

The Pub/Sub service allows applications to exchange messages reliably, quickly, and asynchronously. To accomplish this, a producer of data publishes a messages to a Pub/Sub topic. A subscriber client then creates a subscription to that topic and consumes messages from the subscription. Pub/Sub persists messages that could not be delivered reliably for up to seven days. This page shows you how to get started publishing messages with Pub/Sub using client libraries.

Note: If you are new to Pub/Sub, we recommend that you start with the [interactive tutorial](https://console.cloud.google.com/cloudpubsub?tutorial=pubsub_quickstart) (https://console.cloud.google.com/cloudpubsub?tutorial=pubsub_quickstart).

1. [Sign in](https://accounts.google.com/Login) (<https://accounts.google.com/Login>) to your Google Account.

If you don't already have one, [sign up for a new account](https://accounts.google.com/SignUp) (<https://accounts.google.com/SignUp>).

2. Set up a Cloud Console project.

Click to:

- Create or select a project.
- Enable the Pub/Sub API for that project.
- Create a service account.
- Download a private key as JSON.

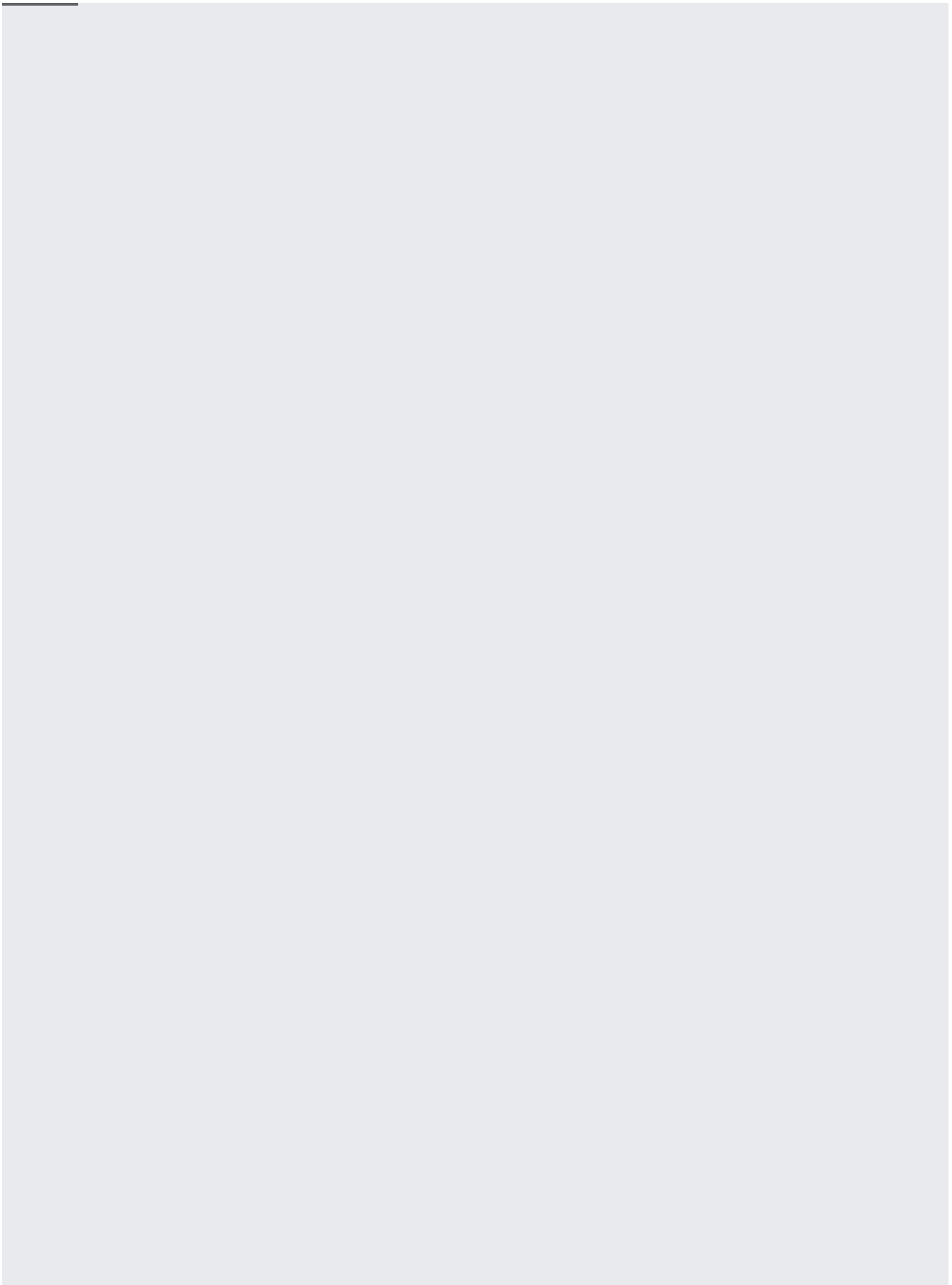
You can view and manage these resources at any time in the [Cloud Console](https://console.cloud.google.com/) (<https://console.cloud.google.com/>).

3. Set the environment variable **`GOOGLE_APPLICATION_CREDENTIALS`** to the path of the JSON file that contains your service account key. This variable only applies to your current shell session, so if you open a new session, set the variable again.

4. Install and initialize the Cloud SDK (/sdk/docs/).

★ **Note:** You can also use the Cloud Shell (<https://console.cloud.google.com/home/dashboard?cloudshell=true>) to run **gcloud** commands without needing to install the Cloud SDK.

If you are using the SDK (rather than the Cloud Shell), install the client libraries in your programming language of choice:

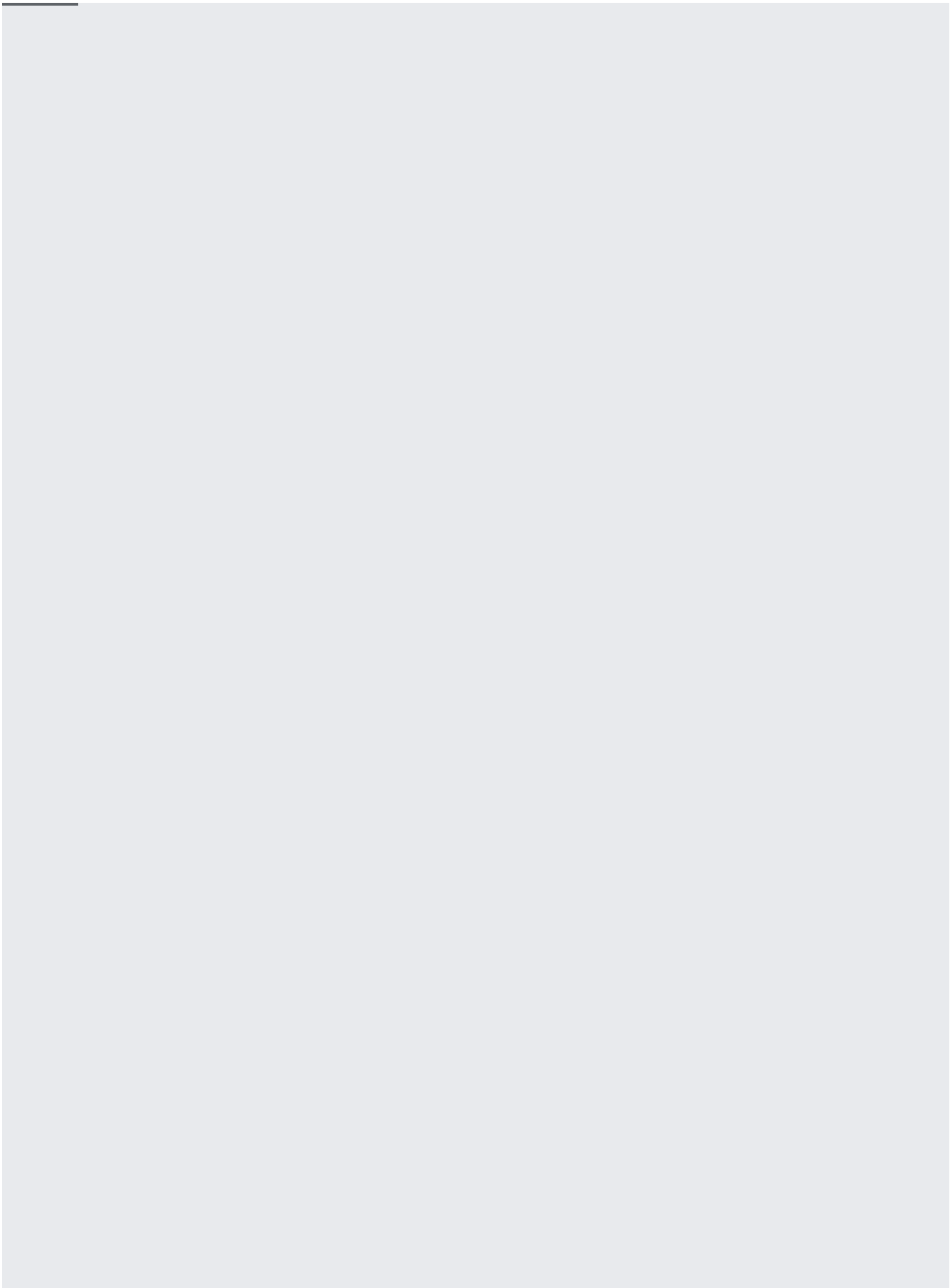


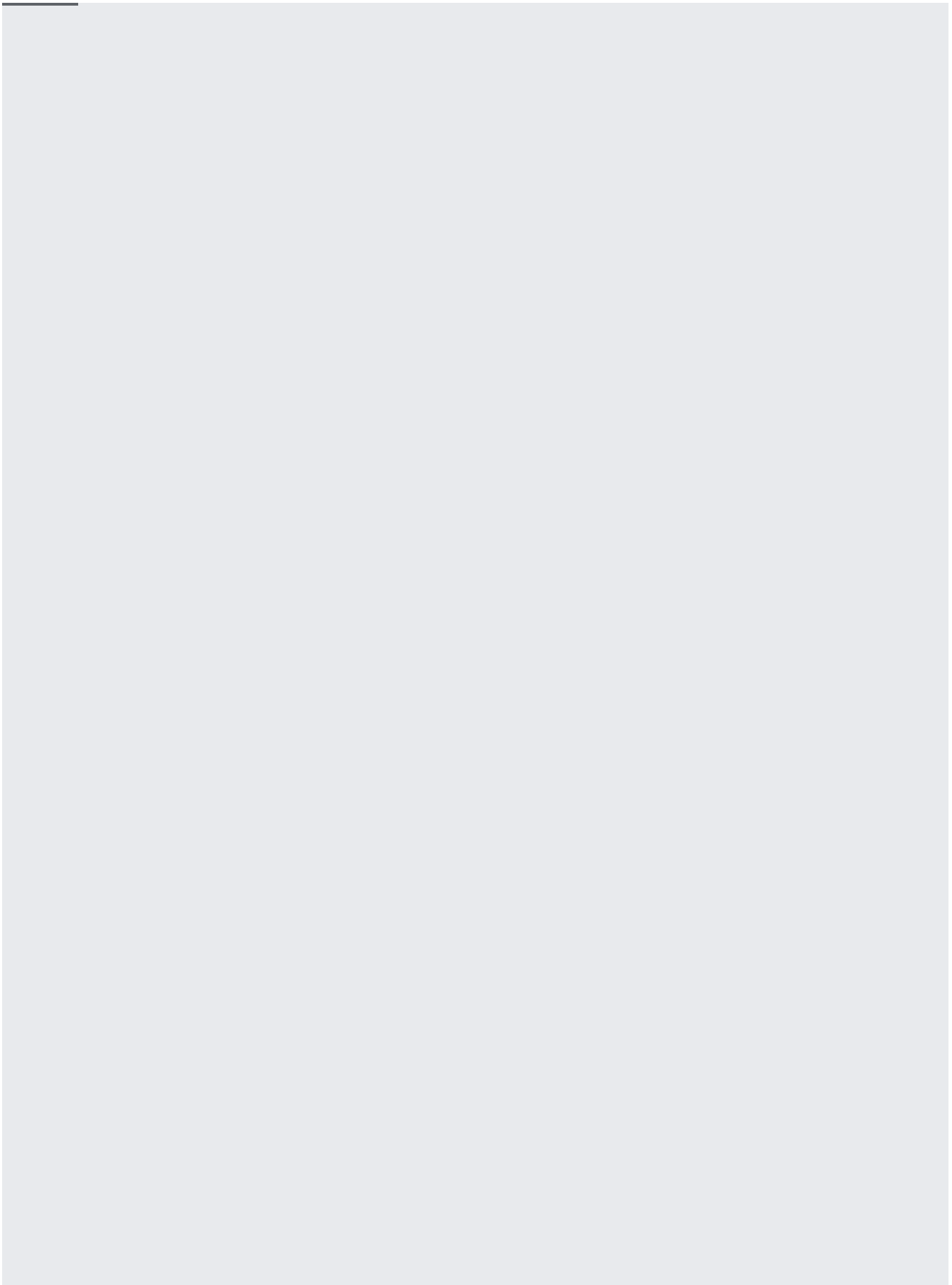
Once you create a topic, you can subscribe or publish to it.

