

# SARTORIUS

## Simplifying Progress

### News

SIMCA®-online 16.1



# SIMCA<sup>®</sup>-online 16.1

## News

- Reset alarms in the Web Client
- Troubleshooting for continuous project configurations
- External libraries for Python pre-processing
- Permissions granted to groups replaces previous use of roles adding more flexibility
  - More granular permissions of what users can do
- Faster load time of client workspaces
- Regular expression matching in phase execution conditions

## Smaller fixes

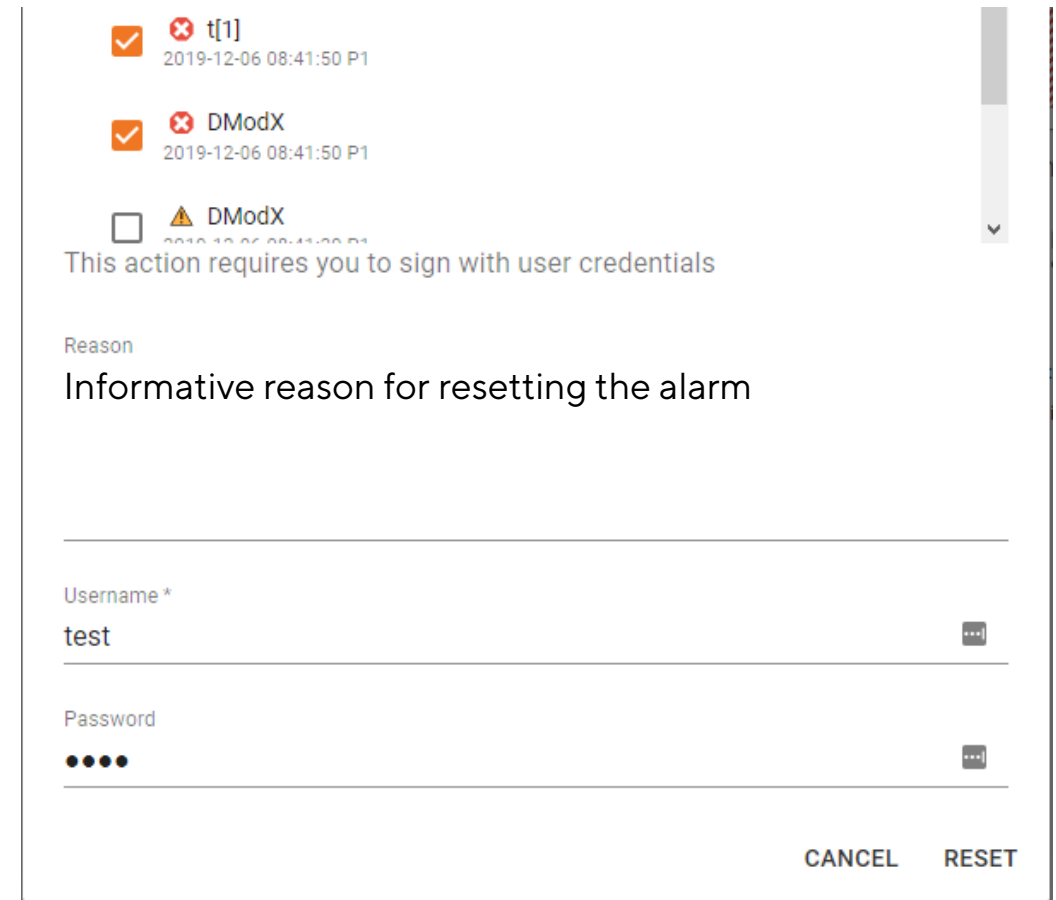
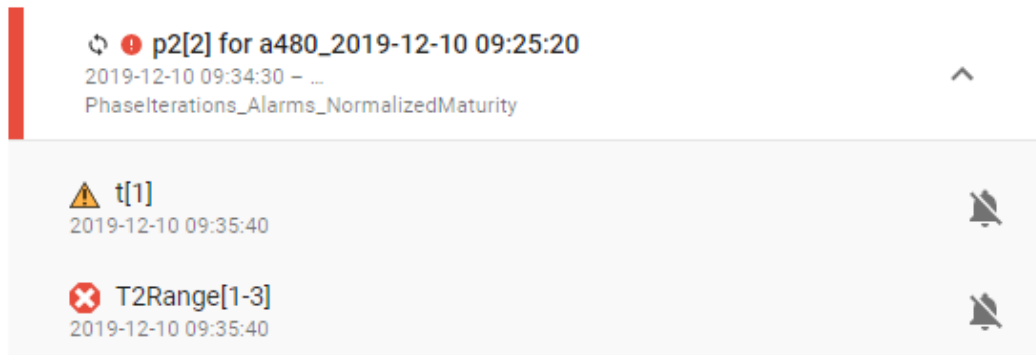
- Maximize button in all client panes
- All active directory users can now be listed and imported where previously a subset was used

## Bug fixes

- Batch plots that use color by is now colored correctly when opened from a workspace
- File | Share Workspace by email attachment works even if the option for session workspaces is turned off

