Release notes v5.7.2

Important! Create a backup copy of your projects and connector repositories before updating to the new version. Projects saved in the new version can't be opened in versions earlier than **5.7.2**. Also, if your organization uses EasyMorph Server, please make sure that the Server is upgraded to the new version before Desktops.

A few words from the creators of EasyMorph

In this release, we're expanding the data exploration and automation capabilities of EasyMorph. The most notable improvements include:

- EasyMorph Server: Dataset filtering and charts in the Analysis View (yay!) This is a significant step towards fully functional data exploration in a browser. In-browser filtering is available for all types of datasets in Explorer – static and computed. Now you can, for instance, retrieve from the Catalog (or a board) a dynamically computed dataset, and then explore and analyze it right in the web browser.

  Notice how fast is filtering in the Server's Analysis View – filtering and sorting is done *instantly* even on datasets with millions of rows. That's because under the hood EasyMorph uses a new technology that allows filtering data *right in the browser*, and not on the remote server, unlike all the traditional data analysis tools (especially cloud-based), where network latency reduces UI responsiveness and slows down data analysis.

- With the two new messaging connectors, "Slack Bot" and "ntfy", you now have even more options for mobile notifications, including the already existing ones (MS Teams and Pushover).

What's new

New connectors

The **Slack Bot** and **ntfy** connectors are required for sending instant notifications to the respective applications.

The **Teradata** connector is a native connector that allows working with Teradata database without installing the database drivers. Besides that, the Teradata SQL dialect is now supported in the generic ODBC connector in EasyMorph.

Changes in existing connectors

The **Web Location** connector now supports the "Credentials flow" for OAuth2. Previously, working with the credentials flow required an elaborate workflow. Now EasyMorph can handle it automatically.

New actions

The **Anonymize/Hash** action deterministically calculates hashes for values in one or multiple columns. With the help of this action, you can anonymize data without affecting its cardinality so it can be used for merging and aggregation.

The **Slack Bot** action allows sending plain as well as richly formatted notifications to Slack.

The **Send message to ntfy** action sends messages to ntfy, a popular open-source messaging application. The messages can have up to 3 dynamically configured buttons that perform one of the following operations:

- Open URL
- Perform HTTP request
- Broadcast Android intent (only for Android phones)

The application is real gem for anyone who likes tinkering with automation.

Changes in existing actions

The **Merge another table** action has got the "Inner join" mode.

The **Import from Qlik** action now allows importing QVD file and column metadata, such as the path to the application that created the file, or QVD lineage, or column vocabulary size.

The **Clean up** action can now clean multiple (or all) columns at once.

The **File Transfer** action now works faster when operating with many files.

The set functions

We've added 7 new functions that simplify operations with lists (sets) – strings of delimited values. These functions can be used, for instance, in marketing, when you need to add a specific tag to a subset of your contacts and the contacts may already have other tags. In all the functions, the default separator is comma unless another separator is specified in an optional argument. The functions usually return *sets* – i.e. lists in which all values are unique. Hence the word "set" in the functions' names. Note also that leading and trailing spaces around list values are removed.

Here are the functions:

setunion(list1, list2[, separator]) – Returns a deduplicated list with all values from list1 and list2. Examples:

```
setunion("A, B", "B,C") //returns "A,B,C"

setunion("A;B", "C ;D", ";") //returns "A;B;C;D"
```

setdifference (list1, list2[, separator]) – Removes values in list2 from list1 with deduplication. Examples:

```
setdifference("A, B", "B,C") //returns "A"

setdifference("A;B", "C ;D", ";") //returns "A;B"
```

setintersection (list1, list2[, separator]) – Returns a deduplicated list of values that exist in both list1 and list2. Examples:

```
setintersection("A, B", "B,C") //returns "B"

setintersection("A;B","C ;D",";") //returns empty value (Nothing)
```

setlength(list[, separator]) – Returns the number of distinct values in the list. Examples:

```
setlength("A, B") //returns 2

setlength("A;B") //returns 1 (the default separator is comma)
```

