

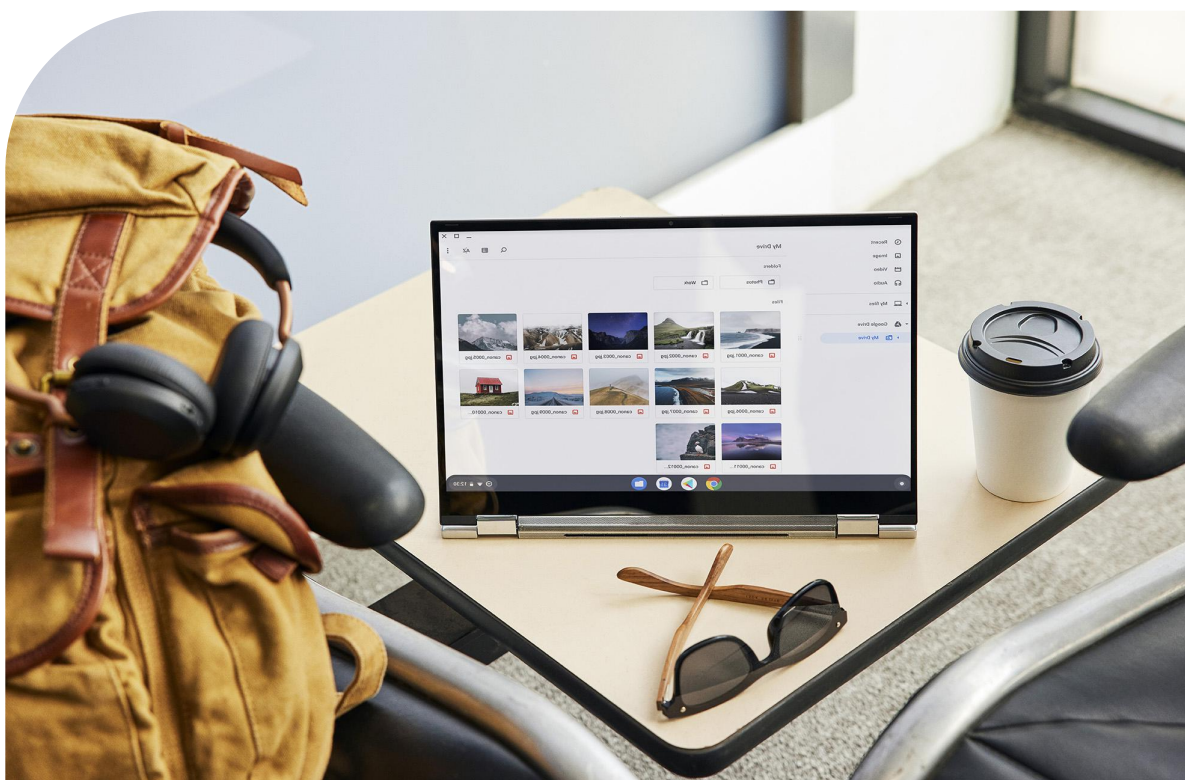
Integrate Google Cloud Pub/Sub with Chrome browser in Chrome Enterprise Core

Oct 2024



Table of Contents

What data gets sent to Google Cloud Pub/Sub from Chrome browser	04
Create or choose an existing topic in Google Cloud Pub/Sub	05
Set up the Google Cloud Pub/Sub configuration in the Admin console	07
Generate Safe Browsing events to send to Google Cloud Pub/Sub	08
Export data from Google Cloud Pub/Sub to BigQuery (Optional)	09



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 just a few of the events captured:

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

For a complete list of all of the events that can be sent, please review this [help center article](#).