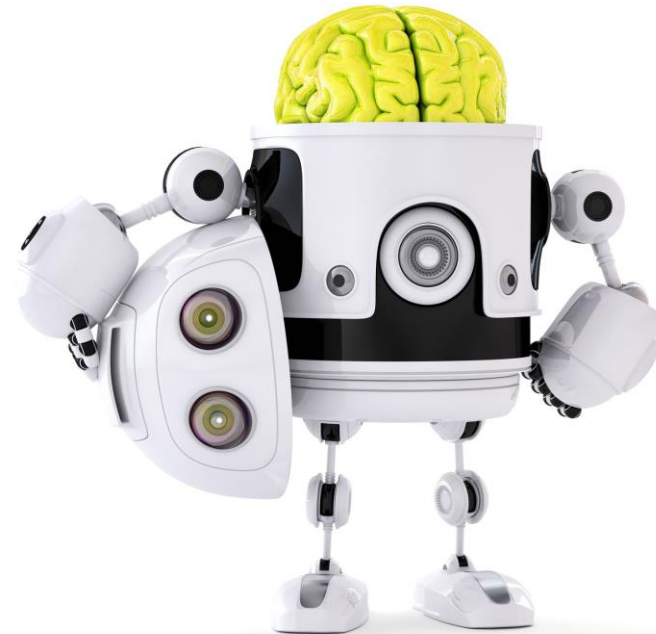
# Reset alarms in Web Client

- Benefits
  - Web client can be used as a daily work tool to be compliant with 21 CFR part 11 (Electronic Signatures)
- Applies to
  - Web Client
- Change
  - Reset alarms with electronic signatures from several different locations in the web client



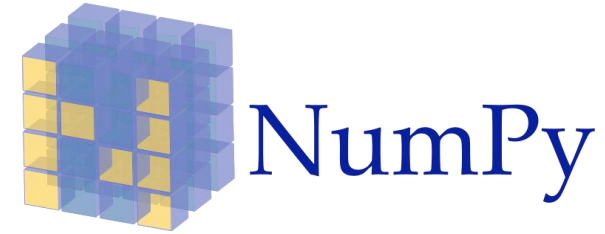
# Troubleshooting improvement for continuous project configurations

- Benefit
  - Troubleshooting is easier to do and lets users find answers themselves instead of the need to contact the online support
- Applies to
  - Continuous projects/processes
  - (Same functionality for batch projects was released with SIMCA-online 16.0)
- New functionality
  - Administrators can use the built-in troubleshooter on the Administration tab
  - Verifies configuration and tag validity



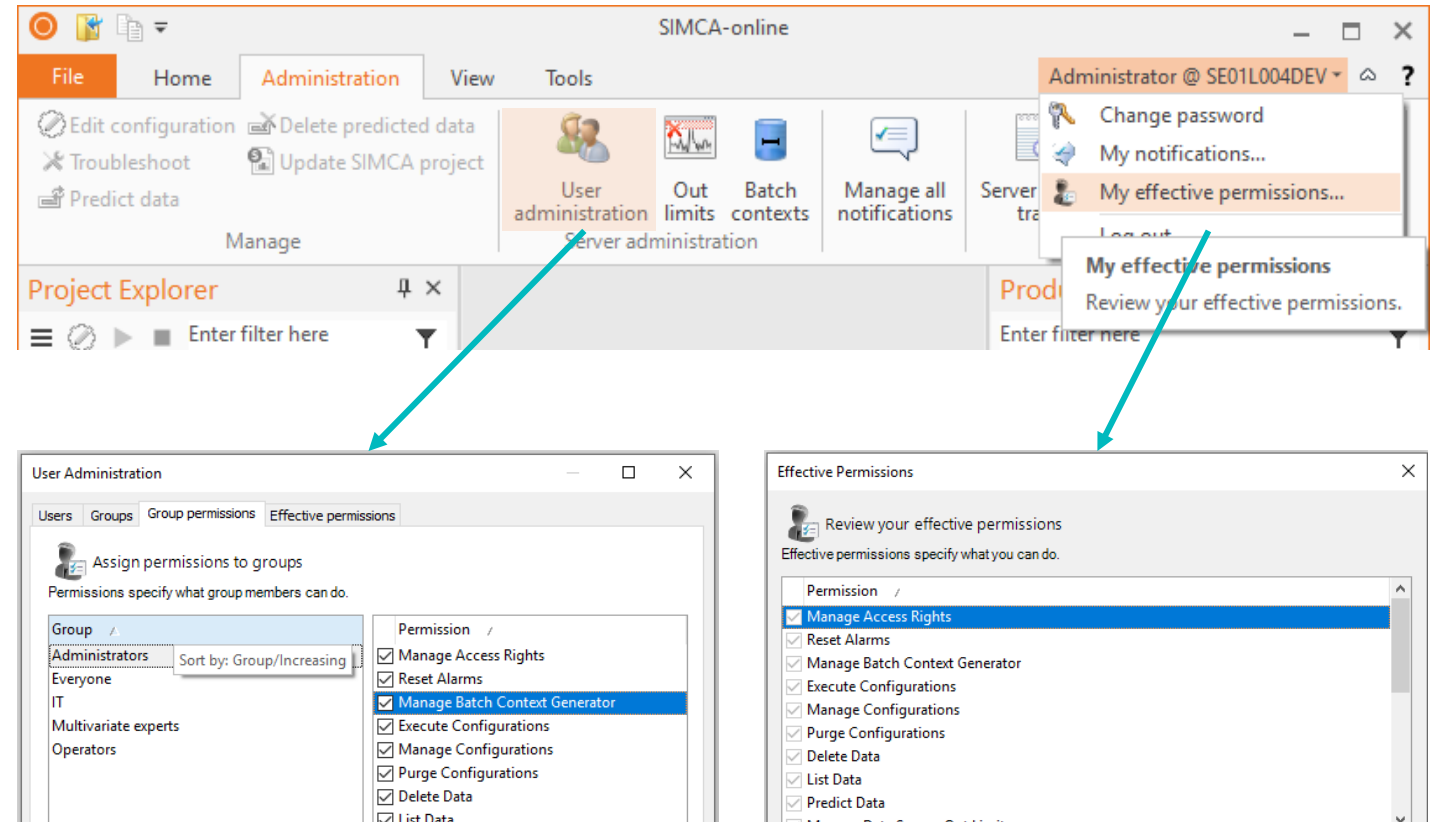
# External libraries for Python pre-processing

