

# Release notes v5.6.1

**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 release has two headline features:

- **Dataset Editor**, a built-in tool in EasyMorph Desktop that allows editing .dset files stored locally or on EasyMorph Server. It's especially useful in combination with another new feature – the "Append" mode in the "Export to dataset" action. Together, they offer lightweight minimalistic database-*like* functionality where data records can be appended to a table and edited right in EasyMorph, without using an external database. See also [this topic](#) for pros and cons.

The Dataset Editor is also available in the "Sandbox" action, so it's now possible to edit data in sandboxes. Also, Dataset Editor can be invoked right from the File Manager, so you can edit .dset files as you browse them locally or on EasyMorph Server. Finally, static datasets in the Catalog can now also be edited with the Dataset Editor.

- The other headline feature is the **new user interface (UI) of EasyMorph Server** in which the top tabs are replaced with a sidebar menu. The change creates room for new features of EasyMorph Server in upcoming versions – [boards](#), users and role-based permissions, dataset viewer, and a few more.

Also, for those of you who are excited by generative AI, we've added the "**Ask ChatGPT**" action. You're welcome to share your experimentations and discuss findings about using ChatGPT from EasyMorph in the [dedicated topic on the Community forum](#).

## Breaking changes

### *Bugfixes in Airtable actions*

Previously, when performing export, update or deleting records in Airtable and the input dataset was empty, the column [Operation result] wasn't created. Now it's always created no matter if the current dataset is empty or not. The bugfix affects the following actions:

- Export to Airtable
- Update/delete rows in Airtable

Previously, if the "Import from Airtable" action didn't return any rows, no (empty) columns were created even if one or more columns were selected in the action properties. Now the selected columns are always created no matter if they contain data in Airtable or not.

### *Bugfixes in the "Parse webform submission" action*

- The action now fails if the parsed column (with web-form submissions) contains non-text values.
- Empty cells are no longer ignored and dropped out from the output. They are preserved as empty text values.

## What's new

### *New connectors*

The **Open AI** connector is now available. It's required for the "Ask ChatGPT" action.

### *Changes in existing connectors*

The **Google Drive** connector now allows using a shared Google drive. Shared drives are now supported by all actions that use the connector.

### *New actions*



The **Ask ChatGPT** action allows sending free-form prompts to ChatGPT. The prompts can be parameterized using workflow parameters. See examples [here](#).

### *Changes in existing actions*

The **Calculate new column(s)** action now allows using in expressions names of other new columns created in the same action. For instance, these two columns can now be calculated in one action:

```
[Date] = today()
```

```
[Year] = year([Date])
```

The **Export dataset** action now allows *appending* rows to an existing dataset (.dset file) stored locally or on EasyMorph Server. Note that because the .dset format is compressed columnar data, the time required for appending new rows grows proportionally to the file size and can be noticeably longer on large files. See also [this topic](#).

Also, the action fails if the target file on EasyMorph Server was modified by another workflow before appending finishes.

In the **Convert Data Types** action, the date format detection algorithm of the "Detect" button is now greatly improved.

All actions that work with **Google Drive** now support file and folder names with slashes (/).

The **EasyMorph Server command** action has got a new command:

- Find files recursively – builds a list of files in the specified folder and all its subfolders

The **Parse web form submission** action now has an option to preserve columns from the input dataset in the action's output.

The **Import from database** action now permits text dates in columns used in query conditions in the "First column value" mode.

