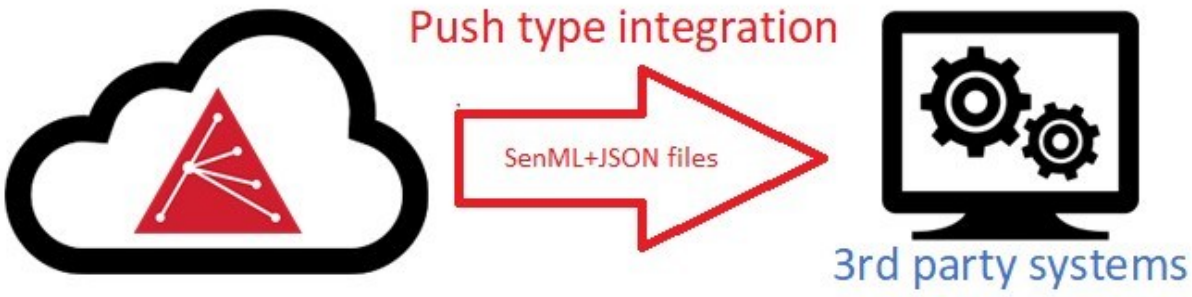
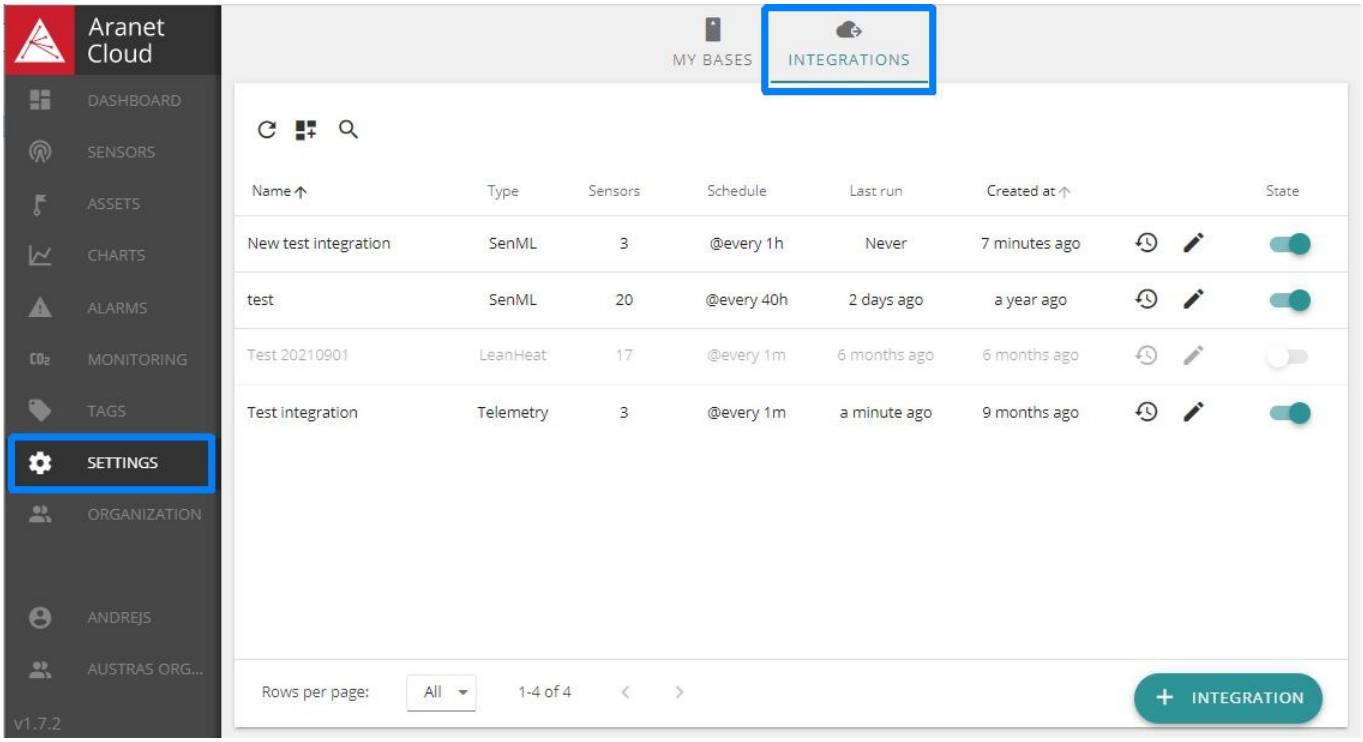
ARANET CLOUD INTEGRATIONS

Starting Aranet Cloud v.1.7.8

Aranet Cloud platform allows send-out of sensor metrics data from its organizations in SenML+JSON or proprietary LeanHeat JSON data file format via push type integration API to any 3rd party system endpoint (server, computer, another Cloud platform etc.) which is capable of receiving such files.