setcontainsall(list1, list2[, separator]) – Returns TRUE if list1 contains all the distinct values from list2. Examples:

```
setcontainsall("A, B, C", "B,C") //returns TRUE

setcontainsall("A;B", "B ;C", ";") //returns FALSE
```

setcontainsany(list1, list2[, separator]) – Returns TRUE if list1 contains at least one value from list2. Otherwise returns FALSE. Examples:

```
setcontainsany("A, B", "B,C") //returns TRUE

setcontainsany("A;B", "C ;D", ";") //returns FALSE
```

setsort(list[, separator]) – Returns the distinct values of the list sorted in ascending order. This function can also be used for set normalization. Example:

```
setsort("D, B,C, A") //returns "A,B,C,D"

setsort("A,A,A,A") //returns "A"
```

What's new in Desktop
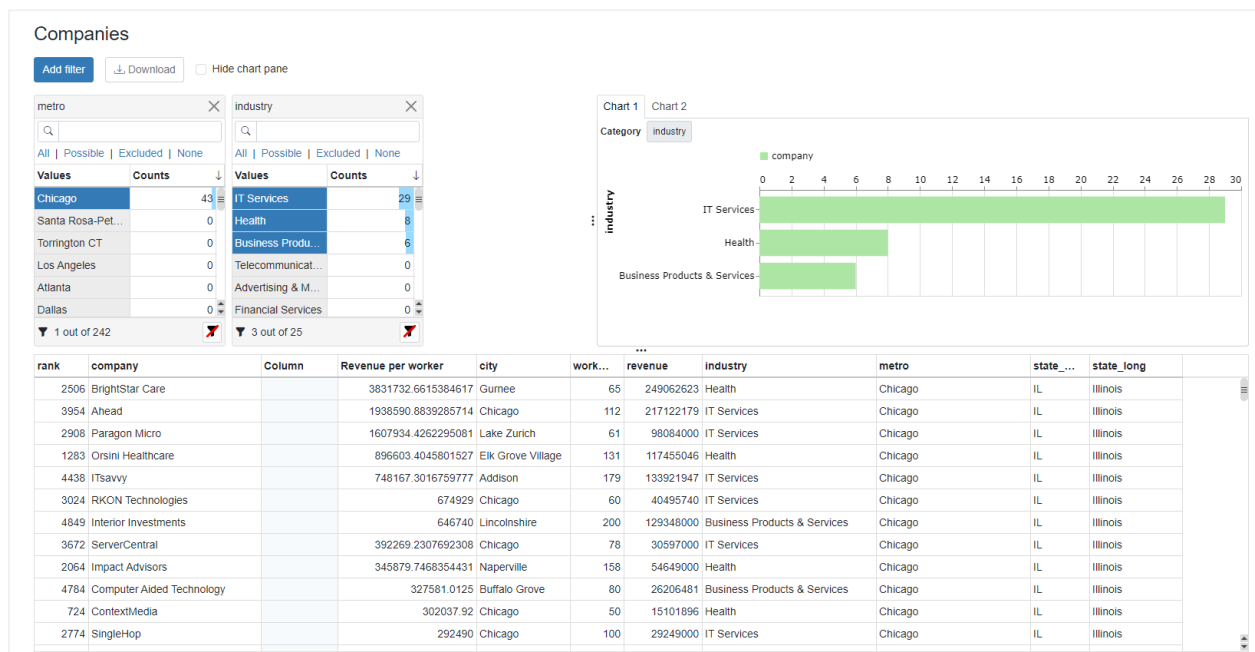
Support for .morph files in Explorer

The Explorer now can open local .morph files and display the result dataset (table) produced by the workflow. This allows using EasyMorph projects for data retrieval and exploration, where the necessary datasets are computed on the fly and can be analyzed in the Analysis View.

As with local .dset files, this feature doesn't require EasyMorph Server.

What's new in Server

Filtering and charts in Analysis View (experimental)

The Analysis View in the Server's UI now allows filtering data and visualizing it using simple charts. It makes it possible for Server users to retrieve data (pre-computed or computed on the fly) and analyze it by filtering and aggregating it.

