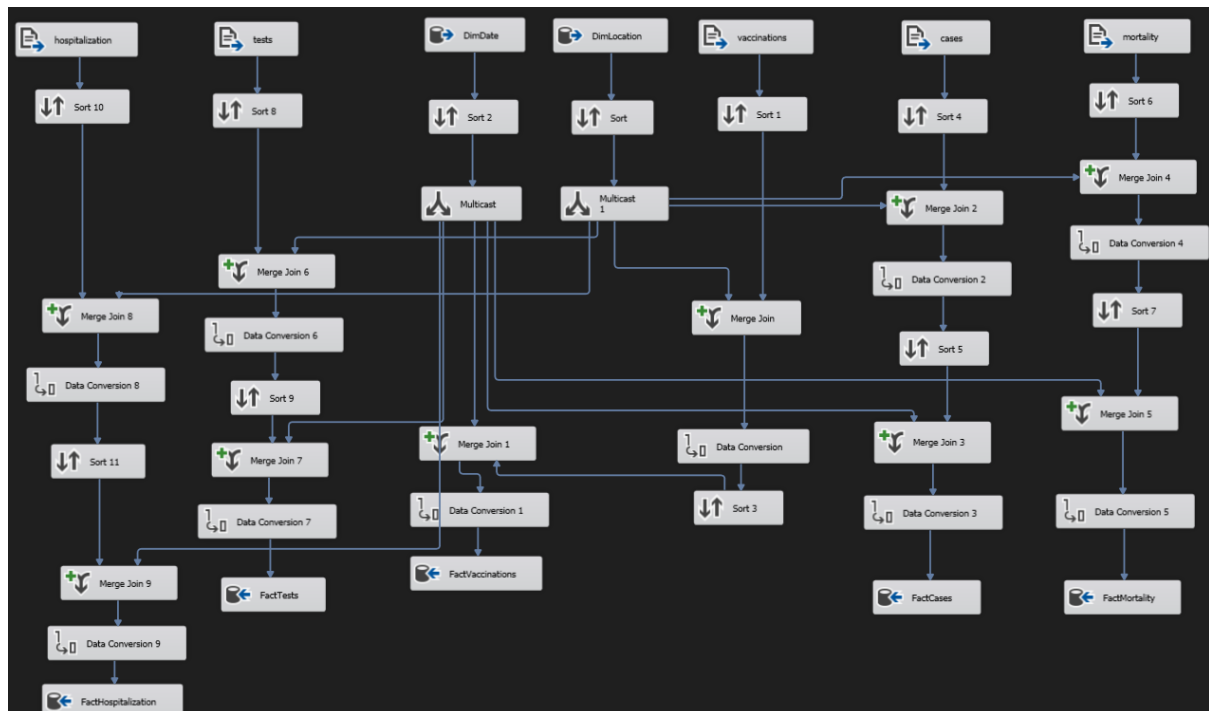


Fact Tables Creating

Aim of the process

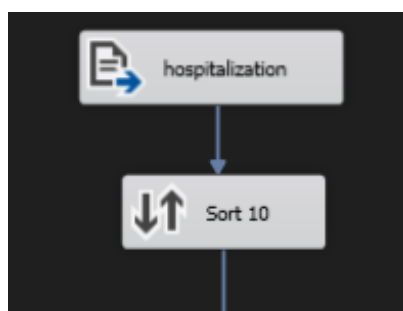
The transformation is done for creating Fact Tables (FactHospitalization, FactTests, FactVaccinations, FactCases, FactMortality). The whole data flow at this stage is shown below:



Description of the process

The data are obtained from Flat File and OLE DB sources. The data from the flat files are sorted by the date according to the order of the data it will be joined with later. Flat files source data contains the measures for the fact tables. The OLE DB source data consists of the dimension tables which are sorted by the date or location data. OLE DB source data contains the surrogate keys which in this process are attached to the fact tables. These keys have the role of the foreign keys from the dimension tables and form together primary keys for the fact tables.