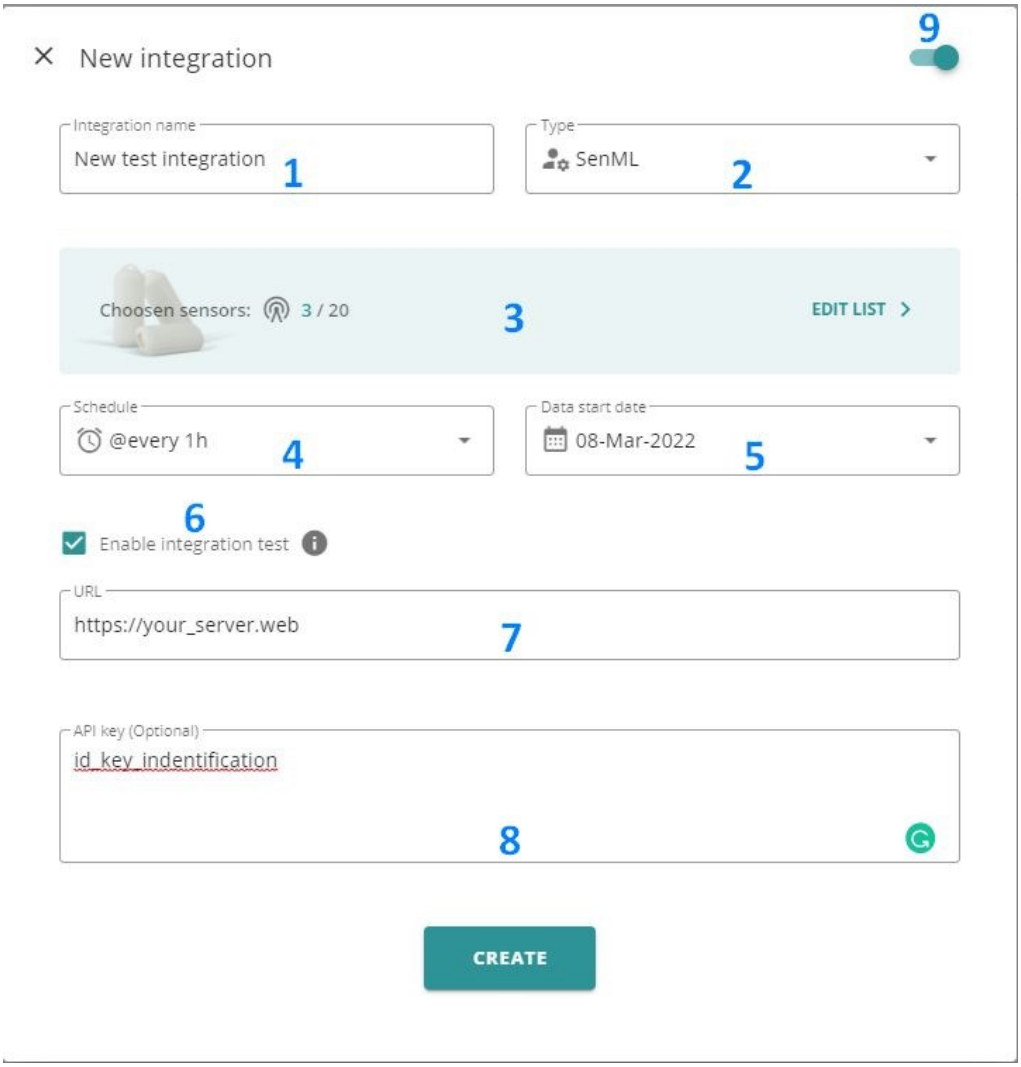


Configuration of this API can be done from **INTEGRARIONS** tab in **SETTINGS** section:

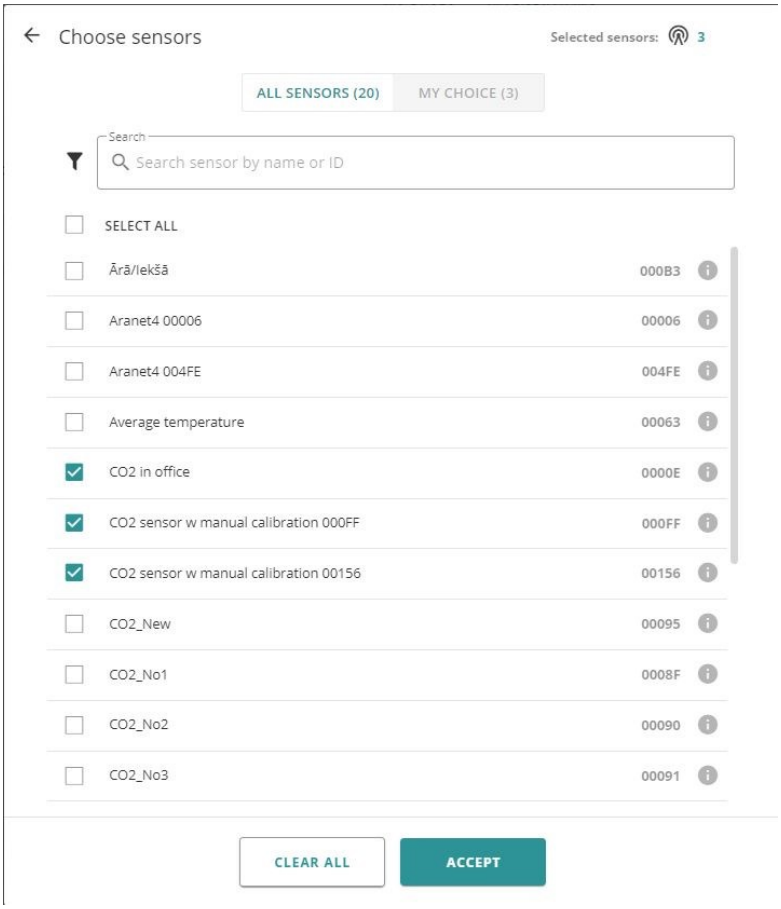


New integration

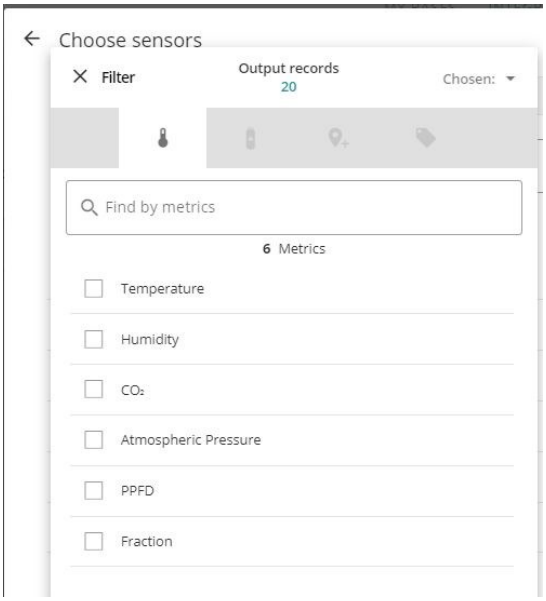
Clicking on "**+ INTEGRATION**" opens new pop-up window where configuration for the new integration can be made:



1) **Integration Name** – allows assigning visible name for the new integration;
2) **Type** – allows selecting what sensor metric data and in what format will be send out from Aranet Cloud platform to 3rd party system:
    i. **SenML** – allows specifying that all sensor ***metric data*** (excluding RSSI and battery level telemetry data) will be sent out from Aranet Cloud in SenML+JSON format;
    ii. **Telemetry** – allows specifying that ***only sensor telemetry data*** (RSSI and battery level) will be sent out from Aranet Cloud in SenML+JSON format;
    iii. **LeanHeat** – allows specifying that all sensor ***metric data*** (excluding RSSI and battery level telemetry data) will be sent out from Aranet Cloud in JSON files with LeanHeat proprietary data format;
3) **Sensors** – opens new pop-up window where you can specify sensors from the Cloud organization that metric data will be sent out from Aranet Cloud. Sensors here can be filtered and then selected by their paired Bases, Sensor types and tags (if used):



Sensors can be filtered by **Metrics**, **Types**, **Locations** and **Tags**:



Click **ACCEPT** to confirm sensor selection.

