

Topology Model with Google Cloud Function

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Metrics GCP

<https://github.com/dynatrace-oss/dynatrace-gcp-function/tree/master/src/config>

master ▾ dynatrace-gcp-function / src / config /

pgutkowski Merge pull request #104 from dynatrace-oss/AP... 16 days ago History

- api.yml 27 days ago
- apigee.googleapis.com_Environment.yml 27 days ago
- apigee.googleapis.com_Proxy.yml 27 days ago
- apigee.googleapis.com_ProxyV2.yml 27 days ago
- assistant_action_project.yml 27 days ago
- autoscaler.yml 27 days ago
- bigquery_biengine_model.yml 27 days ago
- bigquery_project.yml 27 days ago
- bigtable_cluster.yml 27 days ago
- bigtable_table.yml 27 days ago
- cloud_composer_environment.yml 27 days ago
- cloud_dataproc_cluster.yml 27 days ago
- cloud_dlp_project.yml 27 days ago
- cloud_function.yml 27 days ago
- cloud_run_revision.yml 16 days ago
- cloud_tasks_queue.yml 27 days ago

All GCP metrics

dynatrace-gcp-function / src / config / cloudsql_database.yml

sq2gxo [APM-294693] update config files with gcp_monitoring_filter field ✓ History

3 contributors

508 lines (508 sloc) 15 KB

```
1 id: cloudsql_database
2 $schema: gcp_schema_v1_0.json
3 version: 0.0.1
4 minDynatraceVersion: 1.199
5 vars:
6   - id: filter_conditions
7     displayName: Metric query filter for which metrics should be queried
8     type: variables
9 technology:
10   name: Cloud SQL Database
11 gcp:
12   - service: cloudsql_database
13     featureSet: default
14     gcp_monitoring_filter: var:filter_conditions
15   dimensions:
16     - value: resource.labels.project_id
17       id: project_id
18     - value: resource.labels.database_id
19       id: database_id
20     - value: resource.labels.region
21       id: region
22   metrics:
23     - value: cloudsql.googleapis.com/database/auto_failover_request_count
24       id: cloud.gcp.cloudsql_googleapis_com.database.auto_failover_request_count
25       type: count,delta
```

cloudsql_database



cloudsql_database.yml

```
1 id: cloudsql_database
2 $schema: gcp_schema_v_1_0.json
3 version: 0.0.1
4 minDynatraceVersion: 1.199
5 vars:
6   - id: filter_conditions
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11   gcp:
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13       featureSet: default
14       gcp_monitoring_filter: var:filter_conditions
15       dimensions:
16         - value: resource.labels.project_id
17           id: project_id
18         - value: resource.labels.database_id
19           id: database_id
20         - value: resource.labels.region
21           id: region
22       metrics:
23         - value: cloudsql.googleapis.com/database/auto_failover_request_count
24           id: cloud.gcp.cloudsql_googleapis_com.database.auto_failover_request_count
25           type: count,delta
26           name: Auto-failover Requests
27           unit: '1'
28           gcpOptions:
29             ingestDelay: 210s
30             samplePeriod: 60s
31             valueType: INT64
```

dimension

```
--
30 samplePeriod: 60s
31 valueType: INT64
32 metricKind: DELTA
33 dimensions: []
34 - value: cloudsql.googleapis.com/database/available_for_failover
35 id: cloud.gcp.cloudsql_googleapis_com.database.available_for_failover
36 type: gauge
37 name: Available for failover
38 unit: '1'
39 gcpOptions:
40   ingestDelay: 210s
41   samplePeriod: 60s
42   valueType: INT64
43   metricKind: GAUGE
44   dimensions: []
45 - value: cloudsql.googleapis.com/database/cpu/reserved_cores
46 id: cloud.gcp.cloudsql_googleapis_com.database.cpu.reserved_cores
47 type: gauge
48 name: CPU reserved cores
49 unit: '1'
50 gcpOptions:
51   ingestDelay: 210s
52   samplePeriod: 60s
53   valueType: DOUBLE
54   metricKind: GAUGE
55   dimensions: []
56 - value: cloudsql.googleapis.com/database/cpu/usage_time
57 id: cloud.gcp.cloudsql_googleapis_com.database.cpu.usage_time
58 type: count,delta
59 name: CPU usage
60 unit: s{CPU}
61 gcpOptions:
62   ingestDelay: 210s
63   samplePeriod: 60s
64   valueType: DOUBLE
65   metricKind: DELTA
66   dimensions: []
```

