



# Workflow Engine

User Manual

The instructions in this manual are for informational purposes only and are subject to change. Protonic Software GmbH assumes no liability. The software described in this manual requires a license.

The individual functions are described using screenshots. Depending on your easyjob license, operating system or Office version, the functions and screenshots you have in your environment may differ from this manual or may only be available in later versions.

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Introduction .....	5
Important notice .....	6
Main Office .....	6
Support .....	6
Training .....	6
About this manual .....	6
How to use this manual .....	7
Additional documentation .....	9
Workflow Engine .....	10
Installation and activation .....	12
Standard e-mail settings .....	13
Enabling push notifications for workflows .....	13
Creating a connection with SSL .....	14
Control the workflow via the WebApi interface .....	14
User settings .....	15
Workflow licensing .....	16
Shortcuts .....	18
Workflow type .....	19
Automatic .....	19
Manual .....	19
Validation .....	21
Trigger Event .....	21
Workflow definition .....	22
Workflow Instance .....	22
Trigger Mode .....	22
Workflow Manager .....	23
Log View .....	23
Workflow in Navigator and in easyjob Today .....	24
Workflow Notifications .....	24
Push Notifications ⓘ .....	25
Workflow in easyjob processes .....	26
Workflow when booking, loading or unloading an item .....	26
Project/Job .....	27
Purchase Order .....	28
Purchase invoice .....	28
Invoicing - Invoice .....	29
Workflow Definitions .....	30
Importing a Workflow .....	31

## Workflow Engine - Table of contents

Workflow Designer.....	32
Modules.....	33
Variables for text modules .....	43
Workflow glossary .....	44
Sample Workflow with Parameter Query (Dialog) .....	45
Standard Workflows.....	48
Job Workflow: Receive authorization to print a proposed job.....	48
Purchase Order Workflow: Requesting authorization from a superior to change a Purchase Order .....	49
Purchase Invoice Line Item Authorization Workflow.....	50

# INTRODUCTION

Information about the structure and content of this document can be found here.



## Important notice

This manual will help you get started with the easyjob 6 rental software Workflow Engine module.

The development of the easyjob rental software as well as the documentation has been done with great care. The individual program functions are constantly checked through our Quality Assurance Process. However, errors can still occur.

## Main Office

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<http://www.protonic-software.com>

## Support

You can find more information about the support options on-line at <http://www.protonic-software.com/en/easyjob/corporate/support/>.

In addition, there is a support forum where you can exchange information with other users. The support forum can be found at <http://forum.protonic-software.com>

## Training

We offer customized training programs for the following extensive topics.

To learn more, please visit our website at

<http://www.protonic-software.com/en/service/training/> or contact our sales office at [sales@protonic-software.com](mailto:sales@protonic-software.com).

## About this manual

The individual functions are described using screenshots of easyjob license 6. Depending on your easyjob license, the forms you have in your environment may differ from the screenshots shown in the manual.

## How to use this manual

This document uses the following standards




### Functions that require a license

Individual program functions are made available in your easyjob environment based on your license. This may concern individual program functions or entire modules.

Functions that are only available in individual modules are marked with minimum-edition symbols **S**, **M**, **L** or **XL**. Some functions are limited in easyjob S. There is no indication of this. You can find the limitations in the version comparison matrix on our website.

Functions that are only available by subscription are marked with the symbol .

For example:

<b>L</b>	The function is only available in easyjob L and easyjob XL
<b>L</b> 	The function is only available in easyjob L and XL with a current subscription.

### easyjob-specific terms

In order to make a description better understood, in some cases easyjob-specific terms are **highlighted** with a color.

For example: with the **Project** and **Job** Groups, you also have the possibility to select a **Template**.

### Work steps, buttons, actions and menu paths

Individual work steps, actions, menu paths or clicks are separated from each other or initiated by the symbol "↪•".

Buttons, menus, tabs, etc. used in context are **highlighted** in color.

Example 1: Check the box in the **Activating the List Editor** field.

Example 2: easyjob Menu ↪• **View** ↪• **Monthly Overview**

Example 3: ↪• **Help**

Example 4: ↪• **Ok**

### Reference to other chapters

References to other chapters and sections are marked with a manual icon and displayed in color.

Example: See section  **Important information**.

## Important information

Important information is highlighted in orange and presented with a light bulb.











Example:



This information is important. This information is important. This information is important. This information is important. This information is important. This information is important. This information is important. This information is important. This information is important. This information is important. This information is important. This information is important.

## Special keys

Special keys are represented with the following symbols:

Special key	Explanation
	Windows key
	Tabulator key
	Arrow keys
	Return key
	Context Menu key
	Escape key
	Function key 1
 + A	Control key. Keep the control key pressed down and press the A button.
 + H	Alt key. Keep the Alt key pressed down and also press the H button
	Delete key

## Phrasing

In this manual and in the easyjob examples, terms such as employee, assistant, technician or carpenter are used both for men and for women.



## Screenshot explanations

The screenshots will be explained using numbers ① ② ③ and arrows → marked.

Screenshot highlights will be marked with orange frames.

Nummer	Bezeichnung	Name1	Art	Rechnungsdatum	Netto	Brutto	Umrechnungskurs	ISO Code
12-0009	EM-Live Übertragung	XY Event Productions	Rechnung	05.09.2016	13.854,92 €	16.487,35 €	1,000000	EUR
12-0005	Vermietung Projektor XL	XY Event Productions	Rechnung	30.08.2016	2.500,00 €	2.975,00 €	1,000000	EUR
12-0003	EM Live Übertragung	XY Event Productions	Rechnung	05.09.2016	72.726,67 €	86.491,51 €	1,000000	EUR
12-0001	Vermietung Projektor XL	XY Event Productions	Rechnung	30.08.2016	2.500,00 €	2.975,00 €	1,000000	EUR
10-0003	Beispieljob	XY Event Productions	Rechnung	21.07.2016	41.650,00 €	41.650,00 €	1,000000	EUR
12-0013	Abverkauf Podeste	UEFA Events SA	Rechnung	05.09.2016	3.200,00 €	3.200,00 €	1,000000	EUR
10-0001	Beispieljob005	Messe Frankfurt	Rechnung	21.07.2016	17,46 €	17,46 €	1,000000	EUR
02-0001	Beispielprojekt	MaxBeispielkunde	Rechnung	23.07.2016	492,00 €	570,72 €	1,000000	EUR
12-0004	Talkshow Festinstallation	Hotel Berlin Hof GmbH	Gutschrift	05.09.2016	-22.999,03 €	-27.368,85 €	1,000000	EUR
16-0003			Rechnung	19.09.2016	0,00 €	0,00 €	1,000000	EUR
10-0005	Beispielprojekt 02		Rechnung	21.07.2016	1.649,18 €	1.962,52 €	1,000000	EUR
<b>Summen</b>	Anzahl	12	Netto	115.590,20 €	Brutto	128.959,71 €		

## Additional documentation

In order to make it easier to become acquainted with and consult the easyjob documentation, we have divided it into multiple sections.

You can find an overview of all documentation on the following website.

<https://help.protonic-software.com/en/documentation>

# WORKFLOW ENGINE

With the easyjob Workflow Engine Module, you can reach a fully new level with your work processes. Create your own Workflows and you will become more efficient than ever.

## Workflow Engine

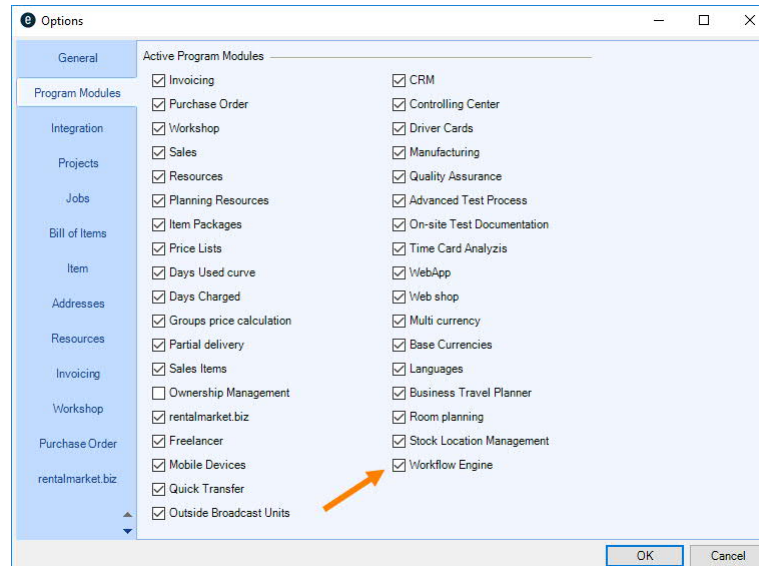
With the easyjob Workflow Engine module, you can optimally connect your own work processes with easyjob by customizing or creating Workflows. By integrating Workflows, you can standardize your worksteps from different areas and create a new world of process optimization for yourself, your employees, and your customers.

## Installation and activation

Go to the easyjob program settings to activate the easyjob Workflow Engine module. A separate installation is not required.

### Activating the Workflow Engine module

1. easyjob Menu ➡ Extras ➡ Options
2. ➡ Functions tab
3. Select **Workflow Engine**



4. ➡ Ok

easyjob must be restarted to activate the settings.



Please note that after activating the Workflow Engine module, the authorization process in the Purchase Invoice will no longer be available and can be replaced, if needed, by a Workflow. A corresponding warning message will be displayed prior to activation.

## Standard e-mail settings

### Adjusting e-mail settings

1. easyjob Menu ➡ Tools ➡ Settings
2. ➡ Integration tab
3. Fill out the fields according to the selected e-mail account

4. ➡ Perform a test and OK wait (a test e-mail is sent)
5. If failed is displayed, adapt the settings or encryption ➡ Test
6. ➡ Ok

easyjob must be restarted to activate the settings.

## Enabling push notifications for workflows

### Enabling push notifications

1. easyjob Menu ➡ Tools ➡ Settings
2. ➡ WebApp tab
3. Check Enable Push Notifications

4. ➡ Ok

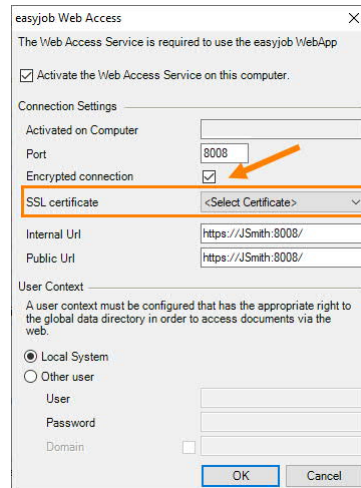
easyjob must be restarted to activate the settings.

## Creating a connection with SSL

A secure connection can be established with SSL in the WebApi service in the Server Manager

### Enabling an encrypted connection in the Server Manager

1. Start the easyjob Server Manager.
2. ➡• easyjob Web Access
3. ➡• [Configure the service](#)



4. ➡• Check [Encrypted connection](#)
5. ➡• Select SSL certificate
6. ➡• [Ok](#)

A certificate must first be installed in the computer. This can be done or checked using the IIS Manager of the Management Console (MMC). What is important is that it is in the computer. The certificate must be issued for the domain and must contain the URL.

## Control the workflow via the WebApi interface

There are customized endpoints in the WebApi with which an existing easyjob Workflow (e.g. manual job) can be started by means of an http request. (e.g. print delivery note, etc.). The data is transferred in JSON format of GET and POST instructions. Additional Information can be found in [WebApi](#).

