Release notes v5.3.1

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 5.2. Also, if your organization uses EasyMorph Server, please make sure that the Server is upgraded to this version before Desktops.

A few words from the creators of EasyMorph

The headline feature of this release is the addition of *commands* to Launcher tasks. The commands are similar to Catalog item commands introduced in v5.3. They allow task hyperlinking, i.e. you can now right-click a cell in a table returned by one task (Launcher tasks can return and display tables) and choose a command that triggers another task. The parameters of the other task will be automatically assigned with the value of the clicked cell and, if configured in command settings, with other cells from the same table row.

The addition of Launcher task commands allows using EasyMorph for data retrieval, browsing, and business automation even when you don't have EasyMorph Server.

Another, less significant but still useful addition, is the new "Find action" dialog. Effectively, we've made it a workflow query tool to find specific actions using a condition or a combination of conditions. We believe it will encourage new ways of working with workflows. For instance, you can now list all actions that were created or modified since the project was open and review them before saving the project. Or find actions that run too long and use a particular connector to pinpoint a performance issue. The new tool should also work well with color tags for actions that we consider adding in one of the future releases.

What's new

New and changed connectors

A new, native connector for **Google Big Query** has been added to enable bulk export to BigQuery using the "Bulk export to database" action. Currently, the connector can only be used for that action. For all other operations with BigQuery please keep using the regular "ODBC" connector.

The **Power BI** connector now allows using a service principal account for authentication.

Changed actions

The **EasyMorph Server Command** action has got a new command: "List tasks". The command returns a list of tasks with such attributes as task ID, project path, annotation, and schedule description.

Besides that, the commands "Start task" and "Enable/disable task" now allow specifying a task by ID using a parameter or the first value of a column.

The **Halt on condition** action now can generate warnings besides errors. Therefore it was renamed to "Halt/warn on condition". The ability of workflows to generate warnings can be especially convenient when computing Catalog items. Now workflows can let the user know when data is outdated or possibly incomplete while leaving the final decision whether or not to use the data to the user. We've also made a few changes to the way Catalog items are retrieved to ensure that warnings can't be accidentally overlooked.

In data preparation workflows, custom warnings can signal about potential data quality issues and help investigate errors. Note that Server journal also records workflows warnings besides errors.

The **Enumerate rows** action has got a new setting that allows repeating (restarting) the enumeration sequence from 1 after the specified number is reached. Also, it can add a column that counts such repetitions. The new setting simplifies complex enumerations that are frequently necessary in order to prepare a dataset for pivoting. Now, calculating row and column numbers for pivoting can be done with a single action "Enumerate rows".

Miscellaneous

- The library System.Data.SqlClient has been replaced with Microsoft.Data.SqlClient.
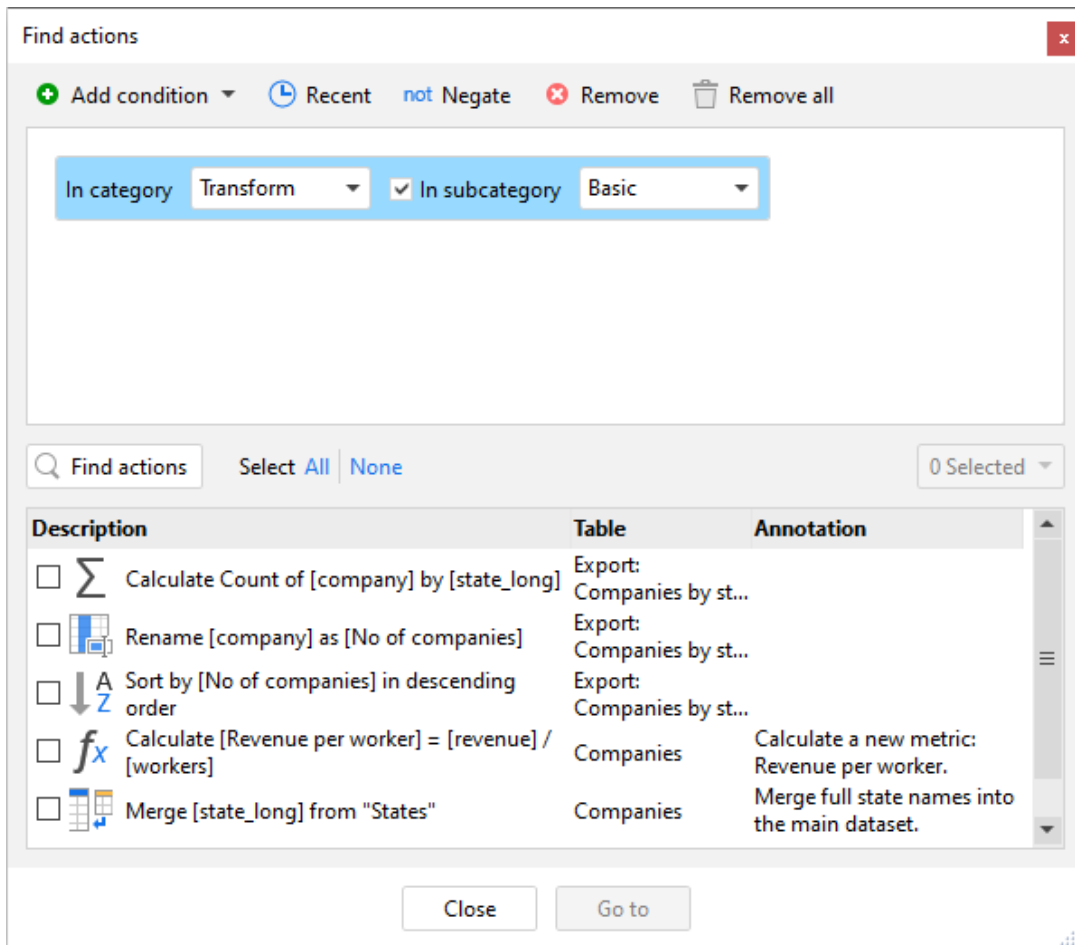
What's new in Desktop/Launcher