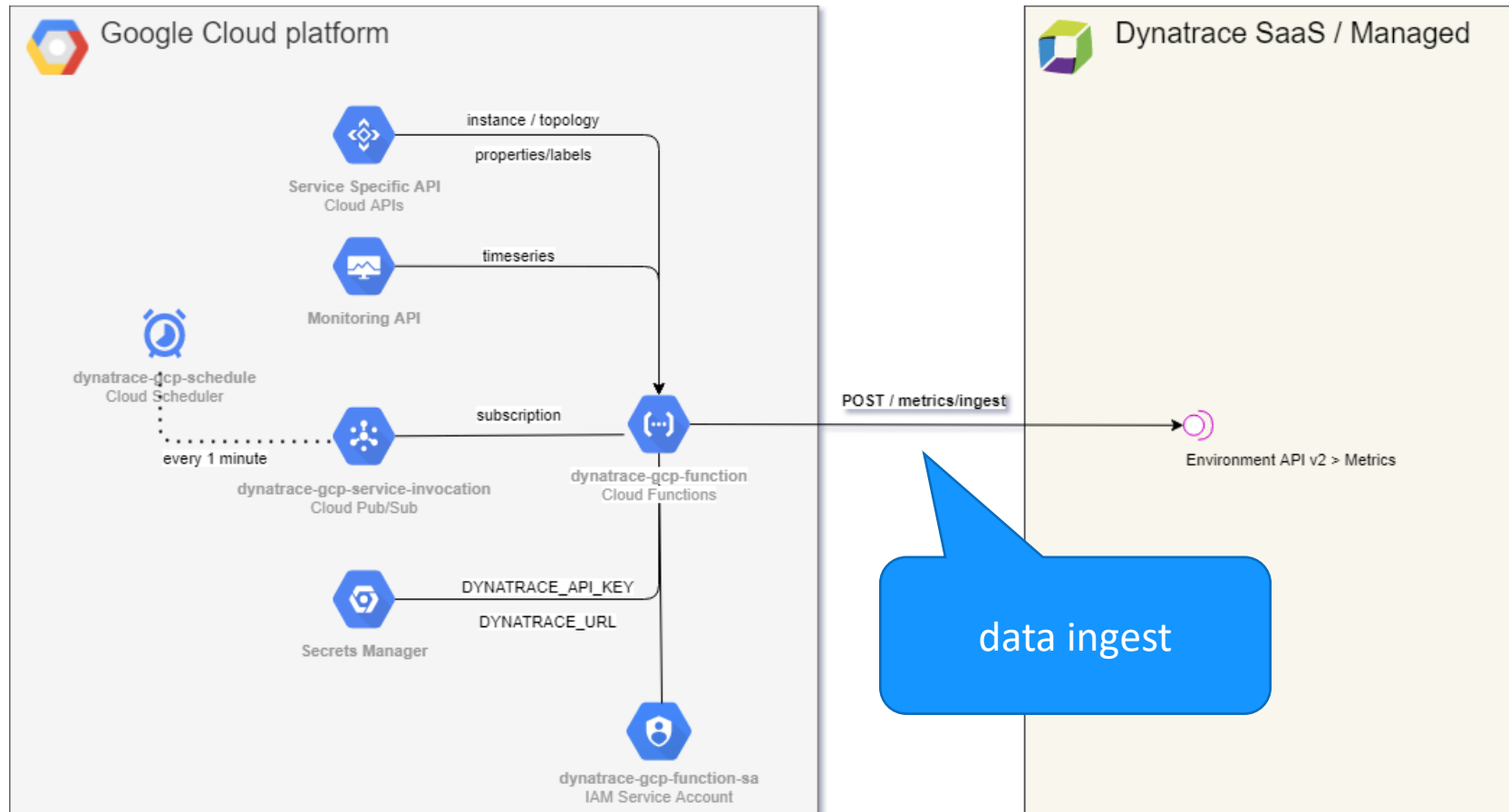
metrics



Dynatrace Data Ingest for GCP : architecture

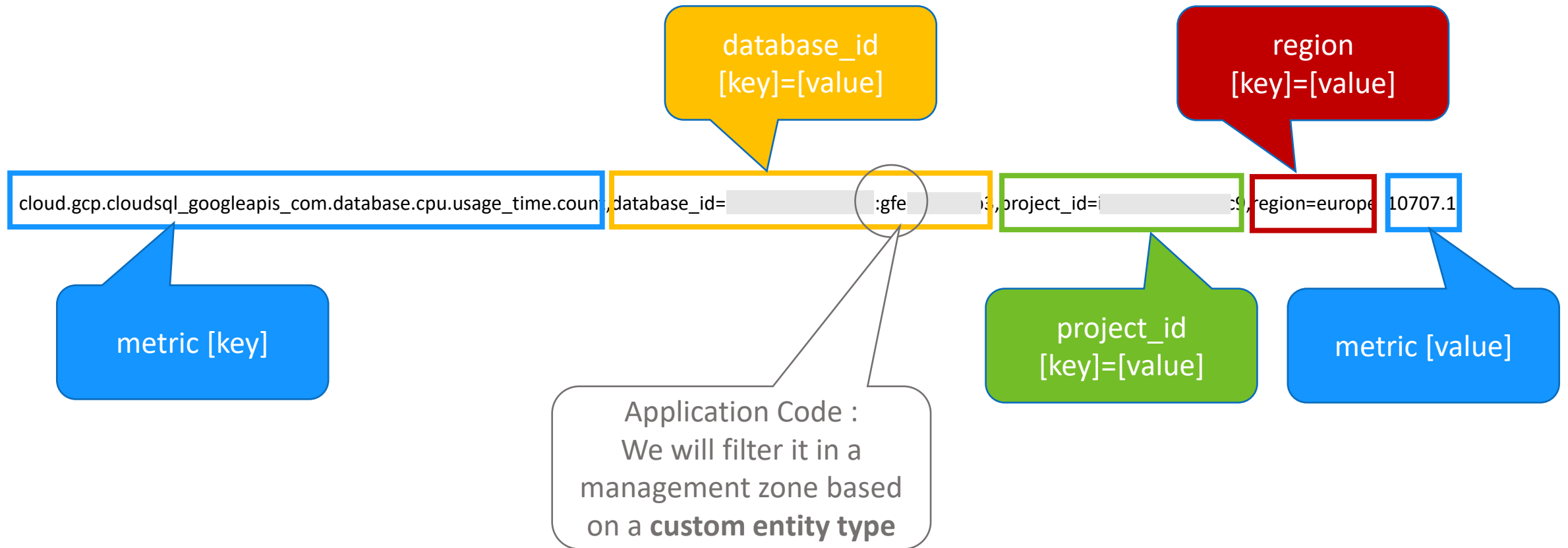
<https://github.com/dynatrace-oss/dynatrace-gcp-function/blob/master/docs/function.md>

- Google Cloud Function





Dynatrace Data Ingest for GCP : metric





Result

CPU usage

CPU usage
cloud.gcp.cloudsql.googleapis.com.database.cpu.usage_time.count

Add Metric

Average

Split by

database_id

project_id

region

Metric [key]

Metric [value]

database_id	project_id	region	CPU usage
gfe-		europa	2 h 58 min 27.1 s
		europa	2 h 47 min 15 s
g	Intern-festivals-project	us-central	2 h 24 min 36.3 s
		us-central	2 h 8 min 58.8 s
		europa	2 h 7 min 38.2 s
		us-central	1 h 52 min 4.73 s
		europa	1 h 45 min 41.2 s
		europa	1 h 45 min 40.6 s
		europa	1 h 42 min 20.6 s
		europa	1 h 38 min 14.9 s
		europa	1 h 36 min 4.15 s
		europa	1 h 35 min 27.5 s
		europa	1 h 32 min 46 s

database_id
[key]=[value]

