

Developer Onboard GCP 101

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Google Cloud

Agenda

- GCP认证与授权
- GCP API与SDK
- Cloud Code开发工具





GCP认证与授权

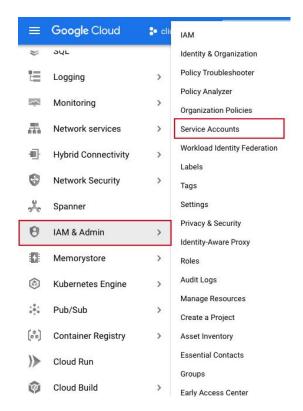
gcloud account 类型

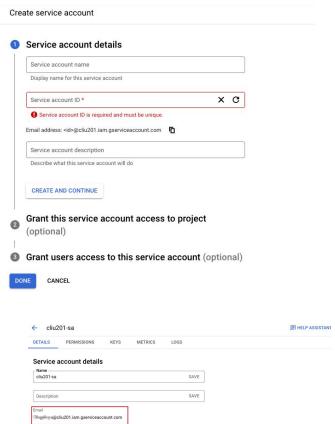
 user account: 一般是最终用户关联的一个邮箱(gmail或者注册过google的个人邮箱), 一般通过 console界面和gcloud命令俩访问gcp

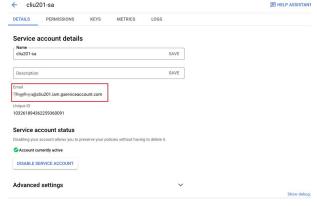
service account: 按照项目生成, 以邮箱地址作为标识, 可以跨项目授权, 不和最终用户关联, 可以生成一个sa key给应用程序, 创建gae/gce/cloud function的时候会有一个默认的service account



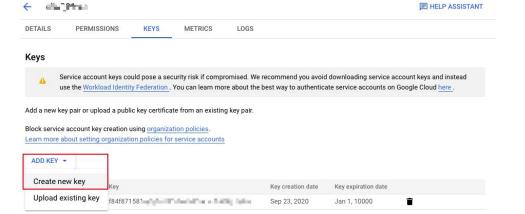
创建SA, 获取SA邮箱地址







创建并下载SA Key



Downloads a file that contains the private key. Store the file securely because this key can't be recovered if lost.

Key type



Recommended



For backward compatibility with code using the P12 format

CANCEL

CREATE



如何使用SA Key(Google ADC)

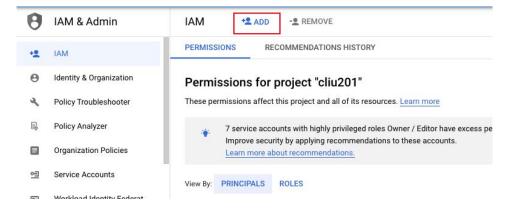
Google推荐使用App Default Credentials的方式做Server to Server的认证 默认环境变量----> GCE等的默认SA---->代码静态绑定

- 1. First, ADC checks to see if the environment variable GOOGLE_APPLICATION_CREDENTIALS is set. If the variable is set, ADC uses the service account file that the variable points to. The next section describes how to set the environment variable.
- 2. If the environment variable isn't set, ADC uses the default service account that Compute Engine, Google Kubernetes Engine, Cloud Run, App Engine, and Cloud Functions provide, for applications that run on those services.
- 3. If ADC can't use either of the above credentials, an error occurs.

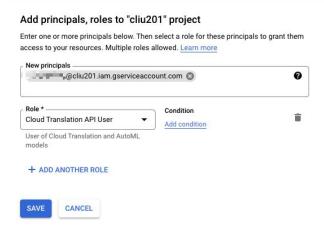
https://cloud.google.com/docs/authentication/production#providing_credentials_to_your_application

> echo \$G00GLE_APPLICATION_CREDENTIALS
/home/cliu/cliu201-sa.json

通过IAM给SA授权



Add principals to "cliu201"





如何确定正确的Role

参考文档: https://cloud.google.com/iam/docs/understanding-roles, 根据Permission和Role的对应关系给SA正确授权

