

# Pub/Sub: Qwik Start – Console

## Objective

This lab introduces the use of **Google Cloud Pub/Sub**, a messaging service that enables event-driven architectures and real-time messaging between applications. The goal was to:

- Create a **topic** to which data is published.
- Create a **subscription** to access the topic's messages.
- **Publish** a message to the topic.
- **Consume** the message using a **pull** subscriber.

## Task 1. Setting up Pub/Sub

To use Pub/Sub, you create a topic to hold data and a subscription to access data published to the topic.

1. From the **Navigation menu** (☰) click **View All Products**. Go to **Analytics** section, click **Pub/Sub > Topics**.

The screenshot shows the Google Cloud console interface. On the left is the 'Solutions' navigation menu with 'All products' selected. The main area is titled 'Analytics' and contains a table of products. The 'Pub/Sub' product is highlighted with a red box.

Name	Description
<a href="#">BigQuery</a>	Data warehouse/analytics
<a href="#">Pub/Sub</a>	Global real-time messaging
<a href="#">Dataflow</a>	Streaming analytics service
<a href="#">Composer</a>	Managed workflow orchestration service
<a href="#">Dataproc</a>	Managed Apache Hadoop
<a href="#">Dataprep</a>	Visual data wrangling
<a href="#">Data Fusion</a>	Data pipeline management
<a href="#">Looker</a>	Enterprise BI and Analytics
<a href="#">Healthcare</a>	Healthcare data storage and processing
<a href="#">Financial Services</a>	Revenue growth through the cloud

Pub/Sub / Topics / Create topic

Pub/Sub

- Topics
- Subscriptions
- Snapshots
- Schemas

Pub/Sub Lite

- Lite Reservations
- Lite Topics
- Lite Subscriptions

Release Notes

◀

← Create topic [LEARN](#)

Topic ID \*  ?

Topic name: projects/qwiklabs-gcp-03-a5b9dc5fe3a4/topics/MyTopic

☒ Add a default subscription ?

☐ Use a schema ?

☐ Enable ingestion ?

☐ Enable message retention ?

☐ Export message data to BigQuery ?

☐ Backup message data to Cloud Storage ?

**Transforms**

Optionally manipulate and filter message data

[ADD A TRANSFORM](#)

**Encryption**

☒ Google-managed encryption key  
Keys owned by Google

☐ Cloud KMS key  
Keys owned by customers

Pub/Sub / Topics / Topic: MyTopic

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Release Notes

◀ MyTopic [EDIT](#) [+ TRIGGER CLOUD RUN FUNCTION](#) [IMPORT](#) [DELETE](#) [LEARN](#) [HIDE INFO PANEL](#)

**Export options have moved to the Create subscription dropdown menu under the Subscriptions tab below.**  
[GOT IT](#)

Topic name: projects/qwiklabs-gcp-03-a5b9dc5fe3a4/topics/MyTopic

**Export to BigQuery** [EXPORT DATA](#)

**Export to Cloud Storage** [EXPORT DATA](#)

**MyTopic**

[PERMISSIONS](#) [LABELS](#) [STORAGE POLICY](#)

[SUBSCRIPTIONS](#) [SNAPSHOTS](#)

A new topic and a new subscription have been successfully created.

- Click **Create topic**.
- The topic must have a unique name. For this lab, name your topic MyTopic. In the **Create a topic** dialog:
  - For **Topic ID**, type MyTopic.
  - Leave other fields at their default value.
  - Click **Create**.

## Task 2. Add a subscription

Now you'll make a subscription to access the topic.

1. Click **Topics** in the left panel to return to the **Topics** page. For the topic you just made click the three dot icon > **Create subscription**.

The screenshot shows the 'Add subscription to topic' dialog in the Google Cloud Pub/Sub console. The left sidebar shows the navigation menu with 'Topics' selected. The main panel has a title 'Add subscription to topic' and a back arrow. Below the title is a description: 'A subscription directs messages on a topic to subscribers. Messages can be pushed to subscribers immediately, or subscribers can pull messages as needed.' There is a text input field for 'Subscription ID' with the value 'MySub'. Below this, the 'Subscription name' is shown as 'projects/qwiklabs-gcp-03-a5b9dc5fe3a4/subscriptions/MySub'. The 'Topic name' is 'projects/qwiklabs-gcp-03-a5b9dc5fe3a4/topics/MyTopic'. Under 'Delivery type', the 'Pull' option is selected. Below it, there are two other options: 'Push' and 'Write to BigQuery' (with a description: 'A variant of the push operation. Select this option if you want Pub/Sub to deliver messages directly to an existing BigQuery table. Learn more'). There is also a 'Write to Cloud Storage' option (with a description: 'A variant of the push operation. Select this option if you want Pub/Sub to deliver messages directly to an existing Cloud Storage bucket. Learn more'). At the bottom, there is a 'Message retention duration' field.

