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You can enable Stackdriver Trace for Ruby applications by using the Stackdriver Trace library for Ruby.

1. Install [Ruby 2.2+](https://www.ruby-lang.org/en/downloads/) (https://www.ruby-lang.org/en/downloads/) or greater.
2. Add the Stackdriver gem to your Gemfile:

[View on GitHub](https://github.com/GoogleCloudPlatform/ruby-docs-samples/blob/master/stackdriver/Gemfile) (https://github.com/GoogleCloudPlatform/ruby-docs-samples/blob/master/stackdriver/Gemfile)

3. Use [bundler](http://bundler.io/) (http://bundler.io/) to install the gem:

For more information or to report issues with the library, see the library's [source code repository](https://github.com/googleapis/google-cloud-ruby/tree/master/google-cloud-trace).
(<https://github.com/googleapis/google-cloud-ruby/tree/master/google-cloud-trace>).

You can customize the behavior of the Stackdriver Trace library for Ruby. See [the library's configuration](#)

(https://github.com/googleapis/google-cloud-ruby/blob/master/stackdriver/INSTRUMENTATION_CONFIGURATION.md)
for a list of possible configuration options.

The Stackdriver Trace library for Ruby automatically creates a trace record for each request your Rack application receives. You can also add custom trace spans within each request:

GitHub (https://github.com/GoogleCloudPlatform/ruby-docs-samples/blob/master/stackdriver/sinatra_trace.rb)

You can use Trace on Google Cloud and when your application runs outside of Google Cloud.

When your application is running on Google Cloud, your application is automatically authenticated and you don't need to provide authentication credentials. However, you do need to ensure that your Google Cloud platform has the [Stackdriver Trace API access scope](https://developers.google.com/identity/protocols/googlescopes#cloudtracev2) (<https://developers.google.com/identity/protocols/googlescopes#cloudtracev2>) enabled.

For the following configurations, the default settings for the access scopes have the Stackdriver Trace API enabled:

- App Engine flexible environment
- App Engine standard environment
- Google Kubernetes Engine
- Compute Engine

If you use custom access scopes, then you must ensure that [Stackdriver Trace API access scope](https://developers.google.com/identity/protocols/googlescopes#cloudtracev2) (<https://developers.google.com/identity/protocols/googlescopes#cloudtracev2>) enabled. For `gcloud` users, specify access scopes using the `--scopes` flag and include the `trace.append` Stackdriver Trace API access scope. For example, to create a GKE cluster with only the Stackdriver Trace API enabled, do the following:

When your application is running outside of Google Cloud, you must provide authentication credentials in the form of a service account to the client library. The service account must contain the [Cloud Trace agent role](/trace/docs/iam#roles) (</trace/docs/iam#roles>). For instructions, see [Creating a service account](/iam/docs/creating-managing-service-accounts) (</iam/docs/creating-managing-service-accounts>).

The Google Cloud client libraries for Ruby use Application default credentials (ADC) (</docs/authentication/production>) to find your application's credentials. The following section describes how to set these credentials and the Google Cloud project ID.

This section describes three different approaches you can use to set the Google Cloud project ID, the authentication credentials, or both of these in your Ruby application.

When you don't explicitly set the Google Cloud project ID, the `google-cloud` Ruby library automatically determines if the environment variable `GOOGLE_CLOUD_PROJECT` is set, and if so, the library uses the value of `GOOGLE_CLOUD_PROJECT` as your Google Cloud project ID. For more information, go to Authentication

(<https://github.com/googleapis/google-cloud-ruby/tree/master/google-cloud-trace#authentication>).

As described earlier, the Google Cloud client libraries use Application default credentials (ADC) (</docs/authentication/production>) to find your application's credentials. You can provide these credentials by setting the `GOOGLE_APPLICATION_CREDENTIALS` environment variable:

If you're using Ruby on Rails, one alternative for Ruby is to provide the parameters through the configuration interface:

[.rb](https://github.com/GoogleCloudPlatform/ruby-docs-samples/blob/master/stackdriver/rails_configuration.rb) (https://github.com/GoogleCloudPlatform/ruby-docs-samples/blob/master/stackdriver/rails_configuration.rb)

You can also set shared configuration for all Stackdriver gem using:

[.rb](https://github.com/GoogleCloudPlatform/ruby-docs-samples/blob/master/stackdriver/rails_configuration.rb) (https://github.com/GoogleCloudPlatform/ruby-docs-samples/blob/master/stackdriver/rails_configuration.rb)

Trace is enabled by default when Rails is running in production mode. To enable Trace in development mode, add the following:

[rm/ruby-docs-samples/blob/c41037378f2e89fe029c6e008a9b49eedb5ce240/stackdriver/rails_configuration.rb](https://github.com/GoogleCloudPlatform/ruby-docs-samples/blob/c41037378f2e89fe029c6e008a9b49eedb5ce240/stackdriver/rails_configuration.rb))

Another alternative for Ruby is to provide the parameters through the configuration interface when used in other Rack-based applications:

[View on GitHub](https://github.com/GoogleCloudPlatform/ruby-docs-samples/blob/master/stackdriver/trace.ru) (https://github.com/GoogleCloudPlatform/ruby-docs-samples/blob/master/stackdriver/trace.ru)

You can also set shared configuration for all Stackdriver gems using:

[GitHub](https://github.com/GoogleCloudPlatform/ruby-docs-samples/blob/master/stackdriver/shared_config.ru) (https://github.com/GoogleCloudPlatform/ruby-docs-samples/blob/master/stackdriver/shared_config.ru)

After deployment, you can view the traces in the Cloud Console Trace Viewer.

[Go to the Trace Viewer page \(https://console.cloud.google.com/traces/overview\)](https://console.cloud.google.com/traces/overview)

- [Source code](https://github.com/googleapis/google-cloud-ruby/tree/master/google-cloud-trace) (https://github.com/googleapis/google-cloud-ruby/tree/master/google-cloud-trace)
- [GitHub issue tracker](https://github.com/googleapis/google-cloud-ruby/issues) (https://github.com/googleapis/google-cloud-ruby/issues)
- [Stack Overflow](https://stackoverflow.com/questions/tagged/google-cloud-trace) (https://stackoverflow.com/questions/tagged/google-cloud-trace)