# Data sets and ETL

BellaDati BI has its own integrated data warehouse and ETL engine. This warehouse contains virtual databases that represents data with similar characteristics. These virtual databases are called data sets and reports are built based on them. Each data set can be connected to multiple data sources.

Following objects are defined and managed in data set:

- Indicators
- Attributes
- Data sources
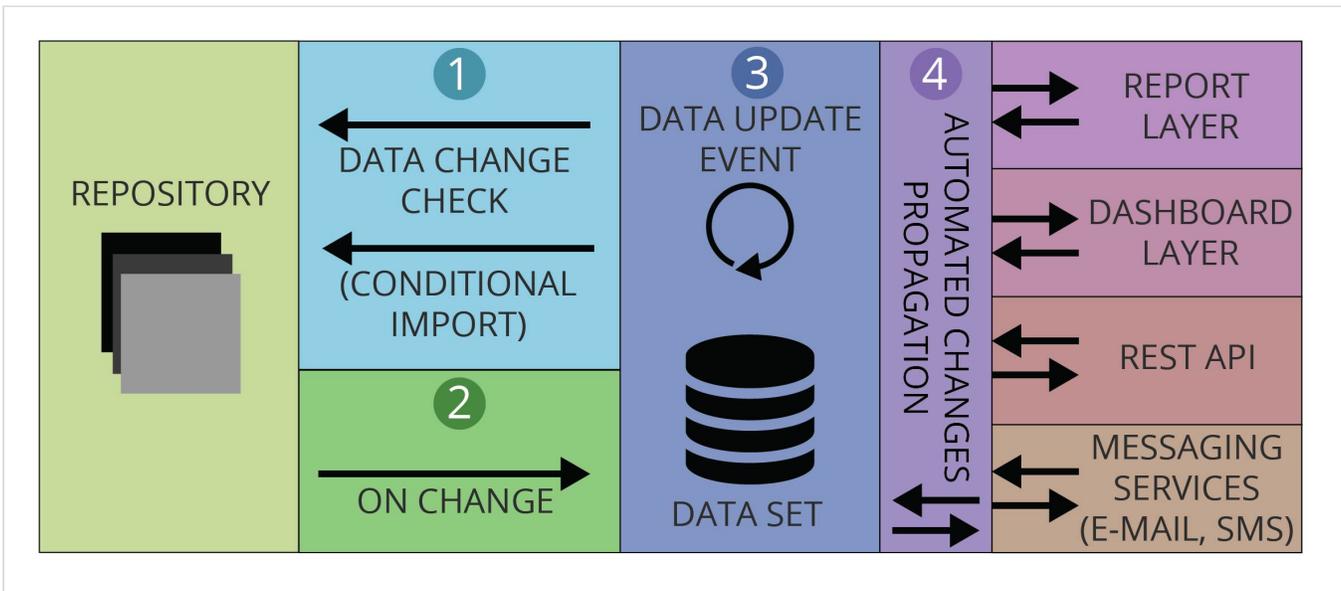
Following actions can be performed within data sets:

- Creating Data Set
- Importing Data
  - Importing from Clipboard
  - Importing from File
  - Data Sources
  - Import Settings
  - Import Results
  - Scheduling Import
  - Write-back
- Browsing Data
  - Bulk changing values in the data set
  - Editing column order
- Managing Indicators
  - Grouping Indicators
  - Translating Indicators
  - Transforming Indicator values
  - Build indicators with formula
  - Adding Permissions to Indicators
- Managing Attributes
  - Defining Drill-down Path
  - Members Appearance
  - Translating Attributes and Members
  - Transforming Attribute Values
  - Creating Attribute Subsets
  - Managing Attribute Access
  - Creating attribute custom members
  - Editing default GEO location mapper
- Joining Data Sets
  - Changing join point
  - Building joined data set
- Notifications
- Structure Backup
- Sharing Data Sets
- Watching Data Changes
- Managing GEO Data
  - Importing GEO Points definition
  - Importing GEO Regions (GeoJSONs)
  - Managing Map providers
  - Creating GeoJSON files
- Database Connections Library
- Big Data Sets
- Remote Storage
- Partitioning
- Advanced Settings
  - Dynamic Data Tables Tutorial
  - Remote Data Table Mapping
- Working with SAP HANA Predictions Manager

⚠️ Only users with data manager role are allowed to manage the data sets. If you don't have this role, please contact your BellaDati administrator.

## Circulation of Data Changes

All changes in repositories are automatically propagated to all reports and dashboards, eventually to all resources available over REST API. See these links for more details:

- Import Settings - Data Overwriting Policy
- Watching Data Changes
- Auto update interval

## Data set summary window

Data set summary window displays:

- Basic informations about data set
- Import history
- List of reports

Typical data set summary window looks like following:

The boxes located under the name of the data set contain following information:

- date of last change
- records count
- date and status of last import
- date and status of alerts (one box for each alert)
- date of last cube execution (for big data sets).

## Action list (submenu layout)

- Data set summary
- Attributes settings
- Drill down paths
- Indicators settings
- Joins settings

- Import data: Allows data manager to import new data from clipboard or files.
- Data source: Management of connection to external databases, URLs or third party systems.
- Data collecting forms (if enabled)
- Browse data: Data browsing, editing and export.
- Create alarm: Data changes watching option.
- Erase data: Deletes all data from the data set.

- Share with users: Grants access to the data for other users or user groups, including data filter settings.
- Duplicate: Creates copy of data set.
- Backup structure: Stores the whole structure of the data set and related reports to XML file.
- Import report from XML - import XML backup of report
- Remove data set: Allows removing the whole data set and related reports from BellaDati.

date, time, timestamp, geojson, point, boolean, text, varchar