HOW TO USE THE ASTI API

What is an API?

An Application Programming Interface (API), in computer programming, is a set of routines, protocols, and tools for building software applications. (credit : wikipedia) It is basically an interface that allows a software application to communicate with a remote application over the Internet. (credit : http://money.howstuffworks.com/)

How does ASTI API work?

ASTI API provides a communication to other applications to retrieve data directly from the database. It allows the "other" applications to fetch

- all the available devices with its corresponding meta-data
- the last 24-hour data of a certain device
- data from a given date up to current date
- data within a given date range

To be able to communicate with the API, the user must first have a user account, which will be provided by ASTI upon request.

API Request and Response Formats

When requesting data with date ranges, the date format should be ***YYYY-MM-DD***.

The output of the API Request is in JSON format.

For requests with date ranges, API responses are in descending order, and are in Philippine Standard Time (PHT).

1) **To Fetch All Available Devices :**
Format : http://weather.asti.dost.gov.ph/web-api/index.php/api/devices

Sample Data Output:


```
[

  {

    "dev_id":2,
    "location":"NANGKA, MARIKINA CITY",
    "province":"Metro Manila",
    "region":"NCR",
    "posx":"14.673748",
```

```
    "posy":"121.109471",
    "type_id":4,
    "sensor_name":"Waterlevel"
  },{
    "dev_id":3,
    "location":"MONTALBAN",
    "province":"Rizal",
    "region":"4-A",
    "posx":"14.733133",
    "posy":"121.130364",
    "type_id":4,
    "sensor_name":"Waterlevel"
  },{...},....

]
```


2) **To Fetch Data From The Last 24hrs For A Certain Device**

Format : http://weather.asti.dost.gov.ph/web-api/index.php/api/data/<device id>

Sample Request : http://weather.asti.dost.gov.ph/web-api/index.php/api/data/1464

Sample Data Output :


```
{
        "dev_id":1464,
        "location":"DELFIN ALBANO MUNICIPAL GROUNDS",
        "province":"Isabela",
        "cell_num":"09173285941",
        "posx":"16.50802",
        "posy":"121.74686",
        "elevation":null,
        "battery":"LP",
        "region":"2",
        "type_id":"Rain2",
        "firmware":"2.8",
        "owner":"ASTI",
        "status":0,
        "project":"hydromet",
        "remarks":"",
        "servernum":"09178747367",
        "municipality":"DELFIN ALBANO",
        "imei_num":"300234061252180",
        "is_ftp":false,
        "date_calibrated":null,
        "date_installed":"2014-07-10",
        "errcode":null,
        "data":  [{
                        "dateTimeRead":"2015-06-30 16:15:09",
                        "rain_value":"0.00",
                        "air_pressure":"1001.19"
                },{
                        "dateTimeRead":"2015-06-30 16:00:09",
                        "rain_value":"0.00",
                        "air_pressure":"1001.23"
                },{
                        …
                },{
```

```
                "dateTimeRead":"2015-06-29 08:00:09",
                "rain_value":"0.00",
                "air_pressure":"1008.36"
        }
        ]
}
```


3) **To Fetch Data From A Given Date Up To Current Date**

Format : http://weather.asti.dost.gov.ph/web-api/index.php/api/data/<device id>/from/<yyyy-mm-dd>

Sample Request : http://weather.asti.dost.gov.ph/web-api/index.php/api/data/1464/from/2015-06-28

Sample Data Output :


```
{
        "dev_id":1464,
        "location":"DELFIN ALBANO MUNICIPAL GROUNDS",
        "province":"Isabela",
        "cell_num":"09173285941",
        "posx":"16.50802",
        "posy":"121.74686",
        "elevation":null,
        "battery":"LP",
        "region":"2",
        "type_id":"Rain2",
        "firmware":"2.8",
        "owner":"ASTI",
        "status":0,
        "project":"hydromet",
        "remarks":"",
        "servernum":"09178747367",
        "municipality":"DELFIN ALBANO",
        "imei_num":"300234061252180",
        "is_ftp":false,
        "date_calibrated":null,
        "date_installed":"2014-07-10",
        "errcode":null,
        "data":
                [{
                        "dateTimeRead":"2015-06-30 17:15:10",
                        "rain_value":"0.00",
                        "air_pressure":"1001.25"
                },{
                        "dateTimeRead":"2015-06-30 17:00:10",
                        "rain_value":"0.00",
                        "air_pressure":"1001.16"
                },{
                        …
                },{
                        "dateTimeRead":"2015-06-28 08:00:10",
                        "rain_value":"0.00",
                        "air_pressure":"1009.83"
                }
                ]
}
```

4) **To Fetch Data Within A Given Date Range**

Format : http://weather.asti.dost.gov.ph/web-api/index.php/api/data/<device id>/from/<yyyy-mm-dd>/to/<yyyy-mm-dd>

Sample Request : http://weather.asti.dost.gov.ph/web-api/index.php/api/data/78/from/2015-06-30/to/2015-06-30

Sample data output:


```
{
	"dev_id":78,
	"location":"ODIONGAN",
	"province":"Romblon",
	"cell_num":"09175932823",
	"posx":"12.397278",
	"posy":"121.985",
	"elevation":"9",
	"battery":"LA",
	"region":"4-B",
	"type_id":"UAAWS",
	"firmware":"2.7",
	"owner":"ASTI",
	"status":0,
	"project":"hybrid",
	"remarks":"120815\/with trash data noted\/invalid data string\/check sensor status\/condition",
	"servernum":"09178747368",
	"municipality":"ODIONGAN",
	"imei_num":"300234011581180",
	"is_ftp":false,
	"date_calibrated":null,
	"date_installed":null,
	"errcode":null,
	"data":  [ {
		"dateTimeRead":"2015-06-30 12:30:32",
		"wind_speed":"8.0",
		"rain_value":"0.00",
		"rain_intensity":"0.0",
		"rain_cum":"352.98",
		"soil_moisture1":"16.46",
		"soil_moisture2":"4095.00",
		},
		{....},.....
		]
}
```


5) To Log Out

Format : http://weather.asti.dost.gov.ph/home/

Sample Python Script :

```
import json, requests

device_url = 'http://weather.asti.dost.gov.ph/home/index.php/api/devices'
r = requests.get(device_url, auth=('username', 'password'))

data = r.json()
print data[0]
print "\n"
print data[0]['location']
```