

AirMapSDK

version 1.0A

Airmap

September 24, 2016

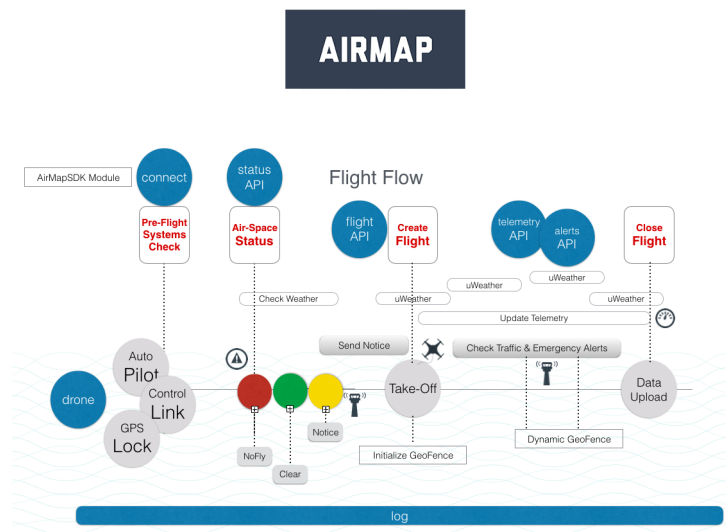
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Welcome to AirMap's documentation!

Airmap -- Airspace Management For Drones.

AirMapSDK is a Python library for interfacing with the [Airmap](#) API.



Pre-Requisites:

- Airmap developer account
- X-API-Key from your account
- GPS data (fake gps included)
- OAuth token
- getAirmap.py (copy to /home/root/installs directory or similar)

Wi-Fi Connectivity

```
ifconfig (check for wlan0 or LTE ethX)
cd /etc
sudo wpa_passphrase yourSSID yourPassphrase > wpa-Aero.conf
sudo wpa_supplicant -i wlan0 -c /etc/wpa-Aero.conf &
sudo dhclient wlan0
```

Install simplejson

```
cd /home/root
mkdir installs
cd installs
python getAirmap.py simplejson simplejson
unzip simplejson-master.zip
cd simplejson-master
python setup.py install
```

Install AirMapSDK

```
cd /home/root
mkdir Installs
cd installs
python getAirmap.py ricardoairmap EmbeddedSDK
unzip EmbeddedSDK-master.zip
cd EmbeddedSDK-master
```

User Example

```
cd /home/root/AirmapSDK
python userapp.py
```

API Example

(connect) `airmap.connect.set_XAPIKey(xapikey)` - Set your X-API-Key from your Airmap account
(connect) `airmap.connect.get_CIDID()` - Retrieve CID information
(connect) `airmap.connect.connect()` - Check internet connection and endpoint status Returns: True if ready
(statusAPI) `airmap.statusAPI.get_status(lat,lon,Weather.on)` - Given position retrieve airspace data
(statusAPI) Parse status information including weather, advisories, and maximum flight bounds (see statusAPI documentation)
(user) Process required notifications if needed
(connect) `airmap.connect.get_SecureToken()` - get security token
(flightAPI) `airmap.flightAPI.create_FlightPoint (flight time,lat,lon,publicflight?,sendnotifications?)` - Setup the flight and flight time Returns flightID
(flightAPI) `airmap.flightAPI.get_PilotID()` - Returns pilotID for this account
(flightAPI) `airmap.flightAPI.end_Flight(flightID)` - End the flight specified by flight ID
(flightAPI) `airmap.flightAPI.delete_Flight(flightID)` - Delete flight described by flightID
(flightAPI) `airmap.flightAPI.get_FlightList(pilotID)` - Get all flights for pilotID
(flightAPI) `airmap.flightAPI.cmd_KillFlights(pilotID)` - Delete all flights under specified pilotID

Documentation can be found at <https://developer.airmap.io>

Source code can be found at <https://github.com/...>

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Contents:

AirMap Package

airdefs Module

`airdefs AirMapSDK`

Created by Ricardo Rodriguez on 6/28/16. Copyright (c) 2016 AirMap, Inc. All rights reserved.

`class airmap.airdefs.Advisories` (*distance, last_updated, name, city, color, country, longitude, properties, state, latitude, type, id*)

Adivosry group list

Notes: Distance, date of last update, name, city, color(status), country, longitude, properties, state, latitude, type, id

`class airmap.airdefs.Advisory`

Advisoy information (Pre-Flight, In-Flight)

Notes: Advisory status color list

`class Color`

Flight status color code

Colors

Color code

Parameters:

- **gray** -- Disbabled
- **green** -- Go
- **yellow** -- Advise
- **red** -- NoFly

alias of `Enum`

`enum (*sequential, **named)`

`class airmap.airdefs.Globals`

Global settings

Notes: Session parameters address, port, timeout, api key, token, pilot id, flight id

AirConnected = *False*

dbgPrint (data)