New "Find actions" dialog

The "Find actions" dialog has been entirely redesigned. Now it's become effectively a query tool for find actions. The new dialog allows applying one or multiple filtering conditions at once to find actions. The conditions are:

- Creates or uses a column…
- Uses parameter…
- Uses connector…
- Is disabled
- Is a filter
- Has been created or modified since project opening

- Annotation contains…
- Is in category/subcategory…
- Runs longer than…
- Calls or iterates another project or module

Conditions can be combined and even negated. The logical AND is applied between multiple conditions. It's also possible to re-apply a recent combination of filtering condition by picking them from a list.

Screenshot 1: New dialog "Find actions".

Commands in Launcher tasks

Tasks in EasyMorph Launcher now can be hyperlinked using *commands*. The commands in Launcher tasks are simpler than commands in Catalog items, yet still very functional. They don't require EasyMorph Server and are suitable for individual use. The idea of commands in Launcher tasks is similar to those of Data Catalog items – it simplifies browsing and retrieving data as well as business automation (e.g. system administration). A task command can trigger another Launcher task and assign that task's parameters with cell values from the retrieved dataset or parameters of the current task. You can use task commands for:
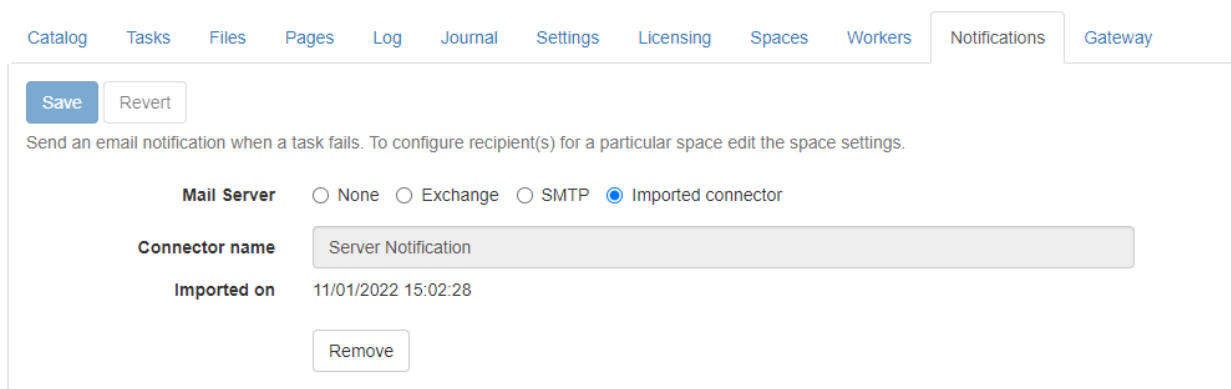
- Retrieving related data (e.g. retrieve a list of products for a particular order in a list of orders)
- Building internal applications
- Creating a simple user interface for a web API

The Launcher commands are explained in detail in the new tutorial article "Launcher: business automation".

