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# **django-storages Documentation**

*Release 1.7*

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django-storages is a collection of custom storage backends for Django.



### 1.1 Usage

There are two backends for interacting with Amazon's S3, one based on boto3 and an older one based on boto. It is highly recommended that all new projects (at least) use the boto3 backend since it has many bug fixes and performance improvements over boto and is the future; boto is lightly maintained if at all. The boto3 based backend will continue to be maintained for the foreseeable future.

For historical completeness an extreme legacy backend was removed in version 1.2

If using the boto backend on a new project (not recommended) it is recommended that you configure it to also use [AWS Signature Version 4](#). This can be done by adding `S3_USE_SIGV4 = True` to your settings and setting the `AWS_S3_HOST` configuration option. For regions created after January 2014 this is your only option if you insist on using the boto backend.

#### 1.1.1 Settings

To use boto3 set:

```
DEFAULT_FILE_STORAGE = 'storages.backends.s3boto3.S3Boto3Storage'
```

To use the boto version of the backend set:

```
DEFAULT_FILE_STORAGE = 'storages.backends.s3boto.S3BotoStorage'
```

To allow `django-admin.py collectstatic` to automatically put your static files in your bucket set the following in your settings.py:

```
STATICFILES_STORAGE = 'storages.backends.s3boto3.S3Boto3Storage'
```

**AWS\_ACCESS\_KEY\_ID** Your Amazon Web Services access key, as a string.

**AWS\_SECRET\_ACCESS\_KEY** Your Amazon Web Services secret access key, as a string.

**AWS\_STORAGE\_BUCKET\_NAME** Your Amazon Web Services storage bucket name, as a string.

**AWS\_DEFAULT\_ACL (optional, None or canned ACL, default public-read)** Must be either `None` or from the [list of canned ACLs](#). If set to `None` then all files will inherit the bucket's ACL.

**Warning:** The default value of `public-read` is insecure and will be changing to `None` in a future release of `django-storages`. Please set this explicitly to `public-read` if that is the desired behavior.

**AWS\_BUCKET\_ACL (optional, default public-read)** Only used if `AWS_AUTO_CREATE_BUCKET=True`. The ACL of the created bucket.

Must be either `None` or from the [list of canned ACLs](#). If set to `None` then the bucket will use the AWS account's default.

**Warning:** The default value of `public-read` is insecure and will be changing to `None` in a future release of `django-storages`. Please set this explicitly to `public-read` if that is the desired behavior.

**AWS\_AUTO\_CREATE\_BUCKET (optional)** If set to `True` the bucket specified in `AWS_STORAGE_BUCKET_NAME` is automatically created.

**AWS\_HEADERS (optional - boto only, for boto3 see AWS\_S3\_OBJECT\_PARAMETERS)** If you'd like to set headers sent with each file of the storage:

```
AWS_HEADERS = {
    'Expires': 'Thu, 15 Apr 2010 20:00:00 GMT',
    'Cache-Control': 'max-age=86400',
}
```

**AWS\_S3\_OBJECT\_PARAMETERS (optional - boto3 only)** Use this to set object parameters on your object (such as `CacheControl`):

```
AWS_S3_OBJECT_PARAMETERS = {
    'CacheControl': 'max-age=86400',
}
```

**AWS\_QUERYSTRING\_AUTH (optional; default is True)** Setting `AWS_QUERYSTRING_AUTH` to `False` to remove query parameter authentication from generated URLs. This can be useful if your S3 buckets are public.

**AWS\_S3\_MAX\_MEMORY\_SIZE (optional; default is 0 - do not roll over)** The maximum amount of memory a file can take up before being rolled over into a temporary file on disk.

**AWS\_QUERYSTRING\_EXPIRE (optional; default is 3600 seconds)** The number of seconds that a generated URL is valid for.

**AWS\_S3\_ENCRYPTION (optional; default is False)** Enable server-side file encryption while at rest.

**AWS\_S3\_FILE\_OVERWRITE (optional; default is True)** By default files with the same name will overwrite each other. Set this to `False` to have extra characters appended.

**AWS\_S3\_HOST (optional - boto only, default is `s3.amazonaws.com`)**

To ensure you use [AWS Signature Version 4](#) it is recommended to set this to the host of your bucket. See the [S3 region list](#) to figure out the appropriate endpoint for your bucket. Also be sure to add `S3_USE_SIGV4 = True` to `settings.py`

**Note:** The signature versions are not backwards compatible so be careful about url endpoints if making this change for legacy projects.