Cloud Translation roles

Role	Permissions
Cloud Translation API Admin	automl.models.get
(roles/cloudtranslate.admin)	automl.models.predict
	cloudtranslate.*
Full access to all Cloud Translation resources	resourcemanager.projects.get
	resourcemanager.projects.list
Cloud Translation API Editor	automl.models.get
(roles/cloudtranslate.editor)	automl.models.predict
	cloudtranslate.*
Editor of all Cloud Translation resources	resourcemanager.projects.get
	resourcemanager.projects.list
Cloud Translation API User	automl.models.get
(roles/cloudtranslate.user)	automl.models.predict
	cloudtranslate.generalModels.*
User of Cloud Translation and AutoML models	cloudtranslate.glossaries.batchDocPredict
	cloudtranslate.glossaries.batchPredict
	cloudtranslate.glossaries.docPredict
	cloudtranslate.glossaries.get
	cloudtranslate.glossaries.list
	cloudtranslate.glossaries.predict
	cloudtranslate.languageDetectionModels.*
	cloudtranslate.locations.*
	cloudtranslate.operations.get
	cloudtranslate.operations.list
	cloudtranslate.operations.wait
	resourcemanager.projects.get
	resourcemanager.projects.list
Cloud Translation API Viewer	automl.models.get
(roles/cloudtranslate.viewer)	cloudtranslate.generalModels.get
	cloudtranslate.glossaries.get
Viewer of all Translation resources	cloudtranslate.glossaries.list
	cloudtranslate.locations.*
	cloudtranslate.operations.get
	cloudtranslate.operations.list
	cloudtranslate.operations.wait
	resourcemanager.projects.get
	resourcemanager.projects.list





GCP API & SDK

GCP API and SDK

- 两种API(无法使用SA做认证,需要通过OAuth方式获取Token)
 - Rest/HTTP API: https://developers.google.com/apis-explorer/
 - gRPC API: https://googleapis.github.io/HowToRPC.html
- 两种SDK:
 - Cloud Client Library (基于grpc的更高层封装):
 https://cloud.google.com/apis/docs/cloud-client-libraries
 - Google API Client Libraries (基于REST的封装)
 - : https://developers.google.com/api-client-library/

Rest API 测试: 浏览和在线测试

The Google APIs Explorer is a tool available on most REST API reference documentation pages that lets you try Google API methods without writing code. The APIs Explorer acts on real data, so use caution when trying methods that create, modify, or delete data. For more details, read the APIs Explorer documentation.

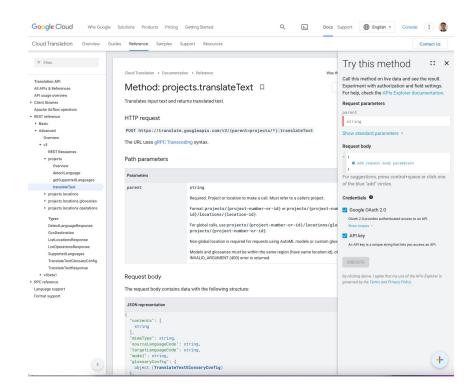
Q Googlers - To explore a non-public or unlisted API, you can use the Internal APIs Explorer.

How to start exploring

- 1. Click the name of the API you want to explore in the list below. This opens the API reference documentation.
- 2. In the documentation, on the left, click the method you want to try.
- 3. On the right, enter the details of your request in the panel labeled "Try this method." Or, click Full screen 🔀 for more options.
- 4. Click Execute to send your request to the API and see the API's response.