Debug send to console

Parameters: **data** -- Debug or information to send to console

Returns: None

httpPort = 80

httpsAddr = 'api.airmap.io'

httpsPort = 443

keyAddr = 'sso.airmap.io'

myFlightID = None

myToken = None

pilotIDValid = *False*

pilot_id = None

strPrint (data)

Information send to console

Parameters: **data** -- information to send to console

Returns: None

testAddr = 'cm/pxv.com'

thisCID = None

timeOut = 18

xapikey = None

class airmap.airdefs.Notify

Enable notifications

Parameters:

- **on** -- Enable notifications
- **off** -- Disable notifications

off = *False*

on = *True*

class airmap.airdefs.Properties (prop_name, prop_value)

Name to Value Keypairs

class airmap.airdefs.Public

Make flight public

Parameters:

- **on** -- Public flight
- **off** -- Private flight

off = *False*

on = *True*

class airmap.airdefs.**Requirement**
Notification requirements contact key pair list

State
alias of **Enum**

enum (**sequential, **named*)

class airmap.airdefs.**Startup**
Startup configuration

Notes:

class **Drone**
Drone information (ID, Location, Status)

State
alias of **Enum**

enum (**sequential, **named*)

class airmap.airdefs.**Weather**
Weather control parameters

Parameters:

- **on** -- Enable weather data
- **off** -- Disable weather data

off = *'false'*

on = *'true'*

connect *Module*

connect AirMapSDK

Created by Ricardo Rodriguez on 6/28/16. Copyright (c) 2016 AirMap, Inc. All rights reserved.

class airmap.connect.**Connect**

connect ()
Connect to service

Param: None

Returns: True - if connected otherwise False

connection = *None*
Connection instance

Notes: HTTPS access variable

get_CIDID ()
Retrieve CID from mmcblk0

Param: None

Returns: CID otherwise False

get_SecureToken ()

Retrieve security token and refresh

Param: None

Returns: Token if successful otherwise False

Todo: Remove hardcoded token and add token from https endpoint based on CID

headers = None

Connection headers security and format

Notes: Security and format headers

os = <module 'os' from '/usr/lib/python2.7/os.pyc'>

OS access

Notes: Run sys commands

set_Timeout (time_out)

Set https request timeout time

Parameters: **time_out** -- Timeout time in seconds

Returns: True - Success, False - Fail

set_XAPIKey (xapikey)

Set https request timeout time

Parameters: **xapikey** -- X-API-Key from developers account

Returns: True - Success, False - Fail

thisGlobals = <airmap.airdefs.Globals instance at 0x2ac329f56290>

Global parameter access

Notes: Endpoint address, ports, token, id(s)

statusAPI Module

statusAPI AirMapSDK

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```
class airmap.statusAPI.Status
```

```
    cmd_ProcessAdvisories ()
```

```
    connection = None
```

```
    get_Advisories ()
```

```
    get_Advisory (id)
```

```
    get_Condition ()
```

```
    get_Humidity ()
```

```
    get_MaxDistance ()
```

```
    get_Precipitation ()
```

```
    get_StatusCode ()
```

```
    get_StatusColor ()
```

```
get_Temperature ()
get_Visibility ()
get_WindGusting ()
get_WindHeading ()
get_WindSpeed ()
get_status (gps_lat, gps_lon, weather)
headers = None
levelDown (data)
localAdvisories = []
localLevelDown = []
localProperties = []
os = <module 'os' from '/usr/lib/python2.7/os.pyc'>
status_json = None
thisGlobals = <airmap.airdefs.Globals instance at 0x2ac329f5a5a8>
```

flightAPI Module

flightAPI AirMapSDK

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```
class airmap.flightAPI.Flight

    cmd_KillFlights (pilotID)

    connection = None

    create_FlightPoint (time, lat, lon, public, notify)

    delete_Flight (flightID)

    end_Flight (flightID)

    get_FlightList (pilotID)

    get_PilotID ()

    headers = None

    os = <module 'os' from '/usr/lib/python2.7/os.pyc'>

    thisGlobals = <airmap.airdefs.Globals instance at 0x2ac329901488>
```

drone Module

drone AirMapSDK

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```
class airmap.drone.drone
```

log Module

log AirMapSDK

Created by Ricardo Rodriguez on 6/28/16. Copyright (c) 2016 AirMap, Inc. All rights reserved.

```
class airmap.log.log
```

telemetryAPI Module

telemetryAPI AirMapSDK

Created by Ricardo Rodriguez on 6/28/16. Copyright (c) 2016 AirMap, Inc. All rights reserved.

```
class airmap.telemetryAPI.Telemetry

    connection = None

    headers = None

    os = <module 'os' from '/usr/lib/python2.7/os.pyc'>

    put_Telemetry (flightID, lat, lon)

    thisGlobals = <airmap.airdefs.Globals instance at 0x2ac329901d40>
```

alertsAPI Module

alertsAPI AirMapSDK

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```
class airmap.alertsAPI.alertsAPI
```

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