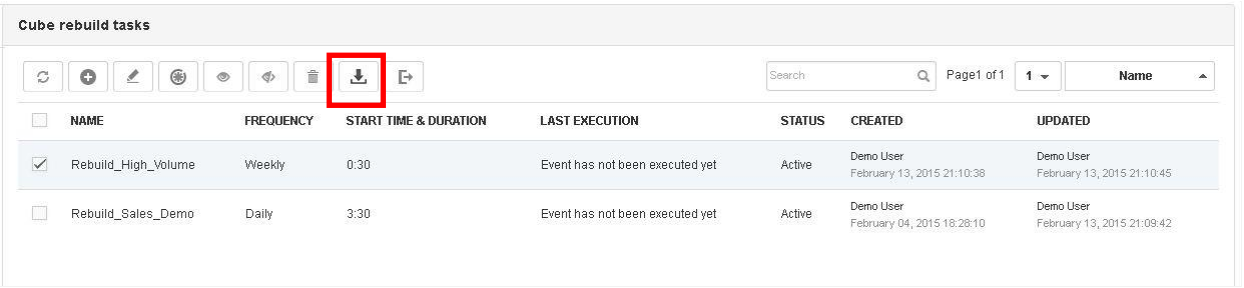
11.2.7 Import Cube Rebuild Tasks from File

You can import cube rebuild tasks from files by clicking on the **Import** button from the **Cube rebuild tasks** dialog box. The **Import cube tasks from file** dialog box opens.

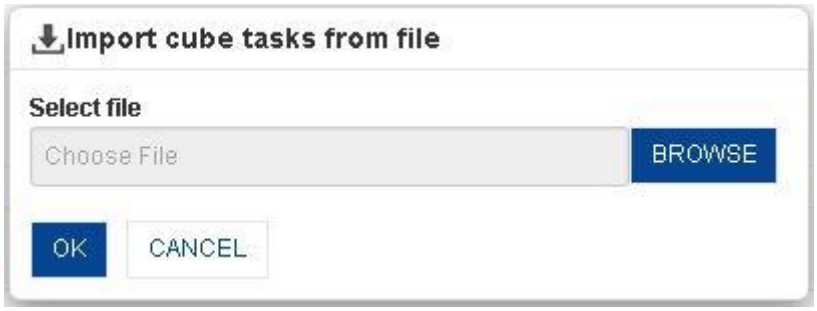
To import cube rebuild tasks from File:

Procedure

1 In the Smarten Navigation Panel, click **Scheduler.**
2 In the **Scheduler**, click **Cube rebuild tasks.**
The system displays the **Cube rebuild tasks** page.
3 Click **Import**.
The system displays the **Import cube tasks from file** dialog box.



SCHEDULER: IMPORT CUBE TASKS FROM FILE



SCHEDULER: IMPORT CUBE TASKS FROM FILE

4 Click **BROWSE** to select a file you want to import.
5 Click **OK** to import the selected file.
6 Click **CANCEL** to go back to **Cube rebuild tasks** dialog box.

Note: Sample import formats are available in <Smarten Installation Dir >/Docs/Sample files.

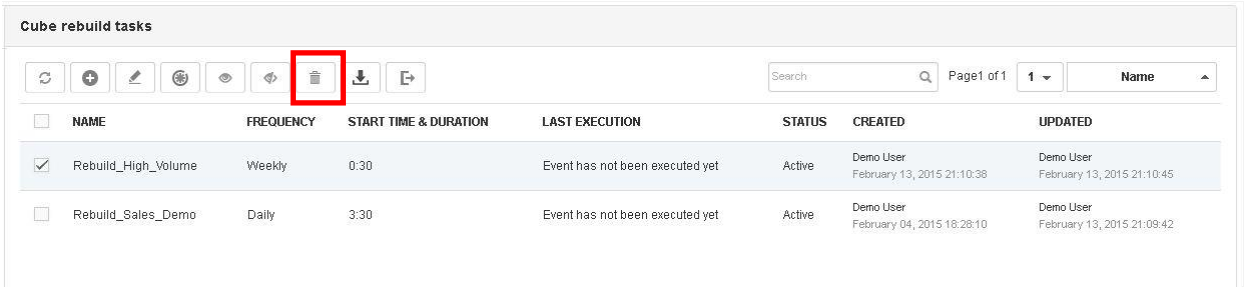
11.2.8 Delete Cube Rebuild Tasks

You can delete cube rebuild tasks using this procedure.

To delete cube rebuild tasks:

Procedure

1 In the Smarten Navigation Panel, click **Scheduler.**
2 In the **Scheduler**, click **Cube rebuild tasks.**
The system displays the **Cube rebuild tasks** page.
3 Select the checkbox adjacent to the cube rebuild task you want to delete.
4 Click **Delete.**
5 Click **OK** to confirm or click **Cancel**.



SCHEDULER: DELETE CUBE TASKS

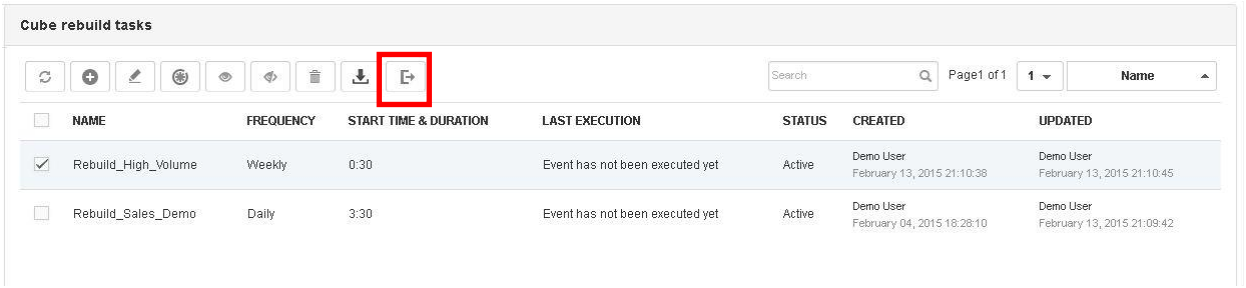
11.2.9 Export Cube Rebuild Tasks

You can export a cube rebuild task using this procedure.

To export cube rebuild tasks:

Procedure

1 In the Smarten Navigation Panel, click **Scheduler.**
2 In the **Scheduler**, click **Cube rebuild tasks.**
The system displays the **Cube rebuild tasks** page.
3 Select the checkbox adjacent to the cube rebuild task you want to export.
4 Click **Export.**
The selected cube rebuild task is downloaded to the default download location you have set for the browser.



SCHEDULER: EXPORT CUBE TASKS

11.3 Delivery and Publishing Agent Tasks

You can create a scheduler task for Delivery and Publishing Agent.

To view Task details:

Procedure

1 In the Smarten Navigation Panel, click **Scheduler.**
2 In the **Scheduler**, click **Delivery & publishing agent tasks.**
The system displays the **Delivery & publishing agent tasks** page.

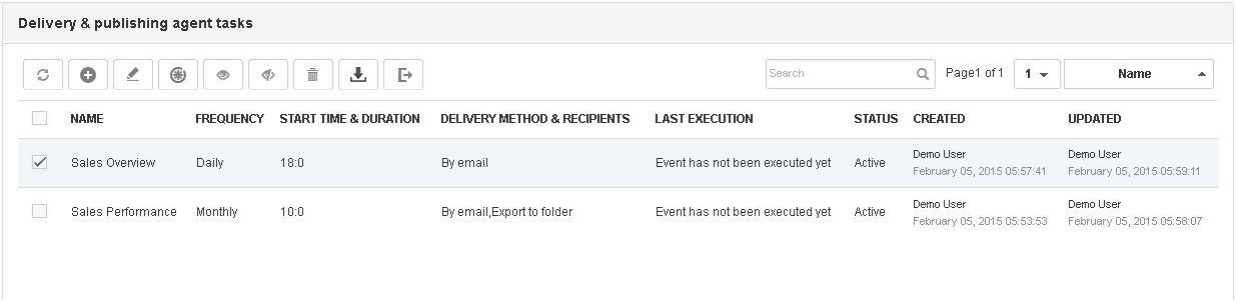
11.3.1 Task List

The Scheduler task list shows all the available Delivery and publishing agent task profile(s). From the scheduler task list, you can view name, cubes, scheduler frequency, and option.

To view task list:

Procedure

1 In the Smarten Navigation Panel, click **Scheduler.**
2 In the **Scheduler**, click **Delivery & publishing agent tasks.**
The system displays the **Delivery & publishing agent tasks** page.
3 From the Page list, you can select an option to navigate to the selected page number.
4 You can sort the groups based on the role name, the date they were created, and the date they were last modified by selecting an option from the list adjacent to the **Page** list.



SCHEDULER: DELIVERY AND PUBLISHING AGENT TASKS

Icon	Icon name
	Refresh
	Add
	Edit
	Run now
	Active
	Inactive
	Delete
	Import
	Export

DELIVERY & PUBLISHING AGENT TASK: TOOLBAR OPTIONS

11.3.2 Add a New Publishing Agent Task

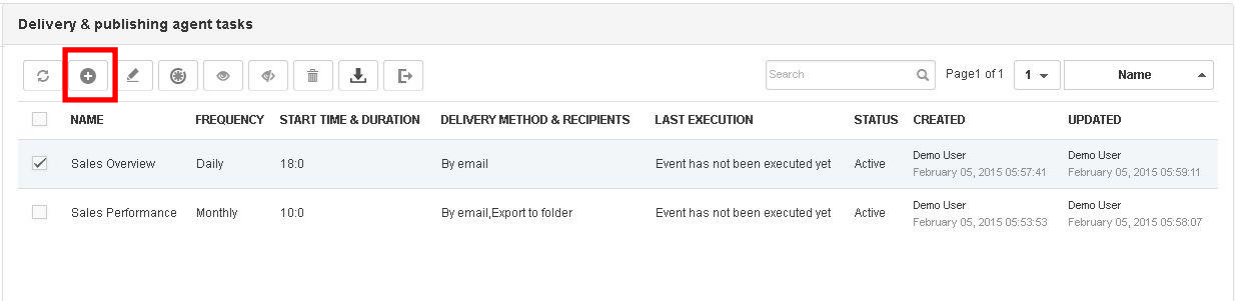
The New Publishing Agent Task is added to deliver and publish object(s) with the latest data at a predefined schedule and frequency.

Reference: Concept Manual > **Delivery & Publishing Agent**

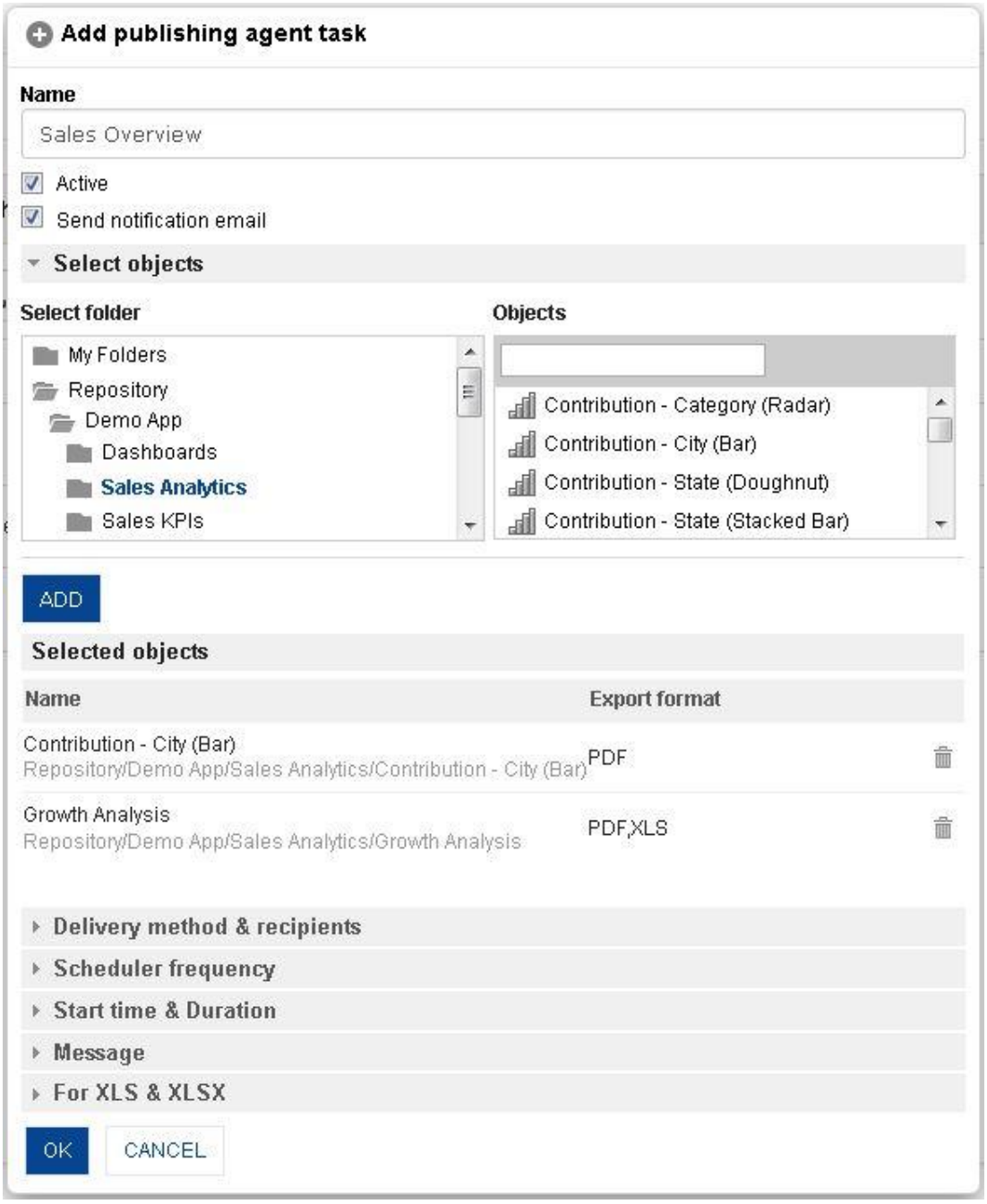
To add a new publishing agent task:

Procedure

1. In the Smarten Navigation Panel, click **Scheduler.**
2. In the **Scheduler**, click **Delivery & publishing agent tasks.**
   The system displays the **Delivery & publishing agent tasks** page.
3. Click the **Add** icon.
   The system displays the **Add publishing agent task** dialog box.



SCHEDULER: ADD NEW DELIVERY & PUBLISHING AGENT TASKS



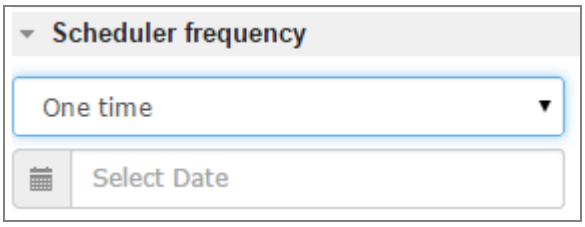
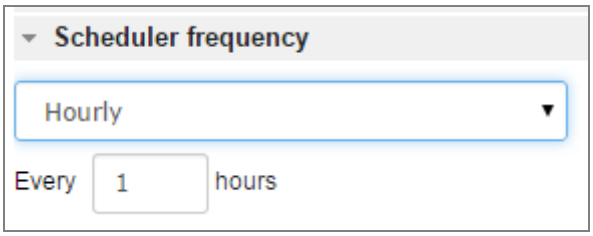
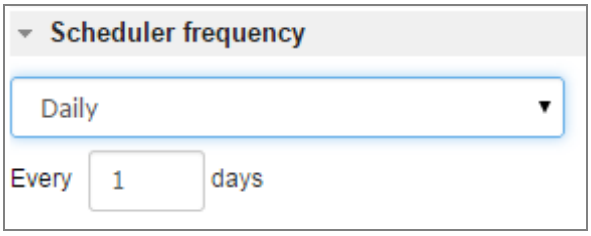
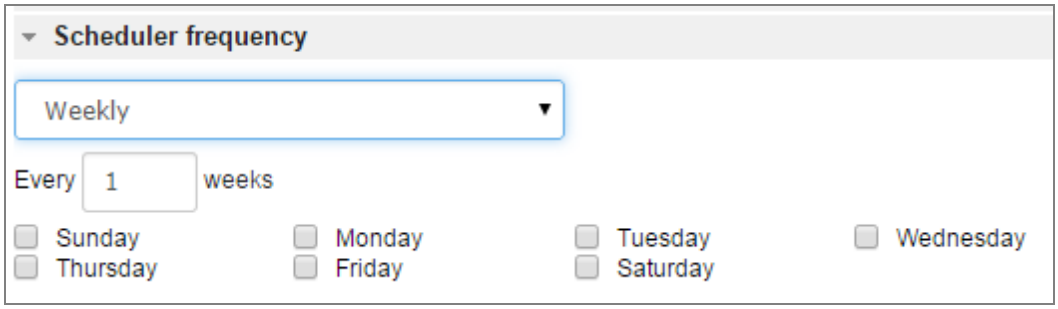
SCHEDULER: ADD A NEW PUBLISHING AGENT TASK

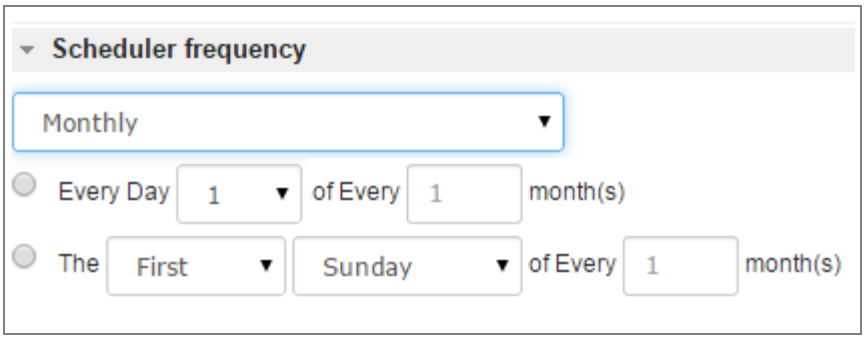
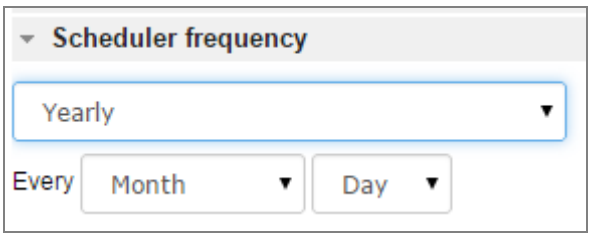
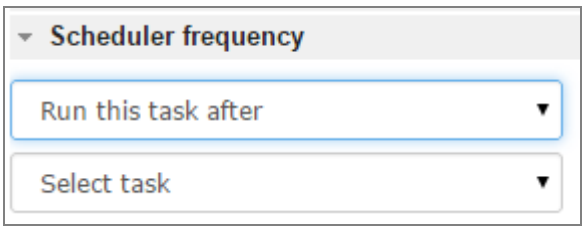
4. In the **Name** field, enter a name for the task.
5. You can select the **Active** checkbox if you want to make the task active.
6. You can select the **Send notification email** checkbox if you want to send notification email to the owner of the task when the task is complete.
7. In the **Select folder** section, expand the Repository folder structure.
   The system displays the objects within the selected folder in the **Selected cubes** section.
8. Select the object you want to add for publishing agent task.
9. Click the checkbox adjacent to an option to specify the format in which the object will be exported.

10. Click **ADD.**
11. The system displays the object in the **Selected objects** section.
    You can repeat the above process to add multiple objects to the task. You can delete an object by clicking the **Delete** button adjacent to the object in the **Selected objects** section.
12. Click **Delivery method & recipients** to expand that section.
    a. Click the **By email** checkbox to send email notification.
    b. Click the **To folder** checkbox to publish object in a system folder defined by Administrator.
13. From the **Select recipients** list, select an option
14. You can narrow down the list of users by selecting an option from the Groups list. You can also select an option from the alphabets list to narrow down the list of users based on the selected option.
15. From the **Available users** list, you can drag and drop the users to the **Selected users** list or deselect the selected users by moving the users back from the **Selected users.**
    Repeat the above step to add multiple users.
16. Click the **Scheduler frequency** option to expand the section.
17. Select an option from the list to specify the frequency for task execution.
    Based on the option selected, relevant fields will be displayed.
    The following options are available:
    a. **One time**
    b. **Hourly**
    c. **Daily**
    d. **Weekly**
    e. **Monthly**
    f. **Yearly**
    g. **Run this task after**: You can select this process for chain execution of the publishing agent task. You can select predecessor task using the option.
18. Click the **Start time & Duration** option to expand the section.
19. From the **Start time** lists, select an option to specify the hour and minute the publishing agent task will start.
20. In the **Duration** section, click the **Calendar** options to specify the start date and end date of the duration for this task.
21. In the **Reoccurrence section**, select the **Never ends** option if you want the publishing agent task to repeat endlessly as per frequency and other configuration parameters.
    Or,
    In the **End after occurrence** field, enter a value to specify the number of times the publishing agent task will be repeated as per frequency and other configuration parameters.
22. Click the Message to expand that section.
    a. Enter the message you want to send with the email.
    b. You can click the email button to add the tags to be used in the message.
23. Click **For XLS & XLSX** to expand that section.
24. Click the **Apply grouping** checkbox to apply grouping.
25. Click **Merge all objects** in one file checkbox to merge objects in one file.
26. Click **OK** button to save the publishing agent task.

Variable	Description
$USER_NAME$	Enables you to include the name of the recipient in the message of the email.
$SCHEDULER_NAME$	Enables you to include the name of the current scheduler task in the message of the email.
$OBJECTS$	Enables you to include name of the objects that will be sent along with the email.
$PUBLISH_TIME$	Enables you to include the current publishing Date and time of the publishing task.
$TODAY$	Enables you to include the current date in the message of the email. You can use the variable as $TOAY-1$, to include date of the previous day.
$LASTREFRESH<OBJECT ID>$	Enables you to include the date and time when the data for the object was last refreshed. You must replace the <OBJECT ID>in the variable with the actual ID of the object you have selected. Separate variable is available for all the objects that you have selected in Step 8. The time is included for the object variables that you add in the message of the email.

