
pendant

Release 0.4.1

Dec 10, 2018

Contents

1	Features	3
1.1	pendant package	3
1.2	How to Contribute	8
	Python Module Index	11


```
pip install pendant
```


- Submit Batch jobs

1.1 pendant package

1.1.1 aws Submodule

pendant.aws module

`pendant.aws.cli` (*command: str*) → str
Use the `awscli` to execute a command.

This function will call the `awscli` within the same process and not spawn subprocesses. In addition, the `STDERR` of the called function will be suppressed and the `STDOUT` will be returned as a string.

Parameters `command` – The command to be executed by the `awscli`.

Examples

```
>>> # cli('--version')
```

pendant.aws.batch module

class `pendant.aws.batch.JobDefinition`
Bases: `object`
A Batch job definition.
name
Return the name of the job definition.

parameters

Return the parameters of the job definition.

revision

Return the revision of the job definition.

validate () → None

Validate this job definition after initialization.

at_revision (revision: str) → pendant.aws.batch.JobDefinition

Set this job definition to a specific revision.

make_job_name (moment: Optional[datetime.datetime] = None) → str

Format a Batch job name from this definition.

to_dict () → Dict[str, str]

Return a dictionary of all parameters and their values as strings.

class pendant.aws.batch.**BatchJob** (definition: pendant.aws.batch.JobDefinition)

Bases: object

An AWS Batch job.

A Batch job can be instantiated and then submitted against the Batch service. After submission, the job's status can be queried, the job's logs can be read, and other methods can be called to understand the state of the job.

Parameters definition – A Batch job definition.

container_overrides

Return container overriding parameters.

job_id

Return the job ID.

queue

Return the job queue.

static describe_job (job_id: str) → Dict

Describe this job.

static describe_jobs (job_ids: List[str]) → List[Dict]

Describe a Batch job by job ID.

status () → str

Return the job status.

cancel (reason: str) → Dict

Cancel this job.

Parameters reason – The reason why the job must be canceled.

Returns The service response to job cancellation.

terminate (reason: str) → Dict

Terminate this job.

Jobs that are in the STARTING or RUNNING state are terminated, which causes them to transition to FAILED. Jobs that have not progressed to the STARTING state are cancelled.

Parameters reason – The reason why the job must be terminated.

Returns The service response to job termination.

is_running () → bool

Return if this job's state is RUNNING or not.

is_runnable () → bool
Return if this job's state is RUNNABLE or not.

is_submitted () → bool
Return if this job has been submitted to Batch.

submit (queue: str, container_overrides: Optional[Mapping] = None) → pendant.aws.response.SubmitJobResponse
Submit this job to Batch.

Parameters

- **queue** – The Batch job queue to use.
- **container_overrides** – The values to override in the spawned container.

Returns The service response to job submission.

log_stream_name () → str
Return the Batch log stream name for this job.

log_stream_events () → List[pendant.aws.logs.LogEvent]
Return all log events for this job.

Returns *events* – All log events, to date.

pendant.aws.exception module

exception pendant.aws.exception.BatchJobNotFoundError
Bases: `Exception`
A Batch job not found error.

exception pendant.aws.exception.BatchJobSubmissionError
Bases: `Exception`
A Batch job submission error.

exception pendant.aws.exception.LogStreamNotFoundError
Bases: `Exception`
A log stream not found error.

exception pendant.aws.exception.S3ObjectNotFoundError
Bases: `Exception`
A file not found error for objects on S3.

pendant.aws.logs module

class pendant.aws.logs.LogEvent (record: Mapping)
Bases: `object`
A AWS Cloudwatch log event.