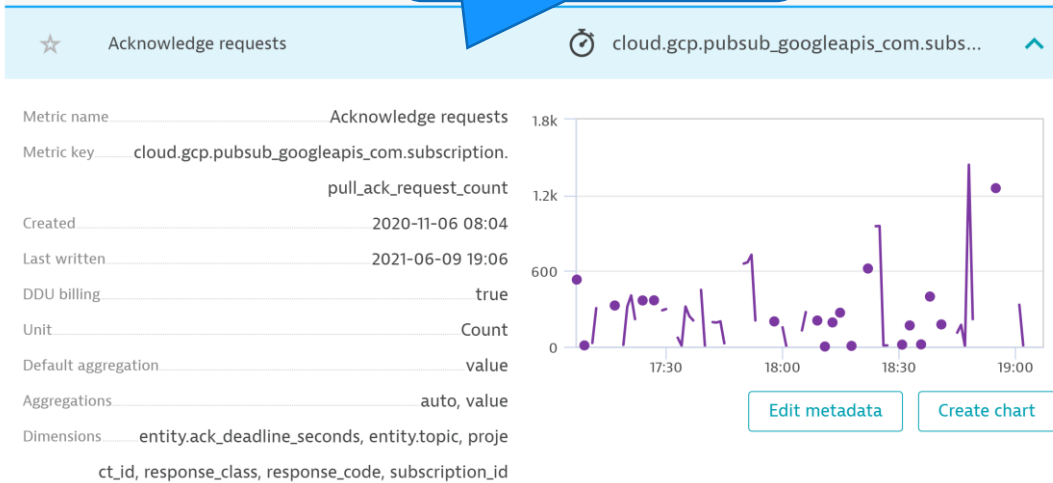
project_id
[key]=[value]

region
[key]=[value]

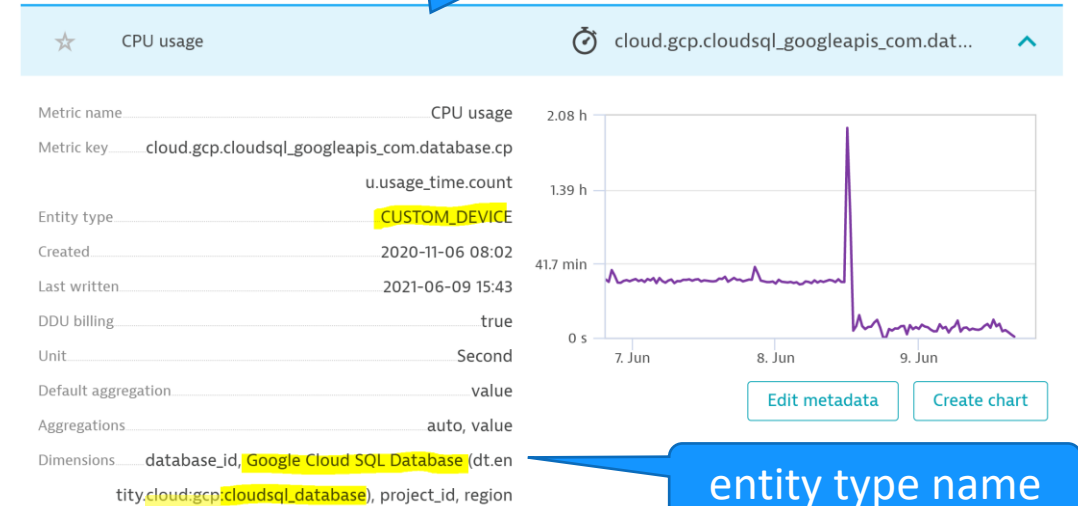


Metric and topology model

without topology model



with topology model



entity type name

entity type



Topology model – entity type definition

Add Type Definition

Filter items...

Order	Enabled	Summary	Delete	Details
<div></div>	<div></div>	Google Cloud SQL Database (cloud:gcp:cloudsql_database) created by <div></div>	<div></div>	<div></div>

entity type

Type Name

cloud:gcp:cloudsql_database

The entity type name. This type name must be unique and must not be changed after creation.

entity type name

Type Display Name

Google Cloud SQL Database

The human readable type name for this entity type.

Created by

The user or extension that created this type.



Topology model – extraction rule based on dimension

List of Rules

Specify a list of rules which are evaluated in order. When **any** rule matches, the entity defined according to that rule will be extracted. Subsequent rules will not be evaluated.

Add Extraction Rule

Filter items...

Order

Summary

Delete

Details

{project_id} {region} {database_id}

X

Entity Extraction Rule

Specify a rule defining the entity extraction.

Extracted ID Pattern

{project_id} {region} {database_id}

ID patterns are comprised of static text and placeholders referring to dimensions in the ingest data. An ID pattern **must** contain at least one placeholder to ensure that different entities will be created.