SCHEDULER: MESSAGE VARIABLES

Frequency	Options
One time	A calendar option is displayed that allows you to set the date the cube update process will be performed.
	
Hourly	The Hourly box is displayed that allows you to specify the hourly frequency for the cube update process.
	
Daily	The Daily box is displayed that allows you to specify the daily frequency for the cube update process.
	
Weekly	The Weekly option allows you to specify the weekly frequency for the cube update process. The checkbox for each day of the week is displayed that allows you to select the day(s) of the week when the cube update process will be executed.
	
Monthly	The Monthly option allows you to specify the monthly frequency for the cube update process.

	
Yearly	The Yearly option allows you to specify the yearly frequency for the cube update process.
	
Run this task after	The list allows you to specify a task after which the current task will be performed.
	

SCHEDULER: SCHEDULER FREQUENCY

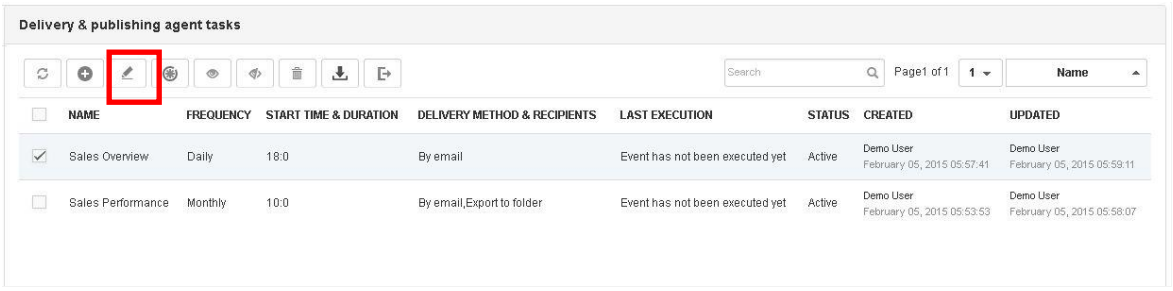
11.3.3 Edit a Publishing Agent Task

You can edit a publishing agent task using this procedure.

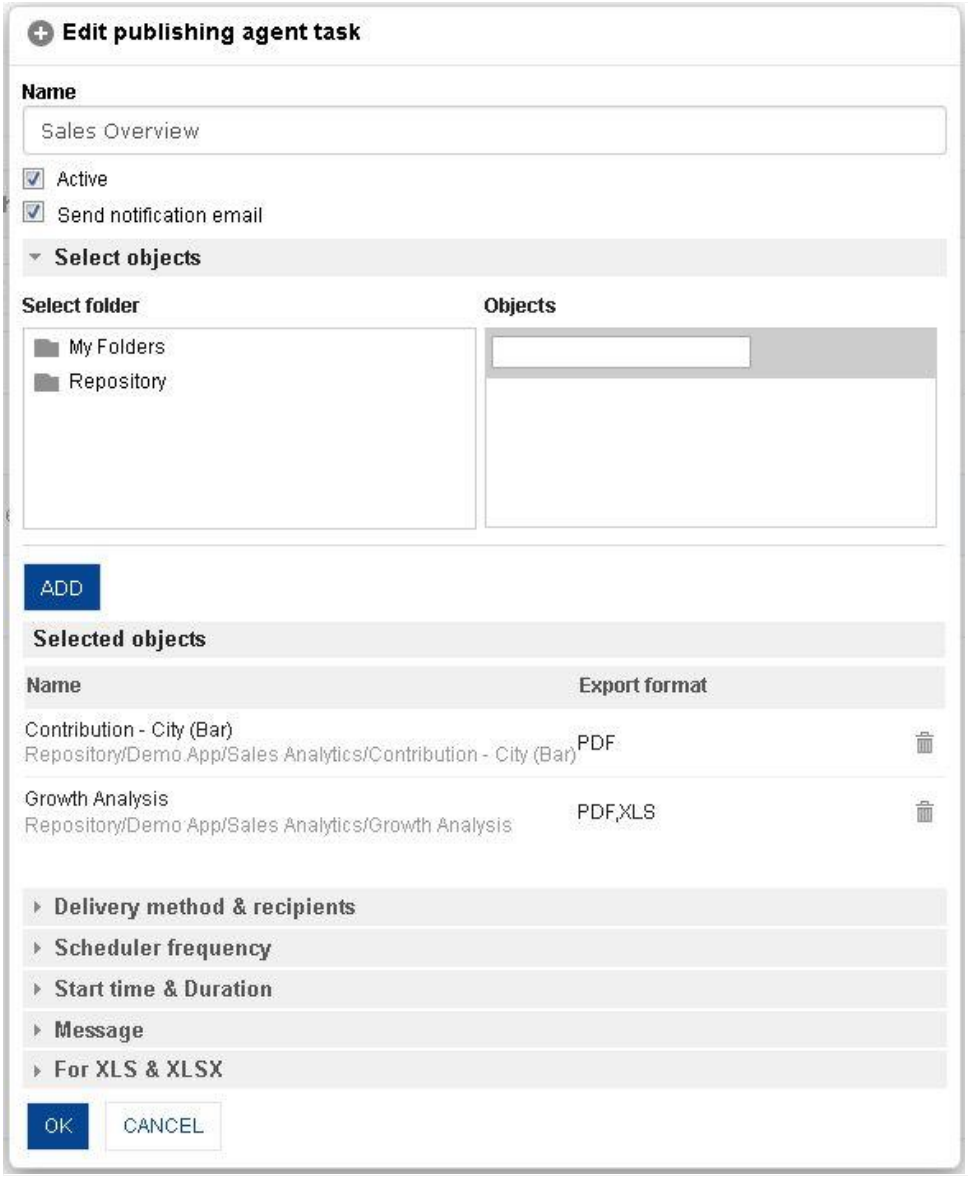
To edit a publishing agent task:

Procedure

1. In the Smarten Navigation Panel, click **Scheduler.**
2. In the **Scheduler**, click **Delivery & publishing agent tasks.**
   The system displays the **Delivery & publishing agent tasks** page.
3. Select the checkbox adjacent to the publishing agent task you want to edit.
4. Click the **Edit** icon.
   The system displays the **Edit publishing agent task** dialog box.



SCHEDULER: EDIT PUBLISHING AGENT TASKS



SCHEDULER: EDIT PUBLISHING AGENT TASK

5. Make the required change in the given fields.
6. Click **OK** to save the changes.
7. Click **CANCEL** to go back to **Delivery & publishing agent tasks** dialog box without saving any changes.

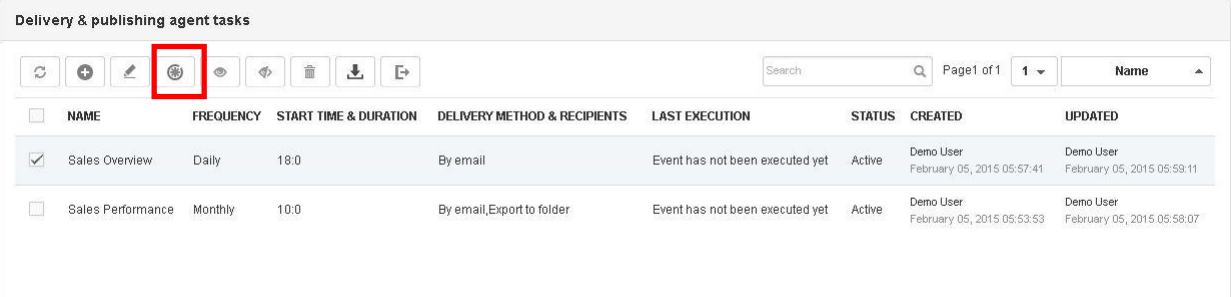
11.3.4 Run a Publishing Agent task Immediately (Run Now)

You can run a specific publishing agent task immediately by using this option.

To run a publishing agent task immediately:

Procedure

1. In the Smarten Navigation Panel, click **Scheduler.**
2. In the **Scheduler**, click **Delivery & publishing agent tasks.**
   The system displays the **Delivery & publishing agent tasks** page.
3. Select the checkbox adjacent to the publishing agent task you want to run.
4. Click **Run now.**



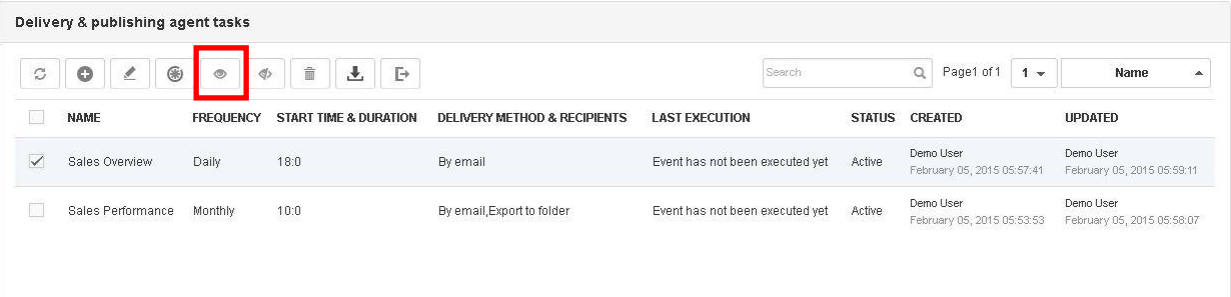
SCHEDULER: RUN A PUBLISHING AGENT TASK

11.3.5 Activate a Publishing Agent Task

You can change the state of a specific publishing agent task by making the publishing agent task **Active** or **Inactive**.

To activate a publishing agent task:
Procedure

1. In the Smarten Navigation Panel, click **Scheduler.**
2. In the **Scheduler**, click **Delivery & publishing agent tasks.**
   The system displays the **Delivery & publishing agent tasks** page.
3. Select the checkbox adjacent to the publishing agent task you want to activate.
4. Click **Activate.**



SCHEDULER: ACTIVATE A PUBLISHING AGENT TASK

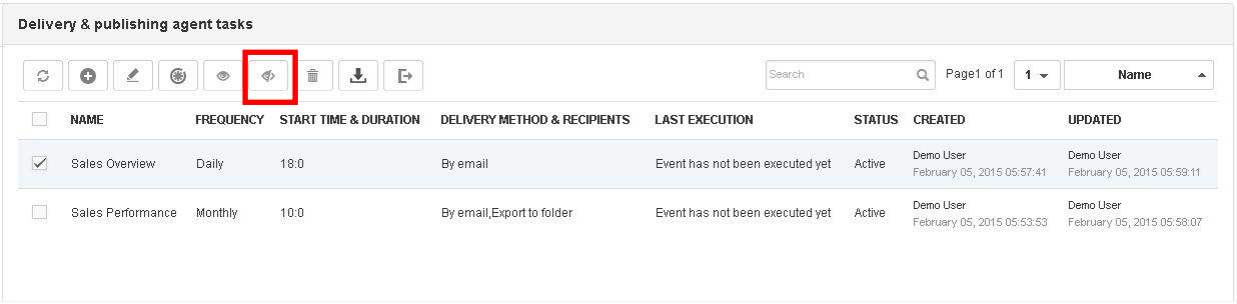
11.3.6 Deactivate a Publishing Agent Task

You can change the state of a specific publishing agent task by making the publishing agent task **Active** or **Inactive**.

To deactivate a publishing agent task:

Procedure

1. In the Smarten Navigation Panel, click **Scheduler.**
2. In the **Scheduler**, click **Delivery & publishing agent tasks.**
   The system displays the **Delivery & publishing agent tasks** page.
3. Select the checkbox adjacent to the publishing agent task you want to deactivate.
4. Click **Deactivate.**



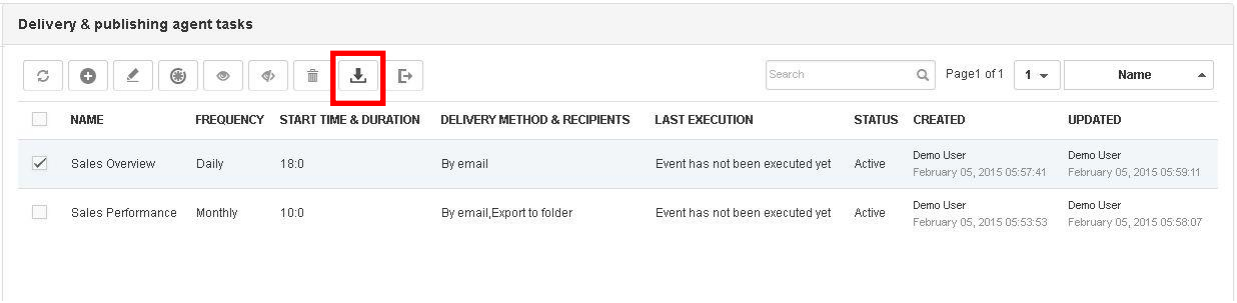
SCHEDULER: DEACTIVATE A PUBLISHING AGENT TASK

11.3.7 Import Publishing Agent Tasks from File

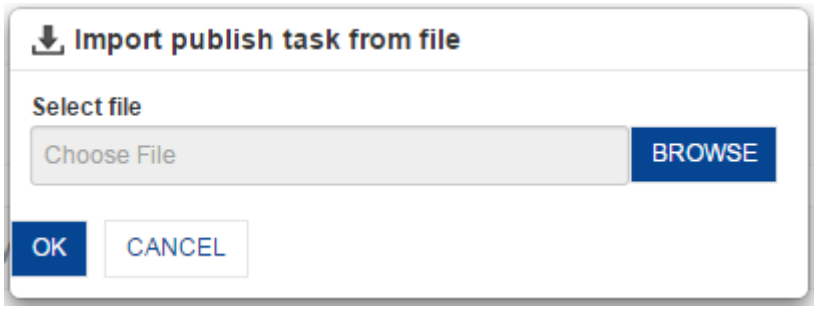
To import publishing agent tasks from File:

Procedure

1. In the Smarten Navigation Panel, click **Scheduler.**
2. In the **Scheduler**, click **Delivery & publishing agent tasks.**
   The system displays the **Delivery & publishing agent tasks** page.
3. Click **Import**.
   The system displays the **Import cube tasks from file** dialog box.



SCHEDULER: IMPORT PUBLISHING AGENT TASKS FROM FILE



SCHEDULER: IMPORT PUBLISHING AGENT TASKS FROM FILE

4. Click **BROWSE** to select a file you want to import.
5. Click **OK** to import the selected file.
6. Click **CANCEL** to go back to **Delivery & publishing agent tasks** dialog box.

> Note: Sample import formats are available in **<Smarten Installation Dir >/Docs/Sample files.**

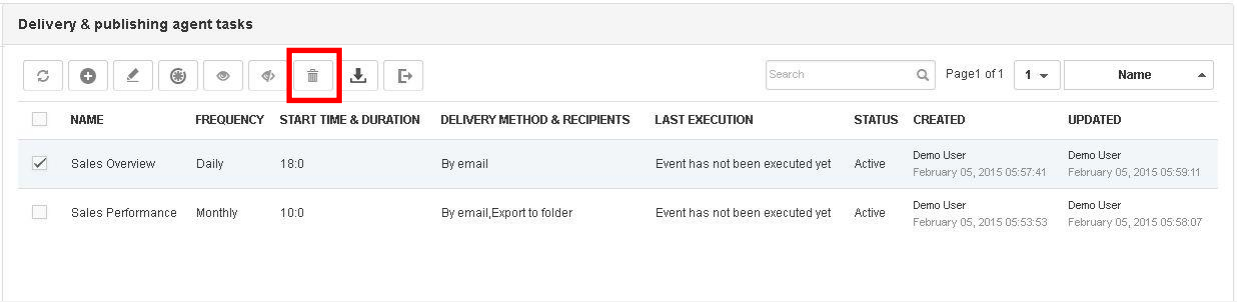
11.3.8 Delete Publishing Agent Tasks

You can delete **Publishing agent** tasks using this procedure.

To delete publishing agent tasks:

Procedure

1. In the Smarten Navigation Panel, click **Scheduler.**
2. In the **Scheduler**, click **Delivery & publishing agent tasks.**
   The system displays the **Delivery & publishing agent tasks** page.
3. Select the checkbox adjacent to the publishing agent task you want to delete.
4. Click **Delete**.
5. Click **OK** to confirm or click **Cancel**.



SCHEDULER: DELETE PUBLISHING AGENT TASKS

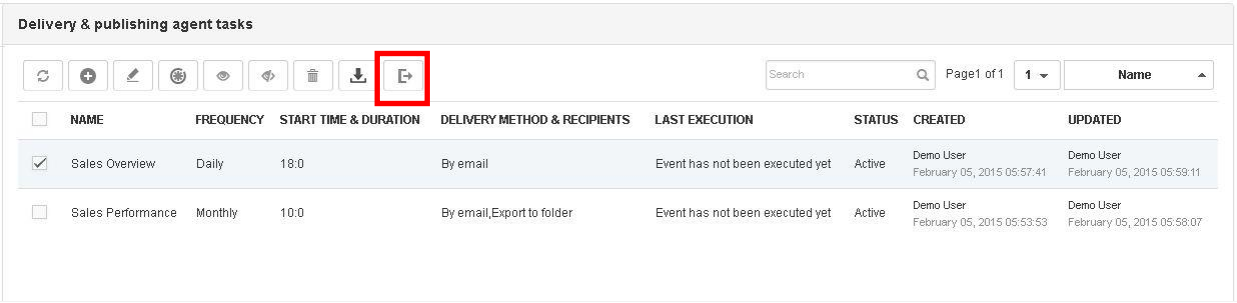
11.3.9 Export Publishing Agent Tasks

You can export publishing agent tasks in xls format **using this procedure**.

To export publishing agent tasks:

Procedure

1. In the Smarten Navigation Panel, click **Scheduler.**
2. In the **Scheduler**, click **Delivery & publishing agent tasks.**
   The system displays the **Delivery & publishing agent tasks** page.
3. Select the checkbox adjacent to the publishing agent task you want to export.
4. Click **Export.**
   The selected publishing agent task is downloaded to the default download location you have set for the browser.



SCHEDULER: EXPORT PUBLISHING AGENT TASKS

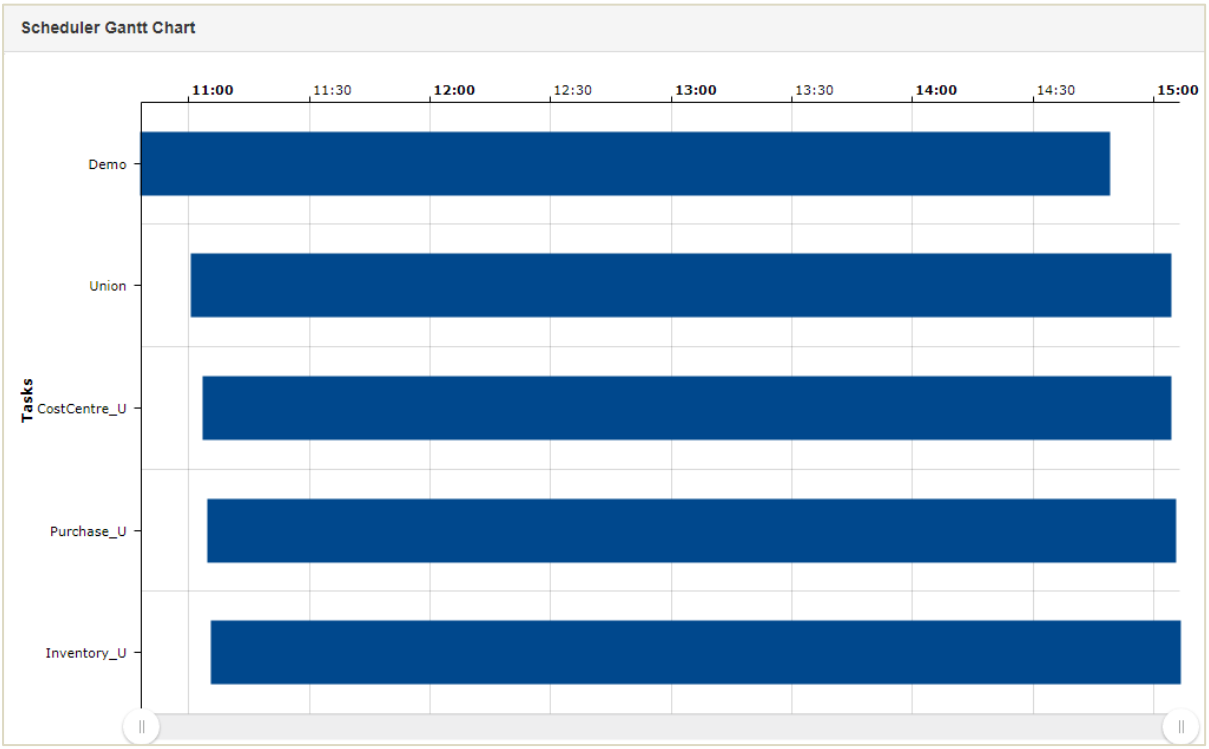
11.4 Scheduler Gantt

You can view the schedules of Delivery and Publishing Agent tasks and Rebuild Cube tasks in the form of a Gantt chart.

To view Scheduler Gantt:

Procedure

1 In the Smarten Navigation Panel, click **Scheduler**.
2 In the **Scheduler**, click **Scheduler Gantt**.
The system displays the **Scheduler Gantt Chart**.



SCHEDULER: SCHEDULER GANTT CHART

12 Managing Security & Permissions

Security & Permissions features can be used to set up users, groups, synchronize directory users and Groups, set access rights for Objects, and control what data a user can access.

You can define the security of the application from **Security & Permissions**. You can set the access permission of folders, cubes, crosstab, tabular, graphs, GeoMap, KPIs and other objects, and set the directory server environment.

12.1 Security Mechanism

Security Mechanism selection provides selection of option for security mechanism. You can set the type of security by selecting **Default built-in** or **Directory server** options for **Security Provider**.

To select security provider:

Procedure

1 In the Navigation Panel, click **Security & Permissions.**
2 In the **Security & Permissions** menu, click **Security provider configuration**.
The system displays the **Security provider configuration** page.