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**AWS\_LOCATION** (optional: default is `'`) A path prefix that will be prepended to all uploads

**AWS\_IS\_GZIPPED** (optional: default is `False`) Whether or not to enable gzipping of content types specified by `GZIP_CONTENT_TYPES`

**GZIP\_CONTENT\_TYPES** (optional: default is `text/css, text/javascript, application/javascript, application/javascript`)  
When `AWS_IS_GZIPPED` is set to `True` the content types which will be gzipped

**AWS\_S3\_REGION\_NAME** (optional: default is `None`) Name of the AWS S3 region to use (eg. eu-west-1)

**AWS\_S3\_USE\_SSL** (optional: default is `True`) Whether or not to use SSL when connecting to S3.

**AWS\_S3\_VERIFY** (optional: default is `None` - boto3 only) Whether or not to verify the connection to S3. Can be set to `False` to not verify certificates or a path to a CA cert bundle.

**AWS\_S3\_ENDPOINT\_URL** (optional: default is `None`, boto3 only) Custom S3 URL to use when connecting to S3, including scheme. Overrides `AWS_S3_REGION_NAME` and `AWS_S3_USE_SSL`.

**AWS\_S3\_ADDRESSING\_STYLE** (default is `None`, boto3 only) Possible values `virtual` and `path`.

**AWS\_S3\_PROXIES** (boto3 only, default `None`) A dictionary of proxy servers to use by protocol or endpoint, e.g.:  
{`'http'`: `'foo.bar:3128'`, `'http://hostname'`: `'foo.bar:4012'`}.

---

**Note:** The minimum required version of `boto3` to use this feature is 1.4.4

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**AWS\_S3\_CALLING\_FORMAT** (optional: default is `SubdomainCallingFormat()`) Defines the S3 calling format to use to connect to the static bucket.

`AWS_S3_SIGNATURE_VERSION` (optional - boto3 only)

As of `boto3` version 1.4.4 the default signature version is `s3v4`.

Set this to use an alternate version such as `s3`. Note that only certain regions support the legacy `s3` (also known as `v2`) version. You can check to see if your region is one of them in the [S3 region list](#).

---

**Note:** The signature versions are not backwards compatible so be careful about url endpoints if making this change for legacy projects.

---

## 1.1.2 Migrating from Boto to Boto3

Migration from the boto-based to boto3-based backend should be straightforward and painless.

The following adjustments to settings are required:

- Rename `AWS_HEADERS` to `AWS_S3_OBJECT_PARAMETERS` and change the format of the key names as in the following example: `cache-control` becomes `CacheControl`.
- Rename `AWS_ORIGIN` to `AWS_S3_REGION_NAME`
- If `AWS_S3_CALLING_FORMAT` is set to `VHostCallingFormat` set `AWS_S3_ADDRESSING_STYLE` to `virtual`
- Replace `AWS_S3_HOST` and `AWS_S3_PORT` with `AWS_S3_ENDPOINT_URL` (this is not necessary if `AWS_S3_HOST` is only set in order to handle signature versions)

- Replace `AWS_S3_PROXY_HOST` and `AWS_S3_PROXY_PORTY` with `AWS_S3_PROXIES`
- If using signature version `s3v4` you can remove `S3_USE_SIGV4`
- If you persist urls and rely on the output to use the signature version of `s3` set `AWS_S3_SIGNATURE_VERSION` to `s3`
- Update `DEFAULT_FILE_STORAGE` and/or `STATICFILES_STORAGE` to `storages.backends.boto3.S3Boto3Storage`

Additionally you must install `boto3` (`boto` is no longer required). In order to use all currently supported features 1.4.4 is the minimum required version although we always recommend the most recent.

Please open an issue on the GitHub repo if any further issues are encountered or steps were omitted.

### 1.1.3 CloudFront

If you're using S3 as a CDN (via CloudFront), you'll probably want this storage to serve those files using that:

```
AWS_S3_CUSTOM_DOMAIN = 'cdn.mydomain.com'
```

**Warning:** Django's `STATIC_URL` must end in a slash and the `AWS_S3_CUSTOM_DOMAIN` *must not*. It is best to set this variable independently of `STATIC_URL`.

Keep in mind you'll have to configure CloudFront to use the proper bucket as an origin manually for this to work.

