Topology Model with Google Cloud Function

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dynatrace

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

```yaml
id: cloudsql_database
$schema: gcp_schema_v_1_0.json
version: 0.0.1
minDynatraceVersion: 1.199
vars:
 - id: filter_conditions
   displayName: Metric query filter for which metrics should be queried
   type: variables
technology:
  name: Cloud SQL Database
gcp:
- service: cloudsql_database
  featureSet: default
  gcp_monitoring_filter: var:filter_conditions
  dimensions:
  - value: resource.labels.project_id
    id: project_id
  - value: resource.labels.database_id
    id: database_id
  - value: resource.labels.region
    id: region
  metrics:
  - value: cloudsql.googleapis.com/database/auto_failover_request_count
    id: cloud.gcp.cloudsql_googleapis_com.database.auto_failover_request_count
    type: count,delta
```

cloudslq_database

cloudsql_database.yml

```yaml
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$schema: gcp_schema_v_1_0.json
version: 0.0.1
minDynatraceVersion: 1.199
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- service: cloudsql_database
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  dimensions:
  - value: resource.labels.project_id
    id: project_id
  - value: resource.labels.database_id
    id: database_id
  - value: resource.labels.region
    id: region
  metrics:
  - value: cloudsql.googleapis.com/database/auto_failover_request_count
    id: cloud.gcp.cloudsql_googleapis_com.database.auto_failover_request_count
    type: count,delta
    name: Auto-failover Requests
    unit: '1'
    gcpOptions:
      ingestDelay: 210s
      samplePeriod: 60s
      valueType: INT64
      samplePeriod: 60s
      valueType: INT64
      metricKind: DELTA
    dimensions: []
  - value: cloudsql.googleapis.com/database/available_for_failover
    id: cloud.gcp.cloudsql_googleapis_com.database.available_for_failover
    type: gauge
    name: Available for failover
    unit: '1'
    gcpOptions:
      ingestDelay: 210s
      samplePeriod: 60s
      valueType: INT64
      metricKind: GAUGE
    dimensions: []
  - value: cloudsql.googleapis.com/database/cpu/reserved_cores
    id: cloud.gcp.cloudsql_googleapis_com.database.cpu.reser
    type: gauge
    name: CPU reserved cores
    unit: '1'
    gcpOptions:
      ingestDelay: 210s
      samplePeriod: 60s
      valueType: DOUBLE
      metricKind: GAUGE
    dimensions: []
  - value: cloudsql.googleapis.com/database/cpu/usage_time
    id: cloud.gcp.cloudsql_googleapis_com.database.cpu.usage_time
    type: count,delta
    name: CPU usage
    unit: s{CPU}
    gcpOptions:
      ingestDelay: 210s
      samplePeriod: 60s
      valueType: DOUBLE
      metricKind: DELTA
```

