

Release notes v4.6

Important! Create a backup copy of your projects and connector repositories before updating to the new version. Projects saved in version 4.6 can't be opened in earlier versions.

A few words from the creators of EasyMorph

With version 4.6, we continue making EasyMorph a better data tool for power users and enterprise environments. The headliner feature of this release is the new filtering pane in the Analysis View. The Analysis View is what you see when you maximize a table in EasyMorph. Now it incorporates an advanced filtering pane for the associative kind of filtering that is well known to Qlik users (and which we've already incorporated in [CSViewer](#) earlier this year).

With the new filtering pane, you can quickly profile and analyze large datasets, find relationships in data, and detect outliers and data quality issues. It plays perfectly with the in-memory nature of EasyMorph, making it possible to use the power of associative filtering for *instant* profiling of the *full* result of *any* transformation step in a workflow. This capability provides a very good insight into data through its life cycle in a workflow, not possible with not-in-memory data preparation tools and traditional ETL applications. It's also a great example of the advantage provided by a visual workflow design compared to scripting.

With the addition of the new filtering pane, the Analysis View becomes a powerful tool for data analysis and exploration, even for non-technical users. You can think of it as an easy-to-use data analysis application built into a powerful data transformation tool. In one of the future versions, we will add dynamic charting to the Analysis View, which will make it even better suited for interactive data exploration and analysis.

Other notable novelties in this release:

- Full-table profiling (available also in the Analysis View)
- Full support for [Snowflake](#) in all actions that deal with a database
- Dependencies (on connectors, files, etc.) for modules, groups, and tables
- Encryption of selected columns and entire datasets in .dset files (EasyMorph datasets)
- 7 financial functions – PV, FV, PMT, RATE, NPV, IPMT, and PPMT, similar to the ones in Excel
- Dynamic allocation and transfer of Desktop licenses right from EasyMorph Server

The dependencies information mentioned above should help navigate complex projects with tens of tables and hundreds of actions. It can also be collected into a table using the "Project metadata" action for impact analysis and understanding dependencies (e.g., using the Analysis View) of hundreds and thousands of projects in a complex enterprise environment.

What's new

Changes to existing actions

The **Bulk export to database table** action now supports PostgreSQL (only the native connector, ODBC not supported) and Snowflake (only the ODBC connector, native not supported).

Known issues: If bulk export to Snowflake is canceled, it may leave a partially uploaded file in Snowflake's staging area. Such parts should be removed manually to avoid extra storage costs.

The **Convert Data Types** action now allows specifying a date format using a parameter.

The **Sanitize text** action has the new option for removing XML/HTML tags from text.

The **Export dataset** and **Import dataset** actions now support column encryption with a password. Also, the actions now read/write datasets 30-50% faster. Note that encrypted datasets take longer to read/write than not encrypted.

Additionally, the "Import dataset" action allows selecting columns when importing from a file. Selecting columns when importing a dataset from EasyMorph Server will become available in a later version.

The **Project metadata** action has new settings that allow adding information about dependencies on connectors, files/folders, modules/projects, and external applications to the lists of modules, groups, and tables.

Financial functions

This version introduces a new category in EasyMorph: financial functions. In this release 7 financial functions have been added:

- PV
- FV
- PMT
- RATE
- NPER
- IPMT
- PPMT

The new financial functions are identical to the functions with the same names used in Excel and produce the same results. Just like in Excel, the functions (except for the RATE function) may have a variable number of arguments.

New functions

randbetween(number1, number2) – generates an integer random number from the range specified by the function's arguments. Example:

`randbetween(1,100)` returns 56.

isnumeric(value) – returns TRUE when the argument is a number or a text value that looks like a number. Example:

`isnumeric("123.45")` returns TRUE.

New connector: Snowflake

Snowflake, a popular cloud data warehouse platform, is now fully supported in EasyMorph. The new Snowflake connector allows importing data from Snowflake using the visual query builder, export data into Snowflake (bulk export is supported too), and perform database commands. EasyMorph comes with a native connector for Snowflake and also can work with Snowflake via ODBC connectors.

