


Tag Table RESTful API

Overview

Machbase provides a RESTful API for accessing the Tag Table.
If you run Machbase Web Analytics (MWA) using \$MACHBASE_HOME/webadmin/flask/MWAserver start, you can use the Tag Table Restful API.

```
[mach@localhost]$ cd $MACHBASE_HOME/bin  
[mach@localhost]$ MWAserver start
```

 Unless otherwise noted, all use the GET method.

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Check Working Status

Usage

```
{MWA URL}/machiots-rest-api/    --> Latest version api  
{MWA URL}/machiots-rest-api/v1/ --> Version 1
```

Example

```
http://192.168.0.31:5003/machiots-rest-api/  
http://192.168.0.31:5003/machiots-rest-api/v1/
```

Result

```
{  
  "status": "Working",  
  "version": "1.0"  
}
```

curl Example

```
curl -G 'http://192.168.0.31:5003/machiots-rest-api/'
```

get Calculated Data

Usage

```
{MWA URL}/machiots-rest-api/datapoints/calculated/{TagName}/{Start}/{End}/{CalculationMode}/{Count}/
{IntervalType}/{IntervalValue}/
```

TagName : Tag Name. Supports multiple tags (separated by ,) -> Passes multiple Tag results to a single Series
Start, End : Period, YYYY-MM-DD HH24:MI:SS or YYYY-MM-DD
CalculationMode : min, max, total(sum), count(cnt), average(avg)
Count : LIMIT, all if 0
IntervalType : sec(second), min(minute), hour, day
IntervalValue : Unit of IntervalType (5 sec, 3 min, etc.) Default 1

Can also be passed to Get method parameter (duplicate URL takes precedence)



If TagName is separated by , and multiple tags are specified, it is returned as one Series.
Use this when you want to combine several tags that have data only in a certain time zone and get results in one series.
If the data is duplicated, the data of the quick tag is selected in the order by order of TagName.

Example

```
http://192.168.0.31:5003/machiots-rest-api/v1/datapoints/calculated/TAG_193,TAG_194/2018-01-16T14:40:00/2018-01-16T14:50:00/cnt/0/sec
http://192.168.0.31:5003/machiots-rest-api/v1/datapoints/calculated?TagNames=TAG_193,TAG_194&Start=2018-01-16T14:40:00&End=2018-01-16T14:50:00&CalculationMode=cnt&count=0&IntervalType=sec
```

Result

```
{
  "ErrorCode": 0,
  "ErrorMessage": "",
  "Data": [
    {
      "DataType": "LONG",
      "ErrorCode": 0,
      "TagName": "TAG_193,TAG_194",
      "CalculationMode": "cnt",
      "Samples": [
        {
          "TimeStamp": "2018-01-16 14:40:05 000:000:000",
          "Value": 6,
          "Quality": 0,
        },
        {
          "TimeStamp": "2018-01-16 14:40:06 000:000:000",
          "Value": 25,
          "Quality": 0,
        },
        ...
      ]
    }
  ]
}
```

curl Example

```
curl -G 'http://192.168.0.31:5003/machiots-rest-api/datapoints/calculated/TAG_193,TAG_194/2018-01-16T14:40:00/2018-01-16T14:50:00/cnt/0/sec'
```

get Raw Data

Usage

```
{MWA URL}/machiots-rest-api/datapoints/raw/{TagName}/{Start}/{End}/{Direction}/{Count}/{Offset}/
```

TagName : Tag Name. Supports multiple tags (separated by ,) -> Passes multiple Tag results to a single Series
Start, End : Period, YYYY-MM-DD HH24:MI:SS or YYYY-MM-DD or YYYY-MM-DD HH24:MI:SS,mmm (mmm: millisecond, if omitted, start is 000, End is 999)
Direction : 0(not use= default value), 1(descend), 2(ascend)
Count : LIMIT, all if 0
Offset : offset (default value = 0)

Can also be passed to Get method parameter (duplicate URL takes precedence)



If TagName is separated by , and multiple tags are specified, it is returned as one Series.
Use this when you want to combine several tags that have data only in a certain time zone and get results in one series.
If the data is duplicated, the data of the quick tag is selected in the order by order of TagName.