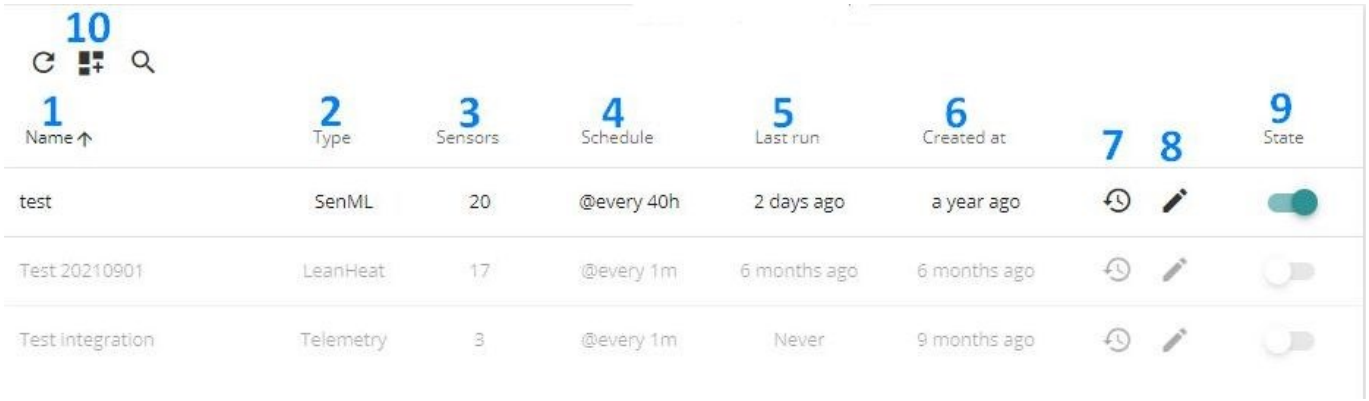
4) **Schedule** – allows specifying how often Aranet Cloud will send data files to the external 3rd party system**.** When integration is enabled and running each new data transmission from Aranet Cloud will include sensor metric data that have been gathered on the Cloud organization after previous data send-out. The exception here is initial historic data send-out that can happen over multiple consecutive data transmissions until the latest data has been dispatched.
   Here user can enter also a valid CRON query specifying a custom data send-out schedule (examples of possible CRON schedule expression configurations are available: https://crontab.guru/examples.html);

5) **Data start date** – allows specifying the date starting from which historic sensor metric data will be sent from Aranet Cloud to the external 3rd party system. Aranet Cloud will use this date to identify how old historical data shall be included in the first send-out;
6) **Enable integration test** – allows enabling of the test mode for the integration. If this box is checked, then Aranet Cloud platform will not send data out to the external 3rd party system, but integration data files will be prepared and saved locally on Aranet Cloud organization. Such files user then later can open and check from the corresponding Aranet Cloud integration configuration;
7) **URL** – allows specifying the web address for the endpoint of the 3rd party system (server) which can receive JSON files from Aranet Cloud platform. Current version of Aranet Cloud supports data transmissions only to ports 80 and 443 on the external 3rd party system;
8) **API key** – allows specifying unique identifier (key) for the authentication of the data exchange between Aranet Cloud and the external 3rd party system. The API key must be provided by the external 3rd party system. If no authentication is required from the external 3rd party system, then this field can be left blank;
9) **Enabled** - allows activating or deactivating data send-out process for the integration;

Pressing **CREATE** button finishes integration creation.