Parameters **record** – A dictionary of log metadata.

class pendant.aws.logs.AwsLogUtil
Bases: `object`
AWS Cloudwatch cloud utility functions.

get_log_events (*group_name: str, stream_name: str*) → List[pendant.aws.logs.LogEvent]
Get all log events from a stream within a group.

pendant.aws.response module

class pendant.aws.response.**AwsResponse**
Bases: `object`
A generic HTTP response from AWS.

class pendant.aws.response.**SubmitJobResponse** (*response: Mapping*)
Bases: `pendant.aws.response.AwsResponse`
A Batch submit-job response.

is_ok () → bool
Return if response was successful.

http_code () → int
Return the HTTP status code of this response.

pendant.aws.s3 module

class pendant.aws.s3.**S3Uri** (*path: Union[str, S3Uri]*)
Bases: `object`
An S3 URI which conforms to RFC 3986 formatting.

Parameters *path* – The S3 URI path.

Examples

```
>>> uri = S3Uri('s3://mybucket/prefix')
>>> uri.scheme
's3://'
>>> uri.bucket
'mybucket'
>>> uri / 'myobject'
S3Uri('s3://mybucket/prefix/myobject')
```

delimiter = `'/'`

scheme
Return the RFC 3986 scheme of this URI.

Example

```
>>> uri = S3Uri('s3://mybucket/myobject')
>>> uri.scheme
's3://'
```

bucket
Return the S3 bucket of this URI.

Example

```
>>> uri = S3Uri('s3://mybucket/myobject')
>>> uri.bucket
'mybucket'
```

key

Return the S3 key of this URI.

Example

```
>>> uri = S3Uri('s3://mybucket/myobject')
>>> uri.key
'myobject'
```

add_suffix (*suffix: str*) → pendant.aws.s3.S3Uri

Add a suffix to this S3 URI.

Parameters *suffix* – Append this suffix to the URI.

Examples

```
>>> uri = S3Uri('s3://mybucket/myobject.bam')
>>> uri.add_suffix('.bai')
S3Uri('s3://mybucket/myobject.bam.bai')
```

This is equivalent to:

```
>>> S3Uri('s3://mybucket/myobject.bam') + '.bai'
S3Uri('s3://mybucket/myobject.bam.bai')
```

object_exists () → bool

Test if this URI references an object that exists.

pendant.aws.s3.**s3api_head_object** (*bucket: str, key: str, profile: str = 'default'*) → Dict

Use the `awscli` to make a GET request on an S3 object's metadata.

Parameters

- **bucket** – The S3 bucket name.
- **key** – The S3 object key.
- **profile** – The AWS profile to use, defaults to “*default*”.

Returns A dictionary of object metadata, if the object exists.

pendant.aws.s3.**s3api_object_exists** (*bucket: str, key: str, profile: str = 'default'*) → bool

Use the `awscli` to test if an S3 object exists.

Parameters

- **bucket** – The S3 bucket name.
- **key** – The S3 object key.
- **profile** – The AWS profile to use, defaults to “*default*”.

`pendant.aws.s3.s3_object_exists` (*bucket: str, key: str*) → bool
Use `boto3.S3.Object` to test if an S3 object exists.

Parameters

- **bucket** – The S3 bucket name.
- **key** – The S3 object key.

1.1.2 util Submodule

pendant.util module

class `pendant.util.ExitCode`

Bases: `int`

The code returned to a parent process by an executable.

Examples

```
>>> from subprocess import call
>>> exit_code = ExitCode(call('ls'))
>>> exit_code.is_ok()
True
```

is_ok () → bool

Is this code zero.

`pendant.util.format_ISO8601` (*moment: datetime.datetime*) → str

Format a datetime into a filename compatible ISO8601 representation.

Parameters **moment** – A datetime.

Returns The ISO8601 datetime formatted with hyphens as separators.

