

# AirOS

## SNMP

```
snmpwalk -c lessinianet.snmp -v 1 10.210.12.249 IF-MIB::ifDescr
[] SIGINT(2) ← [] 3784 [] 11:15:45
IF-MIB::ifDescr.1 = STRING: lo
IF-MIB::ifDescr.2 = STRING: eth0
IF-MIB::ifDescr.3 = STRING: eth1
IF-MIB::ifDescr.4 = STRING: wifi0
IF-MIB::ifDescr.5 = STRING: ath0
IF-MIB::ifDescr.6 = STRING: eth0.10
IF-MIB::ifDescr.7 = STRING: br0
```

```
snmpget -c lessinianet.snmp -v 1 10.210.12.249 IF-MIB::ifPhysAddress.4
IF-MIB::ifPhysAddress.4 = STRING: 4:18:d6:ec:98:ac
```

Cercando dalla prima query i "wifi\*" e sostituendo l'indice corrispondente nella seconda query si ottiene il mac

## http API

```
<?php
// airOS_getFile_HTTP() from Omniflux:
//
https://community.ubnt.com/t5/airMAX-AC/Login-to-web-interface-with-PHP/m-p/2291860#M29858

// an example of fetching status.cgi from an AF24 (and probably any other
UBNT radio)
// the output is a bunch of JSON with the current radio stats

// airOS_getFile_HTTP ($username, $password, $file, $address, $schema)

$out = airOS_getFile_HTTP ("root", "xxx", "status.cgi", "10.210.48.2",
"https"); // CPE mng
$out = airOS_getFile_HTTP ("galileo", "xxx", "status.cgi", "10.210.12.247",
"http"); // settore
$out = airOS_getFile_HTTP ("root", "xxx", "status.cgi",
"109.104.240.187:8008", "http"); // CPE
print $out;

function airOS_getFile_HTTP ($username, $password, $file, $address, $schema)
{
```

```
$ch = curl_init();

// Setup CURL
curl_setopt ($ch, CURLOPT_SSL_VERIFYPEER, 0);
curl_setopt ($ch, CURLOPT_SSL_VERIFYHOST, 0);
curl_setopt ($ch, CURLOPT_RETURNTRANSFER, 1);
curl_setopt ($ch, CURLOPT_COOKIEJAR, null);
curl_setopt ($ch, CURLOPT_HTTPHEADER, Array ('Expect: '));

// Login AirOS >= 8.5.0+ OR get cookie with session ID for AirOS <
8.5.0
curl_setopt ($ch, CURLOPT_URL, "$schema://$address/api/auth");
curl_setopt ($ch, CURLOPT_POST, 1);
curl_setopt ($ch, CURLOPT_POSTFIELDS, Array ('username' =>
$username, 'password' => $password));
curl_setopt ($ch, CURLOPT_HEADER, 1);
$response = curl_exec ($ch);
// uncomment to see raw response
//print "resp: $response\n";
curl_setopt ($ch, CURLOPT_HEADER, 0);

// AirOS >= 8.5.0 request and return file

if (curl_getinfo ($ch, CURLINFO_HTTP_CODE) == 200)
{
    // Get X-CSRF-ID value
    preg_match ('/X-CSRF-ID: .*/', substr ($response, 0,
curl_getinfo ($ch, CURLINFO_HEADER_SIZE)), $XCSRFID);

    curl_setopt ($ch, CURLOPT_URL, "$schema://$address/$file");
    curl_setopt ($ch, CURLOPT_POST, 0);
    $retfile = curl_exec ($ch);

    curl_setopt ($ch, CURLOPT_URL,
"$schema://$address/logout.cgi");
    curl_setopt ($ch, CURLOPT_HTTPHEADER, Array (trim
($XCSRFID[0]), 'X-AIROS-LUA: 1'));
    curl_setopt ($ch, CURLOPT_POST, 1);
    curl_setopt ($ch, CURLOPT_POSTFIELDS, Array());
    curl_exec ($ch);
}

// Login failed, try AirOS < 8.5.0 login, request, and return file
else
{
    curl_setopt ($ch, CURLOPT_URL,
"$schema://$address/login.cgi");
    curl_setopt ($ch, CURLOPT_POST, 1);
    curl_setopt ($ch, CURLOPT_POSTFIELDS, Array ('username' =>
$username, 'password' => $password));
    curl_exec ($ch);
}
```

```
        curl_setopt ($ch, CURLOPT_URL, "$schema://$address/$file");
        curl_setopt ($ch, CURLOPT_POST, 0);
        $retfile = curl_exec ($ch);
    }

    curl_close ($ch);

    return $retfile;
}
?>
```

```
{
  "chain_names": [
    {
      "number": 1,
      "name": "Chain 0"
    },
    {
      "number": 2,
