

# Integrate Google Cloud Pub/Sub with Chrome browser in Chrome Browser Cloud Management



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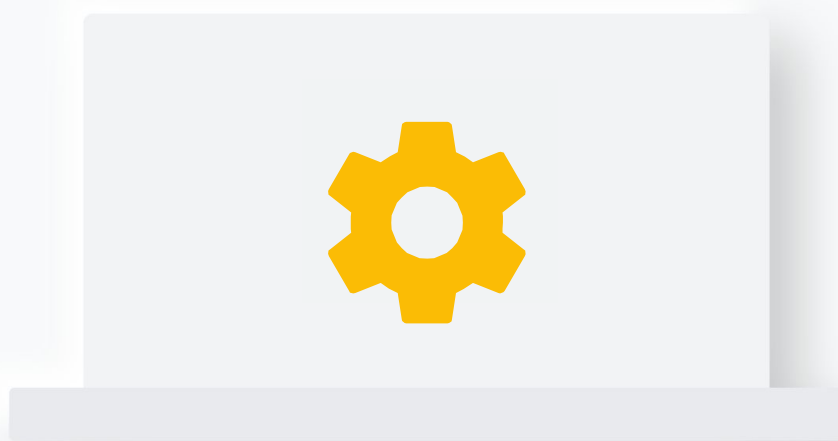
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## Resources

This document will guide you through the process of setting up the integration between Chrome Browser Cloud Management and Google Cloud Pub/Sub. Note that this feature requires devices to be enrolled into Chrome Browser Cloud Management in order for data to be sent.

Here are some useful links:

→ [Setting up Chrome browser Cloud Management](#)

→ [Best practices for using Chrome Browser Cloud Management](#)

→ [Help Center Article for Reporting Connectors](#)



## Chrome browser events to Google Cloud Pub/Sub topic

The Reporting Connector publishes Chrome browser events to Google Cloud Pub/Sub topics. You must create or choose an existing topic and grant publishing access to the Cloud Pub/Sub Publisher service account of the Chrome Reporting project.

You need to create a Connector configuration in the Google Admin console for each Google Cloud Platform (GCP) topic to which you want

the reporting connector to publish events. Then, you can choose which Organizational Units should send events to which Connector configuration.

Optionally, you can also set up a Google Cloud Dataflow to redirect the published events to a BigQuery table.

## What data gets sent to Google Cloud Pub/Sub from Chrome browser

The following data is sent from Chrome browser to Google Cloud Pub/Sub once the integration is set up. The data is also logged in the Google Admin console under Reporting>Audit and investigation>Chrome log events. For more information, please review this [Help Center article](#).

Here is a brief overview of each one:

Event value	Description
Malware transfer	The content uploaded or downloaded by the user is considered to be malicious, dangerous, or unwanted
Password changed	The user resets their password for the first-signed-in user account
Password reuse	The user has entered a password into a URL that's outside of the list of allowed enterprise login URLs
Unsafe site visit	The URL visited by the user is considered to be deceptive or malicious

## Create or choose an existing topic in Google Cloud Pub/Sub



1. Log into the Google Cloud Platform at [console.cloud.google.com](https://console.cloud.google.com).
2. Navigate to the Topics page of the Pub/Sub section.
3. Select an existing topic or click the Create Topic button, giving it a Topic ID, and hit Create Topic.

### Create a topic

A topic forwards messages from publishers to subscribers.

Topic ID \*

ChromeConnector



Topic name: projects/google.com:fletchers-cloud-lab/topics/ChromeConnector

- ☒ Add a default subscription ?
- ☐ Use a schema ?
- ☐ Set message retention duration (not free) ?
- ☐ Use a customer-managed encryption key (CMEK)

CANCEL CREATE TOPIC

4. Select the topic to receive the events from Chrome and click the Add Member button under the Permissions tab

### ChromeConnector

PERMISSIONS

LABELS

STORAGE POLICY

Edit or delete permissions below or "Add Member" to grant new

+ ADD MEMBER



5. Enter the following under New Principals:
  - a. [cloud-pub-sub-publisher@chrome-reporting.iam.gserviceaccount.com](mailto:cloud-pub-sub-publisher@chrome-reporting.iam.gserviceaccount.com)  
This is the account that the Google server is using to make calls to the Publish API of the Pub/Sub Topic, so the topic must grant publishing access to this account.
6. Select the Role as Pub/Sub Publisher and hit save.
7. Copy your topic's full path and save it for the following steps in the Google Admin console.

