



Google Cloud

Getting started with Python

<https://cloud.google.com/python/docs/getting-started>

Getting started with Python

On this page

[Objectives](#)

[Costs](#)

[Before you begin](#)

[Running your app](#)

[Deploying your app to App Engine](#)

[Persisting your data with Firestore](#)

[Storing file uploads in Cloud Storage](#)

[Monitoring your app using Google Cloud's operations suite](#)

[Monitor logs with Cloud Logging](#)

[Monitor errors with Error Reporting](#)

[Clean up](#)

[What's next](#)



- The basics
- Compare platforms
- Enterprise guide
- Authentication
- Keyboard shortcuts
- Cloud Architecture Center

Getting started

Setting up a Python development environment

Getting started with Python

Python 2 support on Google Cloud

- Quickstarts by use case
- Official tutorials and solutions

web developers, who want to learn key app development concepts as they apply to Google Cloud.

Objectives

WTF is Firestore?



- Learn basic Google Cloud tools, such as the [Google Cloud Console](#) and `gcloud`.
- Deploy your app to the [App Engine standard environment](#).
- Persist your data with [Firestore](#).
- Store file uploads in [Cloud Storage](#).
- Monitor your app using [Google Cloud's operations suite](#).

Firestore

Easily develop rich applications using a fully managed, scalable, and serverless document database.

[Go to console](#)

- ✓ Serverless document database that effortlessly scales to meet any demand, with no maintenance
- ✓ Accelerate development of mobile, web, and IoT apps with direct connectivity to the database
- ✓ Built-in live synchronization and offline mode makes it easy to develop real-time applications
- ✓ Fully customizable security and data validation rules to ensure the data is always protected
- ✓ Seamless integration with Firebase and Google Cloud services like Cloud Functions and BigQuery

Get started

- 1
- Select a Cloud Firestore mode
-
- 2
- Choose where to store your data

Cloud Firestore is the next generation of Cloud Datastore. You can use Cloud Firestore in either Native mode or Datastore mode, each with distinct system behavior optimized for different types of projects. [Pricing](#) for both modes is based on location, stored data, operations, and network egress with a daily free quota for each. [Learn more about choosing a mode](#)

The mode you select here will be permanent for this project

	Native mode	Datastore mode
	Enable all of Cloud Firestore's features, with offline support and real-time synchronization.	Leverage Cloud Datastore's system behavior on top of Cloud Firestore's powerful storage layer.
	<div>SELECT NATIVE MODE</div>	<div>SELECT DATASTORE MODE</div>
API	Firestore	Datastore
Scalability	Automatically scales to millions of concurrent clients	Automatically scales to millions of writes per second
App engine support	Not supported in the App Engine standard Python 2.7 and PHP 5.5 runtimes	All runtimes
Max writes per second	10,000	No limit
Real-time updates	✓	✗
Mobile/web client libraries with offline data persistence	✓	✗



Enable access to APIs



Confirm project



Enable APIs

You are about to enable:

App Engine Admin API
Google Cloud Storage JSON API
Cloud Logging API
Error Reporting API

[ENABLE](#)

When you are done, go to <https://console.cloud.google.com> [↗](#).

GitHub repo:

~/cloudshell_open/getting-started-python-0/bookshelf

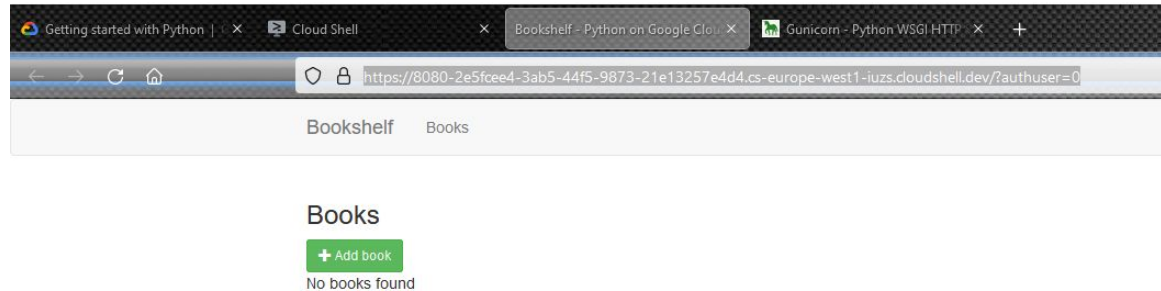
```
pip install google-cloud-firestore
```

```
gunicorn -b :8080 main:app
```

```
pip install grpcio
```

```
pip uninstall google_cloud_error_reporting
```

