Version 2.5 of the No-Code Platform Eclipse Streamsheets facilitates Dashboarding with new sheet type. Integrations to Slack and other HTTP services expanded.

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Cedalo, the company behind Eclipse Streamsheets and Eclipse Mosquitto, announced today the release of Version 2.5 of Streamsheets. New functionalities have been introduced for the open-source version as well as for the premium part of the offering. Streamsheets is a revolutionary no-code approach based on spreadsheet cell formulas to process real-time data, create real-time dashboards, and interoperate with 3rd party web service APIs.

Main feature of Version 2.5 is the introduction of the new sheet type "Dashboard": App builders have now a flexible matrix grid layout to place widgets, shapes, and graphs very conveniently. Especially for new users, it becomes a lot easier to compose custom dashboards. New elements can be added by context menus. Functionalities like auto-fit of content in the matrix cells allow for quick changes if a dashboard needs to be altered later. The overall design adapts to different screen sizes when viewed on a smart phone, tablet, or on a desktop screen.
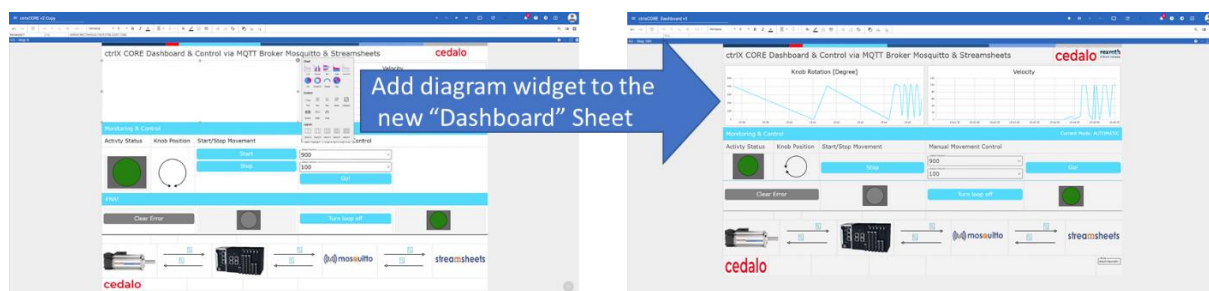

Figure 1 - The new sheet type "Dashboard" in Streamsheets 2.5 offers a grid matrix to add widgets, data, and graphs.

"Graphical representation of real-time data, and results is one of the key reasons for customers to decide for Streamsheets. Due to this extraordinary importance of this graphical feature we decided to put our development forces for this version to a large degree into that topic. This helps beginners but also experienced Streamsheets users to pull up and maintain their dashboards effectively", explains Philipp Struss, CEO of Cedalo.

The second big highlight in Streamsheets 2.5 is a massive expansion of the options to connect to 3rd party APIs, web services, and REST interfaces. Classical HTTP API interface operations like HTTP.GET, HTTP.POST, HTTP.PUT, HTTP.DELETE, HTTP.HEAD, HTTP.OPTIONS, HTTP.PATCH, or HTTP.TRACE can now be used directly as cell formulas. Of course, input for those functions can be set with reference to results from other cells. Likewise, responses from the external systems can be re-directed to any desired cell range in the Streamsheet.

"With that any HTTP web service request, or response can become part of a Streamsheet App. Customers of Cedalo often encounter for example that order, or batch data from an Enterprise Resource Planning (ERP) or a Warehouse Management System (WMS) needs to be matched with real-time data arriving. Also, Streamsheets can couple by HTTP/REST to Artificial Intelligence (AI) or Machine Learning (ML) systems that can be cloud-based or on-premises hosted at the customer site. Pre-processed real-time data is then given to the AI/ML system and the AI/ML system can then respond directly into a cell range