POST /api.json/workflow/start

```
{  
  IdWorkflowDefinition: 15,  
  IdObject: 35194,  
  IdTable: 4  
}
```

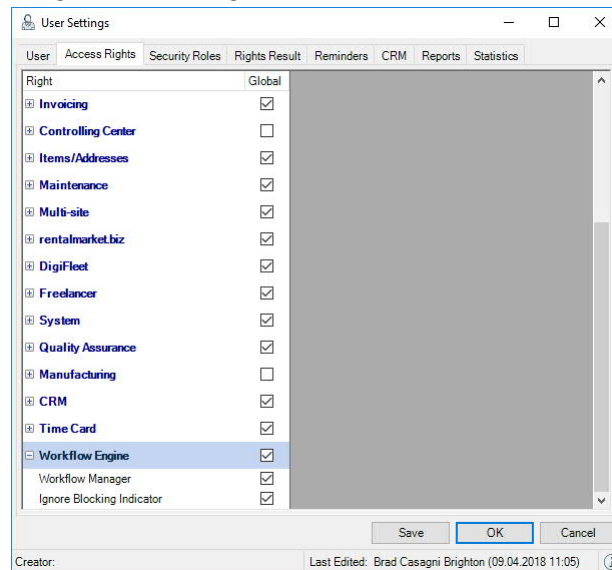
GET /api.json/workflow/list2object/?ido=35194&idt=4(&idwd=15)

## User settings

The right to use the Workflow Engine is defined in the user settings.

Assigning the user right:

1. easyjob Menu ➞ [Extras](#) ➞ [User Rights Management](#)
2. ➞ [Select a user](#)
3. ➞ [Edit](#)
4. ➞ [Rights](#) tab
5. ➞ [Workflow Engine](#)
6. Assign the desired rights



7. ➞ [Save](#)
8. ➞ [Ok](#)

As soon as you have enabled the Workflow Engine module, you can trigger the Workflows assigned to processes and view the triggered Workflows as well as your open Workflow authorizations in the Navigator and easyjob Today. You need the Workflow Engine right if you want to create and manage workflows.

## Workflow Administrator

As the Workflow Administrator you can access the [Workflow Manager](#), the [Workflow Definitions](#) and therefore the [Workflow Designer](#). You can see all open Workflow authorizations in the Navigator und in easyjob Today.

## Ignoring Blocking indicators

Due to the Workflow, it is possible to block processes via Blocking Indicators (e.g. Allow printing or Permit status changes). With the [Ignore Blocking Indicator](#) right, you can bypass the block also if the condition is not fulfilled on the workflow side.

## Workflow licensing

The functionality of the easyjob Workflow Engine module differs depending on the type of license. Without a license, you can edit parameters of existing Workflows. Workflows created individually by protonic software can be imported.

A license is required to be able to make full use of the Workflow Designer.


Functionality	Without a license	Workflow Engine	Workflow Engine Advanced
Executing Workflows (Standard Workflows or individually designed by protonic software)	X	X	X
Importing Workflows individually designed by protonic software	X	X	X
<b>Workflow Designer functionality</b>			
Customizing parameters in Workflows	X	X	X
Creating and designing existing Workflows		X	X
Basic actions (conditions, operators, ...)		X	X
Email and Message Action		X	X
Authorization and Blocking Indicator Action		X	X
Create CRM Activity Action		X	X
Create Job Costs Action		X	X
Book Resources Action			X
...Action Add Item			X
Set Job Date Action			X
...Multiple Condition Action			X
...Create Group Action			X
Add Item Package			X
Parameter Query (Dialog)			X




### **Individual Workflows**

Independently of your Workflow license, we offer the possibility to create individual Workflows according to your specifications or adapt customer-specific Actions to already existing Workflows. For more information, please contact our [Support](#).

## Shortcuts

Various shortcut functions are available to you in the  [Workflow Designer](#) to create and edit a Workflow.

Shortcut	Explanation
	Delete selected Action
 + C	Copy (when exactly one Action is selected)
 + V	Paste
 + plus	Zoom in
 + minus	Zoom out
 + A	Mark everything except Start, to move it
 + Pos1	Zoom
 + Mousewheel	Zoom 100%
 + Z	Undo <ul style="list-style-type: none"> <li>- Add/delete a connection</li> <li>- Add/delete an action</li> <li>- Changing parameters</li> </ul>
Right mouse button + move mouse	Scroll

## Workflow type

The type of Workflow is defined by an automatic, manual or Validation Action, which causes the Workflow to start. The respective Trigger Event for the actual Workflow is listed in the [Trigger Event](#).

### Automatic

Workflows can be triggered automatically (e.g. when creating a Project or a Job, when changing the Project or the Job Status, when creating, changing, saving or finalizing Purchase Invoices, Purchase Orders or Invoices or when checking a Job in or out).

### Manual

A manual Workflow must be actively triggered by the user by means of a mouse click. In the Project, Job, Cost Planner, Purchase Order, Purchase Invoice areas, the Workflow symbol is displayed next to the Log View when the Workflow is active. By clicking it, the active Workflows that are available and that can be started by clicking on them are displayed

The screenshot shows a software window titled '18-0002 Festival'. It has a menu bar with options like 'Main Data', 'Overview', 'Addresses', etc. The 'Festival' tab is active. On the left, there's a 'Main Data' section with fields for Job Name, Job Number, Reference Number, Manager, Status, Site, Return Site, Company, and Delivery type. On the right, there's a 'Delivery Address/Venue' section with a list of addresses and a 'Service' section with radio buttons for 'Customer Pick-up', 'Resources only', 'Deliver Items', and 'Full-Service'. At the bottom, there's a status bar with 'Creator: Brad Casagni Brighton (07.04.2018 10:14)' and 'Last Edited: Brad Casagni Brighton (07.04.2018 10:23)'. An orange arrow points to a green circular icon with a white 'G' in the bottom right corner.

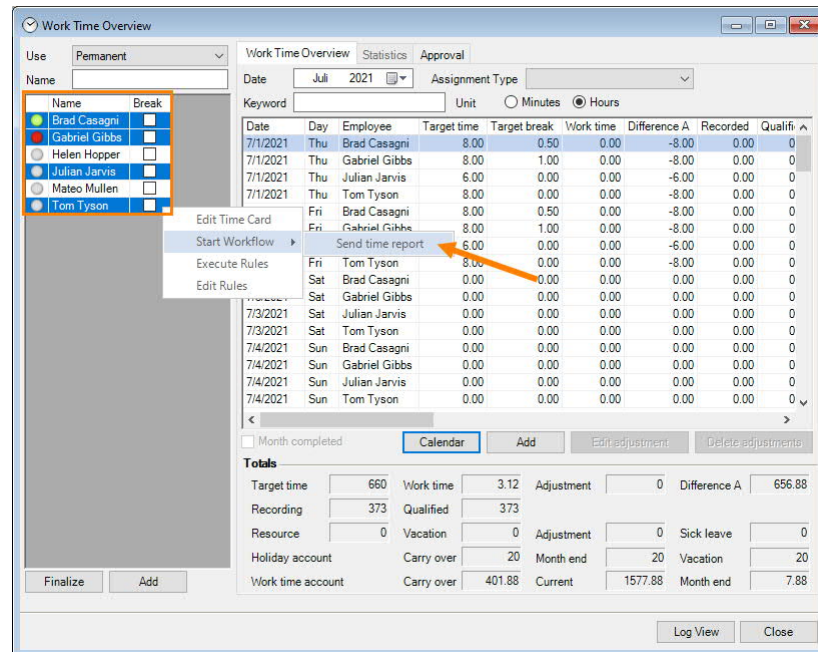
### General Workflow

The General type of manual Workflow is not assigned to a certain object and therefore can be used, for example, to send a report or a statistic always on day X every week/month. It is started manually in the Workflow Manager.

The screenshot shows a 'Workflow Manager' window. It has a top section with filters for 'Period' (8/7/2021 to 8/14/2021), 'Priority', and 'Process' (20-0014 Big Festival). Below this is a table with columns: Trigger Event, Workflow, Process Type, Process Number, Process, Status, Status information, Triggered by, Triggered on, and Last Run. The table contains one row: 'Project-Print-Validation', 'Validierung', 'Project', '20-0014', 'Big Festival', 'Finalized', 'CC', '8/14/2021 3:53 PM', and '8/14/2021 3:53 PM'. At the bottom, there are buttons for 'Approve', 'Cancel', 'Delete', and 'Close'. An orange arrow points to a green circular icon with a white 'G' in the top right corner.

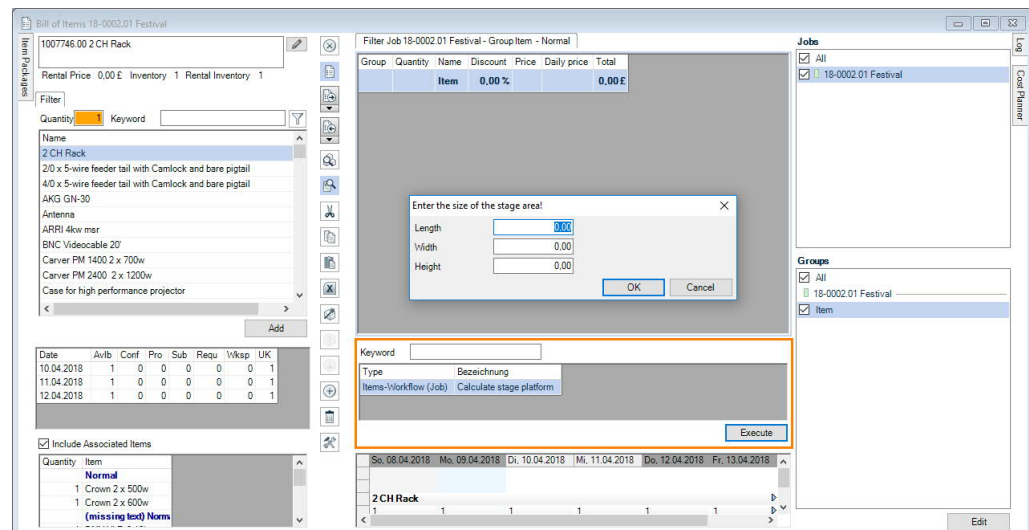
## Workflow Time Recording

Workflows can be created for the Time Recording module that are started in the Work Time Overview. The selected Workflows can be started for one or more users at the same time.



## Items-Workflow

Items Workflows (Job or Group) can also be triggered manually and are used within a Bill of Items to directly control or add to the Items for an entire Job or the Item in a Group.



Here, it is possible to create query dialogues (e.g. the size of the stage) and then automatically book the corresponding item (stage elements that fill up exactly this size) in a certain Group.

There is an extra part for Items Workflows in the Bill of Items. All workflows that involve the booking, loading or unloading of an item are displayed there as an **Items Workflow (item position)** and can be manually executed from here.

## Validation

When creating Leads, Addresses, Contacts, Items, when an attempt is made to save the entry, a form validation Workflow is triggered. This can prevent an address from being saved if, for example, the zip code, telephone number or other mandatory entry is missing. Likewise, if a user attempts to print a Purchase Order, Project, Job or Invoice, the Validation Workflow can be activated if you want to link a certain condition in order to print a Job.