<https://8080-2e5fcee4-3ab5-44f5-9873-21e13257e4d4.cs-europe-west1-iuzs.cloudshell.dev/?authuser=0>



```
Installing collected packages: google-cloud-error-reporting
Successfully installed google-cloud-error-reporting-0.34.0
ken_worthington_360@cloudshell:~/cloudshell_open/getting-started-python-1/bookshelf (firey-332517)$ gunicorn -b :8080 main:app
[2021-11-18 18:01:56 +0000] [2820] [INFO] Starting gunicorn 19.10.0
[2021-11-18 18:01:56 +0000] [2820] [INFO] Listening at: http://0.0.0.0:8080 (2820)
[2021-11-18 18:01:56 +0000] [2820] [INFO] Using worker: sync
[2021-11-18 18:01:56 +0000] [2824] [INFO] Booting worker with pid: 2824
[2021-11-18 18:03:30 +0000] [2820] [INFO] Handling signal: winch
^C[2021-11-18 18:03:53 +0000] [2820] [INFO] Handling signal: int
[2021-11-18 18:03:53 +0000] [2824] [INFO] Worker exiting (pid: 2824)
Waiting up to 5 seconds.
Sent all pending logs.
[2021-11-18 18:03:53 +0000] [2820] [INFO] Shutting down: Master
ken_worthington_360@cloudshell:~/cloudshell_open/getting-started-python-1/bookshelf (firey-332517)$ gcloud app deploy
Services to deploy:

descriptor:                [/home/ken_worthington_360/cloudshell_open/getting-started-python-1/bookshelf/app.yaml]
source:                    [/home/ken_worthington_360/cloudshell_open/getting-started-python-1/bookshelf]
target project:            [firey-332517]
target service:            [default]
target version:            [20211118t180400]
target url:                [https://firey-332517.nw.r.appspot.com]
target service account:    [App Engine default service account]
```

Do you want to continue (Y/n)? ☐


```
target service:      [default]
target version:      [20211118t180400]
target url:          [https://firey-332517.nw.r.appspot.com]
target service account: [App Engine default service account]
```

Do you want to continue (Y/n)? y

Beginning deployment of service [default]...
Created .gcloudignore file. See `gcloud topic gcloudignore` for details.
Uploading 15 files to Google Cloud Storage

7%
13%
20%
27%
33%
40%
47%
53%
60%
67%
73%
80%
87%
93%



```
93%
100%
100%
File upload done.
Updating service [default]...done.
Setting traffic split for service [default]...done.
Deployed service [default] to [https://firey-332517.nw.r.appspot.com]
```

You can stream logs from the command line by running:

```
$ gcloud app logs tail -s default
```

To view your application in the web browser run:

```
$ gcloud app browse
```

```
ken_worthington_360@cloudshell:~/cloudshell_open/getting-started-python-1/bookshelf (firey-332517)$
```



Bookshelf

Books

Add book

Title

Amazing Tutorials

Author

Dr Pi

Date Published

1.1.2030

Description

Subscribe to my channel asafo

Cover Image

Browse... python.png

Save

https://firey-332517.nw.r.appspot.com/books/WZDMOefzJxaY6FRhDNAz



Bookshelf

Books

Book

Edit book

Delete book

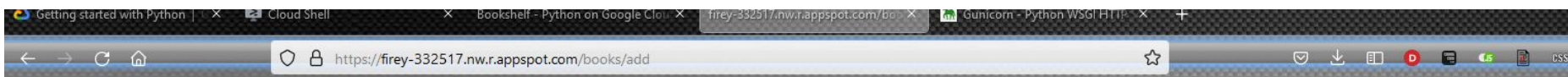


Amazing Tutorials 1.1.2030

By Dr Pi

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success!



An internal error occurred:

500 Internal Server Error: The server encountered an internal error and was unable to complete your request. Either the server is overloaded or there is an error in the application.

See logs for full stacktrace.

This happens if you try upload an image

Storing file uploads in Cloud Storage

Now that you've added a book, it's time to add the book cover image. You cannot store files on your instances. A database isn't the right choice for image files. Instead, you use Cloud Storage.

Browser

 DELETE REFRESH

 **HELP ASSISTANT**

SHOW

 Filter Filter buckets

☐ Name

☐ staging.firey-332517.appspot.com

Created

Location type

Location

Default storage class 

Last modified

Public access ?