What's new in Server

Imported connector for email notifications

In the tab "Notifications" it's now possible to import an email connector from a space's repository (see the screenshot below). The addition allows using email connectors with OAuth authentication, e.g. Exchange Online.

Screenshot 2: Import connector.

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A few words from the creators of EasyMorph

In version 5.3, the Data Catalog has become *actionable* and hyperlinked. Now, catalog items can have *commands* that retrieve other catalog items or run workflows that perform external actions or add/modify/delete data. The commands can be parameterized[1] with dataset values, invoked from individual cells and columns, or be general to a dataset. A few examples of what can be done with commands:

- In a list of orders, right-click an order ID to open a new dataset that lists the products in this order
- In the list of products, right-click a product description to open a web-browser and perform a Google search (or translation) of that description
- Alternatively, right-click a product description to retrieve and open the PDF document with the product's technical specifications
- In the list of products, right-click a product to open a new dataset that lists all the customers that purchased that product
- In the list of customers, select a few customers, and right-click the title of the column that contains customer names to send a promotional offer by email to the selected customers
- In the list of customers, right-click the customer address to enter a new address manually
- Execute a general command to enter customer details manually and add a new customer

As you can see from the examples, not only allow the commands retrieving related data, but also adding, editing, and deleting data records or performing external operations, such as email sendouts.

The addition of commands dramatically expands the range of problems that can be addressed and solved with EasyMorph. With the actionable Data Catalog you can automate business processes that span across multiple systems, rapidly design applications for internal use, manage reference lists and master data, and create user interfaces for web APIs and systems that don't have a user interface.

To explore the new capabilities, enable the Catalog in your Server settings or book a demo by contacting sales@easymorph.com.

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[1] You can think of an item command as of a single iteration (or call) invoked manually for a particular row in a dataset.
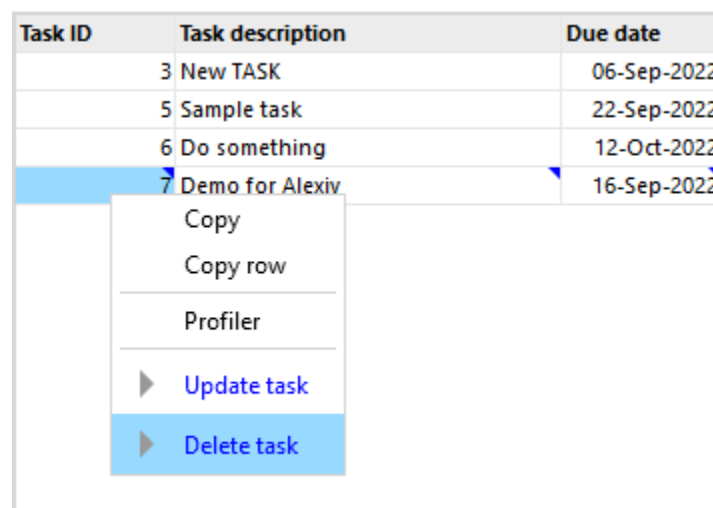
What's new

Commands for Data Catalog items

Computed datasets now can have commands of 3 types:

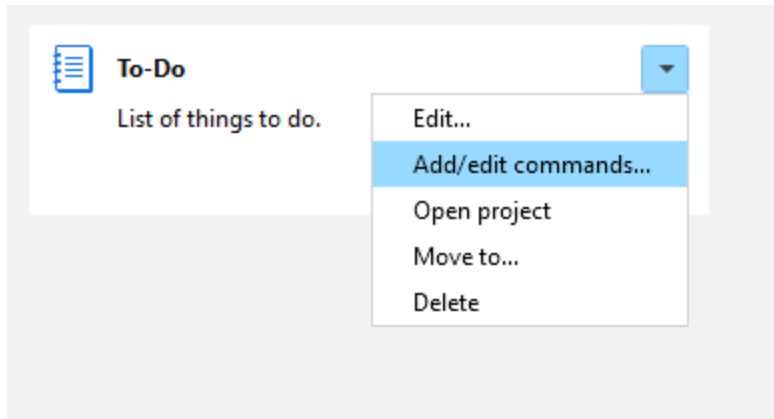- Row commands
- Column commands
- General commands

Each command can retrieve a computed item (such as a dataset, a file, or a web page) or trigger a workflow item. Commands can also trigger workflows in modules of the current item. Each command can be parameterized with dataset values, parameters of the current item, or simply text constants. Users can learn about the availability of commands by seeing a blue corner in cells and column headers (see screenshot below). A command can be configured to re-retrieve the current dataset (e.g., after a dataset row was updated or a new row was added).

