

## Changelog

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### V3.3.1 (Hotfix) - 2021-06-10

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#### Fixed

- [Collections] Fix page freezing on certain resource navigation.

### v3.3.0 - 2021-06-10

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#### Added

- [Collections] Organisation administrators will now be able to navigate to resources that other members have access to.
- [Collections] Provide ways for users to review their roles across multiple resources

#### Fixed

- [Audit Trails] [Workflows] Fix invalid translations and missing validation messages.

### v3.2.0 - 2021-05-27

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#### Added

- [Audit Trail] Add support for filtering based on time range and increase the allowed page size

#### Changed

- [Exports] Export to network storage is now deprecated and will be removed with the next major release. The corresponding feature flag within the organization setting is now frozen.
- [Workflows] Actions which are triggered in short succession during a workflow run will now deterministically be resolved in the sequence of when the action is triggered. Which should considerably improve the experience of working with complicated workflows

## Fixed

- [Devices] Fix broken file upload on data point for certain file types
- [Workflows] Fix support for reordering upcoming steps

## v3.1.1 - 2021-05-13

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## Fixed

- [Audit Trail] Various bug fixes related to entry display
- [Dashboards] Fix display when some SI units is used by the device
- [Devices] Fix device setting page not showing when the device name contains Unicode characters
- [Workflows] Various bug fixes related to timer behaviors

## v3.1.0 - 2021-04-29

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## Added

- [Audit Trail] Improve UI/UX for discovering and filtering related application events

## Fixed

- [Devices] Various bug fixes and performance improvements
- [Workflows] Various bug fixes and performance improvements

## v3.0.1 - 2021-04-15

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## Fixed

- [Collections] Organisation admin can now correctly archive all resources within the organisation.
- [Workflows] In some cases, updates to fields which should have required change reason were accepted even when the change reason is missing. Such updates will be rejected as expected
- [Workflows] Scan pattern for each steps and substeps are now correctly detected as workflow executor progress to the steps
- [Workflows] Various other bug fixes and performance improvements

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## v3.0.0 - 2021-04-01

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### Added

- [Versions] UI/UX improvement on activities display

### Changed

- [Audit Trail] The Activities page is revamped with UI/UX improvements.

### Fixed

- [Connector][Dashboards] Improve rendering performance of some elements
- [Workflows] Fix various UI eligibility issue

### Removed

- [Job] Jobs and Tasks feature are removed
- [Deployment & Maintenance] Subdomain-based tenant strategy is removed in favour of route-based tenant strategy

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## v2.22.0 - 2021-03-18

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### Added

- [Automations] [Workflows] Webhook triggered by automations and workflows are now logged.
- [Workflows] New workflow configuration for allowing workflow runs to be digitally signed by collaborators and reviewers

### Changed

- [Audit Trail] The Activities page is revamped with UI/UX improvements.

### Fixed

- [Devices] Fix issue where custom device settings sometime does not get applied
- [Workflows] Fix isolated issues in updating workflow fields which requires change reasons.

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## v2.21.0 - 2021-03-04

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### Added

- [Workflows] Increased auditability on Workflow Field, template designer can now configure fields to require a Change Reason when updating values of fields
- [Workflows] Workflow Table now supports conditional formatting of individual cells based on values of any cells within the same table. You can use it for example to visualize unexpected cell values, color coding groups of cells, or simply just to show some hints.

### Changed

- [Workflows] Field display on completed steps and substeps is now frozen. Additional changes to the source data or state will only affect active substeps

### Fixed

- [Workflows] Various performance improvements

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## v2.20.0 - 2021-02-18

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### Added

- [Connectors] Prepare for upcoming release of Connector v3.1 with added support for virtual ports
- [Workflows] Additional scripting capabilities.

### Changed

- [Workflows] Table display on completed steps and substeps is now frozen. Additional changes to the source data or state will only affect active substeps

### Fixed

- [Dashboard] Improve display performance of Dashboard which rely on many data points
- [Dashboard] Fix timeout when downloading file attachment using File Table element
- [Workflows] Various performance improvements

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## v2.19.0 - 2021-02-04

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### Added

- [Resources] Organisation admins can now disable the permanent deletion of records.
- [Deployment] For private installations, feature flags can now be configured in the server settings, freezing them for all organizations. Global feature flags help, for example, in regulated environments to enforce disabling permanent deletion across the entire server.
- [Workflows] Tables now support multiple tabs of data. By specifying data based on JSON pointers, they also support almost any data structure as a source.
- [Workflows] The AddStep action can now use locally defined steps as well. Until now, only externally defined Workflow Step Templates could be used.
- [Workflows] The SetField action now supports the manipulation of complex data structures with [JSON patch](#) operations.
- [Devices] In preparation for the next release for the Laboperator Connector, we added capabilities to manage driver compatibility and updates easily. Users will be informed about outdated or incompatible drivers and can easily update them with a single click.