Acc

Nov 18, 2021, 6:06:16 PM

Multi-region

eu (multiple re...

Standard

Nov 18, 2021, 6:06:16 PM

Subject to object ACLs

Find

Nov 18, 2021, 5:48:31 PM

Region

europa-west2 ...

Standard

Nov 18, 2021, 5:48:31 PM

Subject to object ACLs

Find

Nov 18, 2021, 5:48:31 PM

Region

europa-west2 ...

Standard

Nov 18, 2021, 5:48:31 PM

Subject to object ACLs

Find



- **Name your bucket**

Pick a **globally unique**, permanent name. [Naming guidelines](#)

Tip: Don't include any sensitive information

✓ LABELS (OPTIONAL)

CONTINUE

- **Choose where to store your data**

Location: us (multiple regions in United States)

- Browser
- Monitoring
- Settings

Name your bucket

Pick a **globally unique, permanent name**. [Naming guidelines](#)

Tip: Don't include any sensitive information

LABELS (OPTIONAL)

CONTINUE

Choose where to store your data

Location: us (multiple regions in United States)

Location type: Multi-region

Choose a default storage class for your data

Default storage class: Standard

Choose how to control access to objects

Public access prevention: Off

Access control: Uniform

Choose how to protect object data

Protection tools: None

Data encryption: Google-managed key

CREATE

CANCEL

Google Cloud Platform

firey

Search products and resources

Cloud Storage

Browser

Monitoring

Settings

Bucket details

firey-332517_bucket

Location

Storage class

Public access

Protection

us (multiple regions in United States)

Standard

Not public

None

OBJECTS

CONFIGURATION

PERMISSIONS

PROTECTION

LIFECYCLE

Buckets > firey-332517_bucket

UPLOAD FILES

UPLOAD FOLDER

CREATE FOLDER

MANAGE HOLDS

DOWNLOAD

DELETE

Filter by name prefix only

Filter Filter objects and folders

Show deleted data

<input type="checkbox"/>	Name	Size	Type	Created	Storage class	Last modified	Public access	Version history	Encryption	Retention expiration date
No rows to display										

<https://cloud.google.com/storage/docs/access-control/making-data-public>

Making all objects in a bucket publicly readable

To make all objects in a bucket readable to everyone on the public internet:

Console

gsutil

Code samples

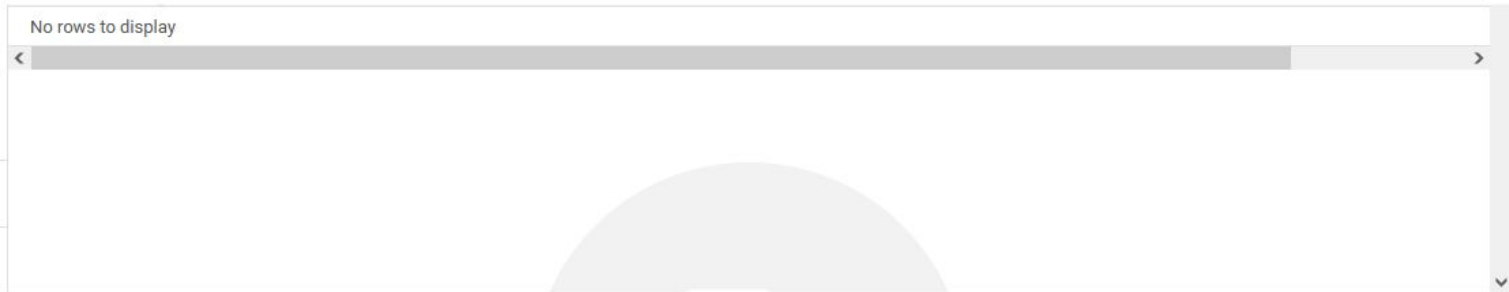
REST APIs

Use the `gsutil iam ch` command:

```
gsutil iam ch allUsers:objectViewer gs://BUCKET_NAME
```



Where *BUCKET_NAME* is the name of the bucket whose objects you want to make public. For example, `my-bucket`.



Release Notes



CLOUD SHELL

Terminal

(firey-332517)

(firey-332517) x + ▾

 Open Editor



Welcome to Cloud Shell! Type "help" to get started.

Your Cloud Platform project in this session is set to **firey-332517**.

Use "gcloud config set project [PROJECT_ID]" to change to a different project.

ken_worthington_360@cloudshell:~ (**firey-332517**)\$ gsutil iam ch allUsers:objectViewer gs://firey-332517_bucket

☰

Google Cloud Platform

firey

🔍 Search products and resources

⌵

📦

📄

?

