

AirMapSDK

version 1.0A

Airmap

September 26, 2016

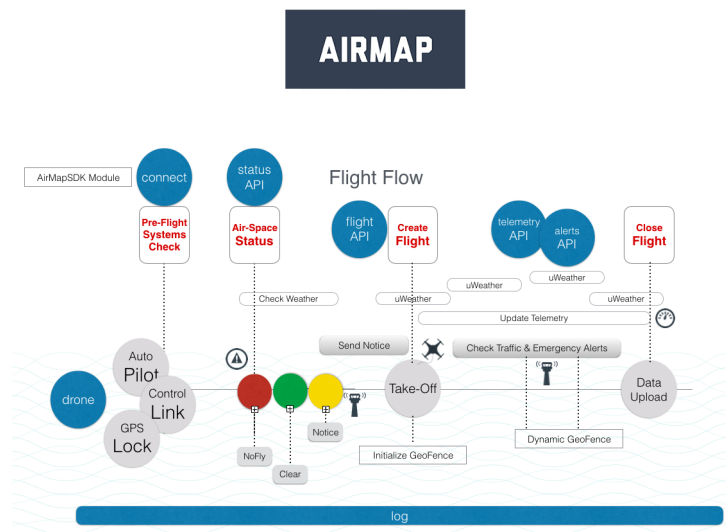
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Welcome to AirMap's documentation!

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
- xmlrpclib.py
- pip
- getAirmap.py (copy to /home/root/installs directory or similar)
- python requests package

Install Requests

```
Insert USB drive with requests-master.zip
sudo mount /dev/sda1 /mnt
cp /mnt/requests-master.zip /home/root/new_dir
cd /home/root/new_dir
unzip requests-master.zip
cd requests-master
sudo python setup.py install
```

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
sudo python setup.py install
```

Install AirMapSDK

AirMap Package

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

User Example

```
cd /home/root/Installs/EmbeddedSDK-master
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

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

Advisory group list

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

```
class airmap.airdefs.Advisory
```

Advisory information (Pre-Flight, In-Flight)

Notes: Advisory status color list

```
class Color
```

Flight status color code

Colors

Color code

Parameters:

- **gray** -- Disabled
- **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

`telemetryAddr = 'api-aero-telemetry.airmap.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

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`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 0x2adf786bdea8>*
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 0x2adf786e3f38>
```

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 0x2adf786e3908>
```

drone Module

drone AirMapSDK

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

log Module

log AirMapSDK

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

telemetryAPI Module

telemetryAPI AirMapSDK

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```
class airmap.telemetryAPI.Telemetry
```

```
connection = None
```

```
headers = None
```

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

```
post_Telemetry (flightID, lat, lon, alt, ground_speed, heading, barometer)
```

```
put_Telemetry (flightID, lat, lon, alt, ground_speed, heading, barometer)
```

```
thisGlobals = <airmap.airdefs.Globals instance at 0x2adf78a711b8>
```

alertsAPI Module

alertsAPI AirMapSDK

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

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