
This guide shows examples of how to replay Pub/Sub API messages.

The easiest way to use `gcloud` is in the [Cloud Shell](#) (`/shell`). You can also use the command line tool that comes with the [Cloud SDK](#) (`/sdk`). Setup prerequisites are met automatically for the Cloud SDK if you create a brand new [Compute Engine machine instance](#) (<https://console.cloud.google.com/compute/instances>) with access scopes including all Cloud APIs and the default Debian image. The simplest way to create it is via the Compute Engine UI. For the rest of this document, we will assume that you are using one of these command line tools.

For more information about using `gcloud`, see the [gcloud quickstart](#) (`/pubsub/docs/quickstart-cli`). Also see the [gcloud pubsub section](#) (`/sdk/gcloud/reference/pubsub/`) in the [gcloud reference](#) (`/sdk/gcloud/reference/`) for a complete list of Pub/Sub `gcloud` commands.

Create a topic and a subscription. For better interactivity, use a short acknowledgement deadline:

So far, no messages in the subscription have been acknowledged. Capture this state by creating a snapshot:

Now publish, pull, and acknowledge a message:

Note that subsequent pulls yield no new messages (some transient duplicates are possible):

You can recover the message by seeking the subscription to the snapshot. Note that the message may not be delivered instantly: Pub/Sub does not guarantee message delivery latency. However, what is guaranteed is that the messages retained in the snapshot will be eventually delivered at least once:

Note that you can seek other subscriptions to the same snapshot, as long as the subscription's topic is the same as the snapshot's topic:

Pulling from `seek-demo-sub2` will now yield messages which were published before `seek-demo-sub2` was created:

When you are done with the snapshot, clean up:

Another way to replay messages that have been acknowledged is to seek to a timestamp. To seek to a timestamp, you must first configure the subscription to retain acknowledged messages using `retain-acked-messages`. By default, messages are retained for 7 days. You can set the duration to be shorter (but not shorter than 10 minutes) by using `message-retention-duration`. For more information, see the section on seeking to a timestamp in [Replaying & Discarding Messages](#) (/pubsub/docs/replay-overview#seek_to_a_time).

You only need to do this step if you intend to seek to a timestamp, not to a snapshot.

Now publish, pull, and acknowledge a message:

The next pull should return no messages:

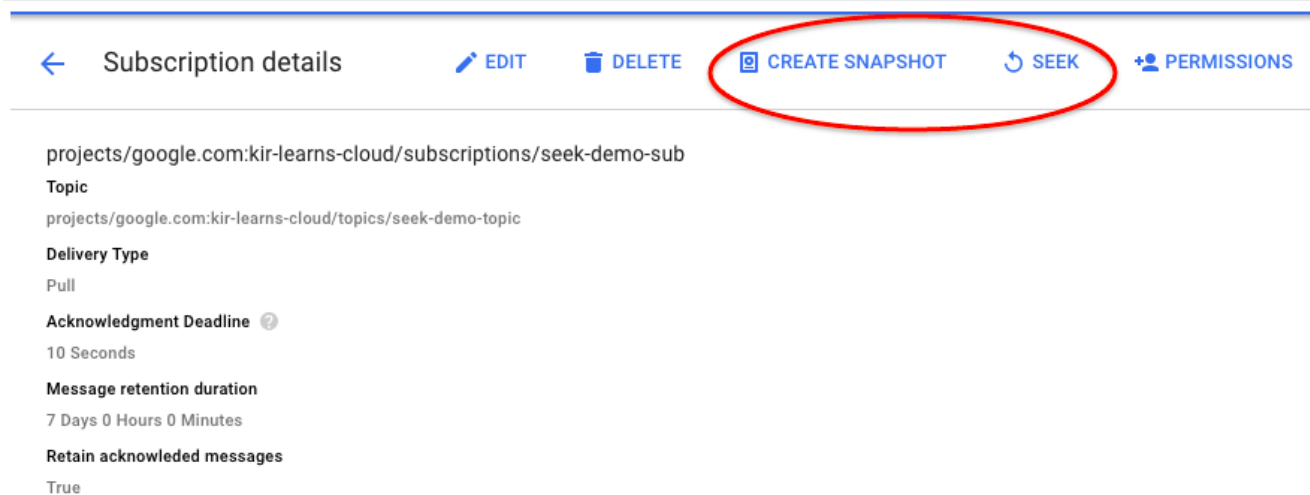
Now seek the subscription back in time to recover the message. Note that the date arithmetic flags differ between the GNU and BSD (MacOS) versions of the date command:

A subsequent pull should yield the message again:

You can also use seek to skip delivery of all messages published before some point in time, such as the current time. To do this, seek the subscription to the current time to mark as acknowledged all past messages:

After some propagation delay (~60 seconds), the message will no longer be delivered. You can check this by repeatedly executing the pull command without acknowledging the message:

You can create snapshots, or seek to existing snapshots, in the subscription detail page of the [Cloud Console](https://console.cloud.google.com/cloudpubsub/subscriptions/) (<https://console.cloud.google.com/cloudpubsub/subscriptions/>). For snapshot naming rules, see [Resource names](/pubsub/docs/admin#resource_names) (/pubsub/docs/admin#resource_names).



The seek dialog offers a choice of seeking to a time or to a snapshot:

Message retention duration
7 Days 0 Hours 0 Minutes

Seek subscription to snapshot or time point

To replay messages, seek to either a snapshot or a time point

Subscription
projects/google.com:kir-learns-cloud/subscriptions/sub1

Seek

To snapshot ?

To time point ?

Time — ▾

Date

Time

« **October 2016** »

S	M	T	W	T	F	S
25	26	27	28	29	30	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5

Time Zone

United States ▾

Eastern Time (New York) ▾

abled on this
s time point will not be

You can also manage snapshots in the [details page of an individual topic](https://console.cloud.google.com/cloudpubsub/topicList) (https://console.cloud.google.com/cloudpubsub/topicList):

← Topic details DELETE PUBLISH MESSAGE CREATE SUBSCRIPTION CREATE S

projects/Gtesting/topics/topic-userdata
Subscriptions: 3 Snapshots: 1

Subscriptions Snapshots

Snapshots from other projects which attach to this topic will not be listed.

Snapshot name	Creation time	Expiration time
project/Gtesting/snapshots/sub-production-user-snapshot1		
project/Gtesting/snapshots/sub-book-snapshot1	August 11, 2016, 9:00:09 AM	August 18, 2016, 9:00:08 AM

Note that additional resources and links are available on the [Pub/Sub support page](/pubsub/docs/support) (/pubsub/docs/support).

See [Replaying and discarding messages](/pubsub/docs/replay-overview) (/pubsub/docs/replay-overview).