Screenshot 1: Analysis View in EasyMorph Server's UI.

Note that this feature is still experimental – the UI can be buggy or freezing, at times. Every few weeks we will be releasing updates that will improve stability and functionality.

Please don't hesitate to report bugs or just share your feedback on the feature on our Community forum.

Release notes v5.7.1

Important! Create a backup copy of your projects and connector repositories before updating to the new version. Projects saved in the new version can't be opened in versions earlier than **5.6**. Also, if your organization uses EasyMorph Server, please make sure that the Server is upgraded to the new version before Desktops.

A few words from the creators of EasyMorph

This is a minor release with security improvements and cumulative bugfixes. Note that the changes can be breaking if your EasyMorph Server uses a self-signed SSL certificate or one of your data connectors connects to a server with a self-signed or expired SSL certificate. In this case, you will need to configure SSL exceptions settings also added in this release.

What's new

Whitelist of excepted SSL certificates

In this release, we've added global settings in Desktop and Server to allow self-signed or expired SSL certificates only if their thumbprints are white-listed in application preferences (Desktop) or settings (Server).

These settings affect **all data connectors** used by the respective application. We highly recommend configuring this option and, if necessary, explicitly permitting excepted SSL certificates by listing their thumbprints.

Note that when Desktop is linked to EasyMorph Server, its SSL exceptions are provided by the Server, not by application preferences in EasyMorph Desktop.

Also, the Server Link configuration in Desktop now always prohibits a self-signed or expired SSL certificate of EasyMorph Server, unless its thumbprint is explicitly permitted in the Server Link settings.

Miscellaneous

- Tableau connectors that use PAT now can be used in parallel in workflows
- Desktops can now execute projects with invalid digital signature if they are connected to EasyMorph Server
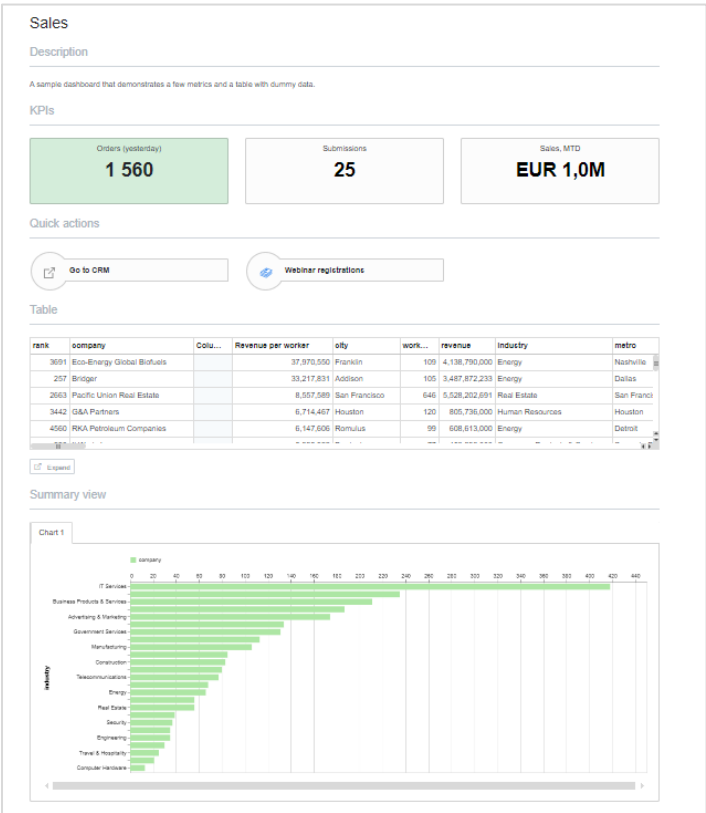- The "Find action" dialog now allows finding actions with any annotation

Release notes v5.7

Important! Create a backup copy of your projects and connector repositories before updating to the new version. Projects saved in the new version can't be opened in versions earlier than **5.6**. Also, if your organization uses EasyMorph Server, please make sure that the Server is upgraded to the new version before Desktops.