New native connector: Amazon Redshift

Previously, it was possible to connect to Amazon Redshift via the generic ODBC connector. Now EasyMorph comes with a native connector for Amazon Redshift, making it possible to connect to Redshift without installing the ODBC driver from Amazon.

New connector: GMail (experimental)

Google Mail has got a dedicated connector in EasyMorph that supports authenticating via OAuth. It simplifies connection to Google Mail accounts because changing mail security settings is no longer required. The connector is experimental at this point and will keep the experimental status until it gets verified by Google (it may take a few weeks or even months).

Changes to existing connectors

The native connector to **Oracle** now supports specifying a proxy user.

The **SQLite** connector now has a button for creating a new blank database right from the connector settings dialog.

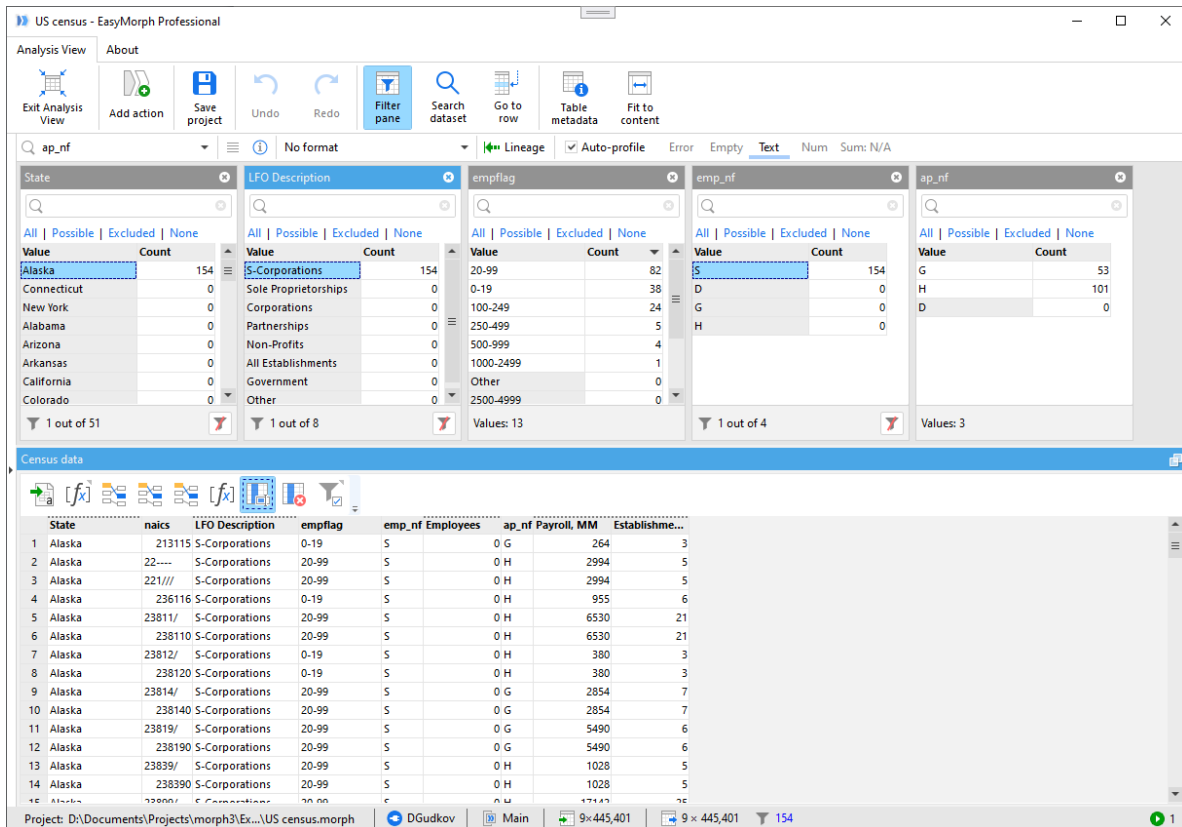
Miscellaneous

- The new expression syntax introduced earlier is now permanent. Retreating to the old syntax is no longer possible.
- Import from text files is now 30-50% faster due to a parallel compression algorithm.