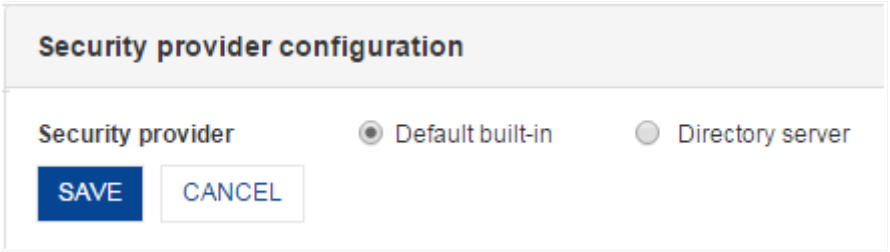
12.1.1 Default Built-In Security

The Default built-in option is selected to set the default security provider for the application.

To set the default security provider:

Procedure

1. In the Navigation Panel, click **Security & Permissions.**
2. In the **Security & Permissions** menu, click **Security provider configuration**.
The system displays the **Security provider configuration** page.
3. Click the **Default built-in** radio button to set the default security settings.
4. Click **SAVE** to set the security type.



SECURITY PROVIDER: DEFAULT BUILT-IN

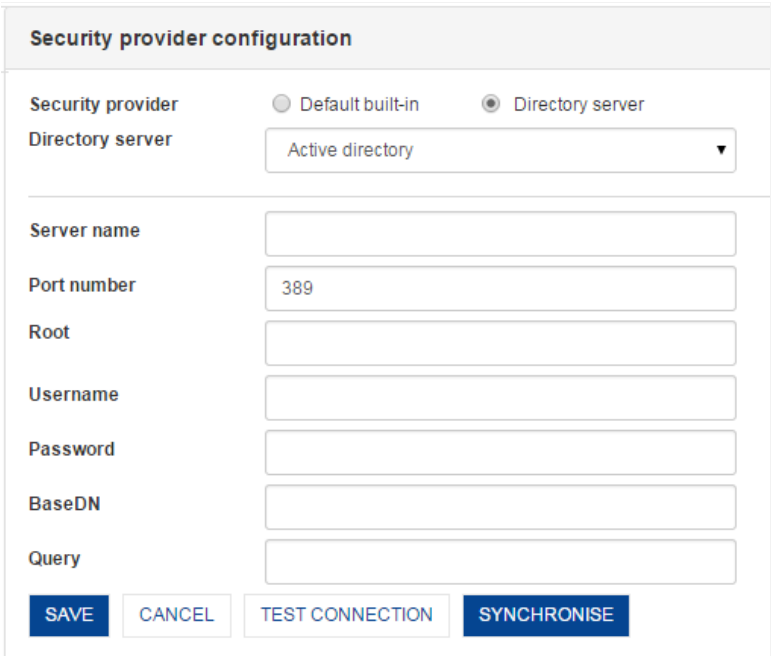
12.1.2 Directory Server Environment

The Directory Server option is selected to set security provided by LDAP or Active Directory servers. A directory service organizes computerized content and runs on a directory server computer. The directory service is the interface to the directory and provides access to the data that is contained in that directory. You can set the environment for directory server from **Directory Server Environment** by selecting **Generic** or **Active Directory**.

To set security provided by LDAP or Active Directory servers:

Procedure

1 In the Navigation Panel, click **Security & Permissions.**
2 In the **Security & Permissions** menu, click **Security provider configuration**.
The system displays the **Security provider configuration** page.
3 Click the **Directory Server** radio button to set the Directory server security type.
The system displays the fields to set **Directory server** configuration.



SECURITY PROVIDER: DIRECTORY SERVER

4 From the **Directory server** drop-down list, select an option.
The following options are available:
Generic: This option allows you to set the directory environment and access rights by configuring LDAP parameters.
Active directory: This option allows you to set the directory environment and access rights by configuring Active Directory parameters.
The system displays the fields to set Directory server configuration based on the option selected.
5 Enter the details in the relevant fields based on the option selected for **Directory server**.
If you have selected the **Generic** option from the **Directory server** list, refer following topic.

If you have selected the **Active directory** option from the **Director server** list, refer following topic.

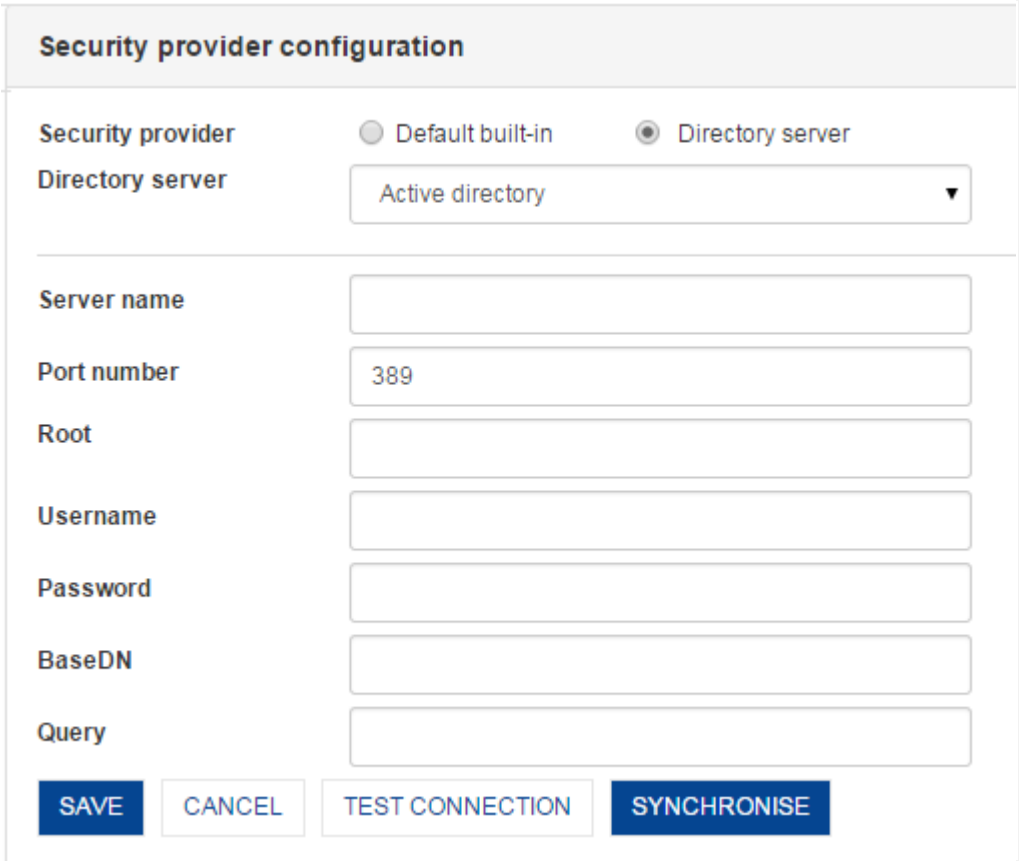
12.1.2.1 AD Configuration

To implement security provided by **Active Directory** configuration, select the option in **Directory Server** environment and set AD configuration parameters.

To set AD configuration:

Procedure

1 Follow the **Procedure** of **Directory Server Environment.**
2 From the **Directory server** drop-down list, select **Active directory.**
The system displays the fields to configure the active directory.



SECURITY: DIRECTORY SERVER ENVIRONMENT: AD SERVER

3 In the **Server name** field, enter the name of the server.
4 In the **Port number** field, enter the port number of the server.
5 In the **Root** field, enter the root name for the directory.
6 In the **Username** field, enter the username to be used to log on to the server.
7 In the **Password** field, enter the password to be used to log on to the server.
8 In the **BaseDN** field, enter the base distinguished name.
9 In the **Query** field, enter the active directory query.
10 Click **TEST CONNECTION** to test the connection with the server.
11 Click **SAVE** to set the security type.
12 Click **SYNCHRONISE** to get the latest information of users from the directory server.

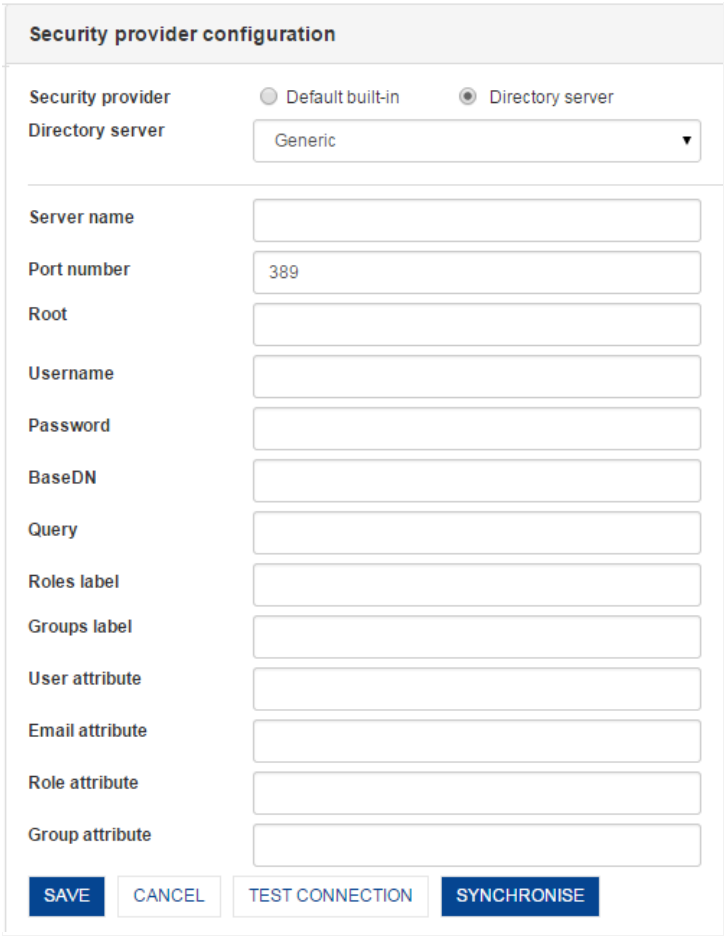
12.1.2.2 LDAP Configuration

You can set the directory server environment for authentication and access rights storage by setting all LDAP configuration parameters.

To set LDAP configuration:

Procedure

1. Follow the **Procedure** of **Directory Server Environment.**
2. From the **Directory server** drop-down list, select **Generic.**
   The system displays the fields to configure LDAP configuration.



SECURITY: DIRECTORY SERVER ENVIRONMENT: LDAP SERVER

3. In the **Server name** field, enter the name of the server.
4. In the **Port number** field, enter the port number of the server.
5. In the **Root field**, enter the root name for the directory.
6. In the **Username field**, enter the username to be used to log on to the server.
7. In the **Password field**, enter the password to be used to log on to the server.
8. In the **BaseDN field**, enter the base distinguished name.
9. In the **Query field**, enter the active directory query.
10. In the **Roles label field**, enter a role label.
11. In the **Group label field**, enter a group label.
12. In the **User attribute field**, enter a user attribute.
13. In the **Email attribute field**, enter an email attribute.
14. In the **Role attribute field**, enter a role attribute.
15. In the **Group attribute field**, enter a group attribute.
16. Click **TEST CONNECTION** to test the connection with the server.
17. Click **SAVE** to set the security type.

18. Click **SYNCHRONISE** to get the latest information of users from the directory server.

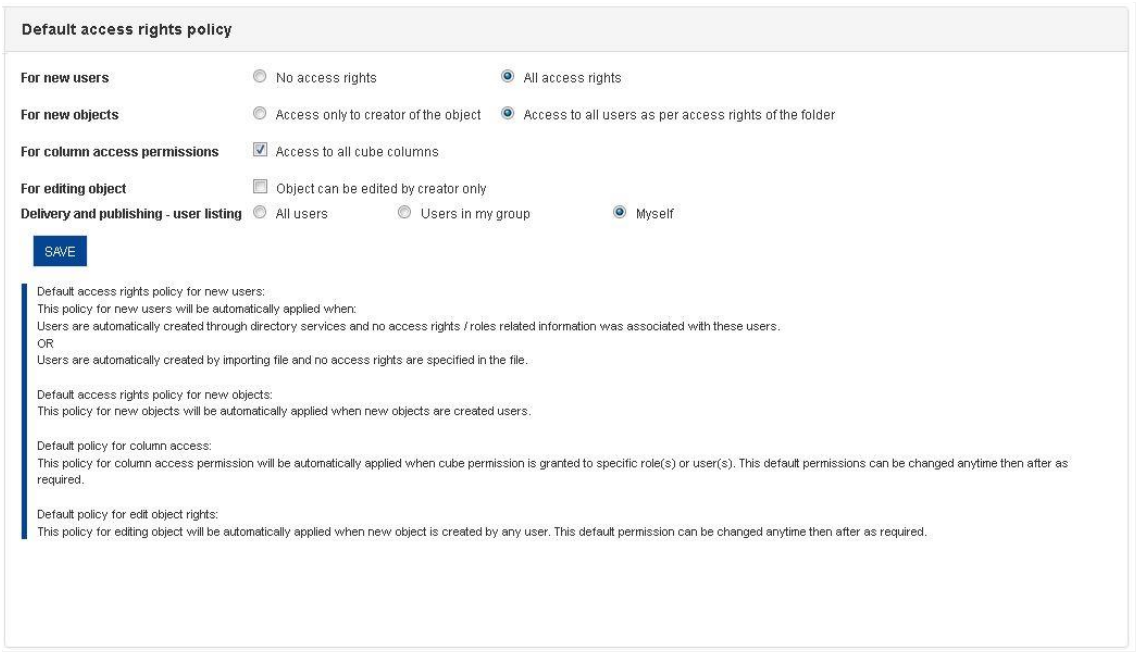
12.2 Access Rights Policy

The Access rights policy section allows you to specify the default access rights that will be assigned to the newly created users and objects. The access rights specified for the user or object are set as the default access rights.
The newly created user or the object will have full access rights or no access rights based on the option selected.

To assign access rights:

Procedure

1. In the Navigation Panel, click **Security & Permissions**.
2. In the **Security & Permissions** menu, click **Access rights policy**.
   The system displays the **Default access rights policy** page.



ACCESS RIGHTS POLICY: DEFAULT ACCESS RIGHTS POLICY

3. Select an option to specify the access rights policy for new users.
   The following options are available:
   No access rights: Select this option if you do not want to provide any access rights to the newly created users.
   All access rights: Select this option if you want to provide full access rights to the newly created users.
4. You can select an option to specify the access rights to the newly created objects.
   The following options are available:
   Access only to creator of the object: Select this option if you want to provide access to the object only to the creator of the object.
   Access to all users as per access rights of the folder: Select this option if you want to provide access to all users as per the access rights defined for the folder.
5. You can select an option to grant column access permissions
   The following option is available:
   Access to all cube columns: Select this option if you want to provide all cube columns access to the role(s) or user(s). Role(s) or user(s) will be granted access to all cube columns whenever cube permission is granted to specific role(s) or user(s).
6. You can select an option to specify access rights policy for editing object created by other user or not.

The following option is available:
Object can be edited by creator only: Select this option if you want to restrict other users to edit and save any BI object. If this policy is enabled, only the user who has created a particular BI object can edit and save that object. Creator of an object and administrator can change this permission for an object by setting appropriate permission within object property.

7. You can select an option to specify user listing displayed in Delivery and publishing.
   The following options are available:
   All users: Select this option if you want to provide list of all active users.
   Users in my group: Select this option if you want to provide list of users from the logged-in user's own group.
   My self: Select this option if you want to display only logged-in user.
8. Click **SAVE** to set the security type.

12.3 Roles

The action or access rights to be assigned to a user or user group is Role. Access permission to create, view, and delete can be given to objects, such as crosstab, graphs, GeoMap, KPI, dashboard, or tabular and folders repository. One user may have multiple roles, and one role may be assigned to multiple users.

To manage roles:

Procedure

1. In the Navigation Panel, click **Security & Permissions.**
2. In the **Security & Permissions** menu, click **Roles**.
   The system displays the **Roles** page.

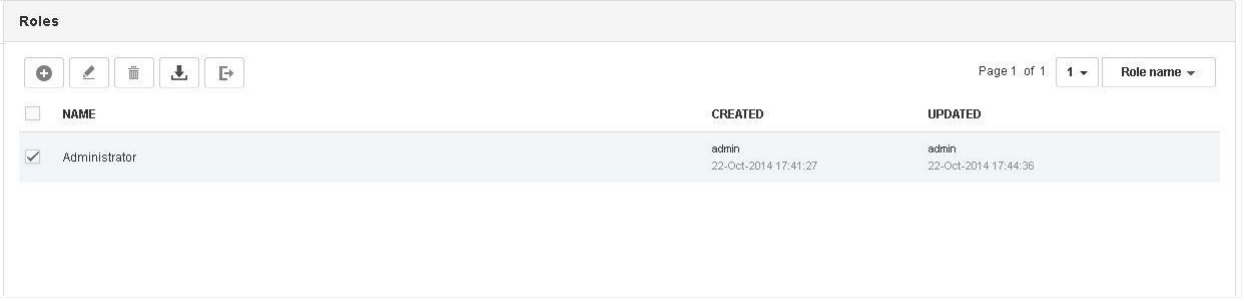
12.3.1 Role List

The Role list shows all the available role(s) in the application. From the role list, you can view and edit role name and description.

To view role list:

Procedure

1. In the Navigation Panel, click **Security & Permissions.**
2. In the **Security & Permissions** menu, click **Roles**.
   The system displays the **Roles** page.
3. From the **Page** list, you can select an option to navigate to the selected page number.
4. You can sort the groups based on the role name, the date they were created, and the date they were last modified by selecting an option from the list adjacent to the **Page** list.



ROLE: ROLE LIST

Icon	Icon name
	Add

Icon	Icon name
	Edit
	Import
	Export
	Delete

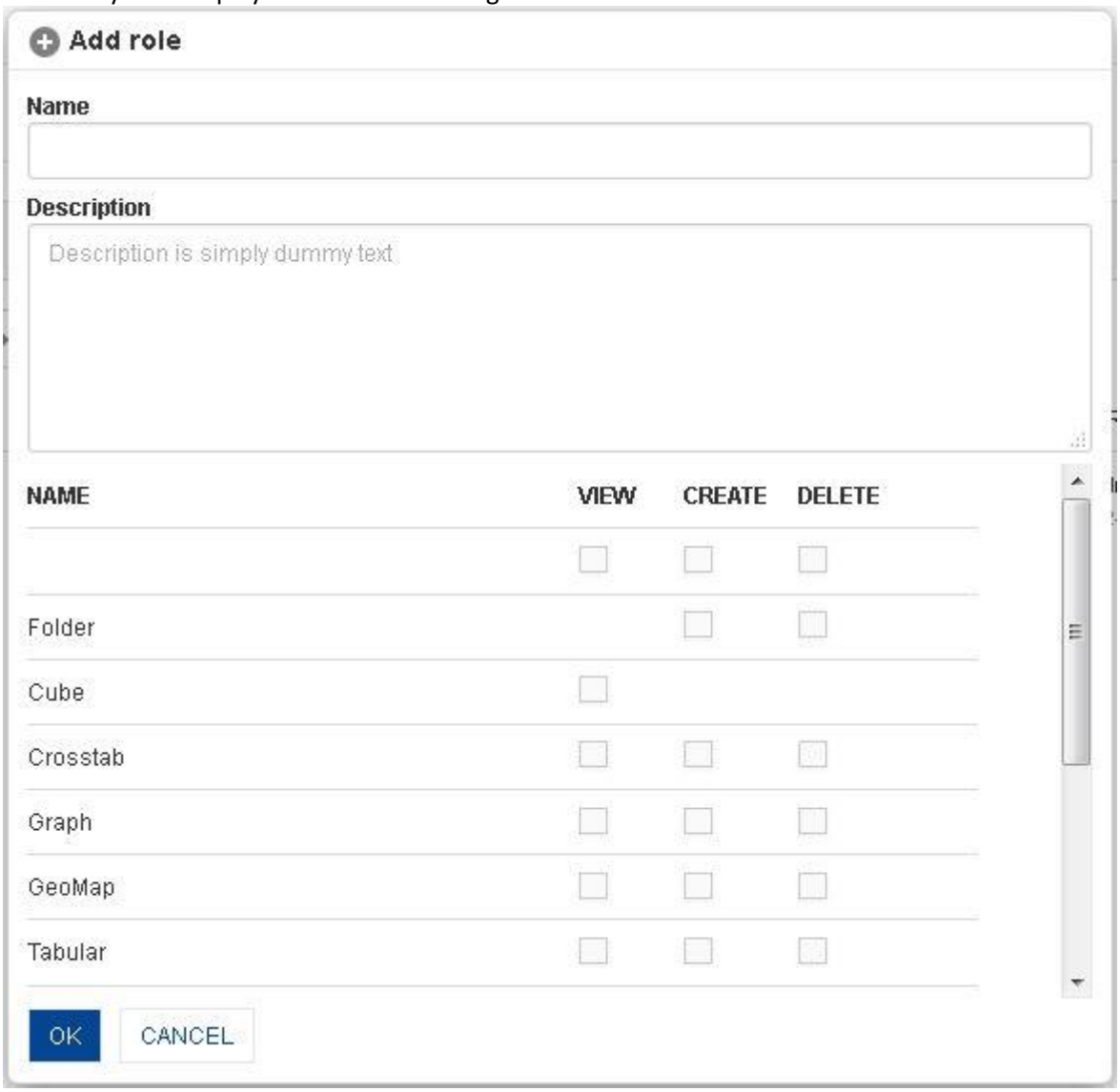
ROLE: TOOLBAR OPTIONS

12.3.2 Add a New Role

To add a new role:

Procedure

1. In the Navigation Panel, click **Security & Permissions.**
2. In the **Security & Permissions** menu, click **Roles**.
   The system displays the **Roles** page.
3. Click **Add.**
   The system displays the **Add role** dialog box.



ROLE: ADD NEW ROLE

4 In the **Name** field, enter a name for the role.
5 In the **Description** field, enter a description for the role.
6 Select the checkbox for the permissions you want to add for the role.
7 Click **OK** to save the role.