### *New functions*

**detectformat(text\_date)** – detects the date/time format of the text date (or timestamp) provided as the argument. The action returns an error if the format is ambiguous. Examples:

```
detectformat("2023-Nov-4") //returns "yyyy-MMM-d"
```

```
detectformat("11/4/2023") //returns error "Ambiguous format"
```

**istextdate(text\_date)** – returns TRUE if the argument is a recognizable text date, otherwise returns FALSE. Examples:

```
istextdate("2023-Nov-4") //returns TRUE
```

```
istextdate("11/4/2023") //returns TRUE (notice ambiguous format)
```

### *Changes in existing functions*

For the **date()** function, the second argument that specifies a date format is now optional. When the second argument is omitted, EasyMorph will try to detect the date format automatically. Example:

```
date("2023-Nov-4") //returns 45234
```

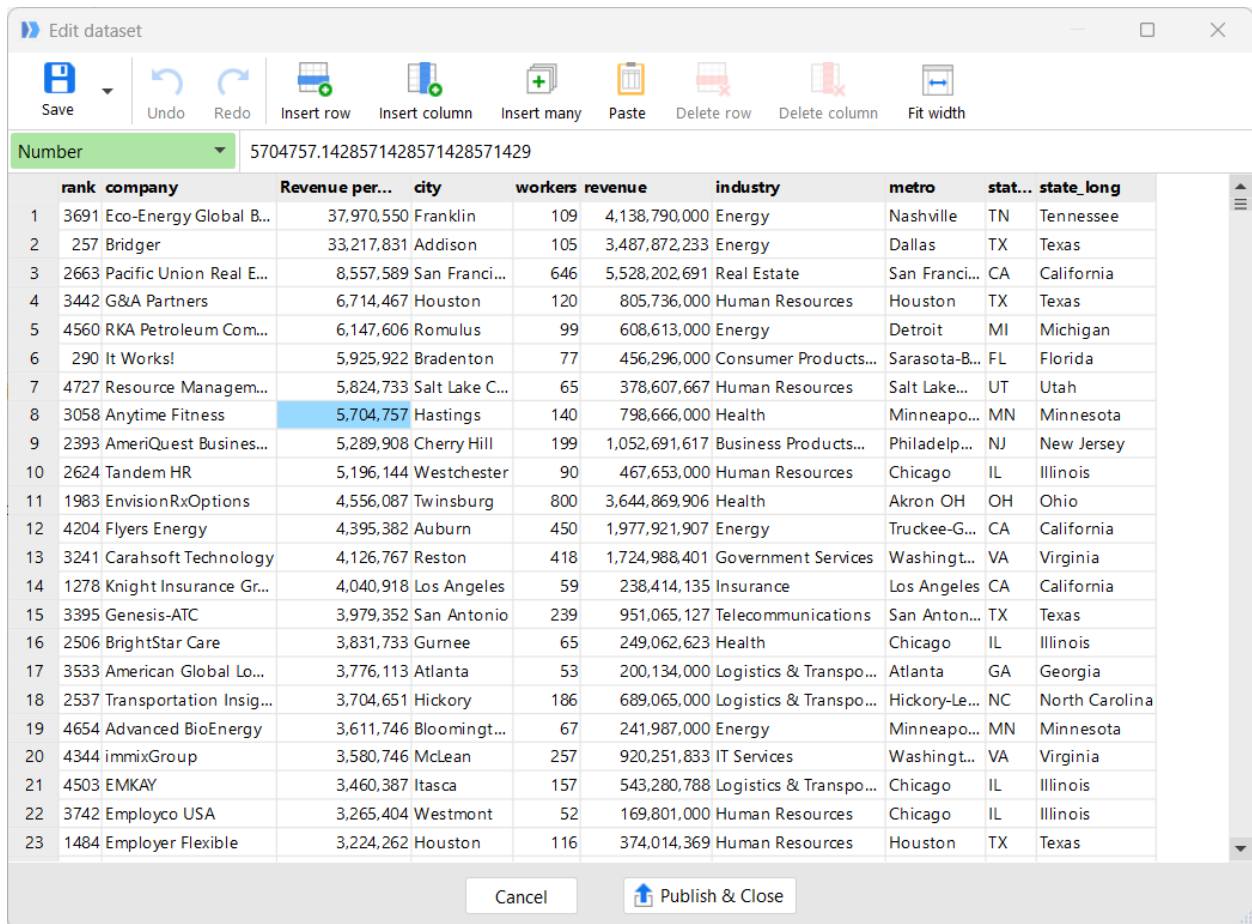
Note: while it can be convenient in some cases, we still recommend specifying a date format explicitly, when possible, to ensure deterministic behavior.