### Changed

- [Workflows] In the list of related versions, the creation date is now correctly formatted. The button to upload a new version has received improved labels and a new icon.
- [Organizations] Users that are left without any organization can now create a new organization.

### Fixed

- [UI] Single tabs in the info panel are no longer clickable.
- [Workflows] Starting a Workflow Run with an unapproved Webhook resulted in two notifications.
- [Organizations] The organization member list now correctly paginates all organization members.
- [UI] Typing a capital 'F' conflicted with keyboard shortcuts on some pages.
- [Workflows] Timers that are updated while running terminated early if their total time was extended. They now correctly terminate according to the new duration.
- [Connectors] The connector details now show the correct version running on a connector box. It was missing in some cases before.

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## v2.18.0 - 2020-12-17

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## Added

- [Workflows] We added full support for entry and exit controlled loops in workflows (while...do, loop...until, forEach..in). You can now iterate lists, loop on basic calculated conditions, or define simple numerical iterators. Loops can be combined with the conditional flow (if..else) and even nested to create complex patterns.
- [Navigation] Several views including the workflow execution view now have a link to the last visited collection or smart view in the header. This makes it easier to switch the context without having to open the navigation menu.

## Changed

- [Workflows] Conditional flows are no longer visualized in nested lists. All conditions for both loops and if...else flows are now shown as placeholders until they are resolved. Once the condition is evaluated they are replaced with the resulting steps.

## Fixed

- [UI] Scroll bars on some tables are now hidden in Firefox resulting in a cleaner UI that's aligned with other browsers.

## v2.17.0 - 2020-12-03

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## Added

- [Jobs] Jobs and Tasks are deprecated and are going to be removed with the upcoming v3.0.0 release scheduled for early 2021. Organization Admin can find a new feature toggle in the Server Administration section to disable related features completely to disallow creating new Jobs and Tasks; and editing existing ones. For new organizations, the feature is going to be disabled by default.

## Fixed

- [Tasks] Fix editing task name
- [Workflows] Context Info toggle button will now correctly be displayed when the workflow have step level context, but is missing global level context
- [Workflows] Navigating to completed steps of previous runs should now work as expected
- [Workflows] As an observer viewing runs, you will now correctly see that button and controls are disabled for lack of permissions to edit. This is purely a visual change, as the permissions are already correctly checked on the server.

## v2.16.0 - 2020-11-18

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### Added

- [Workflows] The webhook action now supports interpolation in the header fields. This allows you to pass values from fields or the workflow meta-information directly into a header.

### Changed

- [API] The index endpoint for Workflow Fields now supports filtering by value.
- [Workflows] Tables in workflows received some improvements including cell selection for individual columns and several formatting details.

### Fixed

- [Workflows] Workflows with more than 20 fields sometimes didn't load all required data. It's now safe to write workflows with a large number of fields!
- [Workflows] The Workflow Runs status is again displayed correctly in the index lists. You can see at a glance which workflows are pending, active, paused, or completed.
- [Workflows] We fixed several issues around automation handling in the background that happened unnoticed by the user but caused silent errors and under certain circumstances could affect overall performance.
- [Workflows] Scanning device barcodes to select them now also works inside the context info panels.
- [Workflows] Recently some notifications could not be closed by the user and required refreshing the page. Now all notifications have either a button to click them away or disappear automatically after a few seconds.
- [Workflows] Users with collaborator rights were not able to update workflow runs and fields. Their permissions are now evaluated as expected.
- [Workflows] After recent regression, workflows with timers longer than 90 minutes were not handled correctly. Now timers of any duration should work as expected.
- [Dashboards] After a regression in the last update, Switch elements only responded to updated data points after they had been used manually at least once. They now switch their state as expected also when the only physical device controls are used.
- [Organizations] Custom Organization logos are now fetched via HTTPS just like all other assets. Users might have seen warnings about an insecure page in the past caused by the logo being fetched via HTTP. No user data was transferred via an unsecured connection at any time.
- [SSO] Users with email addresses having capital letters in them in the external IAM provider were not able to log in. All email addresses are now handled case insensitive.

