
python-genomespaceclient documentation

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GVL Project

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Contents

1	Installation	3
2	Commandline usage example	5
3	Python usage example	7
4	Notes	9
4.1	Documentation	9
4.2	Page index	12
	Python Module Index	13

This is a python client for the GenomeSpace API. There's a Python API (the `genomespaceclient` module), and a command-line script (`genomespace`).

CHAPTER 1

Installation

Install the latest release from PyPi:

```
pip install python-genomespaceclient
```


CHAPTER 2

Commandline usage example

```
# Create remote folder, including all intermediate paths
genomespace -u <username> -p <password> mkdir -p https://dm.genomespace.org/
↳ datamanager/v1.0/file/Home/MyBucket/f1/f2/

# copy local files recursively to remote location
genomespace -u <username> -p <password> cp -R /tmp/ https://dm.genomespace.org/
↳ datamanager/v1.0/file/Home/MyBucket/

# copy local files matching pattern to remote location - note that paths with
↳ wildcards must be enclosed in quotes
genomespace -u <username> -p <password> cp '/tmp/*.txt' https://dm.genomespace.org/
↳ datamanager/v1.0/file/Home/MyBucket/

# list remote files
genomespace -u <username> -p <password> ls https://dm.genomespace.org/datamanager/v1.
↳ 0/file/Home/MyBucket/

# move remote file to new location
genomespace -u <username> -p <password> mv https://dm.genomespace.org/datamanager/v1.
↳ 0/file/Home/MyBucket/hello.txt https://dm.genomespace.org/datamanager/v1.0/file/
↳ Home/MyBucket/world.txt

# download remote files matching pattern, with verbose output
genomespace -vvv -u <username> -p <password> mv https://dm.genomespace.org/
↳ datamanager/v1.0/file/Home/MyBucket/*.txt /tmp/

# delete remote file
genomespace -u <username> -p <password> rm https://dm.genomespace.org/datamanager/v1.
↳ 0/file/Home/MyBucket/world.txt
```


CHAPTER 3

Python usage example

```
from genomespaceclient import GenomeSpaceClient

client = GenomeSpaceClient(username="<username>", password="<password>")
client.mkdir("https://dm.genomespace.org/datamanager/v1.0/file/Home/MyBucket/f1/f2".  
↳ create_path=True)
client.copy("/tmp/", "https://dm.genomespace.org/datamanager/v1.0/file/Home/MyBucket/  
↳ ", recurse=True)
client.list("https://dm.genomespace.org/datamanager/v1.0/file/Home/MyBucket/")
client.move("https://dm.genomespace.org/datamanager/v1.0/file/Home/MyBucket/hello.txt  
↳ ", "https://dm.genomespace.org/datamanager/v1.0/file/Home/MyBucket/world.txt")
client.copy("https://dm.genomespace.org/datamanager/v1.0/file/Home/MyBucket/*.txt", "  
↳ tmp/")
client.delete("https://dm.genomespace.org/datamanager/v1.0/file/Home/MyBucket/*.txt")
```


Wildcard copying syntax is the same as unix path globbing, except that the ‘?’ symbol is not supported (This is because the ‘?’ is a reserved character in a URL)

4.1 Documentation

4.1.1 API reference

This section contains the API documentation for the GenomeSpace client.

genomespaceclient package

genomespaceclient module

class genomespaceclient.client.GSAceObject (*permission, sid, ace_id=None*)

Bases: object

See: <http://www.genomespace.org/support/api/restful-access-to-dm#ace>

__init__ (*permission, sid, ace_id=None*)

Initialize self. See help(type(self)) for accurate signature.

class genomespaceclient.client.GSAclObject (*object_id, object_type*)

Bases: object

See: <http://www.genomespace.org/support/api/restful-access-to-dm#acl>

__init__ (*object_id, object_type*)

Initialize self. See help(type(self)) for accurate signature.

class genomespaceclient.client.GSDataFormat (*name, url, file_extension, description*)

