You can receive notifications of changes to your Google Cloud repositories by using Pub/Sub. These notifications inform you when a user creates a new repository, deletes a repository, or pushes a change to an existing repository. You can choose to configure notifications for specific repositories or across an entire Google Cloud project.

To learn more about Pub/Sub, see What is Pub/Sub? (/pubsub/docs/overview)

- If you haven't already done so, follow the steps in the quickstart for adding notifications (/source-repositories/docs/quickstart) to create a project, install Git, and initialize the Cloud SDK.

- Verify that you have the appropriate permissions to create topics and subscriptions. For more information, see Access control (/source-repositories/docs/configure-access-control).

- Ensure you have a service account that can publish to your topic. By default, Cloud Source Repositories uses the Compute Engine default service account to publish messages. For more information, see Pub/Sub notifications for Cloud Source Repositories (/source-repositories/docs/pubsub-notifications).

For each Cloud Source Repositories project or repository for which you'd like notifications, you need to create a Pub/Sub topic. You can create a topic using either the Google Cloud Console or the `gcloud` command-line tool.

When you create a topic, you need to use a qualified URI for your repository. The qualified URI is:

Where:

- `[PROJECT_ID]` is your Google Cloud project ID.

- `[TOPIC_NAME]` is the name of the topic.

To create a topic, follow these steps.
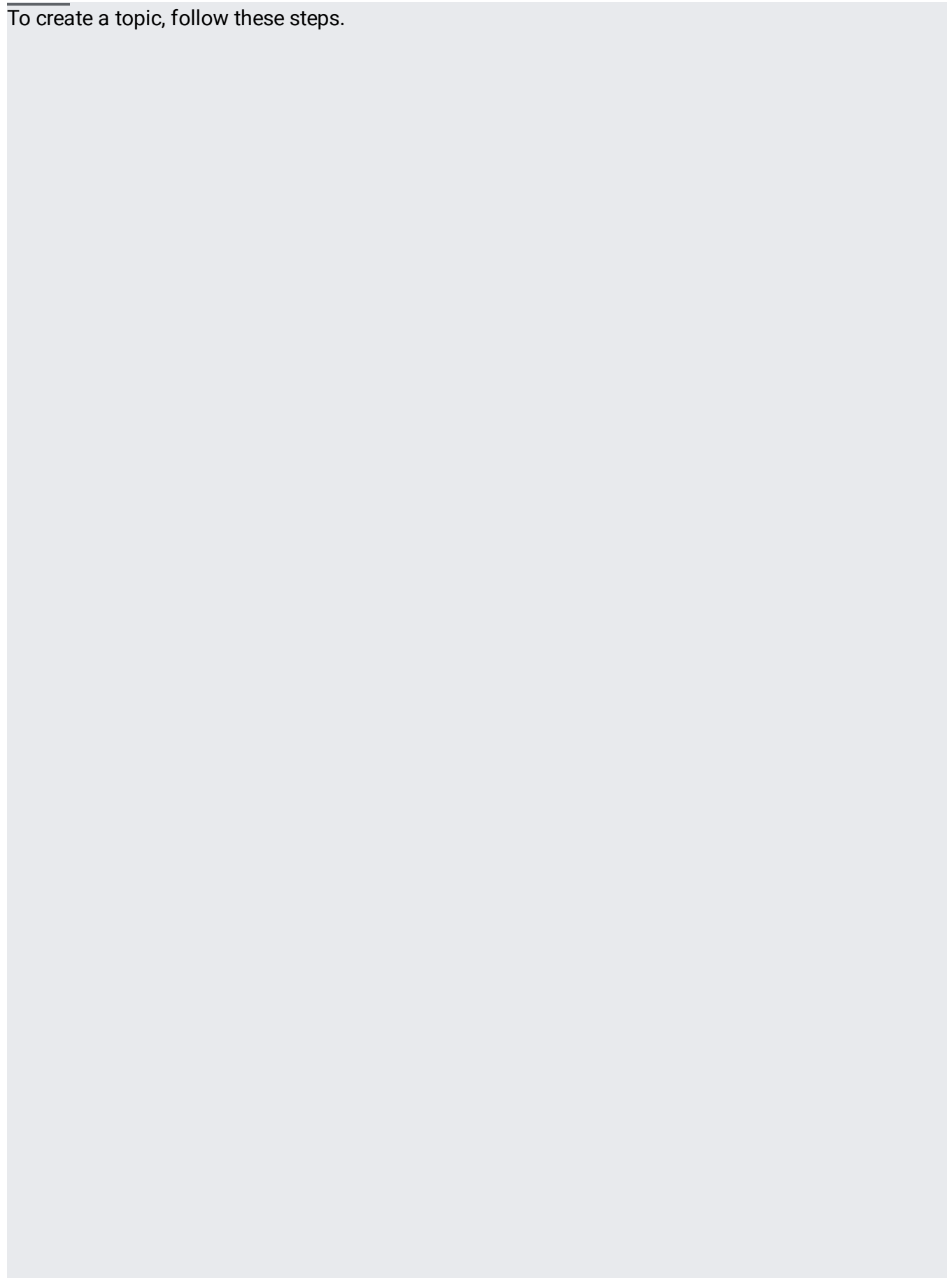
To receive events published to a topic, you need to create a Pub/Sub subscription
 (/pubsub/docs/subscriber#create).

A subscriber app (/pubsub/docs/subscriber) receives messages from your repository's topic.
Subscribers can respond to your repository events by sending notifications or triggering a build.

To create a subscription, follow these steps.

You can associate a Pub/Sub topic with a Google Cloud project or repository by using the `gcloud` command-line tool.

To associate a topic with an entire project, enter the following command:

Where:

- `[TOPIC_NAME]` is the name of the Pub/Sub topic.

- `[SERVICE_ACCOUNT_NAME]` is the name of your Cloud Build service account.

To associate a topic with a specific repository, enter the following command:

Where:

- `[REPOSITORY_NAME]` is the name of your Google Cloud repository.

- `[TOPIC_NAME]` is the name of the Pub/Sub topic.

- `[SERVICE_ACCOUNT_NAME]` is the name of your Cloud Build service account.

The service account must be in the same project as the repository, and it must have `pubsub.topics.publish` permission to publish a message on the specified topic. You must have `iam.serviceAccounts.actAs` permission on the service account. If the service account isn't specified, it defaults to the Compute Engine default service account.

For information on how to delete a Pub/Sub topic, see Managing topics and subscriptions sub/docs/admin#create_a_topic).

You can remove an association between a project or repository and a Pub/Sub topic by using the `gcloud` command-line tool.

To remove a topic from an entire project, enter the following command:

To remove a topic from a specific repository, enter the following command:

For information on how to delete a Pub/Sub topic, see Managing topics and subscriptions sub/docs/admin#delete_a_topic).

Notifications for Cloud Source Repositories can use either the JSON or Protocol Buffers format. To set the format for a topic, you can use the `--message-format` parameter when you add the topic:

You can also use the `set-format` command:

- Learn more about Pub/Sub notifications for Cloud Source Repositories (/source-repositories/docs/pubsub-notifications).

- Read the Pub/Sub documentation (/pubsub/docs/).

- For an in-depth explanation of Pub/Sub, see What is Pub/Sub? (/pubsub/docs/overview).

- Learn more about Pub/Sub access control roles (/pubsub/docs/access_control#tbl_roles).