## v2.15.0 - 2020-11-05

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### Added

- [Smart Views] The filter tab of a smart view now indicates when filters have diverged from the once stored with the smart view.
- [Workflows] Timers can now be displayed on the context info panels.
- [Workflows] Grids in workflow markdown now support different layouts for different breakpoints. This allows you to design fluid grids that are responsive to the device on which they are viewed.
- [Workflows] We introduced workflow tables that come with a bunch of styling options and selectable rows and cells. There are new actions to manipulate selections and state and even a new script function to merge complex data structures. While there is more to come these tables allow you to build better workflows around complex data structures starting today.
- [Workflows] Workflow buttons can now be defined globally or at the step level. In particular, this allows them to be used on global context info panels.

### Changed

- [Workflows] Device select inputs that are placed in workflow markdown will be shown as inline select fields by default. To use the dialog selects pass the `dialog` variant to the reference: `!{{myDevice|dialog}}`.
- [Dashboards] Several dashboard elements have been updated to be more responsive and the default height of the rows in the dashboard grid has been increased to 60px. Revisit your dashboards to check if you need to adapt them to fit your use case.
- [Dashboards] The console feed elements now automatically scrolls to the end of the feed.

### Fixed

- [Workflows] Timers stopped counting after they had been reset. They will now correctly display the restarted time counter.
- [Workflows] Workflow would display constructed values made up of the template name, version, and the run number. They will now correctly display their editable name that still defaults to this combination.
- [Workflows] The context info button in the header now correctly adjusts its color based on the configured theme colors.
- [Workflows] Workflows can now also use control elements such as buttons.
- [Workflows] Improved attribution of automated actions to the user that initiated them. This is now better traced through chains of connected actions.



- [Workflows] Actions that run in the same behavior right after an `add_step` action are now aware that a step has been added.
- [Workflows] The run number was sometimes calculated incorrectly. It will now always count up correctly.
- [Workflows] Datapoint and command triggers will now be set correctly even if the device field has not been set when the behavior is activated.
- [Dashboards] Charts legends will no longer overflow the element card. Everything nice and neat now.
- [Dashboards] A visual glitch where the controls of Switch elements moved upwards has been fixed.
- [Collections] Renaming a collection that was initially created inside a personal collection caused severe UI problems. You may now rename collections whenever you want without fearing trouble.

## v2.14.0 - 2020-10-22

### Added

- [Automation] This release includes the beginning of a great new feature we call Automations. We've taken the behaviors you already know from workflows that allow you to run actions on event-based triggers and made them available outside of workflows. Automations are available to organization admins on the administration page. To begin with, we only support running webhook actions but stay tuned for more!
- [Workflows] Here's more power to design your workflow just the way you need it: Boolean field inputs can now be displayed as a switch rather than a checkbox.
- [Workflows] We've added a new action to let you add more steps from within your workflow logic. Create dynamic protocols of what happened not a prepared path but from a set of available options.

### Changed

- [API] The OpenAPI documentation of our API v2 can now be downloaded without prior authentication from any Laboperator server at `/api/v2/documentation.json`. This makes the integration easier for external clients and allows you to explore the API with external services such as the Swagger UI.
- [Workflows] Timer behaviors are now always defined as global behaviors making them more accessible across the entire workflow. Existing workflows will continue to work as expected without any changes required.

## Fixed

- [Workflows] A problem that caused timers to run longer than expected is fixed so that we are right back on time.
- [Collections|Permissions] An problem with large sets of data affected many root collections and long lists of permissions in the sharing dialog to show inconsistent results. This was fixed now to always show all the available data. No data was ever lost, it just didn't show as expected.
- [Smart Views] We polished the Smart Views a bit with a dedicated button to update them and the correct info panel showing when opening a Smart View.

## v2.13.0 - 2020-10-08

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### Added

- [Smart Views] We added a new resource called Smart Views. Smart Views allow you to store filter settings for resources. This allows you to easily retrieve a dynamic list of resources that match a specific criteria, without entering the filters over and over again.
- [Workflows] New global behaviors allow you to attach automation using the known pattern of triggers and actions on a global level. Meaning you can trigger on workflow lifecycle events such as pausing workflow, but also use the usual triggers such as starting a step and attach automation to all steps at once.
- [Workflows] Markdown grid containers now support adding a paper background that will give your elements and context info more visual structure.

### Fixed

- [Collections] Orphaned devices were wrongly categorized as inactive instead of final. They now show up when filtering for final state.

## v2.12.1 - 2020-09-24

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### Fixed

- A data migration added in v2.12.0 caused problems during the update. This was fixed before the release was published.