If you need to use multiple storages that are served via CloudFront, pass the `custom_domain` parameter to their constructors.

### 1.1.4 Storage

Standard file access options are available, and work as expected:

```
>>> from django.core.files.storage import default_storage
>>> default_storage.exists('storage_test')
False
>>> file = default_storage.open('storage_test', 'w')
>>> file.write('storage contents')
>>> file.close()

>>> default_storage.exists('storage_test')
True
>>> file = default_storage.open('storage_test', 'r')
>>> file.read()
'storage contents'
>>> file.close()

>>> default_storage.delete('storage_test')
>>> default_storage.exists('storage_test')
False
```

### 1.1.5 Model

An object without a file has limited functionality:

```
>>> obj1 = MyStorage()
>>> obj1.normal
<FieldFile: None>
>>> obj1.normal.size
Traceback (most recent call last):
...
ValueError: The 'normal' attribute has no file associated with it.
```

Saving a file enables full functionality:

```
>>> obj1.normal.save('django_test.txt', ContentFile('content'))
>>> obj1.normal
<FieldFile: tests/django_test.txt>
>>> obj1.normal.size
7
>>> obj1.normal.read()
'content'
```

Files can be read in a little at a time, if necessary:

```
>>> obj1.normal.open()
>>> obj1.normal.read(3)
'con'
>>> obj1.normal.read()
'tent'
>>> '-'.join(obj1.normal.chunks(chunk_size=2))
'co-nt-en-t'
```

Save another file with the same name:

```
>>> obj2 = MyStorage()
>>> obj2.normal.save('django_test.txt', ContentFile('more content'))
>>> obj2.normal
<FieldFile: tests/django_test_.txt>
>>> obj2.normal.size
12
```

Push the objects into the cache to make sure they pickle properly:

```
>>> cache.set('obj1', obj1)
>>> cache.set('obj2', obj2)
>>> cache.get('obj2').normal
<FieldFile: tests/django_test_.txt>
```

Deleting an object deletes the file it uses, if there are no other objects still using that file:

```
>>> obj2.delete()
>>> obj2.normal.save('django_test.txt', ContentFile('more content'))
>>> obj2.normal
<FieldFile: tests/django_test_.txt>
```

Default values allow an object to access a single file:

```
>>> obj3 = MyStorage.objects.create()
>>> obj3.default
<FieldFile: tests/default.txt>
>>> obj3.default.read()
'default content'
```

Clean up the temporary files:

```
>>> obj1.normal.delete()
>>> obj2.normal.delete()
>>> obj3.default.delete()
>>> obj4.random.delete()
```

Apache Libcloud is an API wrapper around a range of cloud storage providers. It aims to provide a consistent API for dealing with cloud storage (and, more broadly, the many other services provided by cloud providers, such as device provisioning, load balancer configuration, and DNS configuration).

Use pip to install apache-libcloud from PyPI:

```
pip install apache-libcloud
```

**As of v0.10.1, Libcloud supports the following cloud storage providers:**

- [Amazon S3](#)
- [Google Cloud Storage](#)
- [Nimbus.io](#)
- [Ninefold Cloud Storage](#)
- [Rackspace CloudFiles](#)

Libcloud can also be configured with relatively little effort to support any provider using EMC Atmos storage, or the OpenStack API.

## 2.1 Settings

### 2.1.1 LIBCLOUD\_PROVIDERS

This setting is required to configure connections to cloud storage providers. Each entry corresponds to a single ‘bucket’ of storage. You can have multiple buckets for a single service provider (e.g., multiple S3 buckets), and you can define buckets at multiple providers. For example, the following configuration defines 3 providers: two buckets (`bucket-1` and `bucket-2`) on a US-based Amazon S3 store, and a third bucket (`bucket-3`) on Google:

```
LIBCLOUD_PROVIDERS = {
    'amazon_1': {
        'type': 'libcloud.storage.types.Provider.S3_US_STANDARD_HOST',
        'user': '<your username here>',
        'key': '<your key here>',
        'bucket': 'bucket-1',
    },
    'amazon_2': {
        'type': 'libcloud.storage.types.Provider.S3_US_STANDARD_HOST',
        'user': '<your username here>',
        'key': '<your key here>',
        'bucket': 'bucket-2',
    },
    'google': {
        'type': 'libcloud.storage.types.Provider.GOOGLE_STORAGE',
        'user': '<Your Google APIv1 username>',
        'key': '<Your Google APIv1 Key>',
        'bucket': 'bucket-3',
    },
}
```