- Benefit
  - Scripts running math calculations run faster than without the SciPy or NumPy libraries
- Applies to
  - USP files with Python pre-processing
- Change
  - Preprocessing scripts now support code dependent on the Python libraries **NumPy** (1.15.4) and **SciPy** (1.1.0)
    - These are standard packages for doing math on multidimensional data



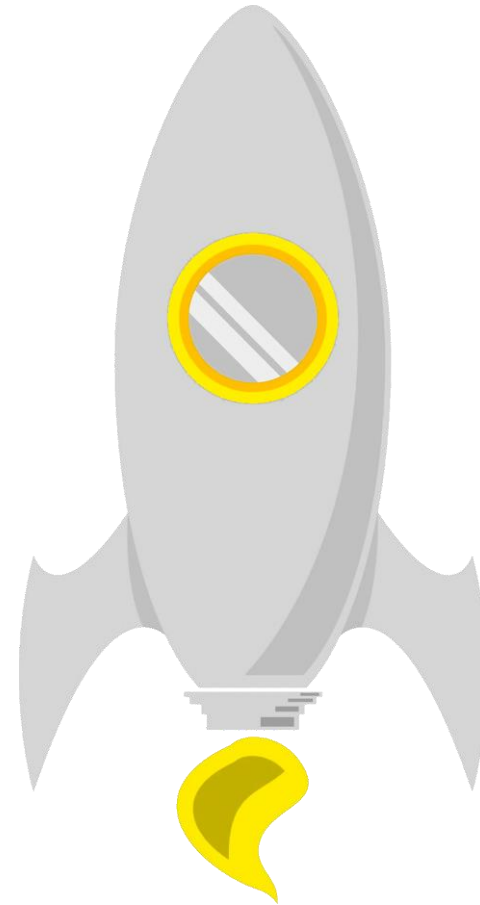
# Permissions granted to groups replaces previous use of roles which adds more flexibility

- Benefits
  - Easy management of users and permissions
- Applies to
  - Server user authorization
- Change
  - Permissions are granted to groups
  - Roles have been removed, and will migrate to groups when upgrading the system
  - Final permissions is the union of all the permissions for all groups that the user is a member of
  - Each user can see their own effective permissions
  - Administrators can see effective permissions for any user
  - The “Everyone” group will affect all users
  - Permissions are more granular



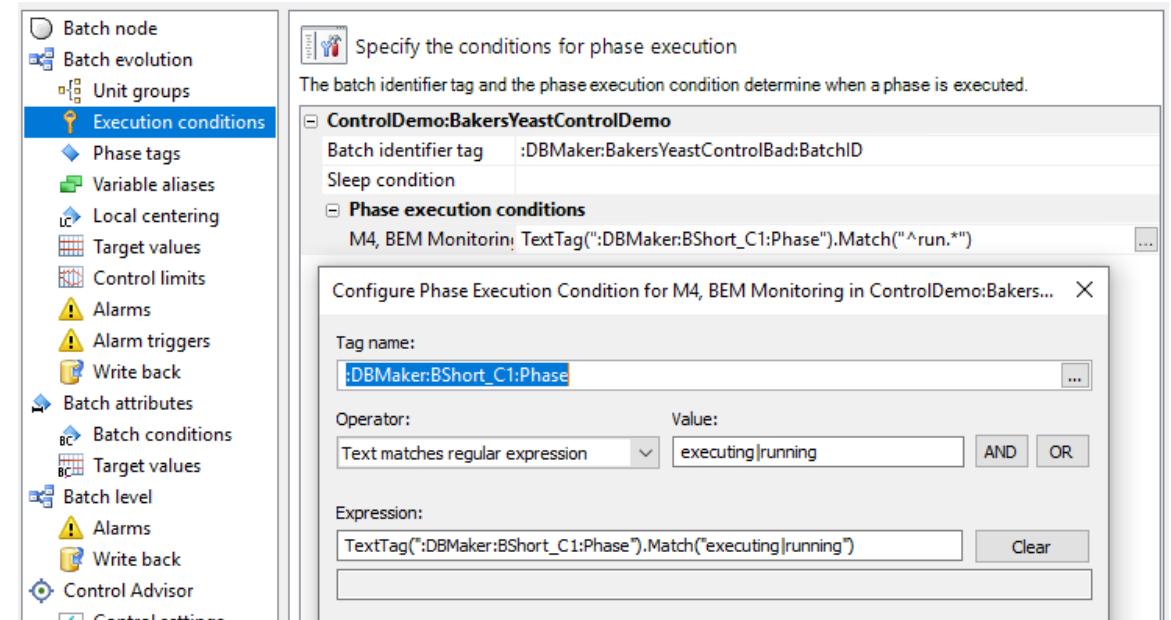
# Faster load time of client workspaces

- Benefits
  - Start-up of clients is about 30% faster
  - Loading a server workspace is about 30% faster
- Applies to
  - Desktop client workspace
- Change
  - Performance of workspaces have improved



# Regular expression matching in phase execution conditions

- Benefits
  - Allows execution of phases with a regular expression instead of plain text comparisons
- Applies to
  - Batch configurations
- Change
  - Phase execution conditions has now support for regular expression matching using the Match function
- Tip: if you want to test regular expressions a great tool is <https://regex101.com/>