      "name": "Chain 1"
    }
  ],
  "host": {
    "hostname": "cpe-188192-gal-lab",
    "uptime": 667685,
    "time": "2018-01-26 08:29:59",
    "timestamp": 828344250,
    "fwversion": "v8.5.0-cs.36727.180118.1402",
    "devmodel": "Rocket Prism 5AC Gen2",
    "netrole": "bridge",
    "loadavg": 0.129883,
    "totalram": 129982464,
    "freeram": 89100288,
    "temperature": 50,
    "cpuload": 39.603962
  },
  "genuine": "/images/genuine.png",
  "services": {
    "dhcpc": false,
    "dhcpd": false,
    "dhcp6d_stateful": false,
    "pppoe": false,
    "airview": 2
  },
  "firewall": {
    "iptables": false,
    "ebtables": false,
    "ip6tables": false,
    "eb6tables": false
  },
}
```

```
"portfw": false,
"wireless": {
  "ssid": "lessinianet.net",
  "mode": "sta-ptmp",
  "compat_11n": 0,
  "hide_essid": 0,
  "apmac": "80:2A:A8:A4:2F:9D",
  "frequency": 5655,
  "center1_freq": 5655,
  "dfs": 1,
  "distance": 14850,
  "security": "WPA2",
  "noisef": -90,
  "txpower": 22,
  "aprepeater": false,
  "rstatus": 5,
  "chanbw": 20,
  "rx_chainmask": 3,
  "tx_chainmask": 3,
  "cac_state": 0,
  "rx_idx": 4,
  "rx_nss": 2,
  "tx_idx": 6,
  "tx_nss": 2,
  "count": 1,
  "polling": {
    "dcap": 57720,
    "ucap": 95680,
    "use": 2,
    "tx_use": 1,
    "rx_use": 1,
    "atpc_status": 0,
    "fixed_frame": false,
    "gps_sync": false
  },
  "sta": [
    {
      "mac": "80:2A:A8:A4:2F:9D",
      "lastip": "0.0.0.0",
      "signal": -66,
      "rssi": 30,
      "noisefloor": -90,
      "chainrssi": [
        28,
        26,
        0
      ],
      "tx_idx": 6,
      "rx_idx": 4,
      "tx_nss": 2,
      "rx_nss": 2,
    }
  ]
}
```

```
"tx_latency": 0,
"distance": 14850,
"tx_packets": 0,
"tx_lretries": 0,
"tx_sretries": 0,
"uptime": 157916,
"tx_ratedata": [
  3,
  0,
  0,
  176,
  14327,
  102196,
  156745,
  178340,
  0,
  0
],
"stats": {
  "rx_bytes": 83701813,
  "rx_packets": 588950,
  "rx_pps": 11,
  "tx_bytes": 98347739,
  "tx_packets": 292160,
  "tx_pps": 0
},
"remote": {
  "hostname": "santuario-Sud0vest",
  "platform": "Rocket 5AC Prism",
  "version": "XC.qca955x.v8.5.11.39842.190109.1449",
  "uptime": 240246,
  "time": "2019-01-12 10:33:00",
  "cpuload": 7,
  "temperature": 51,
  "totalram": 129961984,
  "freeram": 81661952,
  "netrole": "bridge",
  "mode": "ap-ptmp",
  "compat_11n": 1,
  "signal": -64,
  "rssi": 32,
  "noiselevel": -87,
  "tx_power": 22,
  "distance": 14850,
  "rx_chainmask": 3,
  "chainrssi": [
    30,
    28,
    0
  ],
  "tx_ratedata": [
```

```
    2,  
    5,  
    220,  
    3920,  
    294380,  
    0,  
    0,  
    0,  
    0,  
    0  
  ],  
  "tx_bytes": 139113407571,  
  "rx_bytes": 9806798900,  
  "ethlist": [  
    {  
      "ifname": "eth0",  
      "enabled": true,  
      "plugged": true,  
      "duplex": true,  
      "speed": 1000,  
      "snr": [  
        30,  
        30,  
        30,  
        30  
      ],  
      "cable_len": 14  
    }  
  ],  
  "ipaddr": [  
    "10.210.48.248",  
    "169.254.47.157"  
  ],  
  "gps": {  
    "lat": "45.545359",  
    "lon": "10.878980",  
    "fix": 1,  
    "sats": 8,  
    "dim": 3,  
    "dop": "1.30",  
    "alt": "341.6"  
  },  
  "oob": "false"  
},  
"airmax": {  
  "actual_priority": 2,  
  "beam": 0,  
  "desired_priority": 2,  
  "downlink_capacity": 57720,  
  "uplink_capacity": 95680,  
  "atpc_status": 0,
```