Resources

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

Here are some useful links:



[Setting up Chrome Enterprise Core](#)



[Help Center Article for Reporting Connectors](#)



[Best practices for using Chrome Enterprise Core](#)



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

- 1 Log into the Google Cloud Platform at 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 *

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

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

5 Enter the following under New Principals:

a 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

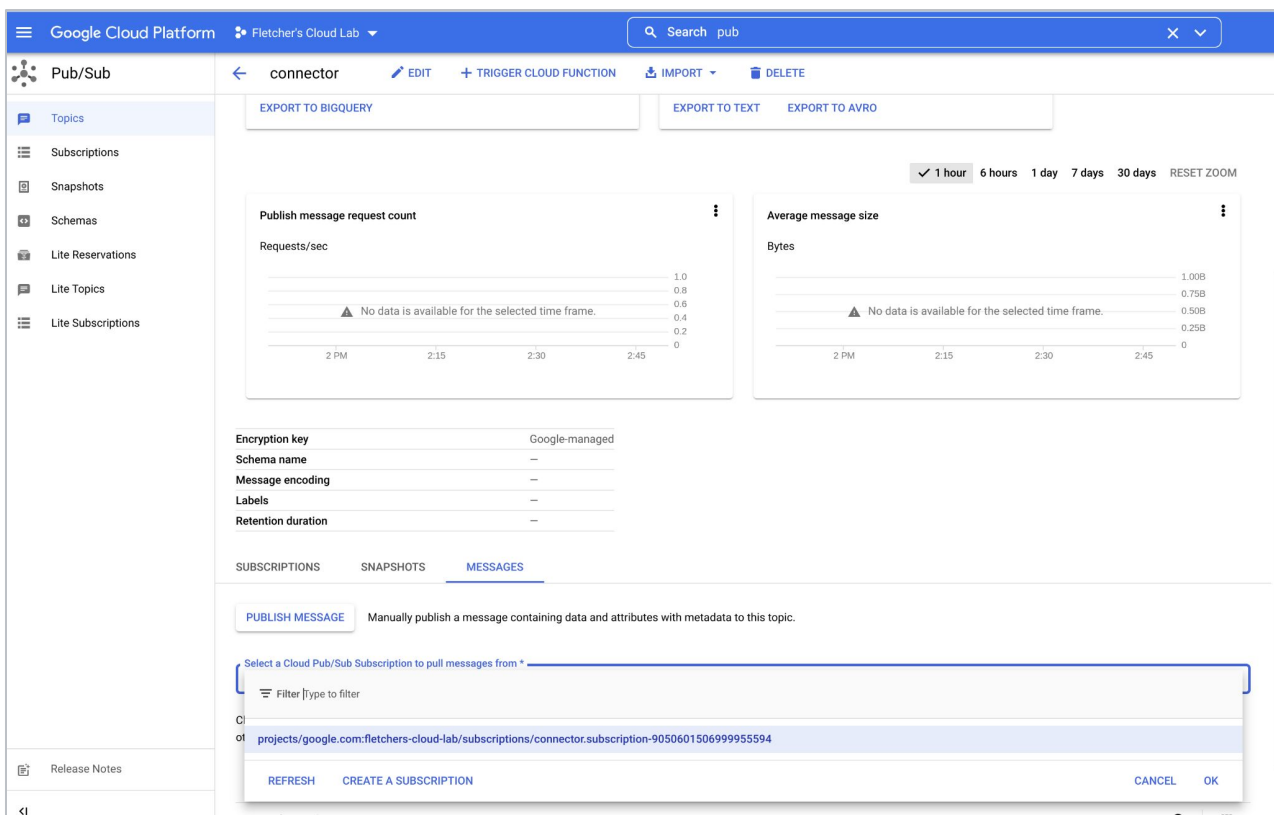
- 1 Copy your topic name from the Pub/Sub section in GCP and open up admin.google.com.
- 2 Navigate to Devices>Chrome>Users and browsers. Add a filter for “security events reporting”.
- 3 Under Security events reporting, select Allow selected events. Under the additional settings you can also specify 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 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:



The screenshot shows the Google Cloud Platform console interface for the 'connector' topic. The left sidebar lists navigation options: Topics, Subscriptions, Snapshots, Schemas, Lite Reservations, Lite Topics, and Lite Subscriptions. The main content area displays the 'connector' topic details, including a 'Publish message request count' chart and an 'Average message size' chart, both showing 'No data is available for the selected time frame.' Below the charts, a table lists metadata: Encryption key (Google-managed), Schema name, Message encoding, Labels, and Retention duration. The 'MESSAGES' tab is selected, and a 'PUBLISH MESSAGE' button is visible. A dropdown menu is open, showing a list of subscriptions to pull messages from, with the selected subscription being 'projects/google.com:fletchers-cloud-lab/subscriptions/connector.subscription-905060150699955594'. The dropdown also includes a 'Filter' input, a 'REFRESH' button, a 'CREATE A SUBSCRIPTION' button, and 'CANCEL' and 'OK' buttons.