Google APIs Explorer Directory

Type to filter APIs	
Title	Description
Abusive Experience Report API	Views Abusive Experience Report data, and gets a list of sites that have a significant number of abusive experiences.
Accelerated Mobile Pages (AMP) URL API	Retrieves the list of AMP URLs (and equivalent AMP Cache URLs) for a given list of public URL(s).
Access Context Manager API	An API for setting attribute based access control to requests to GCP services.
Ad Exchange Buyer API II	Accesses the latest features for managing Authorized Buyers accounts, Real-Time Bidding configurations and auction metrics, and Marketplace programmatic deals.
Ad Experience Report API	Views Ad Experience Report data, and gets a list of sites that have a significant number of annoying ads.
Admin SDK API 1	Admin SDK lets administrators of enterprise domains to view and manage resources like user, groups etc. It also provides audit and usage reports of domain.
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AdMob API	The AdMob API allows publishers to programmatically get information about their AdMob account.
AdSense Host API	The AdSense Host API gives AdSense Hosts access to report generation, ad code generation, and publisher management capabilities.



Cloud Client Library

```
from google.cloud import translate
def translate_text(text="YOUR_TEXT_TO_TRANSLATE", project_id="YOUR_PROJECT_ID"):
    """Translating Text."""
    client = translate.TranslationServiceClient()
    location = "global"
    parent = f"projects/{project_id}/locations/{location}"
    response = client.translate text(
        request={
            "parent": parent,
           "contents": [text],
           "mime_type": "text/plain", # mime types: text/plain, text/html
           "source_language_code": "en-US",
           "target_language_code": "fr",
    # Display the translation for each input text provided
    for translation in response.translations:
        print("Translated text: {}".format(translation.translated_text))
```

- 使用对应的服务lib做client初始化
- 使用ADC做服务认证

Google Client Library

```
from __future__ import print_function
from googleapiclient.discovery import build
def main():
    service = build(
        "translate", "v2"
    print(
        service.translations()
        .list(source="en", target="fr", q=["hello", "world"])
        .execute()
if __name__ == "__main__":
    main()
```

- 使用Build指定服务名称和版本、做服务初始化
- 对Rest API的简单封装
- 使用ADC做服务认证



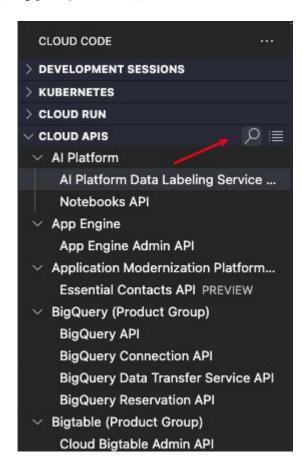
Cloud Code开发工具

Cloud Code IDE插件:

- ✓ 支持您喜爱的 IDE: <u>VSCode</u>、<u>IntelliJ</u>、<u>PyCharm</u>、<u>GoLand</u>、 <u>WebStorm</u>、<u>Cloud Shell Editor</u>
- ✓ 利用 Skaffold 集成,加快 GKE 和 Cloud Run 开发速度
- ✓ 轻松将 Cloud API 集成到您的应用中
- ✓ 简化 Google Cloud 服务和技术的配置文件创建流程
- ✓ 在 IDE 中进行开发时轻松使用更多 Google Cloud 服务

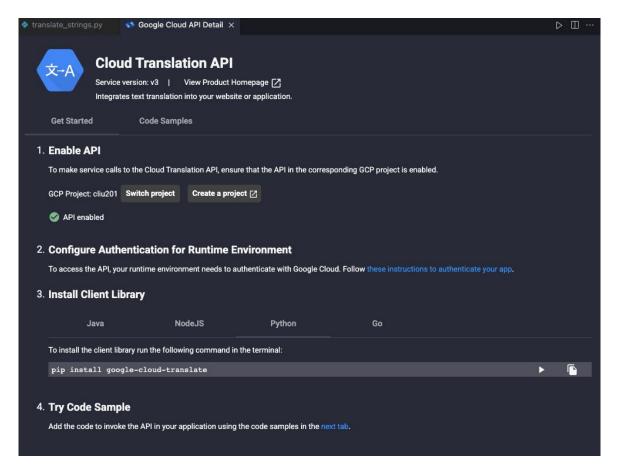
https://cloud.google.com/code

浏览并查找Cloud API:



Cloud Translation API Integrates text translation into your website or application.

指导如何Enable API,认证授权并安装相应语言的Package



在线查看Code Example