A few words from the creators of EasyMorph

With this release, we continue transforming (or, if you wish, *morphing)* EasyMorph into a multi-purpose automation platform that brings data processing and collaboration in your organization to a new level. Version 5.7 introduces Server *boards* – a new versatile feature that can be used in various ways:

- Unify in one view your important business information, no matter where it's stored
- Deliver workflow computation results (datasets, files) to employees in your organization
- Explore and analyze tabular data in your business applications and databases
- Collect and track business and technical metrics
- Build simple dashboards
- Trigger automation workflows

Screenshot 2: A board in EasyMorph.

In the next major version (5.8), boards in EasyMorph will be able to operate with *issues* – a major work management and automation capability that will enable a whole range of new and exciting use cases for EasyMorph, such as approval workflows, process automation, incident management, and many more.

Boards will also serve as starting points for [data exploration](#), where it will be possible to navigate from one dataset to another just like you browse the internet and navigate from one web page to another.

Boards and the Catalog now form *Explorer*, a new feature that encompasses and [supersedes the Catalog](#). Unlike the Catalog, which is Server-based, a simplified version of Explorer (without boards and the Catalog) is available in Desktop-only deployments of EasyMorph. In the simplified version, you can view .dset files (already available in v5.7) as well as computed results of .morph projects (coming in v5.7.1). In v5.8 it will be possible in Desktop-only deployments to navigate from one dataset to another using hyperlinks between datasets, the key feature of Explorer.

Besides boards and Explorer, other notable improvements in this release include:

- Email automation – now you can mark emails read/unread, move to folders, and delete them
- Integration with Jira – importing and creating Jira issues as well as updating their statuses
- [Teams Bot](#) for sending messages to channels in Microsoft Teams
- Import from Apache Parquet

What's new

Boards

Boards is a new collaboration and data exploration feature of EasyMorph Server, part of Explorer. Boards are available in Desktops (including the free edition) and the Server. Desktops must be connected (linked) to EasyMorph Server to view and create boards.

Boards are composed from *sections*, stacked vertically. A board can have any combination of sections of any types. The following section types are available as of this release (more section types will be added in future releases):

- Metrics
- Tables
- Charts (simple)
- Asset shortcuts
- Text

In most cases, sections are configured from Catalog assets such as metrics, or datasets. Although, in some cases, sections can link directly to external web-pages as well as .dset files stored on Server.

rank	company	Colu...	Revenue per worker	city	work...	revenue	industry	metro
3691	Eco-Energy Global Biofuels		37,970,550	Franklin	109	4,138,790,000	Energy	Nashville
257	Bridger		33,217,831	Addison	105	3,487,872,233	Energy	Dallas
2663	Pacific Union Real Estate		8,557,589	San Francisco	646	5,528,202,691	Real Estate	San Francis
3442	G&A Partners		6,714,467	Houston	120	805,736,000	Human Resources	Houston
4560	RKA Petroleum Companies		6,147,606	Romulus	99	608,613,000	Energy	Detroit
290	It Works!		5.925.922	Bradenton	77	456.296.000	Consumer Products & Services	Sarasota-Br

Expand

Screenshot 3: A board with three sections as seen in EasyMorph Server's web UI.

New connectors

The **Jira** connector is required for retrieving data from Jira and managing Jira issues from EasyMorph workflows.

The **Teams Bot** connector is required for the "Teams Bot" action in order to send notifications to channels in Microsoft Teams.

New actions

The **Email command** action performs various operations with email messages:

- Mark read/unread
- Move to folder
- Delete
- Delete permanently

The **Import from Apache Parquet** action allows importing binary data files in the Apache Parquet format (.parquet).

The **Import from Jira** action imports data from Jira:

- List of projects
- List of issues
- List of issue types
- List of issue statuses

The **Jira command** action performs various operations with issues in Jira:

- Create issue
- Change issue status
- Delete issue

The **Teams Bot** action sends notifications to channels in Microsoft Teams. Note that the action can't send messages into private chats, only to channels. Messages can be either plain text, or [Adaptive Cards](). In the latter case, messages can be richly formatted and contain hyperlinks, images, buttons, bulleted lists and many more. [Read more]()

Changes in existing actions

The **Calculate new column(s)** action now has an option for calculating new columns only when they don't already exist in the input dataset.