What's new in Desktop/Launcher

Filter pane in the Analysis View

The new filtering pane in the Analysis View allows dynamic filtering of an action's output dataset without creating additional actions. To add a filter to the filtering pane, drag the column's header into the pane, or *Ctrl + double click* it.



Screenshot 1: Filtering pane in Analysis View.

The filters in the pane belong to table, not to action. Therefore it's possible to keep a set of filters with applied selections while selecting different actions in a table. This makes it easy to pinpoint causes of calculation errors and data quality issues.

A dynamic filter can be permanently converted into the "Selection filter" action with the same values selected.

Full table profile in the Analysis View

The Analysis View now includes another tool for data profiling – the Table Metadata dialog that provides a single view of column metadata for all columns in the selected action's output.

Table metadata

Total rows: 2515 Columns: 10

Tick/untick checkboxes to add/remove filters. [Remove all filters](#)

Column name	Distinct	All unique	Empty	Text	Number	Integer	Non-integer	Max number	Min number	Max txt len	Min txt len
<input checked="" type="checkbox"/> rank	2515	Yes		0	0	2515	2515	0	5000	1	
<input type="checkbox"/> company	2515	Yes		0	2515	0	0	0		57	2
<input type="checkbox"/> Revenue per worker	2515	Yes		0	0	2515	57	2458	37970550.45...	4106.385011...	
<input type="checkbox"/> city	865			0	2515	0	0	0		22	4
<input type="checkbox"/> workers	607			0	0	2515	2515	0	34219	50	
<input type="checkbox"/> revenue	2514			0	0	2515	2515	0	5528202691	2027490	
<input checked="" type="checkbox"/> industry	25			0	2515	0	0	0		28	5
<input checked="" type="checkbox"/> metro	242			0	2515	0	0	0		41	5
<input checked="" type="checkbox"/> state_uppercase	48			0	2515	0	0	0		2	2
<input type="checkbox"/> state_long	51			0	2515	0	0	0		20	4

Cancel OK

Screenshot 2: Table metadata.

All numbers in the Table Metadata dialog are clickable and produce corresponding selections in the filtering pane. The dialog can also be used for adding/removing multiple dynamic filters at once.

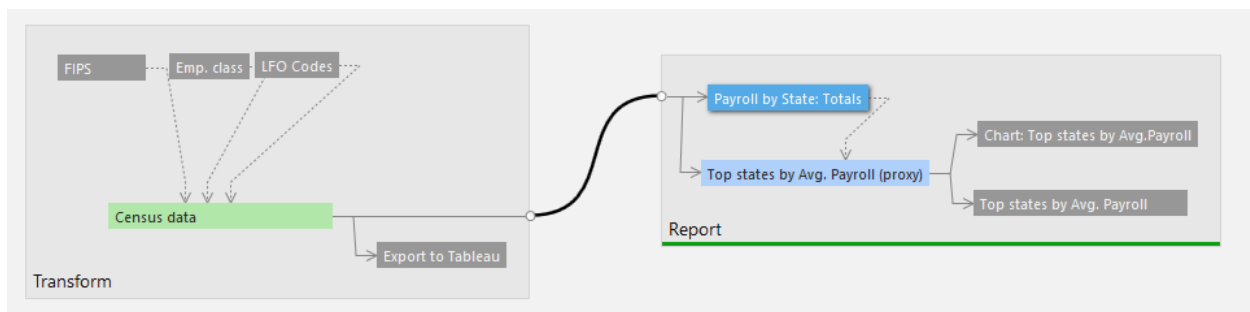
Sidebar "Dependencies"

The new sidebar "Dependencies" lists the dependencies of the selected module, group, or table. The dependencies include:

- Connectors used by actions in the selected module/group/table
- Files/folders that are affected or used by actions in the selected module/group/table
- External applications executed by the "Run program" and "Iterate program" actions in the selected module/group/table
- Projects and modules called by actions in the selected module/group/table
- Depending modules/groups/tables