Screenshot 3: Commands in a list of tasks in a sample "To-Do list".

Item commands can be configured from the item settings menu (see below).

The item commands are currently only available in EasyMorph Desktop.

Updated connectors

The ODBC connector now allows specifying authentication with only a username or using the credentials from the ODBC driver.

New actions

The **Modify JSON** action performs various operations with JSON:

- Replace node value
- Add node
- Delete node
- Rename node
- Format JSON

The **Extract JSON properties** action creates new columns with values of JSON properties defined by specified JSON paths.

The **Split JSON array into rows** action splits a JSON array and puts its elements into new rows. Values in all other columns are repeated.

The **Play sound** action plays asynchronously a system sound or an arbitrary a .wav file. It can be used, for instance, to signal about milestones when running workflows in Desktop or Launcher.
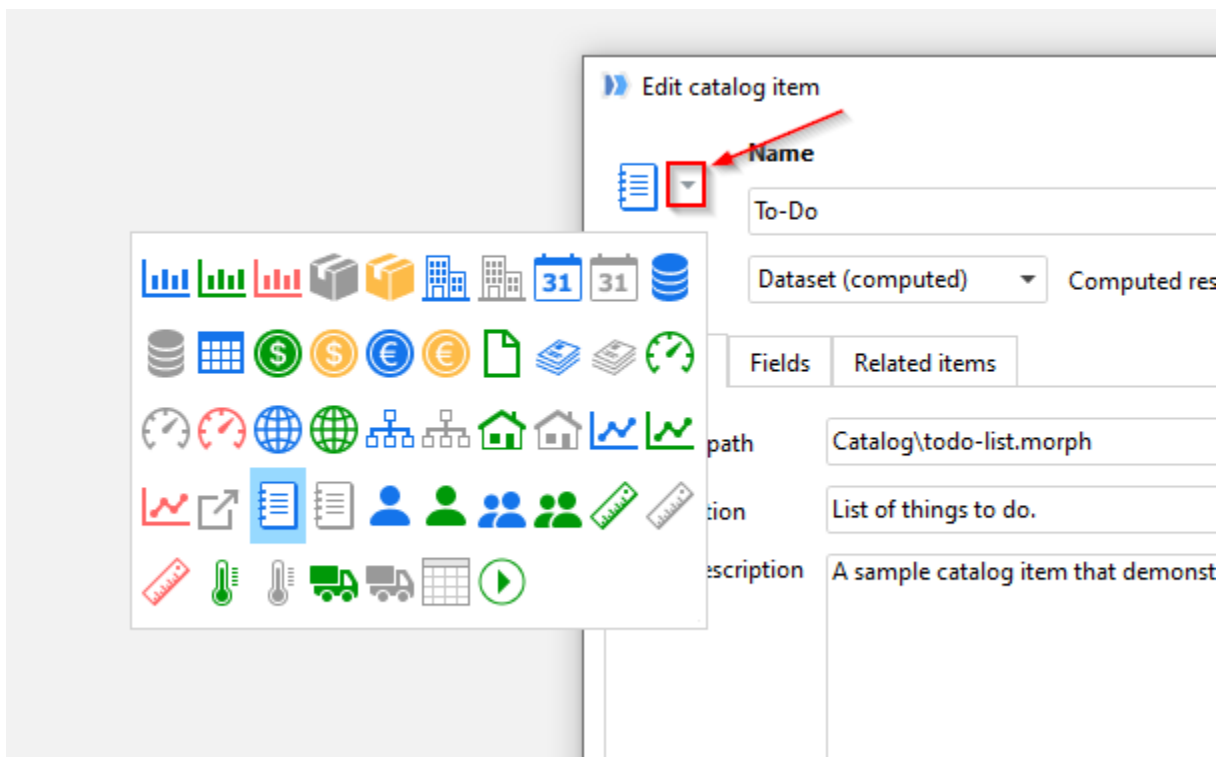
Updated actions

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

- List tables – returns a list of database tables
- List table fields – returns a list of fields in a database table, including field data types and annotations

The **Bulk export to database** action now works with the native Snowflake connector (previously, it required the Snowflake ODBC driver).

New icons for Catalog items

The new version has a new pack of icons for Catalog items. Catalog items are now more customizable, and their icons can reflect or hint at the item contents (customers, orders, transactions, devices, metrics, etc.). Note that the item icon can be changed in the item settings.