# What's new in Desktop

## Dataset Editor

Dataset Editor is a built-in tool for editing datasets (.dset files) stored on EasyMorph Server or locally. The editor can be invoked from multiple locations of EasyMorph Desktop:

- In the "Import dataset" action, by clicking the "Edit dataset" button. The editor opens with the dataset specified in the action settings.
- In the "Sandbox" action, by clicking the "Edit dataset" button. The editor opens with the dataset of the sandbox.
- In File Manager, when choosing the "Edit dataset" context menu command for a .dset file in a local folder or in a Server location. The editor opens with the selected file. The "Edit dataset" menu command is not available for file types other than .dset, or for other types of locations.
- In Catalog, when choosing the "Edit dataset" context menu command for a static dataset item.



Screenshot 1: Dataset Editor.

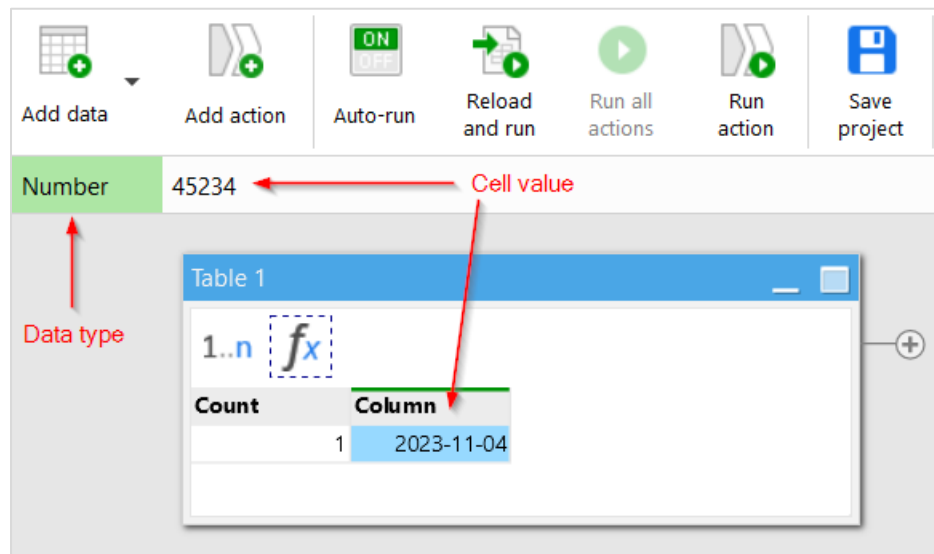
Operations available in the editor:

- Editing cell values, changing data types
- Renaming columns
- Inserting/deleting one or many rows/columns
- Copying/pasting cells, columns, rows
- Pasting data from Excel or copying it to Excel
- Moving one or multiple columns left or right
- Moving one or multiple rows up or down
- Undoing/redoing the last operation

After editing is finished, the changed dataset is updated in its folder on the local machine or on EasyMorph Server.

### *Cell bar*

The cell bar is a new feature introduced in this version. It is activated when a single cell is selected (clicked) in a table in the Workflow Editor. The cell bar shows the data type of the cell and the cell value.