## Trigger Event

Overview Table

Workflow Type	Trigger Event	Object
<b>Automatic</b>	Create	Project, Job, Purchase Order, Purchase Invoice, Resource Assignment, Workshop
	Book, Loading, Unloading	Item
	Save	Purchase Order, Purchase Invoice, Invoice, Resource Booking, Resource Status (vacation, sick leave, etc.) Resource Assignment Status, Workshop
	Change	Project status, Job status, Purchase Order status
	Finalize	Purchase Invoice, Partial Delivery, Transport Order, Monthly Time Recording
	Check-out, check-in	Job
<b>Manually</b>		General Project/Job Invoice Purchase Order Purchase Invoice (Line Item, Assignment) Items-Workflow (Job - Group) Items-Workflow (Job position) Workshop Activities Time card
<b>Validation</b>	Form	Lead, Address, Contact, Item, Monthly Time Recording
	Printing	Project, Job, Invoice, Purchase Order

\*Also automatically as a Global Items Workflow or per item

## Workflow definition

A Workflow defines how the Workflow should take place All Actions, Variables, Queries, Calculation Operations, Blocking Indicators, etc. are packetized in  [Workflow Designer](#).

## Workflow Instance

As soon as a Workflow is started, the Workflow is filled with data (its variables, queries, etc) and the Workflow executes a so-called **Instance**, by completing Actions according to the specific Workflow Definition. All the relative information needed for execution is saved in the individual Instance.

## Trigger Mode

With Trigger Mode, you can define how the Workflow Instance should be executed.

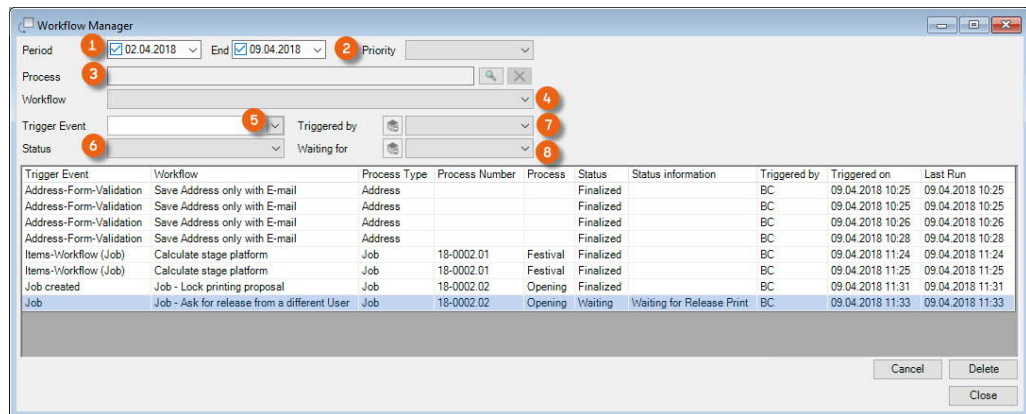
Trigger Mode	Description
One-time	The Workflow runs only one time, then never again. Even if the Trigger Event (e.g. saving a Project) takes place again
Multiple Instance	The Workflow is started again as soon as the Trigger Event (e.g. saving a Project) takes place again
One Active Instance	The Workflow always waits first for a certain action before it runs a second time

With the **Client Site** Trigger Mode, you can start an Action directly on the user client (Parameter Dialog). Here, the Workflow runs in the foreground (on the Client). Workflows with a One-time, Multiple Instance, or One Active Instance Trigger Mode run in the background (on the Server).

A Workflow with one active Instance (e.g. waiting for authorization from another user) can run or wait even multiple days. In the case of an active Workflow with Client Site, the user must first carry out the action specified by the Workflow (e.g. enter a zip code in the Address Field, enter a stage size in the Item Booking) in order to work further in the program.

## Workflow Manager

With the Workflow Manager you can see all Workflows at a single glance. Being able to filter according to the Period ①, Priority (High, Low, Normal) ②, the Process ③ in which the Workflow (e.g. Job: 18-0010.02 Conference) is assigned, the Workflow itself ④, the Trigger Event ⑤ and the Status (Canceled, Finalized, Error, Initialized, Waiting, Running) ⑥ makes searching easier. The Workflows can also be narrowed down according to Triggered by ⑦ or Waiting for ⑧.

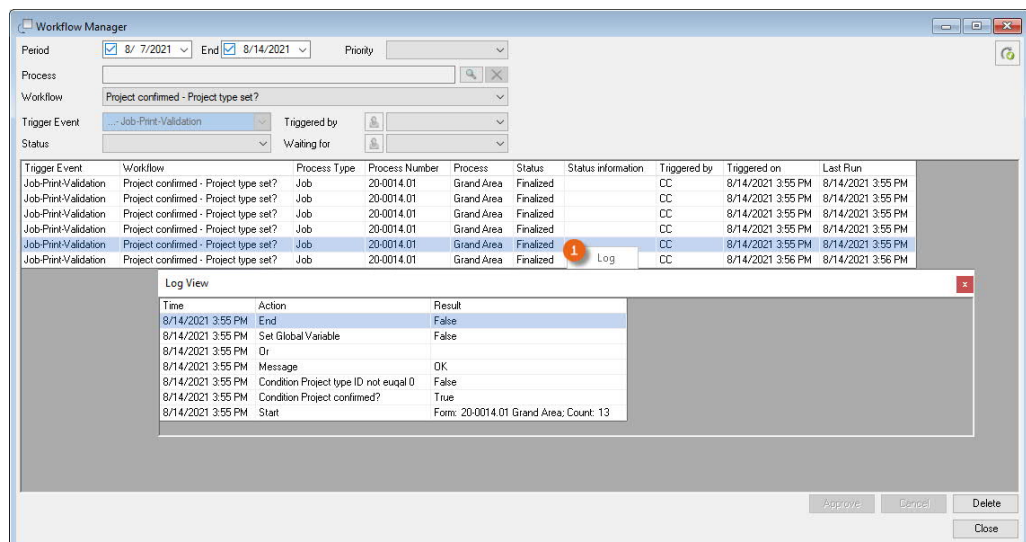


### Opening the Workflow Manager

1. easyjob Menu ➡ • View
2. ➡ • Workflow Manager

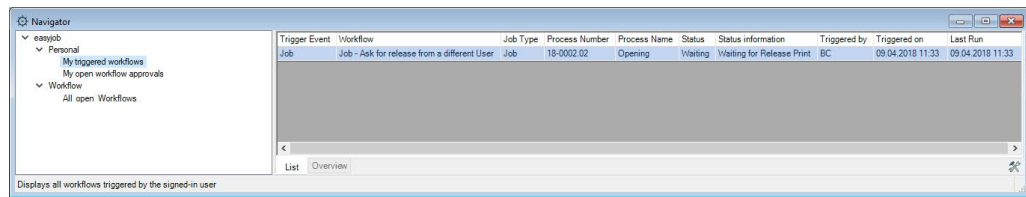
## Log View

In the Workflow Manager and in all easyjob processes in which Workflows take place, there is a detailed log view of the individual log steps on the Workflow tab. Therefore it is possible to track what the Workflow does in which point and is everything if processed as planned. Right-click the process ① and open the log.




## Workflow in Navigator and in easyjob Today

In the Navigator and in easyjob Today, you can display all open Workflow tasks and filter accordingly (e.g. according to priority).



## Workflow Notifications

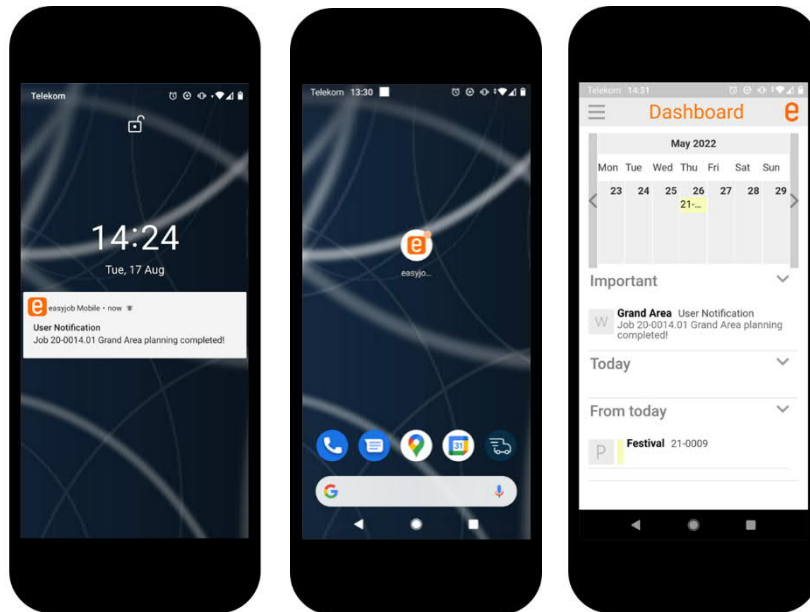
By means of a Workflow, triggered notifications can be displayed in the Navigator/easyjob Today views as a pop-up window (**Client-Side** – **Message** and **Parameter Dialog** trigger mode) or as a message (**server-side** trigger mode– **Message for User** and **Waiting for Release**)

An e-mail can be sent (**Send E-Mail** module) regardless of the trigger mode. The program settings for this must be configured in the **Standard E-Mail Settings**. See also  **Standard e-mail settings**.

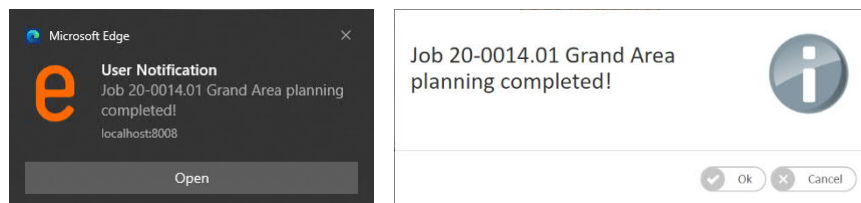


## Push Notifications

Server-side notifications ([Message for User](#) and [Waiting for Release](#) modules) can also be sent as Push notifications. These are displayed in the WebAbb on a mobile end device on the start screen (also when the App is closed).



The message will also be displayed via the browser. The browser must also be started (active) for this, e.g. the notification will be displayed after the Browser is started.



It can be opened and edited by double clicking it. This is helpful, for example, when a user should be made aware of a certain process (e.g. release of a time-critical order).

To be able to use push notifications, the settings must be adjusted in the easyjob Program settings and in the easyjob Server Manager settings. More information can be found in [Enabling push notifications for workflows](#) and [Creating a connection with SSL](#).



This function is only available with an active easyjob subscription. The push notification service is hosted and maintained by protonic software.

Information about the subscription can be found at

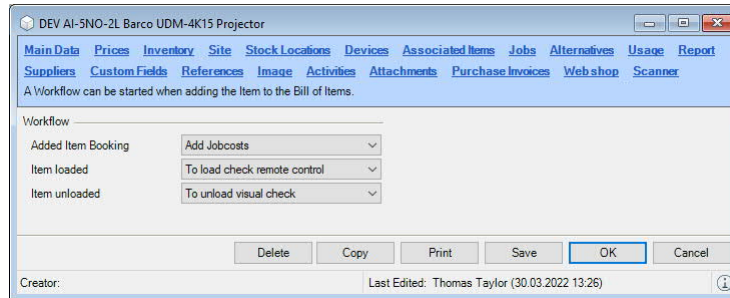
<https://www.protonic-software.com/en/shop/subscription-faq.psx>

## Workflow in easyjob processes

In all easyjob processes where Workflows are used, the Workflows are listed on a separate Tab.

### Workflow when booking, loading or unloading an item

In the Item Master Data, you can assign a Workflow created previously with the **Items Workflow** (item position) trigger mode to one or more items. In addition, you can decide when booking (Added Item Booking), if the Item Loading or Unloading workflow should be triggered. The Workflow is triggered each time this item is booked, loaded or unloaded in the Bill of Items. This can be used, for example, if Job Costs or Resources should always be automatically booked when the item is booked or when a quality assurance query should be carried out when unloading.



