This page describes how to create, list, edit, and delete Cloud Spanner <u>instances</u> (/spanner/docs/instances).

You can create an instance with the gcloud command-line tool (/spanner/docs/gcloud-spanner) or with the Google Cloud Console.

Unlike some other databases, you do not need to provision storage in Cloud Spanner, and you are billed only for the e that you use. <u>Learn more about storage pricing</u> (/spanner/pricing#storage).

The following sections explain how to change an instance's display name and number of nodes. You cannot change the instance ID or instance configuration.

You must provision enough nodes to accommodate your storage needs and keep CPU utilization below the <u>recommended maximums</u> (/spanner/docs/cpu-utilization#recommended-max). For more information about the resources provided by a node, see the <u>quotas and limits</u> (/spanner/quotas) for Cloud Spanner.

There are a few cases in which you cannot remove nodes from an existing instance:

- Removing the nodes would require your instance to store more than 2 TB of data per node.
- Based on your historic usage patterns, Cloud Spanner has created a large number of <u>splits</u> (/spanner/docs/schema-and-data-model#database-splits) for your instance's data, and Cloud Spanner would not be able to manage the splits after removing the nodes.

If you want to increase the number of nodes in an instance, your Google Cloud project must have sufficient quota to add the nodes.

ng: Deleting an instance permanently removes the instance and all its databases. You cannot undo this later.

- Learn how to insert, update, and delete data with <u>Data Manipulation Language (DML)</u> (/spanner/docs/dml-tasks) or the <u>gcloud tool</u> (/spanner/docs/modify-gcloud).
- Grant <u>IAM roles</u> (/spanner/docs/grant-permissions) for the instance and its databases.
- Understand how to design a Cloud Spanner schema (/spanner/docs/schema-design).