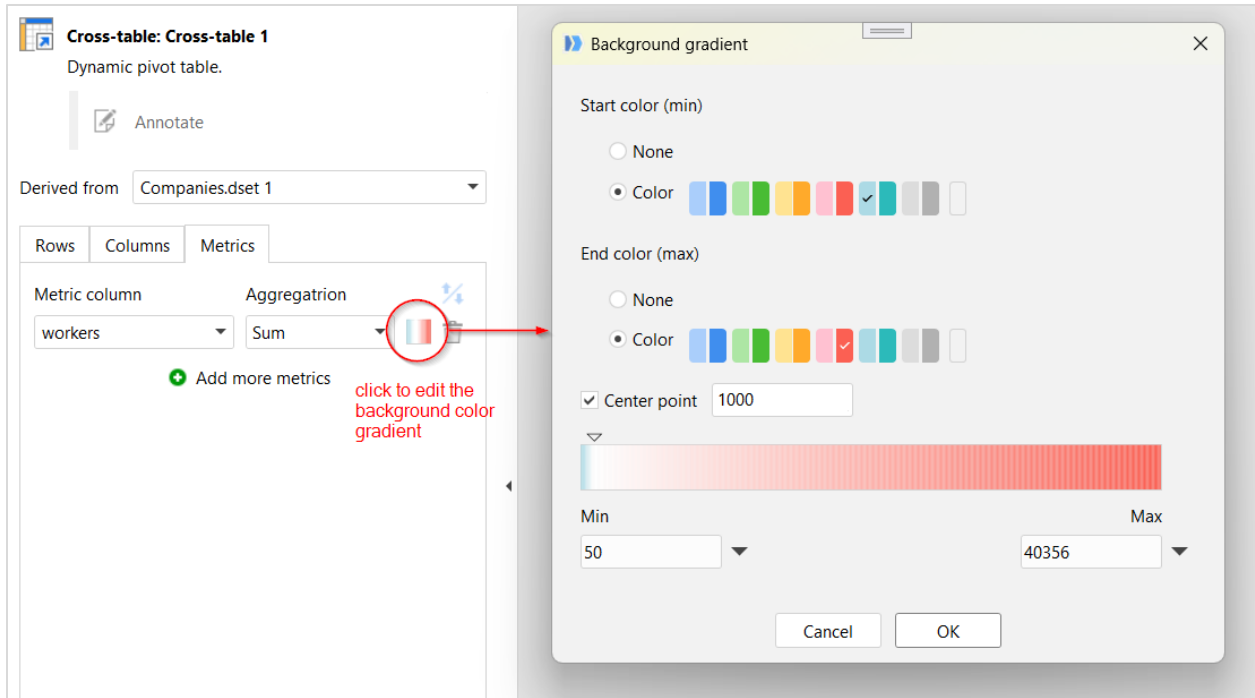


Screenshot 2: The cell bar.

The cell bar is also available in the Dataset Viewer of the Catalog, when viewing static or dynamically computed datasets.

### *Heatmaps*

Cross-tables in EasyMorph can now be turned into heatmap charts by specifying a background color gradient for cross-table cells. The gradient helps quickly notice extremely large or small values.



Screenshot 3: Heatmap color settings.

Cross-table 1

Rows: state\_long

Column: industry

Metric: workers (Sum)

state_long	Energy	Real Estate	Human Reso...	Consumer P...	Health	Business Pro...	Govern
Tennessee	109	711	29365	631	2574	817	
Texas	10798	3257	6093	4666	9634	2389	
California	2587	1700	4836	5306	14682	5221	
Michigan	99	100	15480	200	4588	2384	
Florida	578	408	10103	1623	5893	1016	
Utah		965	209	562	2155	2534	
Minnesota	573	130	84		6655	2465	
New Jersey	403		1675	586	3328	1723	
Illinois		3289	33577	841	902	19723	
Ohio	387	572	1410		2848	2820	
Virginia	465	214	870	235	1155	3525	
Georgia		3702	9489	422	2469	4356	
North Caroli...	397	150	7620	135	3585	1298	
Oregon		210				1008	

Screenshot 4: A heatmap chart in EasyMorph.

## Auto-detection of text separator

Now when a delimited text file is configured in one of the actions below, EasyMorph automatically detects its separator and some other properties (e.g. lines to skip above the header row).

Auto-detection also works when a file is dragged into EasyMorph for opening, or when multi-line delimited text is pasted into a sandbox (or Dataset Editor).

## Improvements in File Manager

- It is now possible to copy multiple selected files from a local folder to another local folder
- When a .dset file is selected in a local folder or a Server location, its context menu now displays the "Edit dataset" menu command that opens Dataset Editor (described above) with that file.

