io-base
value-added data

TERĒGA
SOLUTIONS

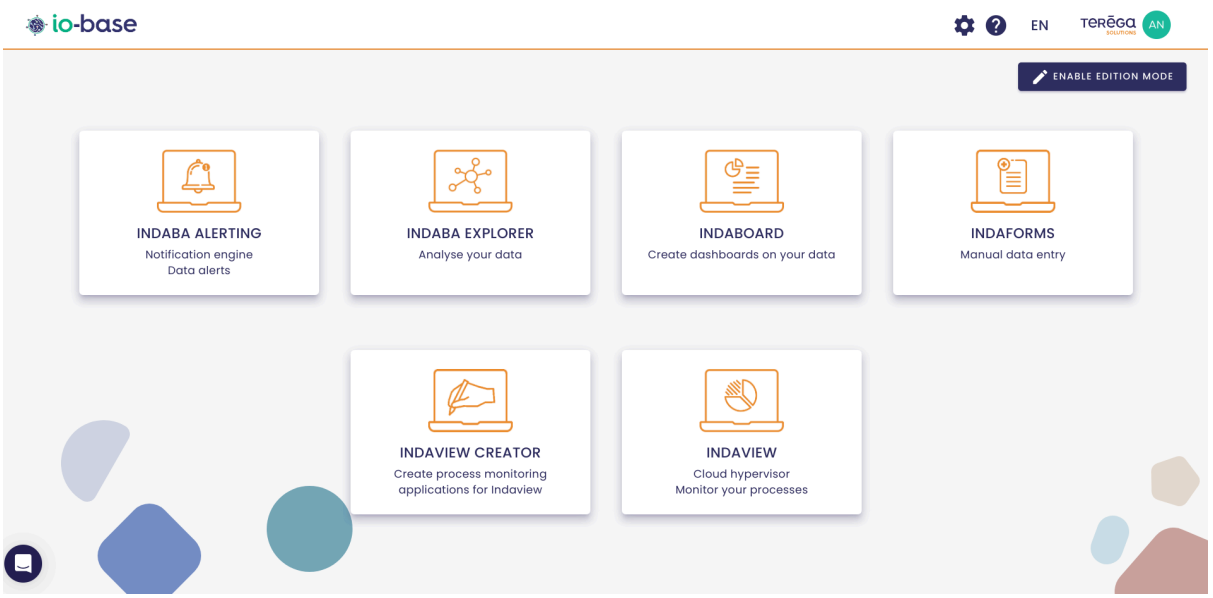
Indaba Alerting

User documentation

Content

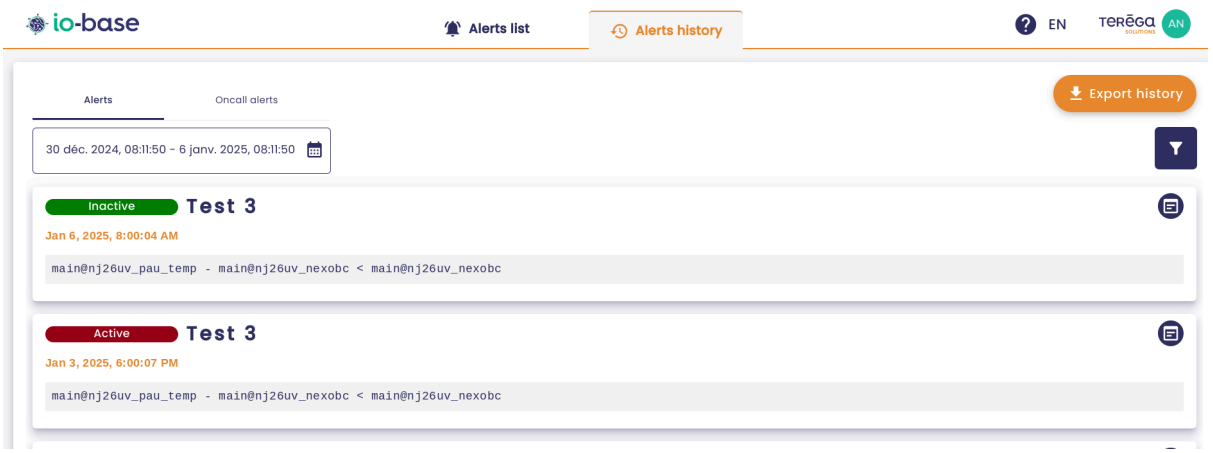
1. Access Indaba Alerting

To access **Indaba Alerting**, connect to the **Io-Base** portal.



Click on the **Indaba Alerting** tile to open the application.

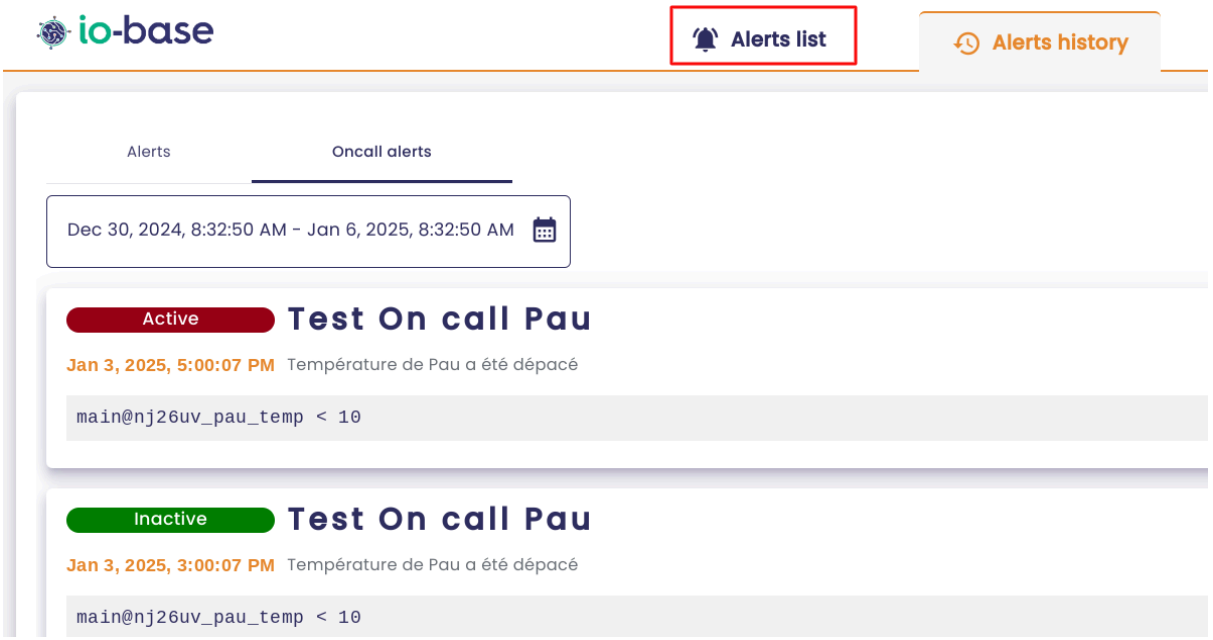
The application opens in a new tab.



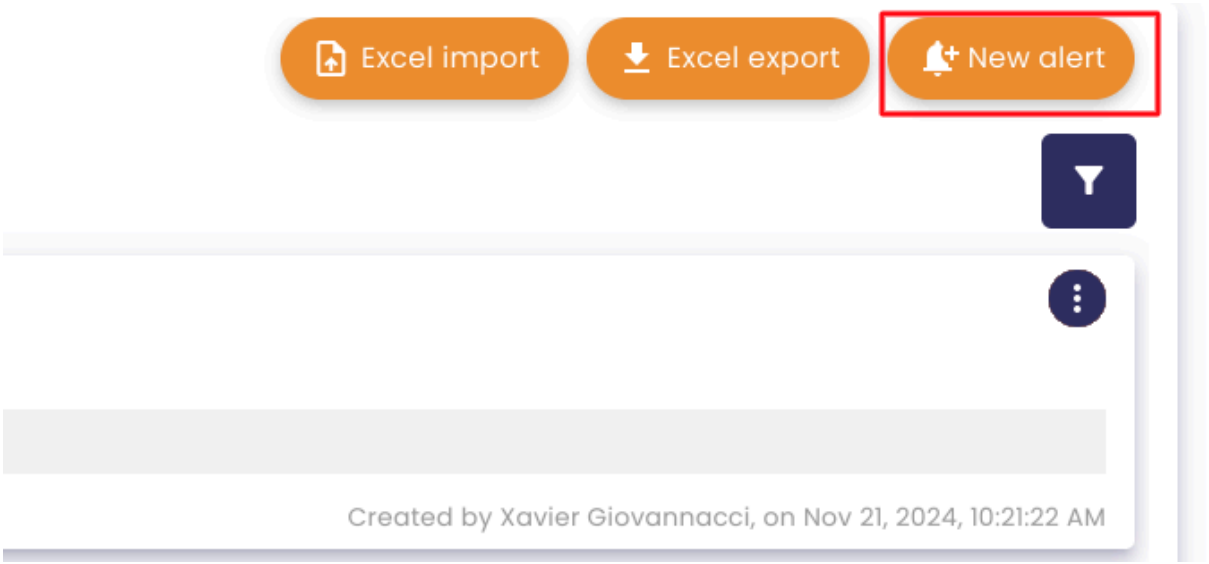
2. Create an alert

Access Indaba Alerting.

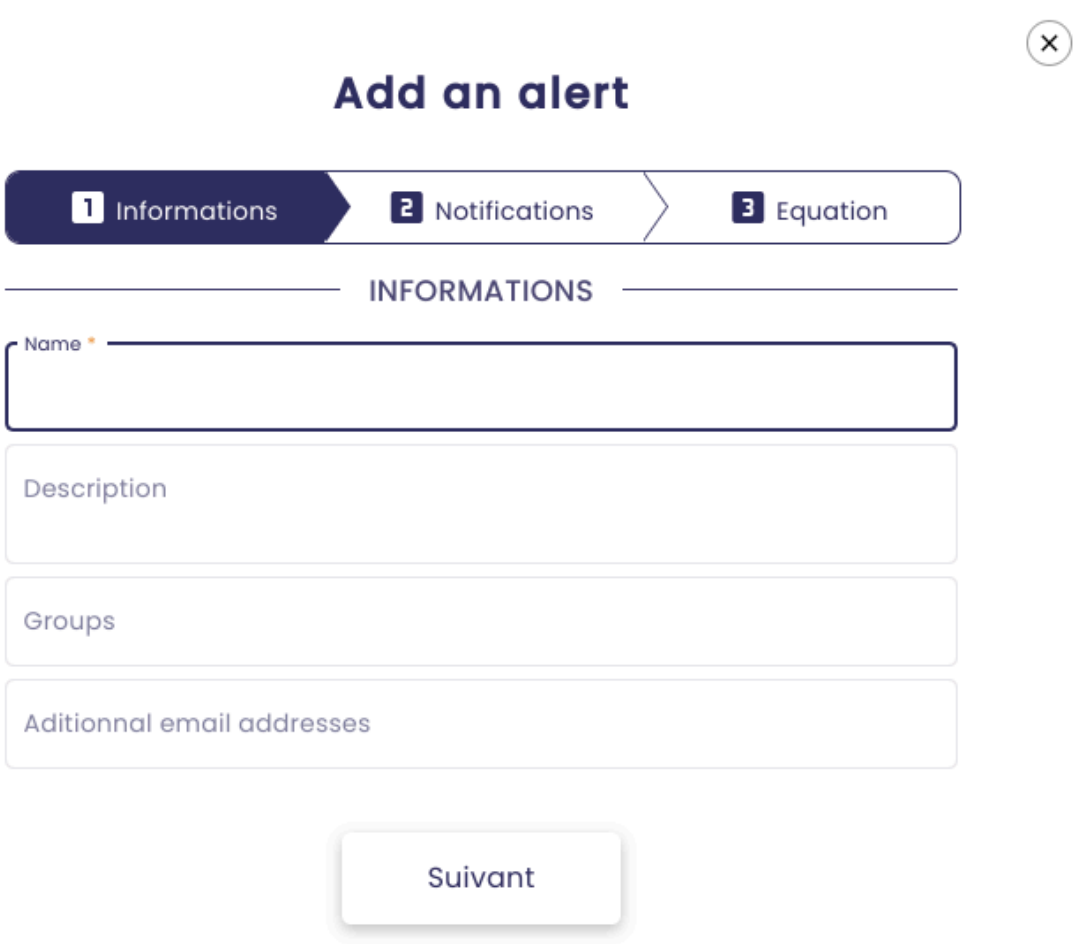
Then, go to the "**Alert List**" section.



At the top-right of the screen, click on "**New Alert**" to create a new alert.



The alert creation window opens :



The creation process has three steps :

- Information
- Notifications
- Equation

2.1 Step 1 : Alert information

You need to fill in :

- The **alert name** (mandatory)
- The **description** (optional)
- **Groups** (optional) : users who belong to the added groups will have access to the alert and its triggers
- Additional **email addresses** to be notified if the alert is triggered (optional)

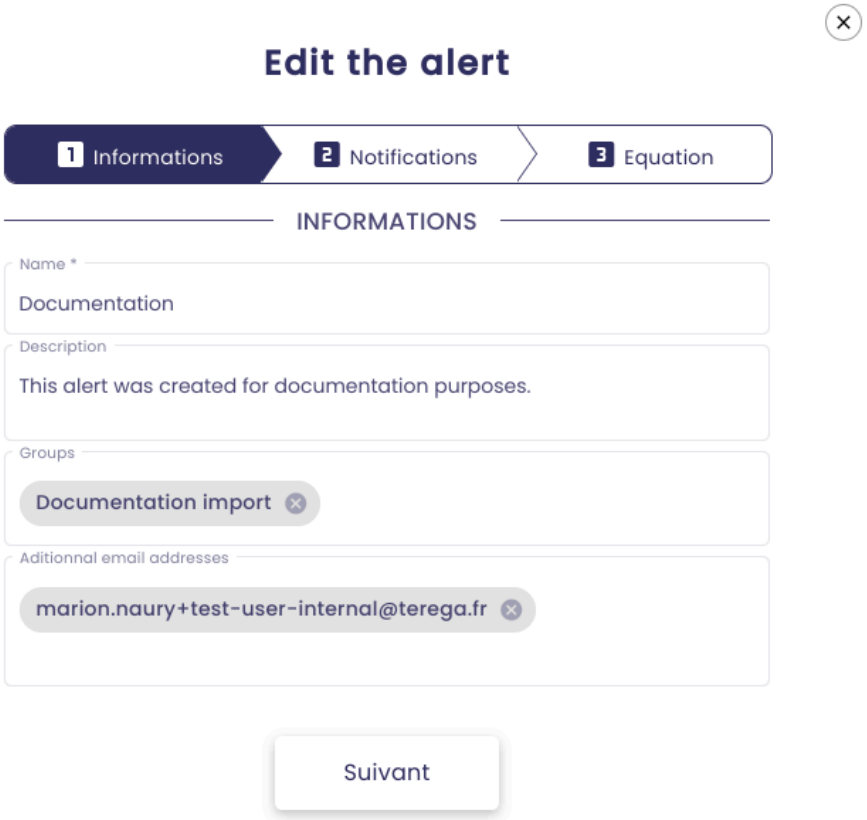
Note : You can add multiple additional email addresses. After entering an email

address, press the **Enter** key on your keyboard to confirm it.

Entered email address :

Confirmed email address, after pressing "**Enter**" :

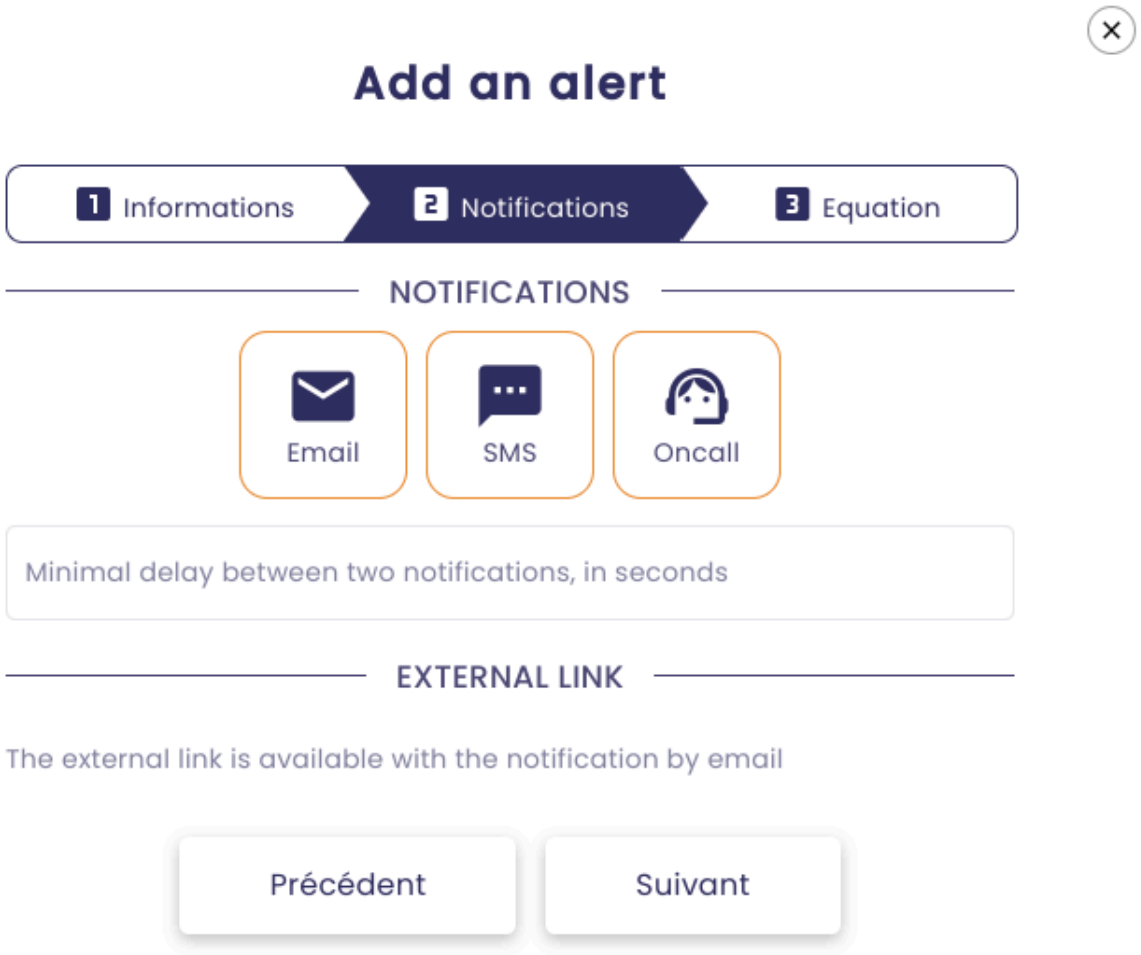
Example of input :



Once all the fields are completed, click on "**Next**".

2.2 Step 2 : Alert notifications

You need to configure how you want to be notified when the alert is triggered.

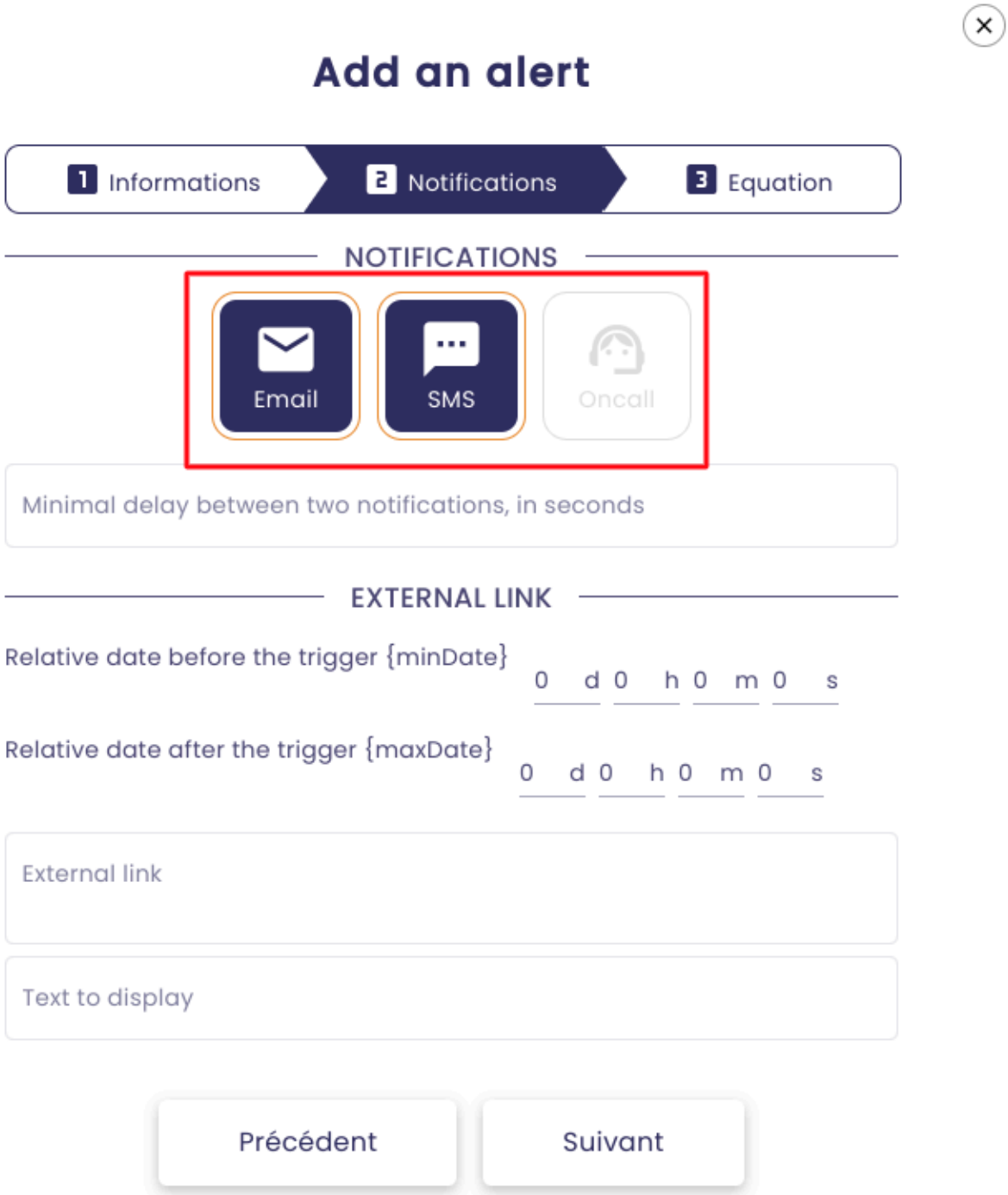


You need to select the notification method(s) you prefer :

- **Email**
- **SMS**
- **On-Call Alert** (Phone Call)

Note : The creation of an on-call alert is only available for users with a functional administrator role.