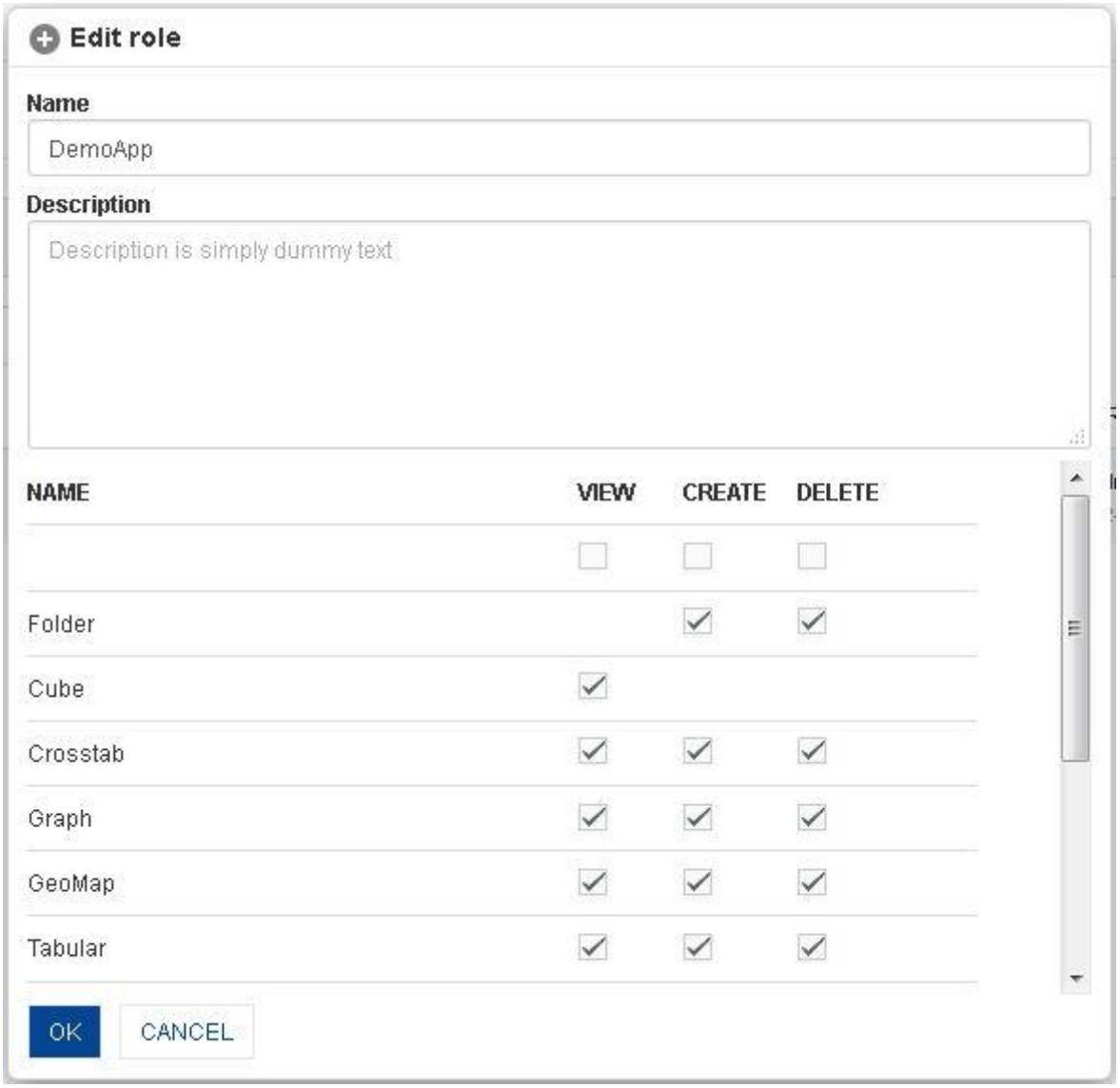
12.3.3 Edit Role

To edit role:

Procedure

1 In the Navigation Panel, click **Security & Permissions.**
2 In the **Security & Permissions** menu, click **Roles**.
The system displays the **Roles** page.
3 Select the checkbox adjacent to the role you want to edit.
4 Click the **Edit** icon.
The system displays the **Edit role** dialog box.

ROLES: EDIT ROLES



ROLES: EDIT ROLES

5 Make the required changes in the given fields.
6 Click **OK** to save the changes.
7 Click Cancel to go back to the **Roles** dialog box without saving any changes.

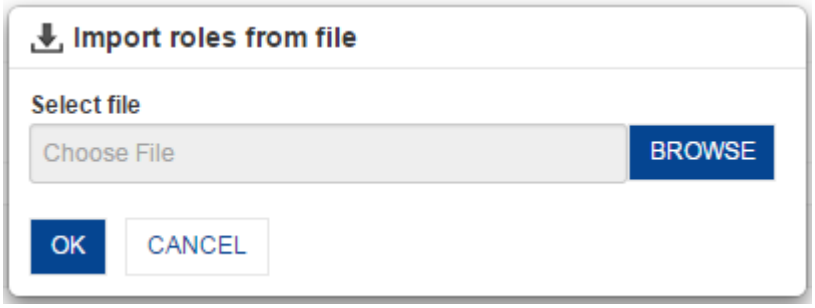
12.3.4 Import Roles from File

You can import roles from files by clicking on the **Import** button from the **Roles** dialog box. **Import roles from file** dialog box opens.

To import roles from file:

Procedure

1 In the Navigation Panel, click **Security & Permissions.**
2 In the **Security & Permissions** menu, click **Roles**.
The system displays the **Roles** page.
3 Click the **Import** icon.
The system displays the **Import roles from file** dialog box.



ROLE: IMPORT ROLES FROM FILE

4 Click **BROWSE** to select a file you want to import.
5 Click **OK** to import the selected file.
6 Click **CANCEL** to go back to **Roles** dialog box.

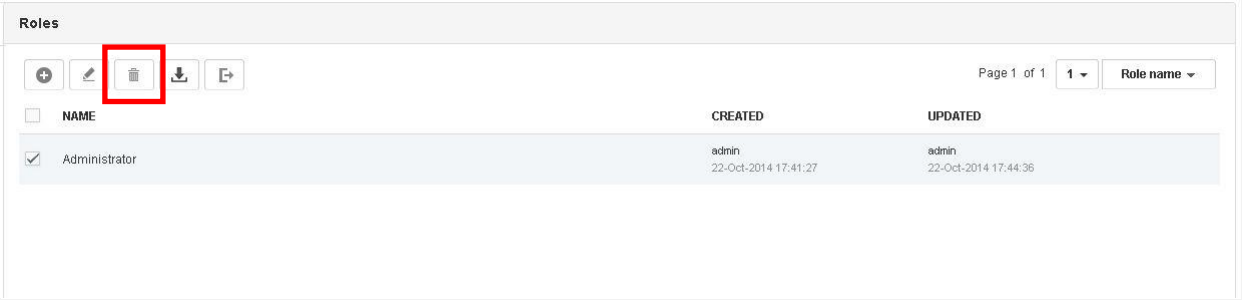
Note: Sample import formats are available in **<Smarten Installation Dir >/Docs/Sample files.**

12.3.5 Delete Roles

To delete roles:

Procedure

1 In the Navigation Panel, click **Security & Permissions.**
2 In the **Security & Permissions** menu, click **Roles**.
The system displays the **Roles** page.
3 Select the checkbox adjacent to the role you want to delete.
4 Click the **Delete** icon.
5 Click **OK** to confirm or click **Cancel**.



ROLES: DELETE ROLE

12.4 User Groups

Group is a collection of users who can share access rights, and groups can be used to classify users by group.

To add groups:

Procedure

1 In the Navigation Panel, click **Security & Permissions.**
2 In the **Security & Permissions** menu, click **Users groups**.
The system displays the **Users groups** page.

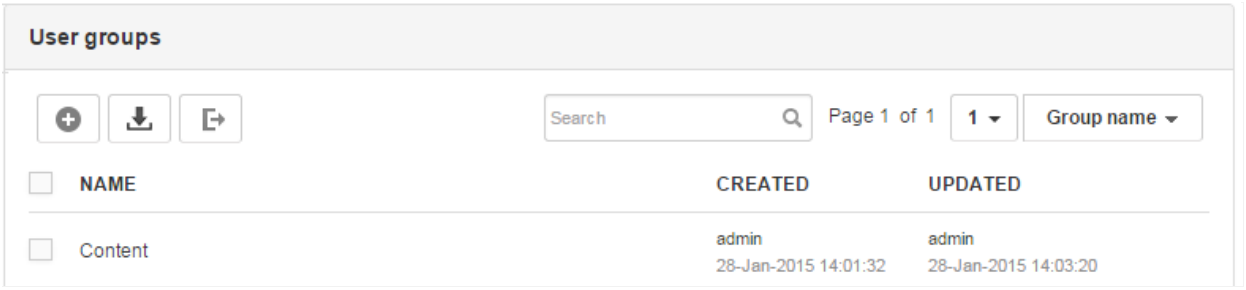
12.4.1 Group List

The Group list shows all the available group(s). From the group list, you can manage user groups.

To view group list:

Procedure

1 In the Navigation Panel, click **Security & Permissions.**
2 In the **Security & Permissions** menu, click **Users groups**.
The system displays the **Users groups** page.
3 You can search for a group by entering the value in the **Search** box within the **User groups** dialog box.
4 You can select an option from the **Page** list to navigate to the selected page number.
5 You can sort the groups based on their name, date they were created, and the date they were last modified by selecting an option from the list adjacent to the **Page** list.



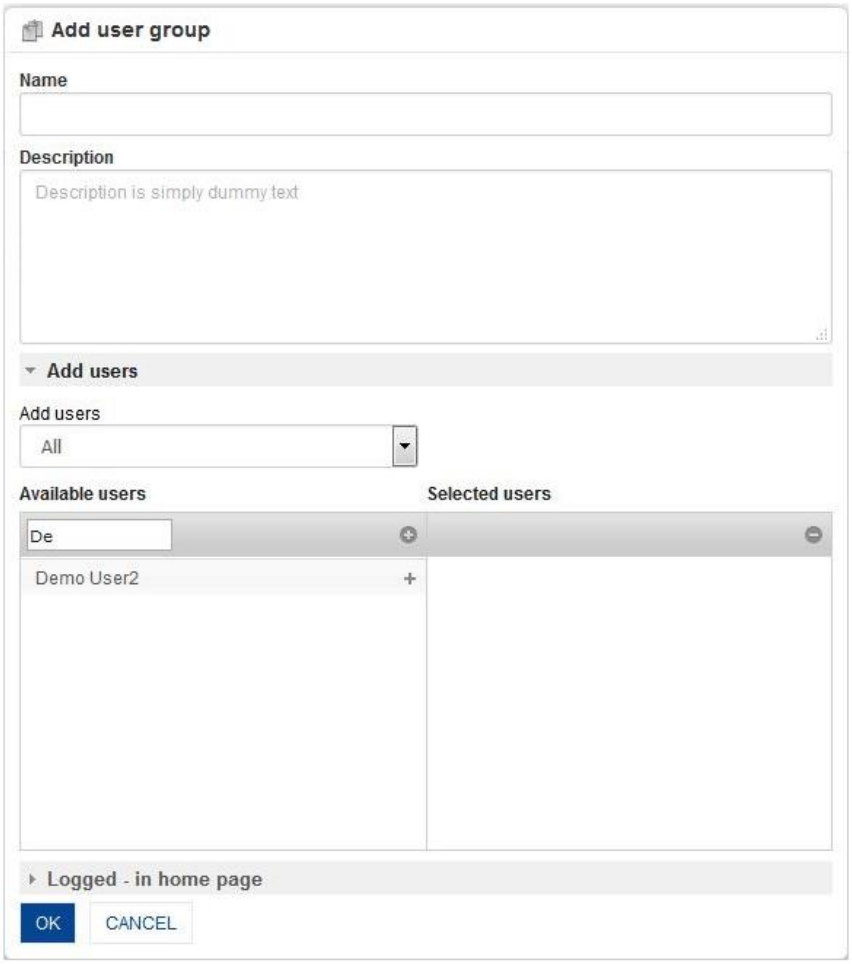
GROUP: GROUP LIST

12.4.2 Add a New Group

To add a new group:

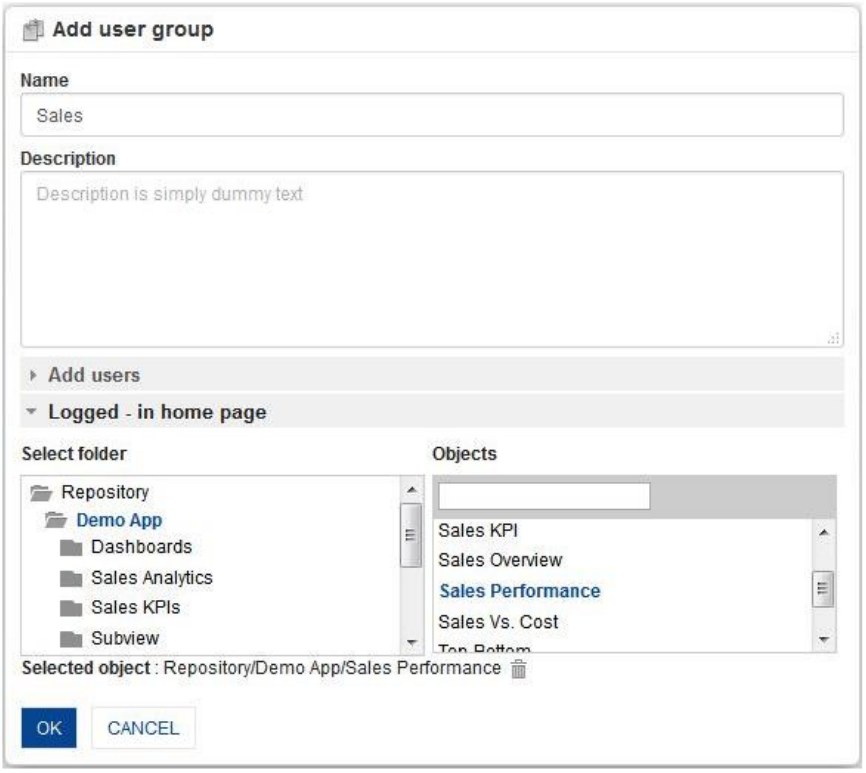
Procedure

1 In the Navigation Panel, click **Security & Permissions.**
2 In the **Security & Permissions** menu, click **Users groups**.
The system displays the **Users groups** page.
3 Click **Add.**
The system displays the **Add user group** dialog box.



GROUP: ADD NEW GROUP – ADD USERS

4 In the **Name** field, enter a name for the role.
5 In the **Description** field, enter a description for the role.
6 From the **Add users** drop-down list, select an option to specify the list of users to be displayed within the **Available users** section.
Or,
You can enter a value in the **Search** box and search for the user based on the value provided.
7 From the **Available users** list, you can drag and drop the users to the **Selected users** list or deselect the selected users by moving the users back from the **Selected users.**
8 Repeat the above step to add multiple users.



GROUP: ADD NEW GROUP – LOGGED – IN HOME PAGE

9 From the **Logged – in home page**, set any Smarten object (e.g., a dashboard or crosstab or graph or GeoMap or KPI) from Smarten repository as home page. Selected object will be shown as homepage for all the users in the group by default. If any individual user has configured personal logged in homepage, priority will be given to personal homepage over the group homepage.

10 Click **OK** to complete the operation.

11 Click **Cancel** to go back to the **User groups** dialog box without saving the changes.

12.4.3 Edit Group

To edit group:

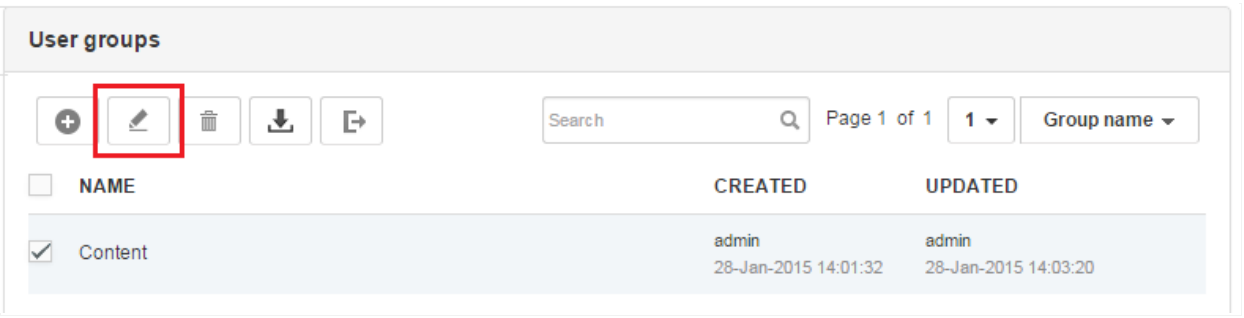
Procedure

1 In the Navigation Panel, click **Security & Permissions.**

2 In the **Security & Permissions** menu, click **Users groups**.
The system displays the **Users groups** page.

3 Select the checkbox adjacent to the group you want to edit.

4 Click the **Edit** icon.
The system displays the **Edit user group** dialog box.



GROUPS: EDIT USER GROUPS

GROUPS: EDIT USER GROUPS

5 Make the required change in the given fields.
6 Click **OK** to save the changes.
7 Click **CANCEL** to go back to the **User groups** dialog box without saving any changes.

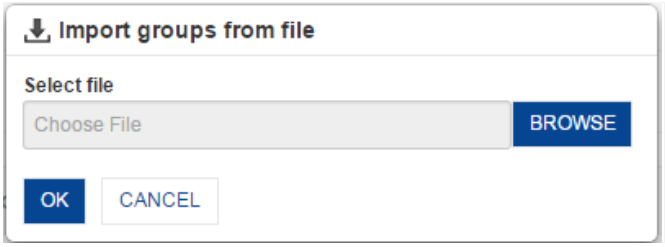
12.4.4 Import Groups from File

You can import groups from file by clicking on the Import button from the **User groups** dialog box. The **Import groups from file** dialog box opens.

To import groups from file:

Procedure

1 In the Navigation Panel, click **Security & Permissions.**
2 In the **Security & Permissions** menu, click **Users groups**.
The system displays the **Users groups** page.
3 Click the **Import** icon.
The system displays the **Import groups from file** dialog box.



GROUP: IMPORT GROUPS FROM FILE

4 Click **BROWSE** to select a file you want to import.
5 Click **OK** to import the selected file.
6 Click **CANCEL** to go back to **Groups** dialog box.

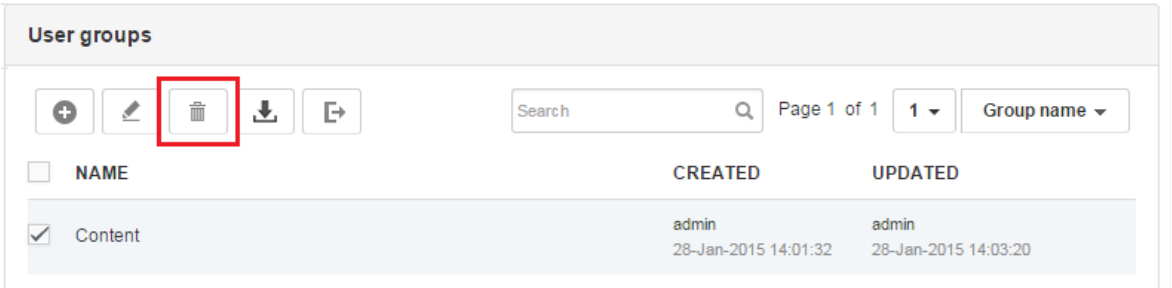
Note: Sample import formats are available in **<Smarten Installation Dir >/Docs/Sample files.**

12.4.5 Delete Group

To delete group:

Procedure

1 In the Navigation Panel, click **Security & Permissions.**
2 In the **Security & Permissions** menu, click **Users groups**.
The system displays the **Users groups** page.
3 Select the checkbox adjacent to the role you want to delete.
4 Click the **Delete** icon.
5 Click **OK** to confirm or click **Cancel**.



GROUPS: DELETE USER GROUPS

12.5 Users

To add and manage users:

Procedure

1 In the Navigation Panel, click **Security & Permissions.**
2 In the **Security & Permissions** menu, click **Users**.
3 The system displays the **Users** page.

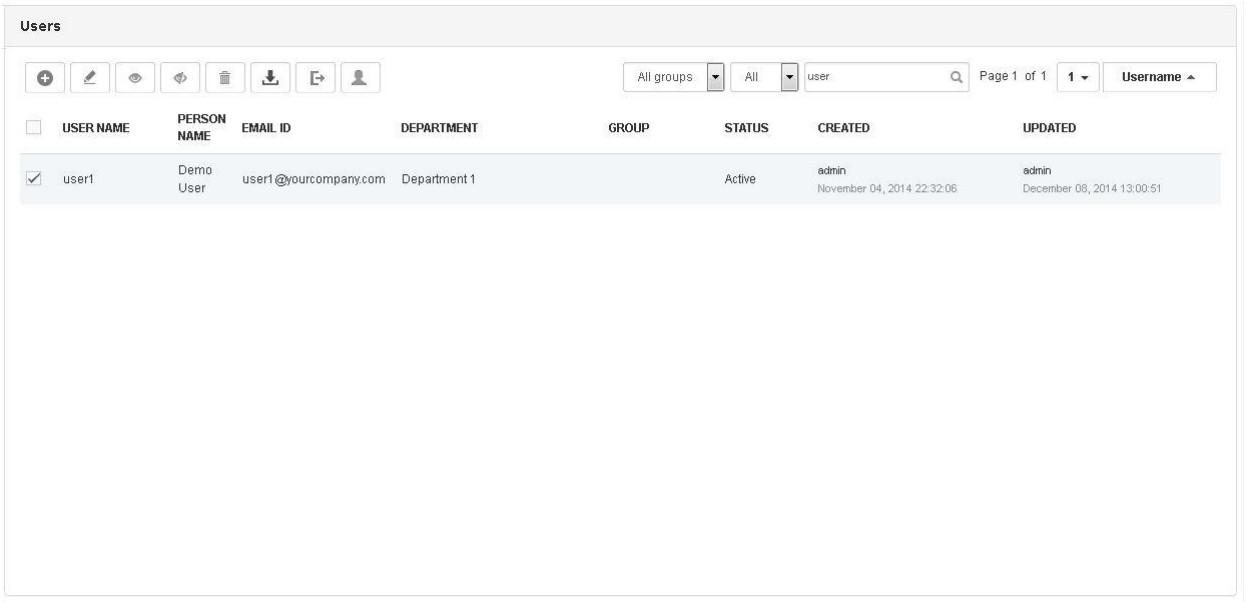
12.5.1 User List

User list shows all the available user(s) for the application. From the user list, you can view names of all users and groups.