### Adding Workflows to an Item

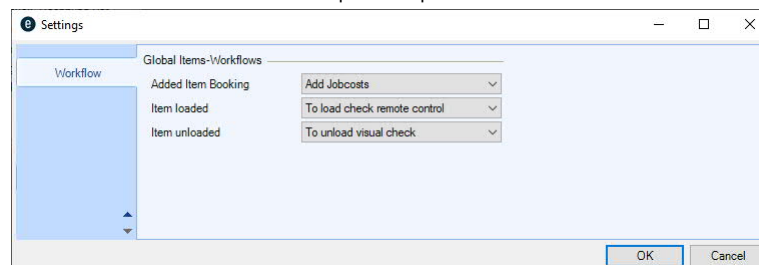
1. Easyjob Menu ➞ Master Data ➞ Items
2. ➞ Select the Item ➞ Ok
3. ➞ Workflow tab
4. ➞ Select Workflow
5. ➞ Ok

### Global Material Workflows

The workflows for booking (Added Item Booking), loading or unloading an item can also be defined globally for all items.

### Adding global workflows for all items

1. easyjob Menu ➞ Tools ➞ Settings
2. ➞ Workflow tab
3. Select the workflow for the respective process



4. ➞ Ok

easyjob must be restarted to activate the settings.

## Project/Job

The Workflow tab ① provides detailed information about the Workflow processes in the respective Project/Job. You can display the Workflow for the Project or for individual Jobs ②. The Workflows are listed with various information ③. If there is more relevant information (e.g. for user requests) for a Workflow, this is also listed ④. To receive a better overview, you can filter the list by Blocking Indicators ⑤. If a blocking indicator is active, this is indicated by a special Icon ⑥. By moving the mouse over the Blocking Indicator, its type and the last status from the Workflow are displayed ⑦.

The screenshot shows the '20-0014 Big Festival' project window. The 'Workflow' tab is selected. The workflow list table is as follows:

Trigger Event	Workflow	Status	Status information	Triggered by	Triggered on	Last Run
Job	Message for User	Finalized		CC	8/14/2021 4:07 PM	8/14/2021 4:07 PM
Job-Print-Validation	Project confirmed - Project type set?	Finalized		CC	8/14/2021 3:56 PM	8/14/2021 3:56 PM
Job-Print-Validation	Project confirmed - Project type set?	Finalized		CC	8/14/2021 3:55 PM	8/14/2021 3:55 PM
Job-Print-Validation	Project confirmed - Project type set?	Finalized		CC	8/14/2021 3:55 PM	8/14/2021 3:55 PM
Job	Message for User	Finalized	Message for user	CC	8/14/2021 4:08 PM	8/14/2021 4:08 PM

The event log table below the workflow list is:

Event type	Date	Question	User	Edited on	Answer	Timeout
User Notification	8/12/2021 6:44 PM	Job 20-0014.01 Grand Area planned.	THT	8/12/2021 6:55 PM	OK	8/13/2021 6:44 PM

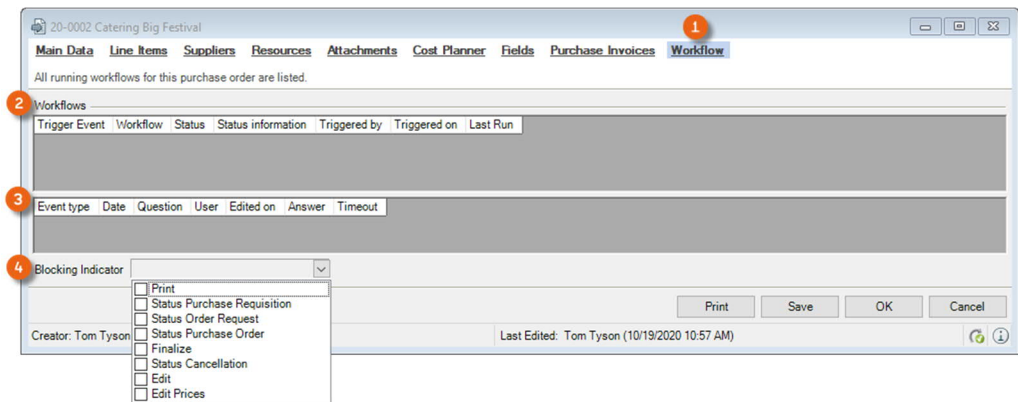
The 'Blocking Indicator' dropdown is open, showing options: Print, Invoice, Load, Check-Out, Status Confirmed (checked), Status Proposed, Status Canceled, Status Tentative, and Invoice Base. The status 'Status Confirmed' is selected. A tooltip for the status icon shows: 'Workflow Status Locked for: Status Confirmed Message for user'.

## Displaying Workflows in a Project/Job

1. easyjob Menu ➞ Projects ➞ Edit Project
2. ➞ Select the Project ➞ Ok
3. Select the Project or Job
4. ➞ Workflow tab

## Purchase Order

The Workflows are listed with a variety of information ② . If there is more relevant information (e.g. for user requests) for a Workflow, this is also listed ③ . To receive a better overview, you can filter the list by the Blocking Indicators ④ .

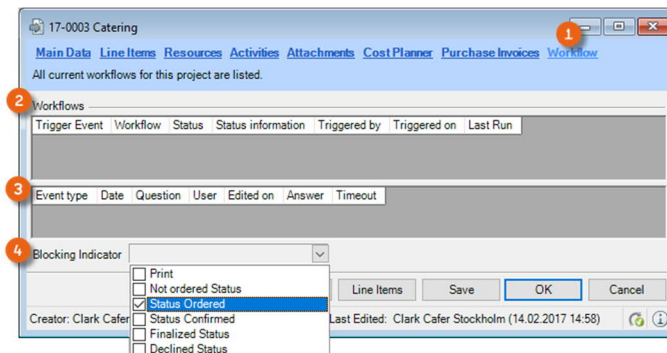


### Displaying Workflows in the Purchase Order

1. easyjob Menu ⇨ • [Purchase Order](#) ⇨ • [Edit Purchase Order](#)
2. ⇨ • [Select Purchase Order](#) ⇨ • [Ok](#)
3. ⇨ • [Workflow](#) tab

## Purchase invoice

Same as [Purchase Order](#).



### Displaying Workflows in the Purchase Invoice

1. easyjob Menu ⇨ • [Controlling](#) ⇨ • [Edit Purchase Invoice](#)
2. ⇨ • [Select Purchase Invoice](#) ⇨ • [Ok](#)
3. ⇨ • [Workflow](#) tab

## Invoicing - Invoice

Same as [Purchase Order](#).

Invoice ABC Product Lounge Part 2 (17-0024)

Main Data

Invoice Number: 17-0024

Date: 25.08.2017

Tax Type: Worldwide

Reminder Status:

Manager: sys admin

Payment Receipt: 0.00 Fr ☐ Paid

Title: ABC Product Lounge Part 2

Address

Salutation: Dear Madam

Name 1: Events Schweiz AG

Name 2: Dieter Nussbaum

Street: Taubenstrasse 12

Zip Code, City: 1240 Genf

Country: Switzerland

Debtor I.D.:

Tax ID:

Workflow

Trigger Event	Workflow	Status	Status information	Triggered by	Triggered on	Last Run
---------------	----------	--------	--------------------	--------------	--------------	----------

Blocking Indicator

☒ Print

☐ Finalize

Print Finalize OK

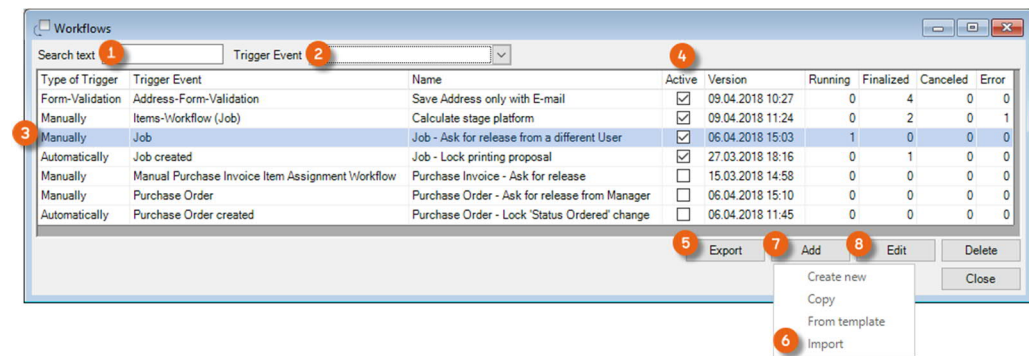
Creator: sys admin (25.08.2017 14:04) Last Edited: Milan Slava Prag (19.01.2018 13:58)

### Displaying Workflows in the Invoice

1. easyjob Menu ➞ [Invoicing](#) ➞ [Edit Invoice](#)
2. ➞ [Select Invoice](#) ➞ [Ok](#)
3. ➞ [Workflow](#) tab

## Workflow Definitions

You can edit the available Workflows in the Master Data. In order to filter existing Workflows, you can use the Search Text Field ①, and/or limit the displayed Workflows according to the [Workflow type](#) (Automatic, Manual, Validation) and the [Trigger Event](#) ② (e.g. Job created, etc.). Double click ③ or click Edit ⑧ to open the Workflow Engine. A sortable column ④ displays if the Workshop is currently active. A Workflow can be exported ⑤ and imported ⑥. You can add Workflows ⑦ by copying an existing one, using a Workflow from a template, or by creating a completely new one.



### Creating a new Workflow

1. easyjob Menu ➞ Master Data ➞ Workflow Definitions
2. ➞ Add ➞ Create new

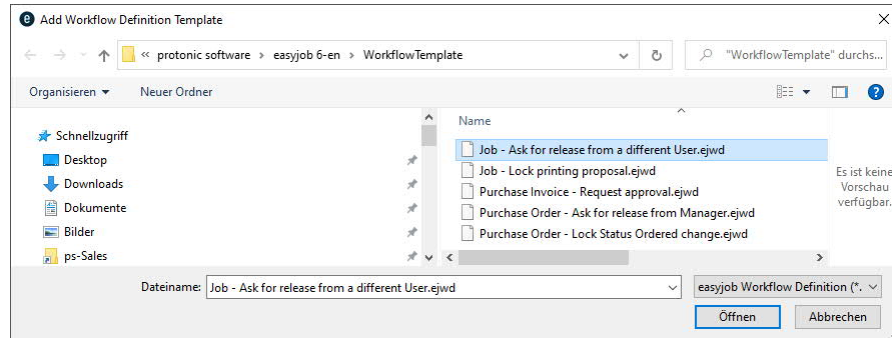
As soon as you edit a Workflow Definition or would like to create a new one, the [Workflow Designer](#) opens.

## Importing a Workflow

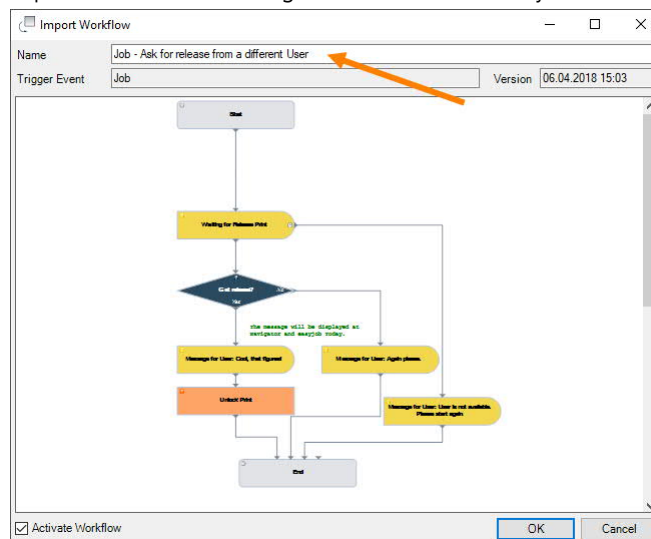
Workflow definitions have the file format .ejwd.