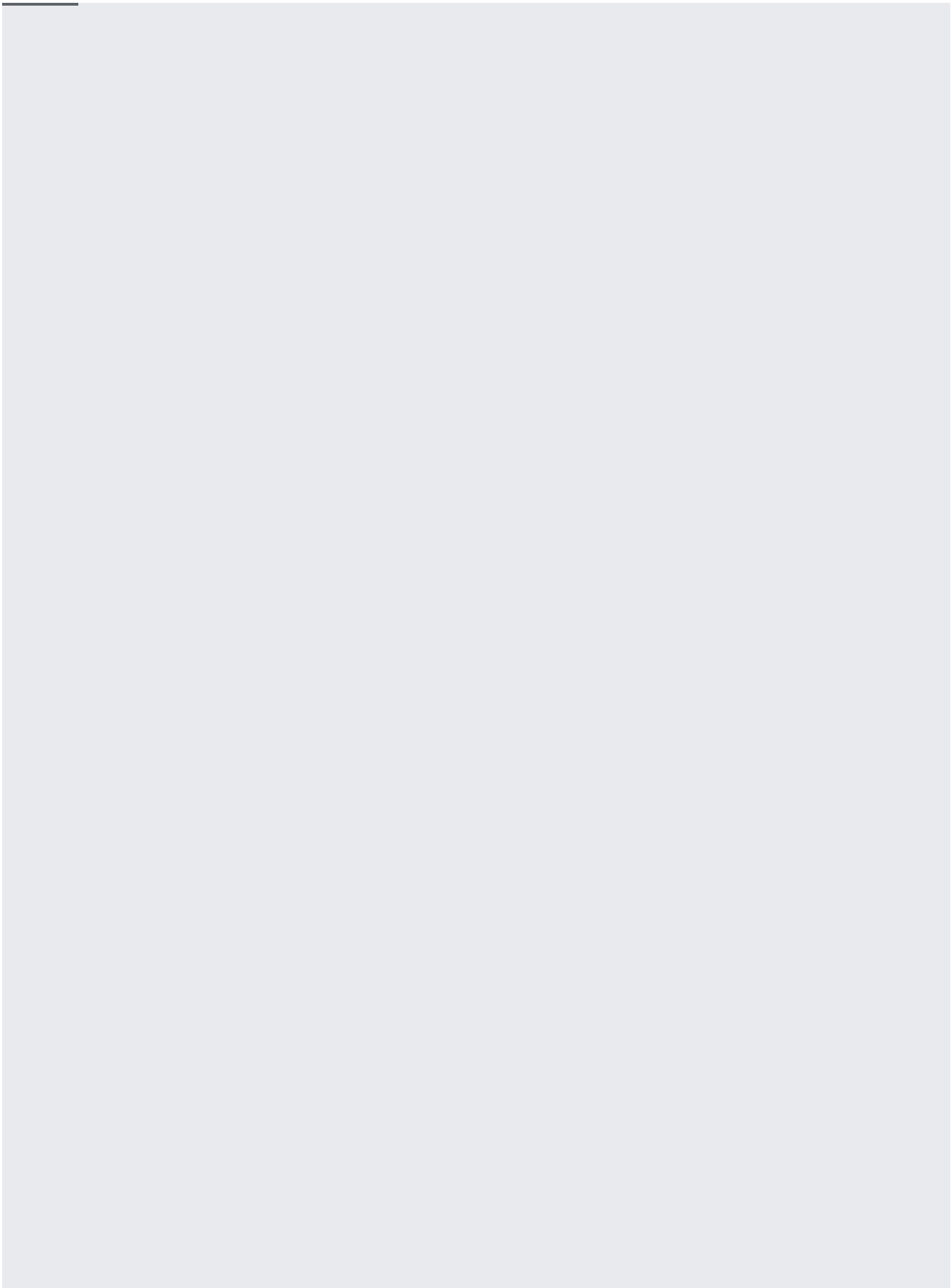
Use the `gcloud pubsub topics create` (</sdk/gcloud/reference/pubsub/topics/create>) command to create a topic:

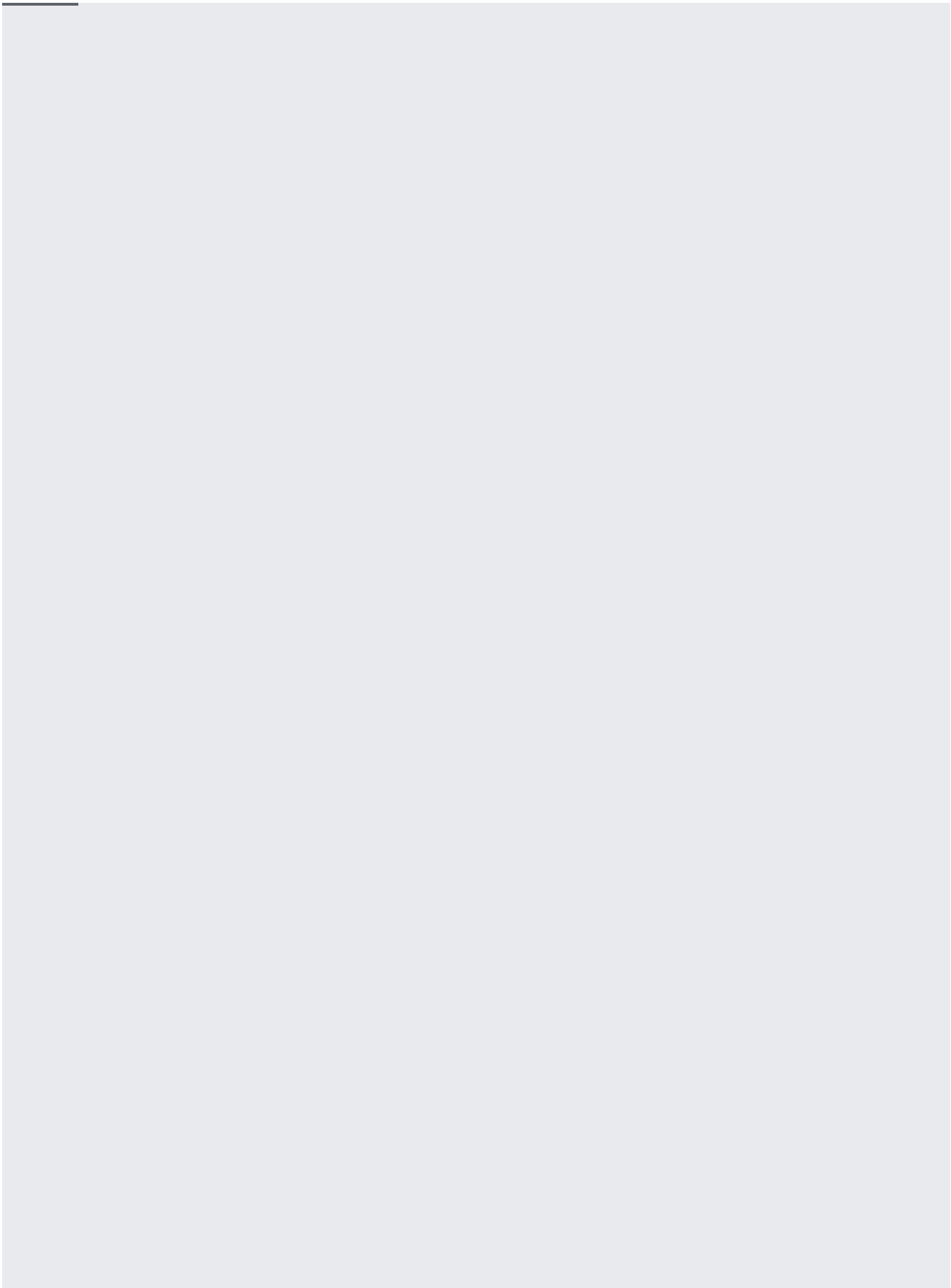
Use the `gcloud pubsub subscriptions create` (</sdk/gcloud/reference/pubsub/subscriptions/create>) command to create a subscription. Only messages published to the topic after the subscription is created are available to subscriber applications.