To view user list:

Procedure

1 In the Navigation Panel, click **Security & Permissions.**
2 In the **Security & Permissions** menu, click **Users**.
The system displays the **Users** page.
3 You can search for a group by entering the value in the **Search** box within the **User groups** dialog box.
4 You can select an option from the **Page** list to navigate to the selected page number.
5 You can sort the groups based on the user name, person name, group, status, date they were created, and the date they were last modified by selecting an option from the list adjacent to the **Page** list.
6 You can activate or deactivate an existing user.
7 You can view profile of an existing user.



USER: USER LIST

Icon	Icon name
	Add
	Edit
	Import
	Export
	Activate

Icon	Icon name
	Deactivate
	Delete
	Profile

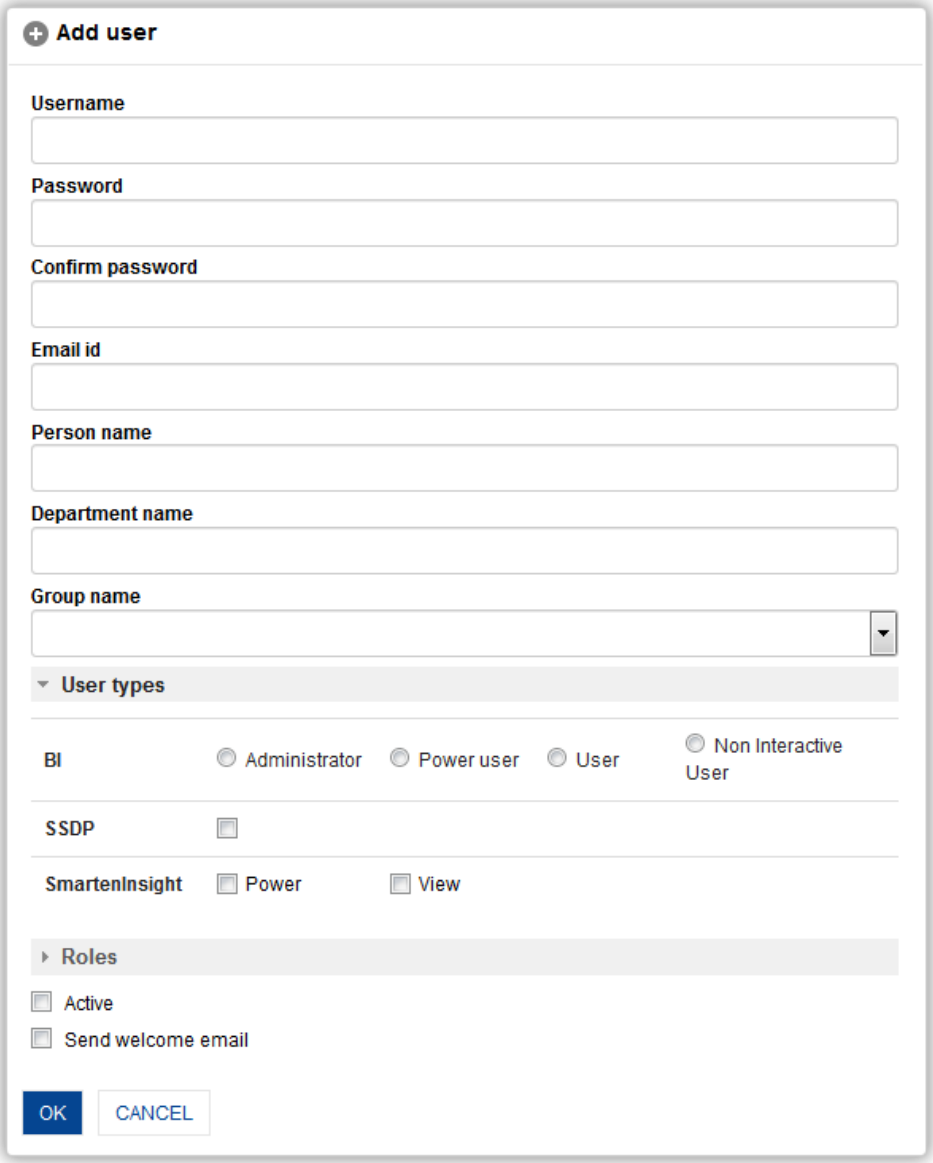
USER: TOOLBAR OPTIONS

12.5.2 Add a New User

To add a new user:

Procedure

1 In the Navigation Panel, click **Security & Permissions.**
2 In the **Security & Permissions** menu, click **Users**.
The system displays the **Users** page.
3 Click **Add.**
The system displays the **Add user** dialog box.



USER: ADD NEW USER

4 In the **Username** field, enter a username for the user.
5 In the **Password** field, enter a password for the user.
6 In the **Confirm password** field, reenter the password for the user.
7 In the **Email id** field, enter the email id of the user.
8 In the **Person name** field, enter the name of the user.
9 In the **Department name** field, enter the name of the department the user belongs to.
10 From the **Group name** list, select an option to specify the group the user will belong to.
11 From the **User types** section, select an option to specify the type for the user.

> **Note:**
> Administrator rights section is only visible when Administrator option is selected in User types

Reference: **Administrator Manual > Managing Security & Permissions > User Types**

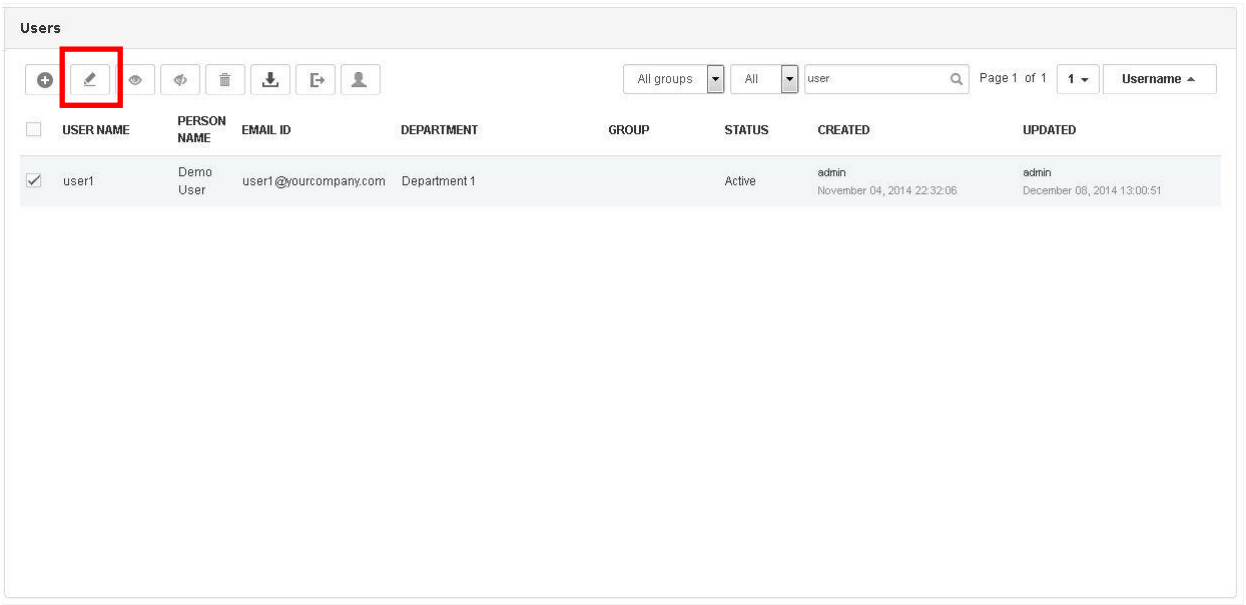
12 You can select the **Active** checkbox to activate the user immediately after it is created.
13 You can select the **Send welcome email** checkbox to send a welcome email to the newly created user.
14 Click **OK** to complete the operation.
15 Click **CANCE**L to go back to the **Users** dialog box without saving the changes.

12.5.3 Edit User

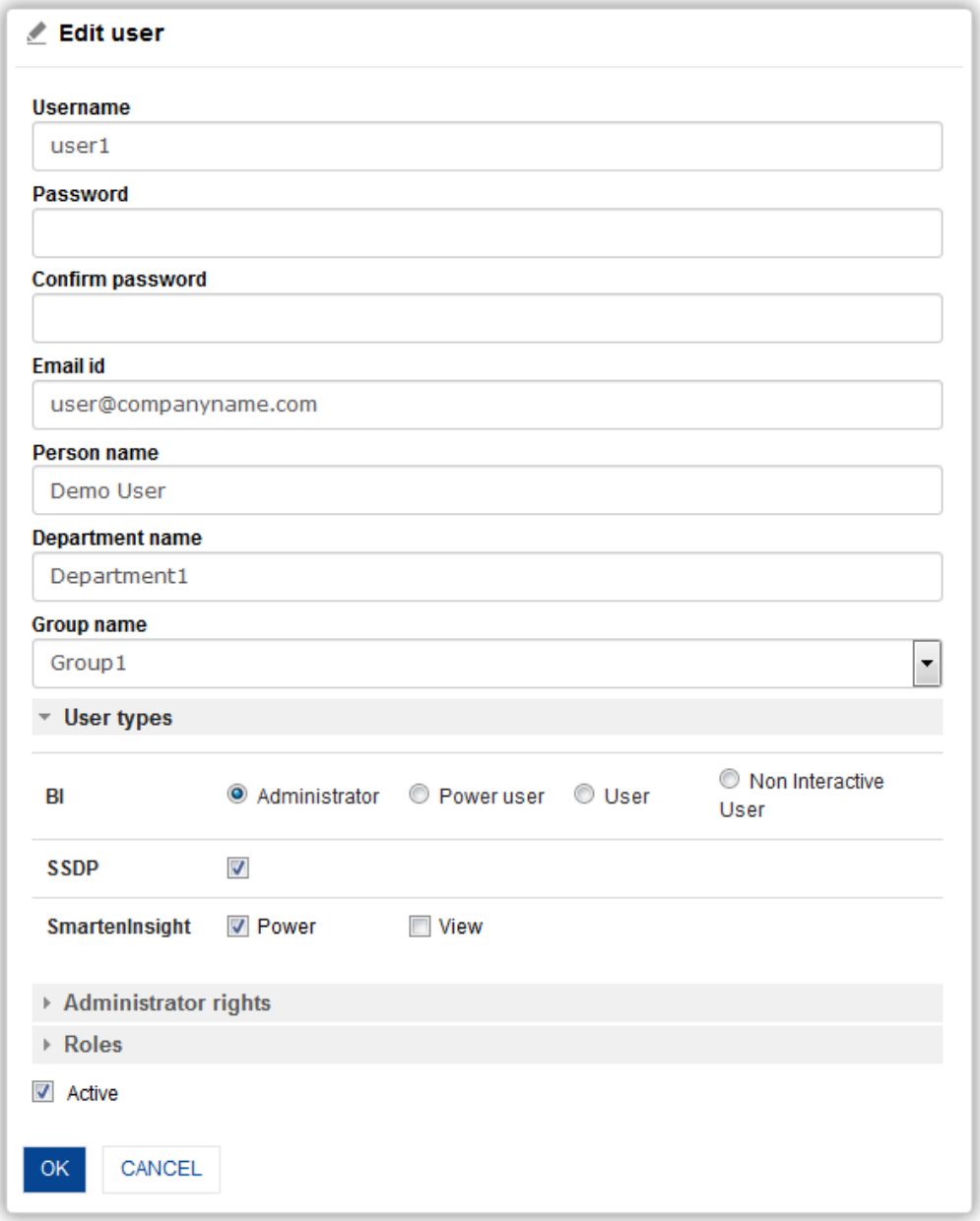
To edit user:

Procedure

1. In the Navigation Panel, click **Security & Permissions.**
2. In the **Security & Permissions** menu, click **Users**.
   The system displays the **Users** page.
3. Select the checkbox adjacent to the user you want to edit.
4. Click the **Edit** icon.
   The system displays the **Edit user management** dialog box.



USERS: EDIT USER



USERS: EDIT USER

5. Make the required change in the given fields.
6. Click **OK** to save the changes.
7. Click **CANCEL** to go back to the **Users** dialog box without saving any changes.

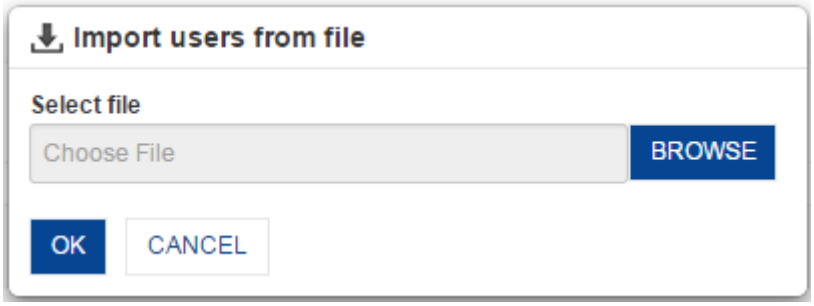
12.5.4 Import Users from File

You can import users from files by clicking on the **Import** button from **Users** dialog box.
The **Import users from file** dialog box opens.

To import users from file:

Procedure

1. In the Navigation Panel, click **Security & Permissions.**
2. In the Security & Permissions menu, click **Users.**
   The system displays the **Users** page.
3. Click the **Import** icon.
   The system displays the **Import users from file** dialog box.



USER: IMPORT USERS FROM FILE

4. Click **BROWSE** to select a file you want to import.
5. Click **OK** to import the selected file.
6. Click **CANCEL** to go back to **Users** dialog box.

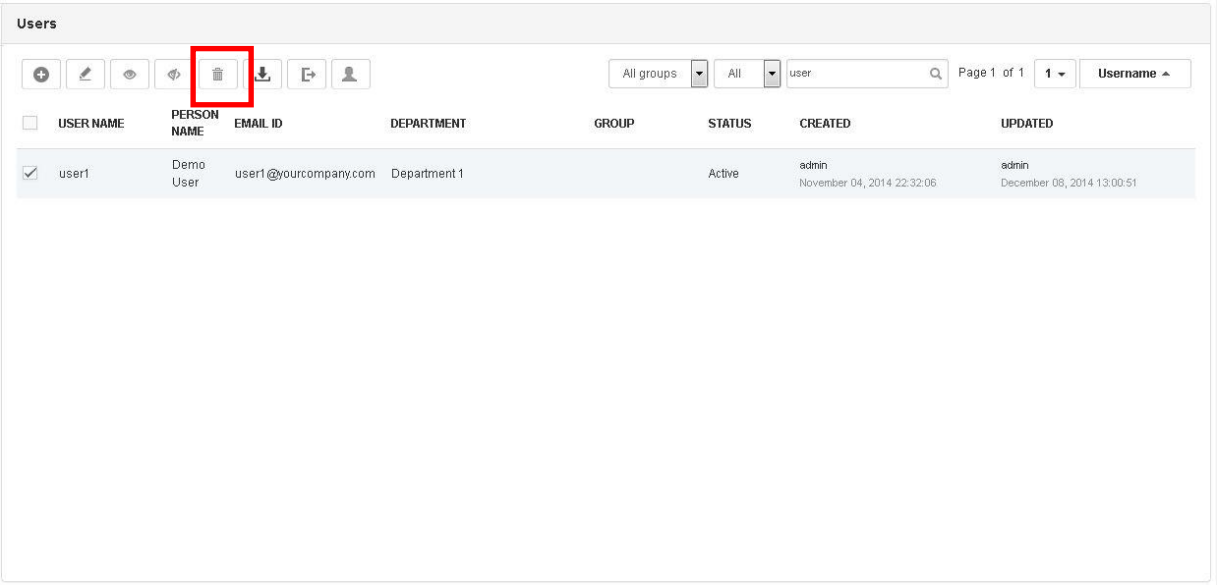
> Note: Sample import formats are available in <Smarten Installation Dir >/Docs/Sample files.

12.5.5 Delete User

To delete user:

Procedure

1. In the Navigation Panel, click **Security & Permissions.**
2. In the **Security & Permissions** menu, click **Users**.
   The system displays the **Users** page.
3. Select the checkbox adjacent to the user you want to delete.
4. Click the **Delete** icon.
5. Click **OK** to confirm or click **Cancel**.



USERS: DELETE USER

12.6 User Types

User Types are used to set base user type for BI and BSC modules.

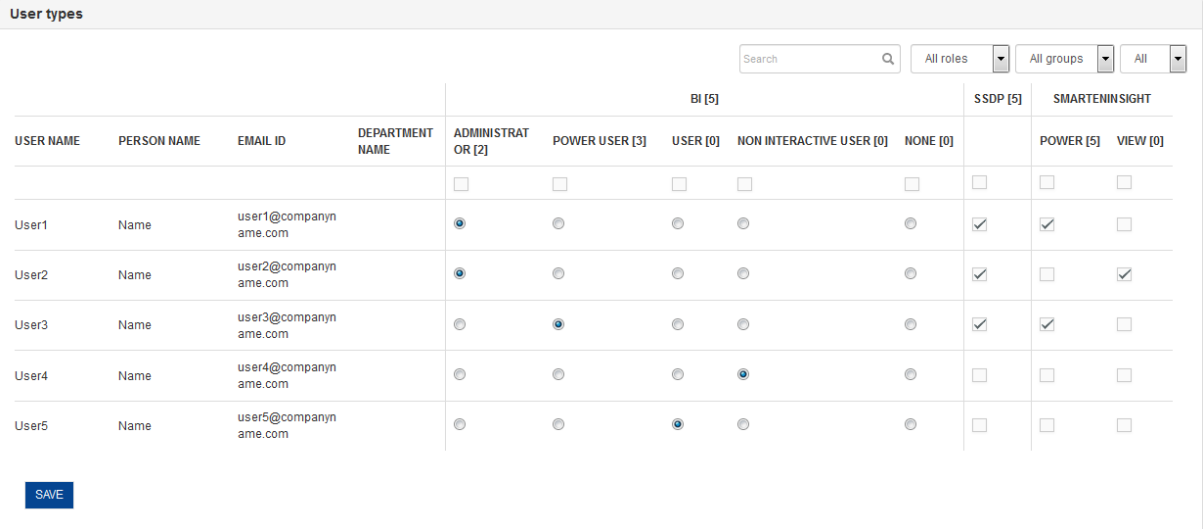
There are four types of users:

Super Administrator User: Super Administrator user, the default user of this system, is assigned full rights to perform and manage all the system activities, and can create and manage access rights for other Administrator users. Super Administrator rights cannot be changed or modified and this user can add and manage all types of users, including Administrator users.
Administrator User: Administrator users will be created and managed by Super Administrator user, and can have full or partial rights to perform and manage various system activities. This user can add and manage all other types of users in the system, except Super Administrator user.
Power users: Power users can create and modify front-end objects, such as dashboards, crosstab, graphs, GeoMap, key performance indicators (KPI), and tabular. Power users can develop and modify various objects and perform advanced analytics and ad hoc analysis.
Users: Depending upon their access rights, end users can view and interact with front-end objects, such as crosstab, tabular, graphs, Geomap, KPI, and dashboards. End users can also perform basic drill-down, filtering, and other analytic functions.
Publish only user: These users cannot log in to the system and can only receive BI objects via email as per the publishing and delivery agent configuration set by other users.

To set the user type and modules access rights:

Procedure

1. In the Navigation Panel, click **Security & Permissions.**
2. In the **Security & Permissions** menu, click **User Types**.
   The system displays the **User Types** page.
3. Select the radio button adjacent to user under the **BI** section to assign the role to that user.
   You can assign Administrator, Power User, User, and Publish Only User role to a user.
4. Select the checkbox for BSC if you want to assign BSC module rights to a particular user.
5. Click **Save** to save the changes.



USER TYPES

13 Configuring TeamUp

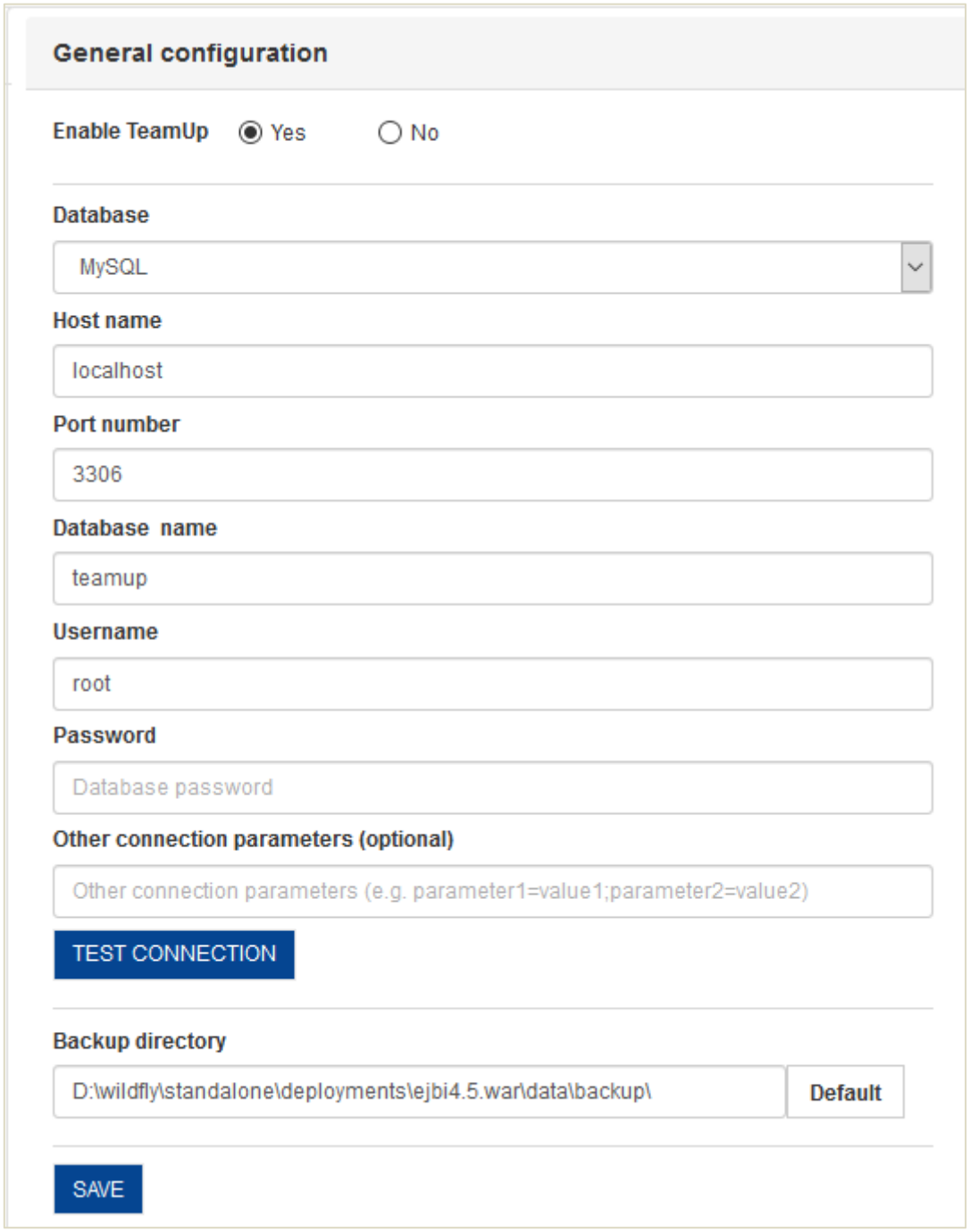
Configuring the TeamUp database is a prerequisite for using TeamUp. You can configure and test the connection to the database, take backup, archive data and view dashboard through this option.