# SARTORIUS

## Simplifying Progress



## SIMCA<sup>®</sup>-online 16

Version info

# SIMCA<sup>®</sup>-online 16

- Server
  - SIMCA<sup>®</sup> 16
  - Late entry data
  - Monitor excluded variables
  - Python script pretreatment
  - Administrable notifications
  - Bug fix: Server unresponsive when batch contexts were used in combination with notifications and other subsystems
  - Bug fix: Server shutdown was not correctly performed
- Desktop client
  - Panes and Filters
    - Project explorer pane
      - Improved usability
      - Smart filters
      - Multiselect
    - Unit overview pane
      - View and open projects that are currently executing
      - Smart filters
      - Performance improvement
    - Production overview pane
      - Global batch selection
      - Batch colors
      - Find and retain historical batches
      - Include workset batches
      - Smart filters
    - Properties pane
      - Plot properties for active plot
  - Peek value of tags in configuration
  - Clamping
- Web client
  - Comparison between production
    - Search server for historical batches
    - Multiple data vectors
    - Easy add/remove vectors and batches
    - Multiple Y-axes
  - System overview and Batch timeline
  - Batch level charts with alarms
  - Alarm view
  - Clamping

# Late entry data

- Benefits
  - Enables SIMCA®-online to be used as CPV tool together with Active Dashboard
- Applies to
  - At-line/IPC/discrete data
  - CQA/batch condition data
- New functionality
  - Wait for and read data that exists after batches have finished producing
  - Look for data at a configurable time interval
- Feedback by the system to the user
  - Information about an ended batch that is kept alive in the production overview

The image shows two overlapping windows from the SIMCA software. The background window is 'Production Overview', which displays a list of active and recent batches. Two batches are highlighted with red boxes: 'PS2\_2019-04-10 12:09:20' (active) and 'PS1\_2019-04-10 11:55:30' (stopped but kept active). The foreground window is 'Configure - BakersYeastDemo', which is a configuration dialog for 'Specify time ranges for project execution and client recent batches'. The 'Late entry data' section is expanded, showing the option 'Keep batch active for late entry data' checked and set to 1 day. Other settings include 'Catch-up of missed batches' (7 days), 'Batch condition update interval' (1 hour), and 'Recent batch time range' (30 days). The 'Time ranges' option in the left sidebar is also highlighted.

# Monitor excluded variables

- Benefits
  - Visualizing variables that are not and should not impact the model is now a lot easier
- Applies to
  - Continuous projects/processes
  - (Same behavior for batch projects exists as a work-around; see relevant KB article for more information)
- New functionality
  - Makes it possible to view variables that are imported to the SIMCA® project, but excluded from the model

Connect the SIMCA model variables with corresponding data source tags

Unconnected variables will be treated as missing values.

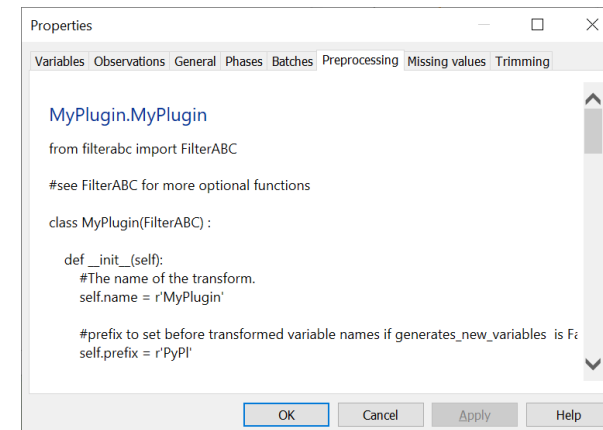
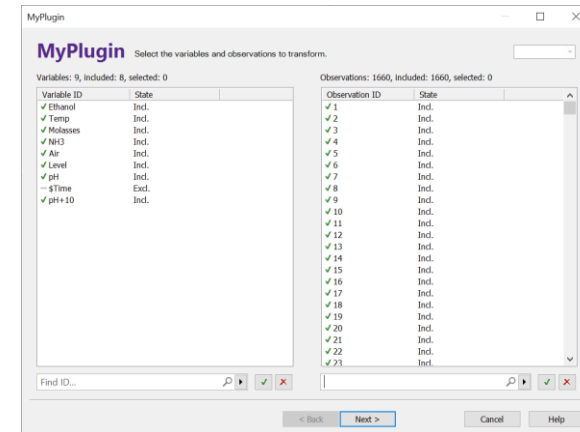
	1	2
	Primary ID	Tag
2	Ag ppm	:DBMaker:Process_Cuprum_Good:Ag ppm
3	Ni ppm	:DBMaker:Process_Cuprum_Good:Ni ppm
4	Pb ppm	:DBMaker:Process_Cuprum_Good:Pb ppm
5	Bi ppm	
6	Sb ppm	:DBMaker:Process_Cuprum_Good:Sb ppm
7	Se ppm	:DBMaker:Process_Cuprum_Good:Se ppm
8	(Time)	
9	(As ppm)	:DBMaker:Process_Cuprum_Good:As ppm
10	(Te ppm)	

# Python pretreatment

- Benefits
  - Combine your own mathematics in Python with your multivariate models
- Applies to
  - All project files created in SIMCA®
- New functionality
  - Python scripts added to SIMCA® project files as pretreatment step will also be utilized by SIMCA®-online