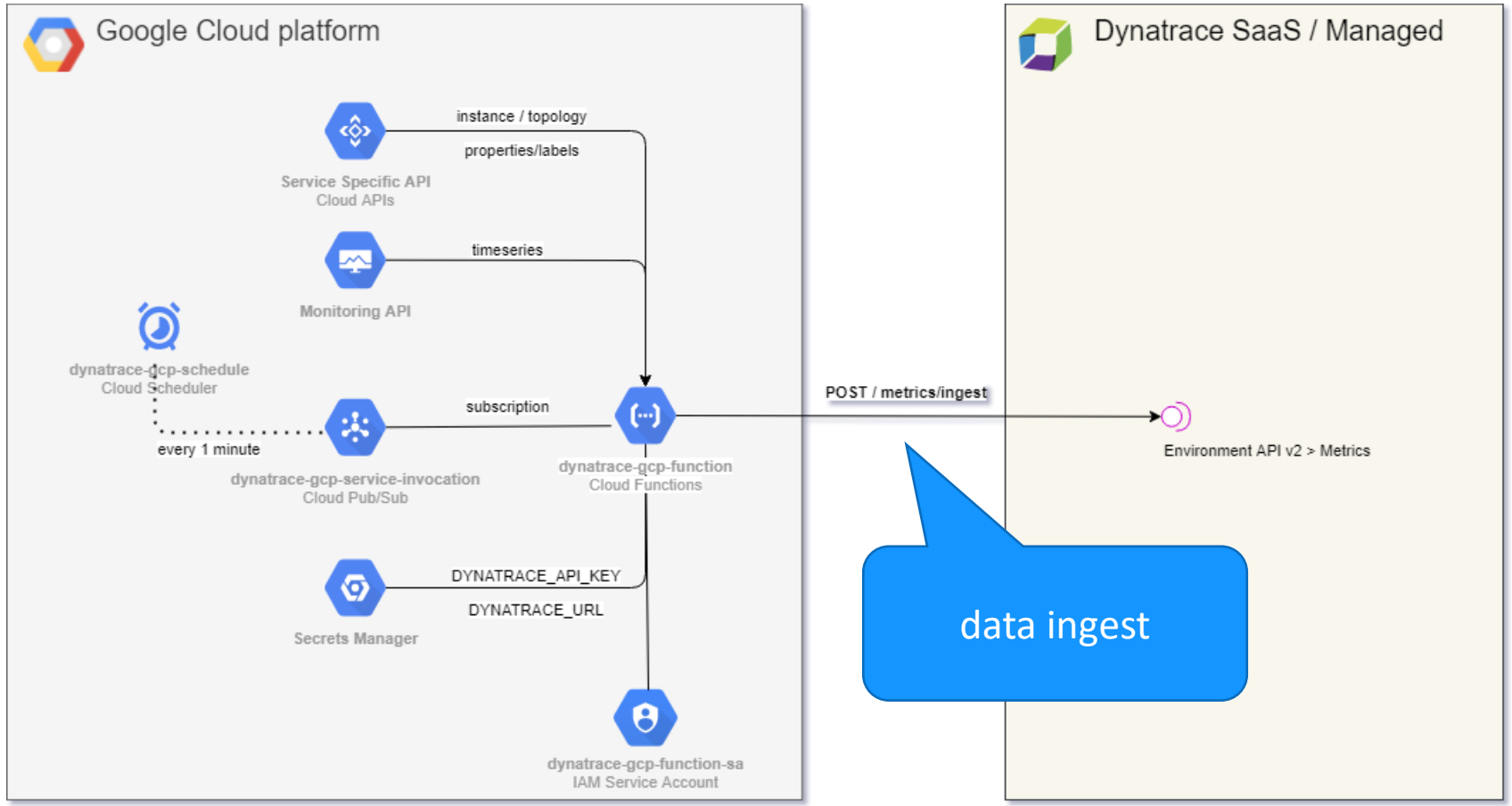
dimension

metrics