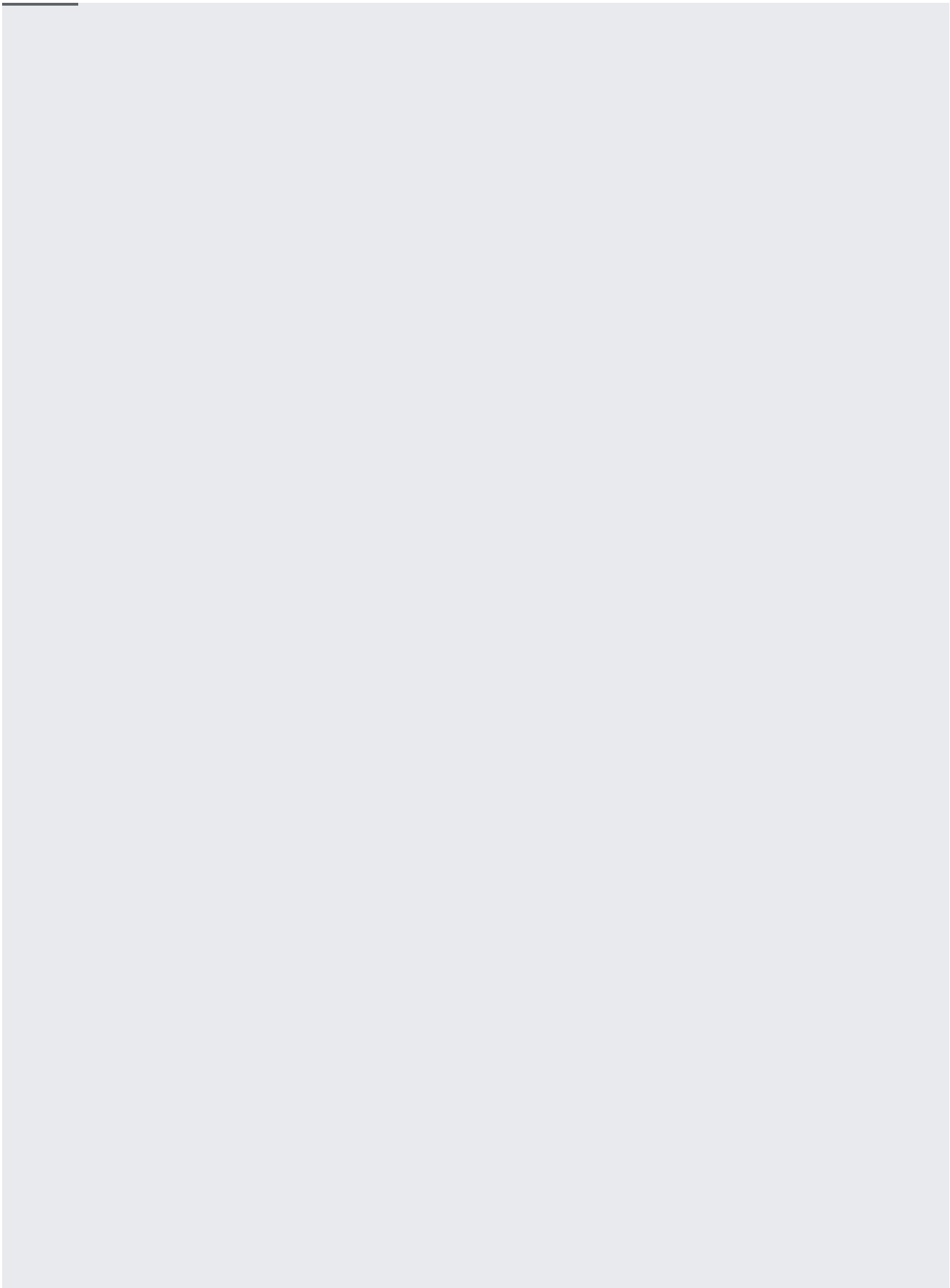
For more information about naming your topics and subscriptions, see [Resource names](/pubsub/docs/admin#resource_names) (/pubsub/docs/admin#resource_names).