Table dependencies in the workflow diagram

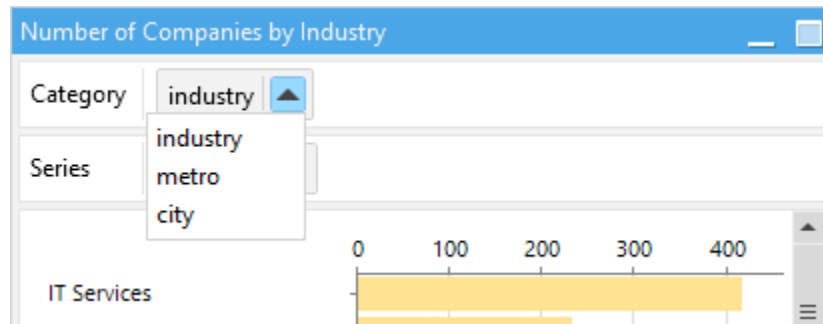
The workflow diagram now highlights table dependencies for the currently selected table. The tables that depend on the selected table are highlighted with blue color. The tables on which the selected table depends are highlighted with green color.



Screenshot 3: Table dependencies highlighting in the workflow diagram.

Switchable category in charts

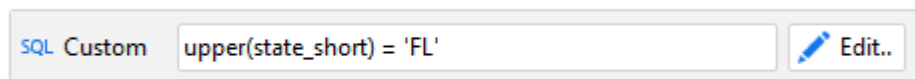
The category in charts now can have multiple columns to quickly switch between. To add a new column to the chart category, simply drag it over the current category, or edit category settings in the sidebar.



Screenshot 4: Switchable category in charts.

Custom SQL condition in the Query Editor

The Query Editor now allows inserting a custom SQL condition in a visual query. The condition can have filtering statements in the SQL dialect of the target database and allow inlining EasyMorph parameters put in curly braces.



Screenshot 5: Custom SQL filtering condition in Query Editor.

License lease from Server

EasyMorph Desktop can now dynamically lease a license from EasyMorph Server. This feature requires:

- 1) Dynamic licensing configuration in EasyMorph Server (see below).
- 2) [Server Link](#) configured in Desktop.
- 3) Switching to the new "Lease license from Server" mode in the License Setup dialog.

Miscellaneous in Desktop

- Some actions have been moved from the "External" sub-category to the new sub-category "App/cloud" in the actions catalog.
- The maximized view is now called "Analysis View".
- The sidebar "List of tables/charts" has been removed permanently.

What's new in Server

License management for Desktop users

For organizations with a large number of EasyMorph Desktop users, administering their licenses is now easier with the new "Dynamic license" type. When a pack of Dynamic licenses is added to a license key applied on EasyMorph Server, the Server can assign (lease) licenses to Desktop users dynamically. Each license lease lasts for 48 hours and is renewed automatically every 48 hours for each user who is assigned a license from Server.

For example, a pack contains 5 Dynamic licenses. It means that 5 Desktop users can be assigned a license from Server by a Server administrator. If a license needs to be transferred to another user, the Server administrator can do this right from the Server's web console.

Tasks **Files** **Pages** **Log** **Settings** **Licensing** **Spaces** **Accounts** **Mail**

Signature

====START OF SIGNATURE====
[Redacted Signature]
=====END OF SIGNATURE=====

License key

C:\ProgramData\EasyMorph Server\ProtoEasyMorph_5Dynamic.key Upload... Browse...

License key for EasyMorph Enterprise Server is valid until Thursday, 31 December 2161

License packs

Pack name	License type	Expiration date	Total	Available	Assigned	Oversubscribed
Main pack	Professional	2021-01-14	5	2	3	-
Total Professional			5	2	3	0

Assigned user licenses

Assign license Search... Q

Select [All](#) | [None](#) Delete

User	Pack name	License type	Tags	Last activity	Status
CORP\kristina	Main pack	Professional	sales	a minute ago	In use (4.5.2.4)
CORP\peter	Main pack	Professional	sales	Never	Unused
CORP\dmity	Main pack	Professional	IT, admin	6 minutes ago	In use (4.5.2.4)

[Download list](#)

Screenshot 6: Dynamic license assignment.

For more details about the dynamic license assignment, please read the "EasyMorph Server Administrator's Guide".

Previous release notes

Link: [Release notes for v4.5.2.](#)