## v2.12.0 - 2020-09-24

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## Added

- [Collections] Next to the name of a resource we now show the state or status of resources. In collections, you can now see at a glance which resources are active, inactive, finalized, or need attention as they are in an error state. Use the filter tab to search for resources with either one of these status categories.
- [Workflows] Buttons now support setting theme colors or custom colors and can use different variants to differentiate critical or secondary actions.
- [Workflows] The context info panel can now be your workflow starting point. It can be configured to be opened and fullscreen when the workflow execution view is opened.

## Changed

- [Workflows] Once the workflow has been started, opening it from a collection will now take you directly to the workflow execution view, allowing you to navigate faster between parallel workflows.
- [Workflows] Above the workflow navigation (the list with your workflow steps) you will now notice a back button that will take you to the main navigation menu. Now you won't have to close the execution view before navigating to other resources in Laboperator.
- [Dashboards] When a dashboard element was consuming channels of an archived device, a note was shown stating 'forbidden'. The message was refined to reflect the correct cause of the missing data.

## Removed

- [Dashboards] The Gauge dashboard element had a setting suggesting one could show a set point on the element to compare the actual value to. The setting has been removed as it had no effect on the element.

## Fixed

- [Resources] Setting a custom attribute of type relationship on resources was causing issues under some circumstances.
- [Permissions] A problem with resources not being removed in real-time when someone else retracts permission.

**v2.11.1 - 2020-09-10**

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## Changed

- [SSO] Allow SSO and password authentications to both be active. This allows more flexible scenarios in which individual users might not have access via the SSO provider, but should still be able to log in to Laboperator.
- [UI] Most inputs have been migrated to an outlined variant. The new design makes it easier to spot inputs and gives a cleaner structure to forms. It's also an important step towards aligning the UI across the Labforward products.

## Fixed

- [Collections] Sorting by the *Updated* column of collections actually sorted by the date the permission for the resource was updated instead, causing the sorting to appear wrong. Sorting now works as expected by the date the resource was updated which is also the date displayed.
- [Connector] A problem that caused devices on the connector page to temporarily not show up.
- [Registration] Some time zones have not been handled correctly causing problems after login.
- [Activities] Workflow field entries caused individual audit trail pages to show as blank. The audit trail data as such was never broken or affected, only the display of the data.
- [UI] Select options inside modals had sometimes been cut off at the edge of the modal. They now show correctly making all options accessible with and without the search.

## v2.11.0 - 2020-08-27

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### Added

- [Workflows] We added support for showing images in workflow markdown content based on field values using the `{{image|srcField}}` directive.

### Changed

- [Workflows] Fields with JSON data in the shape of an array of objects will now be shown as a table when rendered in workflow content.

### Fixed

- [Workflows] Arrays fields can now be used for selector elements on substeps with dynamically changing values and not only schema defined static values.

- [Workflows] When saving workflow fields in the background while a user continued editing the field those changes had sometimes been overwritten. We made sure your input is our first priority!
- [Workflows] After enabling interpolation for webhook URLs in the last release we now reduced validation on the URL to allow for more interpolation scenarios and made the body of the request optional to adjust for HTTP Get requests.
- [SSO] An edge case that caused users who are not part of the default organization introduced in the last release would not be able to sign in is now handled properly.
- [Permissions] Our permission policies prevented users with administrator or manager roles for a collection to delete permissions for resources in that collection. We adjusted the policies to reflect the expected behavior.
- [Deployment] Background workers now pick up custom certificates provided to a server installation as intended.

## v2.10.0 - 2020-08-13

### Added

- [Sign Up] We added a hint about joining existing organizations to sign up, so users do not create a new organization when they really mean to join an existing one.
- [Workflows] Via the new `report_summary` key on steps workflows can now specify how a step should be summarized in a report. Together with a new API endpoint for Workflow Runs the report can be retrieved to summarize the entire workflow execution.
- [Workflows] The webhook action now supports the interpolation of fields in the target URL enabling you to pass URL parameters to the request.
- [Organizations] Server administrators can now configure the server to allow user invites combined with single-sign-on. This means users can first log in via SSO and then easily join other organizations via the known invite mechanism. For this purpose, a setting was added to configure the default organization where users will first be added when signing in via SSO.

### Changed

- [Dashboards] The MultiState dashboard element no longer requires a command. It can now be used for enumerated channels that do not allow the user to actively change the value via a command.
- [Connectors] The Connector ports will now differentiate ports that are offline because the Connector Box is offline and ports that are online but detached. Offline ports are shown with greyed out icons and detached ports with red icons.
- [API v2] API endpoints for user authorizations granted via SSO providers now serialize additional attributes and use `expires_in` instead of `expires_at` to follow Oauth 2 standards.

## Fixed

- [Workflows] Steps are now correctly expanded when resuming a paused workflow after entering the execution view.
- [API v2] Measurements can be correctly serialized even if their related container (i.e. a task or dashboard) is already archived or deleted.