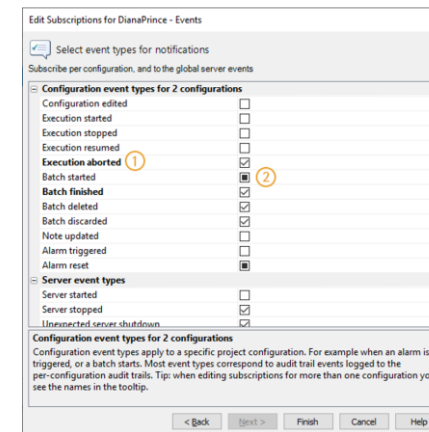
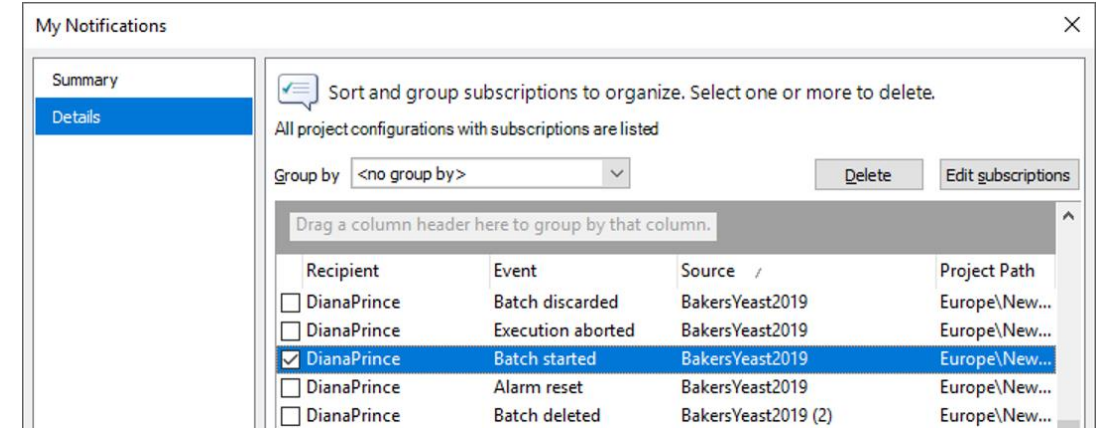
## Disclaimer

- First version is not thread safe
  - Recommended to run only one python script per server



# Administrable notifications

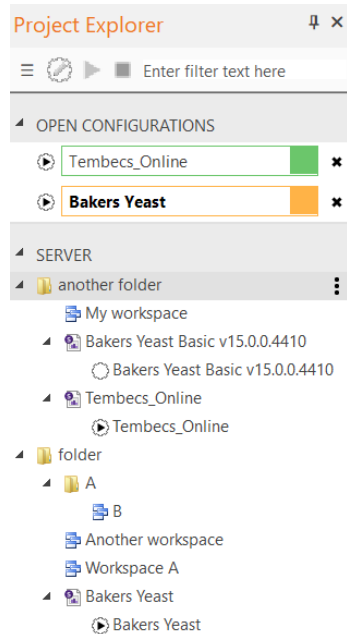
- Benefits
  - Versatile usage of the notification system
- Applies to
  - Desktop client
- New functionality
  - Active Directory not required
  - Email addresses can be edited
  - View logged in user's notification in My notifications
  - View all notifications in Manage all notifications
    - Admin tab
  - Updated and grouped subscription dialog
  - Requires users to reconfigure notifications for SIMCA®-online 16



# Panes and filters

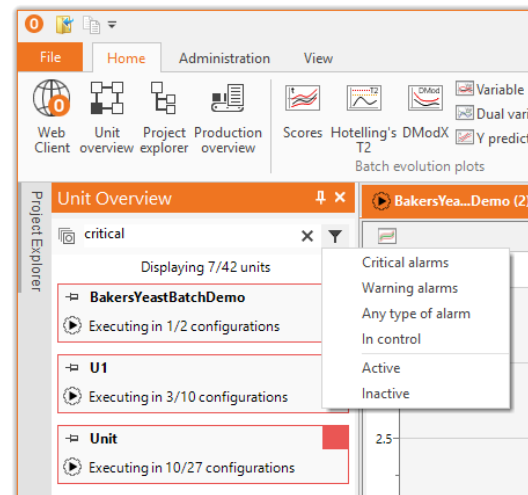
- **Project explorer pane**

- Less clicks to get to desired view
- Smart filters
- Multi-select



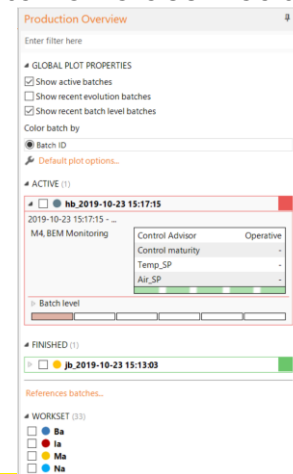
- **Unit overview pane**

- View and open projects that are currently executing
- Smart filters
- Unit overview performance



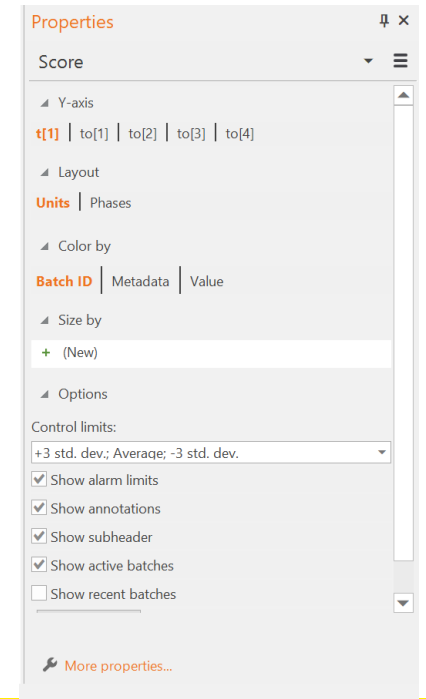
- **Production overview pane**

- Global chart interaction
- Batch colors
- Find batches, retained if selected
- Workset batches
- Color by batch attribute data for classification