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

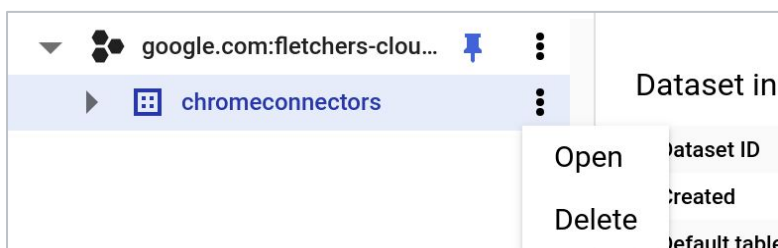
- 1 Open Google Cloud Platform console and navigate to the Cloud Storage section.
- 2 Create a new storage bucket, select the configuration tab and save the GSutil URI for later.

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 Copy your topic name from the Pub/Sub section in GCP and open up admin.google.com.

+ CREATE TABLE

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

- 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

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
<h3>Table info</h3>			
Table ID	google.com:fletchers-cloud-lab:chromeconnectors.chromeconnectors		

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

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.
- 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.

Export to BigQuery

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

[EXPORT TO BIGQUERY](#)

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

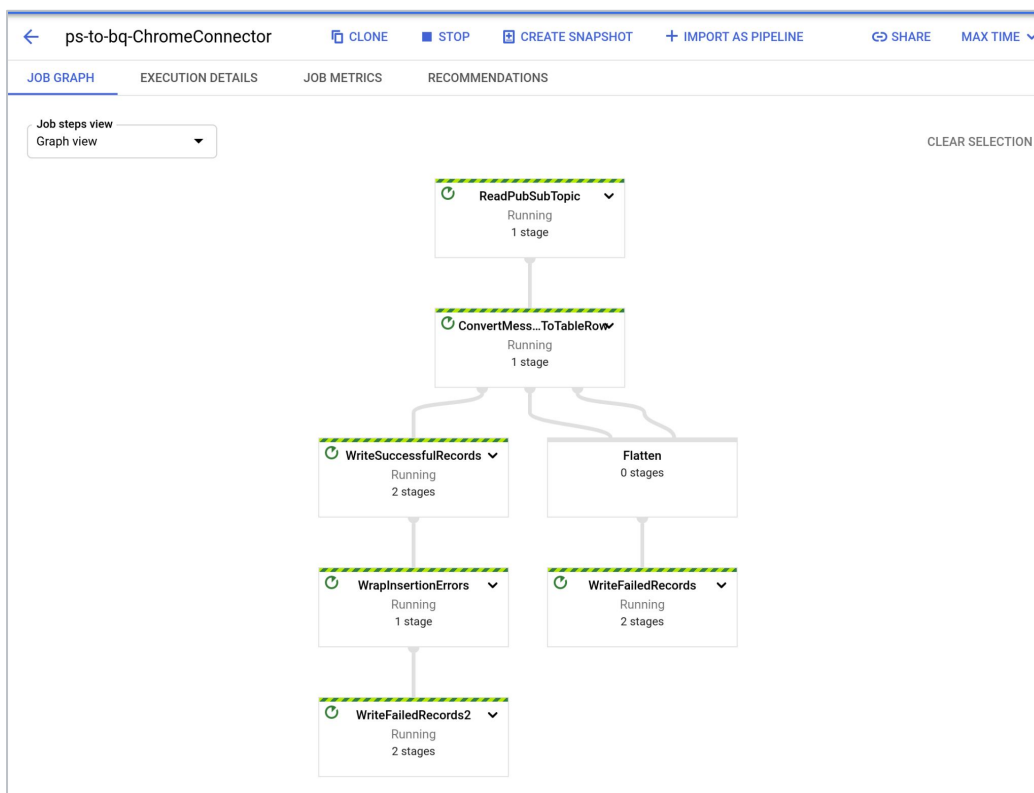
Temporary location *

gs://fletchers-cloud-lab/temp


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

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

- 6 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.



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

<input type="radio"/> Running	<input type="checkbox"/> Filter	Filter jobs				
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

- 8 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.