

# BigQuery Health Check Metadata Download Guide



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## Document Version Record

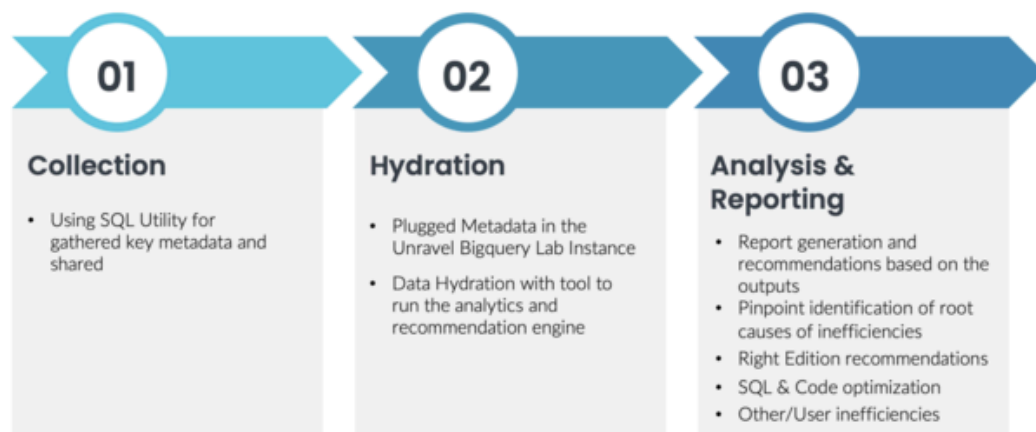
Date	Version #	Author	Remarks / Reason
05-Jan-24	1.0	Dev Team	New Document

### 1.1 Objectives

Health check download for bigquery unravel product.

### 1.2 Architecture

## Health Check Process



## 1.3 Prerequisite

### A. BigQuery Permissions/roles required to download metadata :

- a. Permissions required to download the JOBS, JOBS\_TIMELINE metadata :
  - i. bigquery.jobs.create
  - ii. bigquery.jobs.listAll
  - iii. storage.objects.create
  - iv. storage.objects.list
- b. Permissions required to download Billing Data :
  - i. bigquery.jobs.create
  - ii. bigquery.tables.getData
  - iii. storage.objects.create
  - iv. storage.objects.list

## 1.4 Download BigQuery Metadata for health check.

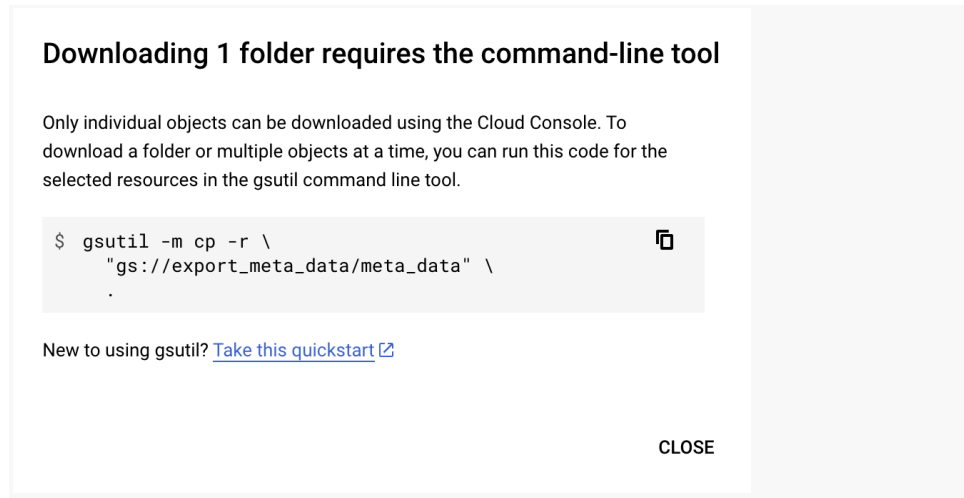
Do the following to download BigQuery metadata :

1. Clone this repo:  
<https://github.com/unraveldata-org/BigQuery-data-loader.git>
2. Follow below Steps to create a Service Account key that has above roles which will authenticate to download the JOBS, JOBS\_TIMELINE and Billing metadata :
  - a. cd terraform/healthcheck
  - b. cp input.tfvars.example input.tfvars
  - c. open input.tfvars
  - d. Under monitoring\_project\_ids add the project ids for which you want to download JOBS and JOBS\_TIMELINE Data (perform health check)
  - e. Under billing\_project\_ids add the project in which you have billing data exported
  - f. Under svc\_account\_project\_id add the project on which you want the service account to be created to execute the download script
  - g. Now, open local.tf
  - h. Under monitoring\_project\_role\_permission add the below permissions, comma separated (ignore if the same permissions are already present) :
    - i. "bigquery.jobs.create"
    - ii. "bigquery.jobs.listAll"
    - iii. "storage.objects.create"
    - iv. "storage.objects.list"
  - i. Under billing\_project\_role\_permission add the below permissions, comma separated (ignore if the same permissions are already present) :

