

# Example “Formula1”

This example demonstrates querying a database and merging data imported from a database with a text file. Source data is the winning Formula 1 teams and drivers every season starting from 1950.

The example works as follows:

- Load a list of Formula 1 drivers from a CSV file
- Use **Split column into rows** transformation to split comma-separated lists of seasons for drivers who won more than 1 season
- Import a list of Formula 1 teams from a SQLite database (comes with the example) using a parametrized query with a calculated expression (using a SQLite function)
- Merge both lists
- Calculate two aggregates

The project doesn't export data, but you can add an export transformation, if needed.

## How to use the example

- Open **Formula1.morph** and run it (press F5, or click Run Project button on Main ribbon bar)
- You will be prompted to enter *Start year* – enter a value between 1950 and 2015. This parameter defines a year starting from which the historical data will be loaded
- Here is what you should see when the project finishes reloading:

The screenshot displays the Formula1.morph project interface with several data tables and transformations. Red arrows and labels highlight key steps:

- Import from CSV file:** Points to the 'Drivers' table, which lists drivers and their winning seasons.
- Import from database:** Points to the 'Teams' table, which lists teams and their winning seasons.
- Merge:** Points to the 'Wins by Team' table, which is the result of merging the 'Drivers' and 'Teams' tables.
- Wins by Driver:** A table showing the number of wins for each driver.

The 'Drivers' table contains the following data:

Driver	Season
Michael Schumacher	1994
Michael Schumacher	1995
Michael Schumacher	2000
Michael Schumacher	2001
Michael Schumacher	2002
Michael Schumacher	2003
Michael Schumacher	2004
Juan Manuel Fangio	1951
Juan Manuel Fangio	1954
Juan Manuel Fangio	1955
Juan Manuel Fangio	1956
Juan Manuel Fangio	1957
Alain Prost	1985
Alain Prost	1986
Alain Prost	1989
Alain Prost	1993
Sebastian Vettel	2010
Sebastian Vettel	2011

The 'Teams' table contains the following data:

Season	Team	Driver
1950	ALFA ROMEO	Giuseppe Farina
1951	ALFA ROMEO	Juan Manuel Fangio
1952	FERRARI	Alberto Ascari
1953	FERRARI	Alberto Ascari
1954	MERCEDES	Juan Manuel Fangio
1955	MERCEDES	Juan Manuel Fangio
1956	FERRARI	Juan Manuel Fangio
1957	MASERATI	Juan Manuel Fangio
1958	FERRARI	Mike Hawthorn
1959	COOPER	Jack Brabham
1960	COOPER	Jack Brabham

The 'Wins by Team' table contains the following data:

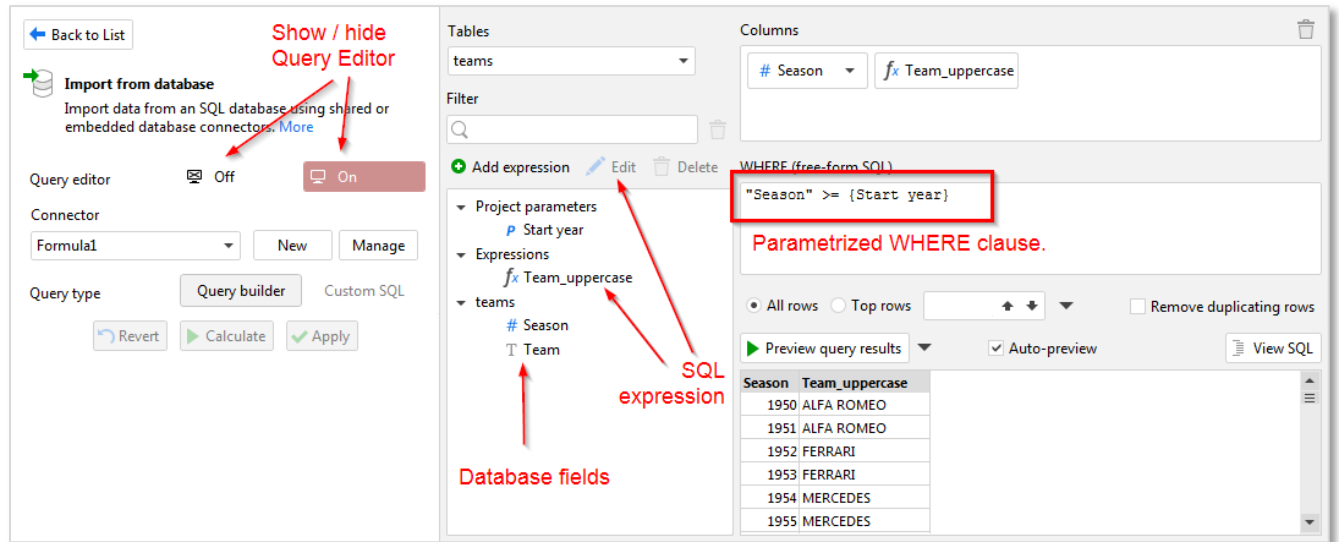
Team	Season
FERRARI	15
MCLAREN	12
WILLIAMS	7
LOTUS	6
BRABHAM	4
MERCEDES	4
RED BULL	4
ALFA ROMEO	2
BENETTON	2
COOPER	2

The 'Wins by Driver' table contains the following data:

Driver	Season
Michael Schumacher	7
Juan Manuel Fangio	5
Alain Prost	4
Sebastian Vettel	4
Nelson Piquet	3
Niki Lauda	3
Lewis Hamilton	3
Ayrton Senna	3
Jack Brabham	3
Jackie Stewart	3

# Query Editor

If you click **Import from database** transformation (first in table Teams), you will see its properties and the Query Editor.



A few notes:

- To leave the Query Editor click *Query editor: Off*, or *Back to List* button, or hit ESC.
- Database connector properties can be viewed and edited in Connector Manager. Click *Manage* to open it.
- Fields names, expressions and parameters are draggable.
- WHERE clause has free-form SQL syntax which supports EasyMorph parameters in curly braces.
- SQL expressions can be used in a case when there is no similar function in EasyMorph. To create or edit SQL expressions press *Add expression* or *Edit* respectively.