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You can enable Stackdriver Trace for ASP.NET Framework applications by using the `Google.Cloud.Diagnostics.AspNet` client library for C#.

To use the `Google.Cloud.Diagnostics.AspNet`

(<http://googleapis.github.io/google-cloud-dotnet/docs/Google.Cloud.Diagnostics.AspNet/index.html>) client library in Visual Studio, do the following:

1. In Visual Studio, right-click your solution and select **Manage Nuget packages for solution**.
2. Select the **Include prerelease** checkbox.
3. Search for and install the package named `Google.Cloud.Diagnostics.AspNet`.

After the `Google.Cloud.Diagnostics.AspNet` is installed, complete the following steps to enable and configure Trace:

1. If you aren't running on Google Cloud infrastructure or if you want to specify your Google Cloud project ID in your application, add the following XML element to the `<appSettings>` section your application's `Web.config` file. Replace `YOUR-GOOGLE-PROJECT-ID` with your your Google Cloud project ID:

[View on GitHub](https://github.com/GoogleCloudPlatform/dotnet-docs-samples/blob/vs2015/trace/api/Web.config) (<https://github.com/GoogleCloudPlatform/dotnet-docs-samples/blob/vs2015/trace/api/Web.config>)

If you are running on Google Cloud infrastructure, this step is optional because the client library for C# automatically gathers your Google Cloud project ID from a Google Cloud metadata server.

2. Add the following `using` directives to your application's `Global.asax.cs` file:

[GitHub](https://github.com/GoogleCloudPlatform/dotnet-docs-samples/blob/vs2015/trace/api/Global.asax.cs) (https://github.com/GoogleCloudPlatform/dotnet-docs-samples/blob/vs2015/trace/api/Global.asax.cs)

If you don't have the `Global.asax` file in your ASP.NET application, then create one and add to it the `using` directives. For more information about `Global.asax` files, go to [Global.asax Syntax](https://docs.microsoft.com/en-us/previous-versions/dotnet/netframework-4.0/2027ewzw(v=vs.100)) (https://docs.microsoft.com/en-us/previous-versions/dotnet/netframework-4.0/2027ewzw(v=vs.100)).

3. To initialize Trace, add the following to the `Init` function in your `Global.asax.cs` file's `WebApiApplication` class:

[GitHub](https://github.com/GoogleCloudPlatform/dotnet-docs-samples/blob/vs2015/trace/api/Global.asax.cs) (https://github.com/GoogleCloudPlatform/dotnet-docs-samples/blob/vs2015/trace/api/Global.asax.cs)

Trace is now configured to sample the HTTP requests received by your application. To initiate traces from your application, see [sample application for ASP.NET Framework \(#aspnet\)](#).

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:

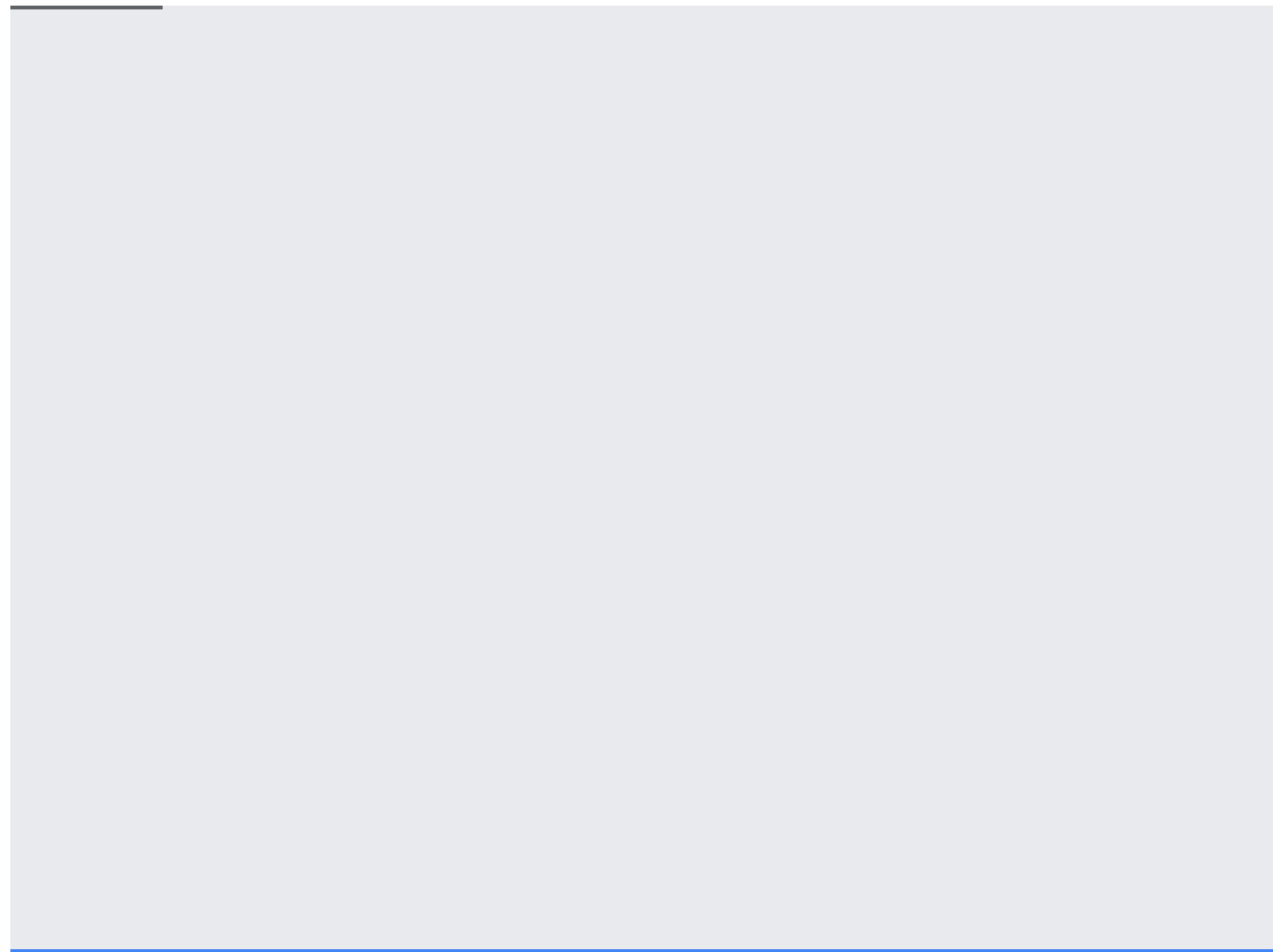
- App Engine flexible environment
- Google Kubernetes Engine
- Compute Engine

Trace isn't supported for C# on App Engine standard environment.