Screenshot 5: New item icons.

Miscellaneous

- Native database connectors for Snowflake, MySQL, SQLite, and Oracle have been updated to the most recent versions.
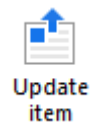
What's new in Desktop

Re-retrieving Catalog datasets

It is now possible to re-retrieve a Catalog dataset when it's retrieved by pressing the "Re-retrieve" button on the toolbar in the "Datasets" menu. Item parameters will be prompted for.

Updating Catalog items

When a dataset item from the Catalog is open, it's now possible to update its configuration right from the "Datasets" menu. It also makes adding field names in the item configuration easier as field names are automatically populated from the currently open dataset.

Auto-detecting SSL in Server Link

EasyMorph Desktop now automatically upgrades HTTP to HTTPS in Server Link if SSL is configured in EasyMorph Server. This simplifies switching to using SSL encryption in EasyMorph Server because Desktops now don't require changing Server Link settings. It works automatically.
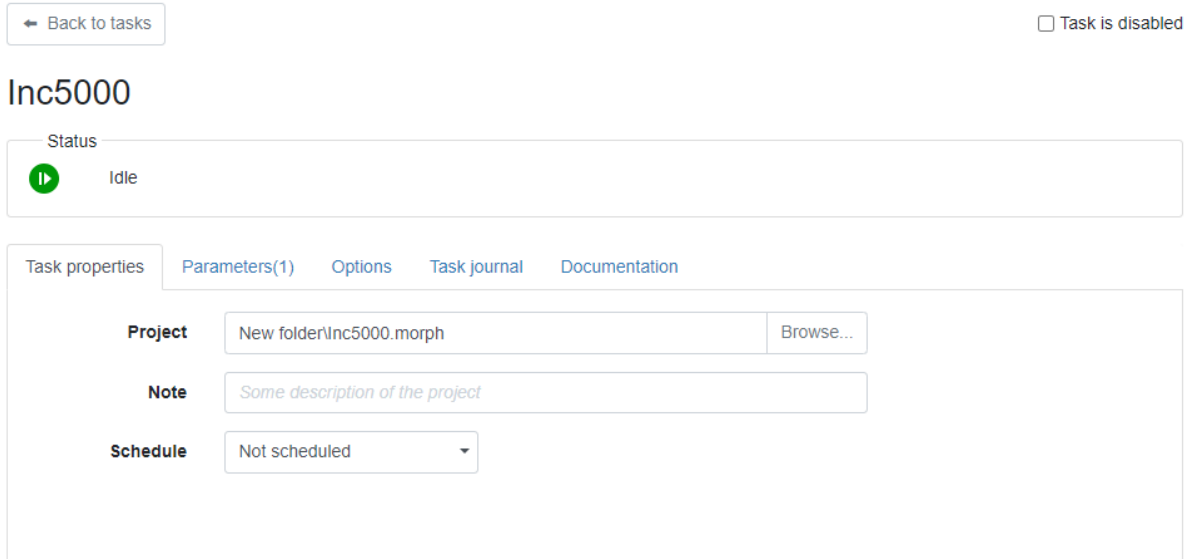
Miscellaneous

- Workflows that don't use connectors can now be executed even when the connector repository is not accessible (previously, if connectors weren't available, any workflow would fail regardless of whether it needs connectors or not).
- Actions of a table can now be disabled or enabled all at once from the table right-click menu
- The "Math" category in the "Transform" tab of the action catalog (in the sidebar) has been removed and replaced with the "Web" category containing actions for dealing with web API and JSON/XML data. The actions from the "Math" category have been moved to the "Advanced" category.
- The "Datasets" menu now has the "Execute command" button to trigger general commands of the current item (if they are defined in item settings).
- The sidebar of the Catalog's start screen no longer contains items that have been used.
- It's now possible to open a project right from the right-click menu of a calculated Catalog item.

What's new in Server

Triggering tasks from the task settings page

It's now possible to trigger tasks right from task settings page.

New file types are supported in the Pages tab

Starting from this version, the Pages tab can display files that have other formats than HTML:

- PDF
- CSV, TXT
- JSON
- XML
- PNG, JPEG, JPG, BMP
- SVG

The new file formats make it possible to view task outputs if the outputs have one of the formats above.

Miscellaneous

- Rendering of tabs Tasks and Pages is now much faster
- Improved look & feel of some pages

Previous release notes

Link: Release notes for v5.2.1