- **Properties pane**

- Plot properties for active plot moved to pane

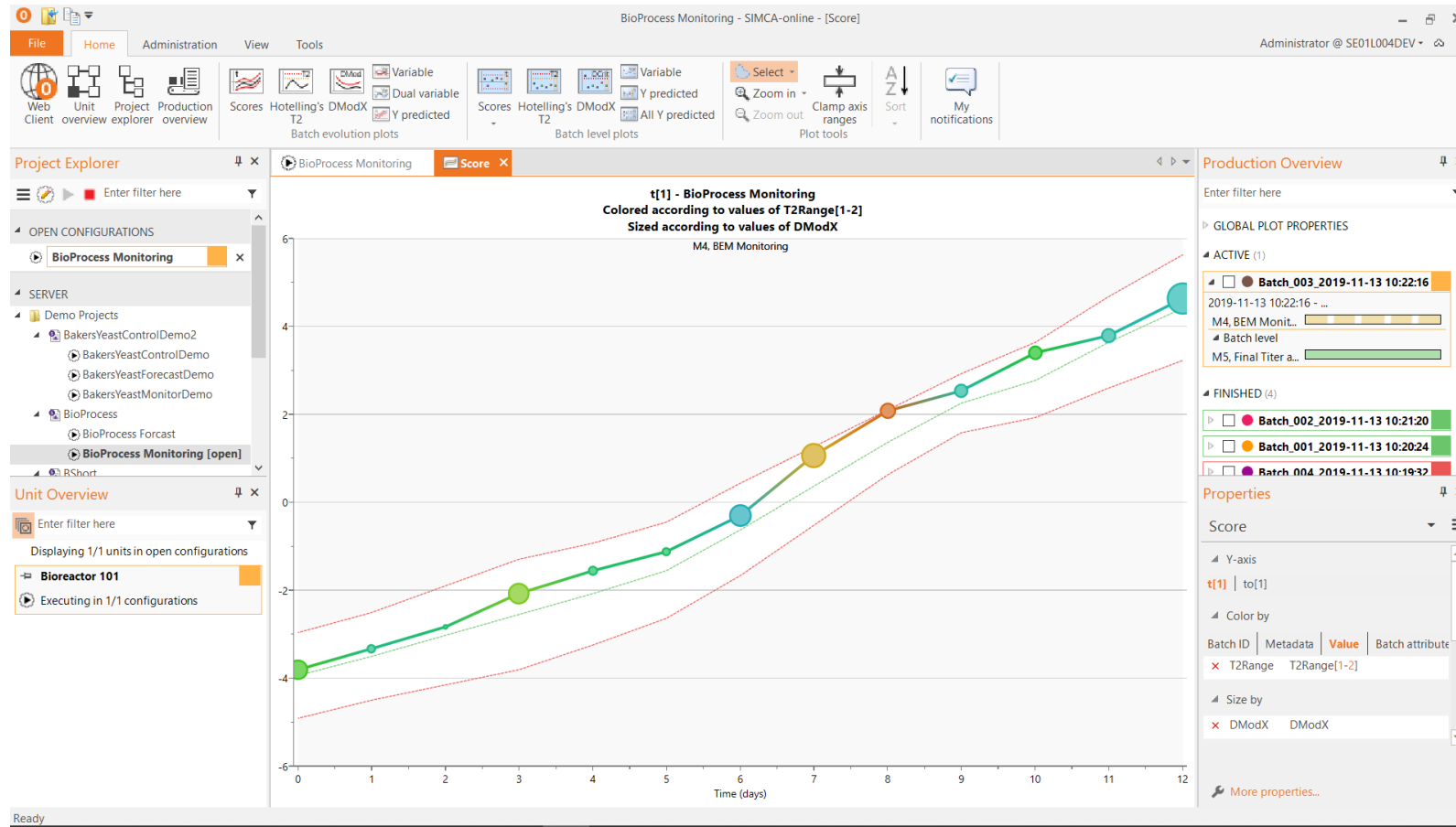


Desktop client

# Panes and filters

Project explorer

Unit overview



Production overview

Properties



# View most current data per variable

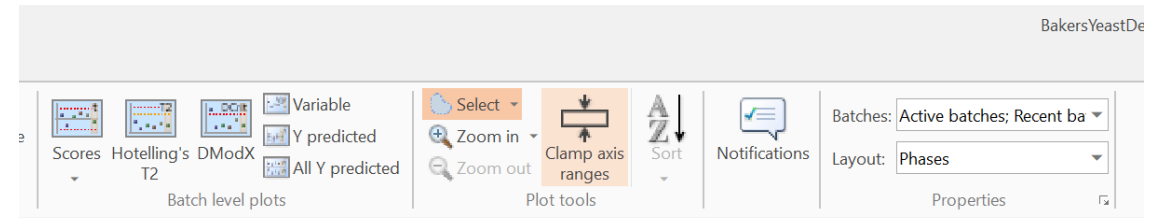
- Benefits
  - When specifying execution conditions
  - When specifying batch identifier tags
  - When connecting the right tags to model variables
- Applies to
  - Project configuration
- New functionality
  - Peek data for any data source tag

Enter filter here	
Tags (9 of 9)	Data
Batch ID	<Click to view >
Batch Age (h)	<Click to view >
Ethanol	<Click to view >
Temp	<Click to view >
Molasses	<Click to view >
NH3	<Click to view >
Air	<Click to view >
Level	<Click to view >
pH	<Click to view >