Instance Name Pattern

{database_id}

Define a pattern which is used to set the name attribute of the entity. You may define placeholders referencing data source dimensions.

extraction rule :
generates distinct
Custom_Device

name of each
Custom_Device
created



Topology model – data source

Source Filters

Specify all sources which should be evaluated for this rule. A rule is evaluated if any of the specified source filters match.

Add Source

Filter items...

Summary

Delete

Details

Metrics source that matches \$prefix(cloud.gcp.cloudsql_googleapis_com)



Ingest Source Filter Item

Ingest Datasource Type

Metrics



Specify the source type of the filter to identify which data source should be evaluated for ingest.

Condition

\$prefix(cloud.gcp.cloudsql_googleapis_com)

Specify a filter that needs to match in order for the extraction to happen.

metrics
or log v2 (Saas only)

if metric [key] begin
with ...



Topology model – optional configuration

- Other extraction rules
- Other metric sources
- Dimension filter
- Attribute
- Role

If you want to extract multiple entities of the same type from a single ingest line you need to define multiple rules with different roles.

- Relationship

- Exemple : Attributes

Attributes

All attribute extraction rules will be applied and found attributes will be added to the extracted type.

Add Attribute Extraction Rule

Filter items...

Summary

database_id : {database_id}

Attribute Extraction Rule

Describe how an attribute will be extracted from ingest data.

Attribute Key

database_id

The attribute key is the unique name of the attribute.

Attribute Display Name

Optional

The human readable attribute name for this extraction rule. Leave blank to use the key as the display name.

Attribute Value Extraction Pattern

{database_id}

Pattern for specifying the value for the extracted attribute. Can either be only a placeholder or a static value.

attribute [key]

attribute [value]



Different types of relationship

- Calls
- Is child of
- Is instance of
- Runs on

Each relationship is defined as a directed association between a **source** and a **destination** entity type. There are four types of relationships:

1. **Calls** is a directed communication dependency that means that the source entity sends a message to the destination entity.

Example: **application** calls **service**

2. **Is child of** represents a directed structural association with the meaning that an entity is a part of another entity. The source entity is the part, the destination entity is the composite. Usually a child cannot exist without its parent composite and the composite experiences problems if parts become unavailable.

Example: **disk** is child of **host**

3. **Is instance of** means that an entity represents one specific instance of another entity, which is, in turn, representing a category of entities that share common properties. An example would be a service instance which is an instance of a service. In this case the source would be service instance, the destination would be service. While all service instances share a set of common properties, each individual instance has additional properties and relationships.

Example: **service instance** is instance of **service**.

4. **Runs on** is similar to is child of with regards to the source entity being structurally dependent on the destination entity. The source entity typically cannot exist without the destination entity. The main difference is that the source entity is not part of the destination entity but just dependent on the destinations existence. While an is child of relationship can also imply that a destination entity (i.e. parent) is incomplete or less capable if source entities (i.e. children) experience problems, the runs on relationship does not have such implications.

Example: **host** runs on **virtual machine**



Management zone with Entity Selector (soon : version 220)

Entities matching `type(cloud:gcp:cloudsql_database), entityName("gfe")` ✕ 🔍 ⬆

Rule applies to Entity selector ▾

Entity Selector

`type(cloud:gcp:cloudsql_database), entityName("gfe")`

The documentation of the entity selector can be found [here](#).

Preview

entity selector

Matching entities

Service(0)	Data Cent...	Applicatio...	Synthetic ...	HTTP moni...	Infrastruct...	AppMon(0)	Azure(3)	Other(3)
Name	▼ Type							
[redacted]:gfe [redacted] (Last seen 1d 7h 41min ago)	cloud:gcp:cloudsql_database							
[redacted]:gfe [redacted] db	cloud:gcp:cloudsql_database							
[redacted]:gfe [redacted] (Last seen 1d 7h 41min ago)	cloud:gcp:cloudsql_database							



Management zone with Dimensional Data

Dimensional rule for METRIC where DIMENSION 'database_id' equals [redacted]:gfe-[redacted]3' and METRIC_KEY begins ...

Rule applies to Dimensional data of type METRIC

Conditions

DIMENSION database_id equals

[redacted]:gfe-[redacted]3'

Remove condition

METRIC_KEY begins with

cloud.gcp.cloudsql_googleapis.com

Remove condition

Add condition

entity [key]

entity [value]

metric [key]
begin with



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