Importing an existing Workflow:

1. easyjob Menu ➡ Master Data ➡ Workflow Definitions
2. ➡ Import
3. ➡ Select Workflow



4. ➡ Open
5. A preview is shown, change the name if necessary



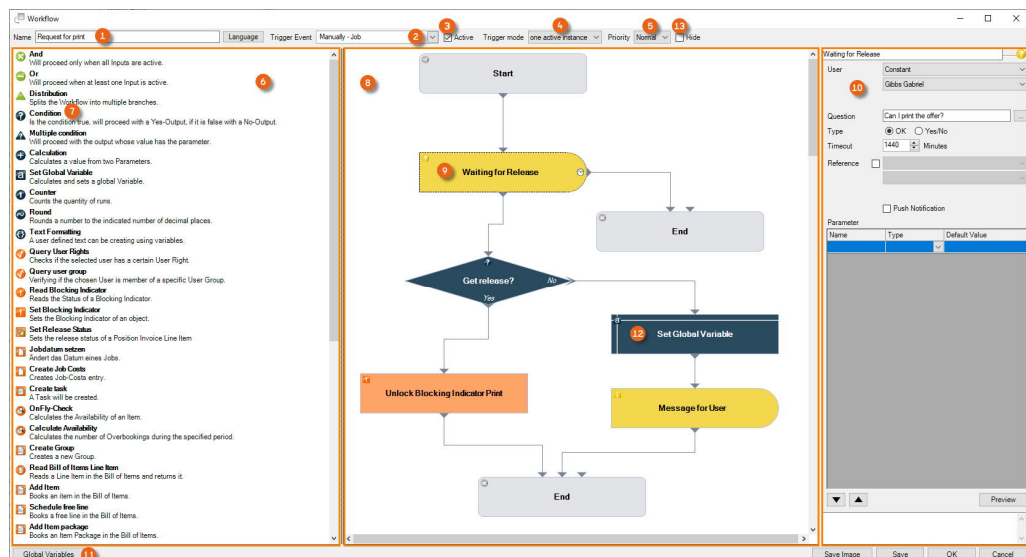
6. ➡ Ok

## Workflow Designer

In order to create a new Workflow in the Workflow Designer, first enter a Name ①. Define the Workflow type ② and the Trigger Event. Check the box ③ to activate the Workflow. Determine the Trigger Mode. If multiple Workflows run in parallel, use the Priority ⑤ option (normal, high or low) to determine which Workflow takes precedence. The left column ⑥ provides a selection of actions (e.g. start, condition, set Blocking Indicator, etc.) that you can include in the respective Workflow type.

You can Drag&Drop the module, e.g. Condition ⑦ to the Design area ⑧. By clicking the respective module ⑨, the right column ⑩ will display the parameters or operations that are available to you for this action. You can rename the modules for a better overview.

You can connect the individual modules together by clicking the gray triangle of the module, keeping the button pressed, and drawing a line to the gray triangle of the next module. To delete the connection, click the gray connection triangle. This will make it turn red and it can then be deleted with **Del**. See also Shortcuts.


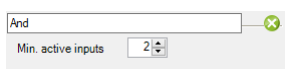
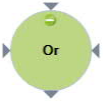


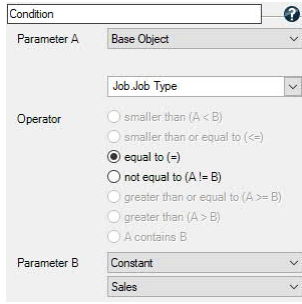


It is also possible for you to create as many Global Variables ⑪ as you want and use them in your Workflows. Programming knowledge is an advantage for this. You can save the Workflow graph as an image ⑫ and reuse it. For nested workflows, they can be hidden ⑬ for direct selection.

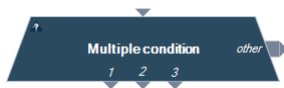


## Modules

Various setting options, parameters or operations for an action are available depending on which module you select in the Designer. After you have dragged & dropped the module to the Design area, click the Action and the setting options will be displayed on the right side.

Action	Parameters/Operator and Variables	Explanation
<b>And</b> 		Two or more inputs must be active for this action for the Workflow to continue. (e.g. if two releases are required for a project)
<b>Or</b> 		With an Or action, the Workflow is continued when at least one input is active.
<b>Distribution</b> 	<p>Note: It is only possible to process actions in the Workflow in a thread. Distribution is only necessary and useful in very specific situations. Normally the modules are run sequentially.</p>	Distribution cannot be used, for example, by multiple users at the same time to request an action (release). The workflow runs further via the thread with the user who reacts first.
<b>Condition</b> 		Parameter A is compared with Parameter B using the Operator. If the result is true, the next step follows after <b>Yes</b>

## Multiple condition\*\*



Multiple condition

Parameter: Base Object

Job.Project.Type

Outputs: 3

Source 1: ☐ < ☐ <= ☒ = ☐ >= ☐ >

Constant

Agency

Source 2: ☐ < ☐ <= ☒ = ☐ >= ☐ >

Constant

Corporate

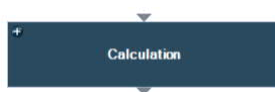
Source 3: ☐ < ☐ <= ☒ = ☐ >= ☐ >

Constant

Exhibition

The parameter is compared with the requirement for the respective output. The Workflow continues running where the result is true. Up to ten outputs are possible.

## Calculation



Calculation

Parameter A: Base Object

Job.Totals.Weight

Operator: ☒ Y = A + B  
☐ Y = A - B  
☐ Y = A \* B  
☐ Y = A / B  
☐ Y = A ^ B  
☐ Y = A module B  
☐ Y = A contains B  
☐ Y = A \* B  
☐ Y = B \* A

Parameter B: Constant

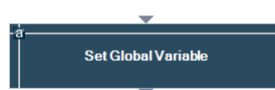
100

Rounding type: ☒ Do not round  
☐ Commercial  
☐ Always round up  
☐ Always round down  
☐ Round up to 0.5

Decimal places: 0

The result of the Operation from Parameter A and B can be used further in the next step. The rounding type and the decimal places can also be set

## Set a Global Variable



Global Variables

Name	Date Type
Result	Boolean
Cancellation Free	Decimal
	String
	Boolean
	Int32
	Int64
	Decimal
	DateTime
	TimeSpan

OK Cancel

Set Global Variable

Global Variable: Cancellation Free

Operator: ☒ Y = A  
☐ Y = Y + A  
☐ Y = Y - A  
☐ Y = Y \* A  
☐ Y = Y / A  
☐ Y = Y ^ A  
☐ Y = Y module B  
☐ Y = Y contains B  
☐ Y = Y \* A  
☐ Y = A \* Y

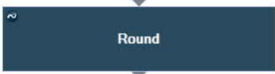
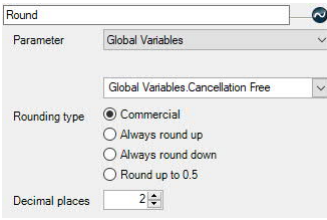

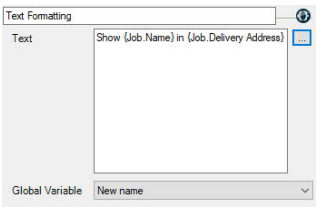

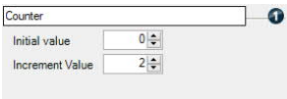

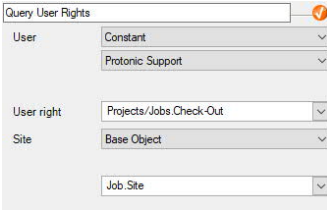

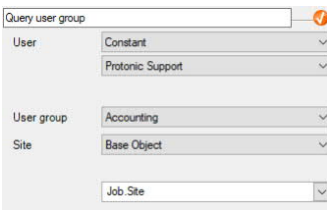

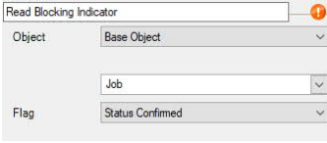

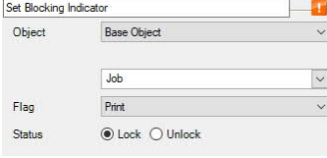
Parameter: Constant


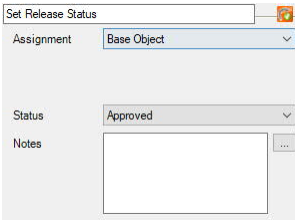
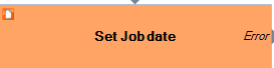
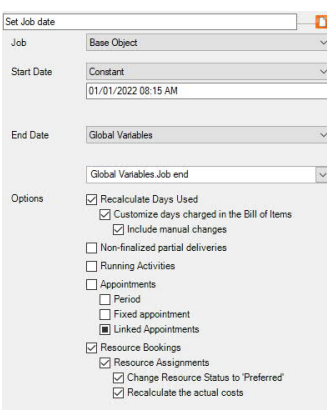

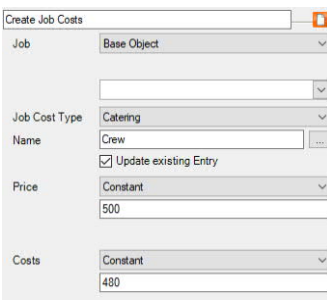
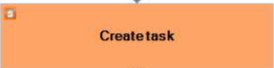
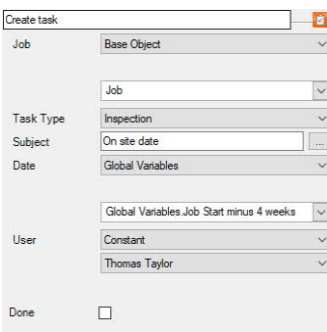
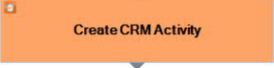
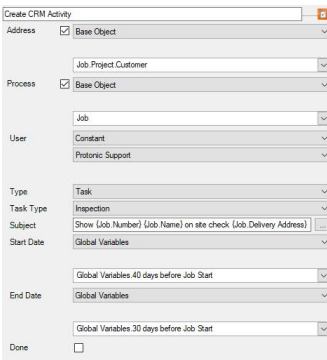
150

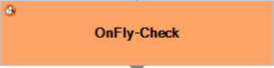
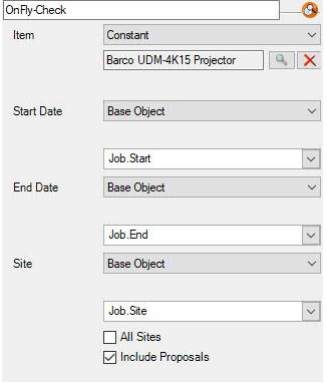

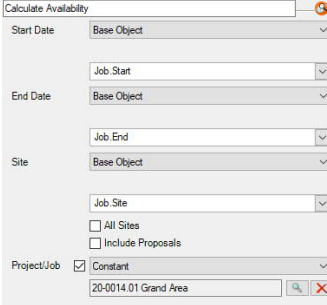
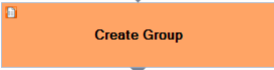
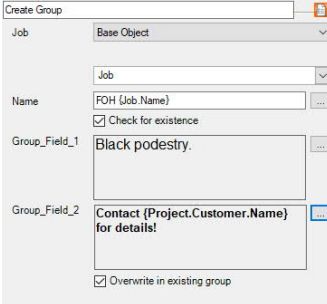