To select a notification method, click on it :



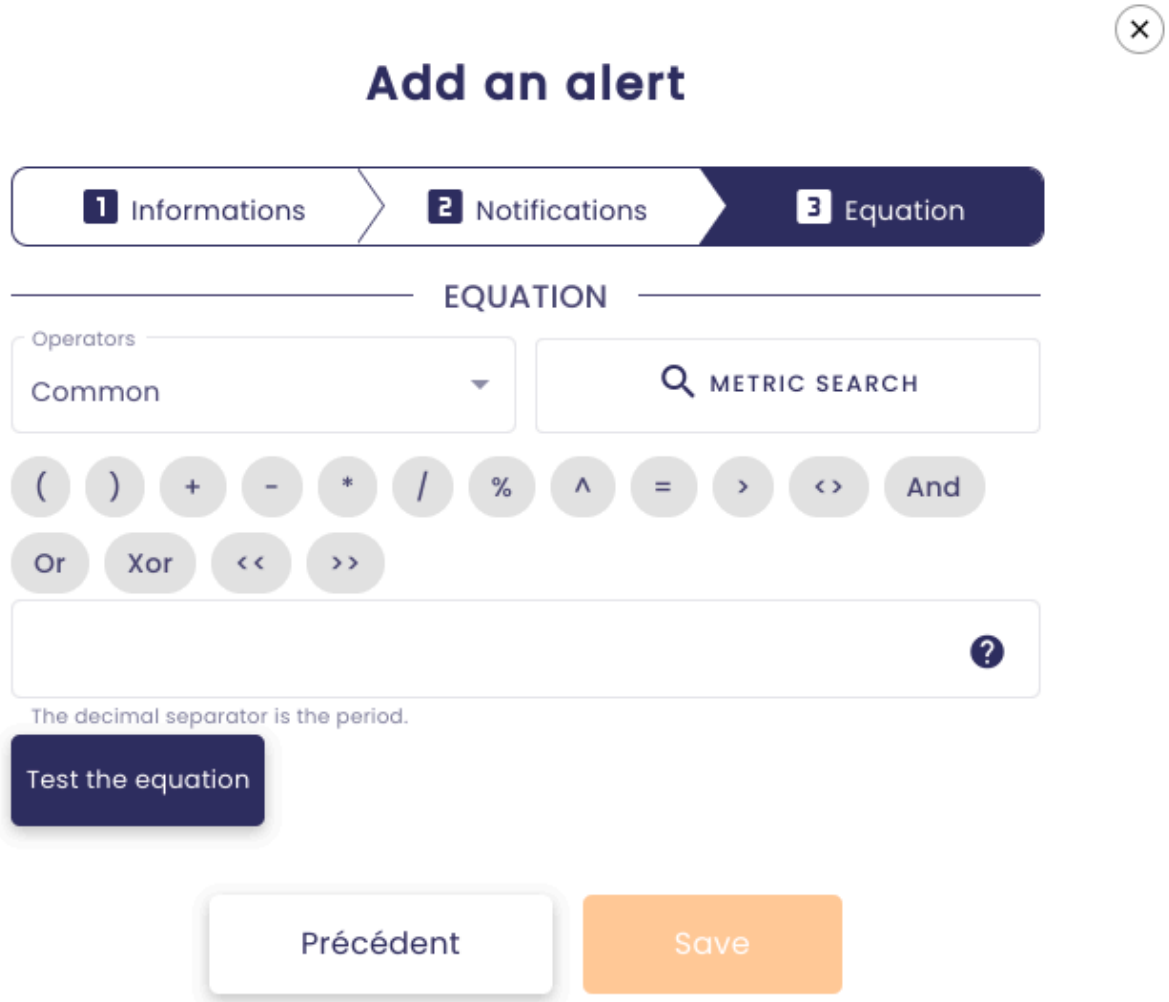
Notes :

- You can choose to be notified by both email and SMS.
- If you select **On-Call**, the alert will be treated as an on-call alert, and email or SMS notifications will not be available for this alert.

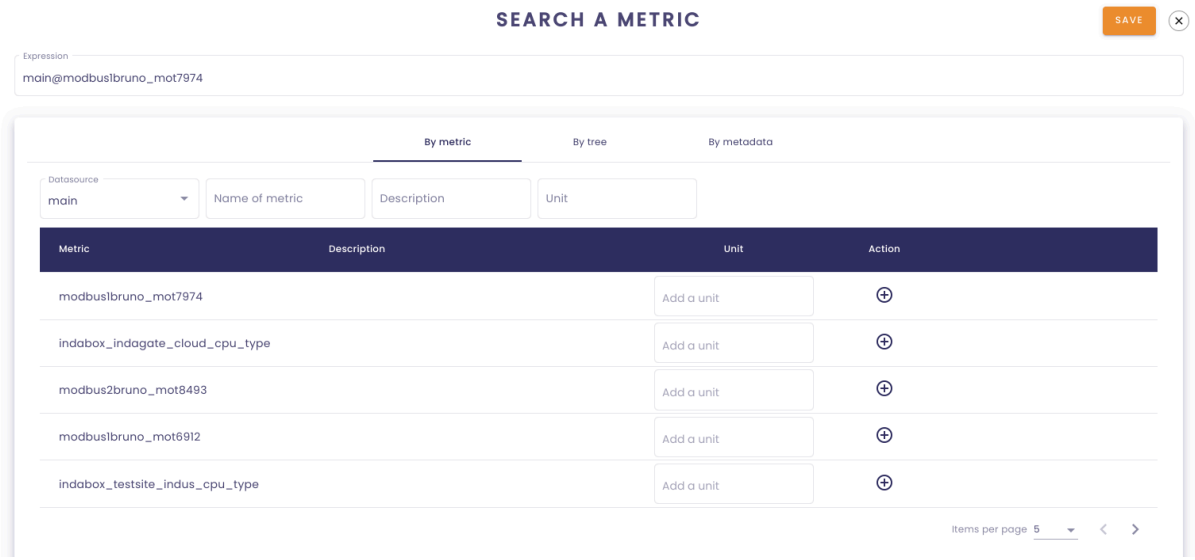
The field **"Minimum delay between notifications (in seconds)"** allows you to specify the delay period between two alert notifications.

2.3 Step 3 : Equation

The **"Equation"** field lets you define the triggering condition for the alert :

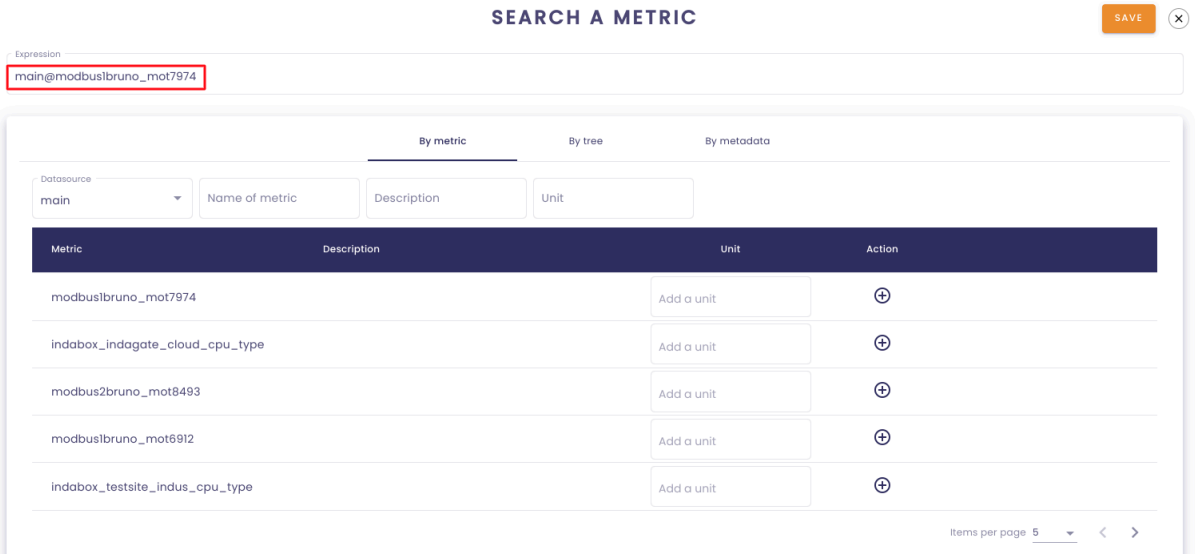


The **Search for a Metric** button helps you enter an expression using your metrics.



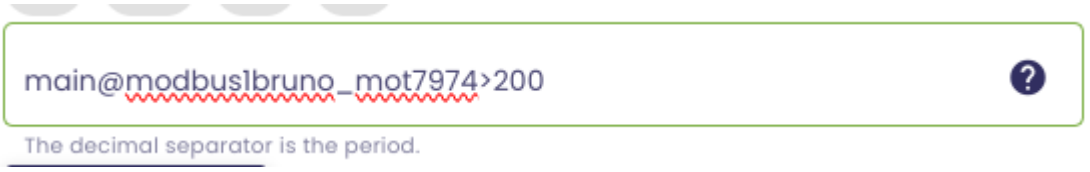
To add a metric to the expression, click the **+** button next to the metric.

The metric will then be added to the expression, and you can click **Save** to continue editing the expression :

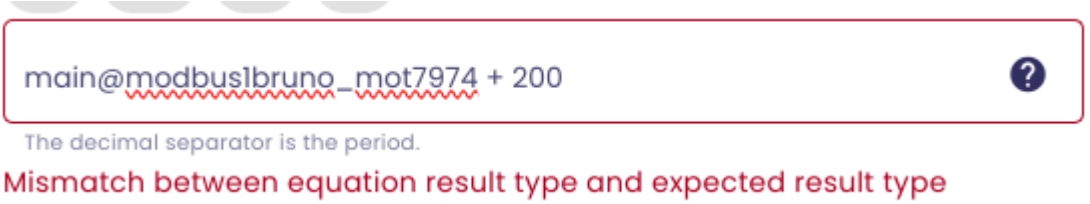


Define the expression using the operators you need, then click the **"Test Expression"** button.

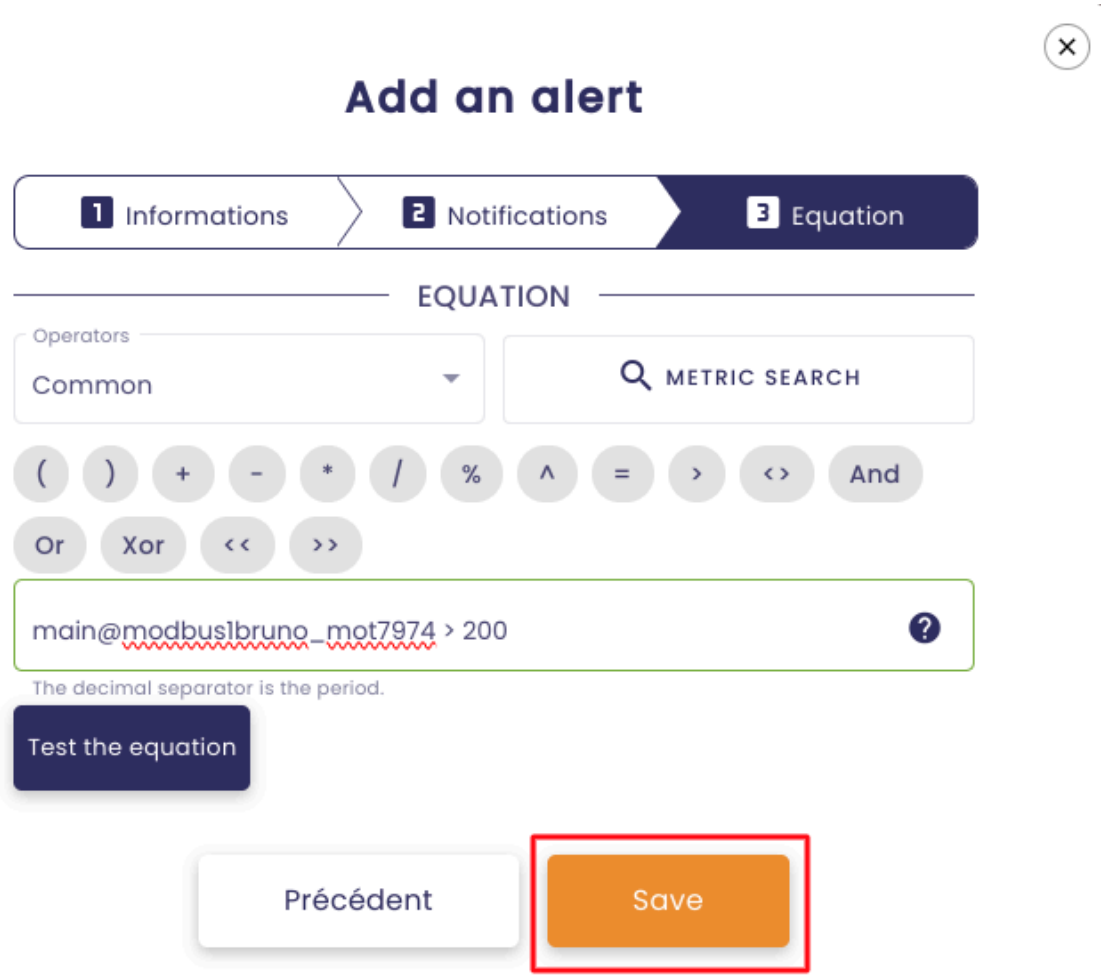
If the entered rule is correct, the expression will turn green.



If the rule is incorrect, an error message will appear to indicate that the input is invalid.



When the expression is valid and all required fields are completed, click the **Save** button.



2.4 Triggering and acknowledgement

Depending on the alert method you chose, you will be notified by email or SMS when the configured rule changes state.

You will receive :

- A first notification when the alert is triggered.
- A second notification when the condition is no longer met, and the alert is cleared.

3. Be alerted by SMS

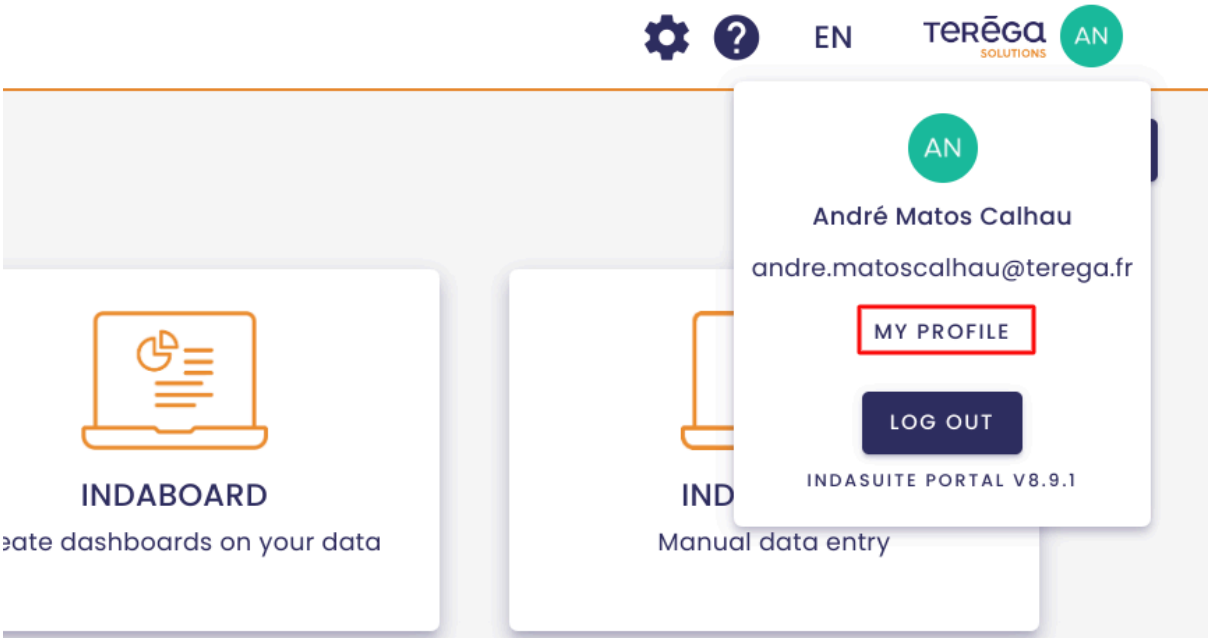
Indaba Alerting is the io-base module that allows you to set up alerts to monitor your data. For example, alerts for high temperatures, low pressures, etc.

You can be alerted in various ways, including by SMS.

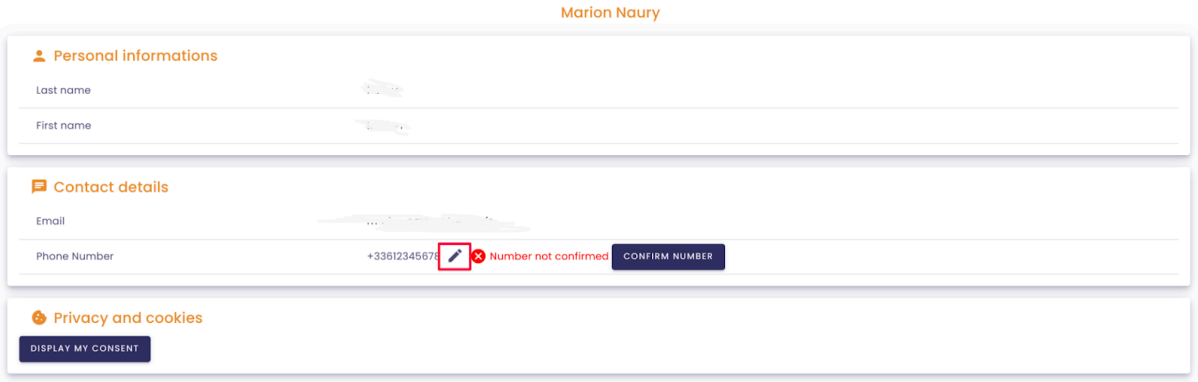
Follow this procedure to set the sms alert notifications.

Prerequisites : set your phone number.

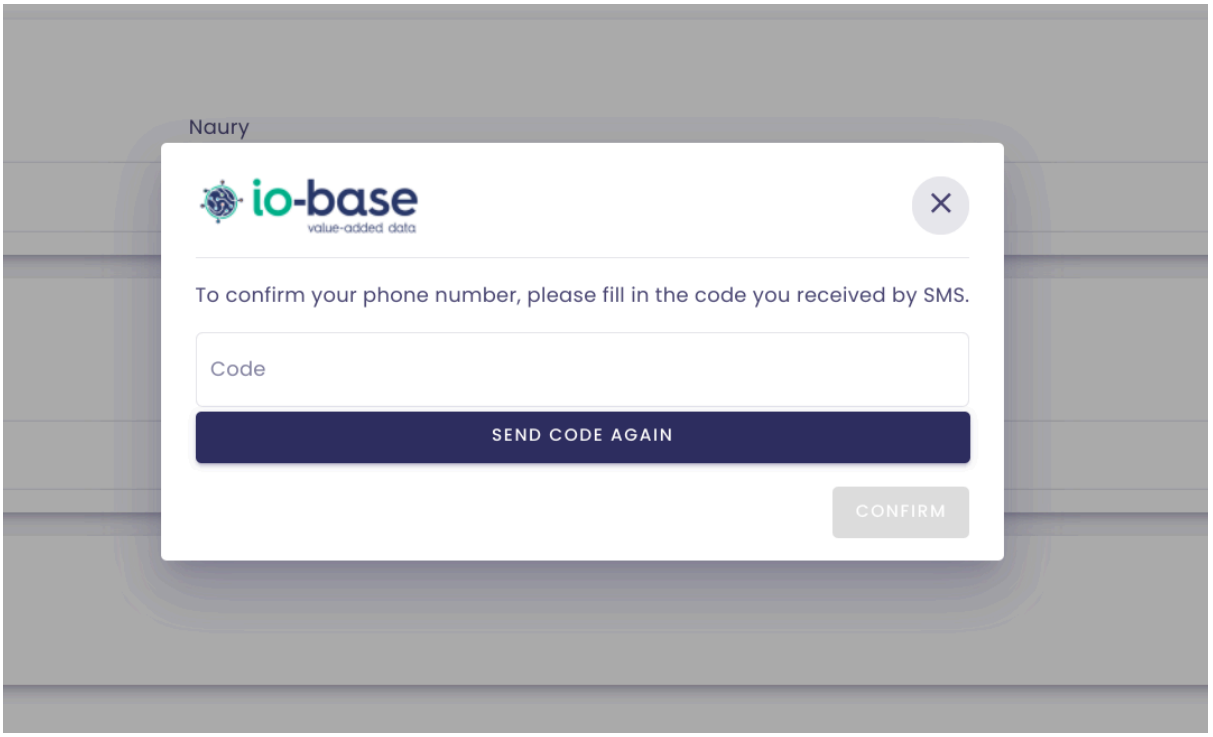
In the Io-Base portal, access your profile.



