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Web client installation guide

SIMCA-online

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1 Introduction

Welcome to SIMCA®-online 16.1, part of the Umetrics® Suite of Data Analytics Solutions.

This is the installation guide to the SIMCA-online Web Client. It describes what the Web Client is, how it is installed, and how to log in to the Web Client to get started.

For the latest technical information about the Web Client, see its knowledge base article at https://umetrics.com/kb/simca-online-web-client-161.

1.1 What is the SIMCA-online Web Client

The SIMCA-online Web Client is a web-based solution for monitoring production in mobile or desktop browsers, and for displaying details about alarms when clicking links in notification emails.

The web client runs in a browser and connects to a SIMCA-online server to obtain its data.

Users log in with their SIMCA-online usernames and passwords.

1.2 Demo site

At the time of writing there is a demo of the SIMCA-online Web Client available at http://demo.umetrics.com/ which you can use to test the product without installing anything.

Log in as **Test** with the password **test**.

1.3 Features

The Web Client has these main features

- Reset alarms where alarms are visible
- Home page with a system overview
- Continuous project monitoring, including drill down to raw data
- Search server to find and look at any older batch
- Batch evolution monitoring, including drill down to raw data
- Batch level models and batch conditions
- Batch comparison view
- SIMCA-online alarms and notes
- More than one batch in each chart
- More than one data vector in each chart
- Mobile layout for smaller devices, and desktop layout that takes advantage of larger screens

Note that the SIMCA-online desktop client is needed to use the full feature set of SIMCA-online.

To learn what has changed since previous versions, see the change log in 1.6.

1.4 System requirements

- SIMCA-online 16.1 server with the Web Server feature turned on.
- No network restrictions between the browsers and the SIMCA-online server for the TCP port used by the Web Server.
- Supported browsers are Chrome (recommended for the best performance), Firefox and Edge on desktop PCs, and Chrome and Safari on mobile phones and tablets.

1.5 Architecture

Here is a short step-by-step explanation illustrating the architecture for the SIMCA-online web client and how it works:

1. A SIMCA-online server is running with the Web Server component enabled. It is hosting the files that make up the Web Client (html, JavaScript, images).
2. You start a browser and type the address of the SIMCA-online server. For example, **http://server:9001**
3. The necessary files for the Web Client are downloaded from the server and run in the browser. The browser displays a login screen.
4. You type a SIMCA-online username and password.

5. The browser connects to the Web API of the SIMCA-online server, and verifies that the user name and password are correct. It then obtains data for recent activity on the server. Only projects in folders that you have access rights to are visible in the Web Client.
6. You interact with the Web Client to show charts and look at alarms, etc.

It is the SIMCA-online server itself that both hosts the Web Client files and exposes the Web API that the Web Client needs to obtain its data from. It is also possible to host the Web Client files on a different web server. Contact support to learn how to do this.

1.6 Change log

Added in version 16.1

- Reset alarms

Added in version 16

- Batch level charts, data and alarms
- Alarm view
- Compare batches view
- Search server for historical batches
- Multiple data vectors in plots
- Easy to add/remove vectors and batches in plots
- Responsive layout, better use of space on desktop monitors
- Multiple Y-axis
- System overview and batch timeline
- Clamping
- Progress bar when loading data
- Batch selection list to quickly find what to plot
- All older batches are kept per session
- Go from evolution to batch details in one click
- Change trend vectors with chips
- New toolbar
- System overview is the new home page

Added in version 15.1:

- Continuous (non-batch) projects can be monitored under Production overview as continuous operations, each showing aggregated alarm status for the last hour
- Unit overview shows units used in continuous projects too
- Trend charts for continuous projects, allowing paging back and forth in time and changing the chart range. New data vectors for trend charts: YPred, DModX+, PModX, PModX+
- Contribution chart for continuous project data, optionally automatically updated to show the most recent data
- Contribution chart clearly displays names of all contributing variables, and variables for which there are missing data
- Warning- and Critical level alarms are separate and triggered independently
- Alarms that have been reset don't influence alarm state in Production overview
- Overall user experience improvements, code optimizations, and fixes

Added in version 15.0.1:

- Support for projects with phase iterations
- Support for phases with discrete data retrieval
- Reset alarms are indicated, including comments from electronic signatures
- Filter production list for batch name, configuration name, unit, alarm status
- Summary view shows active units in addition to active batches
- Unit overview shows all batch related units on the SIMCA-online server, if they are active or not, and alarm status
- Clicking a unit shows details for that unit, including which batches were produced recently