## v2.9.0 - 2020-07-30

### Added

- [Workflow] Markdown content now supports the use of columns to give more structure to your content.
- [Workflow] Elements and buttons can now be referenced in the description of substeps and the context info pages of workflows. Combined with the new columns this allows for complex layouts with controls and visual elements that you already know from the dashboards.
- [User Management] When your server has single-sign-on (SSO) configured you can now still invite users to organizations once they have logged in at least once with your configured SSO provider.

### Changed

- [Connector] The port icon will now show in orange instead of green when a plug is connected to the respective USB port but no device is linked yet.

### Fixed

- [API] For the OpenAPI spec of API v2 collections of resources a wrongly nested data attribute has been removed from the schema.
- [API] We added the `relationship` and `links` attributes that the API provides to the respective schemas.
- [Workflow] Scanning devices that are not connected caused consecutive scans to fail. This has been fixed and a meaningful feedback message has been added.
- [Webhook] Webhook approvals are now validating for invalid host definitions that caused problems before.
- [Workflow] A problem with fields loading indefinitely on workflows with a lot of fields defined.
- [Workflow] Script fields shown on the workflow run page now correctly show their calculated value.

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## v2.8.0 - 2020-07-16

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### Added

- [Workflow] Add the ability to use barcode scanners to select a device. You can find and download the expected barcode inside each respective device settings page. We also support customized scanning behavior inside the workflow template definition.

### Changed

- [UI] Improved device select UI inside workflow execution, which should give better accessibility, especially when using tablet devices.

### Fixed

- [Connector] Fix various issue with port/device simulations
- [Dashboard] Fix broken scrolling behavior in some dashboard elements

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## v2.7.1 - 2020-07-02

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### Changed

- [Deployment] The installation and update routines have been improved. The output has been reformatted to print cleaner feedback on the progress and several checks have been added to ensure a functional installation. All checks print a visual feedback that can be used for documentation purposes.

### Fixed

- [UI] While we generally do everything we can to avoid them, unexpected errors in requests to the server should now give visual feedback in the frontend so you know something went wrong and you can try again or report the problem.
- [Dashboards] The Clock dashboard element now always shows the correct time after previous discrepancies with the minutes being shown.

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## v2.7.0 - 2020-06-18

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## Added

- [Workflows] We have added a new context info feature that allows you to show an extra vertical panel with static and dynamic information for the entire workflow or individual steps.
- [Workflows] Workflows now support selection from dynamic lists of values in selectors. They provide a user friendly interface to select a single item from a list of items stored in an array type field. The feature allows you to control the display of options in a fine grained manner to create just the interface needed for your workflow.
- [Workflows] The webhook action can now forward secure tokens to external applications that can eventually be used to fetch access or identity tokens of the user that initiated the action in a secure way. This allows developers to build integration middleware that has access to the Laboperator API and can act in the name of the user in a secure way even in single-sign-on (SSO) scenarios, where identity is provided by a third party.
- [Workflows] Images inserted in Markdown content can now be centered or sized to full width using URL parameters (i.e. `www.company.com/my_image.jpg?fullwidth`).
- [Workflows] Fields of type `string` can now be displayed as text areas for the entry of larger text inputs.
- [Workflows] References to fields now support two additional variants used like this: `{{myField|plain}}`. The `plain` variant will display the field value without the background highlight which is handy for data display for example in tables. The `title` variant displays the title of the field instead of the value.

## Changed

- [Workflows] The display of tables used in Markdown content has been revisited for improved visuals.
- [Workflows] References to date time fields now display dates in a nicely formatted way instead of raw ISO strings.

## Fixed

- [Notifications] When individual users deactivate a custom notification they can now be sure that it is not delivered in-app nor by email.

## v2.6.1 - 2020-06-04

## Changed

- [Administration] The administration page has been updated to be faster and more consistent with the rest of the application.



## Fixed

- [UI] A problem that caused wrong theme information to be applied for just a short moment when a notification first showed up.
- [Organisation] Improved handling of different image sizes when used as the logo for an organisation.
- [Notifications] A problem that caused specific custom notification rules for numeric condition values not to be applied correctly.

## v2.6.0 - 2020-05-21

### Added

- [Organizations] We have added theming options for Organizations. Update the primary and secondary colors of the theme to reflect your brand identity.
- [API] Users can now be filtered by user id via API v2 allowing you to fetch a specific subset of users.
- [API] The entire audit trail of records is now available via API v2. Check the Versions section of the API docs for more details.