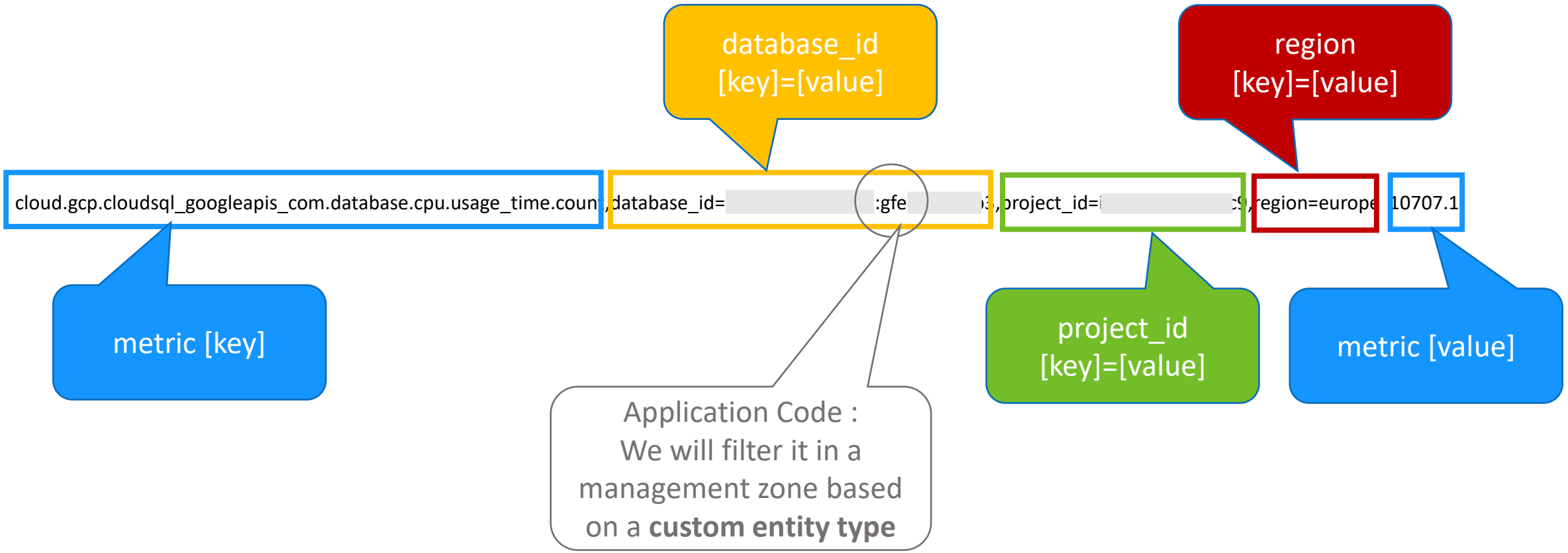
Dynatrace Data Ingest for GCP : architecture