13.1 General configuration

To configure TeamUp:

Procedure

1. In the Smarten Navigation Panel, click **TeamUp**.
2. In the **TeamUp** menu, click **General configuration**.
   The system displays the **General configuration** page.



TEAMPUP – GENERAL CONFIGURATION

3. In the **Enable TeamUp** field, select either **Yes** to enable TeamUp or **No** to disable TeamUp.
4. In the **Database** field, select the type of database from the drop-down list. The options are: MySQL, Oracle and SQL Server.
5. In the **Host name** field, enter the host name of the server on which the database is hosted.
6. In the **Port number** field, enter the port number of the server on which the database is hosted.
7. In the **Database name** field, enter the name of database for TeamUp.
8. In the **Username** field, enter the name of the user to access the database.
9. In the **Password** field, enter the password of the user.
10. In the **Other connection parameters** field, enter any other connection parameters. It is optional to enter.
11. Click **TEST CONNECTION** to check the connection to the database.
12. In the **Backup directory** field, enter the path for backup of the database.
13. Click **Default** to enter the default path for backup.
14. Click **SAVE** to save the settings.

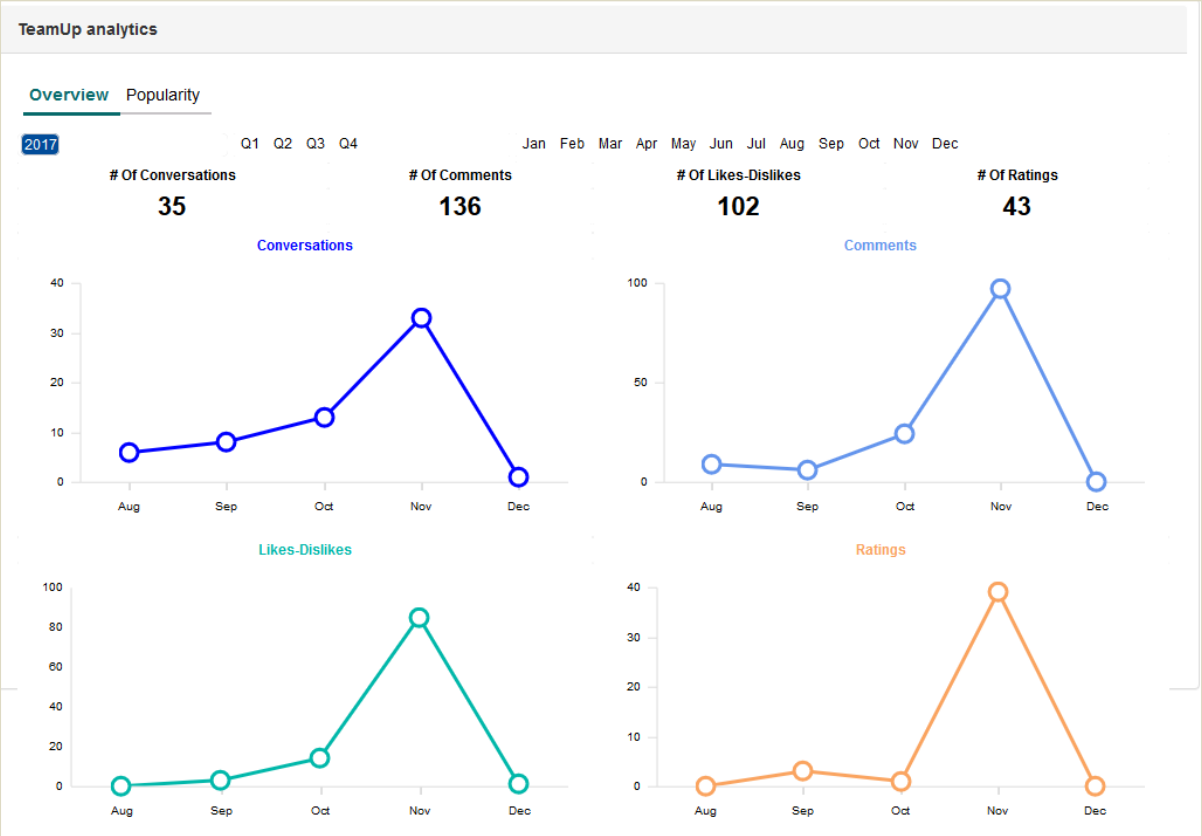
13.2 TeamUp analytics

Predefined dashboards are available so that administrators can analyze social BI activities for important insights, such as popular data, reports or dashboards, and popular conversation spots and the overall trend and activities of users in Smarten. These dashboards do not reflect the data that has been archived from the database.

The following predefined dashboards are available:

- Social Overview

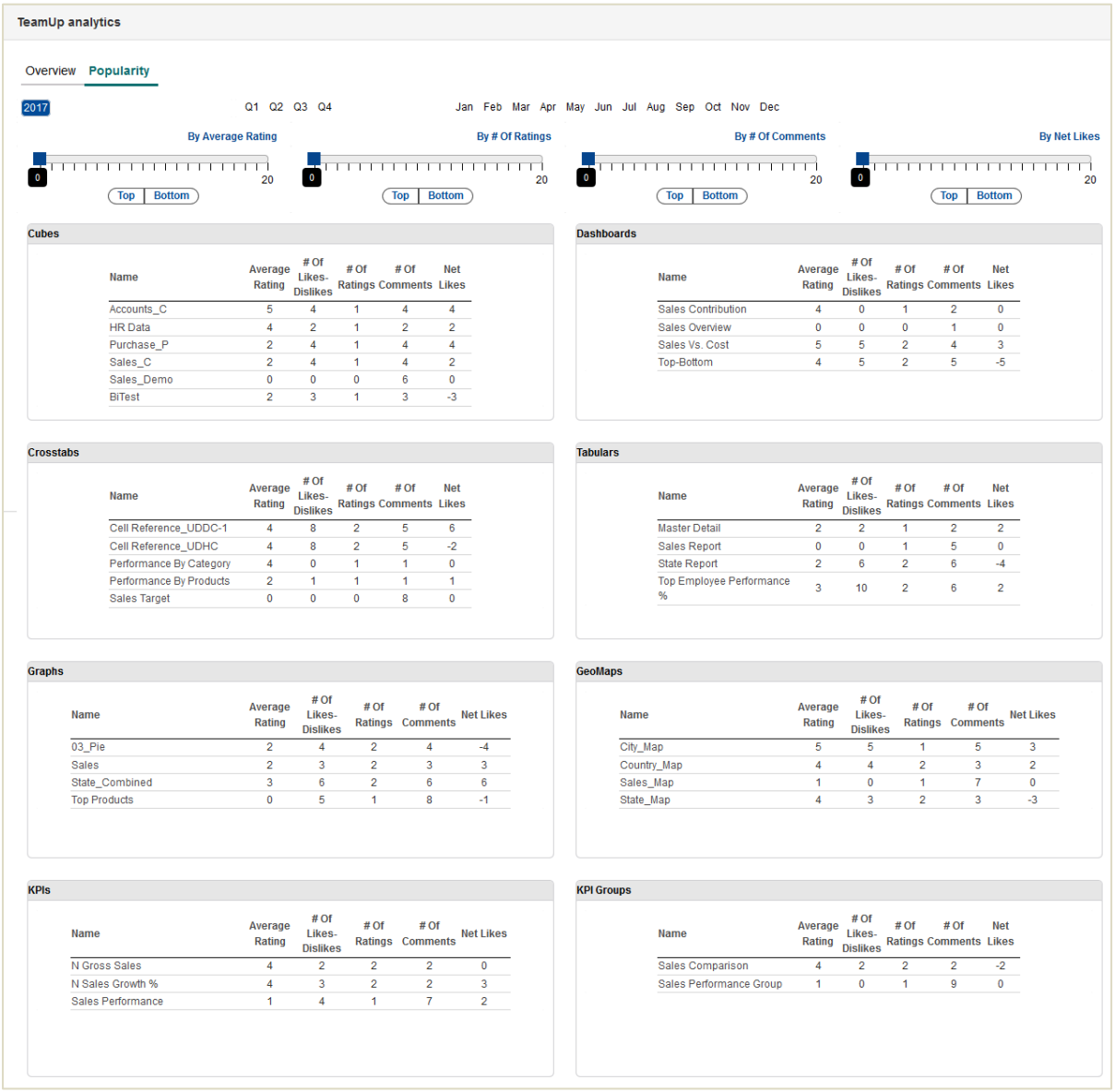
This dashboard provides overall insight on the total number of conversations that have taken place within Smarten. It also displays the total number of likes and comments that were posted for these conversations. This analysis enables an administrator to study monthly trends of conversations for the last 12 months, which can be further drilled down to days of each month.



TEAMUP ANALYTICS—SOCIAL OVERVIEW

- Social Popularity

This dashboard provides information on the most popular cubes and objects (such as dashboard, crosstab, KPI, graphs, and tabular) by taking into consideration their average ratings as well as the number of likes and comments received for their conversations.



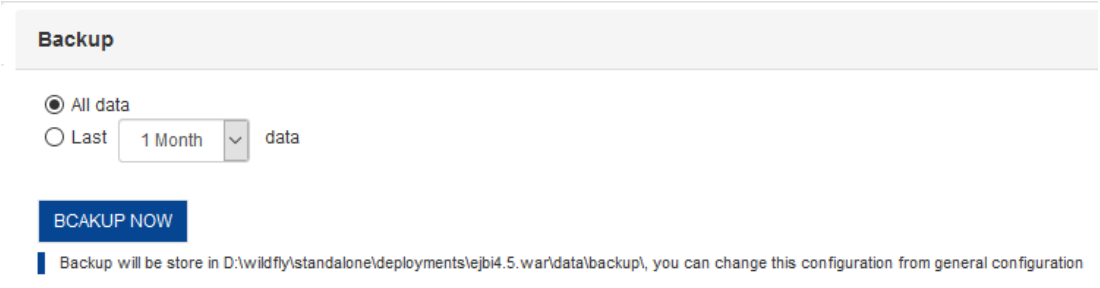
TEAMUP ANALYTICS—SOCIAL POPULARITY

13.3 Backup

To take backup of TeamUp database:

Procedure

1. In the Smarten Navigation Panel, click **TeamUp**.
2. In the **TeamUp** menu, click **Backup**.
   The system displays the **Backup** page.



TEAMPUP – BACKUP

3. Select either **All data** to take backup of all the data in the database or **Last data** to take backup of data belonging to a particular duration.
4. Select the duration from the drop-down list. The durations are:
   - 1 Month
   - 3 Months
   - 6 Months
   - 9 Months
   - 12 Months
5. Click **BACKUP NOW** to start the process of taking the backup.

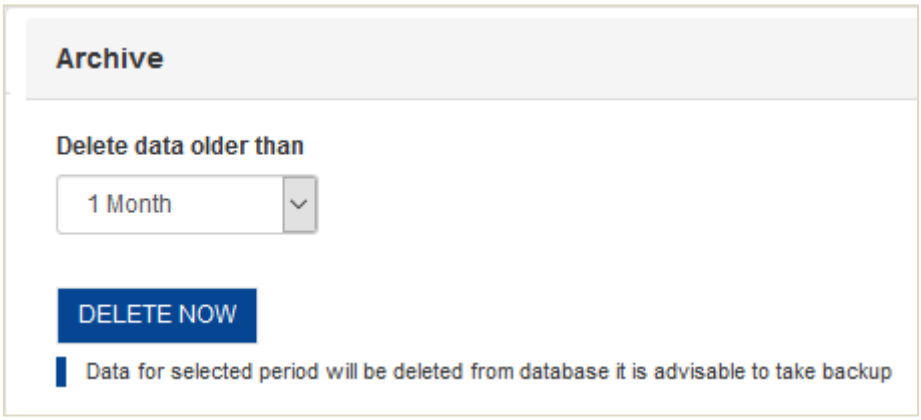
> Note:
> The backup will be stored in the path specified through **General configuration** in the form of a CSV file.

13.4 Archive

To delete data permanently from the TeamUp database:

Procedure

1. In the Smarten Navigation Panel, click **TeamUp**.
2. In the **TeamUp** menu, click **Archive**.
   The system displays the **Archive** page.



TEAMPUP – ARCHIVE

3. In the **Delete data older than** field, select the duration from the drop-down list. The durations are:
   - 1 Month
   - 3 Months
   - 6 Months
   - 9 Months
   - 12 Months
4. Click **DELETE NOW** to remove the data which is older than the selected duration from the database.

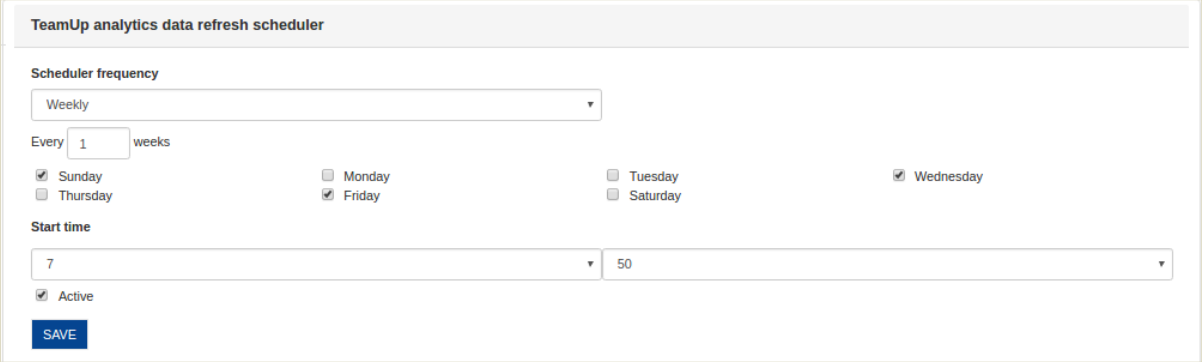
13.5 TeamUp analytics data refresh scheduler

You can create a scheduler to refresh TeamUp data at specified interval of time, so that latest data is displayed in predefined dashboards for TeamUp analytics.

Procedure

1. In the Smarten Navigation Panel, click **TeamUp**.
2. In the **TeamUp** menu, click **TeamUp analytics data refresh scheduler**.

The system displays the **TeamUp analytics data refresh scheduler** page.

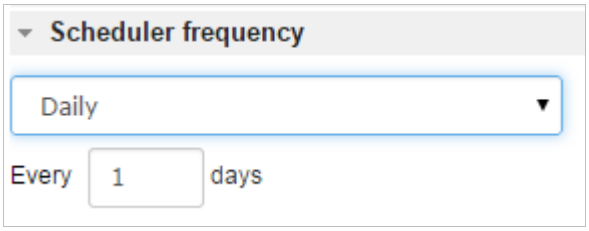


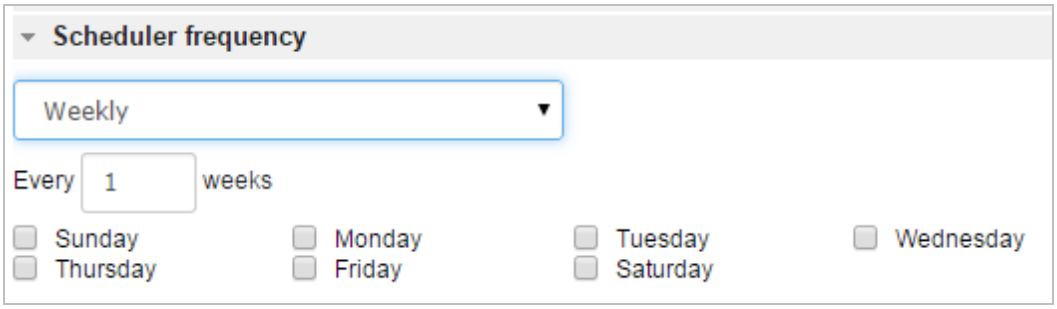
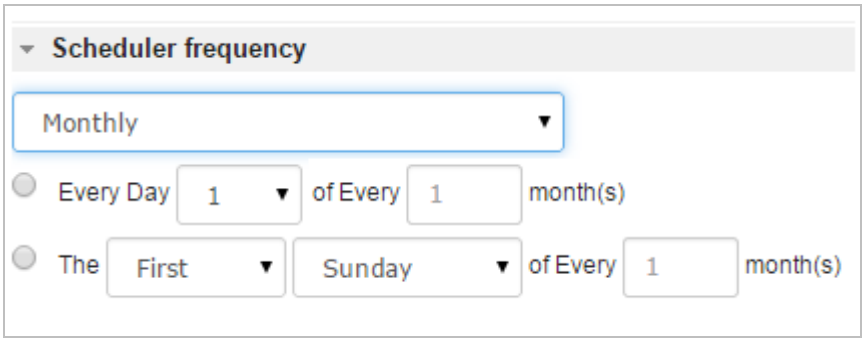
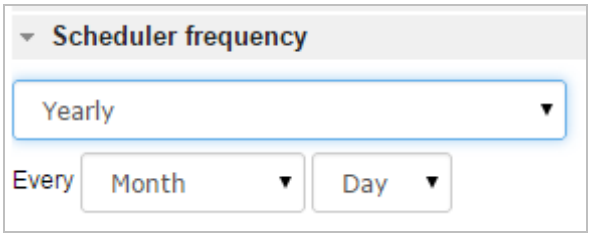
TEAMPUP – TEAMUP ANALYTICS DATA REFRESH SCHEDULER

3. In the **Scheduler frequency** field, select an option from the list to specify the frequency to refresh data. Based on the option selected, relevant fields will be displayed.
   The following options are available:

   a. **Daily**
   b. **Weekly**
   c. **Monthly**
   d. **Yearly**

4. From the **Start time** list, select an option to specify the hour and minute to refresh the data.
5. You can select the **Active** checkbox if you want to make the task active.
6. Click **OK** to save the schedule.

Frequency	Options
Daily	The Daily box is displayed that allows you to specify the daily frequency to refresh the data.
	
Weekly	The Weekly option allows you to specify the weekly frequency to refresh the data. The checkbox for each day of the week is displayed that allows you to select the day(s) of the week when the data will be refreshed.

Frequency	Options
	
Monthly	The Monthly option allows you to specify the monthly frequency to refresh the data.
	
Yearly	The Yearly option allows you to specify the yearly frequency to refresh the data.
	

14 Working with Logs

Log files keep track of various events. Audit logs, Events logs, and Scheduler event log files are generated as below.

14.1 Audit Log

You can analyse user activities with details of users, objects, timelines, trends and KPIs using audit log analytics predefined dashboards. You can also export audit log data and create your custom reports and dashboards from the audit logs data.

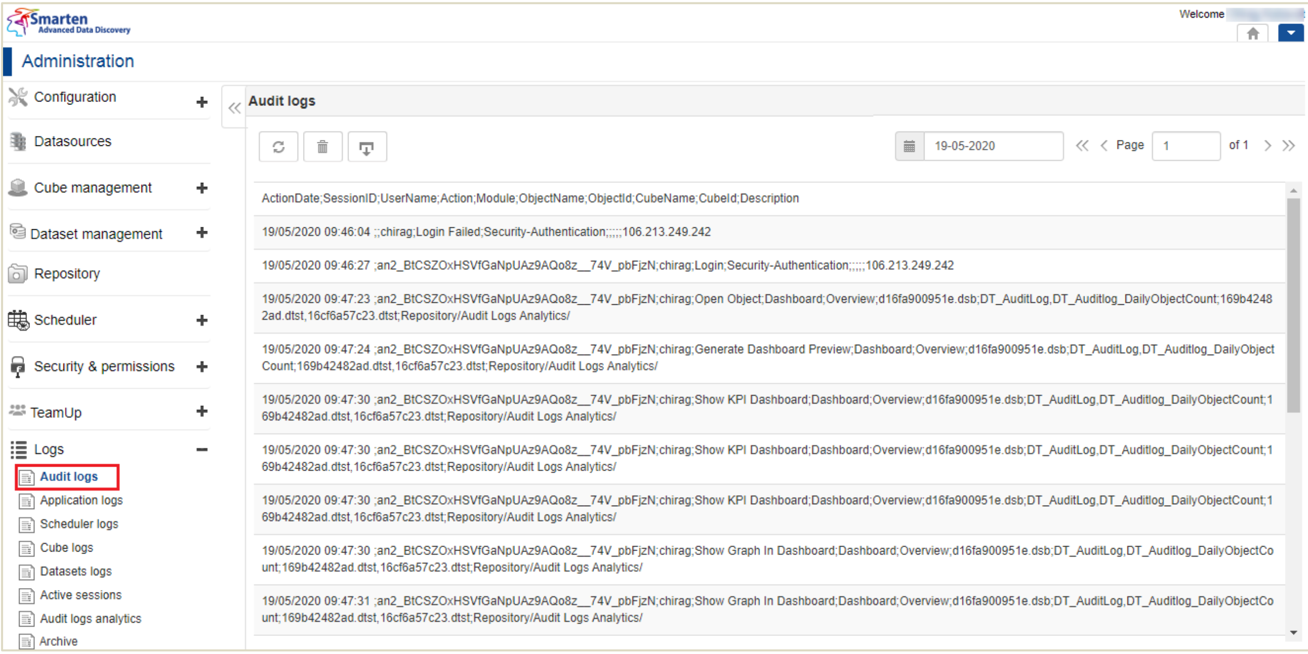
14.1.1 Viewing Audit Log

The **Audit Log** is used to view user access logs.