The actions **Web request** and **Import from Web API** now permit using a first column value for specifying URL parameters.

The **SharePoint command** action has got a new command – "List libraries".

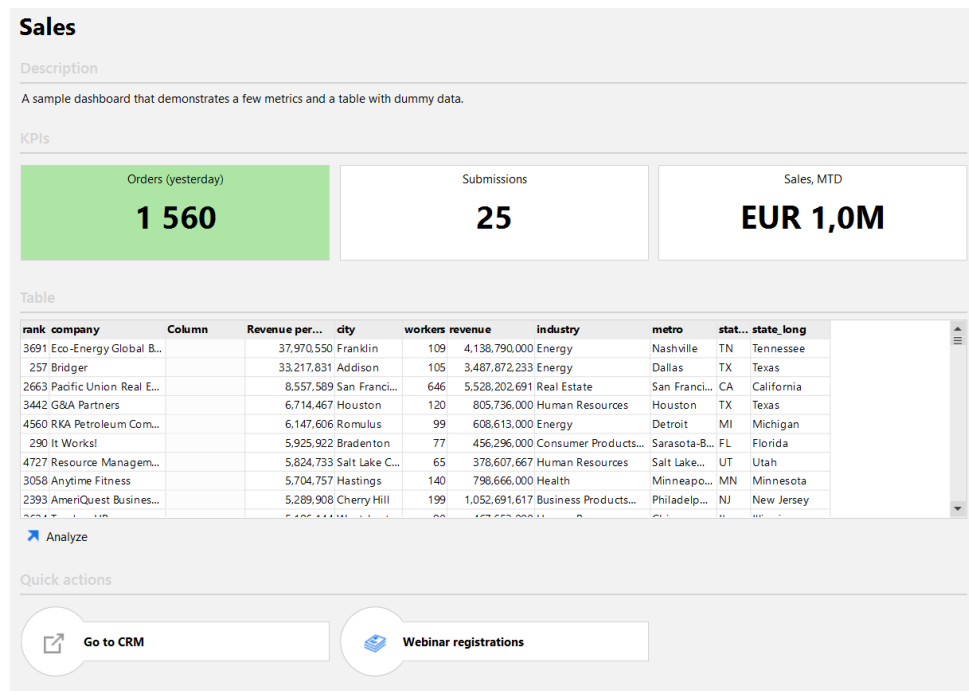# What's new in Desktop

Explorer

The Catalog app is renamed to Explorer. In Explorer, you can:

- View and analyze datasets (.dset files) – local and Server-hosted
- **[postponed to v5.7.1]** View and analyze computed datasets (results of .morph projects) – local and Server-hosted
- Browse the Catalog (when connected to Server), create and retrieve Catalog assets
- View and design boards

As you can see in the list above, some of the Explorer functionality is still available without EasyMorph Server. In v5.8, we will be adding in Explorer the ability to navigate from one dataset to another (computed) dataset by hyperlinks between datasets (aka commands). [Read more about Explorer]()

Boards (requires EasyMorph Server)

When your Desktop is connected to EasyMorph Server, you can create, view, and edit *boards*.

Sales

Description

A sample dashboard that demonstrates a few metrics and a table with dummy data.