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

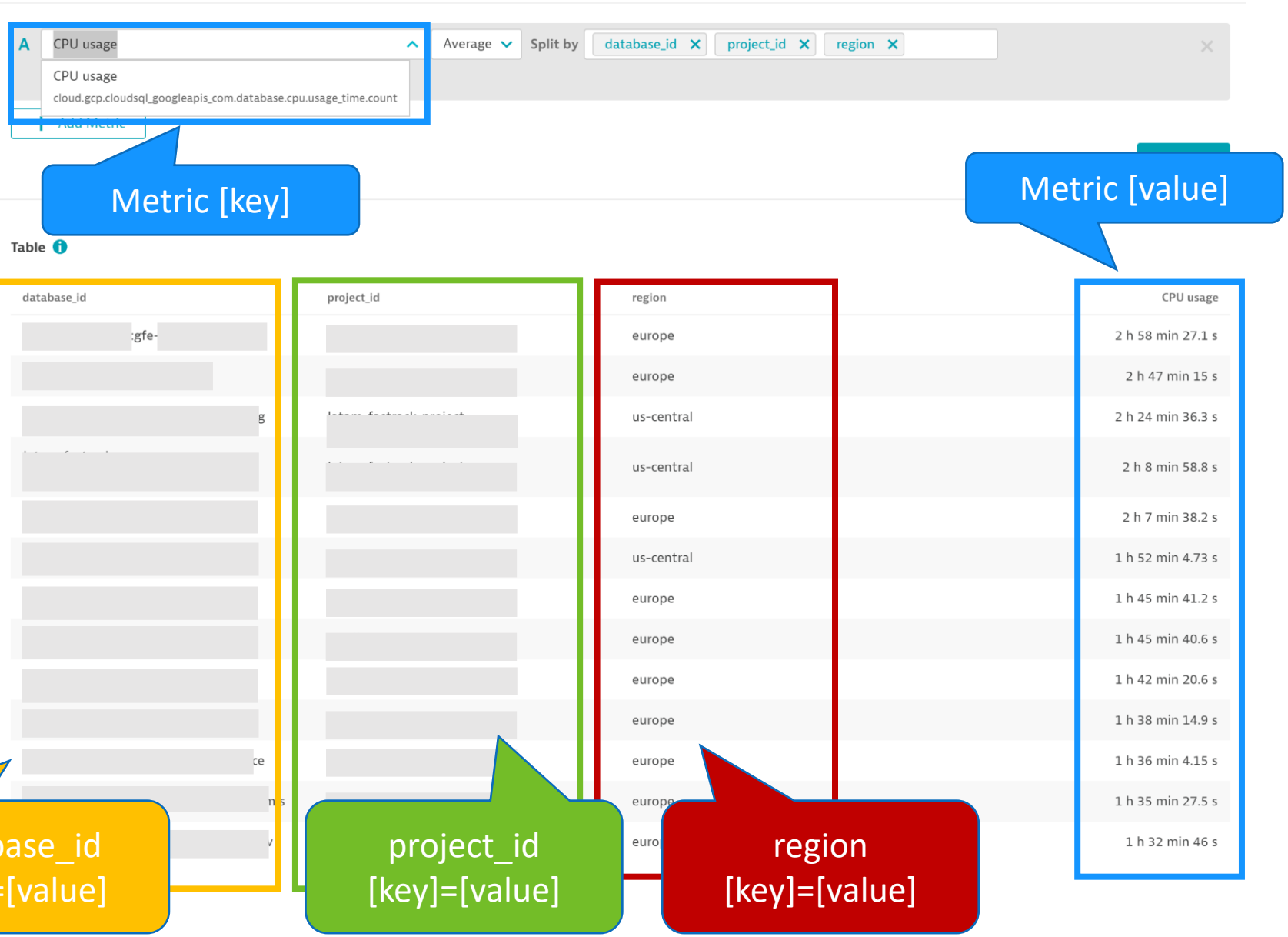
- **Google Cloud Function**



Dynatrace Data Ingest for GCP : metric

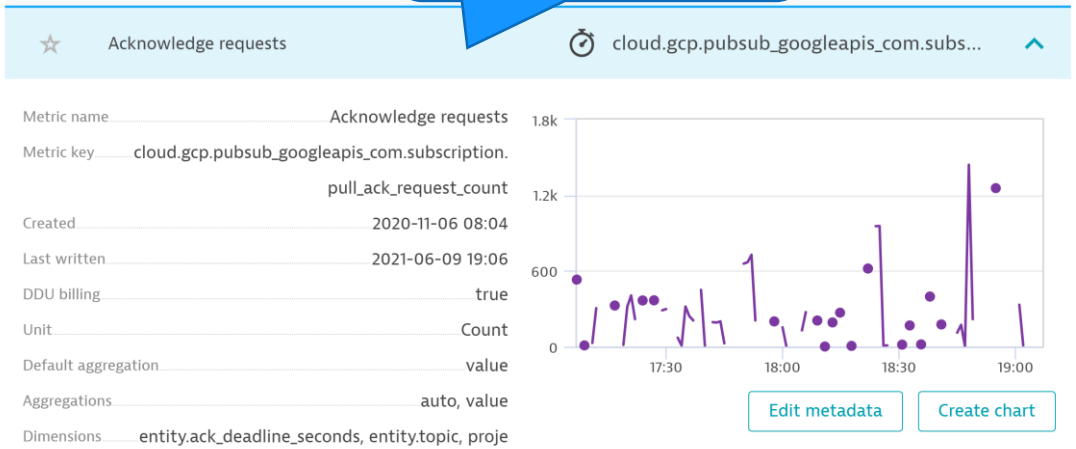


Result

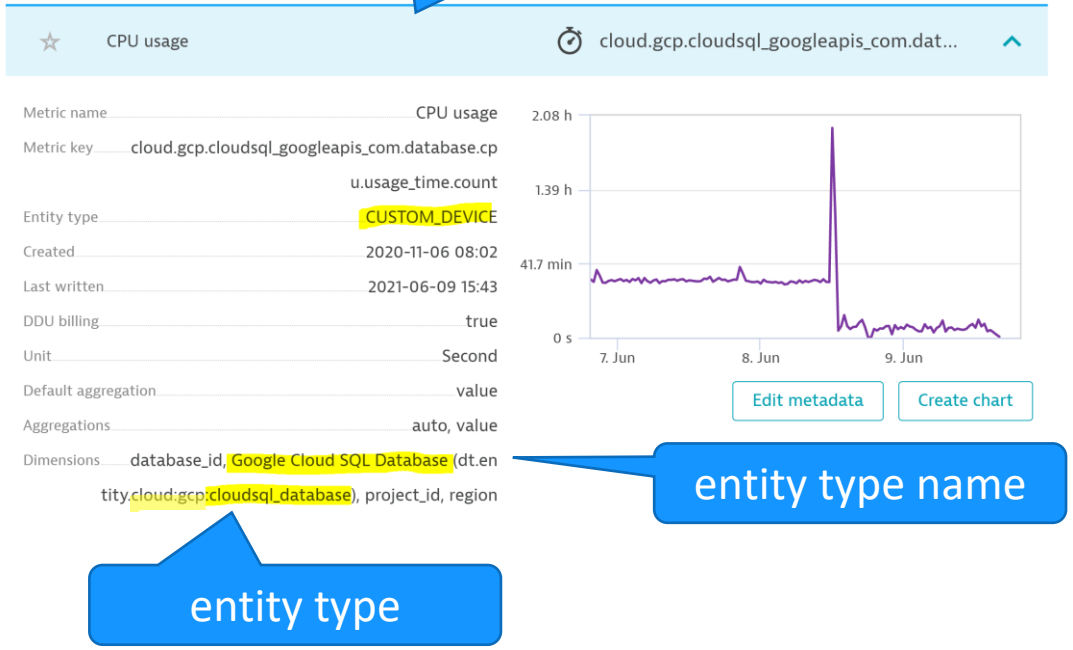

A
CPU usage
Average
Split by
database_id
project_id
region
CPU usage
cloud.gcp.cloudsql_googleapis_com.database.cpu.usage_time.count
Metric [key]
Metric [value]
Table
database_id
project_id
region
CPU usage
europe
2 h 58 min 27.1 s
europe
2 h 47 min 15 s
us-central
2 h 24 min 36.3 s
us-central
2 h 8 min 58.8 s
europe
2 h 7 min 38.2 s
us-central
1 h 52 min 4.73 s
europe
1 h 45 min 41.2 s
europe
1 h 45 min 40.6 s
europe
1 h 42 min 20.6 s
europe
1 h 38 min 14.9 s
europe
1 h 36 min 4.15 s
europe
1 h 35 min 27.5 s
1 h 32 min 46 s
database_id [key]=[value]
project_id [key]=[value]
region [key]=[value]