of a Streamsheet. Depending on the result, the Streamsheets application can then take further steps like notifying personnel, storing the data, or publishing a message to e.g., an Apache Kafka cluster", explain Stefan Loelkes, CRO of Cedalo. Of course, a Streamsheet server cannot only function as an HTTP or webhook client, but in the premium version it can also act as a HTTP server to respond to web service request from external parties.
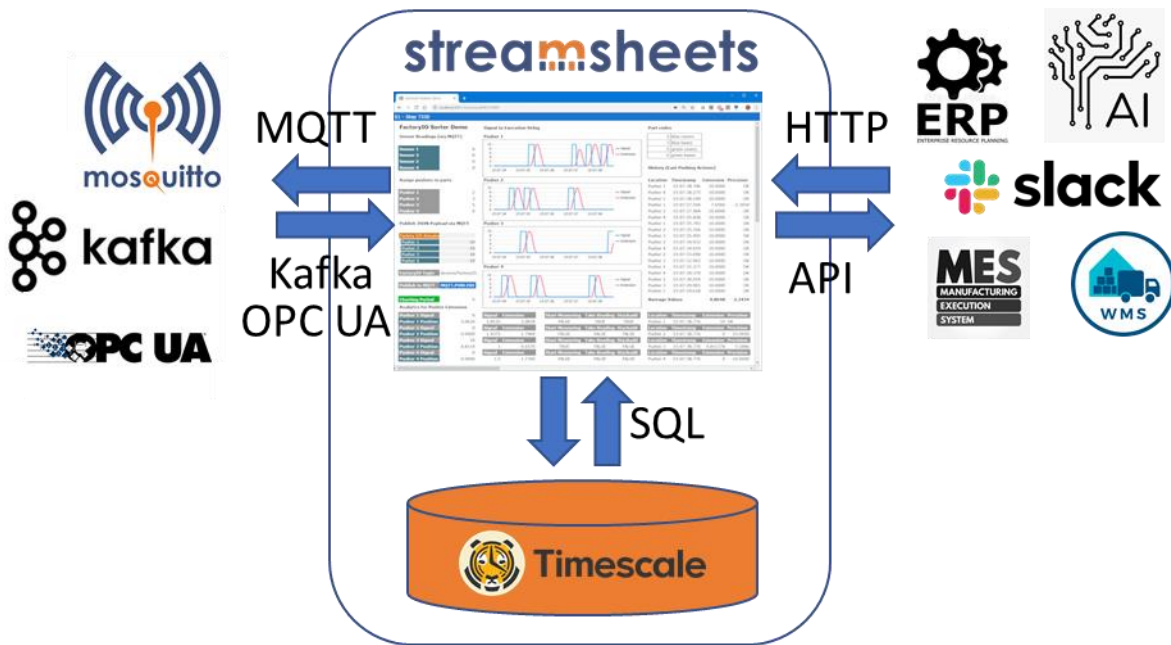

Figure 2- Streamsheets interoperability architecture

Cedalo also pushes the boundaries to connect with popular 3rd party systems through tailored cell formulas. For instance, the premium version of Streamsheets contains functions to communicate with Slack. Slack is currently one of the most successful communication management services. With Streamsheets, all Slack channels of a Slack workspace can be retrieved and used in a Streamsheet. Any result from a Streamsheet can be fed to any Slack channel of the customer's workspace. With the increasingly popular use of Slack as the central communication method in companies, alarms, and warnings from incoming MQTT data can e.g., trigger a message to a person or a channel in Slack. Streamsheets by its nature offers diverse options how to pre-process and filter data before a message is sent to Slack.

Streamsheets premium has an integrated Timescale timeseries data base directly on-board. Even if streaming analytics mainly cares about real-time data, it is important to store raw data or results for later retrieval like e.g., in a timeseries database. With previous versions, Streamsheets already provided all necessary SQL functions to administer tables or to select and insert data. Since Streamsheets 2.5, it is now also possible with the new TIMESCALE.UPDATE() function to directly alter existing records in the database based on a cell command. Like that, all kinds of continuous analytics use cases (combination of real-time data with historic data) can now be implemented in Streamsheets.

Usability has been further increased e.g., with in-app tutorials that help new users to find an easier entry into Streamsheets 2.5. During formula editing, matching brackets are now highlighted to facilitate proper

formula engineering. Cedalo also added major convenience features like a search function in sheets (CTRL+F). For advanced users, formula handling becomes much simpler with the so-called DOT notation for JSON expressions. New predecessor/successor checks can be activated to analyze interdependencies between cells. Last but not least, the overall performance was further improved with the new version.

The latest version of Eclipse Streamsheets can be downloaded from the Eclipse Foundation website and on https://cedalo.com/products/streamsheets/.

About Cedalo GmbH

Cedalo GmbH is an IoT start-up based in Freiburg that is strongly committed to the topic of open source. Thus, Cedalo created open source projects for both its products within the Eclipse Foundation and drives their development: Eclipse Streamsheets, the first product, is a no-code platform that can subscribe to, but also publish, data streams such as MQTT or Apache Kafka. Business process users can use a spreadsheet GUI and cell functions to create stream processing applications to transform and display data. A variety of elements enable quick dashboarding here. Eclipse Mosquitto, the second product, is the most downloaded MQTT broker in the world. Brokers orchestrate the flow of messages in modern IoT publish/subscribe architectures. In large installations on servers, Mosquitto is characterized by its high efficiency when processing a large number of parallel connections. Thanks to its resource-saving programming, it also runs well on small ARM-based edge devices such as the Raspberry Pi.

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