The values for the `type`, `user` and `key` arguments will vary depending on your storage provider:

**Amazon S3:**

**type:** `libcloud.storage.types.Provider.S3_US_STANDARD_HOST`,

**user:** Your AWS access key ID

**key:** Your AWS secret access key

If you want to use a availability zone other than the US default, you can use one of `S3_US_WEST_HOST`, `S3_US_WEST_OREGON_HOST`, `S3_EU_WEST_HOST`, `S3_AP_SOUTHEAST_HOST`, or `S3_AP_NORTHEAST_HOST` instead of `S3_US_STANDARD_HOST`.

**Google Cloud Storage:**

**type:** `libcloud.storage.types.Provider.GOOGLE_STORAGE`,

**user:** Your Google APIv1 username (20 characters)

**key:** Your Google APIv1 key

**Nimbus.io:**

**type:** `libcloud.storage.types.Provider.NIMBUS`,

**user:** Your Nimbus.io user ID

**key:** Your Nimbus.io access key

**Ninefold Cloud Storage:**

**type:** `libcloud.storage.types.Provider.NINEFOLD`,

**user:** Your Atmos Access Token

**key:** Your Atmos Shared Secret

**Rackspace Cloudfiles:**

**type:** `libcloud.storage.types.Provider.CLOUDFIULES_US` or `libcloud.storage.types.Provider.CLOUDFIULES_UK`,

**user:** Your Rackspace user ID

**key:** Your Rackspace access key

You can specify any bucket name you want; however, the bucket must exist before you can start using it. If you need to create the bucket, you can use the storage API. For example, to create `bucket-1` from our previous example:

```
>>> from storages.backends.apache_libcloud import LibCloudStorage
>>> store = LibCloudStorage('amazon-1')
>>> store.driver.create_container('bucket-1')
```

## 2.1.2 DEFAULT\_LIBCLOUD\_PROVIDER

Once you have defined your Libcloud providers, you have the option of setting one provider as the default provider of Libcloud storage. This is done setting `DEFAULT_LIBCLOUD_PROVIDER` to the key in `LIBCLOUD_PROVIDER` that you want to use as the default provider. For example, if you want the `amazon-1` provider to be the default provider, use:

```
DEFAULT_LIBCLOUD_PROVIDER = 'amazon-1'
```

If `DEFAULT_LIBCLOUD_PROVIDER` isn't set, the Libcloud backend will assume that the default storage backend is named `default`. Therefore, you can avoid settings `DEFAULT_LIBCLOUD_PROVIDER` by simply naming one of your Libcloud providers `default`:

```
LIBCLOUD_PROVIDERS = {
    'default': {
        'type': ...
    },
}
```

## 2.1.3 DEFAULT\_FILE\_STORAGE

If you want your Libcloud storage to be the default Django file store, you can set:

```
DEFAULT_FILE_STORAGE = 'storages.backends.apache_libcloud.LibCloudStorage'
```

Your default Libcloud provider will be used as the file store.

## 2.2 Certificate authorities

Libcloud uses HTTPS connections, and in order to validate that these HTTPS connections are correctly signed, root CA certificates must be present. On some platforms (most notably, OS X and Windows), the required certificates may not be available by default. To test

```
>>> from storages.backends.apache_libcloud import LibCloudStorage
>>> store = LibCloudStorage('amazon-1')
Traceback (most recent call last):
...
ImproperlyConfigured: Unable to create libcloud driver type libcloud.storage.types.
↳Provider.S3_US_STANDARD_HOST: No CA Certificates were found in CA_CERTS_PATH.
```

If you get this error, you need to install a certificate authority. [Download a certificate authority file](#), and then put the following two lines into your `settings.py`:

```
import libcloud.security
libcloud.security.CA_CERTS_PATH.append("/path/to/your/cacerts.pem")
```

A custom storage system for Django using Windows Azure Storage backend.

### 3.1 Notes

Be aware Azure file names have some extra restrictions. They can't:

- end with dot (.) or slash (/)
- contain more than 256 slashes (/)
- be longer than 1024 characters

This is usually not an issue, since some file-systems won't allow this anyway. There's `default_storage.get_name_max_len()` method to get the `max_length` allowed. This is useful for form inputs. It usually returns `1024 - len(azure_location_setting)`. There's `default_storage.get_valid_name(...)` method to clean up file names when migrating to Azure.