### Changed

- [API] API requests that use invalid filters will now be rejected with a 400 Bad Request error.
- [Workflows] Buttons in the header during the execution now give better visual feedback when they are disabled.

### Fixed

- [Workflows] A problem that could occur when resuming a workflow after it was paused that resulted in a frozen application.
- [UI] A problem that prevented some text fields having a capital 'F' entered.
- [Dashboards] When showing a Measurement on a Dashboard display elements now correctly show the last and not the first data point in the Measurement.
- [Workflows] A problem that prevented users from reviewing previously executed workflow steps when revisiting a Workflow Run after a logout.
- [Workflows] Workflow Runs can now be correctly searched in collections by their name.

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## v2.5.0 - 2020-05-07

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### Added

- [Organizations] We have added logos to organizations. Start customizing your Laboperator experience! More theme options are coming up.
- [Workflows] When dynamically adding steps to a workflow you can now enter required fields or map them to global fields. That's all that is needed to reuse highly flexible workflow step templates on the fly.

### Changed

- [UI] In several places toolbars received an upgrade to be more responsive on smaller screens. They will now optimize for the space available.
- [Workflows] At the end of a workflow run user is now asked if he wants to complete the workflow run or if he would like to add another step.

### Fixed

- [Workflows] We fixed the spacing on certain input elements which makes the whole field input page look nice and clean again.

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## v2.4.1 - 2020-04-23

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### Added

- [Workflows] Webhook actions have been improved with more response processing capabilities. JSON responses can now be flexibly mapped to fields and thereby used in the workflow.

### Changed

- [Workflow] References to steps and fields in the flow definition are now validated upon upload. Misspelled identifiers or references that haven't been cleaned up will be flagged during the upload and not cause problems during the workflow run.
- [UI] We unified some styling across workflows and dashboard elements so highlights of focused elements are more consistent.

## Removed

- [Support] Due to a change in our support portal we removed the form to submit tickets directly from the app. Instead, you will be forwarded to our support page where you can submit tickets and find additional information that might already answer your questions.

## Fixed

- [Workflows] A problem with workflows temporarily still being shown to a user when they were deleted by another user.
- [Exports] A regression causing exports to fail. Exports of measurements and dashboard elements now work again as expected.
- [Resources] Archived resources that did not show correctly for user's who did not have access to the resource before it was archived will now correctly be listed in collections.
- [Resources] Under specific circumstances items in a collection were not sorted correctly and the total page count was off. Everything should be in order now.
- [Workflows] Pausing and resuming a workflow correctly adds the user to audit trail entries.

## v2.4.0 - 2020-04-09

### Added

- [Workflows] We have added comments to workflows. You can now comment on workflow steps to collaborate with others, to leave yourself a note, or to add to your documentation.
- [Workflows] Workflows can now make use of dashboard elements. This opens up a whole range of applications from showing camera images to rendering graphs and tables right inside the workflow steps.

### Changed

- [Dashboards] Dashboards have received several styling improvements including better headers and highlighting for easier configuration.

### Removed

- [Users] We dropped the temporary language setting from the More menu. As it was only temporary it caused confusion. Changing the language remains available in the user's profile settings.

## Fixed

- [Dashboards] We fixed a problem with the DeviceChannelTable element that caused data not to show when the device had not been visited before.
- [Workflows] We revisited archiving Workflow (Step) Templates. We now prevent archived or deleted templates from breaking your existing Workflow Runs that rely on them.
- [Workflows] Active Workflow Runs will now be paused when they are archived. This helps to prevent stale Workflow Runs to remain in the system.

## v2.3.0 - 2020-03-26

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### Added

- [Workflows] As dynamic as your work. Workflows can now be modified on the go. Add, reorder and remove workflow steps to adapt your workflow while you're at it.
- [Workflows] To make the most of adding workflow steps dynamically you can also start a workflow run without a template now.
- [Dashboards] You can now copy your existing dashboards instead of starting from scratch when creating new custom dashboards.

### Fixed

- [Workflows] A problem with timer fields that were edited by the user.
- [UI] Minor improvements of different animations and label positioning.

## v2.2.0 - 2020-03-12

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### Added

- [Dashboards] We added two new dashboard elements! A simple clock element to see the current time on your dashboard at a glance and a Webpage element that lets you render other web content right on your dashboard.