Metric and topology model

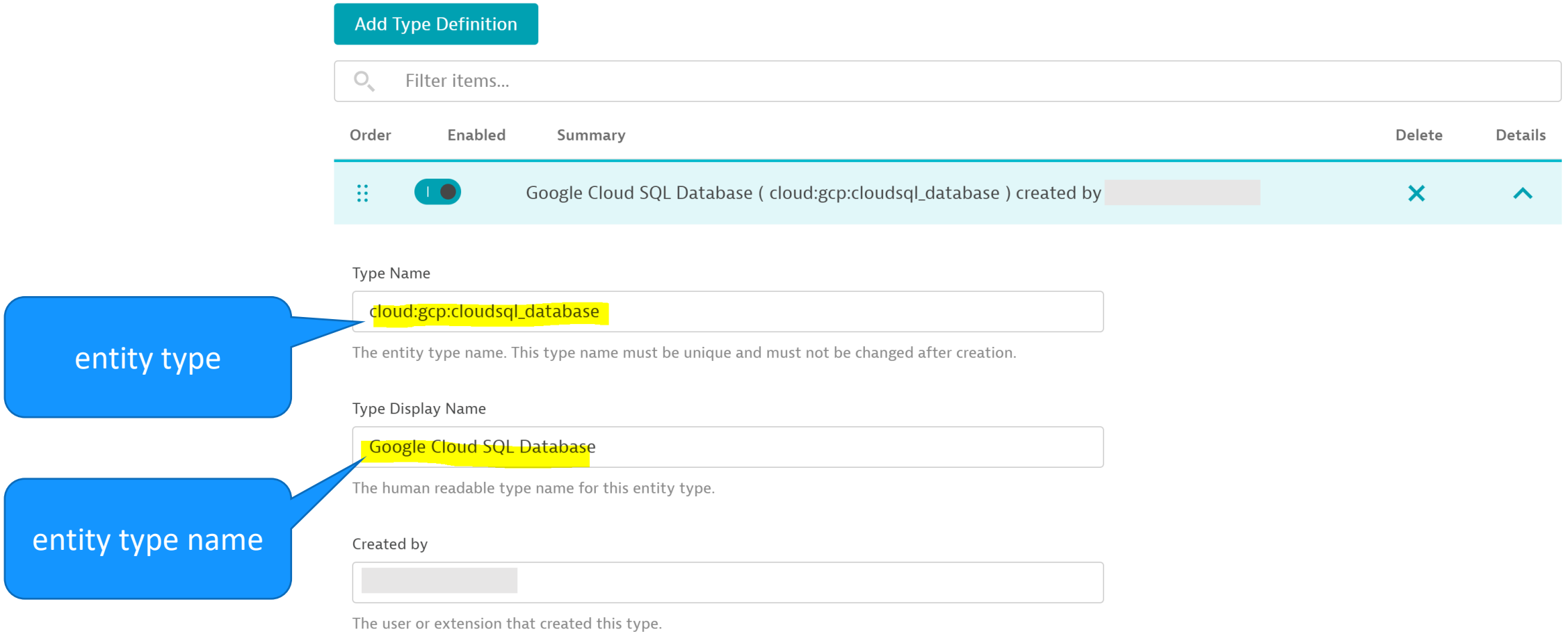
without topology model



with topology model



Topology model – entity type definition



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}		

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 …

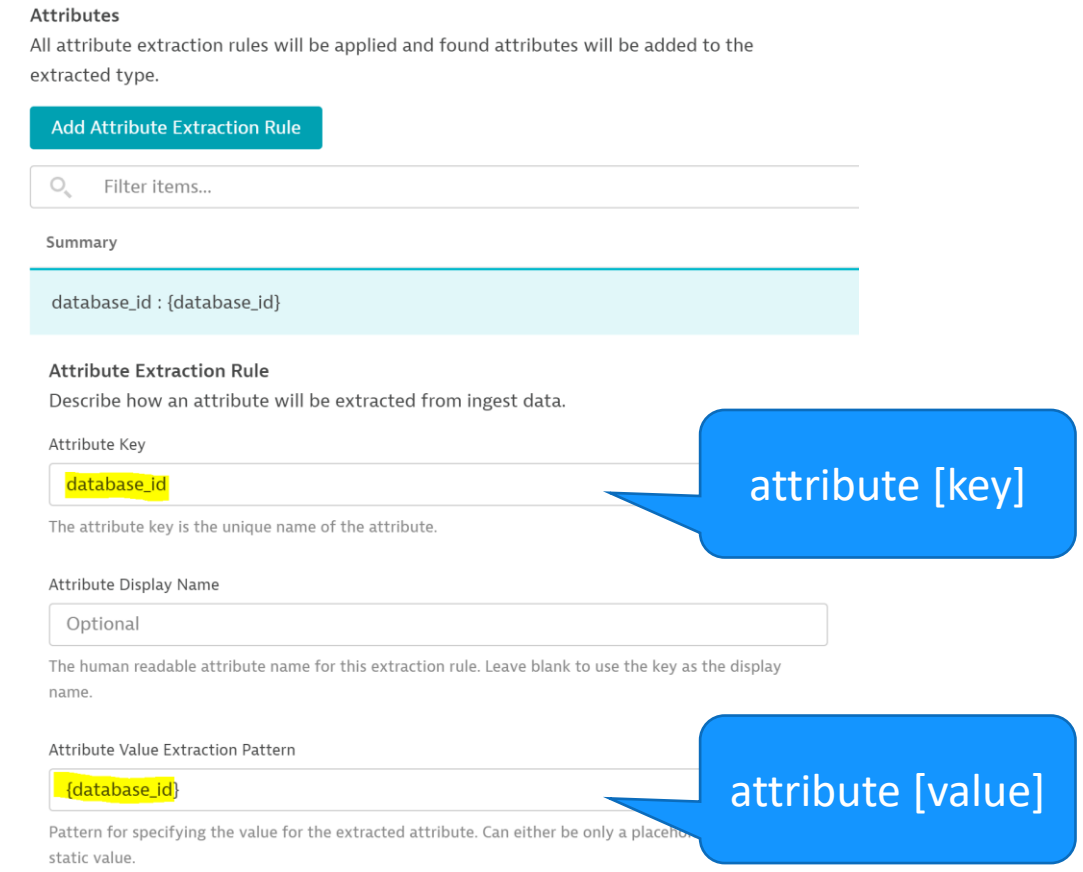
Topology model – optional configuration

- 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