To view audit log details:

Procedure

1. In the Administration Navigation Panel, click **Logs**.
2. In the **Logs** menu, click **Auditlogs**.
   The system displays the **Auditlogs** page.



LOGS: AUDIT LOGS

3. In the **Calendar** field, specify the date you want to view the logs for.
4. Click navigation arrows to navigate between the log pages.
5. Click the **Refresh** icon to get the latest updates.
6. Click the **Delete** icon to delete the log file.
   Click **OK** to confirm or click **Cancel**.
7. Click the **Download** icon to download the log detail in a semicolon-separated text file.

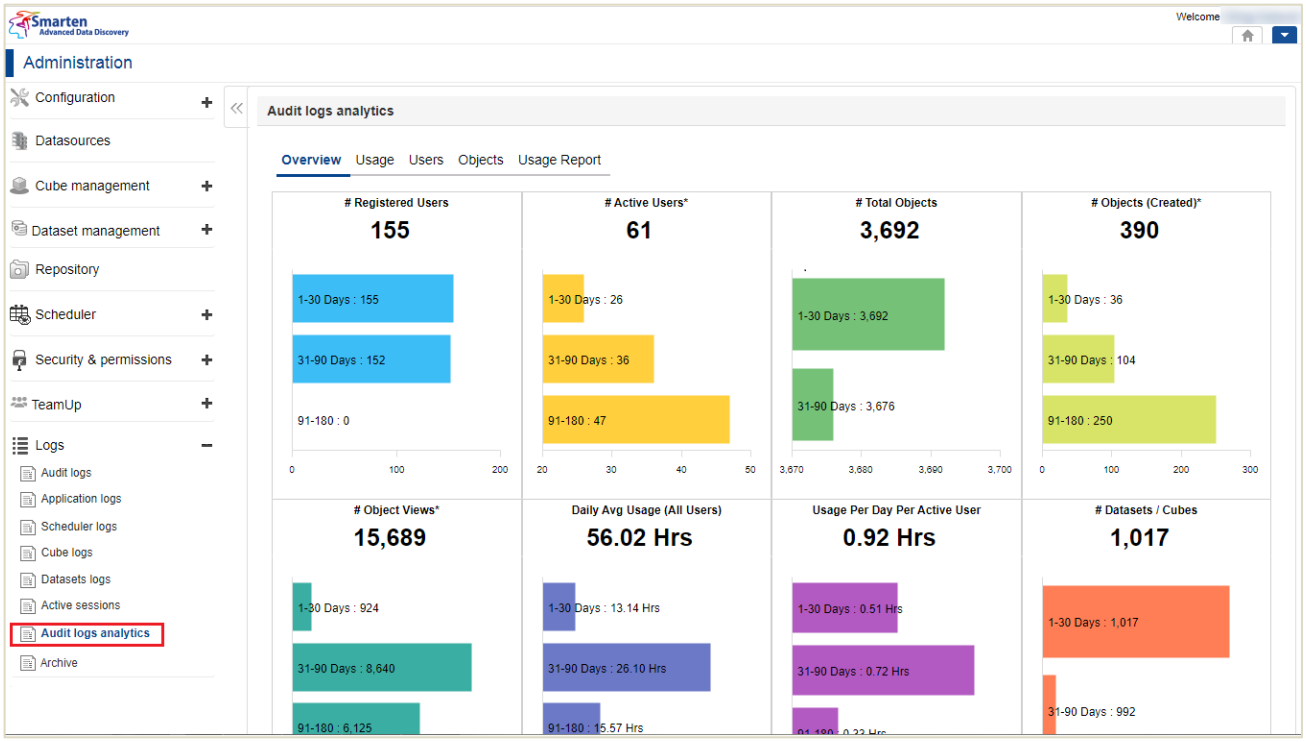
14.1.2 Audit Logs Analytics

Audit logs analytics provides predefined dashboards to help you analyse audit log activities. Following dashboards are provided: **Overview**, **Usage**, **Users**, **Objects**, **Usage Report**.

To view Audit Logs analytics:

Procedure

1. In the administration navigation panel, click **Logs**.
2. In the **Logs** menu, click **Auditlogs analytics**.
   The system displays the **Auditlogs** analytics page with these tabs: Overview, Usage, Users, Objects and Usage Report.



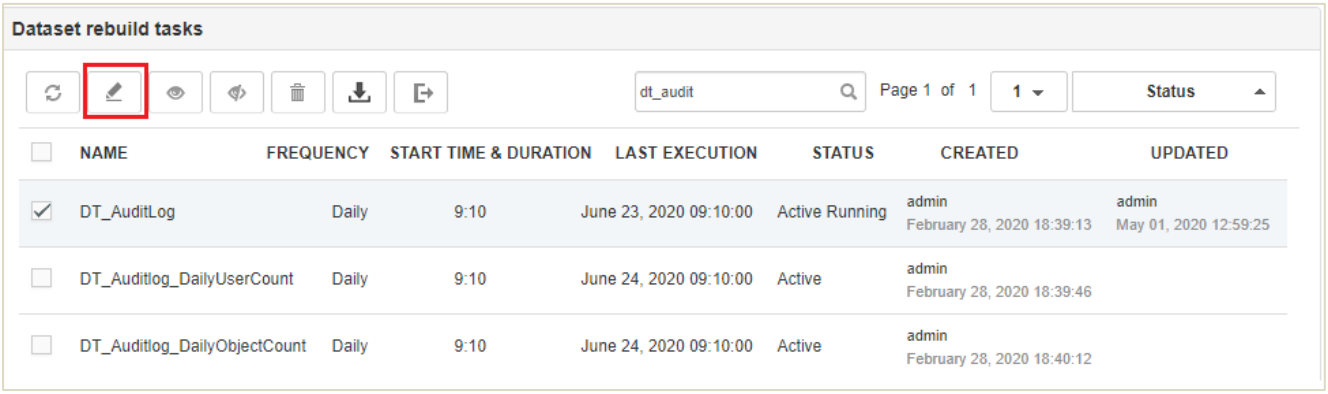
LOGS: AUDIT LOGS ANALYTICS

14.1.2.1 Configuring Rebuild Scheduler for Audit Logs Analytics Dataset

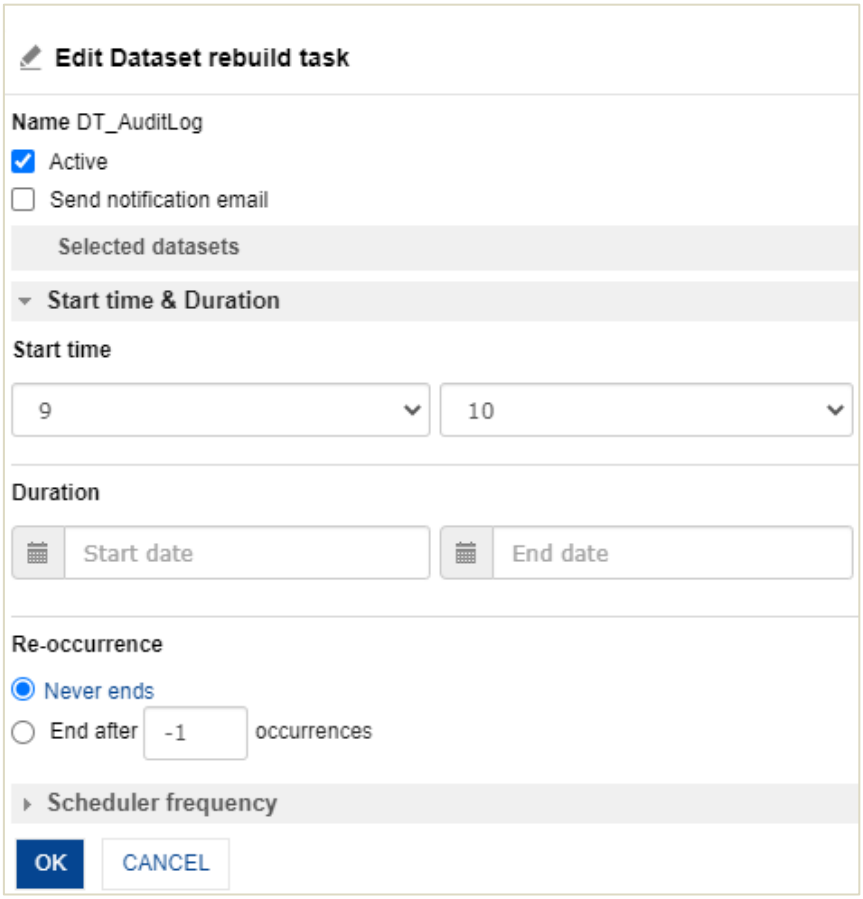
Smarten provides pre-configured audit logs datasets for audit logs analytics. Administrator can configure its rebuild scheduler.

Procedure:

1. In the administration navigation panel, click **Scheduler.**
2. In the **Scheduler**, click **Dataset rebuild tasks.**
   The system displays the **Dataset rebuild tasks** page.
3. Search **dt_AuditLogs** dataset.
   The list of dataset related to Audit Logs is displayed.
4. Select the checkbox adjacent to the dataset **dt_AuditLogs** to edit the rebuild task for the dataset.
5. Click the **Edit** icon.
   The system displays the **Edit Dataset rebuild task** dialog box.



SCHEDULER - EDIT DATASET REBUILD TASKS OPTION



SCHEDULER - EDIT DATASET REBUILD TASK DIALOG BOX

6. You can select the **Active** checkbox if you want to make the task active.
7. You can select the **Send notification email** checkbox if you want to send notification email to the creator when the task is complete.
8. Select an option from the **Scheduler frequency** to specify the frequency for task execution:
    a. **One time**: Set a specific Date for the dataset update process.
    b. **Hourly**: Set the Hourly basis update process for the dataset. Insert the hour(s) to update the dataset based on the inserted hour.
    c. **Daily**: Set the Daily basis update process for the dataset. Insert the day(s) to update the dataset based on the inserted days.
    d. **Weekly**: Set the Weekly basis update process for the dataset. Insert the no. of weeks and select the days of the week.
    e. **Monthly**: Set the Monthly basis update process for the dataset. Insert the days & month to update the dataset within the inserted days and month.
    f. **Yearly**: Set the Yearly basis update process for the dataset. Insert the month and the day of that month.

14.1.2.2 Audit Logs Analytics Data sources & Datasets

Smarten provides predefined audit logs data sources and datasets. Audit logs data sources will read audit log files generated in the Smarten logs folder. Please refer below list of Data sources and datasets for more details.

> Note:
> Administrator cannot modify predefined datasources and datasets.

Data sources

Datasource Name	Description
DS_Auditlog	Audit logs data source that loads audit logs data from the logs folder
DS_Auditlog_DailyObjectCount	Data source to load Object statistics from logs folder
DS_Auditlog_DailyUserCount	Data source to load User statistics from logs folder

Data sets

Column Name	Description
DT_AuditLog	This is the main audit logs analytics dataset. It contains data of user access logs and objects related information.
DT_AuditLog_LoginLogout	Dataset for Login and Logout for each session of the users.
DT_AuditLog_ObjectCreator	Dataset for object wise creator user ID.
DT_AuditLog_DailyUserCount	It contains data of total number of daily users.
DT_AuditLog_LastLogin	It contains data of last login date and time of every user.
DT_AuditLog_DailyUserInfo	It contains user details such as name, email ID, role and user type.

Datasets Column information

DT-AuditLogs is the main dataset and all audit logs analytics dashboards are created from this dataset. Below is the list of columns of this dataset with brief description.

Column Name	Description
ActionDate	Date time of action performed by the user
SessionID	Session ID for the user session
UserName	Username of the user

Action	Action Performed by user. E.g. Open Object, Login, Create Object etc.
Module	Module nameE.g. Crosstab, Dataset, Graph, Dashboard etc.
ObjectName	Name of the object
ObjectId	ID of the Object
CubeName	Name of the Cube or dataset
CubeId	Id of Cube or dataset
Description	Stored Path or IP or any otherinformation
Object_Creation_Cnt	Count of the Objects created
Open_Object_Cnt	Count of Objects opened
ActionDate_HOUR	Hour extracted from Date time
LastLoggedIn	Last Login date time of the user
Login	Login time of the session
Logout	Logout time of the session
LoggedinTime	Number of minutes of the user session
Duration_HRS	Number of Hours of the user session
ActionDate_MONTH	Month extracted from Date time
Creator	User name of the creator of the object
Object_type	Type of the Object. E.g. Crosstab, Graph, Dashboard Etc.
ActionDate_DAYOFMONTH	Day of Month extracted from Date time
ActionDate_WEEKDAYNAME	Weekday name extracted from Date time
ActionDate_WEEKOFMONTH	Week of Month extracted from Date time
ActionDate_YEAR	Year extracted from Date time
Date	Date extracted from Date time
User_Count	Total Registered Users
Day_Today	No. of Days since action is Performed by user
Days_Bucket	It contains days bucket like 1-30 Days, 31-90 Days etc. and derived from No. of Days since Action is performed by the user
Id	Object, Dataset or Cube ID
Email_id	Email id of User
Person_Name	Person name of the User
Department_name	Department Name of the User
Group_id	Group Id in for the Group user belongs to
SSDP	If SSDP access is given to the user
Predictive_Power	If Predictive power user access is given to the user

Predictive_View	If Predictive view user access is given to the user
Role_id	Role access given to that user
Active	If User is active or not
Admin_Rights	If administrator module access is given to the user
Today	Today's date
TotalDays	No. of days for which data is available
SinceDate	Date since audit log data is available
PersonName_UserName	Column containing Username and Person Name

14.1.2.3 Creating Custom Reports

Administrators can create the custom reports like crosstab, tabular, graph, dashboard etc. as per their requirement from dt_AuditLogs dataset.

Reference: **User Manual-BI document**

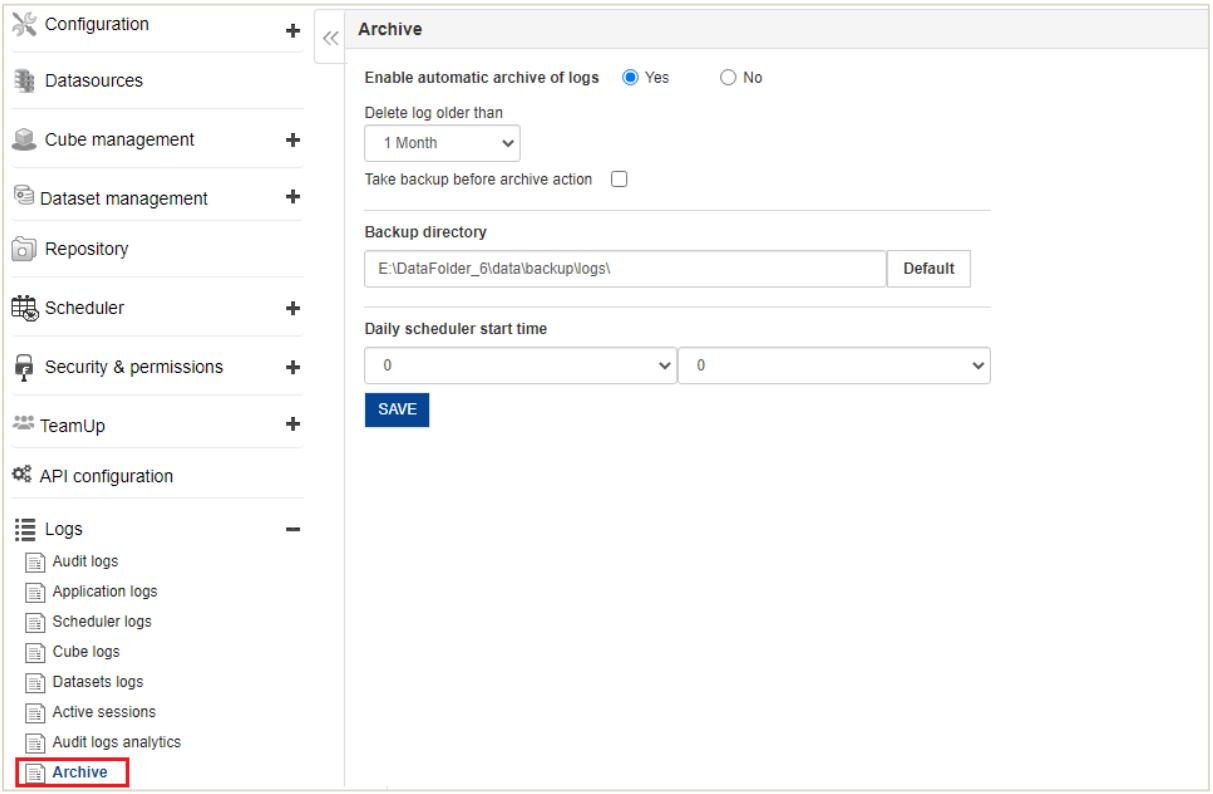
14.1.3 Archive Logs

Administrator can enable the automatic archive of logs by specifying the period for archiving data. System will delete the older log data based on specified parameter. Administrator can also enable option to take back up of the audit logs before deleting the logs.

To archive the Logs permanently:

Procedure

1. In the administration navigation panel, click **Logs**.
2. In the **Logs** menu, click **Archive**.
3. To enable automatic archive of logs, select **Yes**.



LOGS: AUDIT LOGS ANALYTICS

4. In the Delete logs older than field, select the duration from the drop-down list. The durations are:
    a. **3 Months**: logs will be deleted which is older than last 3 months.
    b. **6 Months**: logs will be deleted which is older than last 6 months.
    c. **9 Months**: logs will be deleted which is older than last 9 months.
    d. **12 Months**: logs will be deleted which is older than last 1 year.
5. Check the checkbox of “Take a backup before archive action” to take the Audit Logs backup before archiving the logs.
6. Select the path in “Backup directory” option to save the Audit Logs backup in that location. The backup file will be saved in the CSV text format in this location. To restore the backup, user can manually copy the audit logs backup files from backup location to the Logs folder.
7. In” Daily scheduler start time”, select a specific time to run archive scheduler. System will run daily scheduler on specified time for archive process.
8. Click on the **Save** button to save the archive the logs configuration and system will run archival process on daily basis are per saved configurations.

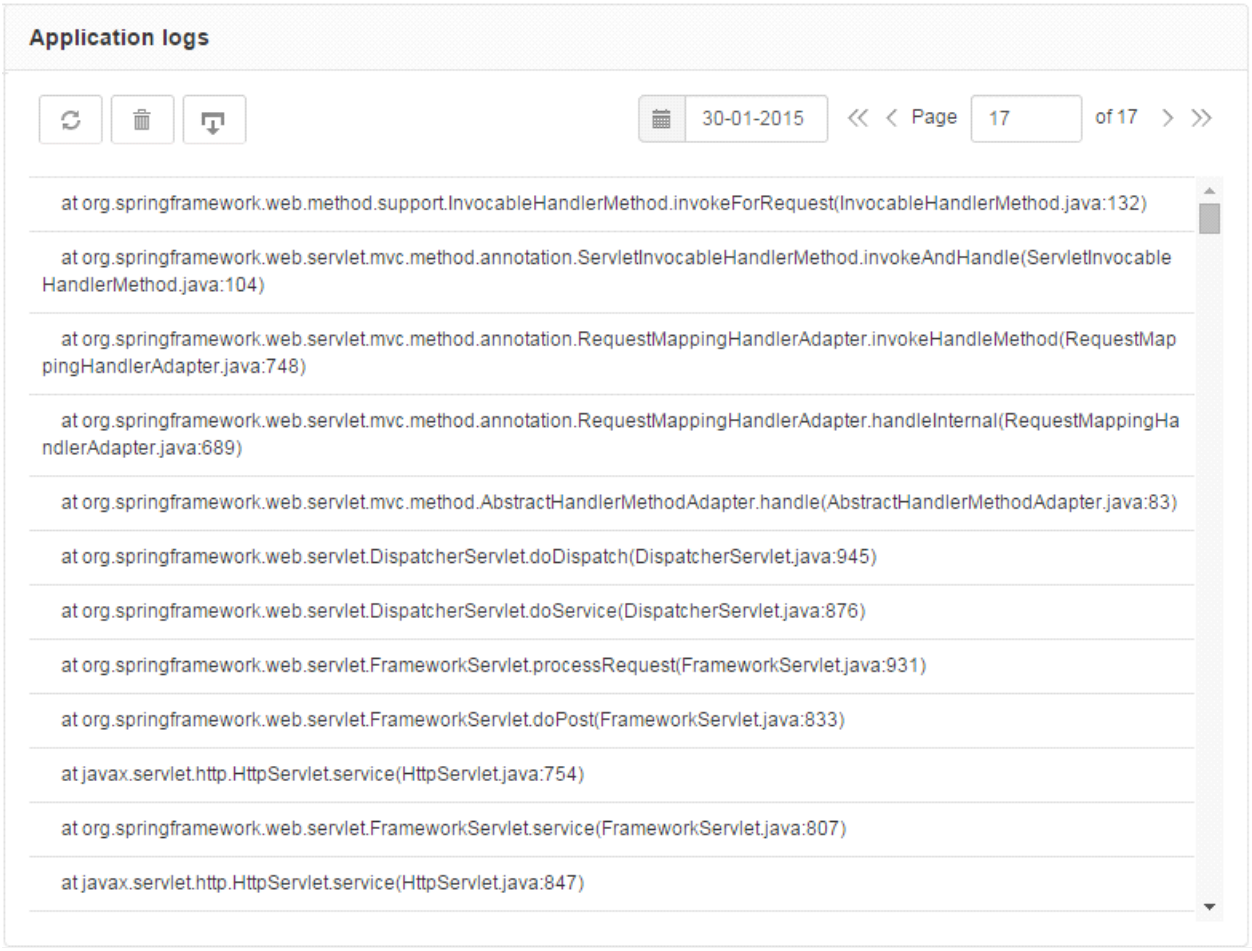
14.2 Application Events Log

The **Application Events Log** is used to view server-side event logs. This file will be generated date-wise.