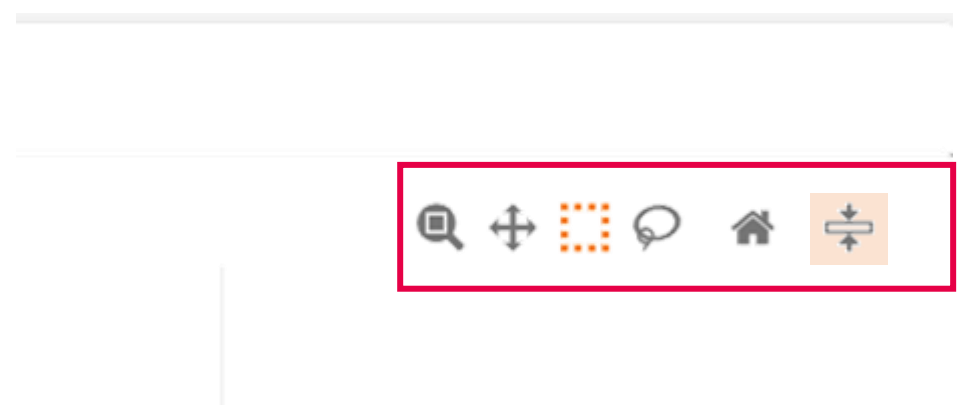
Enter filter here	
Tags (9 of 9)	Data
<b>Batch ID</b>	<b>Ha (5cdd4e18) [text]</b>
Batch Age (h)	10,8333
Ethanol	0,04458
Temp	32,2146
Molasses	2669,1
NH3	66,2627
Air	6310,62
Level	54,9422
pH	5,14757

# Clamping

- Benefits
  - Spikes in the data will no longer resize the y-axis thus hiding the normal varying data
- Applies to
  - All charts
  - Both clients
- New functionality
  - Normalize the Y axis in the charts by forcing the range to be normal

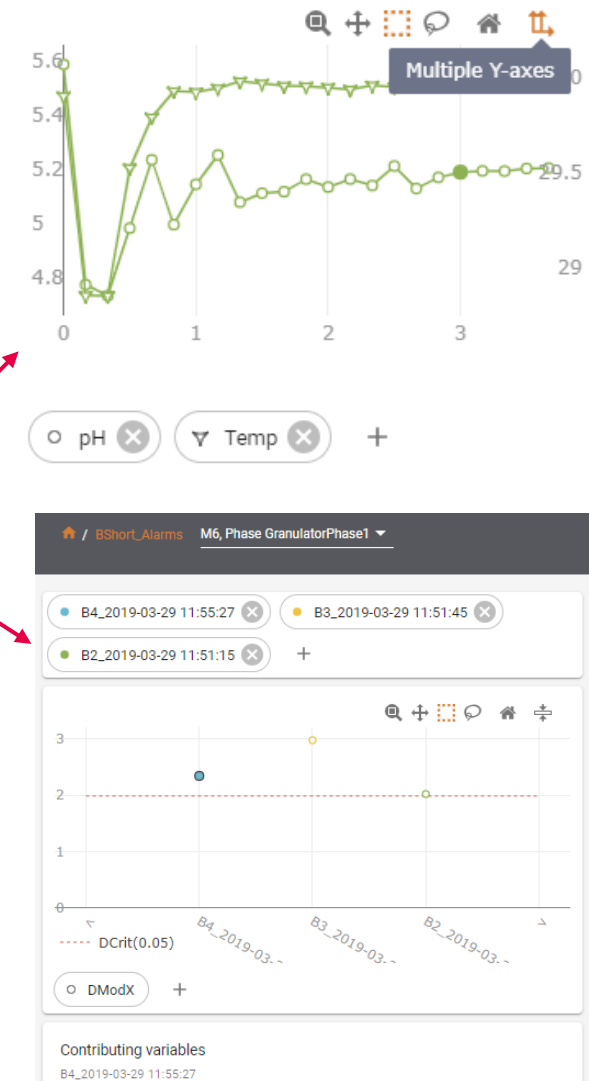
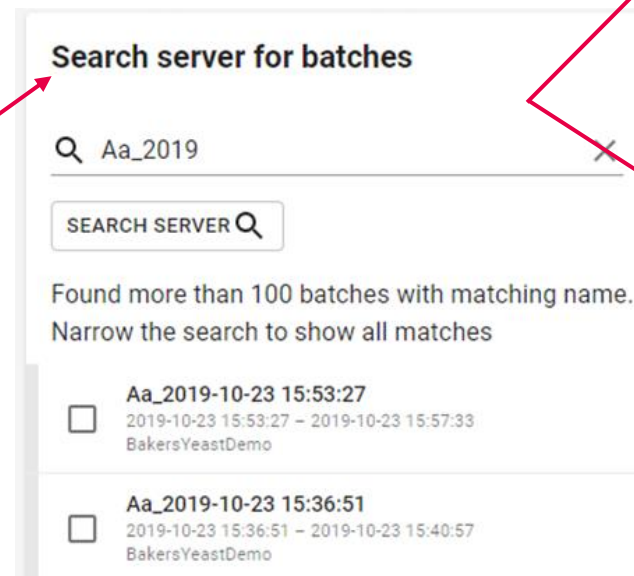
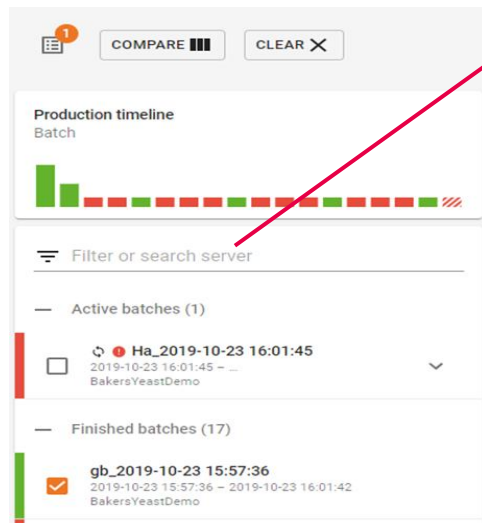