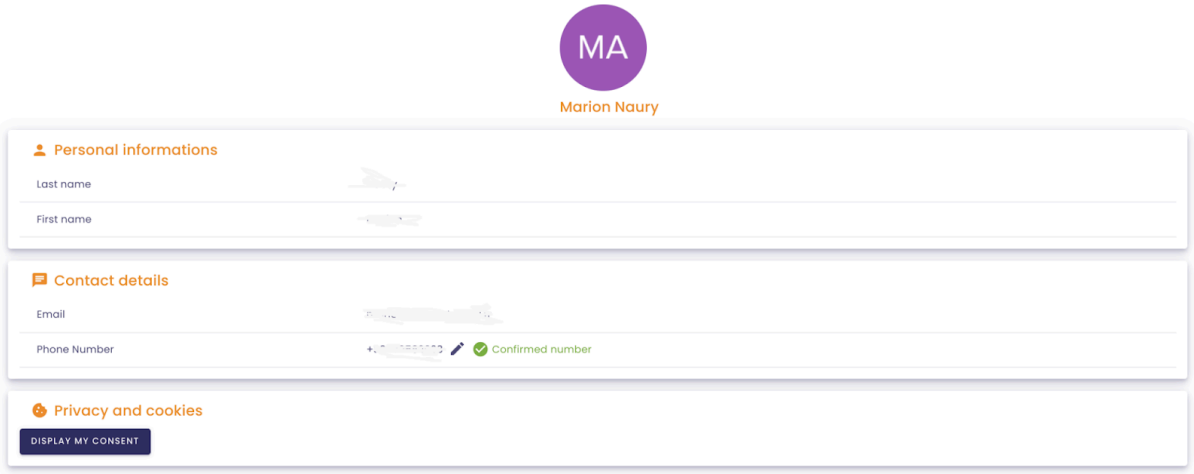
Click on the pencil to indicate your phone number, then click **Save**.



A code to confirm your number is sent to you.

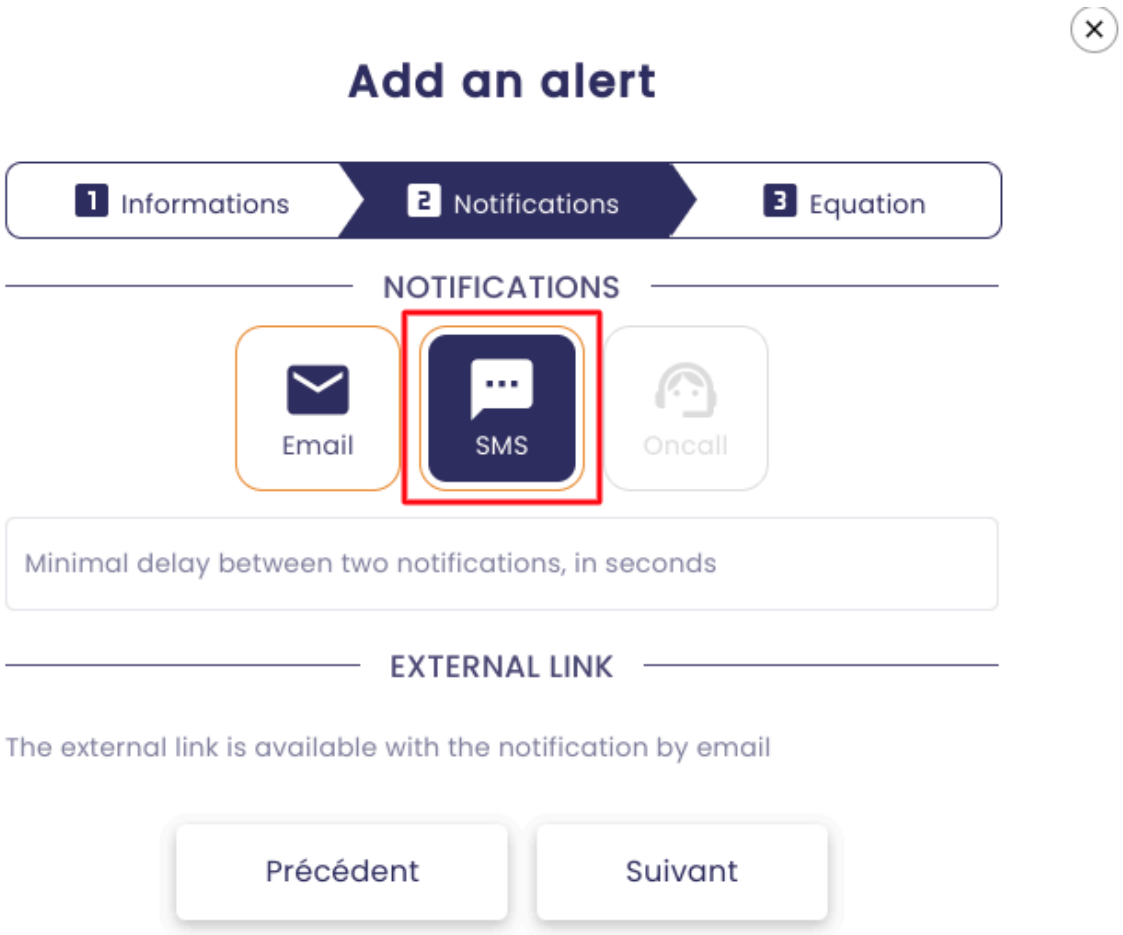


Once your number is confirmed, you have the possibility to be alerted by sms.



From Indaba Alerting, you can modify your existing alerts or create new ones.

To enable SMS notifications when an alert is triggered, simply click the **"SMS"** button when creating or modifying an alert :



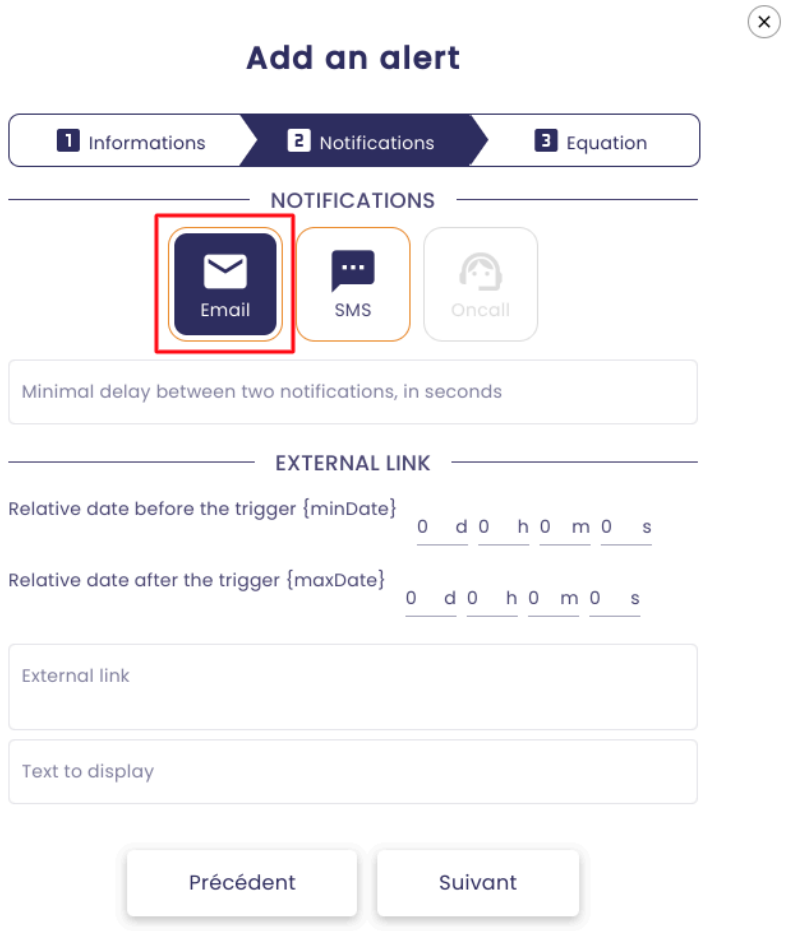
Note : In the alert list, the icon

indicates that **SMS** is the selected notification method when the alert is triggered.

4. Be alerted by email

4.1 Activate the email notifications

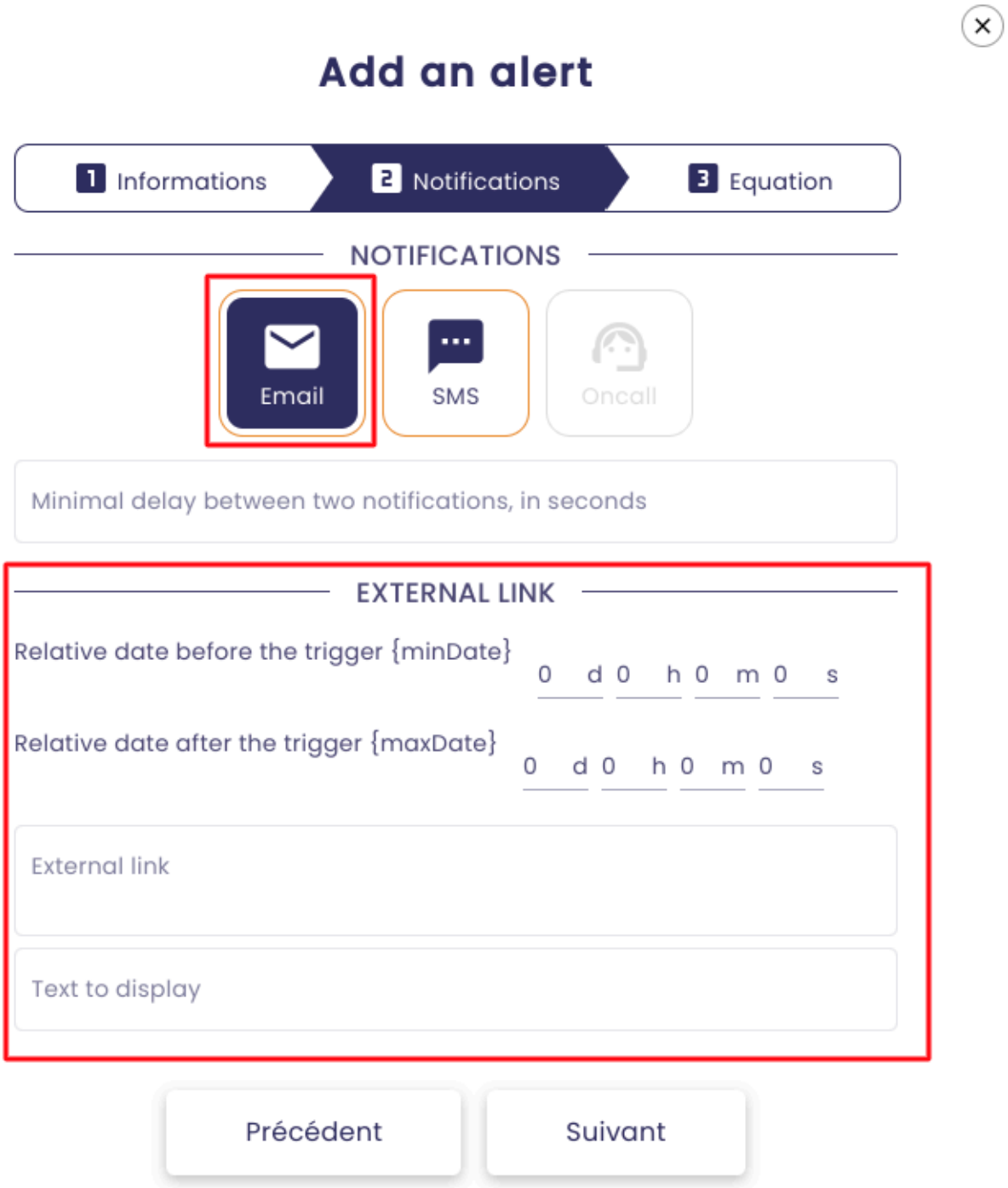
When creating or modifying an alert, click on the **"mail"** button as shown below :



In the list of alerts, the icon below indicates that the selected notification method for the alert trigger is email.

4.2 Include a link in the notification email

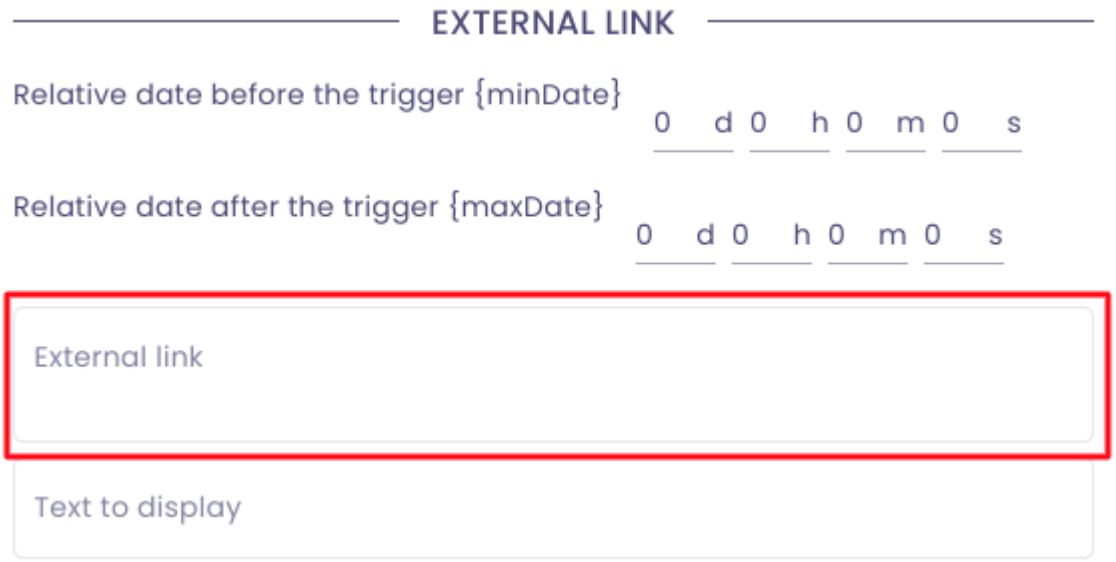
When you activate the email notification button, a "**Add external link**" section appears :



This feature allows you to include a link to an external page in the alert notification email.

For example, you can include a link to a dashboard or a graph in Explorer, making it easier to quickly access relevant information when you receive the alert.

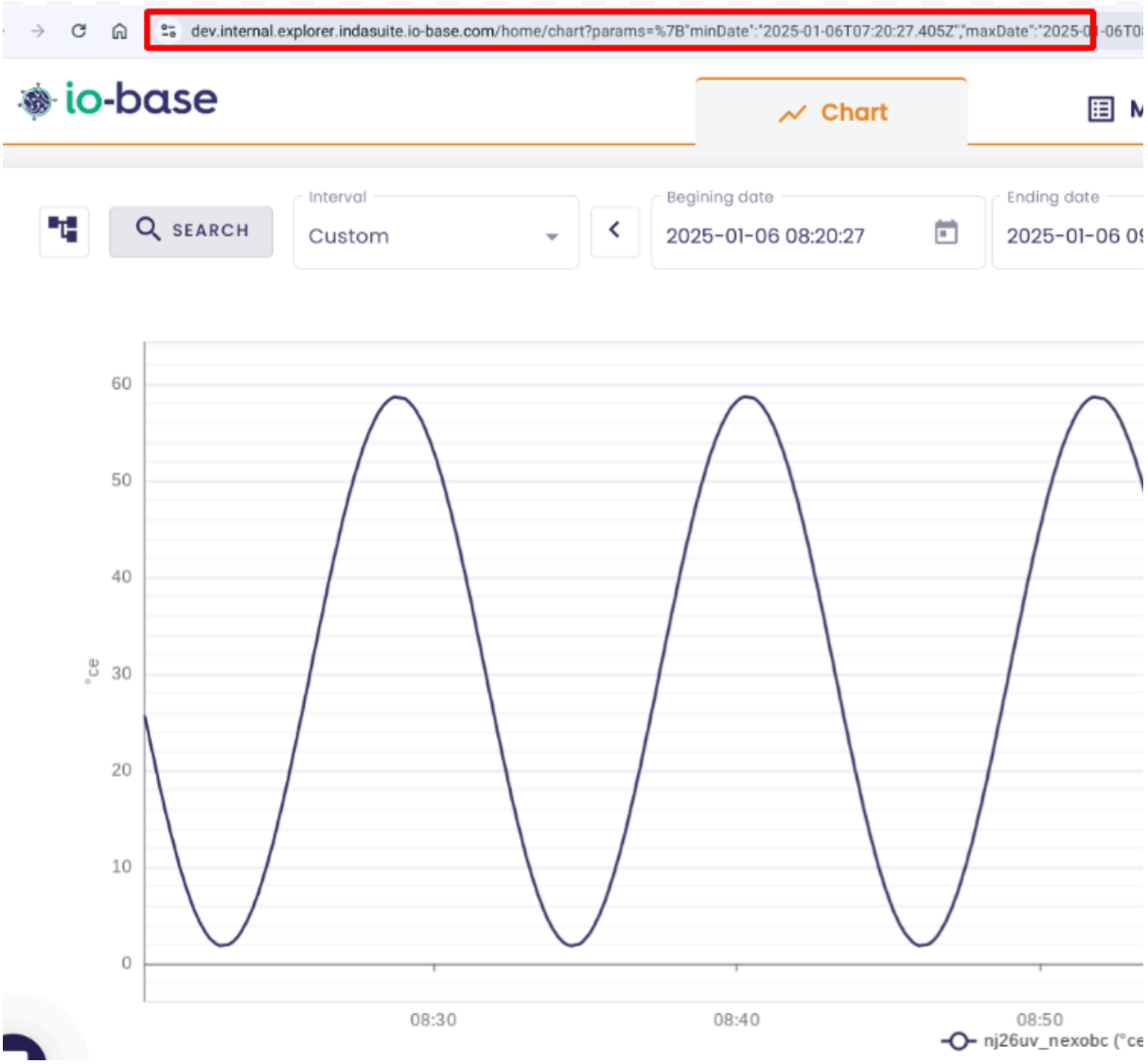
To include the link in the email, start by expanding the "**Add external link**" section :



For instance, if we want to add a link to a chart in Explorer.

Go to Explorer and display the desired chart.

Next, copy the chart's URL :



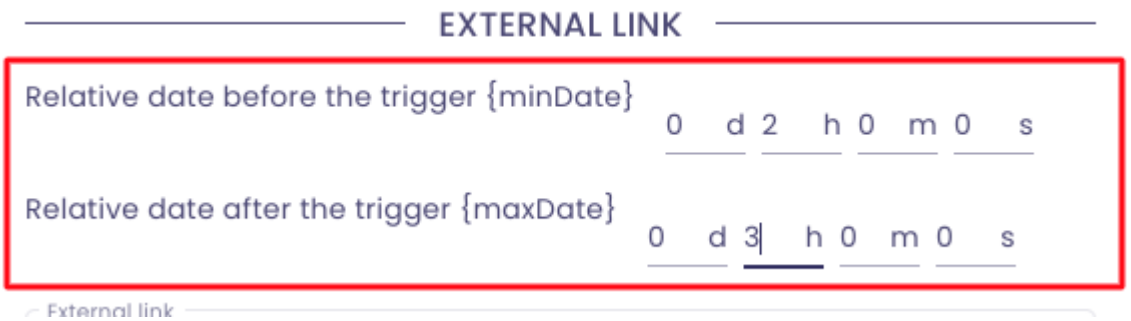
Finally, paste the link to the chart into the input field.

External link

https://dev.internal.explorer.indasuite.io-base.com/home/chart?params=%7B%22minDate%22:%222024-11-25T13:21:34.021Z%22,%22maxDate%22:%222024-11-25T14:21:34.023Z%22,%22timeSource%22:5,%22graphs%22:%5B%7B%22tag%22:%22nj26uv_temperature_garderie%22,%22source%22:%22main%22,%22color%22:%22%23312e60%22,%22unit%22:%22%22,%22aggregation%22:%22auto%22,%22type%22:%22line%22,%22displayName%22:%22nj26uv_temperature_garderie%22,%22interpoled%22:true,%22hidden%22:false,%22filter%22:null%7D%5D,%22axes%22:%5B%7B%22axeId%22:%22%22,%22color%22:%22%23312e60%22,%22scale%22:%7B%22marginPercent%22:10%7D,%22thresholds%22:%5B%5D,%22hidden%22:false%7D%5D,%22showFilter%22:true,%22showAnnotations%22:false,%22autoRefreshInterval%22:null%7D

Then, enter the text for the link to be included in the email.

Optionally, you can configure relative dates to display a specific period in the graph, based on when the alarm is triggered.



For example, if you want to display a graph displaying data two hours before and three hours after the alarm is triggered, enter:

- **Relative date before trigger** : 2 hours.
- **Relative date after trigger** : 3 hours.

Once these fields are filled in, you need to add the {minDate} and {maxDate} parameters to your link.