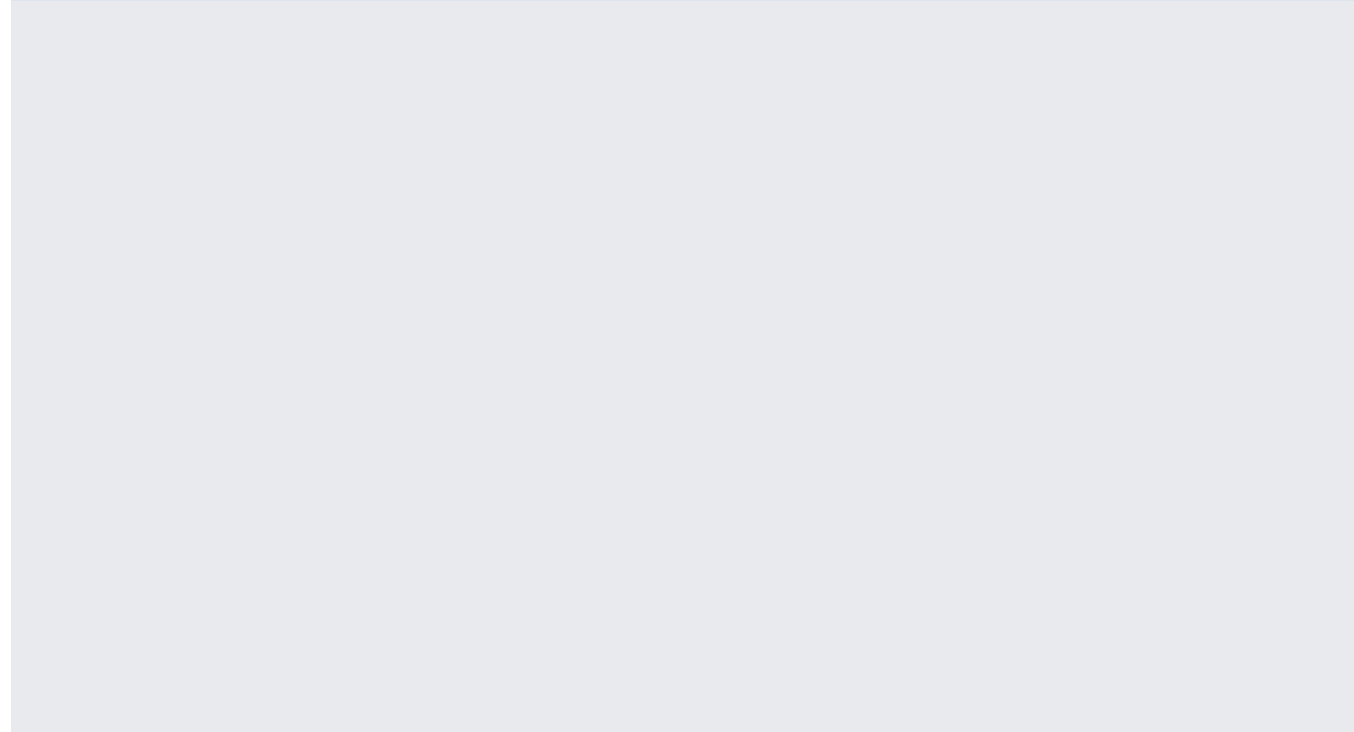
If you use custom access scopes, then you must ensure that [Stackdriver Trace API access scope](https://developers.google.com/identity/protocols/googlescopes#cloudtracev2) (<https://developers.google.com/identity/protocols/googlescopes#cloudtracev2>) enabled. For `gcloud` users, specify access scopes 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>).

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



`://github.com/GoogleCloudPlatform/dotnet-docs-samples/blob/vs2015/trace/api/Controllers/TraceController.cs)`



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)

- [GitHub: Google.Cloud.Diagnostics.AspNet](http://googleapis.github.io/google-cloud-dotnet/docs/Google.Cloud.Diagnostics.AspNet/index.html)
(http://googleapis.github.io/google-cloud-dotnet/docs/Google.Cloud.Diagnostics.AspNet/index.html)
- [NuGet: Google.Cloud.Diagnostics.AspNet package](https://www.nuget.org/packages/Google.Cloud.Diagnostics.AspNet/)
(https://www.nuget.org/packages/Google.Cloud.Diagnostics.AspNet/)
- [Source code](https://github.com/googleapis/google-cloud-dotnet) (https://github.com/googleapis/google-cloud-dotnet)
- [GitHub issue tracker](https://github.com/googleapis/google-cloud-dotnet/issues) (https://github.com/googleapis/google-cloud-dotnet/issues)
- [Stack Overflow](https://stackoverflow.com/questions/tagged/google-cloud-trace) (https://stackoverflow.com/questions/tagged/google-cloud-trace)