Gzipping for static files must be done through Azure CDN.

### 3.2 Install

Install Azure SDK:

```
pip install django-storage[azure]
```

### 3.3 Private VS Public Access

The `AzureStorage` allows a single container. The container may have either public access or private access. When dealing with a private container, the `AZURE_URL_EXPIRATION_SECS` must be set to get temporary URLs.

A common setup is having private media files and public static files, since public files allow for better caching (i.e: no query-string within the URL).

One way to support this is having two backends, a regular `AzureStorage` with the private container and expiration setting set, and a custom backend (i.e: a subclass of `AzureStorage`) for the public container.

Custom backend:

```
# file: ./custom_storage/custom_azure.py
class PublicAzureStorage(AzureStorage):
    account_name = 'myaccount'
    account_key = 'mykey'
    azure_container = 'mypublic_container'
    expiration_secs = None
```

Then on settings set:

```
DEFAULT_FILE_STORAGE = 'storages.backends.azure_storage.AzureStorage'
STATICFILES_STORAGE = 'custom_storage.custom_azure.PublicAzureStorage'
```

## 3.4 Settings

The following settings should be set within the standard django configuration file, usually `settings.py`.

Set the default storage (i.e: for media files) and the static storage (i.e: fo static files) to use the azure backend:

```
DEFAULT_FILE_STORAGE = 'storages.backends.azure_storage.AzureStorage'
STATICFILES_STORAGE = 'storages.backends.azure_storage.AzureStorage'
```

The following settings are available:

```
is_emulated = setting('AZURE_EMULATED_MODE', False)
```

AZURE\_ACCOUNT\_NAME

This setting is the Windows Azure Storage Account name, which in many cases is also the first part of the url for instance: `http://azure_account_name.blob.core.windows.net/` would mean:

```
AZURE_ACCOUNT_NAME = "azure_account_name"
```

AZURE\_ACCOUNT\_KEY

This is the private key that gives Django access to the Windows Azure Account.

AZURE\_CONTAINER

This is where the files uploaded through Django will be uploaded. The container must be already created, since the storage system will not attempt to create it.

AZURE\_SSL

Set a secure connection (HTTPS), otherwise it's makes an insecure connection (HTTP). Default is `True`

AZURE\_UPLOAD\_MAX\_CONN

Number of connections to make when uploading a single file. Default is `2`

AZURE\_CONNECTION\_TIMEOUT\_SECS

Global connection timeout in seconds. Default is `20`

AZURE\_BLOB\_MAX\_MEMORY\_SIZE

Maximum memory used by a downloaded file before dumping it to disk. Unit is in bytes. Default is 2MB

AZURE\_URL\_EXPIRATION\_SECS

Seconds before a URL expires, set to `None` to never expire it. Be aware the container must have public read permissions in order to access a URL without expiration date. Default is `None`

AZURE\_OVERWRITE\_FILES

Overwrite an existing file when it has the same name as the file being uploaded. Otherwise, rename it. Default is `False`

AZURE\_LOCATION

Default location for the uploaded files. This is a path that gets prepended to every file name.



Example configuration for using the AWS backend with Digital Ocean Spaces.

### 4.1 Usage

You can use the models/storage backends/views/etc from the blog post below to create a test site (called mysite) to try this out. Testing locally using runserver works.

<https://simpleisbetterthancomplex.com/tutorial/2017/08/01/how-to-setup-amazon-s3-in-a-django-project.html>

See the folder “s3-example-public-and-private” from the GitHub repo for that blog post: <https://github.com/sibtc/simple-s3-setup>

To get the access key and secret key, follow the getting started guide from DigitalOcean: <https://www.digitalocean.com/community/tutorials/managing-access-to-digitalocean-spaces#option-1-%E2%80%94-sharing-access-to-spaces-with-access-keys>

### 4.2 Public Configuration

Put these values in your main settings.py file or whichever “public” configuration system you use (e.g. secure key/value storage).

Some of these values are built-in, some of them are used by the code linked to in “Usage” above.