### Add principals to "ChromeConnector"

#### Add principals and roles for "ChromeConnector" resource

Enter one or more principals below. Then select a role for these principals to grant them access to your resources. Multiple roles allowed. [Learn more](#)

##### New principals

cloud-pub-sub-publisher@chrome-reporting.iam.gserviceaccount.com ✕ ?

##### Role

Pub/Sub Publisher ▼

##### Condition

[Add condition](#)

Publish messages to a topic.

[+ ADD ANOTHER ROLE](#)

SAVE

CANCEL

## Set up the Google Cloud Pub/Sub configuration in the Admin Console



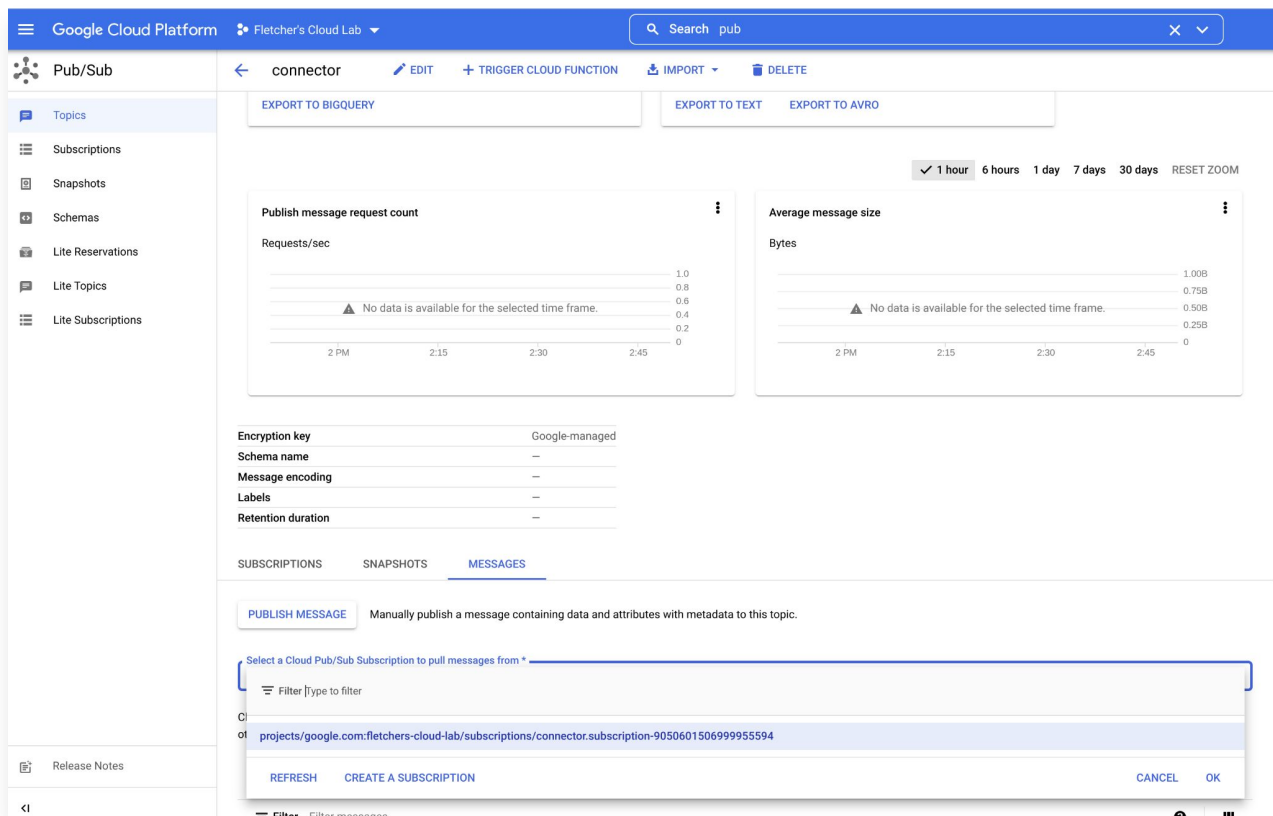
1. Copy your topic name from the Pub/Sub section in GCP and open up [admin.google.com](https://admin.google.com).
2. Navigate to Devices>Chrome>Users and browsers. Add a filter for “security events reporting.”
3. Under Security events reporting, select Allow selected events. Under the additional settings you can also specify which events you want to send to Google Cloud Pub/Sub.
4. Now that the events are turned on, click on the blue hyperlink to take you to the connector provider configurations, or it can be found under Devices>Chrome>Connectors.
5. Click the New Provider Configuration button and select Google Cloud Pub/Sub as the provider.
6. Enter the configuration name that you want this connector to be displayed as in the Google Admin console.
7. Paste your topic path into the Topic full path field and hit Add Configuration to save.
8. Select the Organizational Unit that the reporting events are turned on in.
9. Select the Chrome Google Cloud Pub/Sub connector created in the previous step and hit Save.