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**

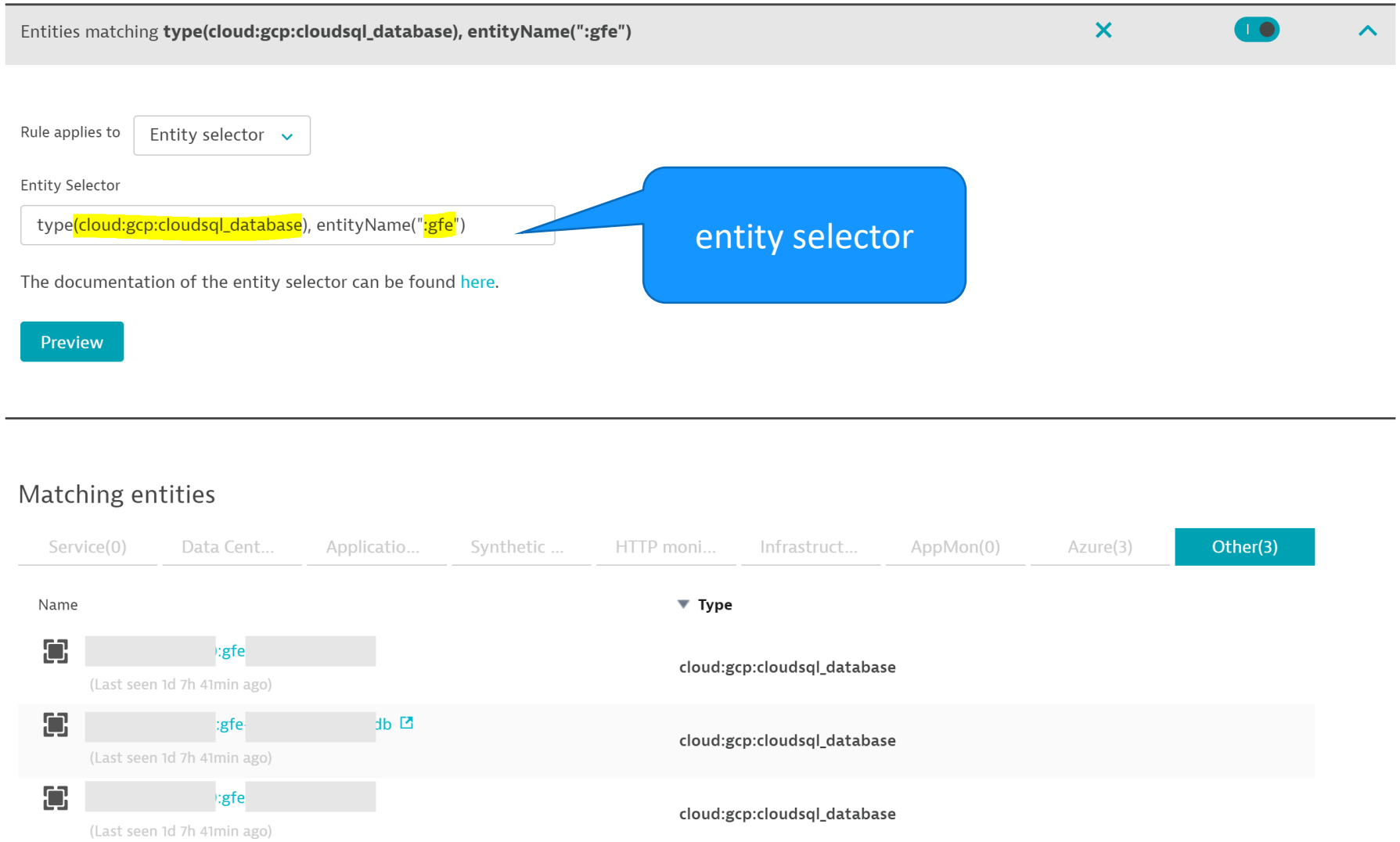
3. **Is instance of** means that an entity represents one specific instance of another entity, which is, in turn, representing a category of entities that share common properties. An example would be a service instance which is an instance of a service. In this case the source would be service instance, 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**.