Name	Description	Example value
AWS_STORAGE_BUCKET_NAME	The name of the storage bucket.	mysite
AWS_S3_ENDPOINT_URL	URL endpoint url excluding the bucket name.	https://nyc3.digitaloceanspaces.com
AWS_S3_OBJECT_PARAMETERS	Default params for objects.	{ 'CacheControl': 'max-age=86400' }
AWS_LOCATION	The folder within the space to store files.	mysite
AWS_S3_SIGNATURE_VERSION	Version. DigitalOcean only support v2 for pre-signed urls.	s3=s3v2 (Version 2), s3v4=s3v4 (Version 4)
AWS_STATIC_LOCATION	The folder within the space to store static files.	'%s/static' % AWS_LOCATION
STATIC-FILES_STORAGE	The storage backend to use for static files.	'mysite.storage_backends.StaticStorage'
STATIC_URL	The base URL for generating URLs to static files included in rendered pages.	"https://%s/%s/" % (AWS_S3_ENDPOINT_URL, AWS_STATIC_LOCATION)
AWS_PUBLIC_MEDIA_LOCATION	The location within the space to store public media files.	'%s/media/public' % AWS_LOCATION
DE-FULT_FILE_STORAGE	The storage backend to use for public media files.	'mysite.storage_backends.PublicMediaStorage'
AWS_PRIVATE_MEDIA_LOCATION	The location within the space to store private media files.	'%s/media/private' % AWS_LOCATION
PRI-VATE_FILE_STORAGE	The storage backend to use for private media files.	'mysite.storage_backends.PrivateMediaStorage'

### 4.3 Private Configuration

Put these values in your private settings file or whichever “private” configuration system you use (e.g. secure key/value storage).

**Don’t push these settings to any Git repository or any other public site. Do not share them.**

Name	Description
AWS_ACCESS_KEY_ID	The access key for the storage API. Although this can be public, it’s useful to store it with the secret key to force the server admin to think about / change it, at the same time as changing the secret.
AWS_SECRET_ACCESS_KEY	The secret key for the storage API. Never reveal this to anyone :)

A custom storage system for Django using Dropbox Storage backend.

Before you start configuration, you will need to install [Dropbox SDK for Python](#).

Install the package:

```
pip install dropbox
```

## 5.1 Settings

To use DropBoxStorage set:

```
DEFAULT_FILE_STORAGE = 'storages.backends.dropbox.DropBoxStorage'
```

**DROPBOX\_OAUTH2\_TOKEN** Your DropBox token, if you haven't follow this [guide step](#).

**DROPBOX\_ROOT\_PATH** Allow to jail your storage to a defined directory.



**Warning:** This FTP storage is not prepared to work with large files, because it uses memory for temporary data storage. It also does not close FTP connection automatically (but open it lazy and try to reestablish when disconnected).

This implementation was done preliminary for upload files in admin to remote FTP location and read them back on site by HTTP. It was tested mostly in this configuration, so read/write using FTPStorageFile class may break.

## 6.1 Settings

**LOCATION** URL of the server that hold the files. Example 'ftp://<user>:<pass>@<host>:<port>'

**BASE\_URL** URL that serves the files stored at this location. Defaults to the value of your MEDIA\_URL setting.



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## Google Cloud Storage

---

This backend provides Django File API for [Google Cloud Storage](#) using the Python library provided by Google.

### 7.1 Installation

Use pip to install from PyPI:

```
pip install django-storages[google]
```

### 7.2 Authentication

By default this library will try to use the credentials associated with the current Google Compute Engine (GCE) or Google Kubernetes Engine (GKE) instance for authentication. In most cases, the default service accounts are not sufficient to read/write and sign files in GCS.

1. Create a service account. ([Google Getting Started Guide](#))
2. Create the key and download *your-project-XXXXX.json* file.
3. Make sure your service account has access to the bucket and appropriate permissions. ([Using IAM Permissions](#))
4. The key must be mounted/available to your running Django app. Note: a json keyfile will work for developer machines (or other instances outside Google infrastructure).
5. Set an environment variable of `GOOGLE_APPLICATION_CREDENTIALS` to path of the json file.

Alternatively, you can use the setting `GS_CREDENTIALS` as described below.

