Statistics REST APIs

The endpoints on this page calculate cardinality and histogram statistics of vertex and edge types and attributes. The statistics are required for effective optimization.

Cardinality

The following endpoints compute, fetch and delete vertex and edge counts (cardinality) of a graph.

Compute cardinality statistics

```
POST :14240/gsqlserver/gsql/stats/card
```

This endpoint computes the cardinality statistics for the vertex and edge types specified in the request. The cardinality statistics describes the number of vertices of a specified type, and the number of edges of a specified type between a specified pair of vertex types.

Parameters

Parameter	Description	Type
graph	Name of the graph. Required.	STRING
vertex	Vertex type to compute statistics for. You must provide either the `vertex` or `edge` parameter.	STRING
edge	Edge type to compute statistics for. You must provide either the `vertex` or `edge` parameter, but not both. If you provided it an edge type, you also need to provide the `from` and `to` parameters.	STRING
from	The source vertex type of an edge. Required if `edge` is provided.	STRING
to	The target vertex type of an edge. Required if `edge` is provided.	STRING

Examples

The following request computes cardinality for vertex type `Person` in the graph `ldbc_snb`:

```
curl -s --user tigergraph:tigergraph -X POST
"localhost:14240/gsqlserver/gsql/stats/card?graph=ldbc_snb&vertex=Person"
```

The following request computes cardinality for edge type `LIKES` from `Person` to `Post` in the graph `ldbc_snb`:

```
curl -s --user tigergraph:tigergraph -X POST
"localhost:14240/gsqlserver/gsql/stats/card?
graph=ldbc_snb&edge=LIKES&from=Person&to=Post"
```

Retrieve cardinality statistics

```
GET :14240/gsqlserver/gsql/stats/card
```

This endpoint retrieves cardinality statistics of a graph.

Parameters

Parameter	Description	Data type
graph	Name of the graph. Required.	STRING

Examples

The following request retrieves the cardinality data for graph `ldbc_snb`:

```
curl -s --user tigergraph:tigergraph -X GET
"localhost:14240/gsqlserver/gsql/stats/card?graph=ldbc_snb"
```

Delete cardinality statistics

```
DELETE :14240/gsqlserver/gsql/stats/card
```

This endpoint deletes the cardinality statistics of a graph.

Parameters

Parameter	Description	Data type
graph	Name of the graph. Required.	STRING

Examples

The following request deletes the cardinality data for graph `ldbc_snb`:

```
curl -s --user tigergraph:tigergraph -X DELETE
"localhost:14240/gsqlserver/gsql/stats/card?graph=ldbc_snb"
```

Histogram

Histograms store information about the distribution of attribute values.

Compute histogram statistics

```
POST :14240/gsqlserver/gsql/stats/histogram
```

This endpoint computes histograms for a specified attribute of a vertex type.

Parameters

Parameter	Description	Data type
graph	Name of the graph. Required.	STRING
vertex	Name of the vertex type. Required.	STRING
attribute	Name of the attribute. Required.	STRING
bucket	The number of intervals (buckets) to divide the range of attribute values by. Required. It is recommended that each bucket has at least 100 values. Therefore, a good rule of thumb is to divide the number of vertices by 100 to decide the number of buckets. For example, if the vertex type has 100,000 vertices, set this parameter to no higher than 1000. A standard value for this parameter is 256.	INT
compute	Whether to compute histogram for the attribute. If set to `false`, the request is equivalent to a `GET` request. Defaults to `true`.	BOOL

Examples

The following request computes the histogram data for attribute `first_name` of vertex type `Person` on graph `ldbc_snb`:

```
$ curl -s --user tigergraph:tigergraph -X POST
"http://localhost:14240/gsqlserver/gsql/stats/histogram?
graph=ldbc_snb&vertex=Person&attribute=first_name&buckets=10&compute=true"
```

Retrieve histogram statistics

```
GET :14240/gsqlserver/gsql/stats/histogram
```

This endpoint retrieves histogram data for a specified attribute of a vertex type.

Parameters

Parameter	Description	Data type
graph	Name of the graph. Required.	STRING
vertex	Name of the vertex type. Required.	STRING
attribute	Name of the attribute. Required.	STRING

Examples

The following request retrieves the histogram statistics for the `first_name` attribute of the vertex type `Person`:

```
curl -s --user tigergraph:tigergraph -X GET
"http://localhost:14240/gsqlserver/gsql/stats/histogram?
graph=ldbc_snb&vertex=Person&attribute=firstName"
```

Delete histogram statistics

`DELETE :14240/gsqlserver/gsql/stats/histogram`

This endpoint deletes histogram data for a graph. This includes histogram data on all vertex attributes in that graph.

Parameters

Parameter	Description	Data type
graph	Name of the graph. Required.	STRING
vertex	Name of the vertex type. Required if an attribute is specified. If not provided, the request deletes histogram data on all attributes in the graph.	STRING
attribute	Name of the attribute. Optional.	STRING

Examples

The following request deletes the histogram statistics for the graph `ldbc_snb`:

```
curl -s --user tigergraph:tigergraph -X DELETE
"http://localhost:14240/gsqlserver/gsql/stats/histogram?graph=ldbc_snb
```