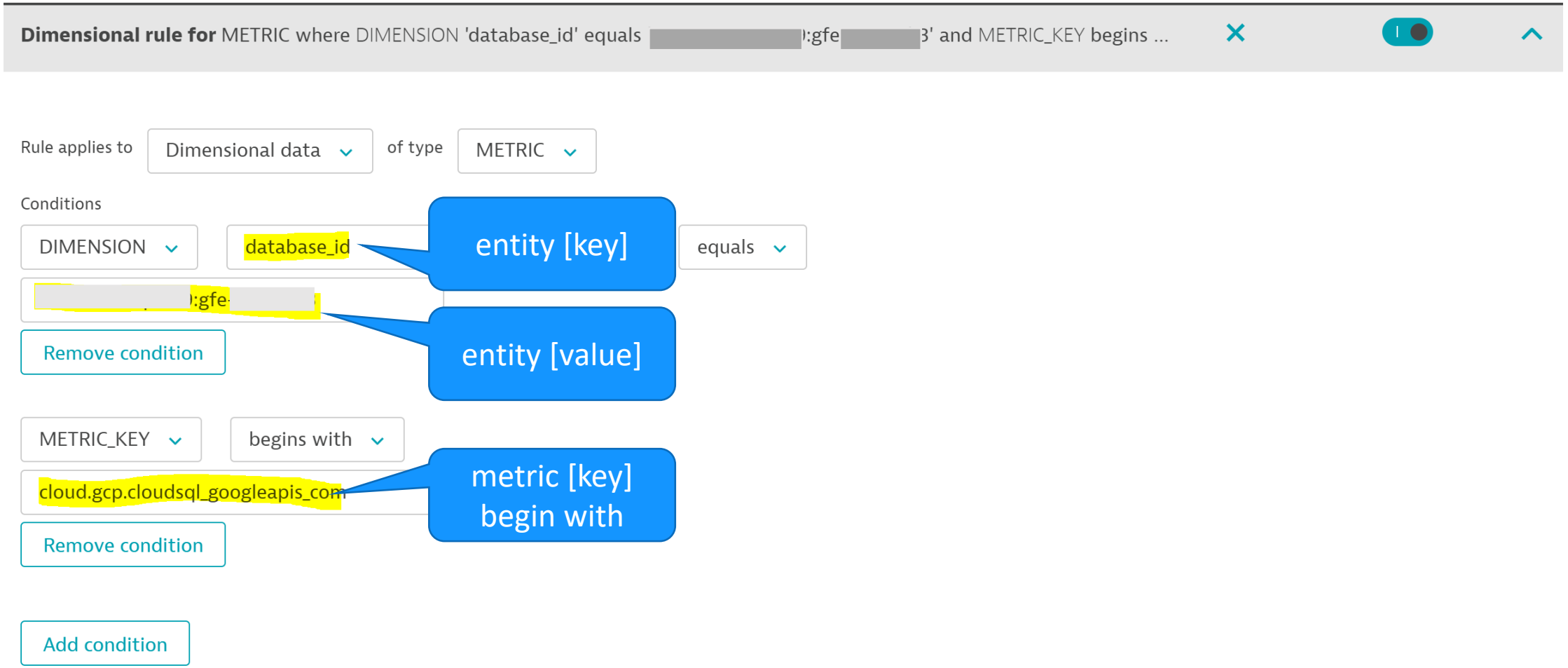
4. **Runs on** is similar to is child of with regards to the source entity being structurally dependent on the destination entity. The source entity typically cannot exist without the destination entity. The main difference is that the source entity is not part of the destination entity but just dependent 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)



Management zone with Dimensional Data



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