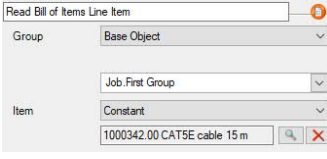

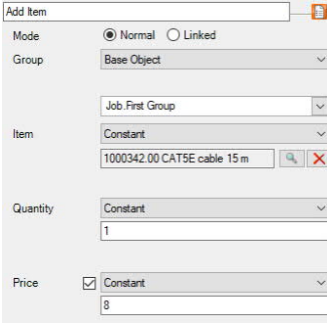
Rounding type: ☒ Do not round  
☐ Commercial  
☐ Always round up  
☐ Always round down  
☐ Round up to 0.5


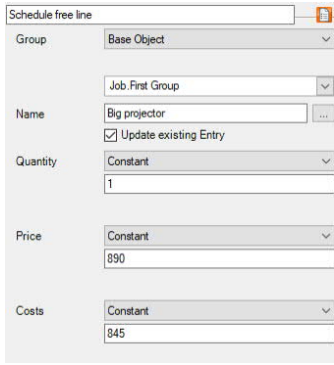

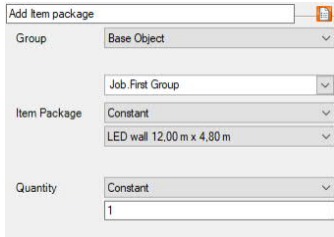
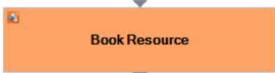
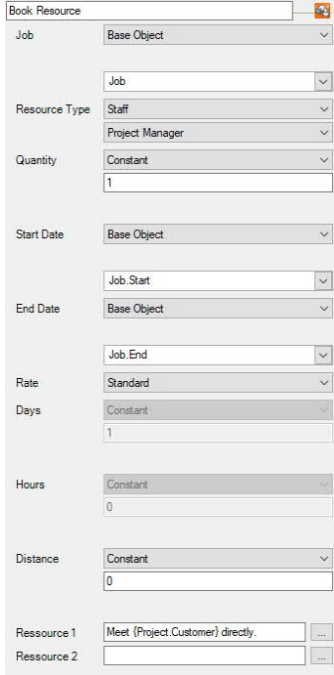



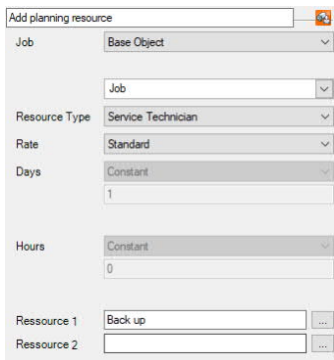
Decimal places: 0






To be able to use a Global Variable, it must first be created in the respective Workflow and the data type must be defined. Subsequently, the Global Variable can be filled with a value from the base object, a constant or another Global Variable. Various calculation operations are possible


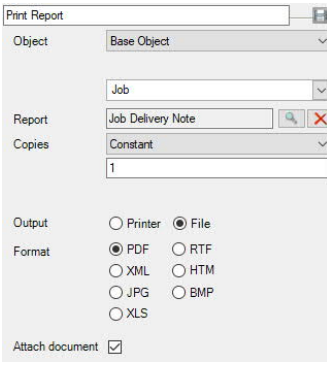

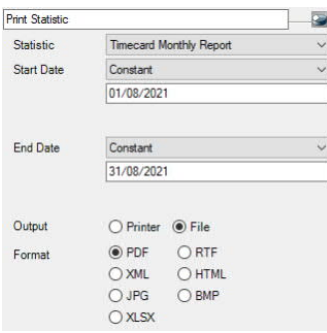

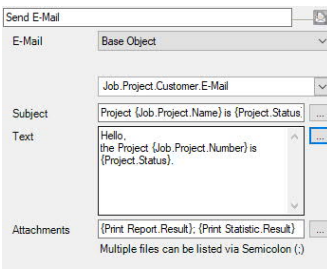
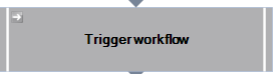
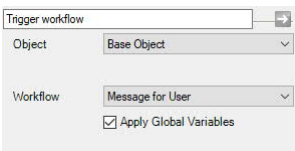
<p><b>Round</b></p> 		<p>Here values (usually from Global Variables) are rounded and limited to the number of decimal places.</p>
<p><b>Text Formatting</b></p> 		<p>Text formatting makes it possible to freely compose a text, for example from variables, and set it in a string data type Global Variable.</p>
<p><b>Counter</b></p> 		<p>The Counter counts how often the Workflow performs a certain Action (For Workflows with Loops)</p>
<p><b>Query user rights</b></p> 		<p>A check is performed if the selected User has a certain user right If the result is true (the user has the right), the next step follows after <b>Yes</b>.</p>
<p><b>Query User Group</b></p> 		<p>A check is performed if the selected user is a member of a certain user group. If yes, the next step follows after <b>Yes</b>.</p>
<p><b>Read Blocking Indicators</b></p> 		<p>The Blocking Indicator status of the selected Object/Process is read out. If it is set, the Workflow continues with <b>Yes</b></p>
<p><b>Set Blocking Indicator</b></p> 		<p>The Blocking Indicator is set in the selected Object/Process</p>

<h3>Set Authorization Status</h3> 		<p>This sets the Authorization Status of the Purchase Invoice Line Item</p>
<h3>Set Job Date</h3> 		<p>The start and/or end date of a job can be changed here. Options can also be selected</p>
<h3>Create Job Costs</h3> 		<p>Job Costs can be defined with a Name, Price and Costs. The existing entry can be updated if necessary</p>
<h3>Create Task</h3> 		<p>This module creates a task with different details for a user (it is visible with the CRM Module is inactive)</p>
<h3>Create CRM Activity*</h3> 		<p>With this module, you can create CRM Activities (similarly to the easyjob Programming function <a href="#">CRM Activities</a>)</p>

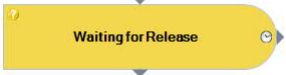
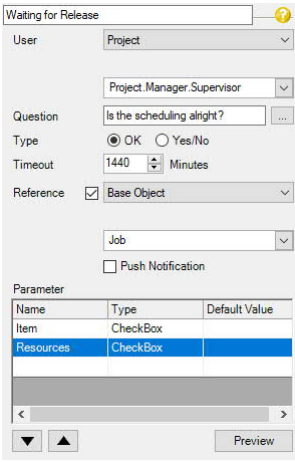
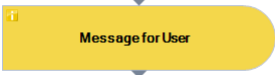
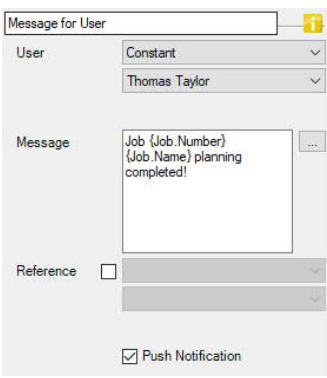
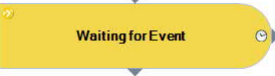
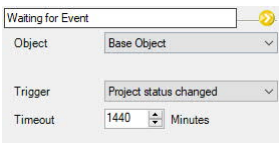

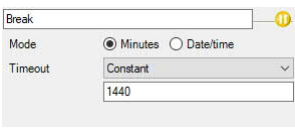
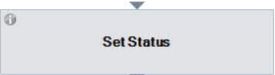

<h3>On-fly Check</h3> 		<p>The availability of a certain item can be checked for a defined time period. There is an additional option if Proposals should be included</p>
<h3>Calculate Availability</h3> 		<p>Here the availability is calculated for a specified time period. In addition, proposals can be included or the check can be limited to a certain job/project</p>
<h3>Create Group**</h3> 		<p>With this Module you can create a group and describe the user fields</p>
<h3>Read Bill of Items Line Item</h3> 		<p>This function reads the Bill of Items for a certain Item and returns the quantity</p>
<h3>Adding an item</h3> 		<p>A normal or a linked item can be added with this module, also the price can be calculated individually if required. The Group in which the Item is to be booked can be created in a previous module and set here with <a href="#">Action</a> and with what is</p>

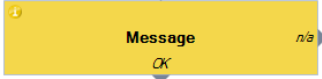
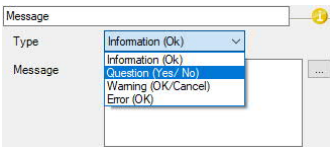
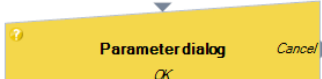
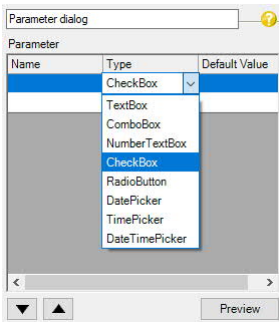
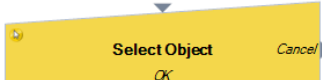
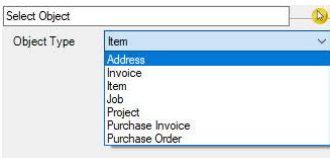

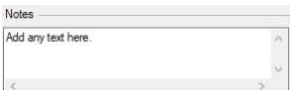
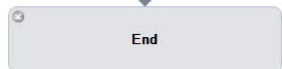
		selected from the <a href="#">Booked Group</a>
<p><b>Schedule Free Lines</b></p> 		A free line is added
<p><b>Add Item Package**</b></p> 		An Item Package is added
<p><b>Book Resource</b></p> 		A resource with many parameters to be set can be added here.
<p><b>Add planning resource  </b></p> 		This action adds a Planning Resource with preset parameters.

<p><b>Read database item</b></p> 	<p>Read database item</p> <p>Object type: Project</p> <p>Id: Global Variables</p> <p>Global Variables Purchase Order Id</p>	<p>With this function, for example, the ID of another process can be selected in advance via Scalar, and then the variables of this procedure can also be accessed.</p>
<p><b>SQL Execute Scalar</b></p> 	<p>SQL Execute Scalar</p> <p>SQL: <code>SELECT IdUser FROM [User] WHERE [Loginname] = 'Protonic Software'</code></p>	<p>This performs an SQL Command and returns the selected value</p>
<p><b>Execute Script</b></p> 	<p>Execute Script</p> <p>Script: <code>System.IO.File.Copy("Print Report", "C:\Users\Documents\Purchase Invoice Number.pdf", True)</code></p>	<p>Performs a VB Script</p>
<p><b>Call up Url</b></p> 	<p>Call up Url</p> <p>Url: file:// ...</p> <p>Method: <input type="radio"/> GET <input checked="" type="radio"/> POST</p> <p>Body:</p>	<p>This http Request can control Web I/O Modules located in your own network. With POST, for example, open the corresponding sliding gate after Check-Out or query the status of a module, e.g. with GET check if the warehouse light is turned on.</p>
<p><b>Calculate distance</b></p> 	<p>Calculate Distance</p> <p>Start address: Project</p> <p>Project Manager Address</p> <p>Destination: Base Object</p> <p>Job Delivery Address</p>	<p>The distance between two addresses can be calculated and used further. (Requirement: Geolocation is activated in easyjob menu ➡• Extras ➡• Options ➡• Integration)</p>

<h3>Print Report</h3> 		<p>The module prints a report directly on the printer or as a file in a folder.</p>
<h3>Print Statistic</h3> 		<p>The module prints a statistic (only List&amp;Label) directly on the printer or as a file in a folder.</p>
<h3>Send E-mail</h3> 		<p>The content of the recipient, the subject and the text can contain variables. Previously printed reports or statistics can be attached to the e-mail. Multiple recipients are possible via base object constants and separation with semicolons</p>
<h3>Trigger Workflow</h3> 		<p>Another Workflow can be started from the current Workflow. As a feature, Global Variables and their content can be used in the following Workflows. This requires the Global Variables to have the same name and the same data type.</p>