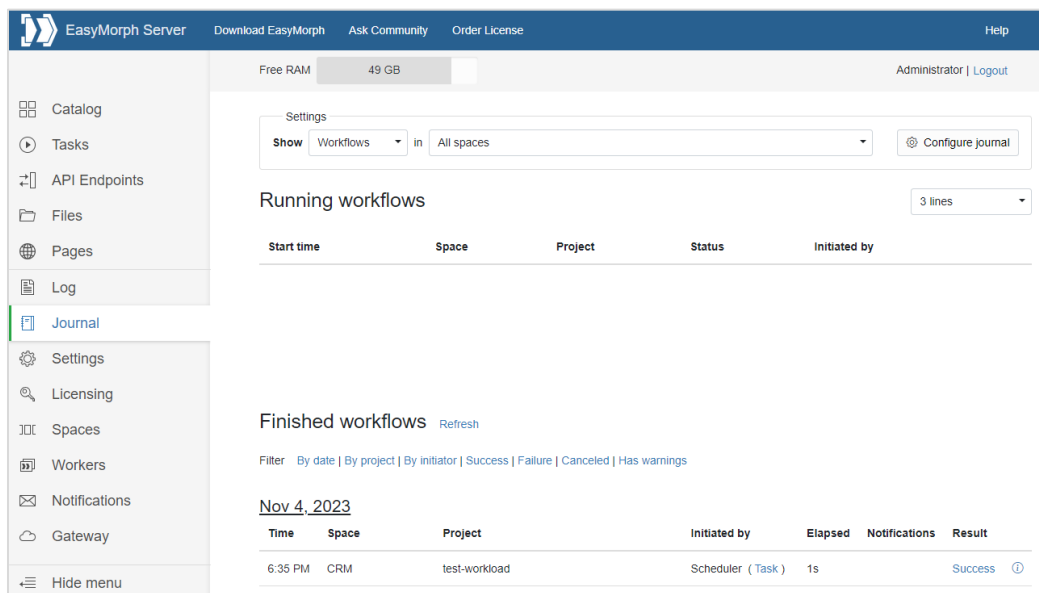
## Miscellaneous

- In the "Catalog command" action it's no longer possible to manually edit the path to a Catalog item. Now it can only be selected using the item picker dialog.

# What's new in EasyMorph Server

## Sidebar menu

The top tab bar of Server's user interface (UI) has been replaced with a collapsible sidebar menu.



Screenshot 5: Sidebar menu of EasyMorph Server.

## *Miscellaneous*

- When a Server task is triggered through its "reload URL" (configured in task settings), the Server now opens a different page – it's a static page with a button to open the "Tasks" list. Previously, the task list was opened immediately after "opening" the "reload URL".

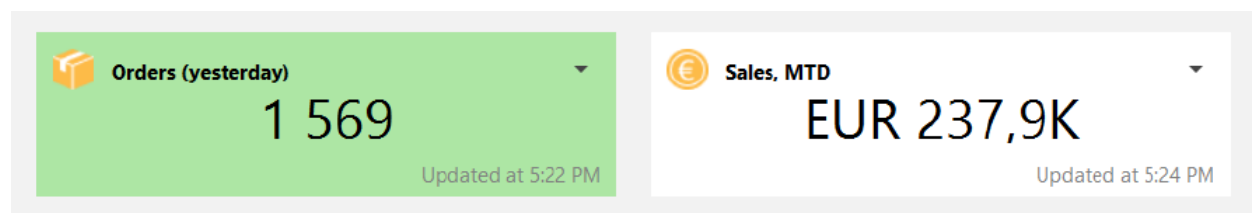


# Release notes v5.6

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## *A few words from the creators of EasyMorph*

The headline new feature of this release are *metrics* in the Catalog. It's an easy-to-use that allows watching and tracking business KPIs and technical metrics right in EasyMorph. Metrics are easy to create and can be updated either manually, or in a workflow with the help of the "Catalog command" action. For a better context, colored ranges can be defined for each metric to indicate whether it's in a "good" or "bad" range. Metrics are available in both Desktop and web UI and can be handy in cases when designing a full-scale BI dashboard is an overkill.