## Fixed

- [Connectors] After the last update there was a problem related to re-connecting previously connected devices.
- [Dashboards] When adding the status channel to existing dashboard elements this could cause an unexpected forbidden error. We've made sure you can use all the channels you have access to properly.
- [Devices] For some devices the details of the command history could not be opened. This is fixed now making the entire history of commands sent to a device accessible from the device dashboards context panel.
- [UI] After the first introduction of the Laboperator UI theme we've now fine-tuned some of the settings related to icons and colors.
- [UI] Improved styles of previously overflowing select options.
- [UI] Users will now also receive live updates for archived resources. So if another user restores a resource this will be immediately reflected on your screen.
- [Workflows] The onFieldUpdate trigger was only working when defined on a step. It will now also work as expected when defined on individual substeps.

## v2.1.1 - 2020-02-27

### Changed

- The limit on the number of channels that can be used in the DeviceChannelTable dashboard element was raised from 10 to 25 channels allowing you to get an even better overview of more data from more devices in a single dashboard element.
- Until now many dashboard elements showed the latest available data no matter if the device was online or not. We've updated various dashboard elements to not show any data unless the device is online and the data is up-to-date.

### Fixed

- The WorkflowRun API v2 now properly supports pagination and sorting.
- The formatting of units on the DeviceChannelTable was broken after recent improvements to the formatting of large numerical values. Now things are looking better than ever!
- Under certain circumstances updating a user's role in an organization wasn't possible. Promoting administrators now always works as expected.

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## v2.1.0 - 2020-02-13

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### Added

- Customers can now use Single-Sign-On functionality with IAM services that support the [OpenID](#) standards. How this can be configured can be found in the installation manual.

### Changed

- Where select fields used to show all resources of a specific type a user has access to (e.g. all devices) they now only show records after the user has entered a search term. This will in the short term ensure smooth user experience. We'll soon bring back a default selection of relevant resources in the current context of the application.
- The Workflow Run API endpoints can now also return the workflow template of the run.

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## v2.0.0 - 2020-01-30

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### Added

- We are introducing Collections! An entirely new way to organize, share, search your resources.
- On top we include Workflows as a beta feature. As an organization Administrator you can [enable the feature on the administration page](#).
- Server administrators can disable signup and invite functionality for the entire server. This is useful when the server is used in combination with a central Identity Access Management (IAM) service.
- When a user leaves an organization his resources will now be properly transferred to an administrator to ensure no access to resources is lost.
- The API v2 endpoints for Devices, Jobs, Samples, and Tasks now support filtering by custom attributes.
- New drivers or driver updates for Kern PLJ, Vacuubrand DCP 3000, Vacuubrand CVC 3000, Büchi b-545.

### Changed

- The UI got a brand new look as cubuslab has been rebranded to [Laboperator](#)! You can read the whole [story on our blog](#).

## Fixed

- We eliminated a problem in the database setup routines that prevented some installation to take advantage of several performance optimizations. Any affected installations will now see quite the boost for anything related to instrument data lookups.

## v1.16.1 - 2019-11-07

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### Added

- The API v2 data point endpoints have received an upgrade with full support for sorting, pagination, and filtering.
- Also for API v2, we've added basic documentation on the generic parameters fields, sort, page and filter including some basic usage examples. Stay tuned, there is more to come before the stable release.

### Fixed

- Real-time updates on installations with multiple organizations are now more reliable.
- The channel select input could cause problems when clicking on the checkbox (as is intuitive) instead of the label. That's fixed now!

## v1.16.0 - 2019-11-07

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### Added

- Devices can now store textual information in data points. Most notably this affects the status that every device has. Now you can track its history and know when the device was online in the past.
- Custom notifications (More => Notification Settings) allow users to define custom conditions to receive notification for instrument events. Get notified when your freezer sends temperatures above -5 °C!
- The new Channel Table Element displays channels as columns and one row per device.
- The new Separator Element can render empty space, vertical and horizontal lines as well as headers to structure your dashboard content.
- The new Content Element can render static rich content so you can add formatted text, images, lists and more to your dashboard. How about some instructions for your colleagues?

- All element types can now render custom titles, featuring custom colors and size.
- Dashboards feature more options to change the grid of the dashboard to your needs. Change the number of columns, the row height and whether all elements should automatically fill empty space or allow for gaps.
- Indicator elements still show the last available data, but will now show as greyed out when a device is in a state that will not produce up to date data (like being offline).
- New Device Types Integra Viaflo, S+H Autodosage, PreSens EOM Sensor, and Mettler Toledo XPR.
- A whole set of new API v2 endpoints was added. Check the API documentation for more details!
- Filtering on API v2 now supports operators. You can now send requests like `/api/v2/devices?filter[devices][created_at][gt]=2019-11-01` to find devices created after a specific date. This opens a ton of possibilities for API integrations!
- Empty dashboards now feature a hint and instructions to add some first elements.