<p><b>Wait for authorization</b></p> 	 <p>Waiting for Release</p> <p>User: Project</p> <p>Project Manager Supervisor</p> <p>Question: Is the scheduling alright?</p> <p>Type: <input checked="" type="radio"/> OK <input type="radio"/> Yes/No</p> <p>Timeout: 1440 Minutes</p> <p>Reference: <input checked="" type="checkbox"/> Base Object</p> <p>Job</p> <p><input type="checkbox"/> Push Notification</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Default Value</th> </tr> </thead> <tbody> <tr> <td>Item</td> <td>CheckBox</td> <td></td> </tr> <tr> <td>Resources</td> <td>CheckBox</td> <td></td> </tr> </tbody> </table> <p>Preview</p>	Name	Type	Default Value	Item	CheckBox		Resources	CheckBox		<p>The Workflow waits until the corresponding authorization is processed by the selected user, and then continues. After a certain amount of time (Timeout) another action can be started. The release requirement can also include a reference as well as parameter queries. Push notifications can also be used</p>
Name	Type	Default Value									
Item	CheckBox										
Resources	CheckBox										
<p><b>Message to User</b></p> 	 <p>Message for User</p> <p>User: Constant</p> <p>Thomas Taylor</p> <p>Message: Job (Job Number) (Job Name) planning completed!</p> <p>Reference: <input type="checkbox"/></p> <p><input checked="" type="checkbox"/> Push Notification</p>	<p>A message is displayed for the User under Workflow Messages (in the Navigator and in easyjob Today) A reference can also be given. Push notifications can also be used</p>									
<p><b>Wait for Event</b></p> 	 <p>Waiting for Event</p> <p>Object: Base Object</p> <p>Trigger: Project status changed</p> <p>Timeout: 1440 Minutes</p>	<p>The Workflow continues after certain Events occur. After a certain amount of time (Timeout) another action can be started</p>									
<p><b>Pause</b></p> 	 <p>Break</p> <p>Mode: <input checked="" type="radio"/> Minutes <input type="radio"/> Date/time</p> <p>Timeout: Constant</p> <p>1440</p>	<p>The Workflow will continue after a defined period of time or at a certain time point</p>									
<p><b>Set Status</b></p> 	 <p>Set Status</p> <p>Status text: </p>	<p>A user-defined status text is set in the Workflow</p>									


<b>Message*</b> 		A message window is displayed
<b>Parameter Dialog*/**</b> 		This opens a dialog with the user for information, confirmation, or to enter parameters. The result is displayed in a preview
<b>Select Object*</b> 		This opens a dialog with the user to select an easyjob Object
<b>Notes</b> 		A comment can be set in every point of the Workflow
<b>End</b> 		This action ends the Workflow. It can be used multiple times to make the Workflow clearer

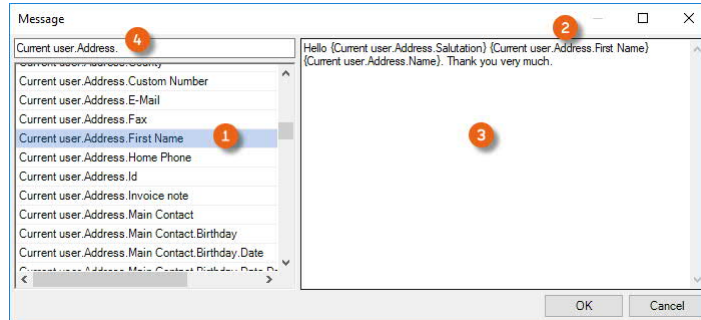
\*Only possible with the **Client Site** trigger mode



\*\*Please note that certain modules are only available depending on the Workflow License. See also [Workflow licensing](#).

## Variables for text modules

Everywhere in the Workflow where you see the symbol with the three dots  you are able to create texts with individual variables (which are then filled during execution). After opening the window, you can select from the variables that are available ① and Drag&Drop ② them to the text window. Additionally, you can create free texts in the Window ③ and integrate your desired variables (e.g. Project name, etc.) in the text. To make editing easier, a Filter ④ is available for the variables.



## Formatting Numbers and Dates

Variables that contain numbers or a date can be displayed formatted with an addition. With numbers, for example, with **:N2** ① the thousand separation and the display with two decimal places ② take place. With a date format, the addition **:g** ③, hides the seconds ④.



Additional formatting can be found in

[Standard numeric format strings | Microsoft Docs](#)

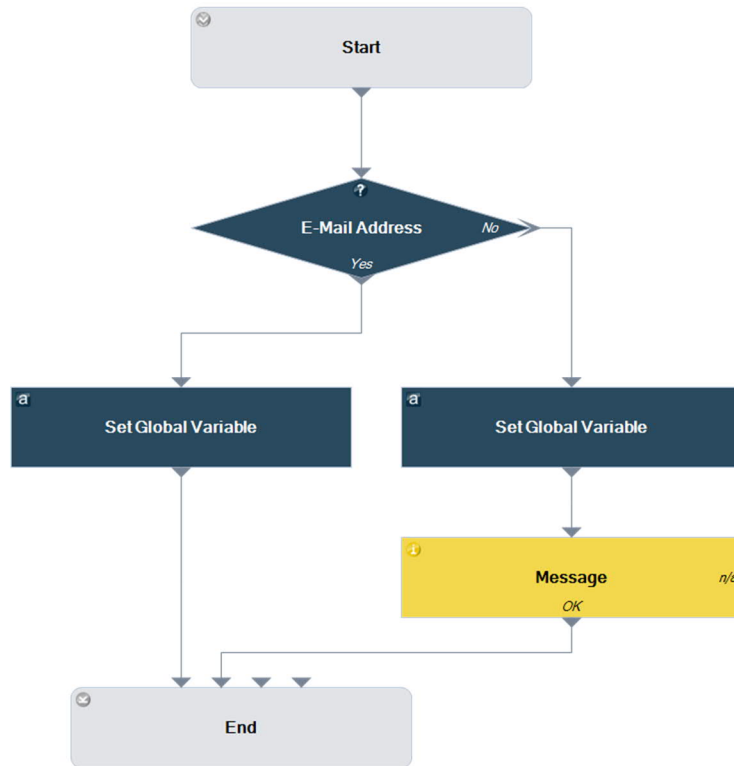
[Standard date and time format strings | Microsoft Docs](#)

## Workflow glossary

Name	Description
Action	A module that is executed in the Workflow (This must be selected as a parameter when the following operation should refer to a certain Action included in the Workflow)
Current User	The user that triggered the Workflow or that currently issued the Authorization/Request
Triggering User	The user that originally triggered the Workflow (once)
Base Object	The Object that contains the Trigger Event, and through which the Workflow is started (e.g. Purchase Invoice, Job, Project, etc.)
Global Variables	You can create Global Variables yourself from the following datatypes - Boolean, String, Int32, Int64, Decimal, DateTime or TimeSpan
Constant	This is a fixed value with which another parameter is compared
Operator	E.g. Add, Subtract, Multiply, Divide, Link Strings, Comparison - larger than/smaller than or equal to
Parameter A or B	These are a Base Object, Action, Constant, Global Variable, Triggering User or Current User
Parameter Query (Dialog)	With the parameter query, the user is directly addressed on the user interface to make an entry, for example, or to confirm with Yes/No/OK

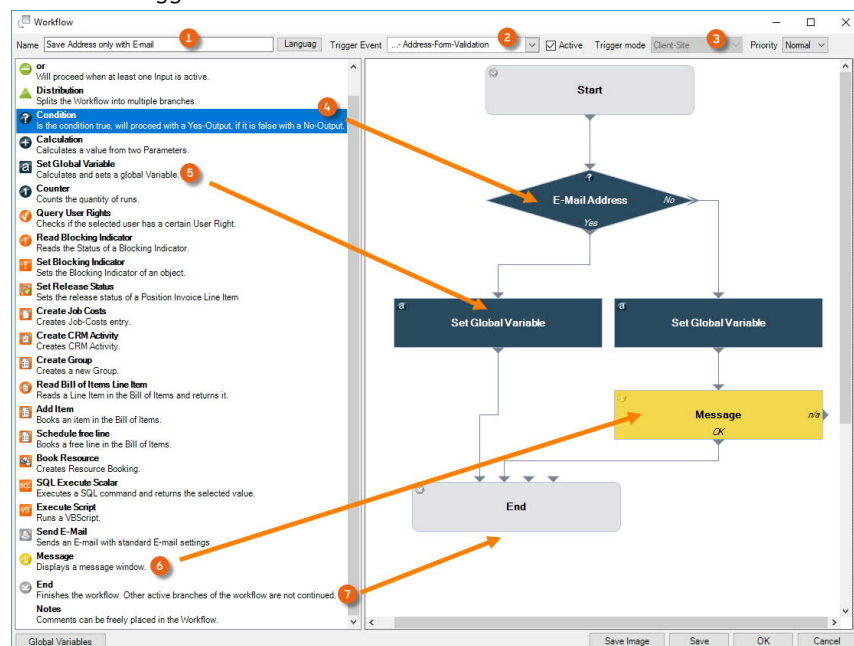
## Sample Workflow with Parameter Query (Dialog)

Description: When creating a new Address, the entry can only be saved if an e-mail address is entered.

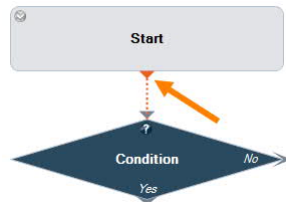


Workflow definition 'Save address only with e-mail address' step by step

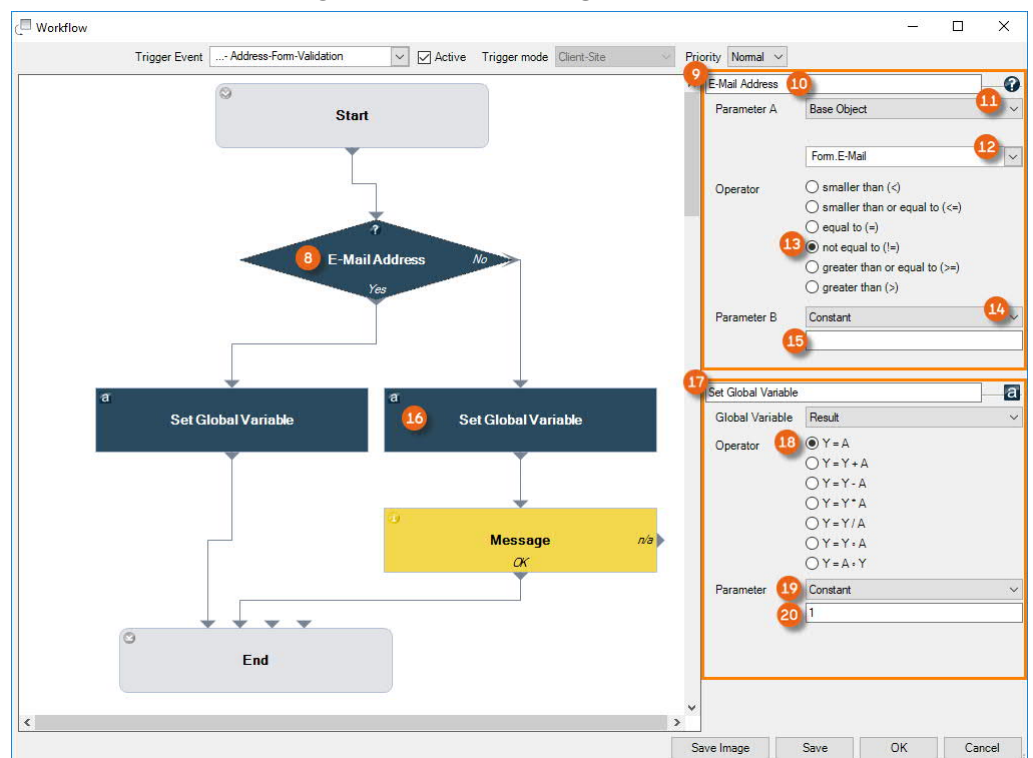
1. easyjob Menu ➔ [Master Data](#) ➔ [Workflow Definitions](#)
2. ➔ [Add](#) ➔ [Create new](#)
3. Enter a name 'Save address only with e-mail address' ①
4. Define the Trigger Event ➔ [Validation](#) ➔ [Address Form Validation](#) ②