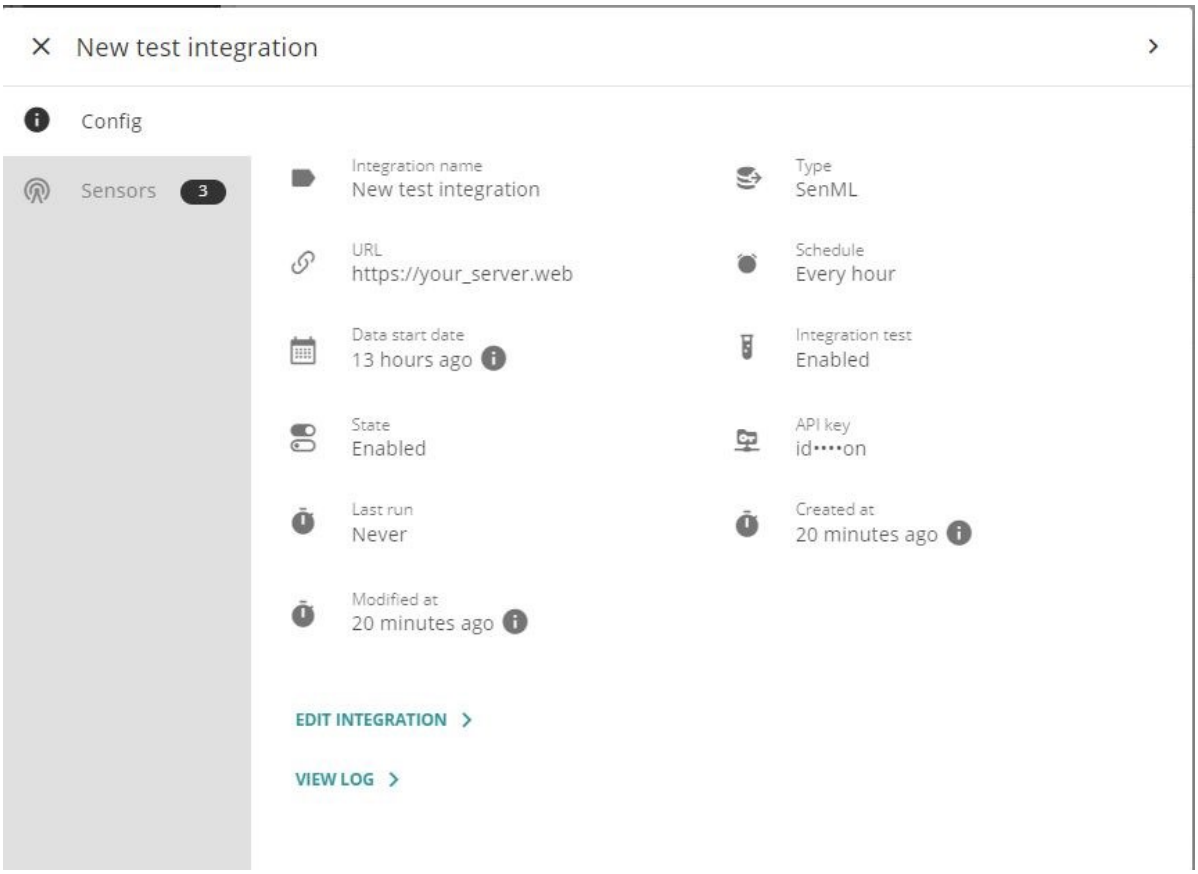
Created integrations

After the creation of integration its' configuration record will be shown in the INTEGRATIONS tab:

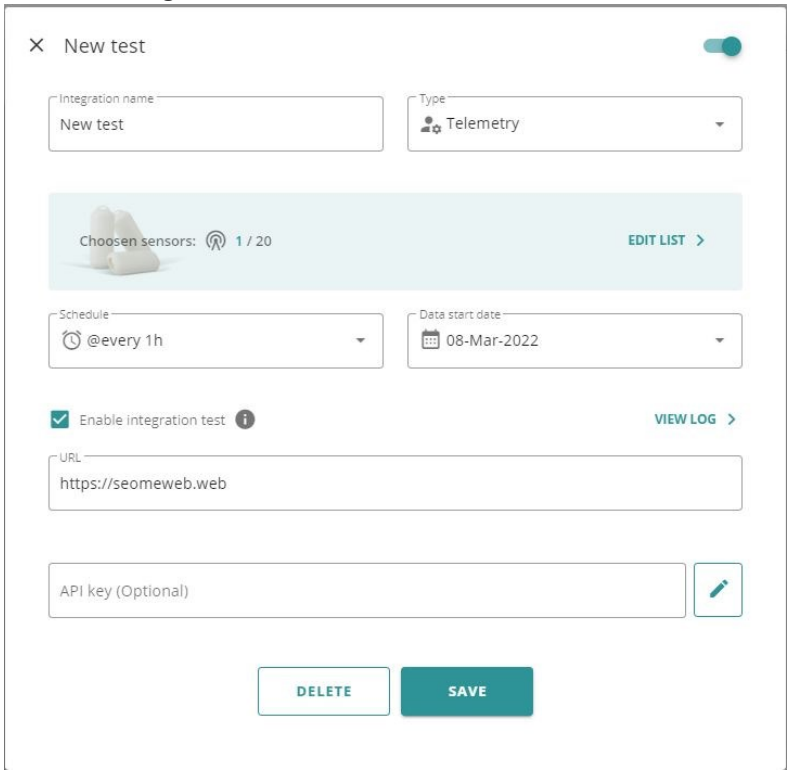


1) **Name** – shows the name of the integration configuration;
2) **Type** – shows the data send-out type or profile for the integration configuration;
3) **Sensors** – shows the number of sensors that will have their data sent-out from the Aranet Cloud platform in the integration;
4) **Schedule** – shows how often data send-out from Aranet Cloud will happen in the integration;
5) **Last run** – shows how long time ago the last data send-out happened in the integration;
6) **Created at** – shows how long time ago the integration configuration was created;
7) **Integration log** – clicking on these icons will open integration log page where user can see detailed information on the data send-out processes and events that have happened for the selected integration;
8) **Integration edit** - clicking on these icons will open integration configuration window where all existing configuration parameters for the integration can be modified and saved.
9) **State** – shows whether data send-out of the integration is enabled or disabled;
10) **Add to Dashboard** icon allows to add integration configuration data to the dashboard.