### 7.3 Getting Started

Set the default storage and bucket name in your settings.py file:

```
DEFAULT_FILE_STORAGE = 'storages.backends.gcloud.GoogleCloudStorage'  
GS_BUCKET_NAME = 'YOUR_BUCKET_NAME_GOES_HERE'
```

Once you're done, `default_storage` will be Google Cloud Storage:

```
>>> from django.core.files.storage import default_storage
>>> print default_storage.__class__
<class 'storages.backends.gcloud.GoogleCloudStorage'>
```

This way, if you define a new `FileField`, it will use the Google Cloud Storage:

```
>>> from django.db import models
>>> class Resume(models.Model):
...     pdf = models.FileField(upload_to='pdfs')
...     photos = models.ImageField(upload_to='photos')
...
>>> resume = Resume()
>>> print resume.pdf.storage
<storages.backends.gcloud.GoogleCloudStorage object at ...>
```

## 7.4 Settings

To use `gcloud` set:

```
DEFAULT_FILE_STORAGE = 'storages.backends.gcloud.GoogleCloudStorage'
```

`GS_BUCKET_NAME`

Your Google Storage bucket name, as a string. Required.

`GS_PROJECT_ID` (optional)

Your Google Cloud project ID. If unset, falls back to the default inferred from the environment.

`GS_CREDENTIALS` (optional)

The OAuth 2 credentials to use for the connection. If unset, falls back to the default inferred from the environment (i.e. `GOOGLE_APPLICATION_CREDENTIALS`)

```
from google.oauth2 import service_account

GS_CREDENTIALS = service_account.Credentials.from_service_account_file(
    "path/to/credentials.json"
)
```

`GS_AUTO_CREATE_BUCKET` (optional, default is `False`)

If `True`, attempt to create the bucket if it does not exist.

`GS_AUTO_CREATE_ACL` (optional, default is `projectPrivate`)

ACL used when creating a new bucket, from the [list of predefined ACLs](#). (A “JSON API” ACL is preferred but an “XML API/gsutil” ACL will be translated.)

Note that the ACL you select must still give the service account running the GCE backend to have `OWNER` permission on the bucket. If you're using the default service account, this means you're restricted to the `projectPrivate` ACL.

`GS_DEFAULT_ACL` (optional, default is `None`)

ACL used when creating a new blob, from the [list of predefined ACLs](#). (A “JSON API” ACL is preferred but an “XML API/gsutil” ACL will be translated.)

For most cases, the blob will need to be set to the `publicRead` ACL in order for the file to be viewed. If `GS_DEFAULT_ACL` is not set, the blob will have the default permissions set by the bucket.

`publicRead` files will return a public - non-expiring url. All other files return a signed (expiring) url.

**`GS_DEFAULT_ACL` must be set to “`publicRead`” to return a public url.** Even if you set the bucket to public or set the file permissions directly in GCS to public.

`GS_FILE_CHARSET` (optional)

Allows overriding the character set used in filenames.

`GS_FILE_OVERWRITE` (optional: default is `True`)

By default files with the same name will overwrite each other. Set this to `False` to have extra characters appended.

`GS_MAX_MEMORY_SIZE` (optional)

The maximum amount of memory a returned file can take up before being rolled over into a temporary file on disk. Default is 0: Do not roll over.

`GS_CACHE_CONTROL` (optional: default is `None`)

Sets Cache-Control HTTP header for the file, more about HTTP caching can be found [here](#)

`GS_LOCATION` (optional: default is `' '`)

Subdirectory in which the files will be stored. Defaults to the root of the bucket.

`GS_EXPIRATION` (optional: default is `timedelta(seconds=86400)`)

The time that a generated URL is valid before expiration. The default is 1 day. Public files will return a url that does not expire. Files will be signed by the credentials provided to `django-storages` (See `GS_CREDENTIALS`).

Note: Default Google Compute Engine (GCE) Service accounts are [unable to sign urls](#).

The `GS_EXPIRATION` value is handled by the underlying [Google library](#). It supports *timedelta*, *datetime*, or *integer* seconds since epoch time.

## 7.5 Usage

### 7.5.1 Fields

Once you’re done, `default_storage` will be Google Cloud Storage:

```
>>> from django.core.files.storage import default_storage
>>> print default_storage.__class__
<class 'storages.backends.gcloud.GoogleCloudStorage'>
```

This way, if you define a new `FileField`, it will use the Google Cloud Storage:

```
>>> from django.db import models
>>> class Resume(models.Model):
...     pdf = models.FileField(upload_to='pdfs')
...     photos = models.ImageField(upload_to='photos')
...
>>> resume = Resume()
>>> print resume.pdf.storage
<storages.backends.gcloud.GoogleCloudStorage object at ...>
```