## Changed

- Mettler Toledo devices have a new driver version available with improved error handling and command response handling.
- As the Device status is now stored as a data point changes to the device status no longer trigger a device version in the audit trail.
- In API v2 Task error attribute now serialized as null when there is no error.
- For local installation, we now allow non-authenticated SMTP servers and configurable "from" addresses as well as better means to test custom SMTP setups.
- The channel selection component now uses a dialog with a more readable representation of the selected channels.
- The jobs index page is now showing the most recent jobs at the top.
- The use of the sample field on weighing and generic measurement tasks is now optional.

## Fixed

- Certain circumstances in API v1 and v2 errors could lead to redirect loops. You'll now always get correct JSON responses when something goes wrong.
- A problem causing some broken navigation links when visiting a user profile page.
- Password reset and account unlock emails on servers with route based tenants had broken links.
- As broken translation in Weighing task error messages.
- Ensuring that we release devices after a task finished, failed or aborted.



- A problem with real-time updates in the frontend.

## v1.15.0 - 2019-08-02

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### Added

- Webhooks can now be passed custom headers so third party push integrations can realise different scenarios from basic authentication to passing meta data

### Fixed

- The stirring task will now properly handle temporarily turning a stirrer off during a run
- A problem with invitations links has been fixed that only affected instances using tenant routing in combination with subdomain sensitive installations

## v1.14.5 - 2019-07-05

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### Added

- New Device Type: 2mag Stirring Hotplate 6

### Changed

- The Legato 100 now shows infused volume and infused time
- We improved the rotation setpoint behavior of the IKA Eurostar devices

## v1.14.4 - 2019-06-21

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### Added

- Task plots now only show relevant interpolation options
- For webcams different resolutions can now be configured using the driver options

### Changed

- Temperature control tasks only uses rounded set value to increase compatibility with different device types

- Improvements to various device types

## Fixed

- Axis labels of plot previews were cut off for larger values, now they always have enough space
- A problem with measurements of tasks that could not be safed should no longer occur
- The BinaryState element had switched labels, they'll now show correctly

## v1.14.3 - 2019-06-10

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### Added

- Task's plot editors now validate the input

### Changed

- The color range used on dashboards has been altered to exclude very light colors, that were hard to see on the white background

### Fixed

- Tabs that are running in the background will no longer freeze, when a lot of channels are active
- Measurements of temperature control tasks are now properly linked
- Notifications now use user email, when there is no name in the profile
- Measurements started from the context panel of dashboards sometimes did not show up without refreshing
- Improved handling of several edge cases of task parameters
- Improved loaders on dashboards
- Sort order in export files was not correct when including channels from different instruments

## v1.14.2 - 2019-05-24

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### Added

- Novus FieldLogger with universal channels (no particular unit)

- Novus FieldLogger with only temperature channels
- Device Driver API v2
- Download OpenAPI docs using OAuth authentication

## Changed

- Invalid API v2 parameters (values or keys) will no longer be ignored, but return errors instead

## Fixed

- A problem that could cause the jobs index page to crash
- Timestamp on measurement start is now correct
- Export files containing UTC timestamps and are labeled correctly
- Several missing or wrong translations
- Timeouts on attachment downloads

## v1.14.1 - 2019-03-05

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### Changed

- Allow adding comments for measurements at any time, not only while measurement is running

### Fixed

- Measurements were not correctly loaded after comments were added
- When users logged out, pages in other tab of the same browser were not correctly reset
- The port console did not show log entries

## v1.14.0 - 2019-03-04

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### New Device Types

- Mitutoyo Thickness Measurement device
- Lauda RT and Lauda XT
- Mettler Toledo XPE

- 2mag Stirring Hotplate 6

## Added

- Allow manual comments (text, tags) for measurements at specific data points

## Changed

- Remove passive flag from certain balances
- Use Mettler Toledo SICS protocol for certain balances which had a passive mode only

## Fixed

- Edge and IE, the API docs were not correctly loaded
- On the server administration page, the features were not sorted and got shuffled after each page visit
- NumberInput not reflecting the current value when opening a device
- Sharing a device with a team got improved
- Prevent crashing dashboards due to faulty elements
- Remove prefix for missing translations

## v1.13.1 - 2019-02-08

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### Changed

- No changes visible to users

## v1.13.0 - 2019-02-07

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### Added

- API v2 data points endpoints

### Changed

- API v2 docs improvements

## v1.12.0 - 2019-01-23

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### Added

- Export measurements and jobs from the app

### Changed

- Updated API v2 documentation

## v1.11.0 - 2019-01-07

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### Added

- Synchronized exports

### Fixed

- Fixes a problem with connectors not being able to connect