To do this, find the date parameters in your Explorer link (highlighted in bold

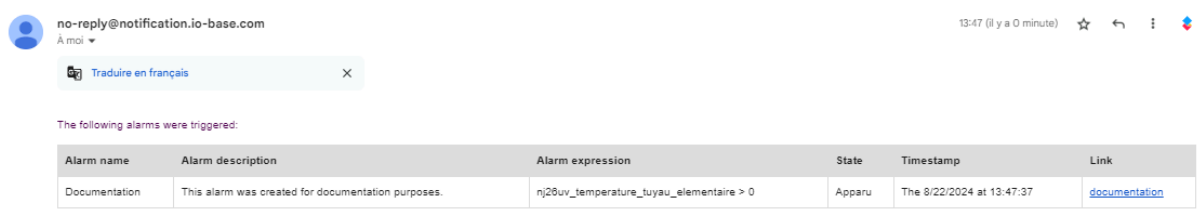
below):

https://dev.internal.explorer.indasuite.io-base.com/home/chart?params=%7B%**22minDate%22:%222024-08-30T04:50:24.583Z%22**,**%22maxDate%22:%222024-08-30T07:05:33.927Z%22**,%22timeSource%22:5,%22graphs%22:%5B%7B%22tag%22:%22nj26uv_nexobc%22,%22source%22:%22main%22,%22color%22:%22%2346A5CF%22,%22unit%22:%22%C2%B0ce%22,%22aggregation%22:%22auto%22,%22type%22:%22line%22,%22displayName%22:%22nj26uv_nexobc%22,%22interpoled%22:true,%22hidden%22:false,%22filter%22:null%7D%5D,%22axes%22:%5B%7B%22axeId%22:%22%C2%B0ce%22,%22color%22:%22%23312e60%22,%22scale%22:%7B%22marginPercent%22:10%7D,%22thresholds%22:%5B%5D,%22hidden%22:false%7D%5D,%22showFilter%22:true,%22showAnnotations%22:false,%22autoRefreshInterval%22:null%7D

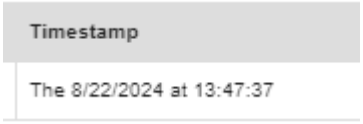
- then replace the dates with {minDate} and {maxDate} :

https://dev.internal.explorer.indasuite.io-base.com/home/chart?params=%7B**%22minDate%22:%22{minDate}%22,%22maxDate%22:%22{maxDate}%22**,%22timeSource%22:5,%22graphs%22:%5B%7B%22tag%22:%22nj26uv_nexobc%22,%22source%22:%22main%22,%22color%22:%22%2346A5CF%22,%22unit%22:%22%C2%B0ce%22,%22aggregation%22:%22auto%22,%22type%22:%22line%22,%22displayName%22:%22nj26uv_nexobc%22,%22interpoled%22:true,%22hidden%22:false,%22filter%22:null%7D%5D,%22axes%22:%5B%7B%22axeId%22:%22%C2%B0ce%22,%22color%22:%22%23312e60%22,%22scale%22:%7B%22marginPercent%22:10%7D,%22thresholds%22:%5B%5D,%22hidden%22:false%7D%5D,%22showFilter%22:true,%22showAnnotations%22:false,%22autoRefreshInterval%22:null%7D

When the alert is triggered, the following email is sent to the user :



The alert was triggered at 13:47 :



The graph's time range included in the link will be between 11:47 and 16:47:

- The chart's beginning time will be set to 11:47 (13:47 - 2 hours).
- The ending time will be set to 16:47 (13:47 + 3 hours).

Thus, when the alarm is triggered, the link in the email will display a chart covering the period from 11:47 to 16:47.

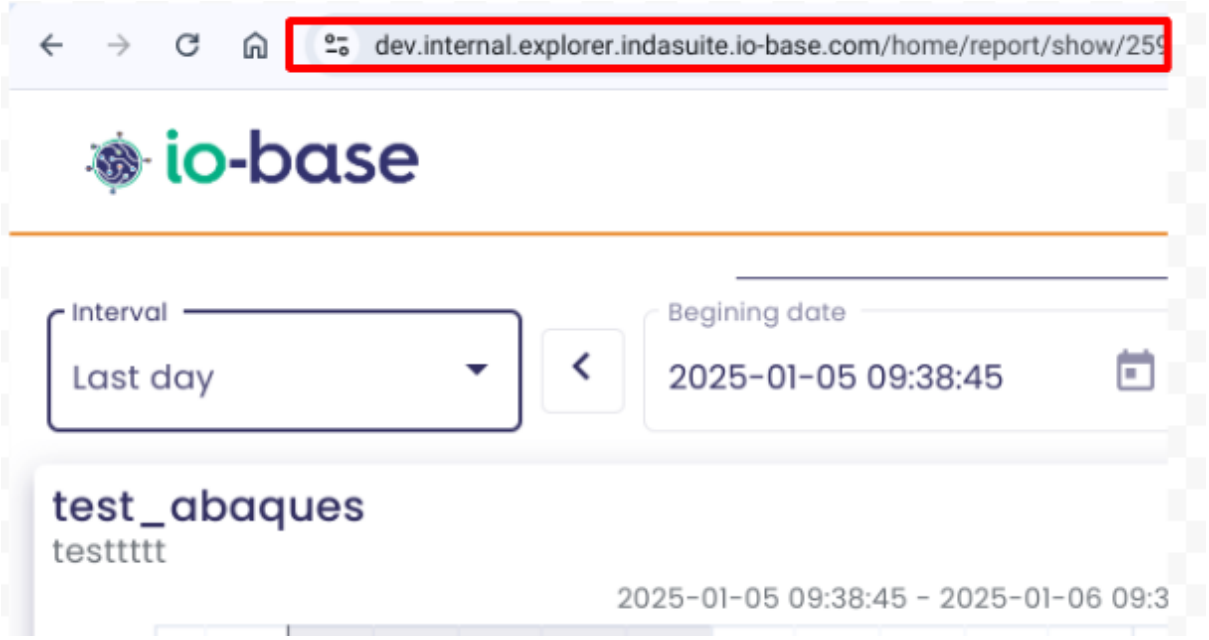
Click the link received in the email :

You are successfully redirected to the specified graph, with the period :

- Beginning date: 11:47
- Ending date: 16:47

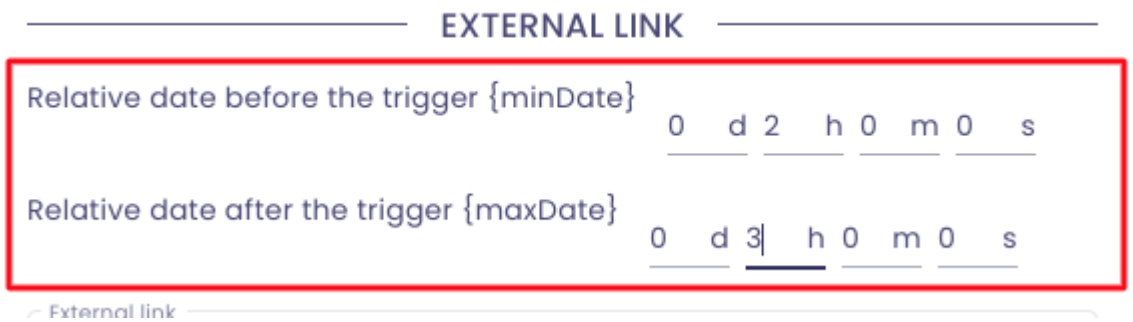
Another example, if you want to insert a link to a dashboard :

Access your dashboard in **Indaboard**, then copy the associated link :



As in the previous example, return to the alarm creation or modification screen, paste the link to the dashboard in the appropriate field, and specify the text you want to associate with the link :

Again, you can configure the dashboard's display period by setting the relative date before and after the trigger :

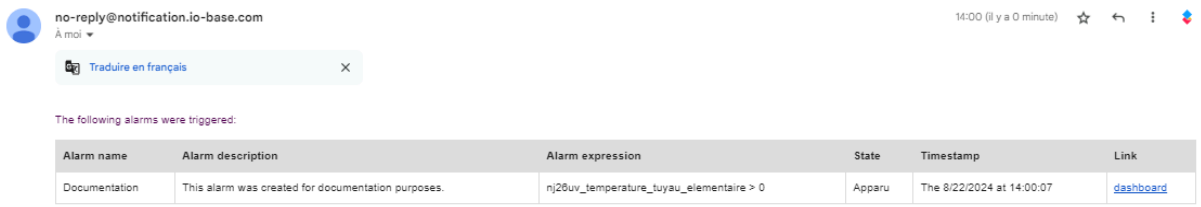


Next, add the {minDate} and {maxDate} parameters to your link.

To do this, add :

?startDate=%22{minDate}%22&endDate=%22{maxDate}%22

When the alarm is triggered, the email is sent to the user :



Click the link :

You are redirected to the dashboard, configured with a period of :

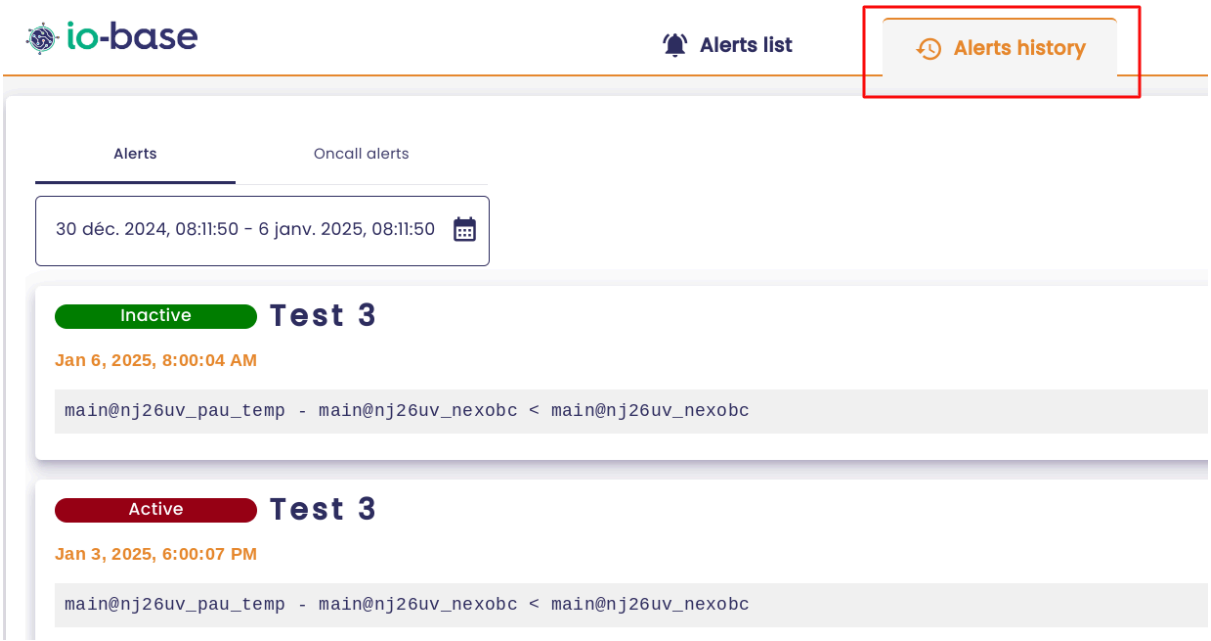
- Beginning date : alarm trigger date - relative date before trigger
- Ending date : alarm trigger date + relative date after trigger

Note : Components with a locked period are not affected by the period configuration.

5. Viewing the history of triggered alerts

Access Indaba Alerting.

Then, go to the "**Alerts history**" section :



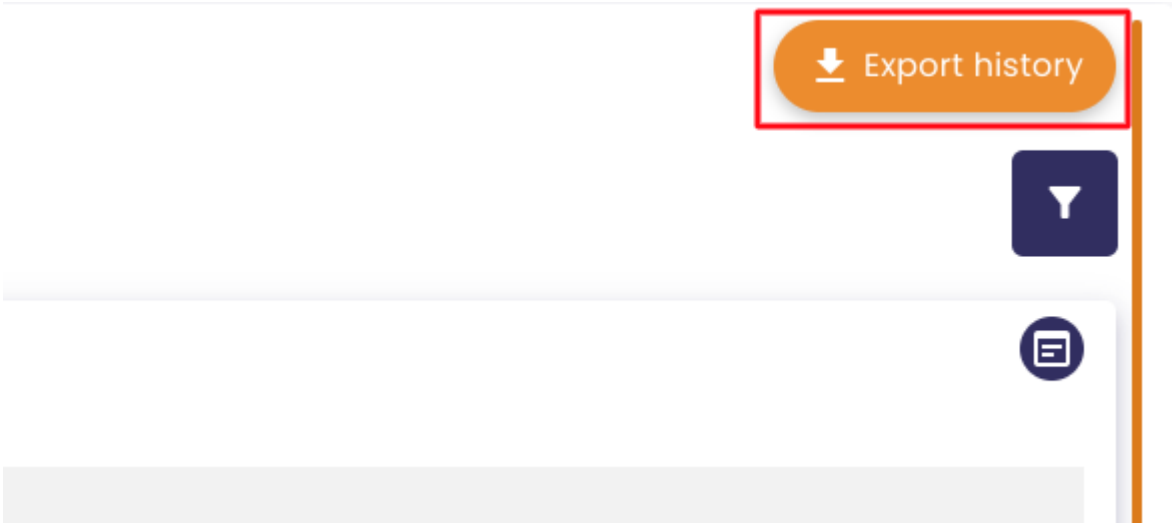
This table tracks the dates and times when various alerts were triggered.

You can view the history for alerts you created or alerts associated with an access group you belong to.

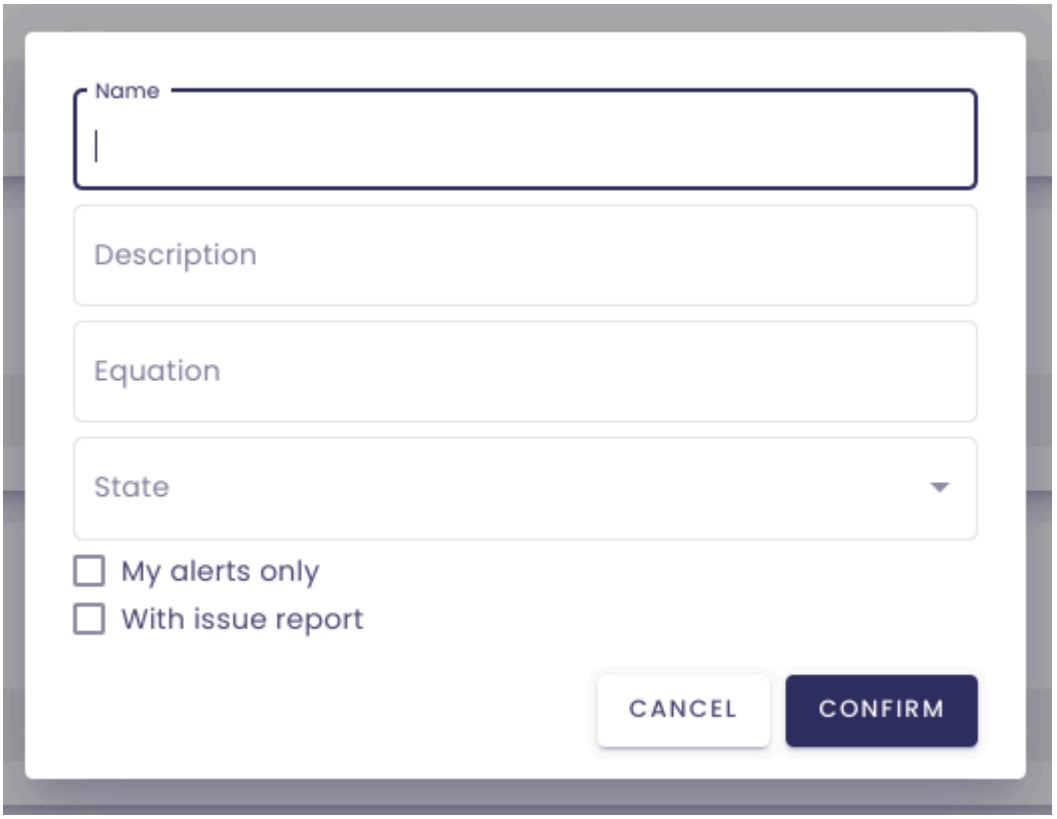
Note : If you have a functional administrator role, you have access to the history of all the alerts.

5.1 Filtering the alert trigger history

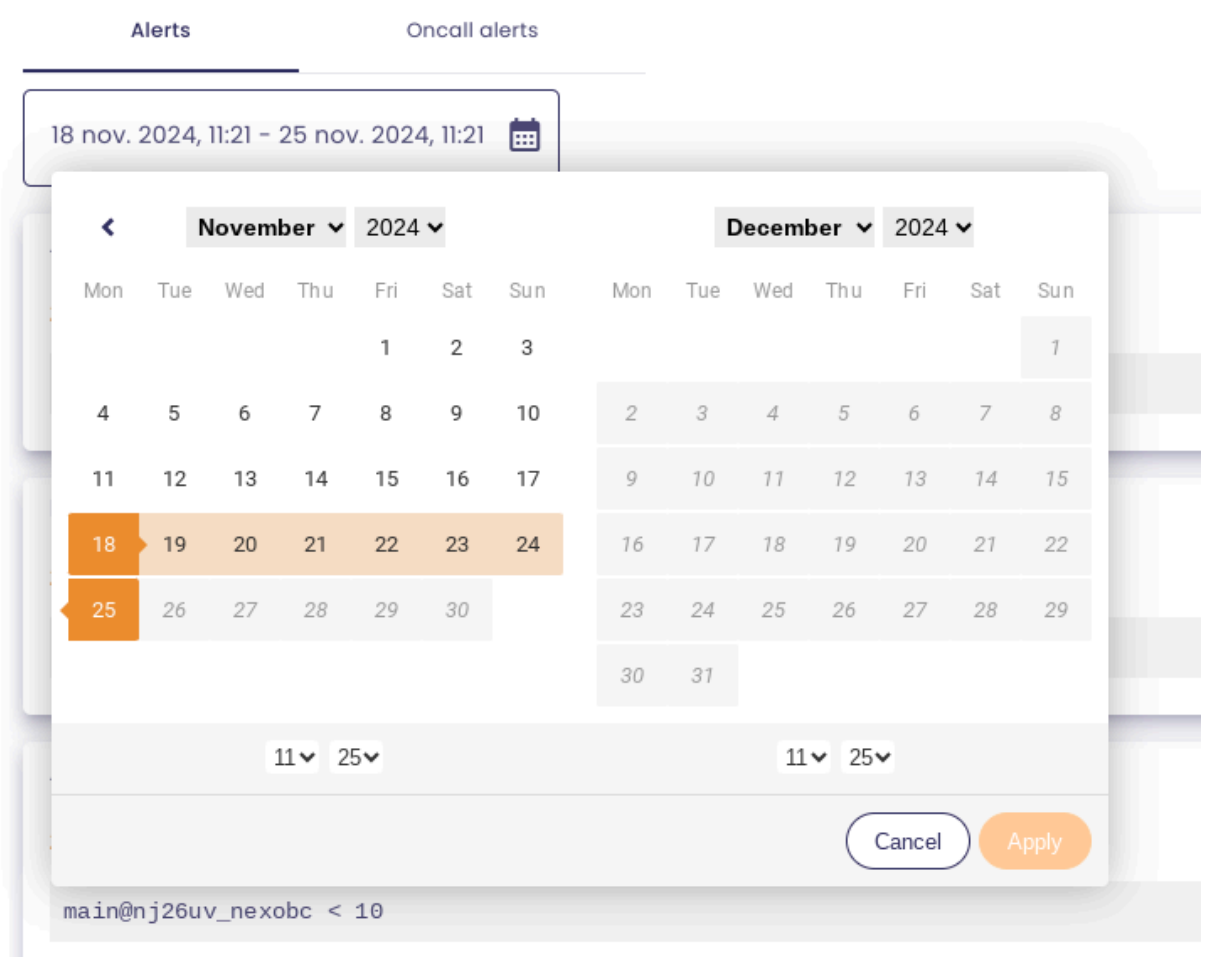
You can filter the displayed list of triggers by clicking on the button highlighted below :



Several filters are available :



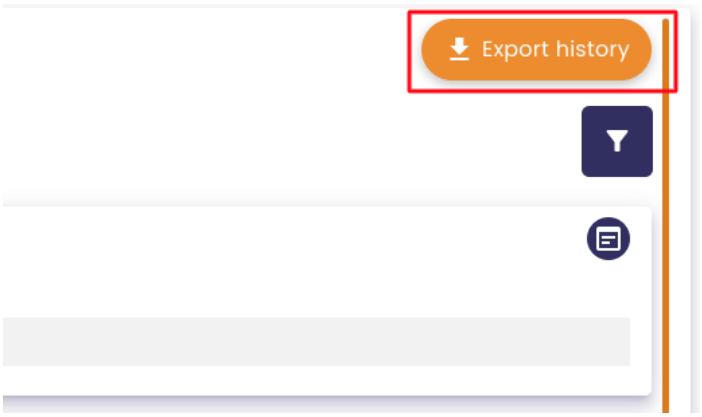
You can also filter the alert activations by selecting a specific time range.



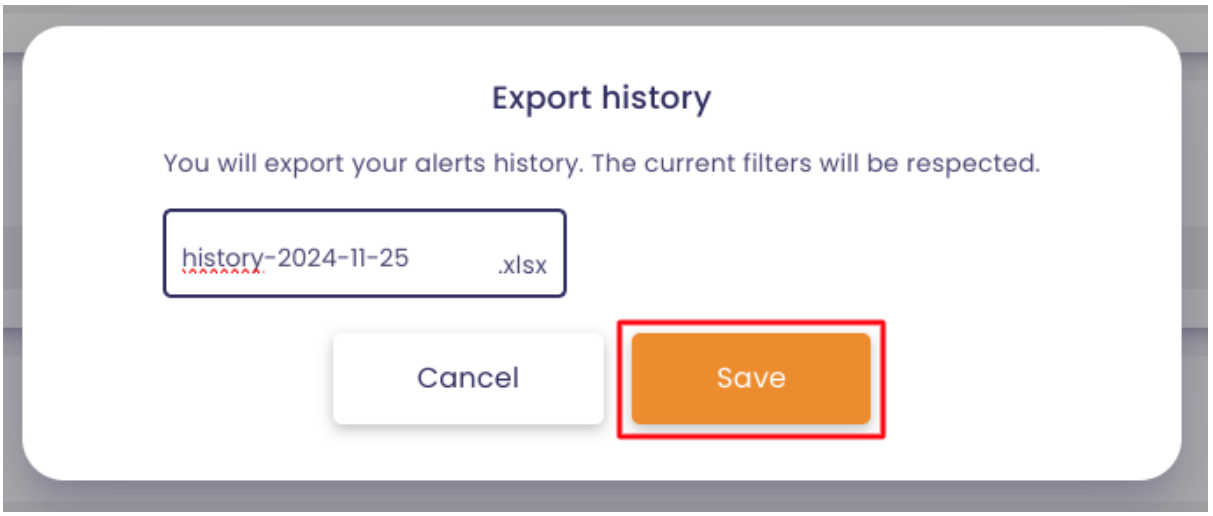
5.2 Exporter the trigger history

You can export the alert trigger history into an Excel file.

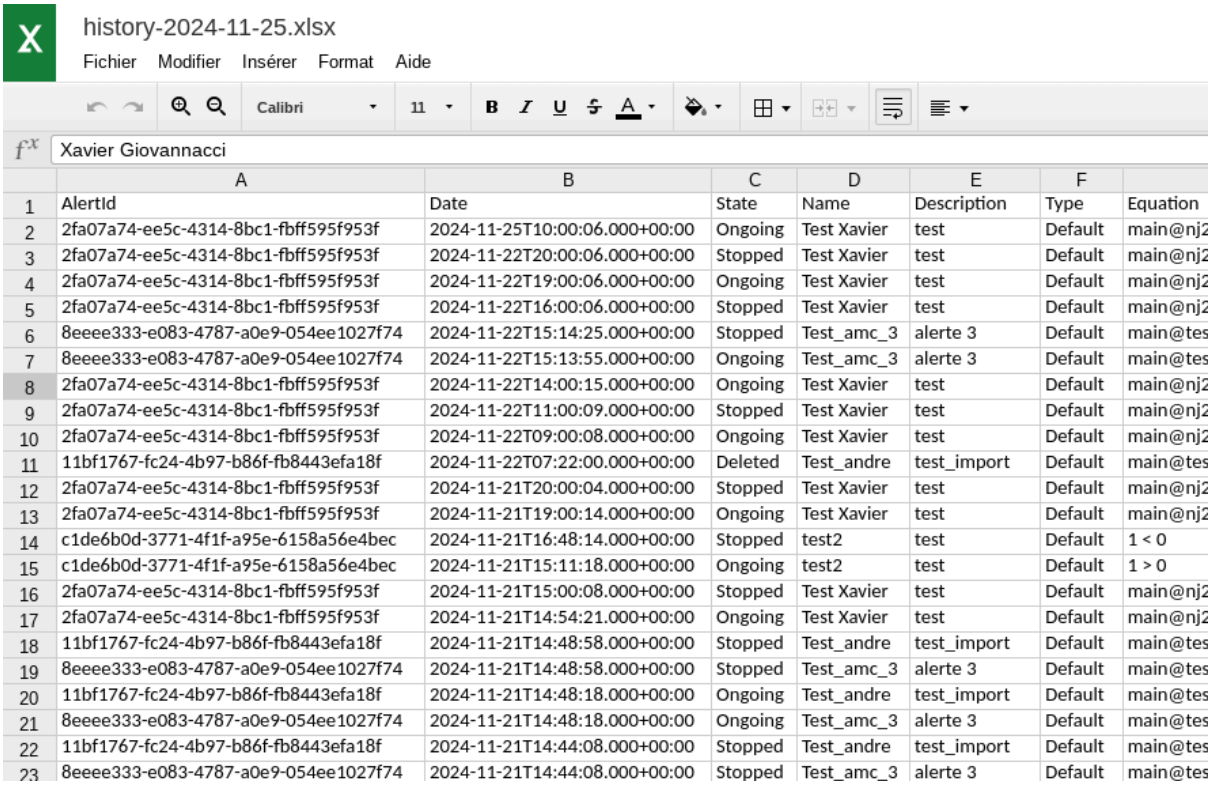
To do so, click on the "**Export history**" button, at the top-right of the screen :



Then, click on "**Save**" :



An excel file containing the alert trigger history will be downloaded :



history-2024-11-25.xlsx

Fichier Modifier Insérer Format Aide

Calibri 11

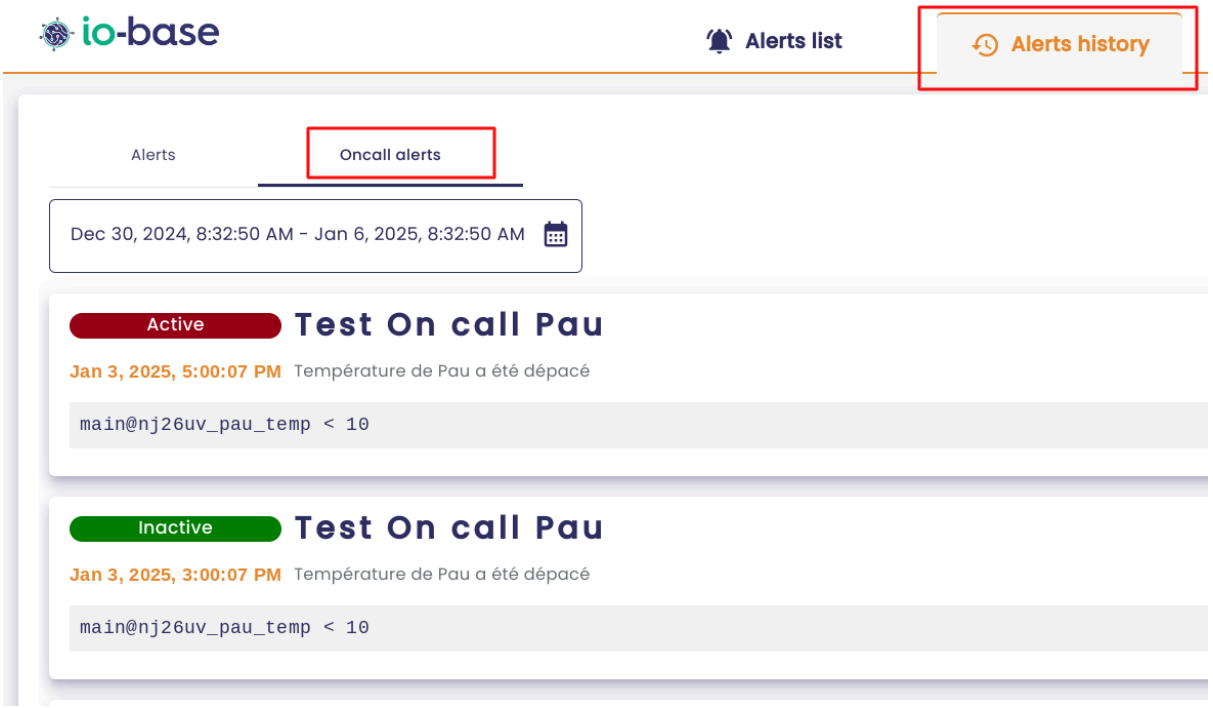
Xavier Giovannacci

	A	B	C	D	E	F	
1	AlertId	Date	State	Name	Description	Type	Equation
2	2fa07a74-ee5c-4314-8bc1-fbff595f953f	2024-11-25T10:00:06.000+00:00	Ongoing	Test Xavier	test	Default	main@nj2
3	2fa07a74-ee5c-4314-8bc1-fbff595f953f	2024-11-22T20:00:06.000+00:00	Stopped	Test Xavier	test	Default	main@nj2
4	2fa07a74-ee5c-4314-8bc1-fbff595f953f	2024-11-22T19:00:06.000+00:00	Ongoing	Test Xavier	test	Default	main@nj2
5	2fa07a74-ee5c-4314-8bc1-fbff595f953f	2024-11-22T16:00:06.000+00:00	Stopped	Test Xavier	test	Default	main@nj2
6	8eeee333-e083-4787-a0e9-054ee1027f74	2024-11-22T15:14:25.000+00:00	Stopped	Test_amc_3	alerte 3	Default	main@tes
7	8eeee333-e083-4787-a0e9-054ee1027f74	2024-11-22T15:13:55.000+00:00	Ongoing	Test_amc_3	alerte 3	Default	main@tes
8	2fa07a74-ee5c-4314-8bc1-fbff595f953f	2024-11-22T14:00:15.000+00:00	Ongoing	Test Xavier	test	Default	main@nj2
9	2fa07a74-ee5c-4314-8bc1-fbff595f953f	2024-11-22T11:00:09.000+00:00	Stopped	Test Xavier	test	Default	main@nj2
10	2fa07a74-ee5c-4314-8bc1-fbff595f953f	2024-11-22T09:00:08.000+00:00	Ongoing	Test Xavier	test	Default	main@nj2
11	11bf1767-fc24-4b97-b86f-fb8443efa18f	2024-11-22T07:22:00.000+00:00	Deleted	Test_andre	test_import	Default	main@tes
12	2fa07a74-ee5c-4314-8bc1-fbff595f953f	2024-11-21T20:00:04.000+00:00	Stopped	Test Xavier	test	Default	main@nj2
13	2fa07a74-ee5c-4314-8bc1-fbff595f953f	2024-11-21T19:00:14.000+00:00	Ongoing	Test Xavier	test	Default	main@nj2
14	c1de6b0d-3771-4f1f-a95e-6158a56e4bec	2024-11-21T16:48:14.000+00:00	Stopped	test2	test	Default	1 < 0
15	c1de6b0d-3771-4f1f-a95e-6158a56e4bec	2024-11-21T15:11:18.000+00:00	Ongoing	test2	test	Default	1 > 0
16	2fa07a74-ee5c-4314-8bc1-fbff595f953f	2024-11-21T15:00:08.000+00:00	Stopped	Test Xavier	test	Default	main@nj2
17	2fa07a74-ee5c-4314-8bc1-fbff595f953f	2024-11-21T14:54:21.000+00:00	Ongoing	Test Xavier	test	Default	main@nj2
18	11bf1767-fc24-4b97-b86f-fb8443efa18f	2024-11-21T14:48:58.000+00:00	Stopped	Test_andre	test_import	Default	main@tes
19	8eeee333-e083-4787-a0e9-054ee1027f74	2024-11-21T14:48:58.000+00:00	Stopped	Test_amc_3	alerte 3	Default	main@tes
20	11bf1767-fc24-4b97-b86f-fb8443efa18f	2024-11-21T14:48:18.000+00:00	Ongoing	Test_andre	test_import	Default	main@tes
21	8eeee333-e083-4787-a0e9-054ee1027f74	2024-11-21T14:48:18.000+00:00	Ongoing	Test_amc_3	alerte 3	Default	main@tes
22	11bf1767-fc24-4b97-b86f-fb8443efa18f	2024-11-21T14:44:08.000+00:00	Stopped	Test_andre	test_import	Default	main@tes
23	8eeee333-e083-4787-a0e9-054ee1027f74	2024-11-21T14:44:08.000+00:00	Stopped	Test_amc_3	alerte 3	Default	main@tes

5.3 Viewing the history of on-call alerts

Prerequisite : to view the activation history of on-call alerts, you must have a functional administrator role or been added to an access group associated with the on-call alert.

Start by clicking on the "**Alerts history**" menu, then go to the "**Oncall alerts**" tab.



As for the classic alerts, you can write incident reports on the activations of on-call alerts.

6. The states of an alert

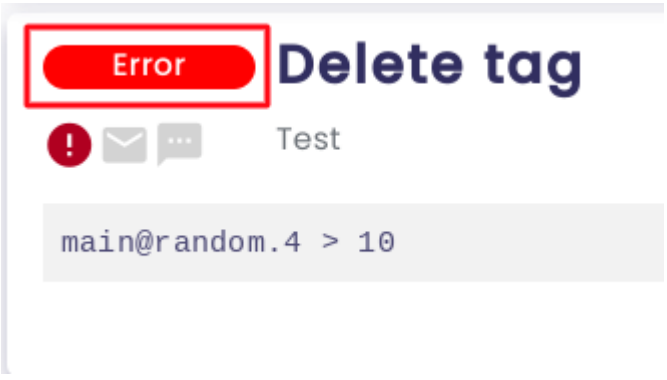
Whether you're viewing the alert list or the trigger list, an icon is provided to indicate the current status of each alert.

This article aims to help you identify the status of your alerts by outlining the different states an alert can go through and the icon associated with each state.

- **Inactive**: The alert is idle, with no triggers currently active.

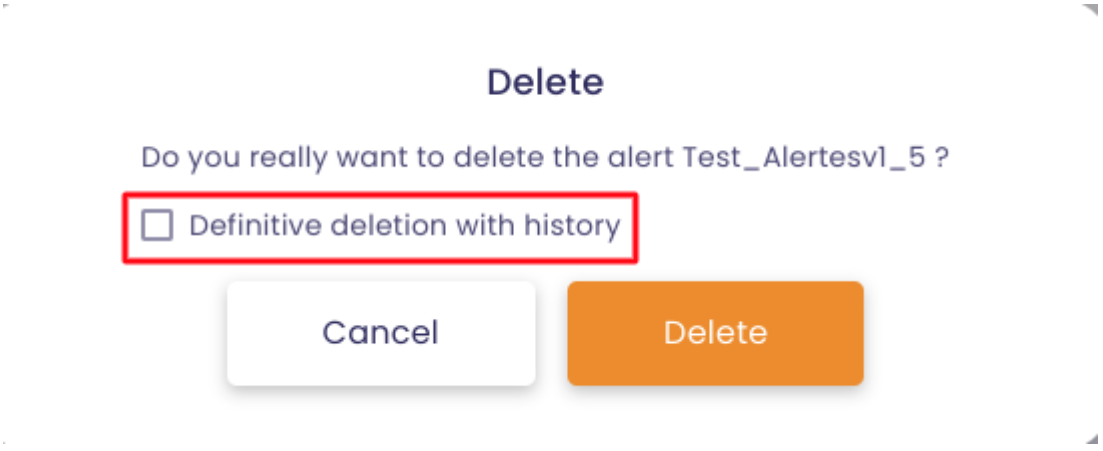
- **Active**: The alert is currently triggered.

- **Error**: The alert has encountered an error and requires attention.



- **Disabled**: The alert is deactivated and cannot be triggered.

- **Deleted** : The alert has been deleted, but the user did not check the box for 'Definitive deletion with history', so you can still have access to the history of the alert.



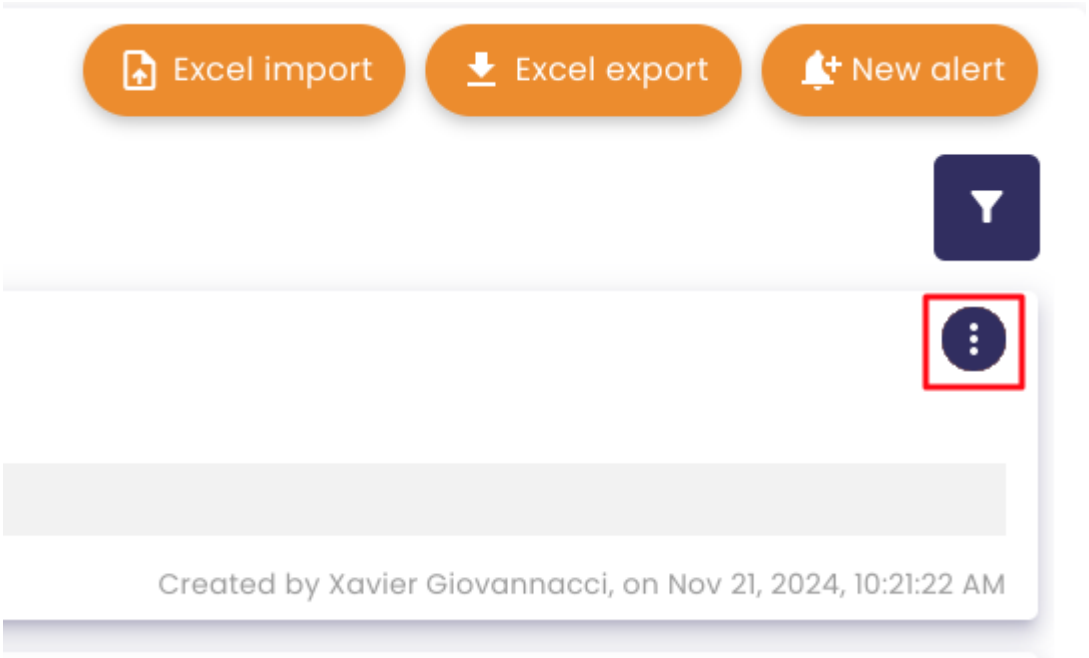
7. Edit an alert

Access Indaba Alerting.

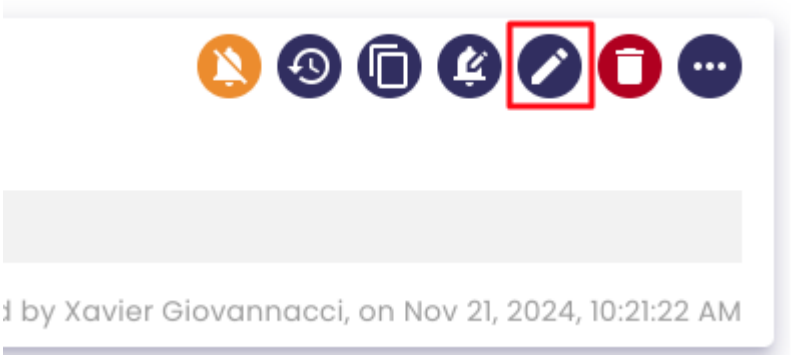
In the **Indaba Alerting** menu, click on **Alerts list**.

The list of alerts already created is displayed.

To edit an alert, click the button in the **Actions** column.

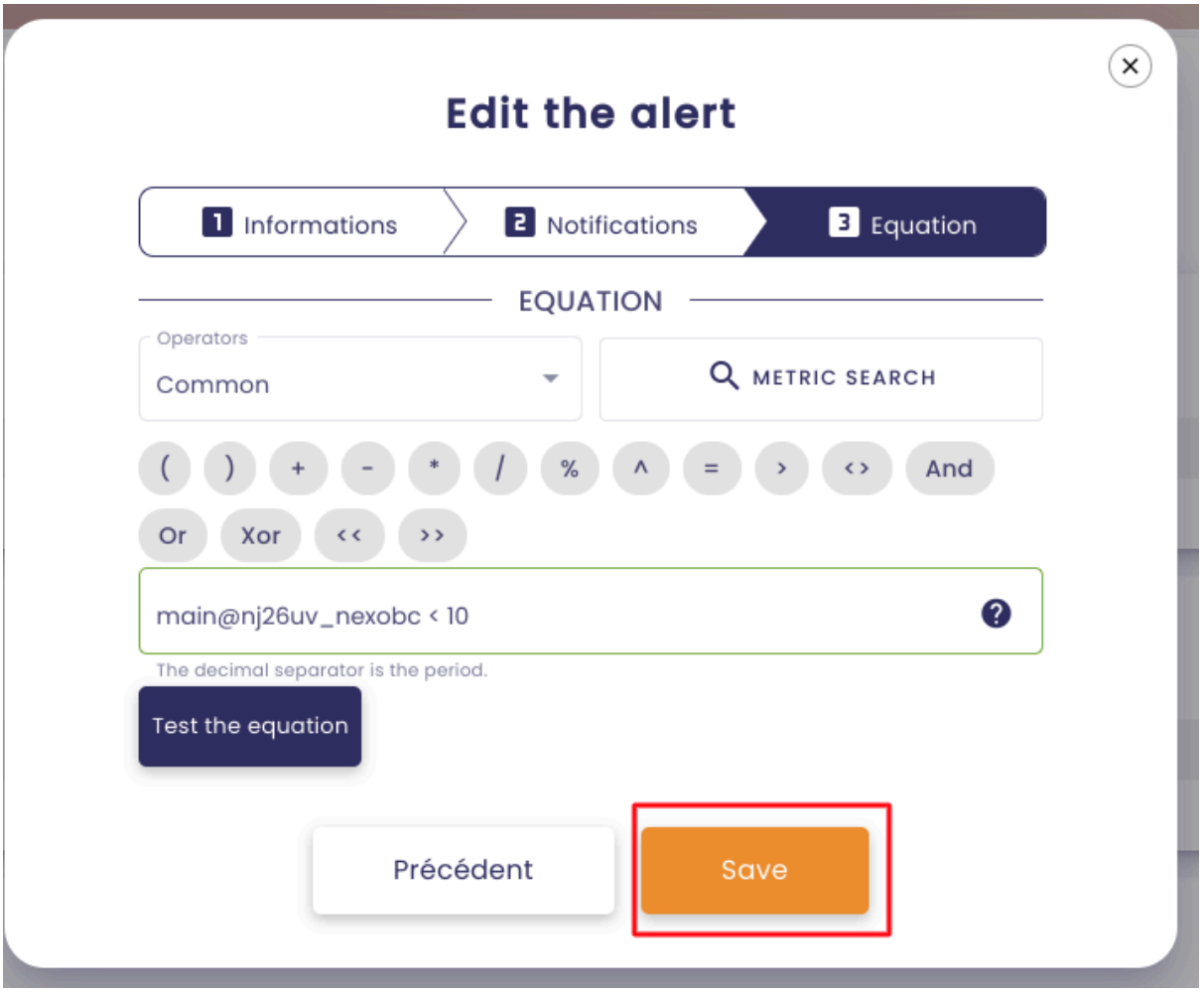


Then, click on the **"Edit"** button :



The alert edit window will open.