2. In the **Add subscription to topic** dialog:
  - a. Type a name for the subscription, such as MySub
  - b. Set the Delivery Type to **Pull**.
  - c. Leave all other options at the default values.

The screenshot shows the 'MySub' subscription details page in the Google Cloud Pub/Sub console. The left sidebar shows the navigation menu with 'Subscriptions' selected. The main panel has a title 'MySub' and buttons for 'EDIT', 'CREATE SNAPSHOT', 'REPLAY MESSAGES', and 'PURGE MESSAGES'. Below the title is a table with the following information: 'Subscription name' (projects/qwiklabs-gcp-03-a5b9dc5fe3a4/subscriptions/MySub), 'Subscription state' (active), and 'Topic name' (projects/qwiklabs-gcp-03-a5b9dc5fe3a4/topics/MyTopic). Below the table are tabs for 'METRICS', 'DETAILS', and 'MESSAGES'. The 'METRICS' tab is selected, showing a 'GO BACK TO CLASSIC METRICS' button and a 'SAVE AS DASHBOARD' button. There is a 'RESET ZOOM' button and a time range selector set to '1 hour'. Below the time range selector is a table with columns 'Overview', 'Health', and 'Pull'. The 'Overview' column shows 'Oldest unacked message age' with a question mark icon. A message box at the bottom says 'Subscription successfully added'. On the right side, there is a 'PERMISSIONS' section with a table showing roles and principals. The table has columns 'Role / Principal' and 'Inheritance'. The roles listed are 'Editor (1)', 'Owner (3)', and 'Viewer (1)'. There is also a 'Show inherited roles in table' checkbox.

### Task 3. Publish a message to the topic

1. Navigate back to **pub/sub > Topics** and open **MyTopics** page.
2. In the Topics details page, click **Messages** tab and then click **Publish Message**.
3. Enter Hello World in the **Message** field and click **Publish**.

Google Cloud | qwiklabs-gcp-03-a5b9dc5fe3a4

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Topic name: projects/qwiklabs-gcp-03-a5b9dc5fe3a4/topics/MyTopic

**Publish count**

You can publish the given message once or multiple times in an interval. This can be useful for getting messages in new subscriptions and testing. For a more robust way to publish messages multiple times, consider using Cloud Scheduler.

Number of messages \* 1

Enter an amount between 1-100.

Message interval (seconds) 1

How long to wait before publishing the next message

**Message body**

The message you want to publish to this topic. Either message or attribute will be required to publish.

Message \* Hello World

**PUBLISH** **CANCEL**

### Task 4. View the message

To view the message, use the subscription (MySub) to pull the message (Hello World) from the topic (MyTopic).

- Enter the following command in Cloud Shell:

`gcloud pubsub subscriptions pull --auto-ack MySub`

```
WELCOME TO CLOUD SHELL! Type "help" to get started.
Your Cloud Platform project in this session is set to qwiklabs-gcp-03-a5b9dc5fe3a4.
Use 'gcloud config set project [PROJECT_ID]' to change to a different project.
student_01_fd827e106326@cloudshell:~ (qwiklabs-gcp-03-a5b9dc5fe3a4) $ gcloud pubsub subscriptions pull --auto-ack MySub
DATA: Hello World
MESSAGE_ID: 15133602338985371
ORDERING_KEY:
ATTRIBUTES:
DELIVERY_ATTEMPT:
ACK_STATUS: SUCCESS
student_01_fd827e106326@cloudshell:~ (qwiklabs-gcp-03-a5b9dc5fe3a4) $
```

### Conclusion

In this lab, the complete lifecycle of a Pub/Sub message system was demonstrated. The experience provided insights into how decoupled, event-driven systems work in cloud

environments. The lab showed how to set up a topic, create a subscription, publish messages, and pull messages using the **gcloud CLI**—all through the Google Cloud Console and Cloud Shell.

### **Skills Gained**

- Hands-on with **Google Cloud Pub/Sub**
- Using **Cloud Shell** and **gcloud** CLI
- Understanding **asynchronous messaging systems**
- Creating and managing **topics** and **subscriptions**