3

⋮

Python 360

☰ Cloud Storage

📁 Browser

📈 Monitoring

⚙️ Settings

📖 Release Notes

⏪

🔍 Bucket details

🔄 REFRESH

💬 HELP ASSISTANT

🔴

Public to internet: This bucket is publicly accessible because allUsers or allAuthenticatedUsers have one or more permissions. Remove these principals to stop public access.

EDIT PERMISSIONS

DISMISS

Location	Storage class	Public access	Protection
us (multiple regions in United States)	Standard	🔴 Public to internet	None

OBJECTS CONFIGURATION PERMISSIONS PROTECTION LIFECYCLE

Buckets > firey-332517_bucket 📄

UPLOAD FILES UPLOAD FOLDER CREATE FOLDER MANAGE HOLDS DOWNLOAD DELETE

Filter by name prefix only 🔍 Filter Filter objects and folders

🔴 Show deleted data

CLOUD SHELL

Terminal (firey-332517)

(firey-332517) × +

🔗 Open Editor

📄 ⚙️ 📁 ⌵ ↕ 🗑️

Welcome to Cloud Shell! Type "help" to get started.

Your Cloud Platform project in this session is set to **firey-332517**.

Use "gcloud config set project [PROJECT_ID]" to change to a different project.

ken_worthington_360@cloudshell:~ (firey-332517)\$ gsutil iam ch allUsers:objectViewer gs://firey-332517_bucket

ken_worthington_360@cloudshell:~ (firey-332517)\$



Bookshelf

Books

Book

 Edit book

 Delete book



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Bucket details

firey-332517_bucket

Location: us (multiple regions in United States) Storage class: Standard Public access: Public to internet Protection: None

OBJECTS CONFIGURATION PERMISSIONS PROTECTION LIFECYCLE

Buckets > firey-332517_bucket

UPLOAD FILES UPLOAD FOLDER CREATE FOLDER MANAGE HOLDS DOWNLOAD DELETE

Filter by name prefix only Filter Filter objects and folders Show deleted data

Name	Size	Type	Created	Storage class	Last modified	Public access	
punk2-2021-11-18-182602.jpg	58.6 KB	image/jpeg	Nov 18, 20...	Standard	Nov 18, 20...	Public to internet	Copy URL
python-2021-11-18-182507.png	96 KB	image/png	Nov 18, 20...	Standard	Nov 18, 20...	Public to internet	Copy URL
rubiks-2021-11-18-182722.jpg	786.4 KB	image/jpeg	Nov 18, 20...	Standard	Nov 18, 20...	Public to internet	Copy URL
rubiks-2021-11-18-182909.jpg	786.4 KB	image/jpeg	Nov 18, 20...	Standard	Nov 18, 20...	Public to internet	Copy URL

CLOUD SHELL

Terminal (firey-332517) (firey-332517) Open Editor

```
Welcome to Cloud Shell! Type "help" to get started.
Your Cloud Platform project in this session is set to firey-332517.
Use "gcloud config set project [PROJECT_ID]" to change to a different project.
ken_worthington_360@cloudshell:~ (firey-332517) $ gsutil iam ch allUsers:objectViewer gs://firey-332517_bucket
ken_worthington_360@cloudshell:~ (firey-332517) $ gcloud app logs tail
```

Your project firey-332517 has been shut down Inbox x



Platform Notifications <PlatformNotifications-noreply@google.com>

to me ▾

6:35 PM (3 minutes ago)



Project Permanent Deletion Warning

Dear Developer,

Your Google Cloud project firey-332517 was shut down on November 18, 2021 6:35:48 PM UTC.

Shut-down projects and the data stored in them may be recovered for a limited time before the projects are permanently deleted. If you'd like to recover your project, you must cancel the project's permanent deletion before December 18, 2021 6:35:48 PM UTC.

To recover your shut-down project:

1. Visit the [Resources pending deletion](#) page.
2. Select the project you want to recover, and click **Restore**.
3. In the confirmation dialog, click **Restore**.

If you cannot recover your project by following the instructions above, you can try restoring it using the [gcloud undelete command](#).

If you take no action by **December 18, 2021 6:35:48 PM UTC**, you will be unable to recover your project.

If you have any questions, please visit [Google Cloud Platform Resource Manager Documentation](#) or contact [Google Cloud Platform Support](#).

Cordially,
The Google Cloud Platform Team