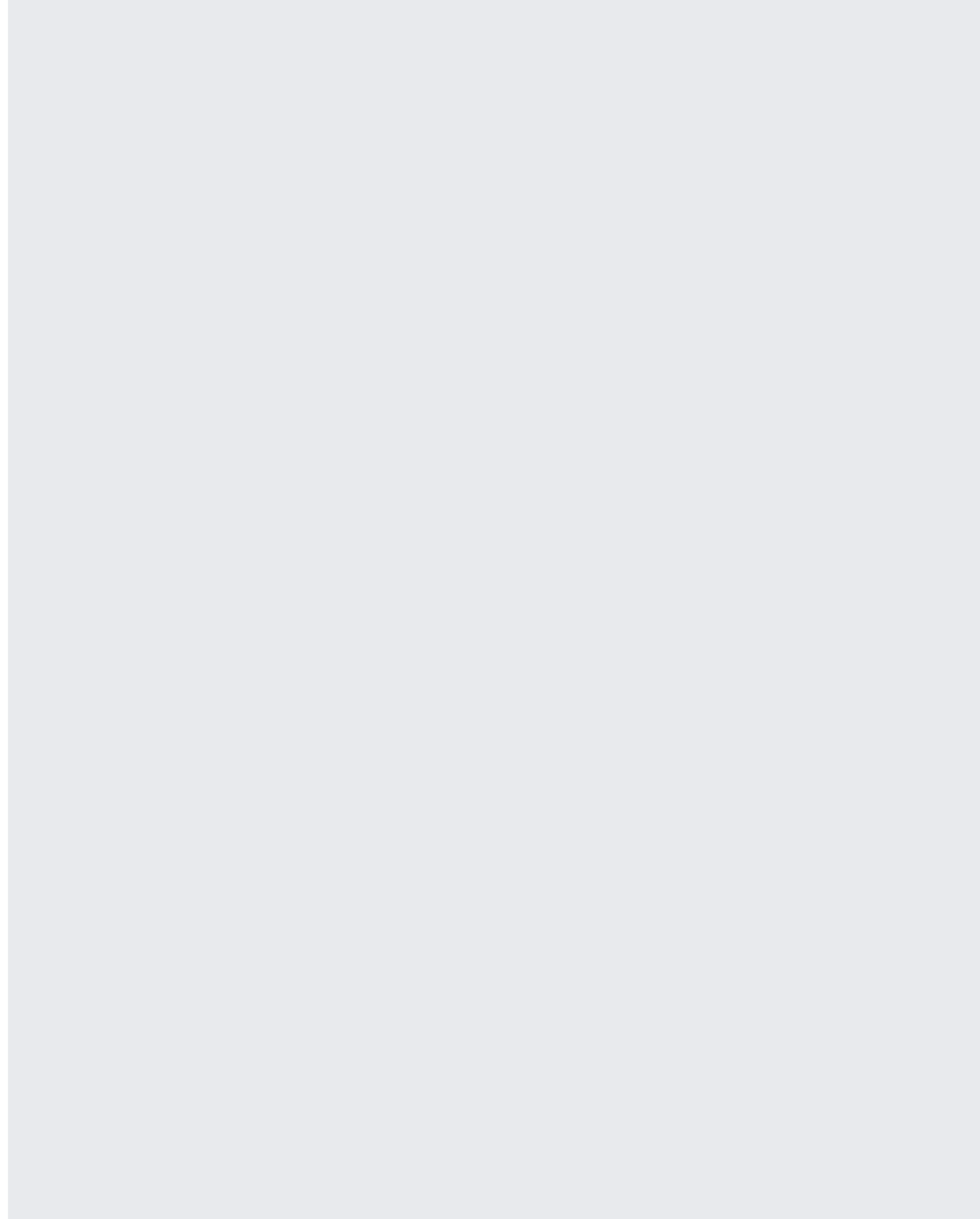


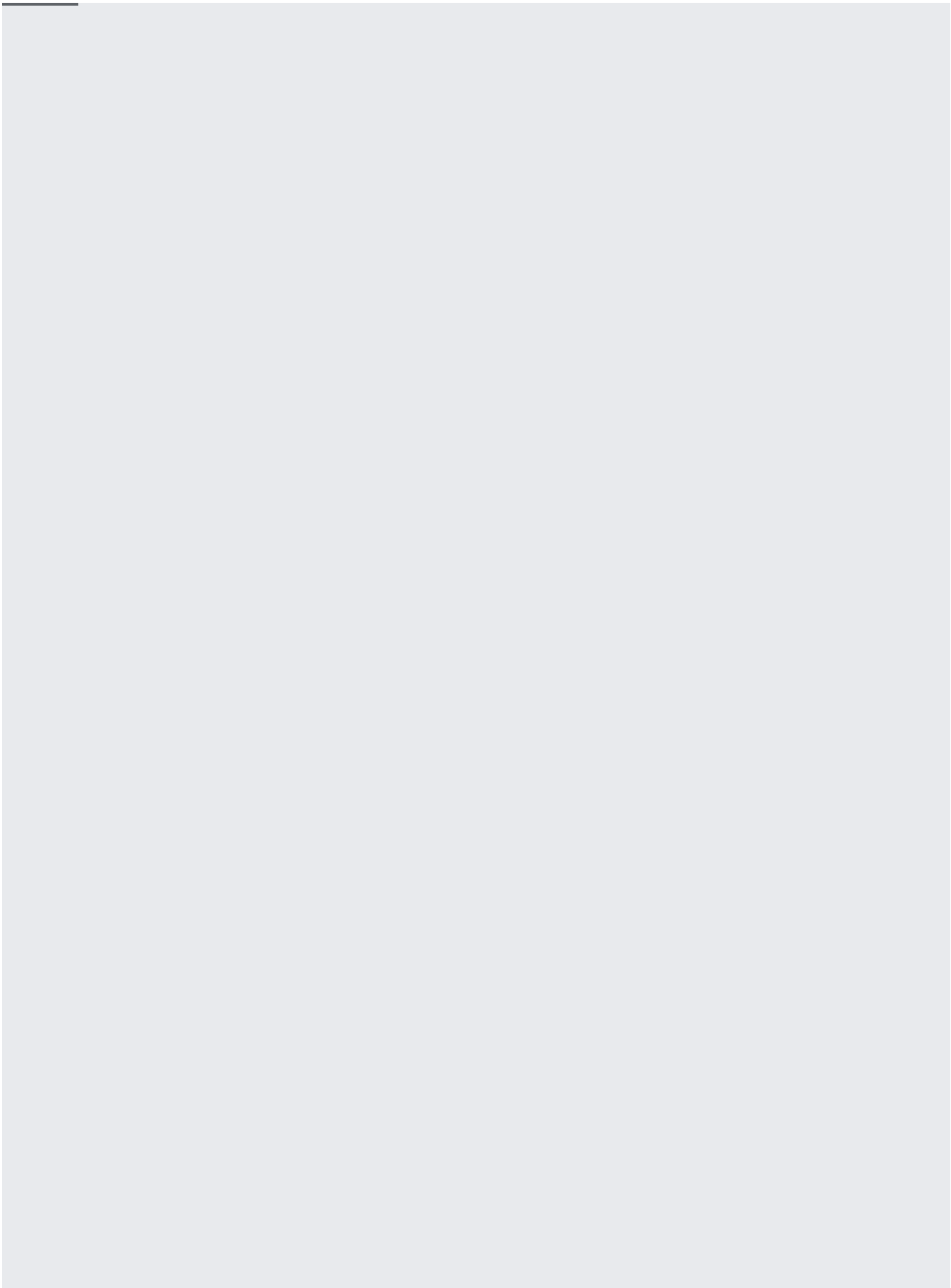


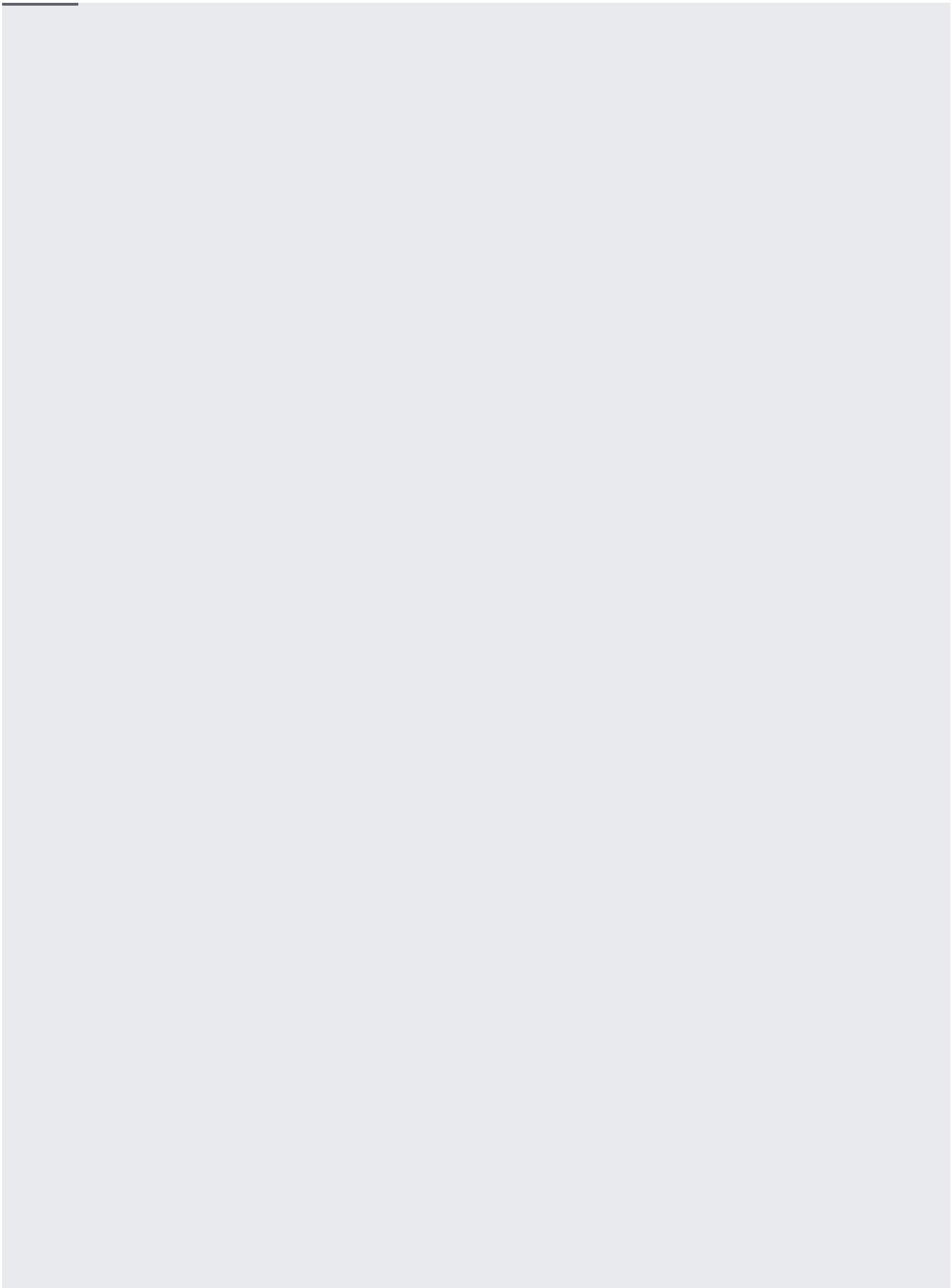


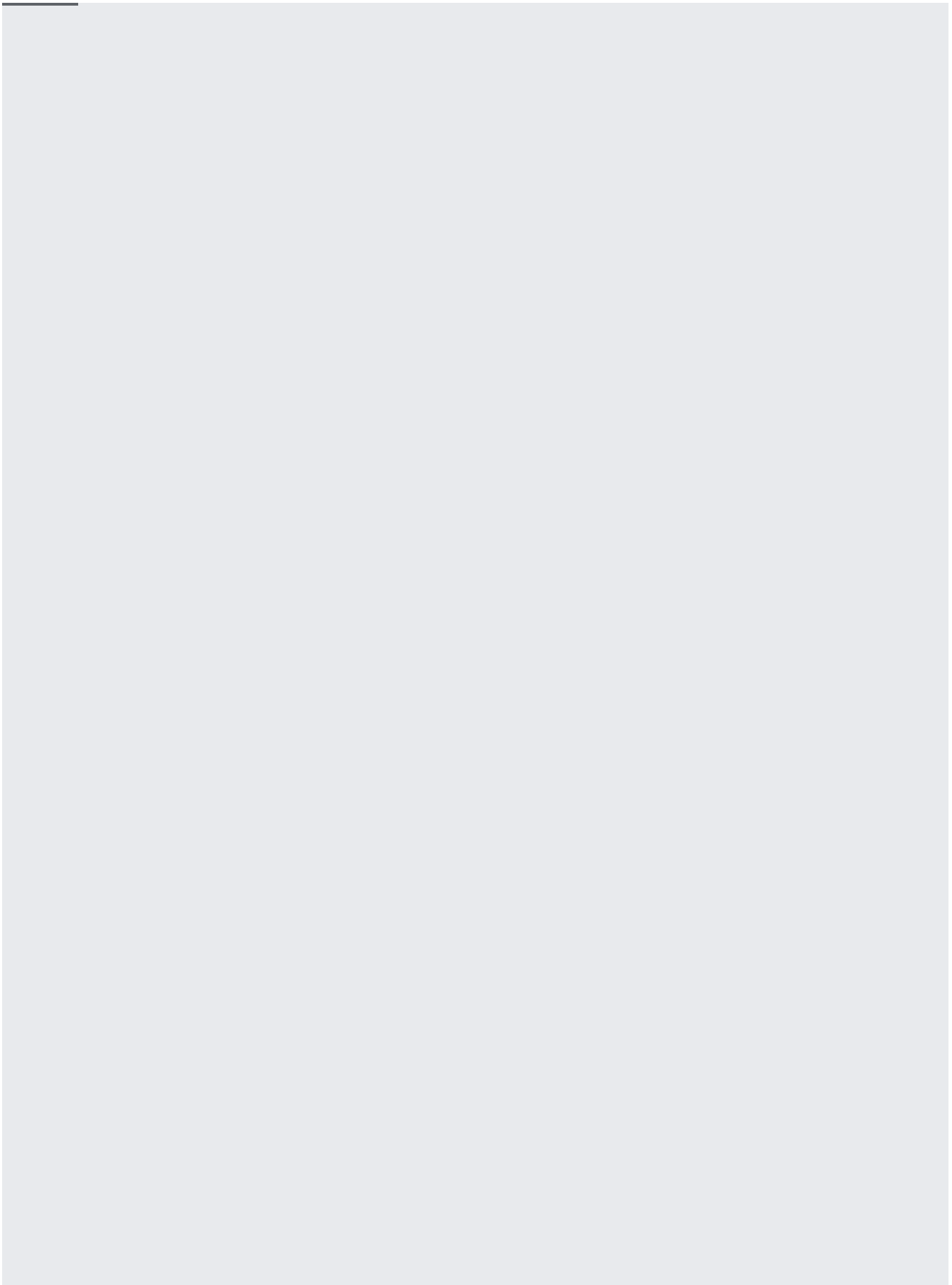
Set up a subscriber to pull the messages you just published. Every subscriber must acknowledge each message within a configurable time window. Unacknowledged messages