# Generate Safe Browsing events to send to Google Cloud Pub/Sub



## Set up Safe Browsing events

1. Tests may be generated on your enrolled devices by using <http://testsafebrowsing.appspot.com/> and running a few tests like webpage warnings and desktop download warnings.
2. Events generated can be viewed in the Google Cloud Platform console on the details page of the Pub/Sub topic you choose by clicking on the message tab in the middle of the page and selecting an existing subscription or creating a new one to pull the messages:



Google Cloud Platform Fletcher's Cloud Lab

Search pub

Pub/Sub

connector EDIT + TRIGGER CLOUD FUNCTION IMPORT DELETE

EXPORT TO BIGQUERY EXPORT TO TEXT EXPORT TO AVRO

1 hour 6 hours 1 day 7 days 30 days RESET ZOOM

**Publish message request count**

Requests/sec

No data is available for the selected time frame.

**Average message size**

Bytes

No data is available for the selected time frame.

Encryption key Google-managed

Schema name --

Message encoding --

Labels --

Retention duration --

SUBSCRIPTIONS SNAPSHOTS **MESSAGES**

PUBLISH MESSAGE Manually publish a message containing data and attributes with metadata to this topic.

Select a Cloud Pub/Sub Subscription to pull messages from \*

Filter [type to filter]

projects/google.com:fletchers-cloud-lab/subscriptions/connector.subscription-905060150699995594

REFRESH CREATE A SUBSCRIPTION CANCEL OK



## Export Data from Google Cloud Pub/Sub to BigQuery (Optional)

To access the reported events using BigQuery, you must create a table to store them, and then create a data flow to redirect and convert the published events to the BigQuery table.



### Creating a new table

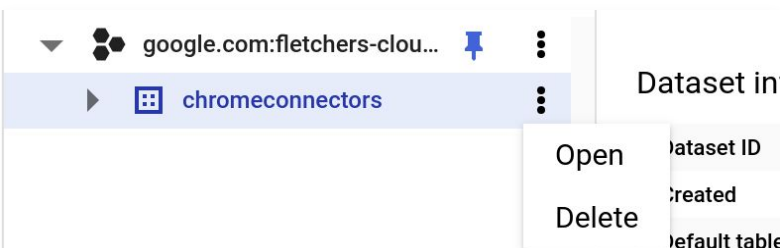
1. Open Google Cloud Platform console and navigate to the Cloud Storage section.
2. Create a new storage bucket, select the configuration tab and save the GSutil URI for later.

gsutil URI `gs://fletchers-cloud-lab`

3. Navigate to the BigQuery section and select your project, or create a new one, and hit the three dots and select Create dataset.
4. Give the dataset a name, leave the defaults and select Create dataset.



5. Select the dataset you created in the previous step, click the three dots, and select Open.





6. Hit the Create Table button.

**+ CREATE TABLE**

7. Give the table a name and select Create Table from Upload and select the provided event.json file.
8. Check the box for Schema and input parameters and hit Create Table.

**Create table**

**Source**

Create table from: Upload Select file: event.json Browse File format: JSONL (N...

**Destination**

☒ Search for a project ☐ Enter a project name

Project name Fletcher's Cloud Lab Dataset name chromeconnectors Table type Native table

**Table name**

chromeconnectors

**Schema**

Auto detect  
☒ Schema and input parameters

i Schema will be automatically generated.

**Partition and cluster settings**

Partitioning: No partitioning

**Clustering order (optional):**  
Clustering order determines the sort order of the data. Clustering can be used on both partitioned and non-partitioned tables.

Comma-separated list of fields to define clustering order (up to 4)



9. Select your new table >open>details and copy the Table ID field to your clipboard.

SCHEMA	DETAILS	PREVIEW	TABLE EXPLORER
<b>Table info</b>			
Table ID	google.com:fletchers-cloud-lab:chromeconnectors.chromeconnectors		

## Create a data flow

1. In the Google Cloud Console under the Pub/Sub section, select your Topic created in the previous steps.
2. Hit the Export to BigQuery button.

**Export to BigQuery** ×

Create a Dataflow job to export data to a BigQuery table.

**EXPORT TO BIGQUERY**

3. Create a new name or use the default Job name.
4. Enter in your topic location (located in the Topic main page) under the Input Pub/Sub topic field.