- i. "bigquery.jobs.create"
  - ii. "bigquery.tables.getData"
  - iii. "storage.objects.create"
  - iv. "storage.objects.list"
- j. Before using this project, you need to authenticate with Google Cloud using gcloud. Follow the instructions provided at <https://cloud.google.com/sdk/docs/install-sdk> for a one-time configuration. You can find the installation instruction based on the Machine Arch and OS installed in the above link.
- k. To authenticate gcloud, execute the following commands:
  - i. gcloud init
  - ii. gcloud auth application-default login
- l. Now, to run terraform execute the following :
  - i. terraform init
  - ii. terraform plan --var-file=input.tfvars
  - iii. terraform apply --var-file=input.tfvars
- m. Now, there must be a credential file created inside terraform/healthcheck/keys folder, you will need this credential file while providing configuration for the download script
3. cd Data Downloader Script
4. cp download\_config.yaml.example download\_config.yaml
5. Open download\_config.yaml file and edit it with your configuration :
  - a. gcs\_bucket\_path: "add the gcs bucket path where you want to download the csv files" (To know how to create a gcs bucket check the [Steps for creating a gcs bucket](#))
  - b. locations: "add comma separated regions where you execute your queries on the projects"
  - c. projects: "replace this with comma separated project\_ids for which you want to download JOBS data / perform health check"
  - d. billing\_project: "replace this with the project\_id where billing data is exported"
  - e. billing\_dataset: "replace this with the dataset\_id where billing data is exported"
  - f. billing\_table: "replace this with the table\_name where billing data is exported"
  - g. credential: "replace this with path of the credential file created in previous step through terraform"
6. Install required python packages using : pip3 install -r requirements.txt
7. Run download script with below command :

```
python3 /path/to/download_metadata.py --config_file
/path/to/download_config.yaml
```

8. CSV files containing the JOBS, JOBS\_TIMELINE and BILLING metadata will be downloaded to the gcs bucket defined in download\_config.yaml file
9. Now, download these files to your local by using google-sdk by following given steps :
  - a. Go to the gcs bucket where metadata is downloaded
  - b. Tick the folder where all the downloaded csv files are present
  - c. Click on download button, you will get a dialog box like this :



- d. copy the command and run it on gcloud cli installed previously, you will get all the files downloaded to the current directory on your local
10. To destroy the roles and key created by terraform, run :
  - a. `cd ../terraform/healthcheck/`
  - b. `terraform destroy --var-file=input.tfvars`
11. Share these files through Google Drive to the the Unravel POC

## Steps for creating a gcs bucket :

1. Go to the Cloud Storage Buckets page: <https://console.cloud.google.com/storage/browser> in the Google Cloud console.
2. Click + Create.
3. On the Create a bucket page, enter the following information:
  - a. Name your bucket: Enter a unique name for your bucket. The name must start with a lowercase letter or number, and it can contain up to 63 characters. It can also contain dashes and periods.

- b. Choose where to store your data: Select a location for your bucket. You can choose a location in the same region as your project, or you can choose a different region.
- c. Choose a storage class for your data: Select a storage class for your bucket. The storage class determines how long your data is kept and how much it costs to store.
4. Click Create.
5. Create new folder in bucket

## 1.5 Output Files (Sample)

Name	Size	Kind	Date Added
meta_data	--	Folder	Today, 11:10 AM
GCP_BILLING_0000000000048.csv	69 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000122.csv	139.5 MB	CSV Document	Today, 11:10 AM
GCP_BILLING_0000000000074.csv	68.7 MB	CSV Document	Today, 11:10 AM
GCP_BILLING_0000000000080.csv	69.3 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000136.csv	139.5 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000283.csv	139.8 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000268.csv	139.5 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000254.csv	139.7 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000240.csv	139.5 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000095.csv	139.6 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000081.csv	139.2 MB	CSV Document	Today, 11:10 AM
GCP_BILLING_000000000128.csv	68.8 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000056.csv	140 MB	CSV Document	Today, 11:10 AM
GCP_BILLING_000000000100.csv	68.8 MB	CSV Document	Today, 11:10 AM
GCP_BILLING_000000000114.csv	68.9 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000042.csv	139.5 MB	CSV Document	Today, 11:10 AM
GCP_BILLING_000000000115.csv	69 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000043.csv	139.9 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000057.csv	139.6 MB	CSV Document	Today, 11:10 AM
GCP_BILLING_000000000101.csv	69.1 MB	CSV Document	Today, 11:10 AM
GCP_BILLING_000000000129.csv	69.2 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000080.csv	139.8 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000094.csv	139.7 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000241.csv	140.1 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000255.csv	139.5 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000269.csv	140 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000282.csv	139.5 MB	CSV Document	Today, 11:10 AM
GCP_BILLING_000000000061.csv	69.2 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000137.csv	139.6 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000123.csv	139.8 MB	CSV Document	Today, 11:10 AM
GCP_BILLING_000000000075.csv	69 MB	CSV Document	Today, 11:10 AM
GCP_BILLING_000000000049.csv	68.9 MB	CSV Document	Today, 11:10 AM
GCP_BILLING_000000000088.csv	68.6 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000109.csv	139.4 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000135.csv	139.6 MB	CSV Document	Today, 11:10 AM
GCP_BILLING_000000000063.csv	69.3 MB	CSV Document	Today, 11:10 AM
GCP_BILLING_000000000077.csv	68.6 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000121.csv	139.7 MB	CSV Document	Today, 11:10 AM
JOBSTIMELINE_unravel-biqquery-flat-rate-dev_US000000000280.csv	140 MB	CSV Document	Today, 11:10 AM

## 1.6 Video(s) :

- <https://drive.google.com/file/d/1U3nhRFyKnfrhUacoV1V-nHD12hb19CQ/view?usp=sharing>