## 7.5.2 Storage

Standard file access options are available, and work as expected:

```
>>> default_storage.exists('storage_test')
False
>>> file = default_storage.open('storage_test', 'w')
>>> file.write('storage contents')
>>> file.close()

>>> default_storage.exists('storage_test')
True
>>> file = default_storage.open('storage_test', 'r')
>>> file.read()
'storage contents'
>>> file.close()

>>> default_storage.delete('storage_test')
>>> default_storage.exists('storage_test')
False
```

## 7.5.3 Model

An object without a file has limited functionality:

```
>>> obj1 = Resume()
>>> obj1.pdf
<FieldFile: None>
>>> obj1.pdf.size
Traceback (most recent call last):
...
ValueError: The 'pdf' attribute has no file associated with it.
```

Saving a file enables full functionality:

```
>>> obj1.pdf.save('django_test.txt', ContentFile('content'))
>>> obj1.pdf
<FieldFile: tests/django_test.txt>
>>> obj1.pdf.size
7
>>> obj1.pdf.read()
'content'
```

Files can be read in a little at a time, if necessary:

```
>>> obj1.pdf.open()
>>> obj1.pdf.read(3)
'con'
>>> obj1.pdf.read()
'tent'
>>> '-'.join(obj1.pdf.chunks(chunk_size=2))
'co-nt-en-t'
```

Save another file with the same name:

```
>>> obj2 = Resume()
>>> obj2.pdf.save('django_test.txt', ContentFile('more content'))
>>> obj2.pdf
<FieldFile: tests/django_test_.txt>
>>> obj2.pdf.size
12
```

Push the objects into the cache to make sure they pickle properly:

```
>>> cache.set('obj1', obj1)
>>> cache.set('obj2', obj2)
>>> cache.get('obj2').pdf
<FieldFile: tests/django_test_.txt>
```

Deleting an object deletes the file it uses, if there are no other objects still using that file:

```
>>> obj2.delete()
>>> obj2.pdf.save('django_test.txt', ContentFile('more content'))
>>> obj2.pdf
<FieldFile: tests/django_test_.txt>
```



## 8.1 Settings

**SFTP\_STORAGE\_HOST** The hostname where you want the files to be saved.

**SFTP\_STORAGE\_ROOT** The root directory on the remote host into which files should be placed. Should work the same way that `STATIC_ROOT` works for local files. Must include a trailing slash.

**SFTP\_STORAGE\_PARAMS (optional)** A dictionary containing connection parameters to be passed as keyword arguments to `paramiko.SSHClient().connect()` (do not include hostname here). See [paramiko SSH-Client.connect\(\) documentation](#) for details

**SFTP\_STORAGE\_INTERACTIVE (optional)** A boolean indicating whether to prompt for a password if the connection cannot be made using keys, and there is not already a password in `SFTP_STORAGE_PARAMS`. You can set this to `True` to enable interactive login when running `manage.py collectstatic`, for example.

**Warning:** DO NOT set `SFTP_STORAGE_INTERACTIVE` to `True` if you are using this storage for files being uploaded to your site by users, because you'll have no way to enter the password when they submit the form..

**SFTP\_STORAGE\_FILE\_MODE (optional)** A bitmask for setting permissions on newly-created files. See [Python `os.chmod` documentation](#) for acceptable values.

**SFTP\_STORAGE\_DIR\_MODE (optional)** A bitmask for setting permissions on newly-created directories. See [Python `os.chmod` documentation](#) for acceptable values.

---

**Note:** Hint: if you start the mode number with a 0 you can express it in octal just like you would when doing “`chmod 775 myfile`” from bash.

---

**SFTP\_STORAGE\_UID (optional)** UID of the account that should be set as owner of the files on the remote host. You may have to be root to set this.

**SFTP\_STORAGE\_GID (optional)** GID of the group that should be set on the files on the remote host. You have to be a member of the group to set this.

**SFTP\_KNOWN\_HOST\_FILE (optional)** Absolute path of know host file, if it isn't set "`~/ .ssh/known_hosts`" will be used.

## CHAPTER 9

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### Installation

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Use pip to install from PyPI:

```
pip install django-storages
```

Each storage backend has its own unique settings you will need to add to your settings.py file. Read the documentation for your storage engine(s) of choice to determine what you need to add.



# CHAPTER 10

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## Contributing

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To contribute to `django-storages` [create a fork](#) on GitHub. Clone your fork, make some changes, and submit a pull request.



# CHAPTER 11

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## Issues

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Use the [GitHub issue tracker](#) for django-storages to submit bugs, issues, and feature requests.



## CHAPTER 12

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### Indices and tables

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