Clicking on integration configuration record will open new pop-up window where detailed information about integration will be visible:

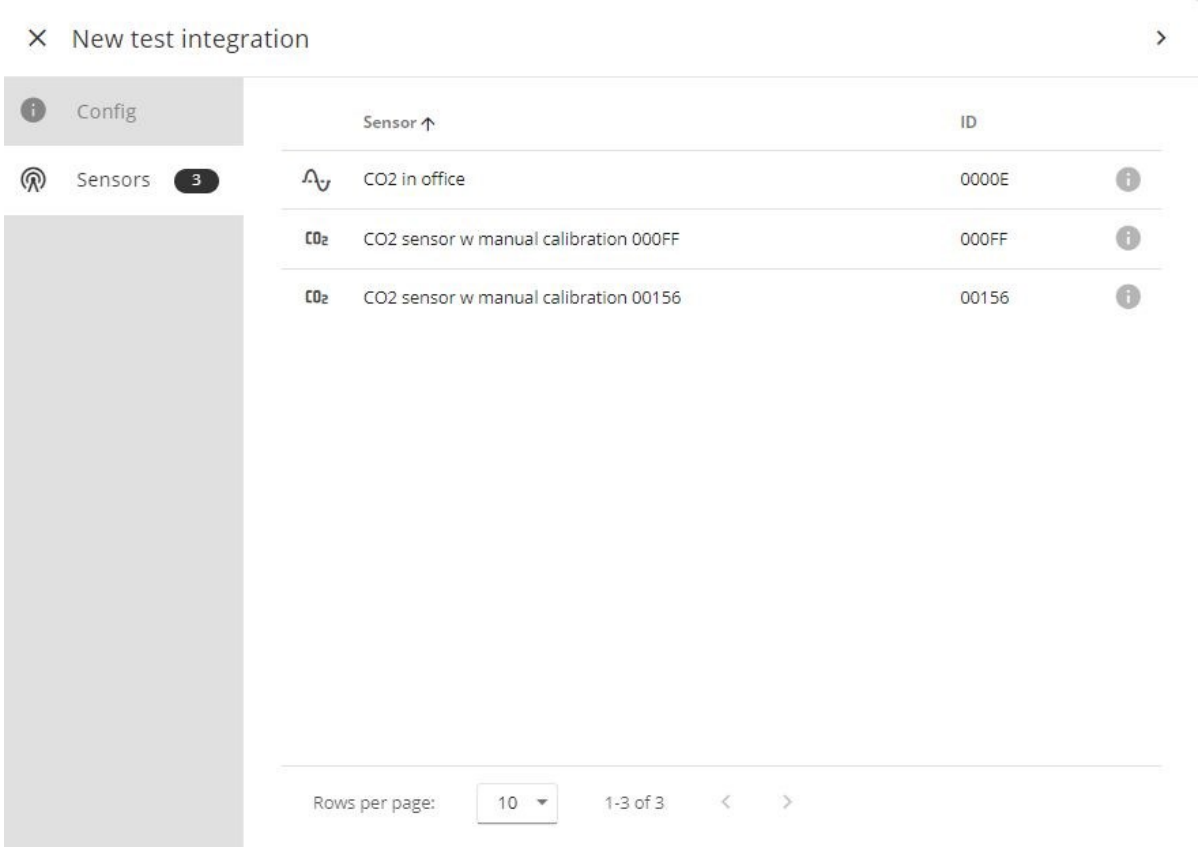


EDIT INTEGRATION > button opens integration configuration page. You can adjust integration configuration or delete unneeded integration here:



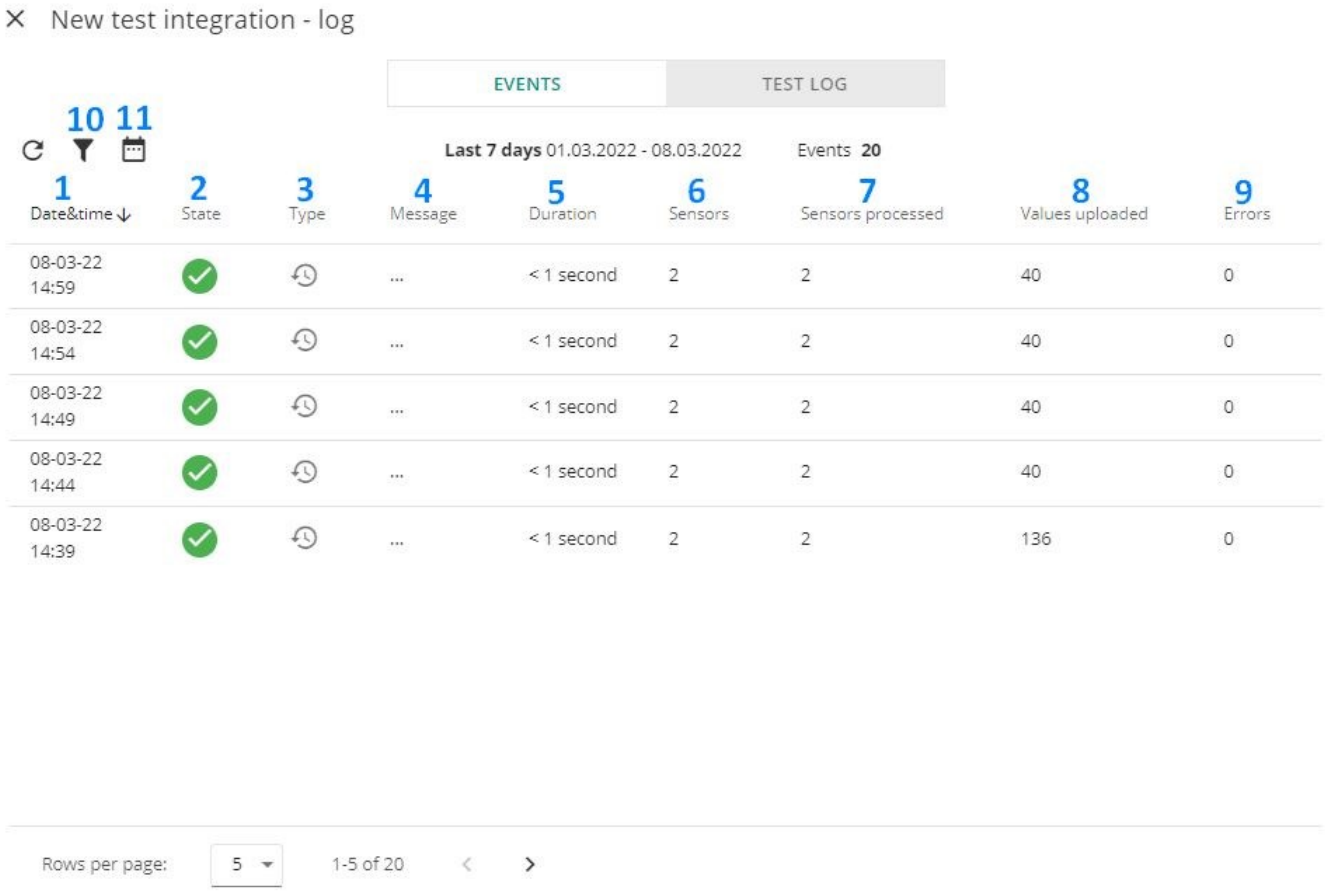
VIEW LOG > button opens new window where integration events and integration test data can be accessed (see details below).

Information about sensors included in current integration can be found under **Sensors** tab:



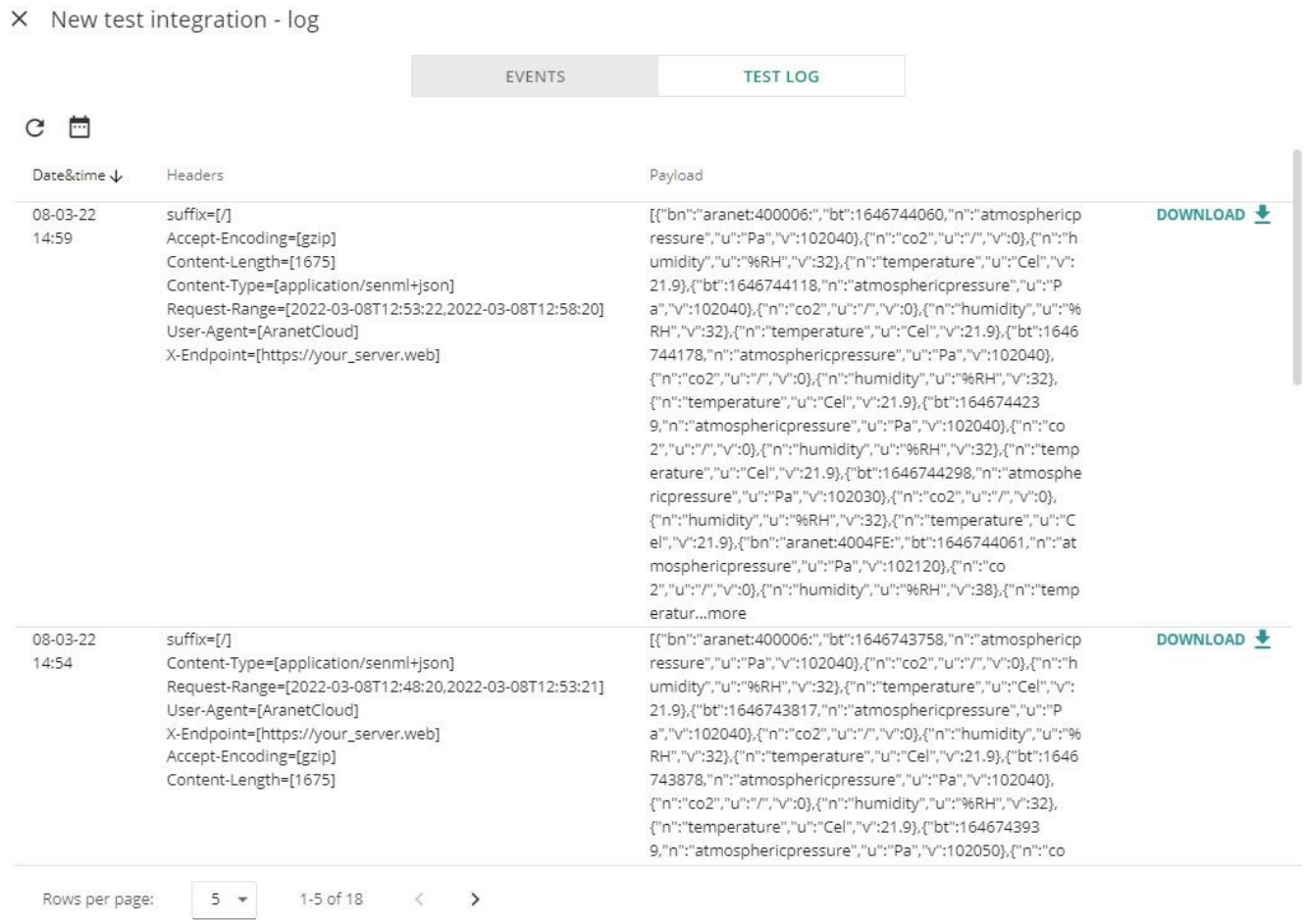
Integration log

Integration logged events are shown on **EVENTS** tab of Integration record:



1) **Date&Time** – integration event registration date and time;
2) **State** – was data sending successful or not;
3) **Type** – type of the event: ***Process run***, ***Schedule modified***, ***Status modified***, or ***Sensors modified***;
4) **Message** – error message sent by recipient point if data sending was not successful;
5) **Duration** – duration of the event;
6) **Sensors** – number of sensors included in integration;
7) **Sensors processed** – number of processed sensors;
8) **Values uploaded** – number of values uploading during the event;
9) **Errors** – number of errors registered during the event;
10) Events can be filtered by **type**
11) Or by **time.**

When test mode is enabled for the integration, then sensor data will not be sent to the external 3rd party system but will be gathered and saved locally in JSON file format on Aranet Cloud organization. These files after test mode execution then can be viewed and/or downloaded under **TEST LOG** tab:



Here user can see what integration data send-out messages would look like if they would be sent from Aranet Cloud to the real external 3rd party system.

Pressing on **Time Filter** icon allows specifying the time interval for which integration test results should be shown.

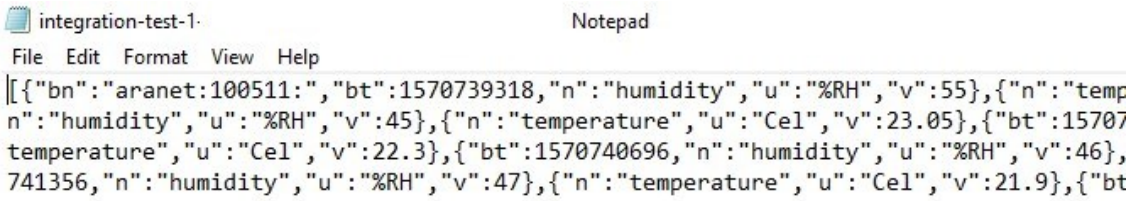
Pressing on icon will just refresh integration test results according to selected time interval.

DOWNLOAD button allows saving Payload data to your computer.

Integration test results

Here user can see the format of data that could be sent-out to external 3rd party systems. Downloaded JSON files can be opened, for example, with Notepad or any Web browser. Current Aranet Cloud version allow data send-out in 2 JSON formats:

1) **SenML+JSON** for integrations with SenML and Telemetry type. SenML structure and representation in JSON format is described in [RFC8428](RFC8428):



2) **LeanHeat** proprietary JSON data format for integrations with LeanHeat type: