

+++ title = “Create Grafana managed alert rule” description = “Create Grafana managed alert rule” keywords = [“grafana”, “alerting”, “guide”, “rules”, “create”] weight = 400 +++

## Create a Grafana managed alerting rule

Grafana allows you to create alerting rules that query one or more data sources, reduce or transform the results and compare them to each other or to fix thresholds. When these are executed, Grafana sends notifications to the contact point.

### Add Grafana managed rule

1. In the Grafana menu, click the **Alerting** (bell) icon to open the Alerting page listing existing alerts.
2. Click **New alert rule**.
3. In Step 1, add the rule name, type, and storage location.
  - In **Rule name**, add a descriptive name. This name is displayed in the alert rule list. It is also the **alertname** label for every alert instance that is created from this rule.
  - From the **Rule type** drop-down, select **Grafana managed alert**.
  - From the **Folder** drop-down, select the folder where you want to store the rule. If you do not select a folder, the rule is stored in the General folder. To create a new folder, click the drop-down and enter the new folder name.
4. In Step 2, add queries and expressions to evaluate.
  - Keep the default name or hover over and click the edit icon to change the name.
  - For queries, select a data source from the drop-down.
  - Add one or more [queries]({{< relref “../..../panels/query-a-data-source/add-a-query.md” >}}) or [expressions]({{< relref “../..../panels/query-a-data-source/use-expressions-to-manipulate-data/about-expressions.md” >}}).
  - For each expression, select either **Classic condition** to create a single alert rule, or choose from **Math**, **Reduce**, **Resample** options to generate separate alert for each series. For details on these options, see Single and multi dimensional rule.
  - Click **Run queries** to verify that the query is successful.
5. In Step 3, add conditions.
  - From the **Condition** drop-down, select the query or expression to trigger the alert rule.
  - For **Evaluate every**, specify the frequency of evaluation. Must be a multiple of 10 seconds. For examples, **1m**, **30s**.
  - For **Evaluate for**, specify the duration for which the condition must be true before an alert fires. > **Note:** Once a condition is breached,

the alert goes into the Pending state. If the condition remains breached for the duration specified, the alert transitions to the Firing state, else it reverts back to the Normal state.

- In **Configure no data and error handling**, configure alerting behavior in the absence of data. Use the guidelines in No data and error handling.
  - Click **Preview alerts** to check the result of running the query at this moment. Preview excludes no data and error handling.
6. In Step 4, add additional metadata associated with the rule.
    - Add a description and summary to customize alert messages. Use the guidelines in [Annotations and labels for alerting]({{< relref “./alert-annotation-label.md” >}}).
    - Add Runbook URL, panel, dashboard, and alert IDs.
    - Add custom labels.
  7. Click **Save** to save the rule or **Save and exit** to save the rule and go back to the Alerting page.

## Single and multi dimensional rule

For Grafana managed alerts, you can create a rule with a classic condition or you can create a multi-dimensional rule.

### Rule with classic condition

Use the classic condition expression to create a rule that triggers a single alert when its condition is met. For a query that returns multiple series, Grafana does not track the alert state of each series. As a result, Grafana sends only a single alert even when alert conditions are met for multiple series.

### Multi dimensional rule

To generate a separate alert for each series, create a multi-dimensional rule. Use **Math**, **Reduce**, or **Resample** expressions to create a multi-dimensional rule. For example:

- Add a **Reduce** expression for each query to aggregate values in the selected time range into a single value. (Not needed for [rules using numeric data]({{< relref “./fundamentals/evaluate-grafana-alerts.md#alerting-on-numeric-data-1” >}})).
- Add a **Math** expression with the condition for the rule. Not needed in case a query or a reduce expression already returns 0 if rule should not fire, or a positive number if it should fire. Some examples:  $B > 70$  if it should fire in case value of B query/expression is more than 70.  $B < C * 100$  in case it should fire if value of B is less than value of C multiplied by 100. If queries being compared have multiple series in their results, series from different queries are matched if they have the same labels or one is a subset of the other.

Query section multi dimensional

**Note:** Grafana does not support alert queries with template variables. More information is available at <https://community.grafana.com/t/template-variables-are-not-supported-in-alert-queries-while-setting-up-alert/2514>.

**Rule with classic condition** For more information, see [expressions documentation]({{< relref “../..../panels/query-a-data-source/use-expressions-to-manipulate-data/about-expressions.md” >}}).

### No data and error handling

Configure alerting behavior in the absence of data using information in the following tables.

No Data Option	Description
No Data Alerting	Create a new alert <b>DatasourceNoData</b> with the name and UID of the alert rule, and UID of the datasource that returned no data as labels.
Ok	Set alert rule state to <b>Alerting</b> . Set alert rule state to <b>Normal</b> .

Error or timeout option	Description
Alerting	Set alert rule state to <b>Alerting</b> . From Grafana 8.5, the alert rule waits for the entire duration for which the condition is true before firing.
OK	Set alert rule state to <b>Normal</b>
Error	Create a new alert <b>DatasourceError</b> with the name and UID of the alert rule, and UID of the datasource that returned no data as labels.