5. Enter in your storage bucket GSutil URI from step one under BigQuery output table field adding /temp to the end of the string and hit Run Job.

## Create Dataflow job

**Job name \***

ps-to-bq-ChromeConnector

Must be unique among running jobs

**Regional endpoint \***

us-central1



Choose a Dataflow regional endpoint to deploy worker instances and store job metadata. You can optionally deploy worker instances to any available Google Cloud region or zone by using the worker region or worker zone parameters. Job metadata is always stored in the Dataflow regional endpoint. [Learn more](#)

**Dataflow template \***

Pub/Sub Topic to BigQuery



## Required parameters

**Input Pub/Sub topic \***

projects/google.com:fletchers-cloud-lab/topics/ChromeConnector

The Pub/Sub topic to read the input from. Ex: projects/your-project-id/topics/your-topic-name

**BigQuery output table \***

google.com:fletchers-cloud-lab:chromeconnectors.chromeconnectors

The location of the BigQuery table to write the output to. If you reuse an existing table, it will be overwritten. The table's schema must match the input JSON objects. Ex: your-project:your-dataset.your-table

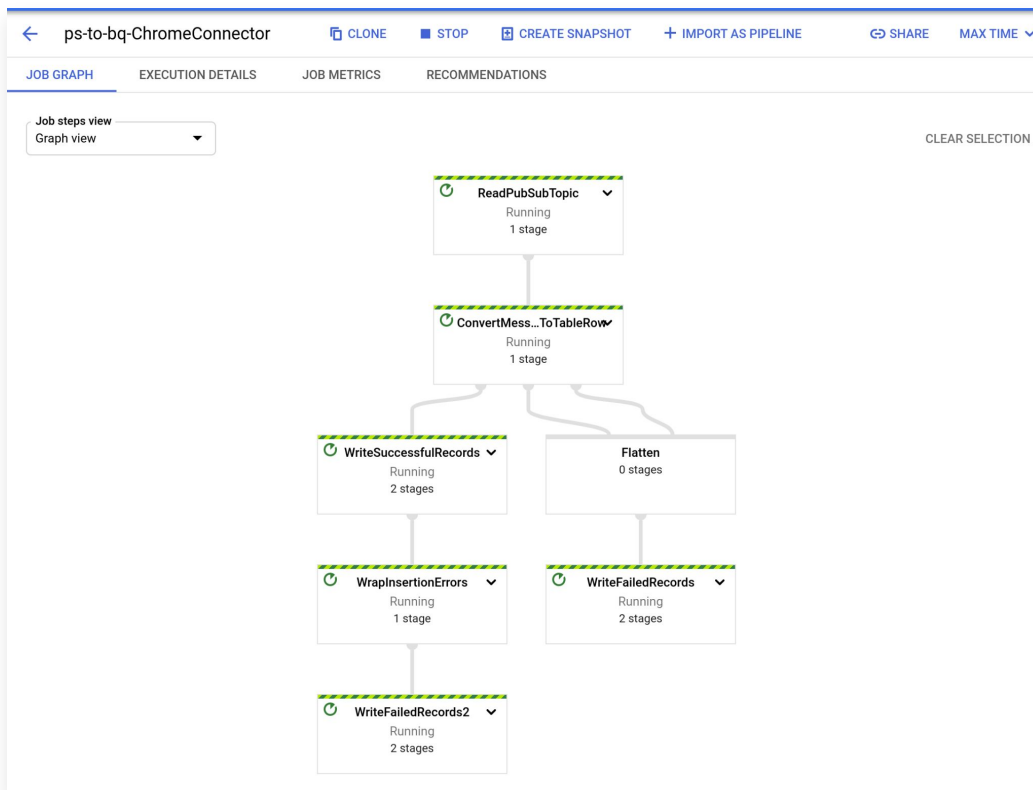
**Temporary location \***

gs://fletchers-cloud-lab/temp

Path and filename prefix for writing temporary files. Ex: gs://your-bucket/temp



- Details of the job can be viewed by hitting the view details on the toast popup.  
The job should have a green color like the following example.



- Hitting the back button should also show a green circle next to the job if it is running correctly

<div> <div>Running</div> <div>Filter Filter jobs</div> </div>						
Name	Type	End time	Elapsed time	Start time	Status	SDK version
ps-to-bq-ChromeConnector	Streaming		1 min 13 sec	Sep 9, 2021, 12:30:37 PM	Running	2.29.0

- Events can then be viewed under the BigQuery section by selecting the table that you created previously and hitting the Preview button to view the events.  
You can also write queries to look for specific events.