Modify the fields in the update window and click the **"Save"** button.

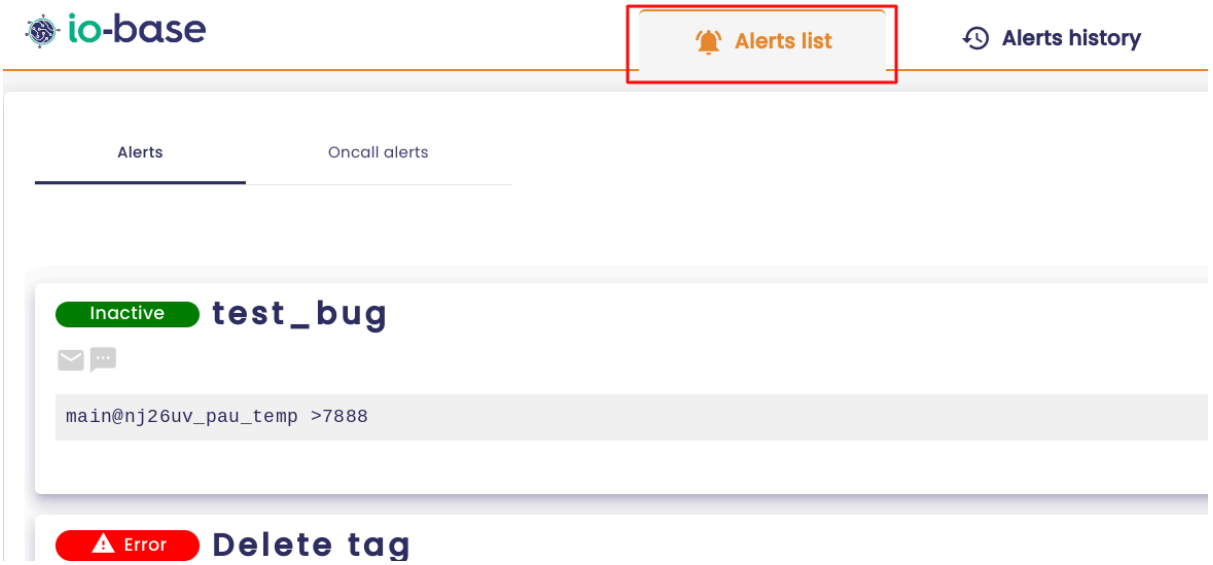


Note : Only users with a functional administrator role can edit an oncall alert.

8. Delete an alert

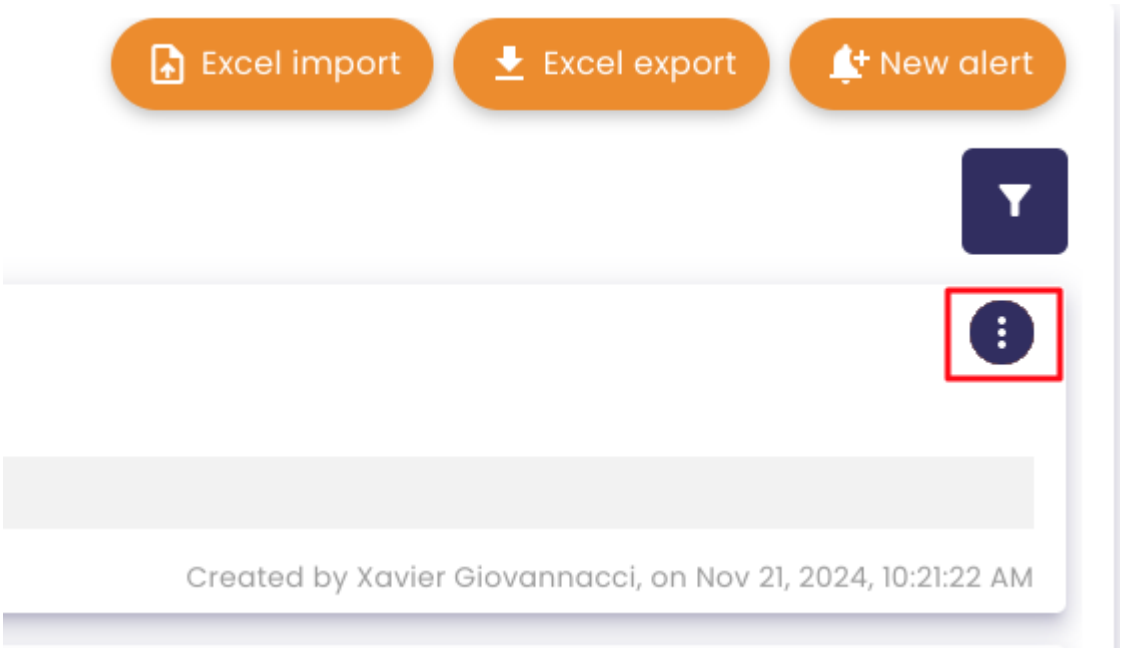
Access Indaba Alerting.

In the left-hand menu, click on **Alerts list**.

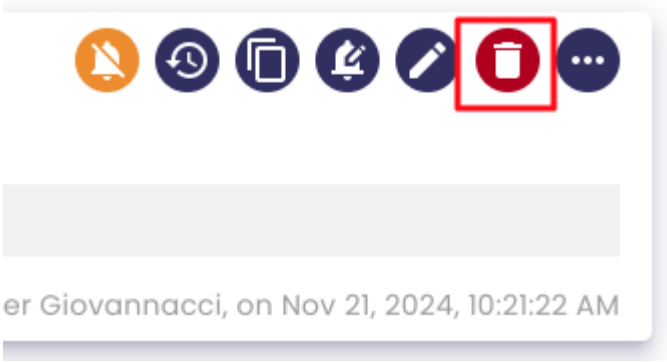


The list of alerts already created is displayed.

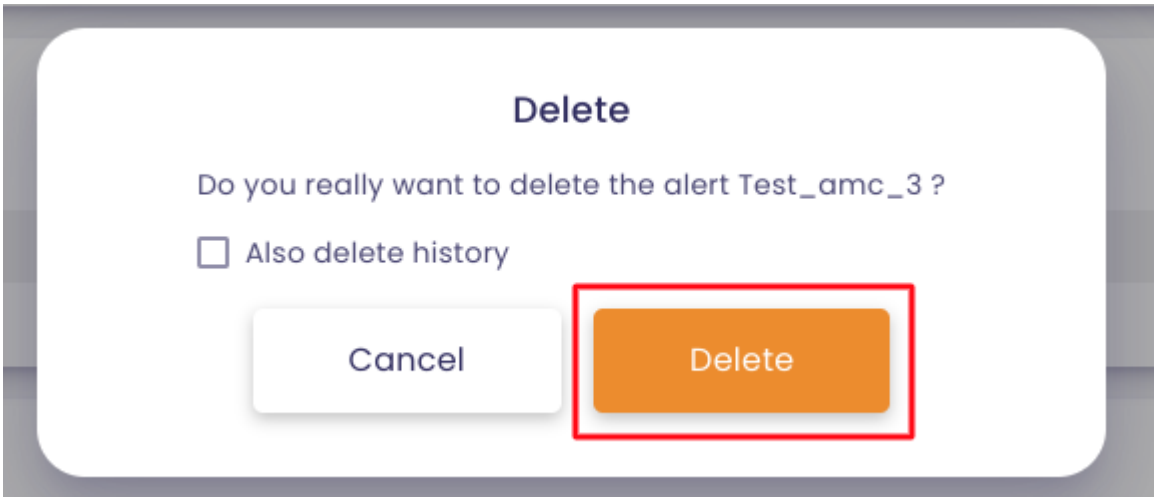
To delete an alert, click on the button outlined below :



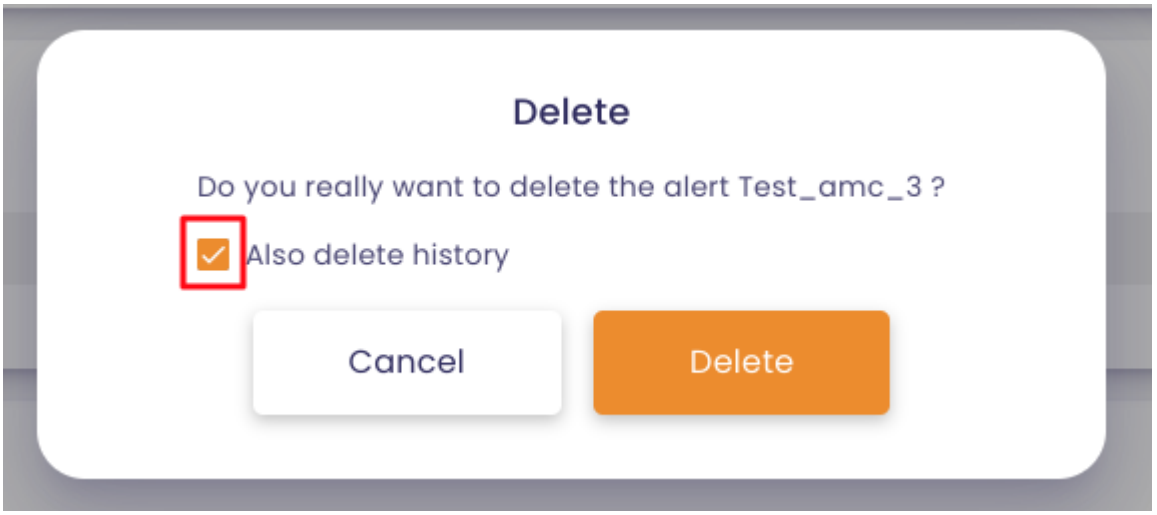
Then click on the **"Delete"** button :



A confirmation window appears. Click on **Delete** to continue.

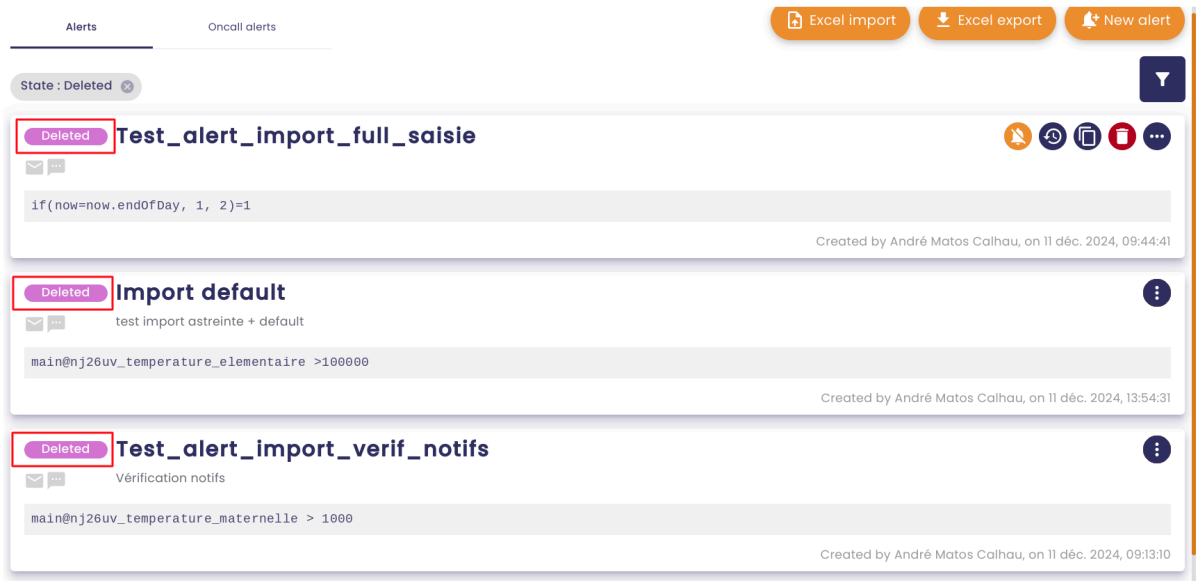


Note : When you delete an alert, you can choose to delete the trigger history for that alert as well. To do this, check the box **"Delete the history as well" :**



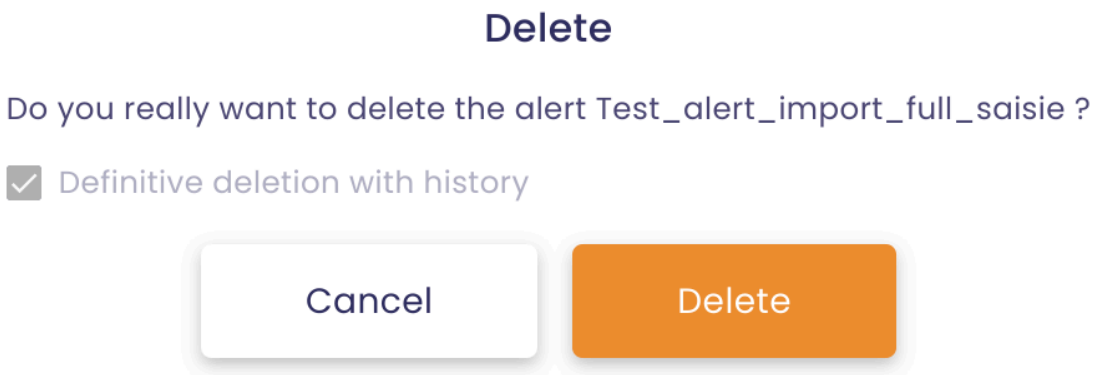
If you choose to retain the history of your alert triggers, you will find your alert in

the list with the status "**Deleted**" :



To permanently delete the alert and its trigger history, click the delete button in the "**Actions**" column :

Then click "**Delete**" :



9. Incident reports

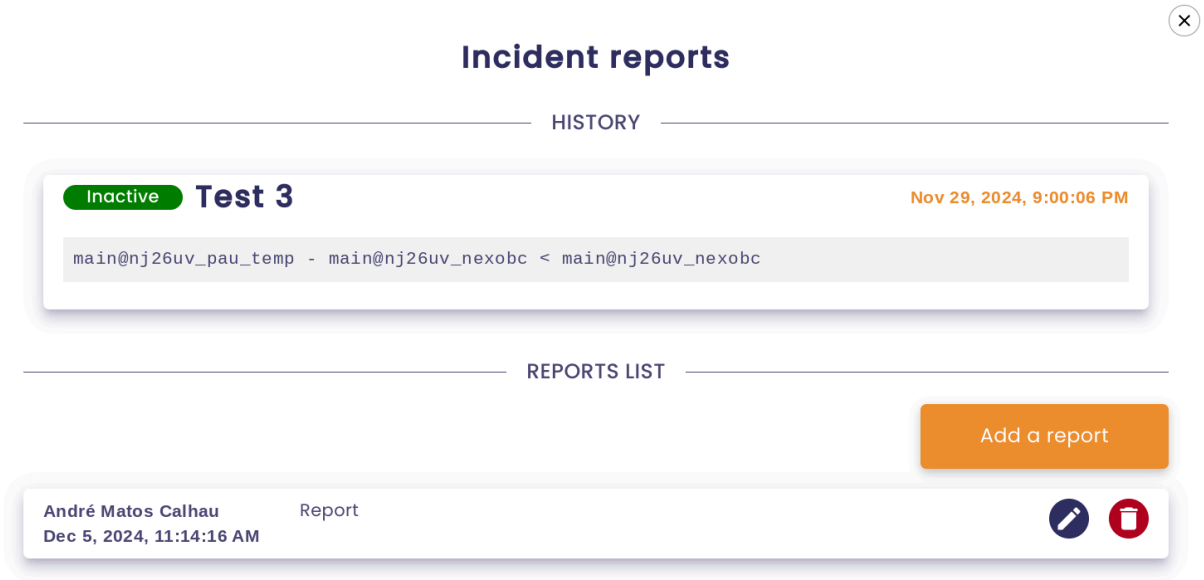
With **Indaba Alerting**, it is possible to associate an incident report when an alarm is triggered. You can explain in a few words why an alarm was triggered.

To create an incident report, access **Indaba Alerting**, then click the **History** menu.

This menu displays the history of the alerts that have been set up.

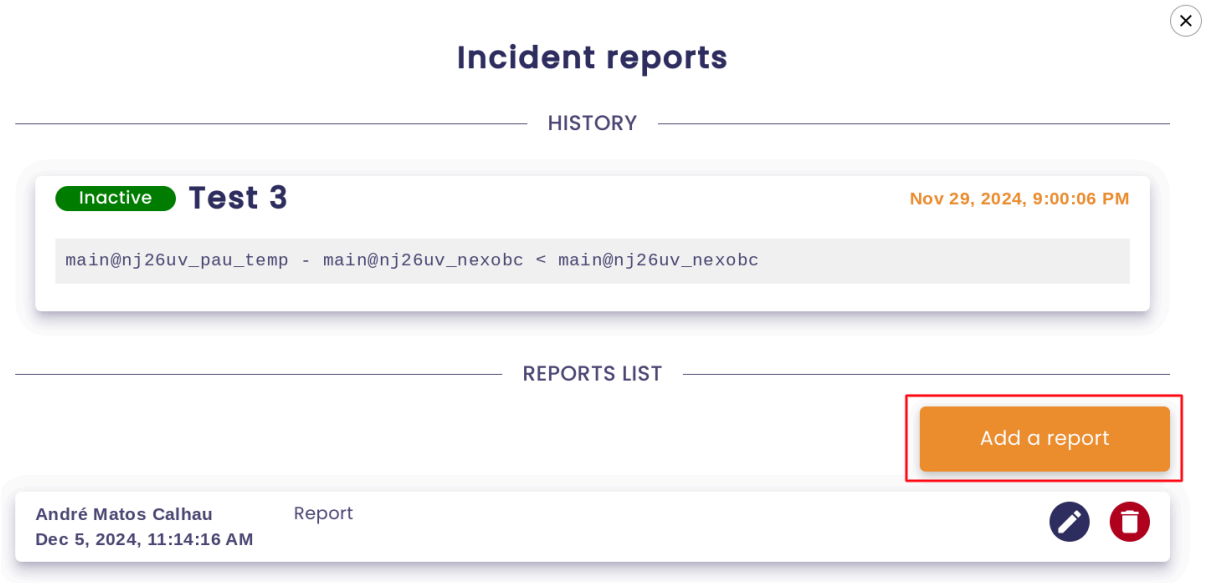
Click on the button on the left side of the alert trigger line :

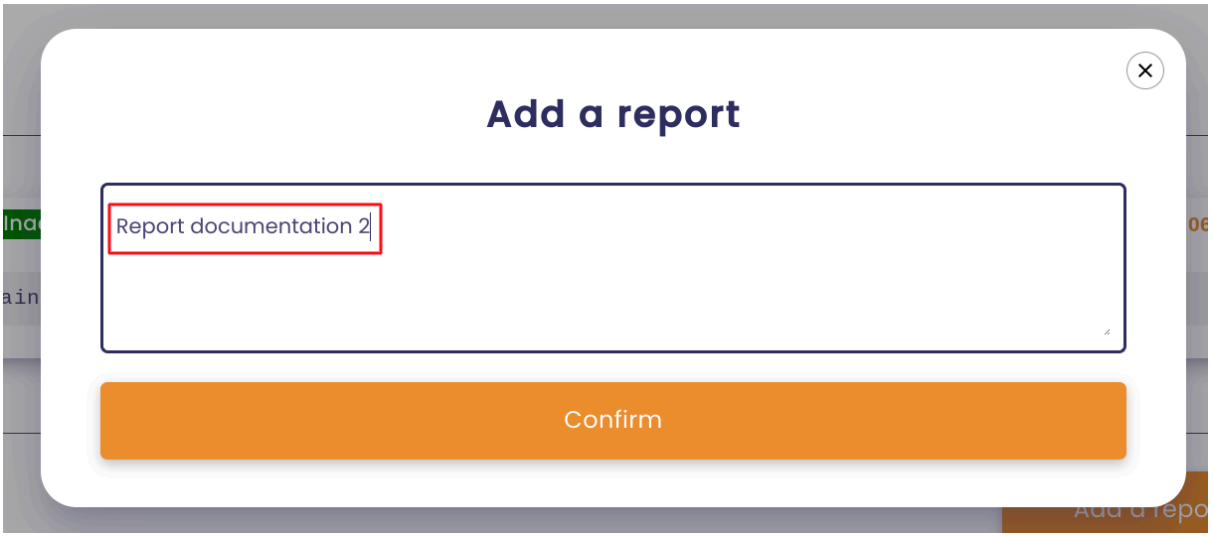
A window will appear, allowing you to view the incident reports corresponding to the alert.



Note : You cannot modify the values corresponding to the raised alert.