Flat files data sorting example:



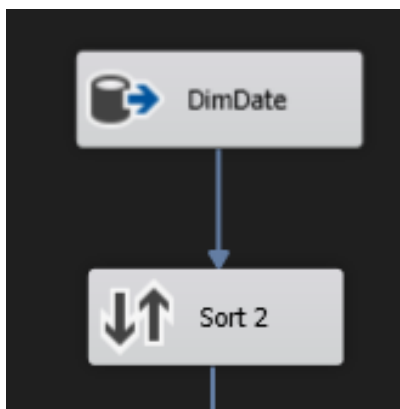
Sort Transformation Editor

Specify the columns to sort, and set their sort type and their sort order. All nonselected columns are copied unchanged.

Available Input Columns		
<input checked="" type="checkbox"/>	Name	Pass Thr...
<input type="checkbox"/>	iso_code	<input checked="" type="checkbox"/>
<input type="checkbox"/>	continent	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	location	<input checked="" type="checkbox"/>
<input type="checkbox"/>	date	<input checked="" type="checkbox"/>
<input type="checkbox"/>	icu_patients	<input checked="" type="checkbox"/>
<input type="checkbox"/>	icu_patien...	<input checked="" type="checkbox"/>

Input Column	Output Alias	Sort Type	Sort Order	Cor
location	location	ascending	1	

OLE DB data sorting example:

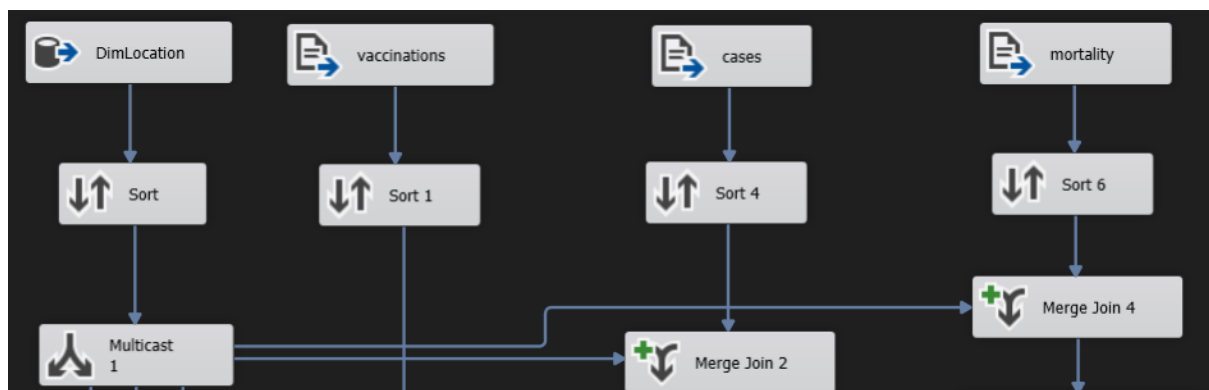


Specify the columns to sort, and set their sort type and their sort order. All nonselected columns are copied unchanged.

Available Input Columns		
<input checked="" type="checkbox"/>	Name	Pass Thr...
<input type="checkbox"/>	dateSK	<input checked="" type="checkbox"/>
<input type="checkbox"/>	day	<input checked="" type="checkbox"/>
<input type="checkbox"/>	month	<input checked="" type="checkbox"/>
<input type="checkbox"/>	month_name	<input checked="" type="checkbox"/>
<input type="checkbox"/>	quarter	<input checked="" type="checkbox"/>
<input type="checkbox"/>	year	<input checked="" type="checkbox"/>

Input Column	Output Alias	Sort Type	Sort Order	Con
date	date	ascending	1	

The data from the OLE DB source is multicast to be Merge joined with the data from the Flat File source. The example of the multicasting and joining is shown below:



Merge Join Transformation Editor

Configure the properties used to join two sources of sorted data. Select the join type and then specify the columns to be used as the join key. Join keys must be used in the order specified by the sort-key position of the column.

