<u>Cloud Spanner</u> (https://cloud.google.com/spanner/)

Documentation (https://cloud.google.com/spanner/docs/) Reference

# Cloud Spanner Client Libraries

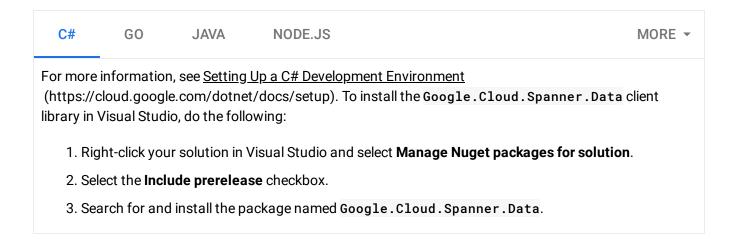
This page shows how to get started with the Cloud Client Libraries for the Cloud Spanner API. Read more about the client libraries for Cloud APIs, including the older Google APIs Client Libraries, in <u>Client Libraries Explained</u> (https://cloud.google.com/apis/docs/client-libraries-explained).

The Cloud Spanner client libraries mentioned on this page are supported on Compute Engine, App Engine flexible environment, Google Kubernetes Engine, and Cloud Functions. The Cloud Spanner client library for Java is supported on App Engine standard environment with Java 8.

If you are using the App Engine standard environment with Go, PHP, or Python, use the <u>REST interface</u> (https://cloud.google.com/spanner/docs/reference/rest/) to access Cloud Spanner.

**Note:** Additional client libraries (#more-libraries) are available for Java applications.

# Installing the client library



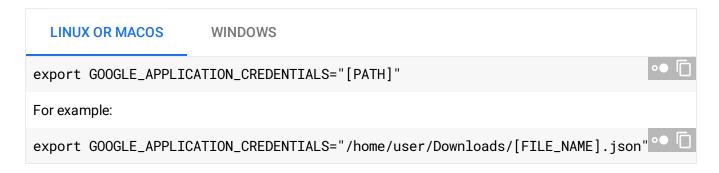
## Setting up authentication

To run the client library, you must first set up authentication by creating a service account and setting an environment variable. Complete the following steps to set up authentication. For

other ways to authenticate, see the <u>GCP authentication documentation</u> (https://cloud.google.com/docs/authentication/production).

# 1. In the Cloud Console, go to the Create service account key page. GO TO THE CREATE SERVICE ACCOUNT KEY PAGE (HTTPS://CONSOLE.CLOUD.GOOGLE.COM/APIS 2. From the Service account list, select New service account. 3. In the Service account name field, enter a name. 4. From the Role list, select Project > Owner. Note: The Role field authorizes your service account to access resources. You can view and change this field later by using the Cloud Console (https://console.cloud.google.com/). If you are developing a production app, specify more granular permissions than Project > Owner. For more information, see granting roles to service accounts (https://cloud.google.com/iam/docs/granting-roles-to-service-accounts).

Provide authentication credentials to your application code by setting the environment variable **GOOGLE\_APPLICATION\_CREDENTIALS**. Replace **[PATH]** with the file path of the JSON file that contains your service account key, and **[FILE\_NAME]** with the filename. This variable only applies to your current shell session, so if you open a new session, set the variable again.



## Using the client library

The following example shows how to use the client library.

C# GO JAVA NODE.JS MORE ▼ LOUDPLATFORM/DOTNET-DOCS-SAMPLES/BLOB/MASTER/SPANNER/API/QUICKSTART/PROGRAM.CS) FEEDBACK (#) using Google.Cloud.Spanner.Data; using System; using System.Threading.Tasks; namespace GoogleCloudSamples.Spanner { public class QuickStart { static async Task MainAsync() string projectId = "YOUR-PROJECT-ID"; string instanceId = "my-instance"; string databaseId = "my-database"; string connectionString = \$"Data Source=projects/{projectId}/instances/{instanceId}/" + \$"databases/{databaseId}"; // Create connection to Cloud Spanner. using (var connection = new SpannerConnection(connectionString)) { // Execute a simple SQL statement. var cmd = connection.CreateSelectCommand( @"SELECT ""Hello World"" as test"); using (var reader = await cmd.ExecuteReaderAsync()) { while (await reader.ReadAsync()) {

```
Console.WriteLine(
                     reader.GetFieldValue<string>("test"));
            }
        }
    }
}
public static void Main(string[] args)
{
    MainAsync().Wait();
}
```

```
}
```

### Additional resources

C# GO JAVA NODE.JS MORE ▼
 API Reference Documentation (https://googleapis.github.io/google-cloud-dotnet/docs/Google.Cloud.Spanner.Data)
 Source Code (https://github.com/GoogleCloudPlatform/google-cloud-dotnet)

Stack Overflow

• GitHub Issue Tracker (https://github.com/GoogleCloudPlatform/google-cloud-dotnet/issues)

# (https://stackoverflow.com/search?q=%5Bgoogle-cloud-spanner%5D+%5Bc%23%5D)

### Additional client libraries

In addition to the libraries shown above, a <u>Spring Data</u> (https://spring.io/projects/spring-data) module is available for Java applications. Spring Data Cloud Spanner helps you use Cloud Spanner in any application that's built with the <u>Spring Framework</u> (https://spring.io/projects/spring-framework).

To get started, learn how to <u>add Spring Data Cloud Spanner to your application</u> (https://cloud.google.com/spanner/docs/adding-spring).

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