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```
"hwaddr": "78:8A:20:AC:E4:4C",
"enabled": true,
"mtu": 1500,
"status": {
  "plugged": false,
  "tx_bytes": 394212716,
  "rx_bytes": 361312482,
  "tx_errors": 0,
  "rx_errors": 0,
  "ipaddr": "0.0.0.0",
  "speed": 0,
  "duplex": false
}
},
{
  "ifname": "br0",
  "hwaddr": "78:8A:20:AC:E4:4C",
  "enabled": true,
  "mtu": 1500,
  "status": {
    "plugged": true,
    "tx_bytes": 312537683,
    "rx_bytes": 249947706,
    "tx_errors": 0,
    "rx_errors": 0,
    "ipaddr": "10.210.48.2",
    "speed": 0,
    "duplex": false
  }
}
],
"provmode": {},
"ntpclient": {},
"unms": {
  "status": 1,
  "timestamp": "2018-01-26T08:29:57+0100"
}
}
```

risposta CPE

```
{ "host": {
  "uptime": 5104088,
  "time": "2017-02-16 18:53:02",
  "fwversion": "v6.0",
  "fwprefix": "XW",
  "hostname": "cpe-240187",
  "devmodel": "PowerBeam M5 300",
  "netrole": "router",
  "totalram": 63623168,
  "freeram": 39596032,

```

```
"cputotal": 510331084,  
"cpubusy": 3895687  
,  
"wireless": {  
  "mode": "sta",  
  "ssid": "lessinianet.net",  
  "hide_essid": 0,  
  "apmac": "04:18:D6:EC:98:AC",  
  "countrycode": 380,  
  "channel": 40,  
  "frequency": "5200 MHz",  
  "dfs": "0",  
  "opmode": "11NAHT20",  
  "antenna": "300 - 22 dBi",  
  "chains": "2X2",  
  "signal": -70, "rssi": 26, "noise": -96,  
  "txpower": 22,  
  "ack": 37,  
  "distance": 1950,  
  "ccq": 991,  
  "txrate": "39", "rxrate": "117",  
  "security": "WPA2", "qos": "No QoS",  
  "rstatus": 5,  
  "count": 1, "cac_nol": 0, "nol_chans": 0,  
  "polling": {  
    "enabled": 0, "quality": 0, "capacity": 0, "priority": 0, "noack":  
0,  
    "airsync_mode": 0, "airsync_connections": 0,  
    "airsync_down_util" : 0, "airsync_up_util" : 0,  
    "airselect" : 0, "airselect_interval" : 0  
  },  
  "stats": {  
    "rx_nwids": 0,  
    "rx_crypts": 0,  
    "rx_frags": 0,  
    "tx_retries": 0,  
    "missed_beacons": 0,  
    "err_other": 0  
  },  
  "wds": 0,  
  "aprepeater": 0,  
  "chwidth": 20,  
  "chanbw": 20,  
  "cwmmode": 0,  
  "rx_chainmask": 3,  
  "tx_chainmask": 3,  
  "chainrssi" : [ 20, 25, 0 ],  
  "chainrssiavg" : [ 21, 25, 0 ],  
  "chainrssiext" : [ 20, 25, 0 ]  
,  
  "airview": { "enabled": 0 },  
  "services": { "dhcpc": 0, "dhcpcd": 1, "pppoe": 1 },
```

```
"firewall": { "iptables": 0, "ebtables" : 0, "ip6tables": 0, "eb6tables" :
0 },
"genuine": "/images/genuine.png",
"interfaces" : [
  {
    "ifname" : "lo",
    "hwaddr": "00:00:00:00:00:00",
    "enabled" : true,
    "status" : { "plugged": 1, "speed": 0, "duplex": 255 },
    "services" : { "dhcpc": false, "dhcpd": false, "pppoe": false }
  },
  {
    "ifname" : "eth0",
    "hwaddr": "80:2A:A8:6F:67:A9",
    "enabled" : true,
    "status" : { "plugged": 1, "speed": 100, "duplex": 1 },
    "services" : { "dhcpc": false, "dhcpd": false, "pppoe": false }
  },
  {
    "ifname" : "wifi0",
    "hwaddr": "80:2A:A8:6E:67:A9",
    "enabled" : true,
    "status" : { "plugged": 1, "speed": 0, "duplex": 255 },
    "services" : { "dhcpc": false, "dhcpd": false, "pppoe": false }
  },
  {
    "ifname" : "ath0",
    "hwaddr": "80:2A:A8:6E:67:A9",
    "enabled" : true,
    "status" : { "plugged": 1, "speed": 0, "duplex": 255 },
    "services" : { "dhcpc": false, "dhcpd": false, "pppoe": true }
  },
  {
    "ifname" : "br0",
    "hwaddr": "80:2A:A8:6F:67:A9",
    "enabled" : true,
    "status" : { "plugged": 1, "speed": 0, "duplex": 255 },
    "services" : { "dhcpc": false, "dhcpd": true, "pppoe": false }
  },
  {
    "ifname" : "ppp0",
    "hwaddr": "00:00:00:00:00:00",
    "enabled" : true,
    "status" : { "plugged": 1, "speed": 0, "duplex": 255 },
    "services" : { "dhcpc": false, "dhcpd": false, "pppoe": false }
  }
]
}
```

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