Bases: object

See: http://www.genomespace.org/support/api/restful-access-to-dm#appendix_c

`__init__` (*name, url, file_extension, description*)
Initialize self. See `help(type(self))` for accurate signature.

class `genomesspaceclient.client.GSDirectoryListing` (*contents, directory*)

Bases: `object`

See: http://www.genomesspace.org/support/api/restful-access-to-dm#appendix_b

`__init__` (*contents, directory*)
Initialize self. See `help(type(self))` for accurate signature.

class `genomesspaceclient.client.GSEffectiveAcl` (*access_control_entries, effective_acl_object, effective_acl_id=None*)

Bases: `object`

See: http://www.genomesspace.org/support/api/restful-access-to-dm#appendix_f

`__init__` (*access_control_entries, effective_acl_object, effective_acl_id=None*)
Initialize self. See `help(type(self))` for accurate signature.

class `genomesspaceclient.client.GSFileMetadata` (*name, path, url, parentUrl, size, owner, is_directory, is_link, target_path, last_modified, data_format, available_data_formats, effective_acl*)

Bases: `object`

See: http://www.genomesspace.org/support/api/restful-access-to-dm#appendix_a

`__init__` (*name, path, url, parentUrl, size, owner, is_directory, is_link, target_path, last_modified, data_format, available_data_formats, effective_acl*)
Initialize self. See `help(type(self))` for accurate signature.

class `genomesspaceclient.client.GSSidObject` (*name, sid_type, sid_id=None*)

Bases: `object`

See: <http://www.genomesspace.org/support/api/restful-access-to-dm#sid>

`__init__` (*name, sid_type, sid_id=None*)
Initialize self. See `help(type(self))` for accurate signature.

class `genomesspaceclient.client.GenomeSpaceClient` (*username=None, password=None, token=None*)

Bases: `object`

A simple GenomeSpace client

`__init__` (*username=None, password=None, token=None*)
Constructs a new GenomeSpace client. A username/password combination or a token must be supplied.

Parameters

- **username** (`str`) – GenomeSpace username
- **password** (`str`) – GenomeSpace password
- **token** (`str`) – A GenomeSpace auth token. If supplied, the token will be used instead of the username/password.

copy (*source, destination, recurse=False*)
Copies a file to/from/within GenomeSpace.

E.g. .. code-block:: python

```
client.copy("/tmp/local_file.txt", "https://dm.genomesspace.org/datamanager/v1.0/file/Home/MyBucket/hello.txt")
```

Parameters

- **source** (*str*) – Local filename or GenomeSpace URL of source file.
- **destination** (*str*) – Local filename or GenomeSpace URL of destination file.

delete (*genomespace_url*, *recurse=False*)

Deletes a file within a GenomeSpace folder.

E.g. .. code-block:: python

```
client.delete("https://dm.genomespace.org/datamanager/v1.0/file/Home/MyBucket/world.txt")
```

Parameters **genomespace_url** (*str*) – GenomeSpace URL of file to delete.

get_metadata (*genomespace_url*)

Gets metadata information of a genomespace file/folder. See: http://www.genomespace.org/support/api/restful-access-to-dm#file_metadata

E.g.

```
client.get_metadata("https://dm.genomespace.org/datamanager/v1.0/file/Home/MyBucket/world.txt")
```

Parameters **genomespace_url** (*str*) – GenomeSpace URL of file to delete.

Return type *dict*

Returns a JSON dict in the format documented here: http://www.genomespace.org/support/api/restful-access-to-dm#appendix_b

get_remaining_token_time (*genomespace_url*)

Gets the time to live for the gs-token if you have one. If you don't have one, will return 0, as the non existent token has no time left to live. See: http://www.genomespace.org/support/api/restful-access-to-identity-server#get_token_time

E.g.

```
client.get_remaining_token_time('https://genomespace.genome.edu.au/')
```

Parameters **genomespace_url** (*str*) – GenomeSpace URL.