Join type: Inner join Swap Inputs

Multicast 1

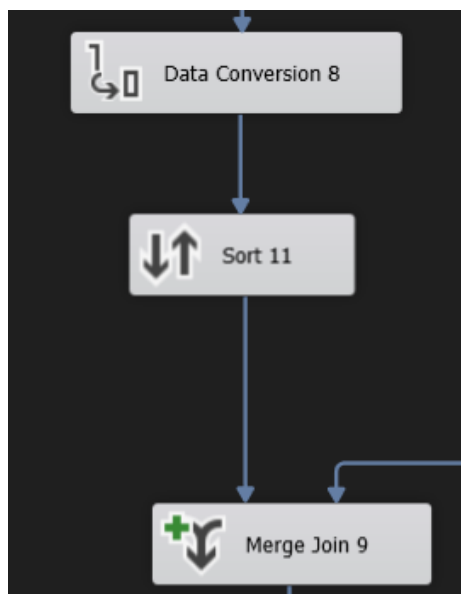
<input type="checkbox"/>	Name	Ord...	Join...
<input checked="" type="checkbox"/>	locationSK	0	<input type="checkbox"/>
<input type="checkbox"/>	location	1	<input checked="" type="checkbox"/>
<input type="checkbox"/>	continent	0	<input type="checkbox"/>
<input type="checkbox"/>	iso_code	0	<input type="checkbox"/>

Sort 4

<input type="checkbox"/>	Name	Ord...	Join...
<input type="checkbox"/>	iso_code	0	<input type="checkbox"/>
<input type="checkbox"/>	continent	0	<input type="checkbox"/>
<input type="checkbox"/>	location	1	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	date	0	<input type="checkbox"/>
<input checked="" type="checkbox"/>	new_cases	0	<input type="checkbox"/>
<input checked="" type="checkbox"/>	new_cas...	0	<input type="checkbox"/>

Input	Input Column	Output Alias
Multicast 1	locationSK	locationSK
Sort 4	date	date
Sort 4	new_cases	new_cases
Sort 4	new_cases_per_million	new_cases_per_million

The main goal of this process is to obtain the data with the surrogate keys from the dimension tables. Before joining the flat file source data and the date dimension data, the data conversion is performed:



1 Data Conversion Transformation Editor

Configure the properties used to convert the data type of an input column to a different data type. Depending on the data type to which the column is converted, set the length, precision, scale, and code page of the column.

Available Input Columns

☒ Name

☐ locationSK

☒ date

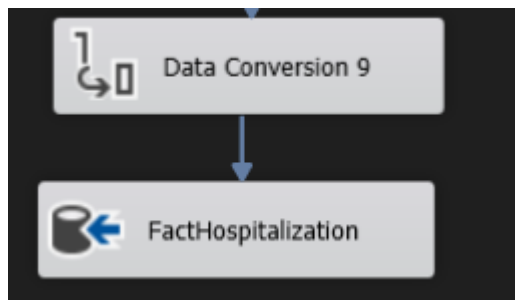
☐ icu_patients

☐ icu_patients_per_million

☐ hosp_patients

Input Column	Output Alias	Data Type	Length	Precision	Scale	Code Page
date	date_converted	database date [DT_DB...				

At the last stage of the fact tables creation process the final data conversion takes place and the data are loaded into appropriate database tables (created previously using SQL scripts):



Configure the properties used to convert the data type of an input column to a different data type. Depending on the data type to which the column is converted, set the length, precision, scale, and code page of the column.

Available Input Columns

☒ Name

☐ locationSK

☐ dateSK

☒ icu_patients

☒ icu_patients_per_million

☒ hosp_patients

Input Column	Output Alias	Data Type	Length	Precision	Scale	Code Page
icu_patients	icu_patients_convert...	four-byte signed integ...				
icu_patients_per_mil...	icu_patients_per_mil...	float [DT_R4]				
hosp_patients	hosp_patients_conve...	four-byte signed integ...				
hosp_patients_per_...	hosp_patients_per_...	float [DT_R4]				