python-sailsd Documentation

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Contents

python-sailsd is a python library to make interacting with the sailsd API easy.

To install:

```
$ pip install python-sailsd
```

CHAPTER 1

Brief API overview

class sailsd.**Sailsd**

Low-level control to the sailsd API. Not much is defined here, just direct interaction to the API.

request(**attributes*)

Request one or more attribute from sailsd. These should be the names of each attribute as a string, for example:

```
>>> sailsd.request('speed')
{'speed': 4.59422737529291
>>> sailsd.request('heading', 'latitude')
{'heading': 0.7459227808181, 'latitude': 0.004578511779640}
```

set(***kwargs*)

Set attributes in sailsd.

```
>>> sailsd.set(rudder_angle=0.2)
{}
>>> sailsd.set(latitude=0)
{}
```

The attributes you are likely to be able to set are:

- `latitude`
- `longitude`
- `sail-angle`
- `heading`
- `rudder-angle`
- `wind-speed`
- `wind-angle`

but there could be others.

class sailsd.**Boat**(*sailsd=None*, *auto_update=False*)
A merry sailing boat sailing on the seas.

Parameters

- **sailsd** – an instance of `sailsd.Sailsd` to use instead of creating a new instance
- **auto_update** (*bool*) – whether to automatically request updated values on each attribute request. Setting this to True makes using `update()` redundant.

Some example usage:

```
>>> boat = sailsd.Boat()
>>> boat.rudder_angle = 0.1
>>> boat.update()
>>> boat.heading
0.758290214606183
>>> boat.speed
4.6089232392605135
>>> boat.latitude, boat.longitude
(0.0009904288095353697, 0.0009966210180718897)
```

heading
Current heading of the boat, measured in radians from the bow

latitude
Current latitude of the boat

longitude
Current longitude of the boat

rudder_angle
Angle of the rudder, measured in radians where 0 is a straight rudder

sail_angle
Angle of the sail, measured in radians where 0 is the sail pulled to the exact center of the boat

speed
Current speed of the boat, measured in meters per second

update()
Read attributes from sailsd and update all values. For example:

```
>>> boat = sailsd.Boat()
>>> boat.update()
>>> boat.latitude
100.00292426652119
```

This should be run just before reading values to ensure they are up to date.

x
Longitude approximately projected to an x y meter grid

y
Latitude approximately projected to an x y meter grid

class sailsd.**Wind**(*sailsd=None*, *auto_update=False*)
Some wind wafting over the sea.

Parameters

- **sailsd** – an instance of `sailsd.Sailsd` to use instead of creating a new instance

- **auto_update** (*bool*) – whether to automatically request updated values on each attribute request. Setting this to True makes using `update()` redundant.

angle
Angle of wind direction in radians. A value of 0 is a movement of wind from north to south.

speed
Speed of wind in meters per second.

update()
Read attributes from sailsd and update values. For example:

```
>>> wind = sailsd.Wind()
>>> wind.update()
>>> wind.speed
4.0
>>> wind.angle
1.5707963267948966
```

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