Example

```
http://192.168.0.31:5003/machiots-rest-api/v1/datapoints/raw/TAG_193,TAG_194/2018-01-16T14:40:00,500/2018-01-16T14:40:10,800  
http://192.168.0.31:5003/machiots-rest-api/v1/datapoints/raw?TagNames=TAG_193,TAG_194&Start=2018-01-16T14:40:00,500&End=2018-01-16T14:40:10,800
```

Result

```
{  
  "ErrorCode": 0,  
  "ErrorMessage": "",  
  "Data": [  
    {  
      "DataType": "DOUBLE",  
      "ErrorCode": 0,  
      "TagName": "TAG_193,TAG_194",  
      "Samples": [  
        {"TimeStamp": "2018-01-16 14:40:05 538:012:000", "Value": 100.0, "Quality": 0},  
        {"TimeStamp": "2018-01-16 14:40:05 798:813:000", "Value": 26.0, "Quality": 0}, ...  
      ]  
    }  
  ]  
}
```

curl Example

```
curl -G 'http://192.168.0.31:5003/machiots-rest-api/datapoints/raw/TAG_193,TAG_194/2018-01-16T14:40:00,500/2018-01-16T14:40:10,800'
```

INSERT

When called with the **POST method**, it is appended to the TAG table.
parameter is the same, except that the name (= Table Name) is not present in the POST method parameter of the RESTful API.

Parameter

```
{
  "values":[
    [TAG_NAME, TAG_TIME, VALUE],
    [ .... ]....
  ],
  "date_format":"Date Format"
}
```

Note: If date_format is omitted, set to 'YYYY-MM-DD HH24: MI: SS mmm: uuu: nnn'

Example: GET URL

```
http://192.168.0.31:5003/machiot-rest-api/
```

Example: POST data

```
{
  "values":[
    ["TAG_0","2018-01-11 01:16:37",100],
    ["TAG_1","2018-01-11 01:16:37",100],
    ["TAG_2","2018-01-11 01:16:37",100],
    ["TAG_3","2018-01-11 01:16:37",100],
    ["TAG_4","2018-01-11 01:16:37",100],
    ["TAG_5","2018-01-11 01:16:37",100],
    ["TAG_6","2018-01-11 01:16:37",100],
    ["TAG_7","2018-01-11 01:16:37",100],
    ["TAG_8","2018-01-11 01:16:37",100],
    ["TAG_9","2018-01-11 01:16:37",100]
  ],
  "date_format":"YYYY-MM-DD HH24:MI:SS"
}
```

curl Example

```
curl -X POST -H "Content-Type: application/json" "http://127.0.0.1:5003/machiot-rest-api/" -d '{ "values":
[["TAG_00","2018-01-11 01:16:37",100],["TAG_01","2018-01-11 01:16:37",100]], "date_format":"YYYY-MM-DD HH24:
MI:SS" }'
```

Get Tag List

Obtain a list of tags.

Usage

```
{MWA URL}/machiot-rest-api/tags/list/
```

Example

```
http://192.168.0.31:5003/machiot-rest-api/tags/list/
```

Result

```
{
  "ErrorCode": 0,
  "ErrorMessage": "",
  "Data": [
    {"NAME": "TAG_00"},
    {"NAME": "TAG_01"},
    {"NAME": "TAG_02"},
    {"NAME": "TAG_03"}, .....
  ]
}
```

curl Example

```
curl -G 'http://192.168.0.31:5003/machiot-rest-api/tags/list'
```

Get Time Range

Obtain the time range of the input data.

Usage

```
{MWA URL}/machiot-rest-api/tags/range/  
{MWA URL}/machiot-rest-api/tags/range/{TagName}
```

TagName : Tag Name (Currently, multiple Tag Names are not supported)
If there is no TagName, obtains the time range for all data.

Example

```
http://192.168.0.31:5003/machiot-rest-api/tags/range/TAG_00
```

Result

```
{
  "ErrorCode": 0,
  "ErrorMessage": "",
  "Data": [
    {"MIN": "2017-01-01 00:00:00 000:000:000", "MAX": "2017-02-02 19:02:13 000:000:000"}
  ]
}
```

curl Example

```
curl -G 'http://192.168.0.31:5003/machiot-rest-api/tags/range/TAG_00'
```

Request Rollup

Force rollup. (Execute 'EXEC ROLLUP_FORCE' command, takes about 6 seconds)

Usage

```
{MWA URL}/machiot-rest-api/rollup/
```

Example

```
http://192.168.0.31:5003/machiot-rest-api/rollup/
```

Result

```
{
  "ErrorCode": 0,
  "ErrorMessage": "",
  "Data": [
    { "EXECUTE RESULT": "Execute Success" }
  ]
}
```

curl Example

```
curl -G 'http://192.168.0.31:5003/machiot-rest-api/rollup/'
```