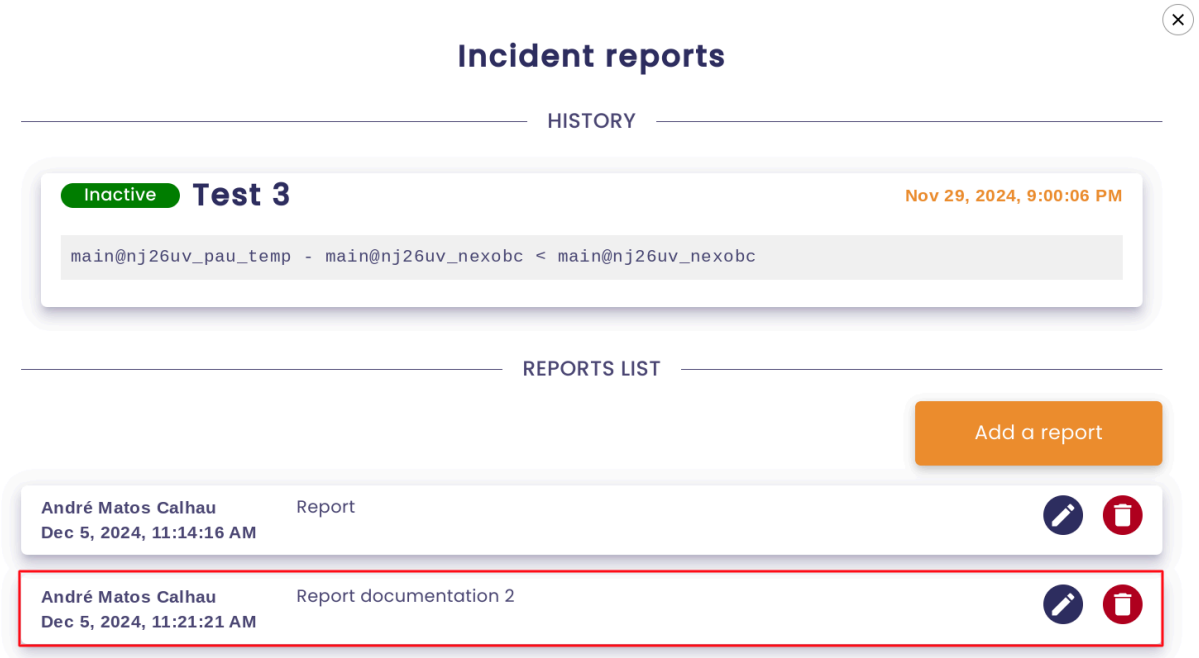
To add a report, click on the **Add Report** button.





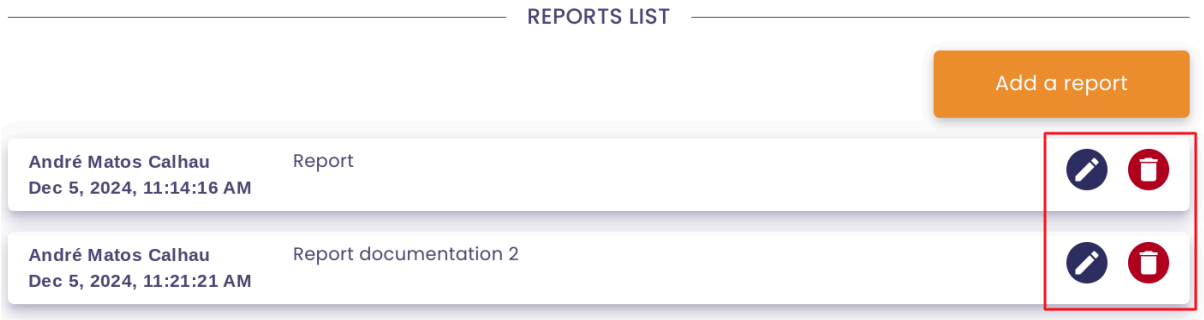
You can enter your comment in the text box, then click **Confirm**.

Your report will appear in the table.

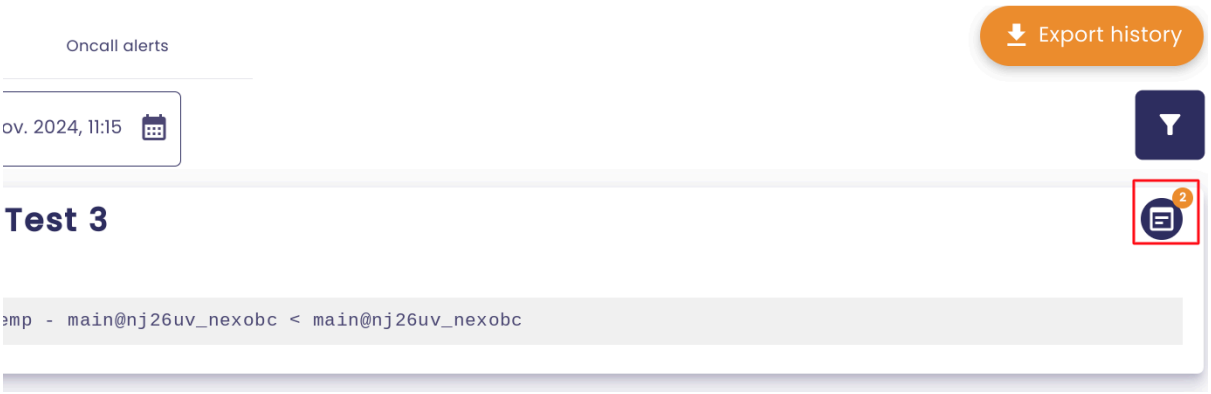


Note : You can associate multiple reports with the same alert trigger.

Using the buttons on the left side of the report line, you can modify or delete an incident report.

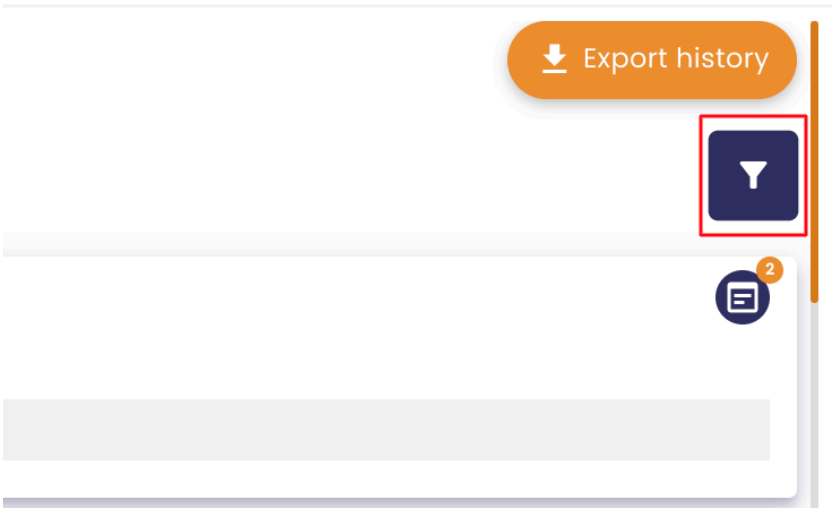


Note : In the alert list table, you can quickly identify the alert triggers for which a report has been added by a number appearing in the orange bubble.

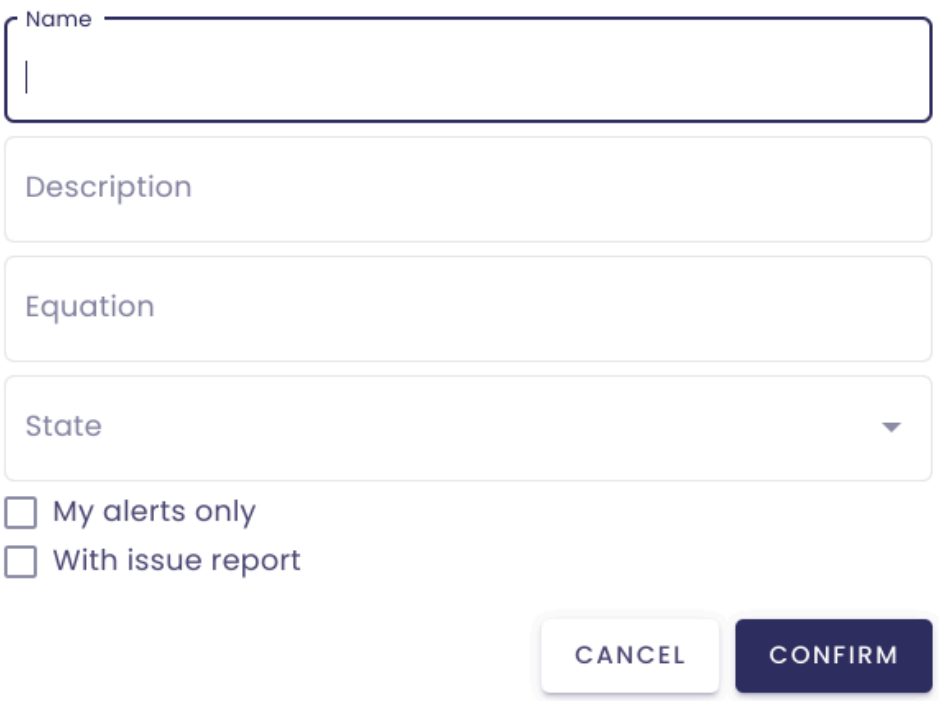


9.1 Filter the trigger history

You can also filter the list of displayed triggers by clicking on the button outlined below :



Several filters will then be available :



9.2 On-call alerts

As with regular alert triggers, it is possible to add incident reports for on-call alerts.

Only users listed in the on-call contact list by the administrator can access the trigger history of on-call alerts.

A user cannot delete or modify an incident report created by someone other than him/herself on an on-call alert event.

10. Alerts import/export

You can now export or import an alert list.

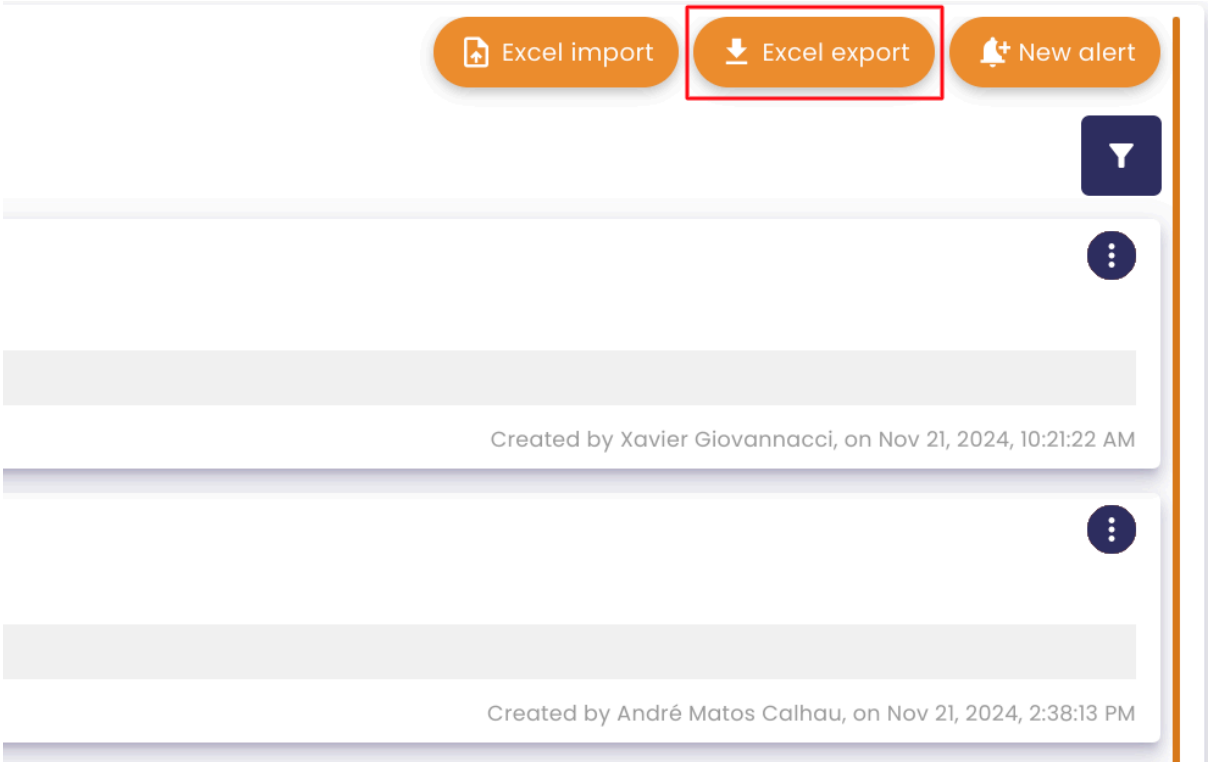
10.1 Exporting Alerts

You can export the list of alerts you have access to.

To do so, start by accessing **Indaba Alerting** from the **Io-base** portal.

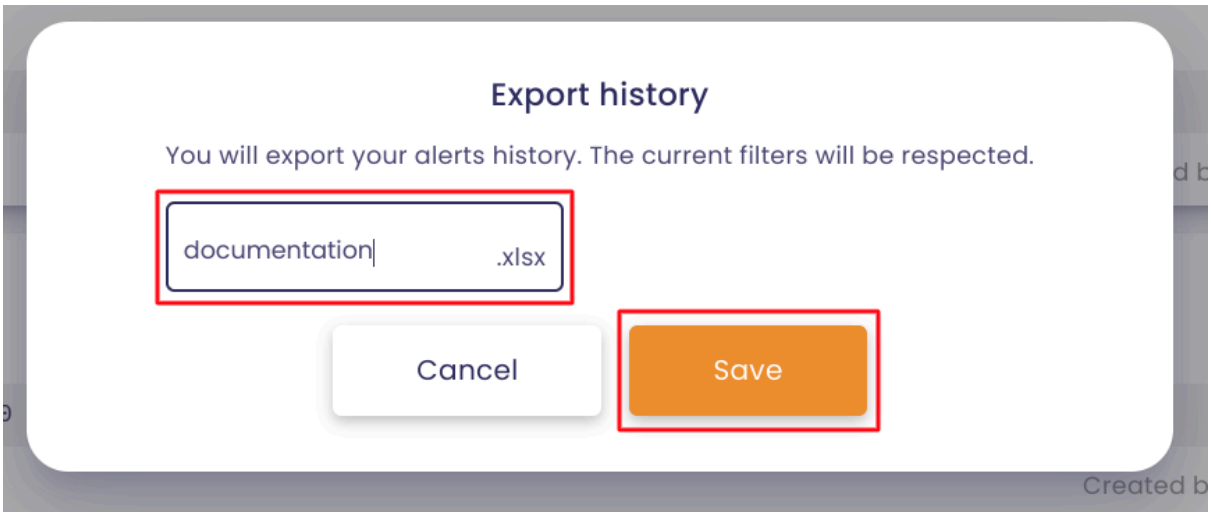
Then, click on the **"Alerts List"** menu. You will be directed to the page displaying all the alerts you have access to.

At the top-right of the page, click on the **Excel export** button.

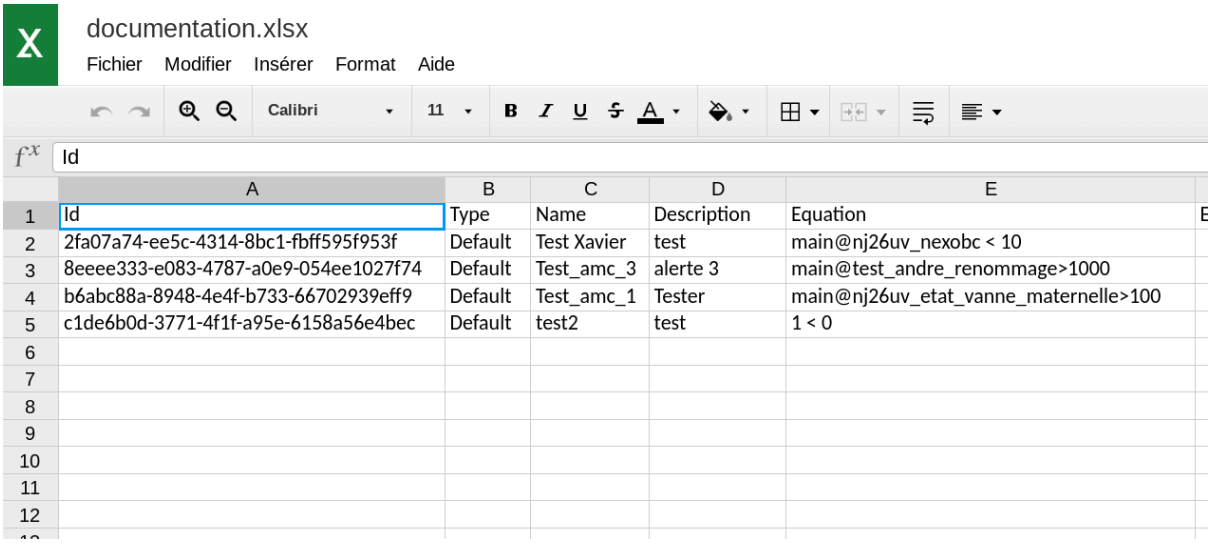


A pop-up will appear.

You can modify the file name for the export if desired. Then click **Save**.



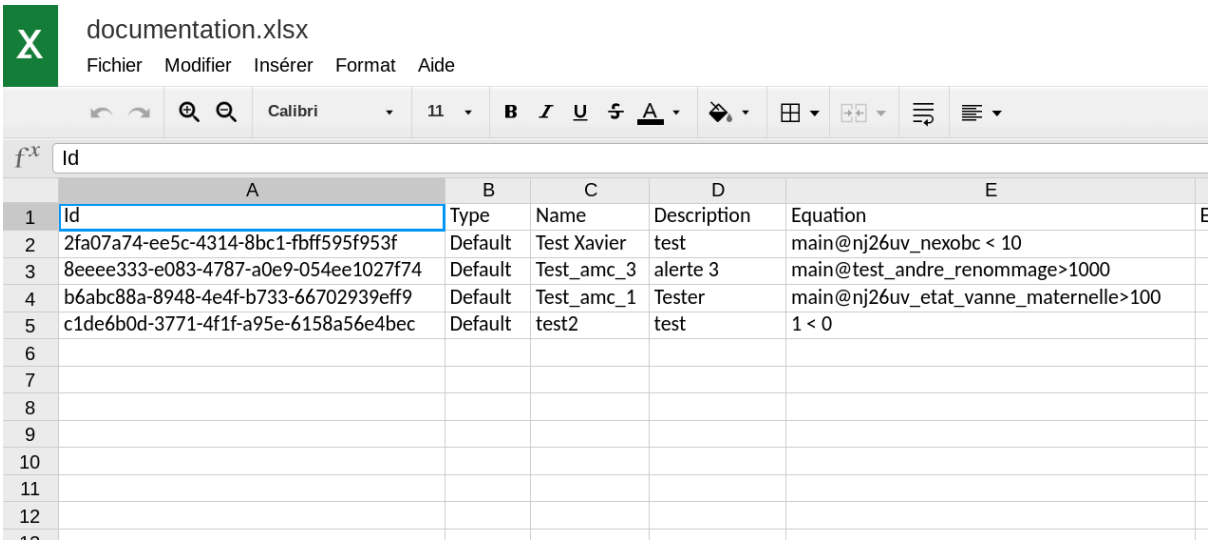
An Excel file containing the list of alerts will be downloaded :



10.2 Importing alerts

You can import new alerts from an Excel file.

To do so, open the Excel file containing the exported alerts.



To add a new alert, go to an empty row and enter the required information for each column.

IMPORTANT : You must leave the first column, **"Id"**, empty.

You need to enter the following :

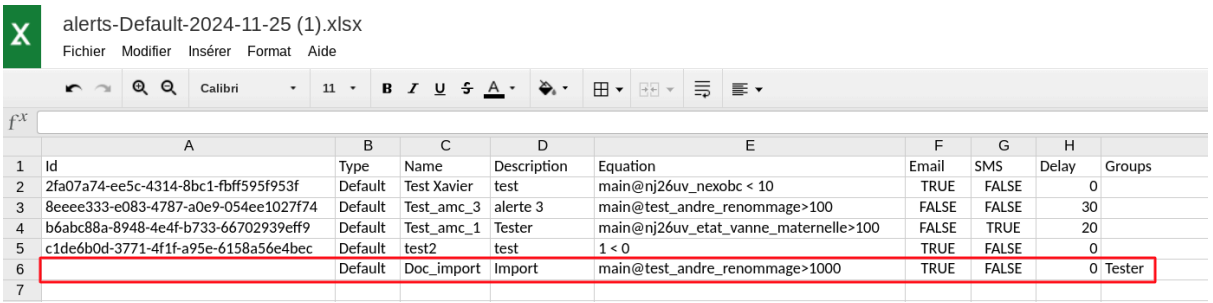
- **Alert Type** : enter "default" for regular alerts and "OnCall" for on-call alerts.
- **Alert Name**
- **Alert Description** (optional)
- **Alert Triggering Equation**
- **Email** : enter TRUE if you want to be notified by email, otherwise enter FALSE.
- **SMS** : enter TRUE if you want to be notified by SMS, otherwise enter FALSE.
- **Delay** : represents the minimum delay between two notifications, in seconds.
- **Groups** : access groups associated with the alert.
- **Email Addresses** : additional email addresses to be notified when the alert is triggered.

Note : If you wish to specify multiple groups or additional email addresses, you need to separate them with a semicolon "**;**".

If you choose to be notified by email, you can configure a link to be included in the notification email. The following columns are for this feature:

- **Link Text** : text for the link to include in the email.
- **Start Date Offset** : offset between the alert trigger and the period shown for links to IndaBoard or IndabaExplorer.
- **End Date Offset** : offset between the alert trigger and the period shown for links to IndaBoard or IndabaExplorer.
- **Link** : the link to include in the email.