Screenshot 6: Metrics in the Catalog (in EasyMorph Desktop).

In the future, metrics together with other Catalog items will be used as building blocks for *boards* – a new paradigm-shifting data collaboration feature of EasyMorph. Boards are [announced](#) on the Community forum.

Besides the metrics, the new version includes many new features – new connectors, new actions, new Server capabilities, as well as numerous improvements of existing capabilities such as twice faster parsing of CSV files and twice faster dataset merging.

## What's new in EasyMorph

### *New connectors*

The **Dropbox** connector enables the full support of Dropbox in EasyMorph, including the use of Dropbox locations in the recently introduced File Manager, a built-in app for file transfer and browsing.

## *Changes in existing connectors*

The **SharePoint** and **S3** connectors now have a new setting for the default partition.

The native **SQL Server** connector now supports multiple authentication options using Azure AD.

The connector for **Maria DB** has a new driver under the hood that resolves the connectivity issues existed with the previous driver.

## *New actions*



The new **Compare tables** action compares two tables and produces a list of detected differences based on column metadata. It also displays the first mismatching value in each column, when applicable. The result of the action is empty when both input datasets are identical.



The **Natural merge** action merges two tables based on columns with same names. Four merge modes are supported: lookup, left join, full join, and inner join.



The **Azure Blob Storage command** action performs various file and folder operations with Azure Blob Storage. For instance, file uploading, downloading, deleting, renaming, etc.



The **Dropbox command** action performs various file and folder operations with Dropbox. The commands include file uploading, downloading, deleting, renaming, etc.

## *Changes in existing actions*

The **Import from delimited text** action can now parse and load data 2-3 times faster. We thoroughly tested the new parser, however due to the high criticality of delimited text parsing, the roll-out of this improvement is gradual. In this release, to enable faster imports in EasyMorph Desktop, check the “Twice faster CSV parser option” in the application preferences. The setting also affects the “Split delimited text file” action, and pasting data into a sandbox.

The **Merge** action is now at least twice faster. Also, the limit of ~130 million records for the merge result no longer exists. The general application-wide limit of ~530 million rows per dataset remains, as for any other action.

The **Update/delete records in Salesforce** now has a new mode that keeps only successfully updated records.

The **Import from Qlik** action now supports loading only the first N rows from a QVD file.

The **Export to Excel** action can now update spreadsheets created in the “Strict Open XML” format.

The **Select matching DB rows** action no longer requires a write permission because it doesn’t create a temporary table anymore. Also, it works faster now.

The message in the **Halt/warn on condition** action can now be calculated using an expression, or a first column value.

The **Catalog command** action has got two new commands:

- Get metric
- Set metric

The **Shared memory** action has a new command too:

- Recall values for a list of keys

One more command has been added to the **EasyMorph Server command** action:

- List folders

### *New functions*

**guid()** – generates a GUID, similar to that generated by the “Generate GUIDs” action. Example:

```
guid() returns 3133c83e-16e8-4e7f-9689-3ab540f8b8ab.
```

**replacebetween(text, string1, contents, string2)** – replaces in *text* all characters between *string1* and *string2* with *contents*. The function can be used for patching HTML/XML data. Example:

```
replacebetween("<b>123</b>", "<b>", "ABC", "</b>") returns  
"<b>ABC</b>".
```

## What's new in EasyMorph Desktop

### *Auto-saving for projects*

EasyMorph Desktop can now recover new or unsaved projects after an application crash. The feature works automatically. It doesn't have to be enabled explicitly. Note that it may create temporary files with semi-random names shown next to your project files. Such files will be deleted automatically, when EasyMorph Desktop is closed. Do not delete them manually.

### *Metrics in the Catalog*

In the Catalog, it's now possible to create and edit metrics, their values (stored in Shared Memory), as well as formatting and ranges.

Metrics don't have to be retrieved. Their values are displayed immediately when browsing the Catalog.

Note that the contents of a Catalog directory can be filtered to show items of only one type, such as metrics.