5. The Trigger Event for Validation Workflows is automatically **Client Site** ③
6. Left click the **Condition** action ④ and Drag&Drop it to the Design area
7. Add the **Set Global Variable** Action ⑤ twice
8. Drag the **Message** Action ⑥ to the Design area
9. Drag the **End** Action ⑥ to the Design area
10. You can connect all modules together by clicking the gray triangle (it will turn orange) and dragging it to the triangle of the next module



11. Click the **Condition** module ⑧ to set the Parameter ⑨



12. Change the name of the condition to 'E-mail present' ⑩
13. For **Parameter A**, select **Base Object** ⑪ and select the **E-mail Form** field ⑫



In the DropDown Menu, you can select Address or Form fields as the Base Object. The address contains the fields that are already in the database. Forms are the fields that will entered in a new form and are not yet saved, and are also not yet present in the database. As when a new address is created, it can only be saved with one E-mail, the **E-mail Form** variable is selected.

14. Set the **Operator** **not equal to** ⑬
15. Set **Constant** ⑭ as **Parameter B**
16. Leave the field for the Constant empty ⑮ (this means that it will be checked if something was entered in the E-mail field in the form)

17. Click the **Set Global Variable** module ⑩ to set the Parameter ⑪
18. Select the **Operator Y=A** Select ⑫
19. Select **Constant** ⑬ as the **Parameter**
20. Enter the Value 1 ⑭ (for true)
21. Similarly, set the Parameter for the second **Set Global Variable** module, and enter a value of 0 (false) for this Constant



Here, an additional Global Variable is necessary as the result of the condition must be directly queried from the form. If the result of the condition would come from the database, Global Variables would not be necessary for the evaluation

22. Select the **Message** Action and enter the desired text

23. Set the Workflow Definition to **Active**
24. **Save**

The Workflow is now active.

25. easyjob Menu **Master Data** **Addresses**
26. **Add** **Address**
27. Enter a name and try to save the form without an e-mail address
28. The Workflow is triggered, the form cannot be saved and the defined message appears

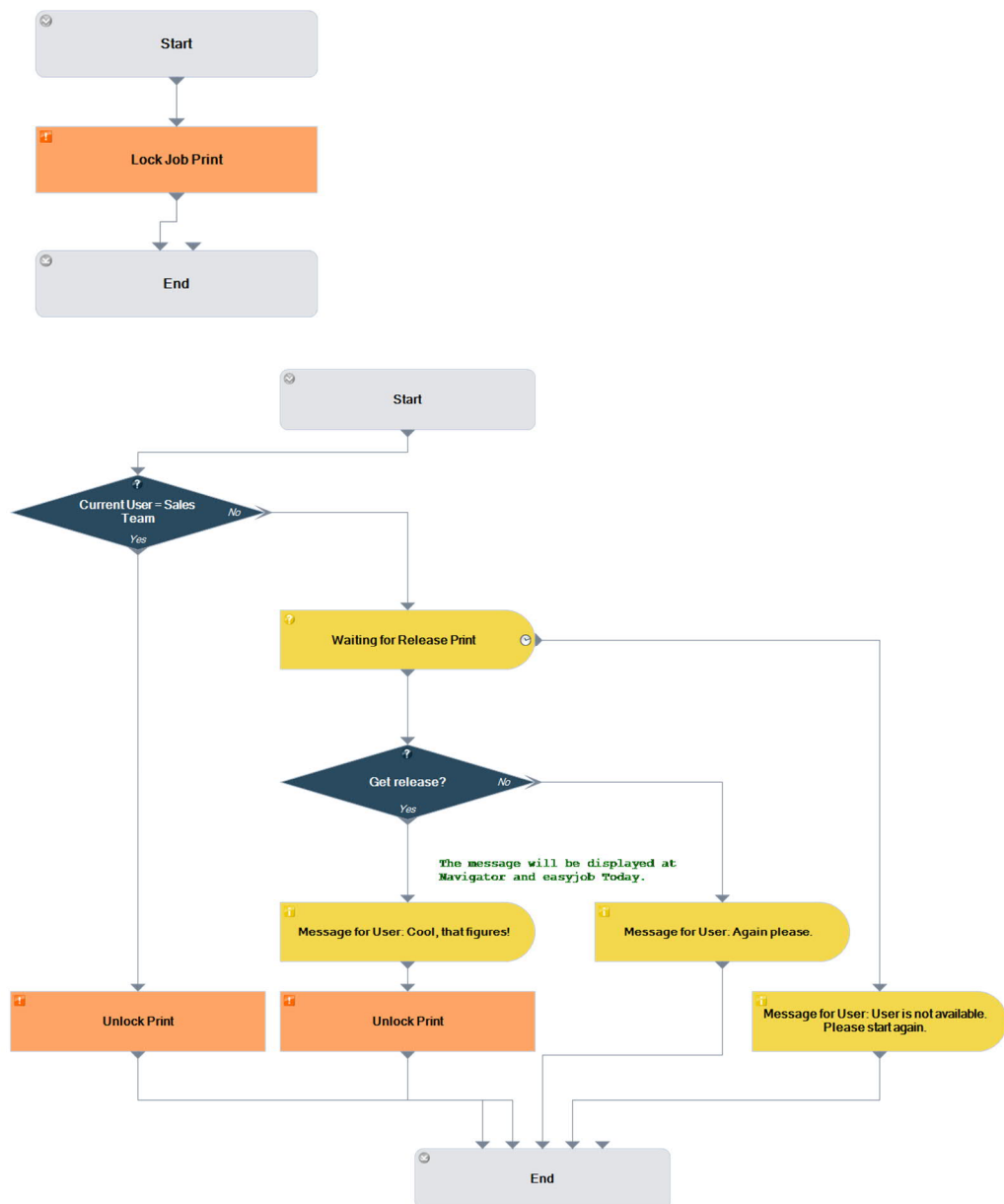
## Standard Workflows

Three Workflows ([Job Workflow](#), [Purchase Order Workflow](#) and [Purchase Invoice Line Item Authorization Workflow](#)) are supplied standard. You can activate the Workflow module, change parameters and use the three standard Workflows also without a license.

### Job Workflow: Receive authorization to print a proposed job

Description: When creating a Job, the [Printing](#) of Reports is blocked if the user is not part of a certain User Group (here, the Sales Team). The concerned user has the possibility of receiving authorization to print

This Workflow consists of two Workflow definitions.

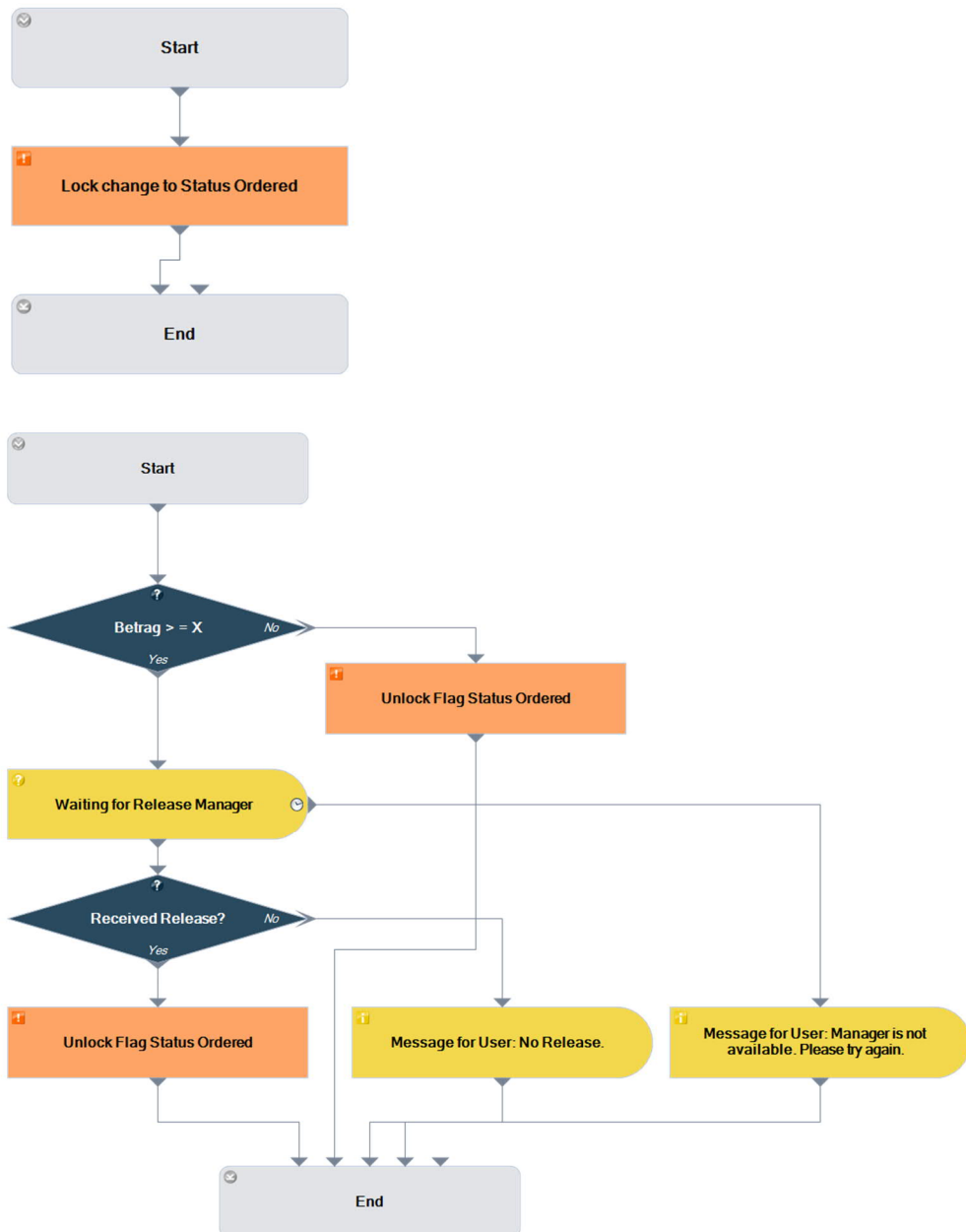




## Purchase Order Workflow: Requesting authorization from a superior to change a Purchase Order

Description: When creating a Purchase Order, changing it is blocked in [Ordered status](#). The user can receive authorization to change the status from a superior. Additionally: If the Purchase Order amount lies above a certain amount (freely definable), the [Ordered status](#) can still be set.

This Workflow consists of two Workflow definitions.



## Purchase Invoice Line Item Authorization Workflow

To ensure the checking of Received Invoices, an authorization process is started when assigning Purchase Invoices. This Workflow maps the Received Invoice check as described in [easyjob Controlling Center manual](#) under Workflow Process. To use this Workflow, activate it in [Workflow Designer](#).