Examples

```
>>> from datetime import datetime
>>> format_ISO8601(datetime(2018, 2, 23, 12, 13, 38))
'2018-02-23T12-13-38'
```

1.2 How to Contribute

Pull requests, feature requests, and issues welcome! The complete test suite is configured through `TOX`:

```
cd pendant
pip install tox
tox # Run entire dynamic / static analysis test suite
```

List all environments with:

```
tox -av
using tox.ini: .../pendant/tox.ini
using tox-3.1.2 from ../tox/__init__.py
default environments:
py36          -> run the test suite with (basepython)
py36-lint     -> check the code style
py36-type    -> type check the library
py36-docs    -> test building of HTML docs

additional environments:
dev          -> the official sample_sheet development environment
```

To run just one environment:

```
tox -e py36
```

To pass in positional arguments to a specified environment:

```
tox -e py36 -- -x tests/test_sample_sheet.py
```


p

- `pendant.aws`, 3
- `pendant.aws.batch`, 3
- `pendant.aws.exception`, 5
- `pendant.aws.logs`, 5
- `pendant.aws.response`, 6
- `pendant.aws.s3`, 6
- `pendant.util`, 8

A

add_suffix() (pendant.aws.s3.S3Uri method), 7
 at_revision() (pendant.aws.batch.JobDefinition method), 4
 AwsLogUtil (class in pendant.aws.logs), 5
 AwsResponse (class in pendant.aws.response), 6

B

BatchJob (class in pendant.aws.batch), 4
 BatchJobNotFoundError, 5
 BatchJobSubmissionError, 5
 bucket (pendant.aws.s3.S3Uri attribute), 6

C

cancel() (pendant.aws.batch.BatchJob method), 4
 cli() (in module pendant.aws), 3
 container_overrides (pendant.aws.batch.BatchJob attribute), 4

D

delimiter (pendant.aws.s3.S3Uri attribute), 6
 describe_job() (pendant.aws.batch.BatchJob static method), 4
 describe_jobs() (pendant.aws.batch.BatchJob static method), 4

E

ExitCode (class in pendant.util), 8

F

format_ISO8601() (in module pendant.util), 8

G

get_log_events() (pendant.aws.logs.AwsLogUtil method), 5

H

http_code() (pendant.aws.response.SubmitJobResponse method), 6

I

is_ok() (pendant.aws.response.SubmitJobResponse method), 6
 is_ok() (pendant.util.ExitCode method), 8
 is_runnable() (pendant.aws.batch.BatchJob method), 4
 is_running() (pendant.aws.batch.BatchJob method), 4
 is_submitted() (pendant.aws.batch.BatchJob method), 5

J

job_id (pendant.aws.batch.BatchJob attribute), 4
 JobDefinition (class in pendant.aws.batch), 3

K

key (pendant.aws.s3.S3Uri attribute), 7

L

log_stream_events() (pendant.aws.batch.BatchJob method), 5
 log_stream_name() (pendant.aws.batch.BatchJob method), 5
 LogEvent (class in pendant.aws.logs), 5
 LogStreamNotFoundError, 5

M

make_job_name() (pendant.aws.batch.JobDefinition method), 4

N

name (pendant.aws.batch.JobDefinition attribute), 3

O

object_exists() (pendant.aws.s3.S3Uri method), 7

P

parameters (pendant.aws.batch.JobDefinition attribute), 3
 pendant.aws (module), 3
 pendant.aws.batch (module), 3
 pendant.aws.exception (module), 5

pendant.aws.logs (module), 5
pendant.aws.response (module), 6
pendant.aws.s3 (module), 6
pendant.util (module), 8

Q

queue (pendant.aws.batch.BatchJob attribute), 4

R

revision (pendant.aws.batch.JobDefinition attribute), 4

S

s3_object_exists() (in module pendant.aws.s3), 7
s3api_head_object() (in module pendant.aws.s3), 7
s3api_object_exists() (in module pendant.aws.s3), 7
S3ObjectNotFoundError, 5
S3Uri (class in pendant.aws.s3), 6
scheme (pendant.aws.s3.S3Uri attribute), 6
status() (pendant.aws.batch.BatchJob method), 4
submit() (pendant.aws.batch.BatchJob method), 5
SubmitJobResponse (class in pendant.aws.response), 6

T

terminate() (pendant.aws.batch.BatchJob method), 4
to_dict() (pendant.aws.batch.JobDefinition method), 4

V

validate() (pendant.aws.batch.JobDefinition method), 4