KPIs

Orders (yesterday)	Submissions	Sales, MTD
1 560	**25**	**EUR 1,0M**

Table

rank	company	Column	Revenue per...	city	workers	revenue	industry	metro	stat...	state_long
3691	Eco-Energy Global B...		37,970,550	Franklin	109	4,138,790,000	Energy	Nashville	TN	Tennessee
257	Bridger		33,217,831	Addison	105	3,487,872,233	Energy	Dallas	TX	Texas
2663	Pacific Union Real E...		8,557,589	San Franci...	646	5,528,202,691	Real Estate	San Franci...	CA	California
3442	G&A Partners		6,714,467	Houston	120	805,736,000	Human Resources	Houston	TX	Texas
4560	RKA Petroleum Com...		6,147,606	Romulus	99	608,613,000	Energy	Detroit	MI	Michigan
290	It Works!		5,925,922	Bradenton	77	456,296,000	Consumer Products...	Sarasota-B...	FL	Florida
4727	Resource Managem...		5,824,733	Salt Lake C...	65	378,607,667	Human Resources	Salt Lake...	UT	Utah
3058	Anytime Fitness		5,704,757	Hastings	140	798,666,000	Health	Minneapo...	MN	Minnesota
2393	AmeriQuest Busines...		5,289,908	Cherry Hill	199	1,052,691,617	Business Products...	Philadelp...	NJ	New Jersey

↗ Analyze

Quick actions

↗ Go to CRM	◈ Webinar registrations

Screenshot 4: A board in EasyMorph Desktop.

Miscellaneous

- When an action is selected in a table, you can now press F1 to go to the web-help article on that action
- The Analysis View has got the "Send to sandbox" action. It sends the currently selected subset of rows into a new or existing sandbox in the current workflow
- The free edition now doesn't permit saving projects with more than 20 actions – the limit of the free edition
- The free edition now doesn't permit opening projects that were modified outside of EasyMorph

What's new in EasyMorph Server

Explorer

The Catalog tab is renamed to Explorer. In the Explorer tab, you can:

- View and create boards
- View and create Catalog assets (metrics, computed datasets, and web links, more to follow)

- View results of computations (computed datasets) and static datasets from the Catalog

Explorer is available in one space (the Default space, by default) in the Team and Enterprise editions of EasyMorph Server. It is available in all spaces when your Server license includes the Explorer Add-on (previously known as the Catalog Add-on).

Boards

In the Explorer tab, you can view and create boards explained in the "What's new" section above.

Analysis View

Analysis View has long been available in EasyMorph Desktop. In this release, we're making Analysis View available in the Server's web UI as well. In this initial release, Analysis View only allows viewing datasets and sorting them.

In v5.7.1 we will be adding the ability to filter datasets. In v5.8, Analysis View will also display charts and cross-tables and will allow navigating to other datasets by clicking hyperlinks in cells.

Note that Analysis View fetches the entire dataset from the Server into the memory of the user's web-browser. This ensures instantaneous viewing and sorting (and soon, filtering) even with large datasets. However, opening big datasets make take a longer time if your network connection is slow. Note that the browser-based Analysis View currently doesn't support datasets larger than 1 GB.

Screenshot 5: Analysis View in EasyMorph Server's UI.

Shared Memory commands in ems-cmd

The command-line client utility ems-cmd has got three more commands that make it possible for external applications and scripts to operate with values in Server's Shared Memory, the built-in key-value store. The syntax for the new commands is as follows:

- *Remember* – saves the specified value in Shared Memory

    ```
    ems-cmd remember http://server_host:6330  -space Default -
    password your_password -key path1\path2\abc -value XYZ
    ```

- *Recall* – reads the value associated with the specified key and prints it into the console

    ```
    ems-cmd recall http:// server_host:6330  -space Default -password
    your_password -key path1\path2\abc
    ```

- *Forget* – removes the specified key and the value associated with it

    ```
    ems-cmd forget http://192.168.100.200:6330  -space Default -
    password your_password -key path1\path2\abc
    ```

This addition enables a range of new integration scenarios between EasyMorph Server and external applications. For instance:

- External applications set values of metrics in the Catalog and boards
- External applications read environment configuration parameters from the Server (e.g. API keys).
- EasyMorph Server operates as a common key-value store for multiple external applications that exchange data between each other through EasyMorph Server

Miscellaneous

- Email notifications about failed tasks can now be turned on and off in each space individually
- Now if a Server worker crashes, it restarts automatically after 120 seconds. An email notification is sent to the Server administrator

Previous release notes

Link: Release notes for v5.6.2