To view application events:

Procedure

3. In the Smarten Navigation Panel, click **Logs**.
4. In the **Logs** menu, click **Application logs**.
   The system displays the **Application logs** page.



LOGS: APPLICATION LOGS

3 In the **Calendar** field, specify the date you want to view the logs for.
4 Click navigation arrows to navigate between the log pages.
5 Click the **Refresh** icon to get the latest updates.
6 Click the **Delete** icon to delete the log file.
  Click **OK** to confirm or click **Cancel**.
7 Click the **Download** icon to download the log detail in a text file.

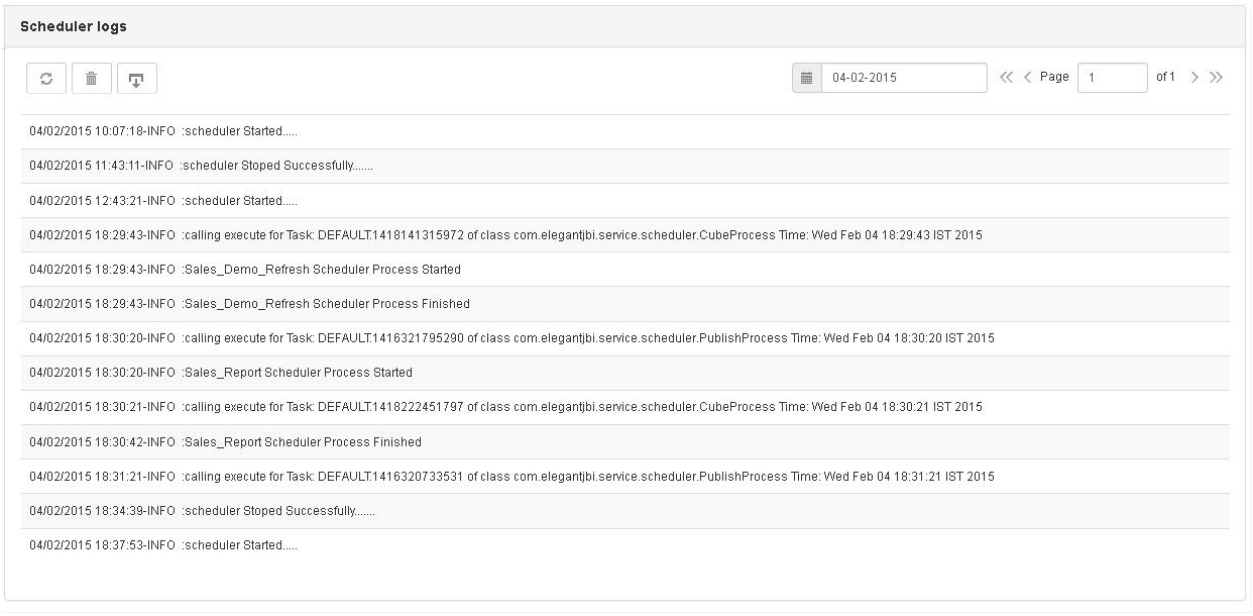
14.3 Scheduler Events Log

The **Scheduler Events Log** is used to view the log file generated by scheduler actions or events. This file will be generated date-wise.

To view scheduler events:

Procedure

1 In the Smarten Navigation Panel, click **Logs**.
2 In the **Logs** menu, click **Scheduler logs**.
The system displays the **Scheduler logs** page.



LOGS: SCHEDULER LOGS

3. In the **Calendar** field, specify the date you want to view the logs for.
4. Click navigation arrows to navigate between the log pages.
5. Click the **Refresh** icon to get the latest updates.
6. Click the **Delete** icon to delete the log file.
   Click **OK** to confirm or click **Cancel**.
7. Click the **Download** icon to download the log detail in a text file.

14.4 Cube Log

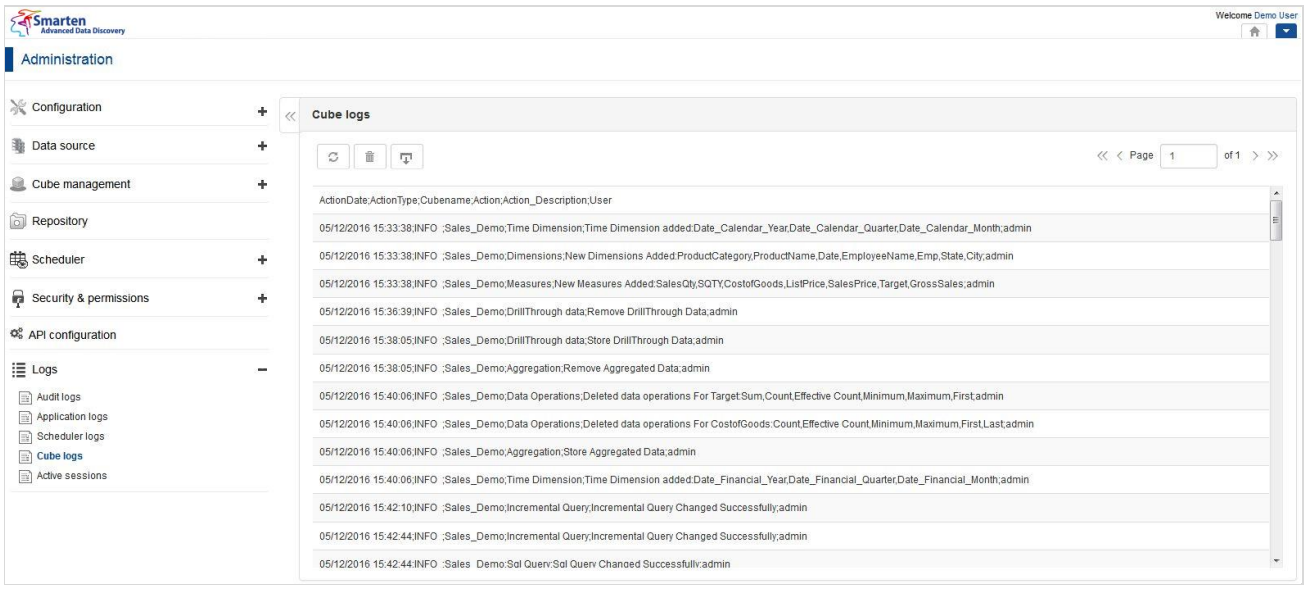
The **Cube Log** is used to keep trail of any changes to cube meta data and other important updates related to cubes.
Cube logs cover following important events.

- Add/Remove dimension
- Add/Remove Custom cube columns
- Add/Remove 'Perform aggregation' option
- Add/Remove 'Store drill through data' option
- Dimension converted into Measure and vice a versa
- Add/Remove Data operations
- Starting Month change for Financial year
- Cube query edited for 'From Scratch' or 'Incremental' update

To view cube logs:

Procedure

1 In the Smarten Navigation Panel, click **Logs**.
2 In the **Logs** menu, click **Cube logs**.
The system displays the **Cube logs** page.



LOGS: CUBE LOGS

3 Click navigation arrows to navigate between the log pages.
4 Click the **Refresh** icon to get the latest updates.
5 Click the **Delete** icon to delete the log file.
Click **OK** to confirm or click **Cancel**.
6 Click the **Download** icon to download the log detail in a text file.

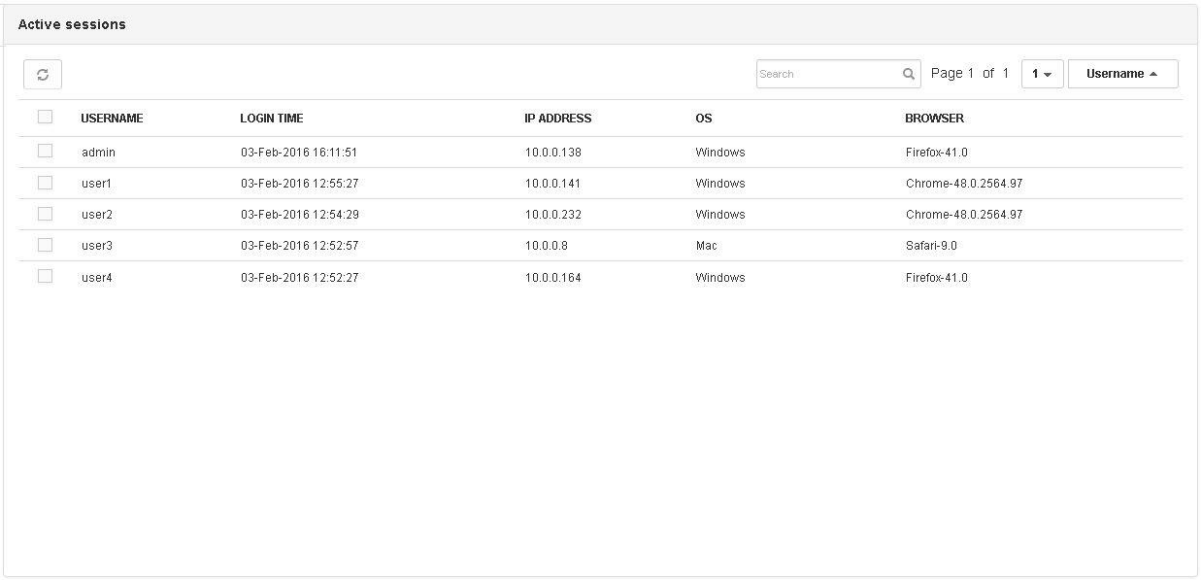
14.5 Active sessions

The **Active sessions** is used to view a list of users who are currently using the system.

To view active sessions:

Procedure

1 In the Smarten Navigation Panel, click **Logs**.
2 In the **Logs** menu, click **Active sessions**.
The system displays the **Active sessions** page.



LOGS: ACTIVE SESSIONS

3. Click the **Refresh** icon to get the latest updates.
4. Click the **Delete** icon to kill the session of selected user(s).
Click **OK** to confirm or click **Cancel**.

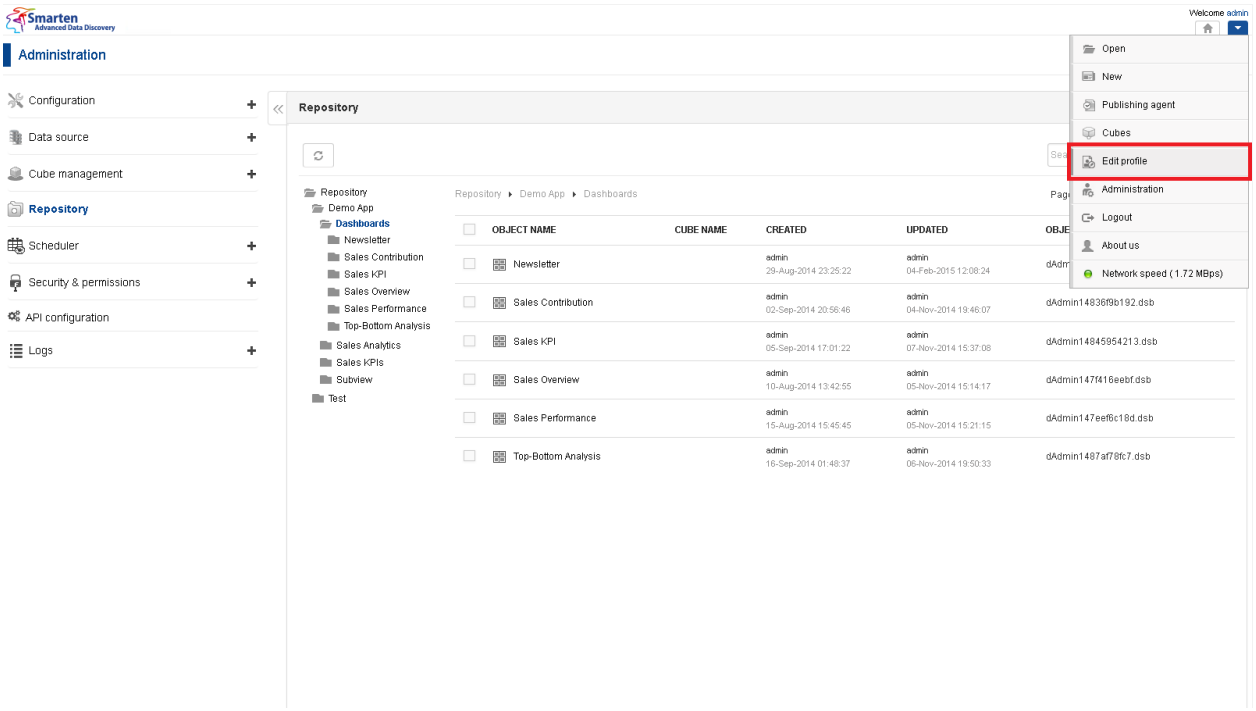
15 Managing Administrator Profile

You can edit your login profile, customize date and time format, change your password, and change the home page settings.

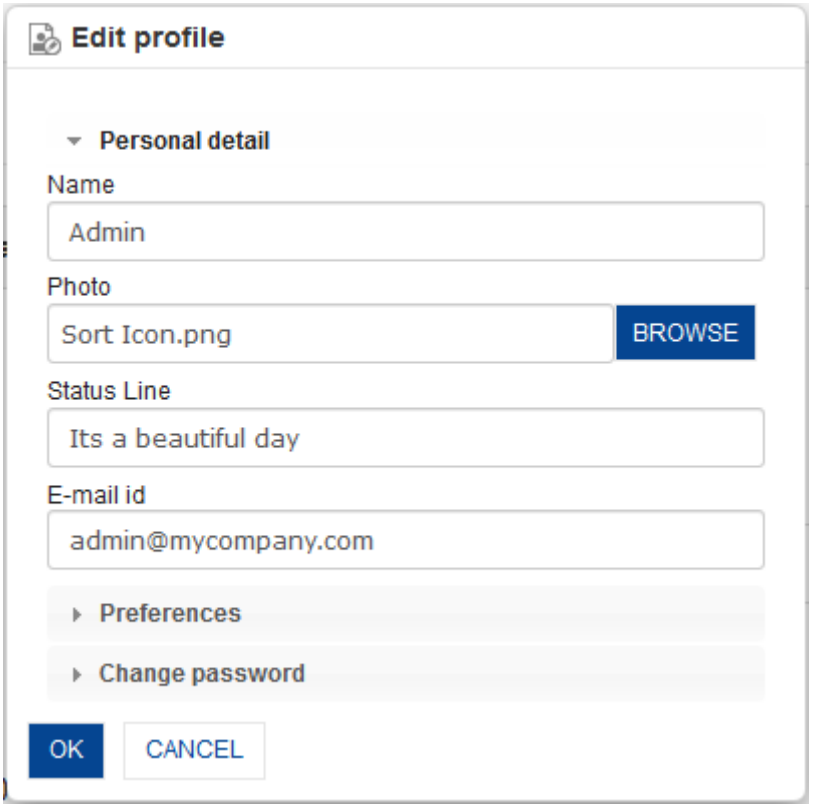
15.1 Changing user preferences

Procedure

1. In the Header pane, click the drop-down menu and click **Edit profile**.
   The system displays the **Edit profile** dialog box.

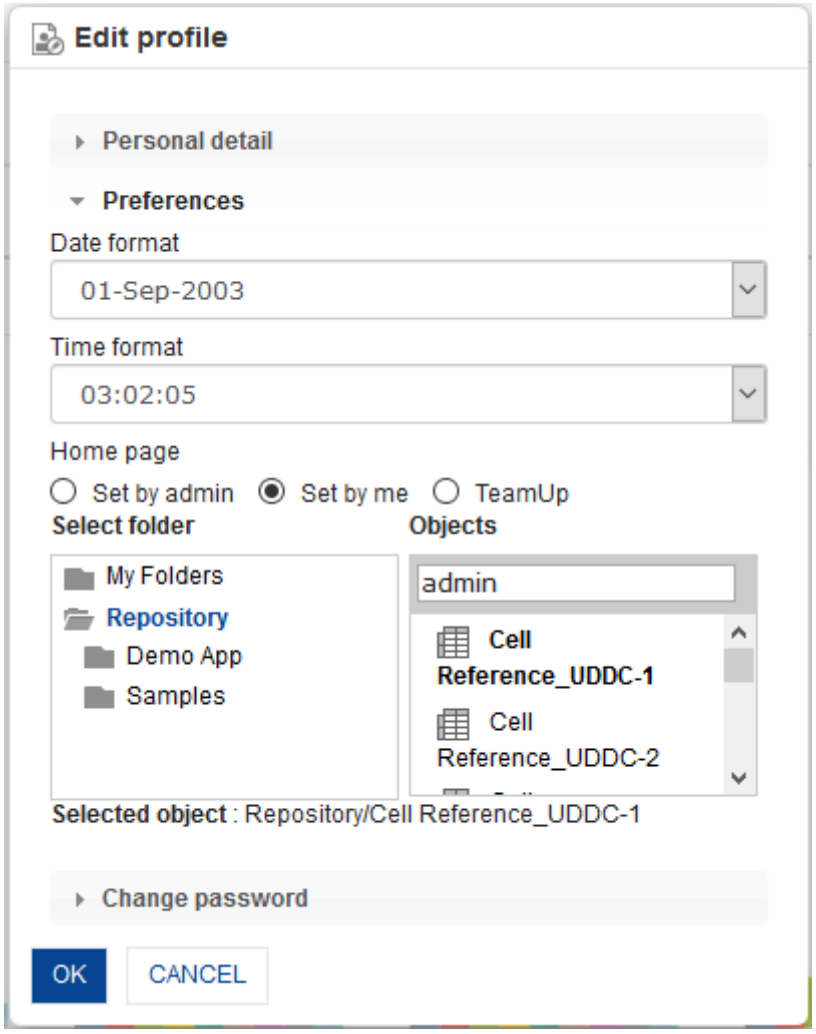


HOME PAGE—EDIT PROFILE LINK



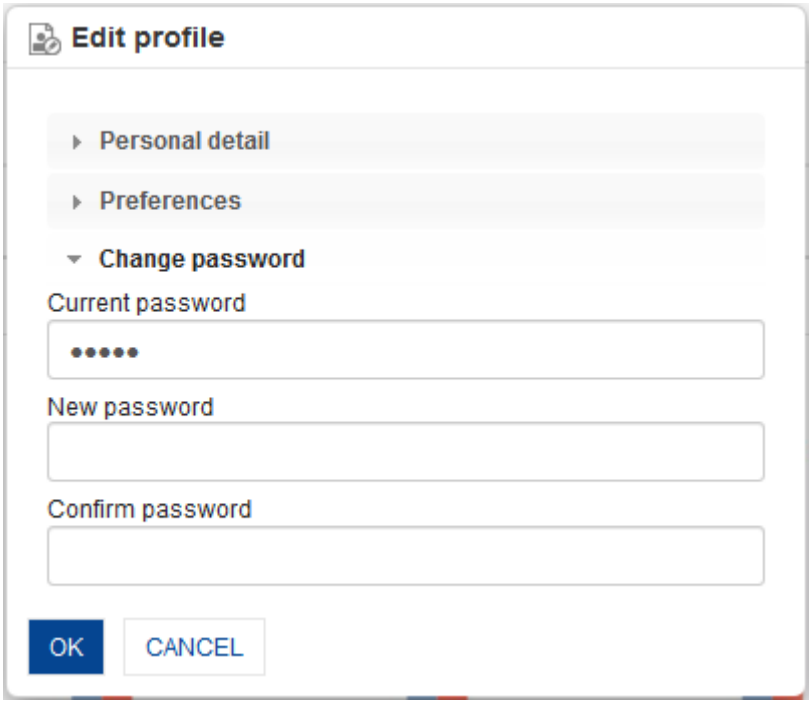
EDIT PROFILE

2. Under the **Personal detail** section, in the **Name** field, enter the new name.
3. Click **BROWSE** to select an image file from the desired directory path. This image will be displayed as an icon in all the TeamUp conversations posted by you.
4. In the **Status Line** field, enter the status line. This status line will be displayed when anyone hovers over your image in TeamUp conversations.
5. In the **E-mail ID** field, enter the new email ID.
6. Click the **Preferences** option to expand the section.



EDIT PROFILE - PREFERENCES

7. Under the **Preferences** section, in the **Date format** field, select a date format.
8. In the **Time format** field, select a time format.
9. To set the home page, click any one of the radio buttons to select either **Set by admin**, or **Set by me**, or **TeamUp**. If **Set by admin** is selected, the home page will be set to the one selected by the administrator. If **Set by me** is selected, you can select an object from its folder to set that object as your home page. If **TeamUp** is selected, the TeamUp page will be set as your home page.
10. If you have set the objects on the Home page, click Delete icon to **delete** the current home page.
11. Click the **Change password** option to expand the section.



EDIT PROFILE – CHANGE PASSWORD

12. Under the **Change password** section, in the **Current password** field, enter the current password.
13. In the **New password** field, enter the new password.
14. In the **Confirm password** field, re-enter the new password.
15. Click **OK**.

16 Taking Backup

Administrator can take a backup at regular intervals and restore it later if required.
Folders for backup

For taking a backup of your cube and objects—crosstab, graphs, GeoMap, tabular, KPI & dashboard, etc.— follow the steps below:

Procedure

1. Stop the application server if the server is running.
2. Go to the Application Server deployment directory containing **smarten.war.**
3. Take a backup of the existing application data directory to your backup location.
   You will find the **/data** directory under the **smarten.war** directory in the application server. This directory will contain all your cubes and object repository–related data.

Data Directory structure & description

Each folder in the /data directory under the smarten.war directory is explained below:

- **/cubes** = This folder consists of all the cubes created in the system
- **/DB** = This folder consists of Smarten metadata database files
- **/logs** = This folder consists of all the log files
- **/temp** = This folder consists of object cache files
- **/uploadedfiles** = This folder consists of all CSV files uploaded for creating cube
- **/uploadedimages** = This folder consists of subfolder **/banner** and **/logo**
- **/uploadedimages/banner** = This folder consists of uploaded frontpage banners that are to be used in the login page of the application
- **/uploadedimages/logo** = This folder consists of uploaded images that are to be used throughout the application by users for various purposes, such as background images for various BI objects, images within dashboards, header, and footers for PDF exports

17 Product and Support Information

Find more information about Smarten and its features at www.smarten.com
Support: support@smarten.com
Sales: sales@smarten.com
Feedback & Suggestions: support@smarten.com
Support & Knowledgebase Portal: support.smarten.com