### *New features of File Manager*

File Manager, the built-in app for remote file browsing, uploading, and downloading, has got a few new capabilities:

- Full support for Dropbox
- Zipping local folders and files, unzipping local files
- Copying local files and folders (non-recursive)

### *Miscellaneous*

- The dialogs “Open project from Server” and “Open dataset from Server” now have a search field that finding a project or dataset (respectively) in the entire Public folder or in the selected subfolder
- In the properties of action “Export to database”, it is now possible to automatically match all field names that are the same in EasyMorph. The “Map possible” link-button is also available in the actions “Bulk export” and “Update database rows”.
- EasyMorph Desktop now prevents the computer from hibernating when a workflow is running

## What's new in EasyMorph Server

### *Worker workload management*

Memory is a critical resource for EasyMorph Server and letting the Server to run out of memory is highly undesirable. In this release, we’ve added the ability to manage Server workloads by limiting the memory available to Server workers.

Two memory restrictions can be configured on the worker settings page: the “soft” limit and the “hard” limit.

When memory consumption reaches the “soft” limit, the worker rejects all new computations (such as tasks). Computations that were already running, keep running.

If memory reaches the “hard” limit, all computations are immediately forced to fail without exceptions.

Note that task cancellation doesn’t guarantee immediate memory release. For instance, when a task runs an external application, cancelling the task will not automatically terminate the external application it’s running.

Settings   Workload management   Mapped drives

Save changes   Revert

Hard limit: force all running computations to fail, if worker's memory consumption exceeds the limit below.  
Notify Server administrator.

Memory limit (GB)

Soft limit: Reject (fail) new computations, if worker's memory consumption exceeds the limit below.  
Computations that are already running will keep running.

Memory limit (GB)

Screenshot 7: Worker workload management.

### *Creating Catalog items*

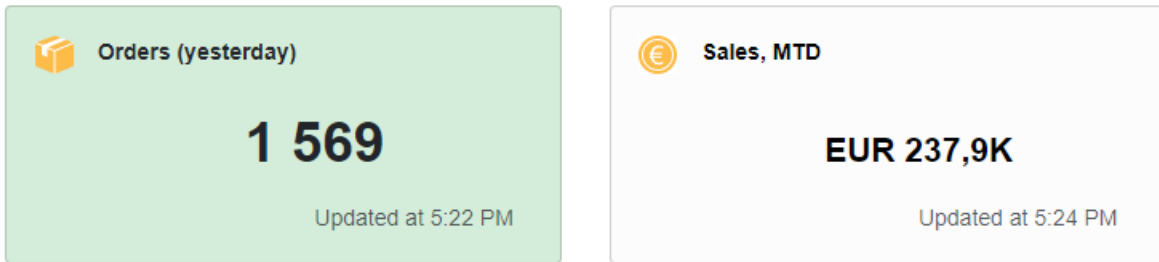
It is now possible to create three item types from the Server UI (previously, Catalog items could only be created in the Desktop):

- Metrics
- Computed datasets (datasets computed using a workflow) – they are like Server tasks but return a dataset. Computed datasets can be downloaded in various formats (xlsx, csv, dset, hyper, qvd).
- Web links – links to external web resources, such as BI dashboards or web sites.

Note that only the basic settings of the Catalog items listed above can be edited in the Server UI. Advanced settings can only be edited in EasyMorph Desktop. Deleting and moving Catalog items is also only possible in EasyMorph Desktop.

### *Metrics in the Catalog*

Creating Catalog metrics is easy and straight-forward. Non-technical users can create metrics and update their values manually. More advanced users can design workflows that update metrics on schedule.



Screenshot 8: Metrics (EasyMorph Server).

### *Miscellaneous*

- The “Computed Results” section of the Catalog now hides automatically when there are no computed results
- The “Catalog” page shows a welcome screen when no Catalog items have been configured yet
- Tasks and Catalog now show a clickable “Jump to...” button when there is failed task or a computed result outside of the visible area

### Previous release notes

Link: [Release notes for v5.5](#)