**Clamp axis ranges**  
Clamp the plot axes to the normal range. If not pressed, auto-scales the plot to show all data.



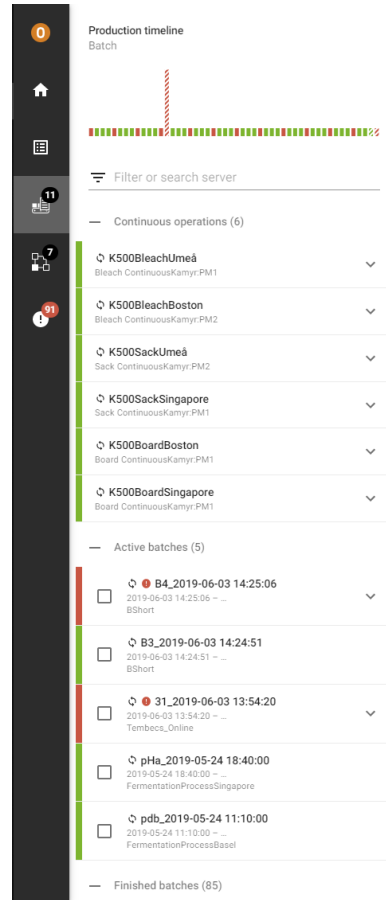
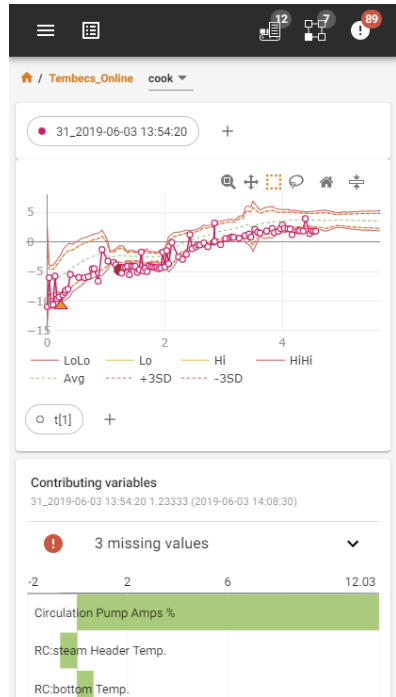
# Compare batches and production

- Helps engineers with daily tasks
  - Comparison between batches
    - Multiple Y-axes
    - Search server for historical batches
    - Multiple data vectors
    - Easy add/remove vectors and batches
  - Batch level charts



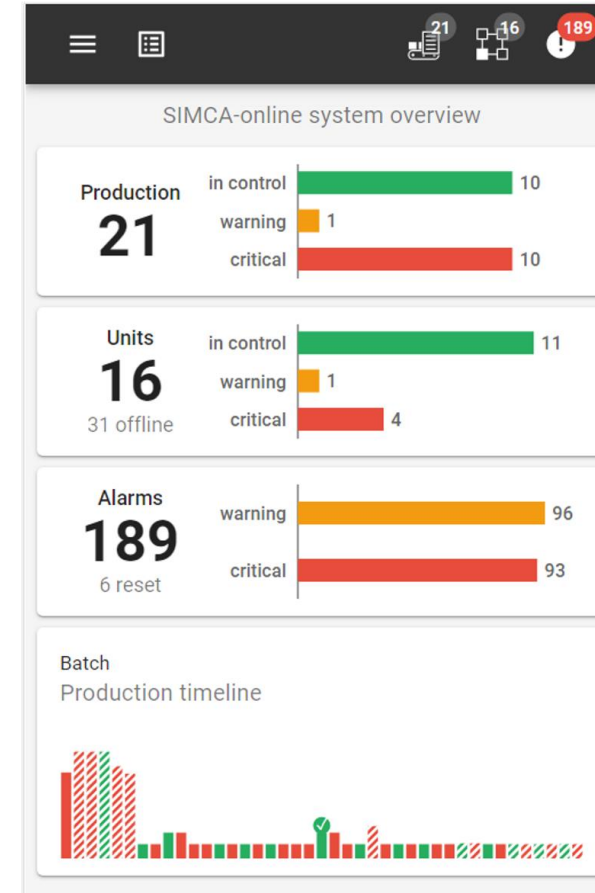
# Responsive layout

View adopts to screen size



# System overview and Batch timeline

- Benefits
  - Starting point for engineers to know where to start investigate process deviations and optimize the process
- Applies to
  - Web client batch production
- New functionality
  - Overview summary for production, units and alarms
  - Batch timeline which shows alarms and production time



# Minor news

## ▪ Server

- Audit trail audits workspace changes
- New BioPharma demo project
- Batch conditions are now optionally read more frequently
- Performance improvement by reducing the data source communication, and retrieving larger pieces of data when possible
- Project configuration is automatically checked for validity
- Bug fix: Dynamic lags sometimes gave missing value

## ▪ Desktop client

- Modernized tab control
  - Additions; Icons, short text, single row, one tab/plot
  - Removals; server tab for extracted lists and audit trails, alarm state colors
- Project explorer
  - Simplified toolbar
  - Open configurations/Server
    - Alphabetical order
    - Bold configuration means it is active
  - Double click opens the config
    - To update configuration – Right click
  - Right click to get context menu
    - Multiselect enabled
    - New properties item
- Home tab
  - Shortcuts to panes
  - Removed properties from batch mode
- Configuration
  - Time ranges moved and redesigned
- Smaller default plot symbols

## ▪ Web client

- Progress bar when loading data
- New toolbar
- System overview is the new home/start page after log-in
- Plot improvements
  - Batch selection list to quickly find what to plot
  - Go from evolution to batch details in one click
  - Change trend vectors with chips
- All batches are kept per session
- Responsive layout
- Bug fix: New data (“ticks”) reset zoom, and hidden limits