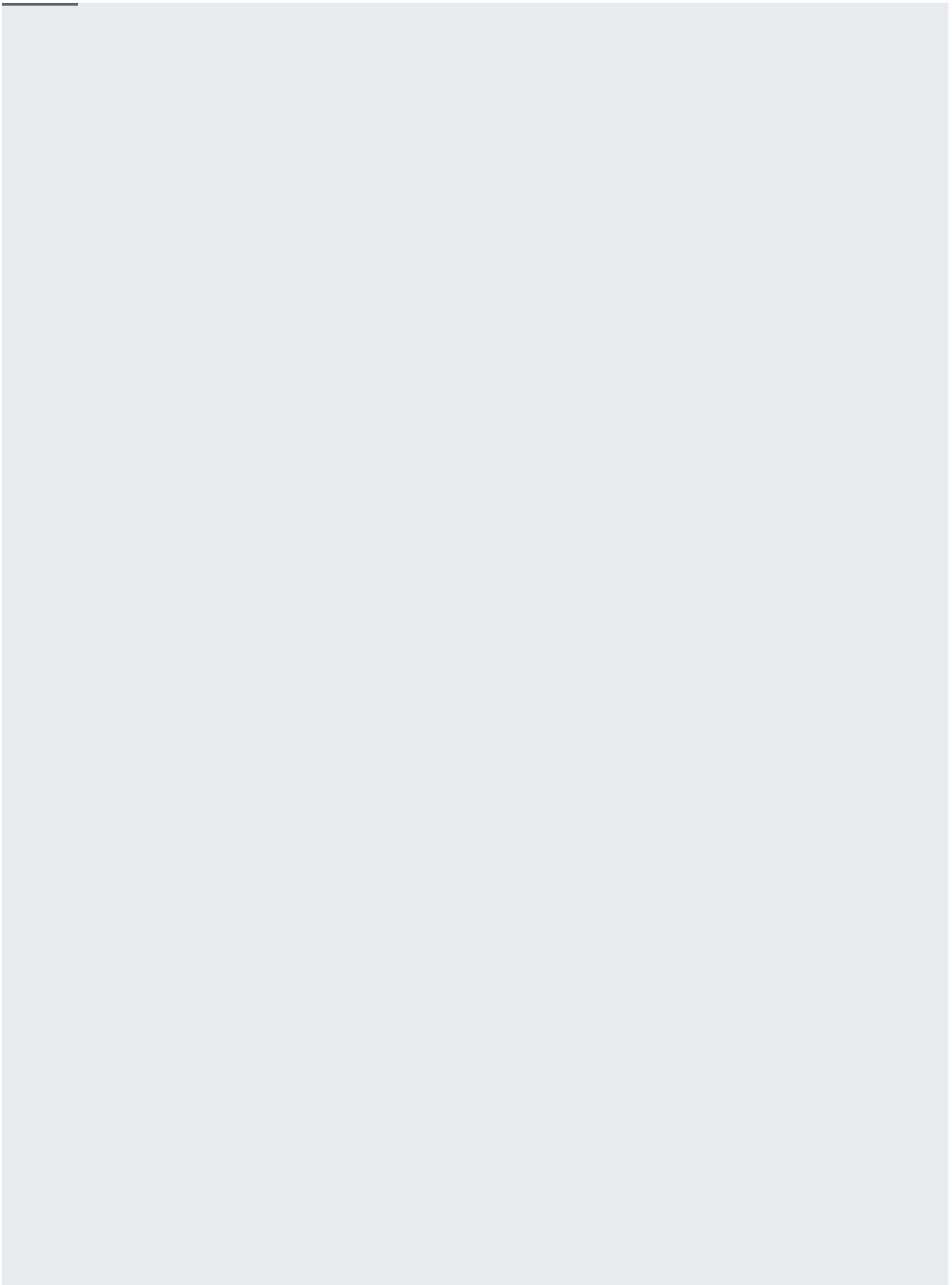
are redelivered. Note that Pub/Sub occasionally delivers a message more than once to ensure that all messages make it to a subscriber at least once. Here is an example of how you might receive and acknowledge messages:

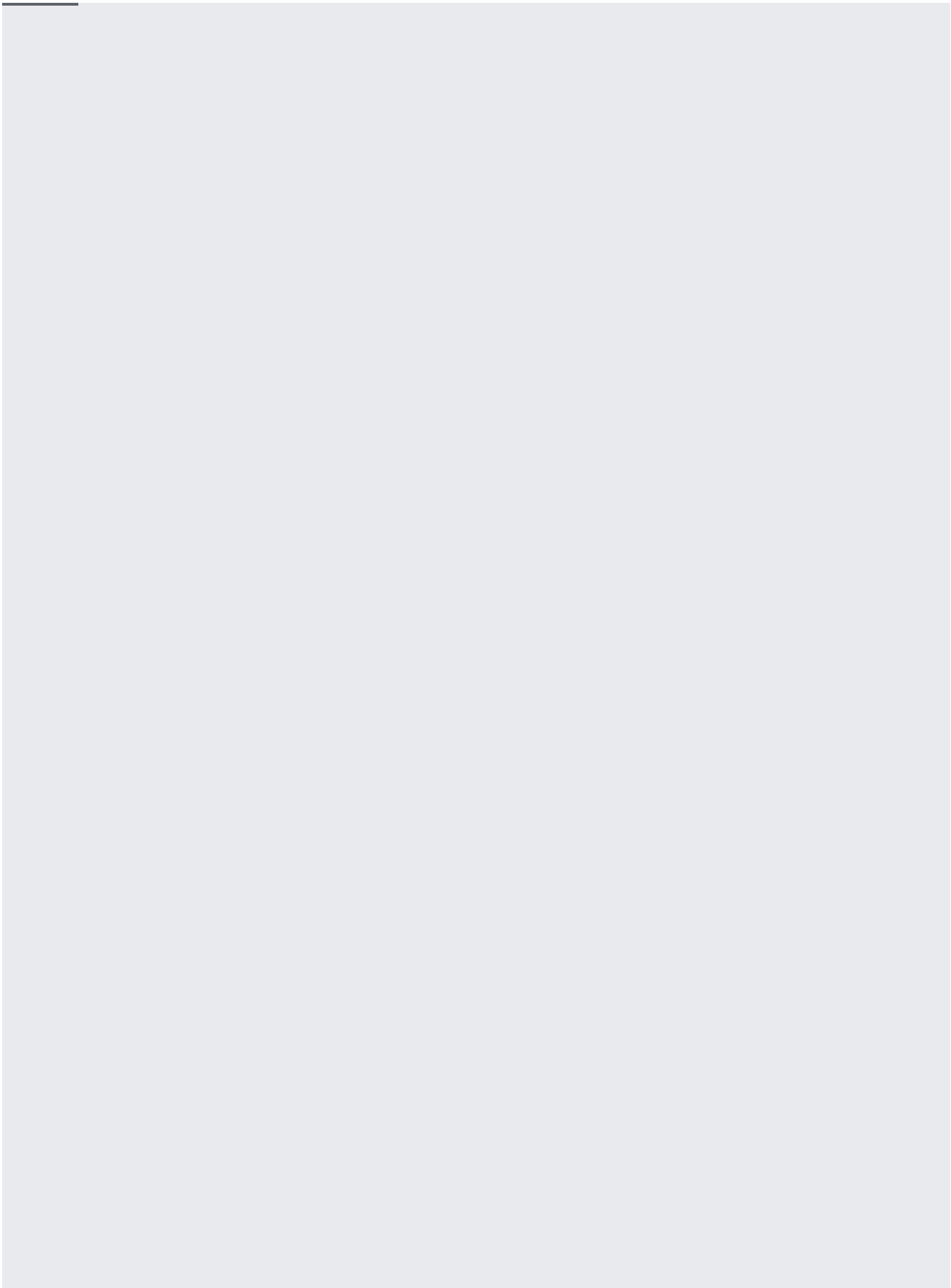


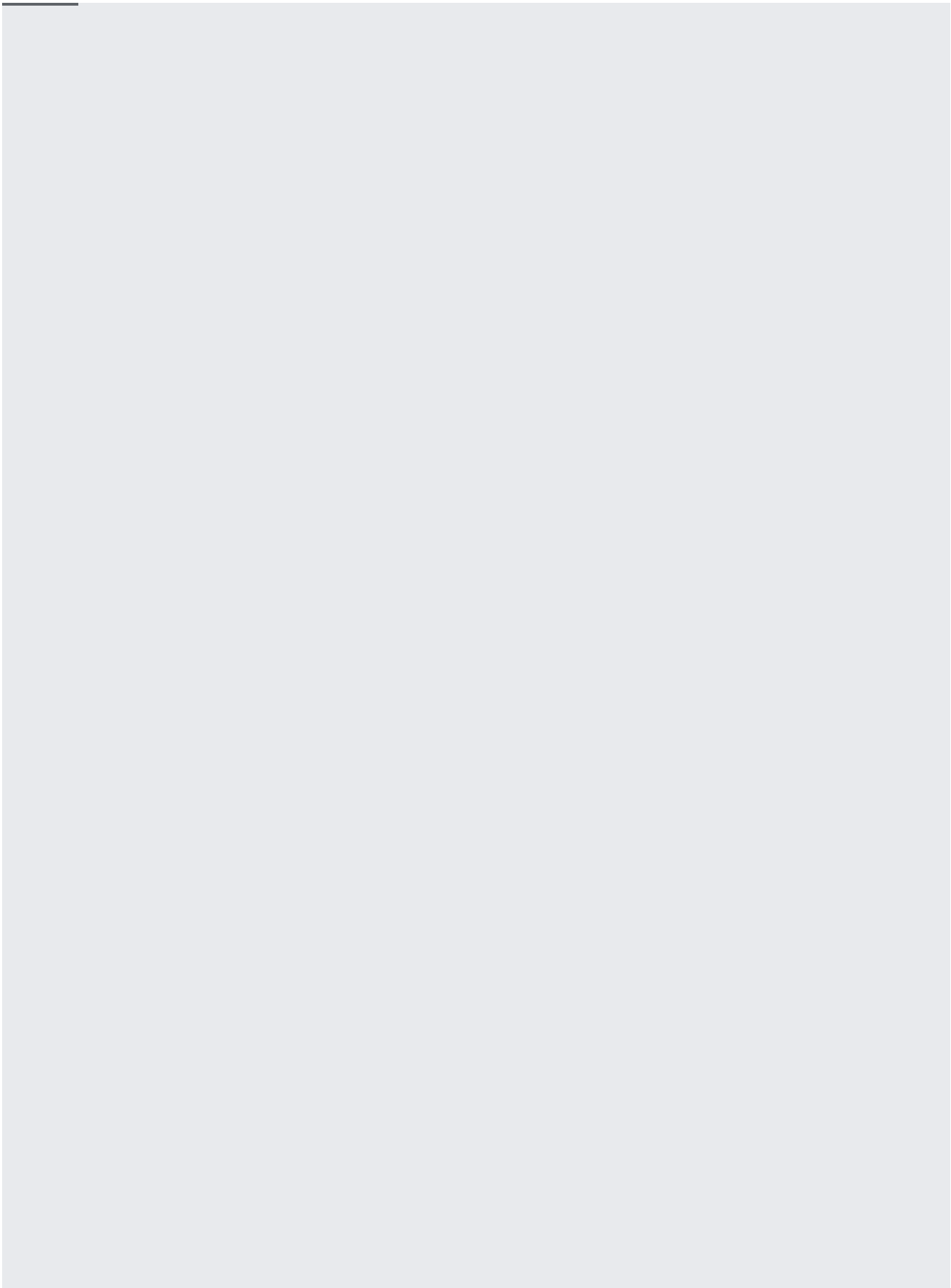












To avoid incurring charges to your Google Cloud Platform account for the resources used in this guide, you can use the [command line](/pubsub/docs/quickstart-cli) (/pubsub/docs/quickstart-cli) to delete the topic and subscription.

- See [What is Pub/Sub?](/pubsub/docs/overview) (/pubsub/docs/overview).
- For an end-to-end example, see [Building a Pub/Sub system](/pubsub/docs/quickstart-py-mac) (/pubsub/docs/quickstart-py-mac).
- For additional use cases, see the Pub/Sub [tutorials](/pubsub/docs/tutorials) (/pubsub/docs/tutorials).
- To get details about the client library for your language of choice, see [Client Libraries](/pubsub/docs/reference/libraries#additional_resources) (/pubsub/docs/reference/libraries#additional_resources).
- To learn more about the concepts discussed in this page, see the [Publisher](/pubsub/docs/publisher) (/pubsub/docs/publisher) and [Subscriber](/pubsub/docs/subscriber) (/pubsub/docs/subscriber) guides.