Return type *int*

Returns the time the token has left to live in milliseconds.

isdir (*genomespace_url*)

Returns True if a given genomespace_url is a directory

Parameters **genomespace_url** (*str*) – GenomeSpace URL of file to delete.

Return type *bool*

Returns True if the url is a directory. False otherwise.

list (*genomespace_url*)

Returns a list of files within a GenomeSpace folder.

E.g. .. code-block:: python

```
client.list("https://dm.genomespace.org/datamanager/v1.0/file/Home/MyBucket")
```

Parameters `genomespace_url` (`str`) – GenomeSpace URL of folder to list.

Return type `dict`

Returns a JSON dict in the format documented here: http://www.genomespace.org/support/api/restful-access-to-dm#appendix_b

mkdir (`genomespace_url`, `create_path=True`)

Creates a folder at a given location.

E.g. .. code-block:: python

```
client.mkdir("https://dm.genomespace.org/datamanager/v1.0/file/Home/MyBucket/Folder1")
```

Parameters

- **genomespace_url** (`str`) – GenomeSpace URL of file to delete.
- **create_path** (`boolean`) – Create intermediate directories as required.

move (`source`, `destination`)

Moves a file within GenomeSpace.

E.g. .. code-block:: python

```
client.move("https://dm.genomespace.org/datamanager/v1.0/file/Home/MyBucket/hello.txt",  
            "https://dm.genomespace.org/datamanager/v1.0/file/Home/MyBucket/world.txt")
```

Parameters

- **source** – GenomeSpace URL of source file. Cannot be a local file.
- **destination** – Local filename or GenomeSpace URL of destination file. If destination is a local file, the file will be copied to the destination and the source file deleted.

4.2 Page index

- [genindex](#)

g

`genomespaceclient.client`, 9

Symbols

[__init__\(\)](#) (genomespaceclient.client.GSAceObject method), [9](#)
[__init__\(\)](#) (genomespaceclient.client.GSAclObject method), [9](#)
[__init__\(\)](#) (genomespaceclient.client.GSDataFormat method), [9](#)
[__init__\(\)](#) (genomespaceclient.client.GSDirectoryListing method), [10](#)
[__init__\(\)](#) (genomespaceclient.client.GSEffectiveAcl method), [10](#)
[__init__\(\)](#) (genomespaceclient.client.GSFileMetadata method), [10](#)
[__init__\(\)](#) (genomespaceclient.client.GSSidObject method), [10](#)
[__init__\(\)](#) (genomespaceclient.client.GenomeSpaceClient method), [10](#)

C

[copy\(\)](#) (genomespaceclient.client.GenomeSpaceClient method), [10](#)

D

[delete\(\)](#) (genomespaceclient.client.GenomeSpaceClient method), [11](#)

G

[GenomeSpaceClient](#) (class in genomespaceclient.client), [10](#)
[genomespaceclient.client](#) (module), [9](#)
[get_metadata\(\)](#) (genomespaceclient.client.GenomeSpaceClient method), [11](#)
[get_remaining_token_time\(\)](#) (genomespaceclient.client.GenomeSpaceClient method), [11](#)
[GSAceObject](#) (class in genomespaceclient.client), [9](#)
[GSAclObject](#) (class in genomespaceclient.client), [9](#)

[GSDataFormat](#) (class in genomespaceclient.client), [9](#)
[GSDirectoryListing](#) (class in genomespaceclient.client), [10](#)
[GSEffectiveAcl](#) (class in genomespaceclient.client), [10](#)
[GSFileMetadata](#) (class in genomespaceclient.client), [10](#)
[GSSidObject](#) (class in genomespaceclient.client), [10](#)

I

[isdir\(\)](#) (genomespaceclient.client.GenomeSpaceClient method), [11](#)

L

[list\(\)](#) (genomespaceclient.client.GenomeSpaceClient method), [11](#)

M

[mkdir\(\)](#) (genomespaceclient.client.GenomeSpaceClient method), [12](#)
[move\(\)](#) (genomespaceclient.client.GenomeSpaceClient method), [12](#)