- Show units and their operational status (alarms and current activity) and history of produced batches. Filtering supported
- Improved built-in tour to explain how the Web Client works
- The project configuration seen in the Web Client can be opened directly in the desktop client
- Minor fixes and visual improvements

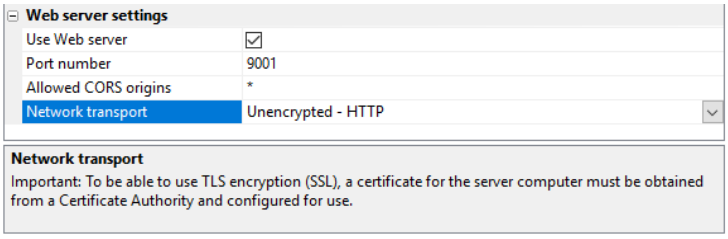
Added in version 15.0:

- Works in mobile or desktop browsers
- Support for transport layer security (TLS or HTTPS) between browsers and the server
- Log in using the same credentials used in SIMCA-online
- Respects access rights of folders in SIMCA-online to only show data the user has privileges to access
- Shows data from batch project configurations
- Automatically refreshes every 10 seconds to show the current status of the SIMCA-online server
- Shows alarm status and high-level batch information for
- Configurations that are executing
- Recent batches - batches that have ended within the last hour
- All batches that are active (no end time)
- Shows phase status information; if they are executing or finished
- Shows alarm state (no alarm, warning alarm or critical alarm) and notes for the phases and batches
- Batch evolution charts showing multivariate data or variables for a batch
- Smart crumbs used for navigation between phases and to select data to show in a chart
- Contribution charts for multivariate data from a point to average in evolution charts
- Links from SIMCA-online email notification opens the batch evolution chart showing the data that triggered the alarm

2 Installation

This section shows how to install and configure SIMCA-online in order to use the Web Client.

1. Install SIMCA-online 16.1 server. Make sure you select the feature **Web Client** during the installation. Refer to the **ReadMe and Installation Guide.pdf** included in the SIMCA-online zip-file for details.
2. On the server computer, use the **SIMCA-online Server Options** utility to enable the Web server component of the SIMCA-online server. Specify the port number to use and the Network transport. For a test installation it is easiest to use Unencrypted but for production we recommend Transport Layer Security (TLS) as described in 2.2.



3. Re-start the SIMCA-online server and verify that it starts. If not, consult the server log to learn why.

Learn more on how to use the Web Client in section 3.

2.1 Demo installation

The Web Client also works with a trial (demo) installation of SIMCA-online server when you don't have a license. Just follow the instructions in **ReadMe and Installation Guide.pdf** to install SIMCA-online on a server computer.

Tip: Remember that you can try the Web Client demo site, without installation, as described in 1.2 above.

2.2 Setting up a secure connection – HTTPS

Since usernames and passwords are sent from the Web Client to the SIMCA-online server over the network, we recommend that customers use transport layer security (TLS) - HTTPS - so that all communications are encrypted.

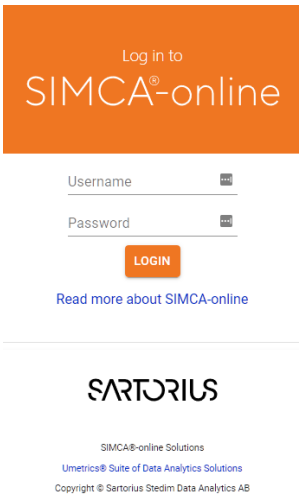
To enable this, three steps need to be performed;

1. An SSL certificate must be obtained and installed on the server computer.
2. The SIMCA-online server needs to be changed to use Transport Layer Security – HTTPS - in the **SIMCA-online Server Options** utility.
3. Browsers connect using https://server instead of http.

These steps are described in detail in the knowledge base article Using TLS/HTTPS with the SIMCA-online Web Server.

3 Launching the Web Client and logging in

1. Launch a browser and connect to **http://serverName:9001** (assuming you're using the default port of 9001 and the Unencrypted network transport) and verify that you are greeted with the log in screen.
2. Log in as a SIMCA-online user with corresponding password. For a demo installation of SIMCA-online this typically means the username Administrator with an empty password.
3. The browser then connects to the SIMCA-online server and obtains the data and shows the current status of your server and process.



Learn about how to use the Web Client in the tour that starts after logging in the first time.