Example of a valid import :


alerts-Default-2024-11-25 (1).xlsx

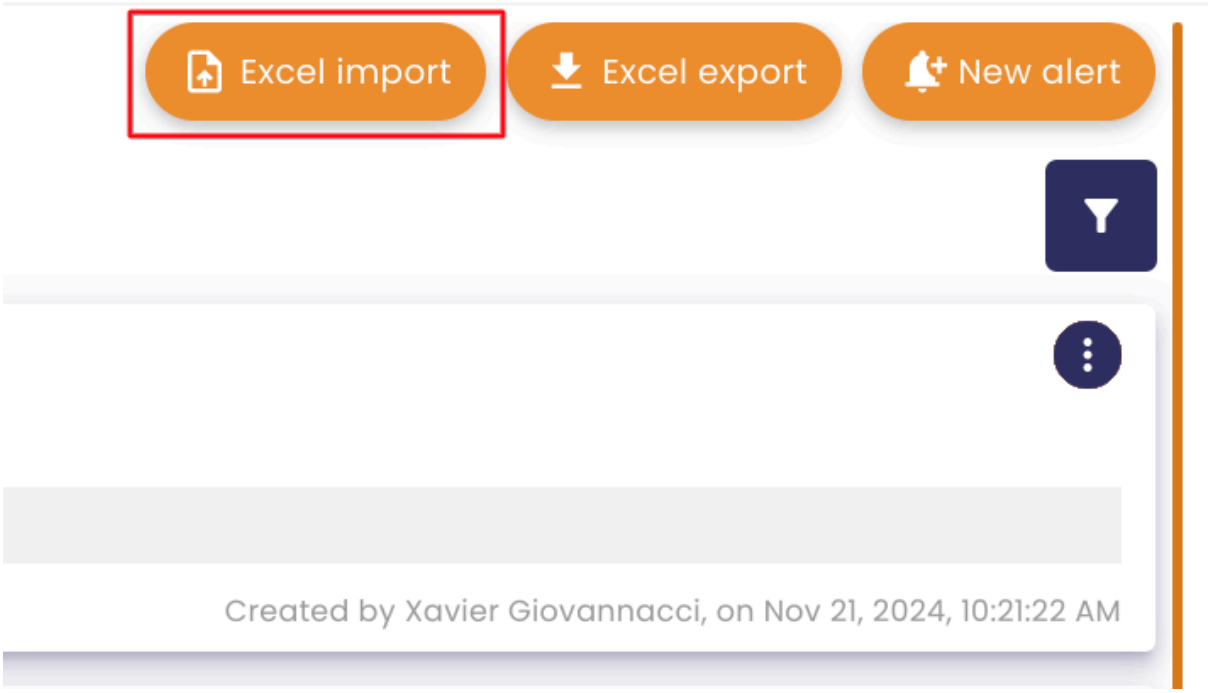
Fichier Modifier Insérer Format Aide

Calibri 11

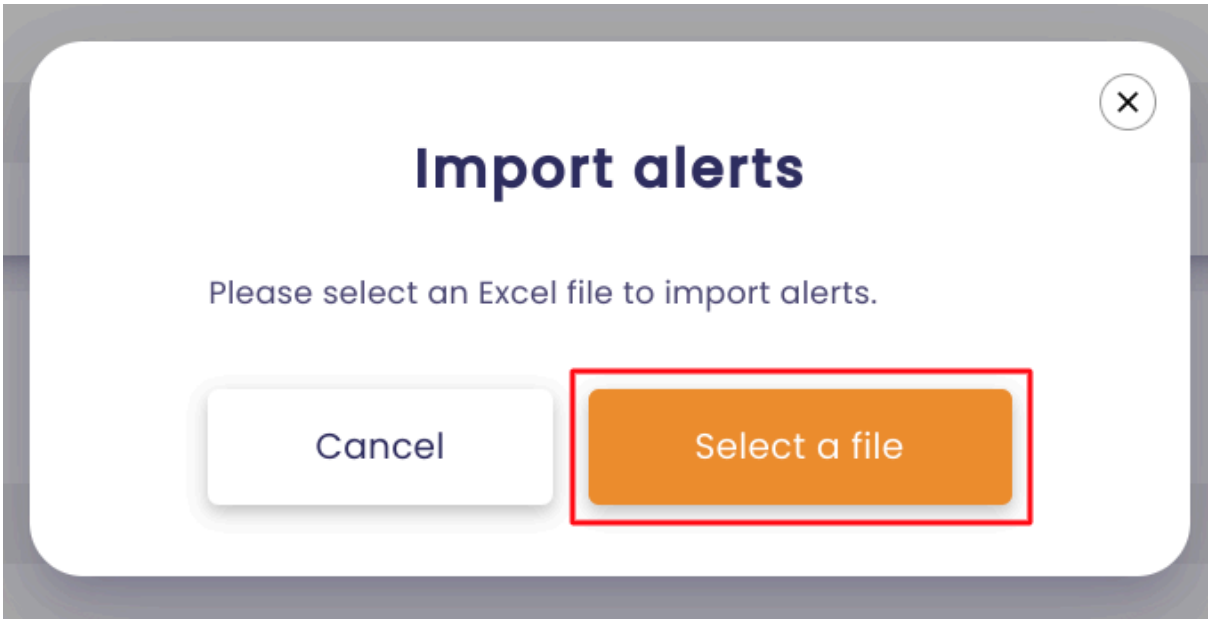
	A	B	C	D	E	F	G	H	
1	Id	Type	Name	Description	Equation	Email	SMS	Delay	Groups
2	2fa07a74-ee5c-4314-8bc1-fbff595f953f	Default	Test Xavier	test	main@nj26uv_nexobc < 10	TRUE	FALSE	0	
3	8eeee333-e083-4787-a0e9-054ee1027f74	Default	Test_amc_3	alerte 3	main@test_andre_renommage>100	FALSE	FALSE	30	
4	b6abc88a-8948-4e4f-b733-66702939eff9	Default	Test_amc_1	Tester	main@nj26uv_etat_vanne_maternelle>100	FALSE	TRUE	20	
5	c1de6b0d-3771-4f1f-a95e-6158a56e4bec	Default	test2	test	1 < 0	TRUE	FALSE	0	
6		Default	Doc_import	Import	main@test_andre_renommage>1000	TRUE	FALSE	0	Tester
7									

Once the alert information is entered, save your file.

Go back to the alert list screen, then click on **Import Excel** at the top-right of your screen :



Next, click on **Select a file**.



Then select the Excel file to import.

The alerts are then imported and added to your list.

11. Expressions and formulas (Alerting)

To define the conditions for triggering your alerts, several operators and functions are available to help you create the necessary trigger expressions.

11.1 Expression with basic operators

An expression can be made up of a single metric or a set of metrics linked together by operators.

Here is a list of the basic operators you can include when configuring your expressions :

Operator	Description	Example
+,-	Addition/Substraction	100 + [metric] = 200
*,/,%	Multiplication/Division/Modulo	(100*2) / [metric] > 200
^	Exponentiation	2^16 + [metric] < 100
-	Negation	-6 + [metric] > 0
+	Concatenation	"abc" + "def"
<<,>>	Offset	0 x 80 >> 2
=,<>,<,>,<=,>=	Comparison	2*[metric] > 100
"1,2,3"	Character string	"String!"

Note : When entering your expressions, keep in mind that the decimal separator is the period (not the comma).

11.2 Advanced functions

Functions allow for more complex evaluations. Below is the list of supported functions.

11.2.1 Function "If"

Purpose : The If function allows you to evaluate a condition and return a specific

value based on the result of that evaluation. You can use it to set up alerts based on these values.

Definition : If(condition, trueValue, falseValue)

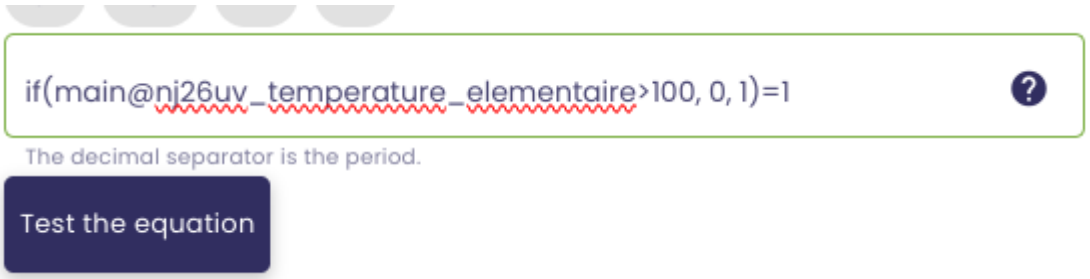
- **condition** : The equation to evaluate.
- **trueValue** : The value returned if the condition is true.
- **falseValue** : The value returned if the condition is false.

Usage for Alerts :
To set up an alert, you must specify when it should be triggered, based on the result returned by the "If" function. For example :

- If you want to be alerted when the function returns trueValue :
  Set up the alert with the following expression:
  If(condition, trueValue, falseValue) = trueValue

- If you want to be alerted when the function returns falseValue:
  Set up the alert with the following expression :
  If(condition, trueValue, falseValue) = falseValue

Valid expression example :



11.2.2 Function "ifthen"

Purpose : Allows you to return a specific value if a condition is true.

Definition : ifthen([condition], [trueValue])

- **condition** : The equation to evaluate.
- **trueValue** : The value returned if the condition is true.

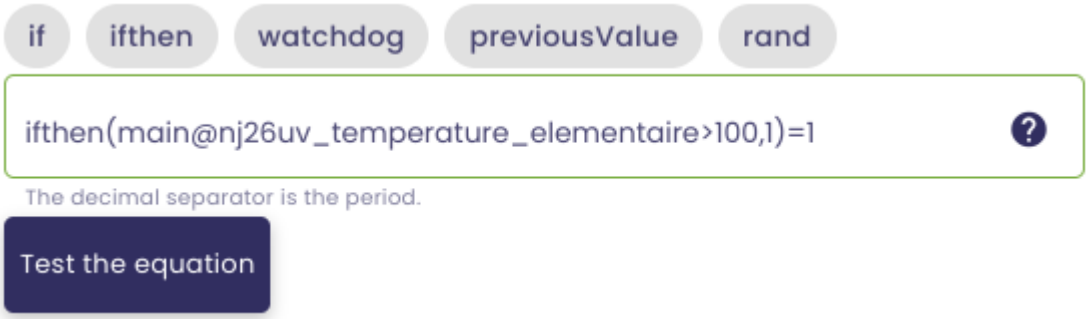
Usage for Alerts :

To set up an alert, use this function to define when it should be triggered.

For instance :

- If you want to be alerted when the condition is true :
  ifthen(condition, trueValue) = trueValue

Valid Expression Example :



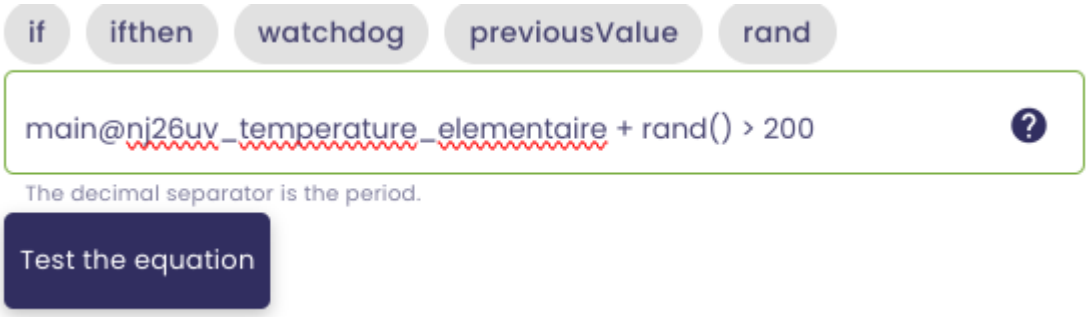
11.2.3 Function "rand"

Purpose : Generates a pseudo-random number greater than or equal to 0.0 and less than 1.0.

Definition : rand()

Usage for Alerts : You can include this function in your alert expression.

Valid Expression Example with the rand() function :



Here, the user will be alerted if the sum of the value returned by their metric and a random number (rand) is greater than 200.

11.2.4 Function "watchdog"

Purpose : Monitors the state of data-emitting equipment (Indabox, eWon, etc.).

Definition : bool Watchdog(string [idMetrique], int [duration], bool [watchValueChange])

Functionality : If the metric [idMetrique] has not been updated for [duration] seconds, the function returns True. If the parameter [watchValueChange] = true, it also monitors changes in value between two writes. Specifically, if the last two values written to [idMetrique] are the same, the function returns True.

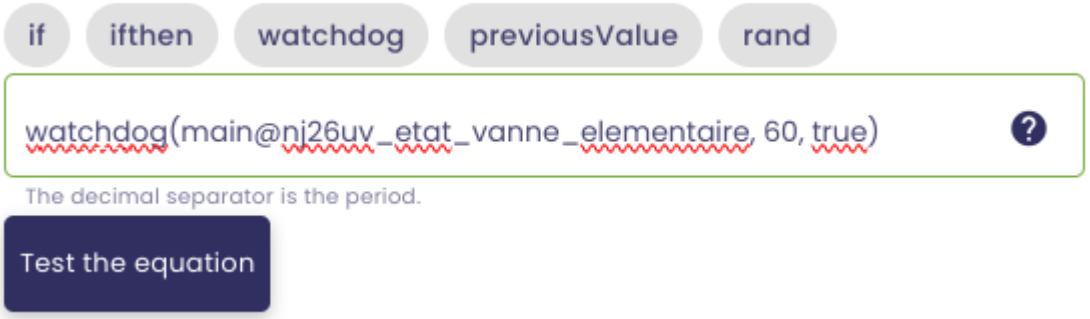
Equation format :
result = ([LastRefresh] < [Now] - [Duration]) OR ([watchValueChange] AND [PreviousValue] = [CurrentValue])

Usage for Alerts :

This function triggers an alert when:

- The metric hasn't been updated in a certain amount of time.
- If "watchValueChange" is enabled, no change in value has been detected between two writes.

Valid Expression Example :

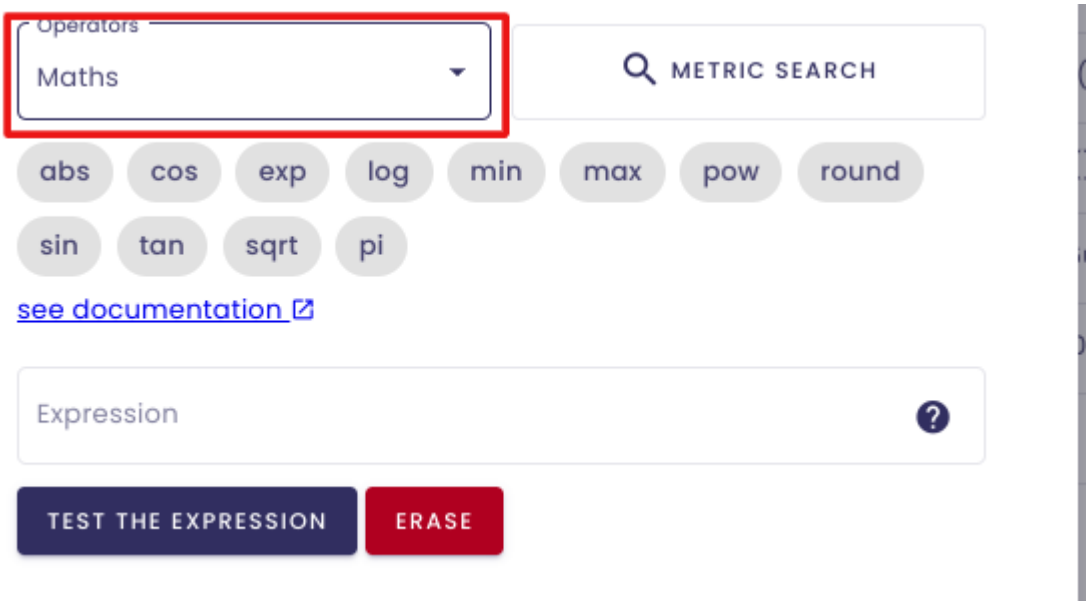


11.3 Additional Features

In addition to the previously mentioned functions, the formula engine allows for other types of calculations.

11.3.1 Mathematical calculations

Various mathematical methods and constants can be used in formulas.



For example, it is possible to return the absolute value of a number by entering : **Abs(Double)**

Or, to return the logarithm of a specified number :

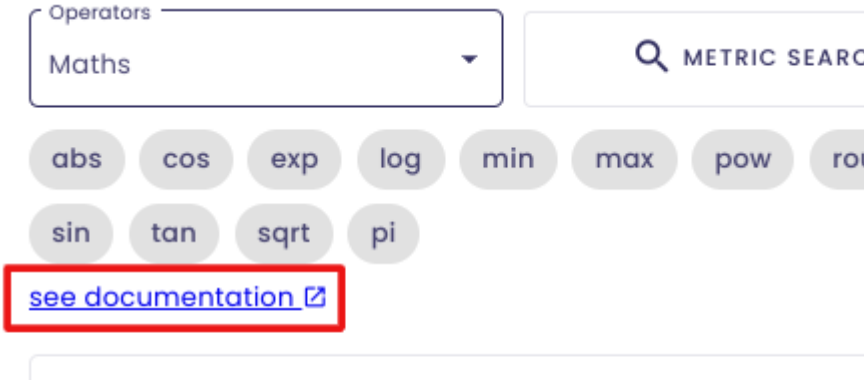
Log(Double)

You also have the possibility to include mathematical constants.

E	Represents the natural logarithmic base specified by the constant `e`.
IP	Represents the ratio of the circumference of a circle to its diameter, specified by the constant π.
tau	Represents the number of radians in a single revolution, specified by the constant, τ.

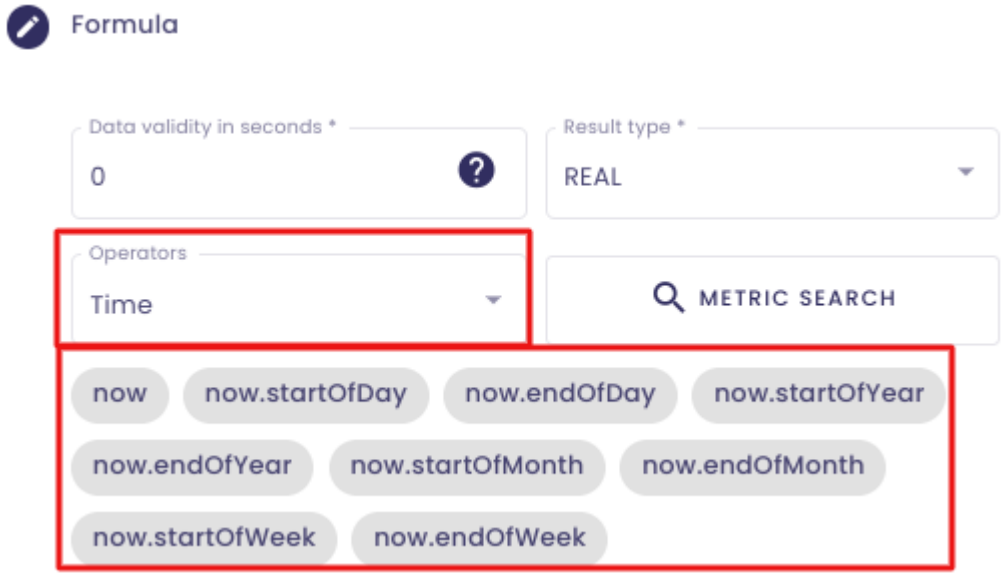
Example :

Note : The list of operators available in the formula creation screen is not comprehensive. For an exhaustive list of the possibilities, click on "see the documentation."



11.3.2 Date configuration

In addition to the time operators seen previously :



You can customize the dates used in your formulas using the following functions :

- AddDays(Double) : Returns a new "DateTimeOffset" object that adds a specified number of whole and fractional days to the value of this instance.

- AddHours(Double) : Returns a new "DateTimeOffset" object that adds a specified number of whole and fractional hours to the value of this instance.

- AddMinutes(Double) : Returns a new "DateTimeOffset" object that adds a specified number of whole and fractional minutes to the value of this instance.

- AddMonths(Double) : Returns a new "DateTimeOffset" object that adds a specified number of months to the value of this instance.

- AddYears(Double) : Returns a new "DateTimeOffset" object that adds a specified number of years to the value of this instance.

This list is not exhaustive, and you can find all the possibilities available by clicking here.

In practice, if we use the "now.startOfDay" operator, for example, it will represent the beginning of the current day.

But let's say we want to have yesterday's date. We can complete our time operator with the AddDays function :

now.StartOfDay.AddDays(-1).

By adding .AddDays(-1), we indicate that we want the current day minus one day.

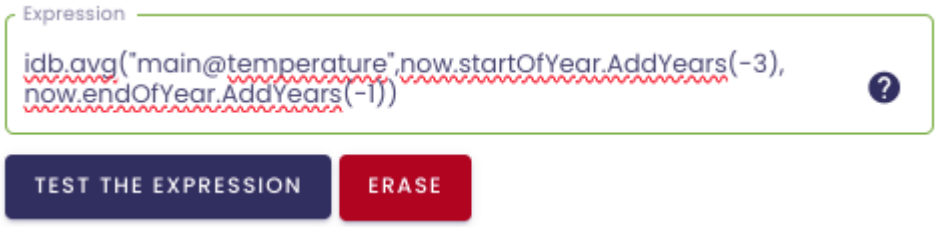
You can thus add/remove days, hours, months, years... to your date.

Example : We want to know the average temperature of an installation over the past 3 years (excluding the current year, which we will call n).

You need to set the period :

- the start of the period represents the beginning of year n-3: now.startOfYear.AddYears(-3)

- the end of the period represents the end of year n-1: now.endOfYear.AddYears(-1)



11.3.3 Calculations Associated with dates

You have the option to include temporal operators outside of Indaba functions.

This feature offers various possible use cases :

11.3.3.1 Date Comparison

It is possible to compare dates using comparison operators (>, >=, <, <=, =).

11.3.3.2 Calculating a duration

A subtraction of dates (date - date) returns an object of type "TimeSpan," which

represents a duration.

This object can be utilized by combining it with other functions.

Note : It is not possible to add two dates. To add a duration to a date, you must use the .Add[time unit] functions seen previously.