

Configuring and Operating the Openwrt NetworkInfo Monitor

Router Configuration

Configuring the openwrt monitor is fairly simple.

Plug in laptop into LAN port 1-3 web address to is 192.168.1.1

username is: root

password: *BLANK*

to set STATIC or DHCP on the "WAN" port

go to Network > Interfaces and modify BRWAN

Passthrough NAT (WAN and port 4)

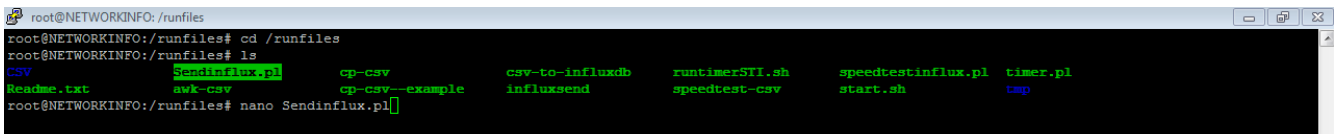
You will require at least two IPs on the WAN side one for the NETWORKINFO device and one(or more) for the connections to the internet for the passthrough port. Preferred usage would be Static IP if possible

(please do not modify the hostname of the device- NETWORKINFO)

If not using the passthrough port port 1-3 are available as normal router ports

Data Capture Configuration

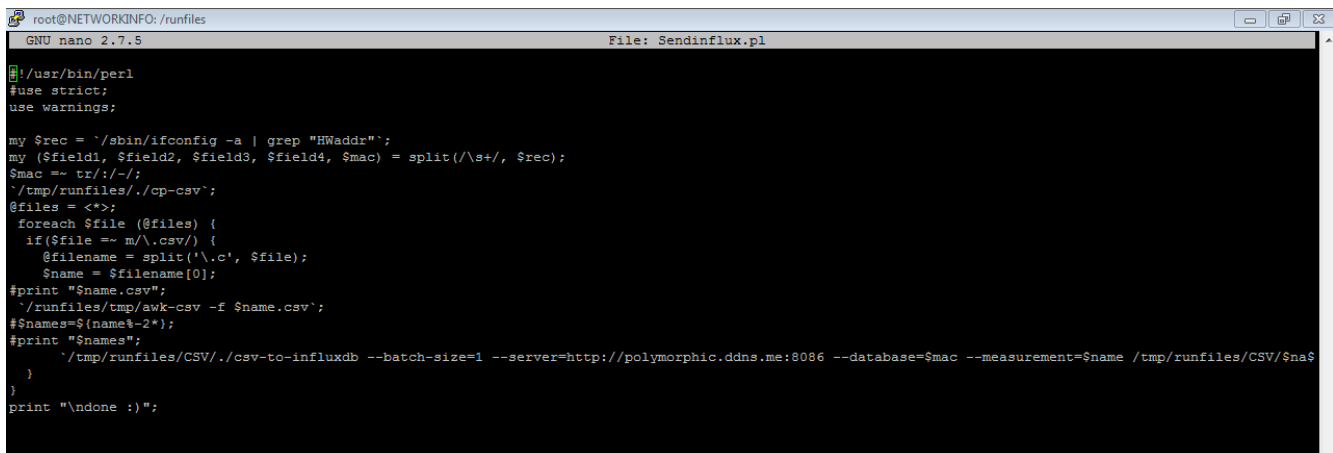
Most Data configuration is done VIA ssh. Modification is done in the system files which is located at cd /runfiles



```
root@NETWORKINFO: /runfiles
root@NETWORKINFO: /runfiles# cd /runfiles
root@NETWORKINFO: /runfiles# ls
CSV          Sendinflux.pl  cp-csv        csv-to-influxdb  runtimerSTI.sh  speedtestinflux.pl  timer.pl
Readme.txt  awk-csv        cp-csv--example  influxsend       speedtest-csv   start.sh            tmp
root@NETWORKINFO: /runfiles# nano Sendinflux.pl
```

Changing influxdb host and other influx parameters

to change influxdb parameters please modify Sendinflux.pl and Speedtestinflux.pl you would modify at the line --server=http://...



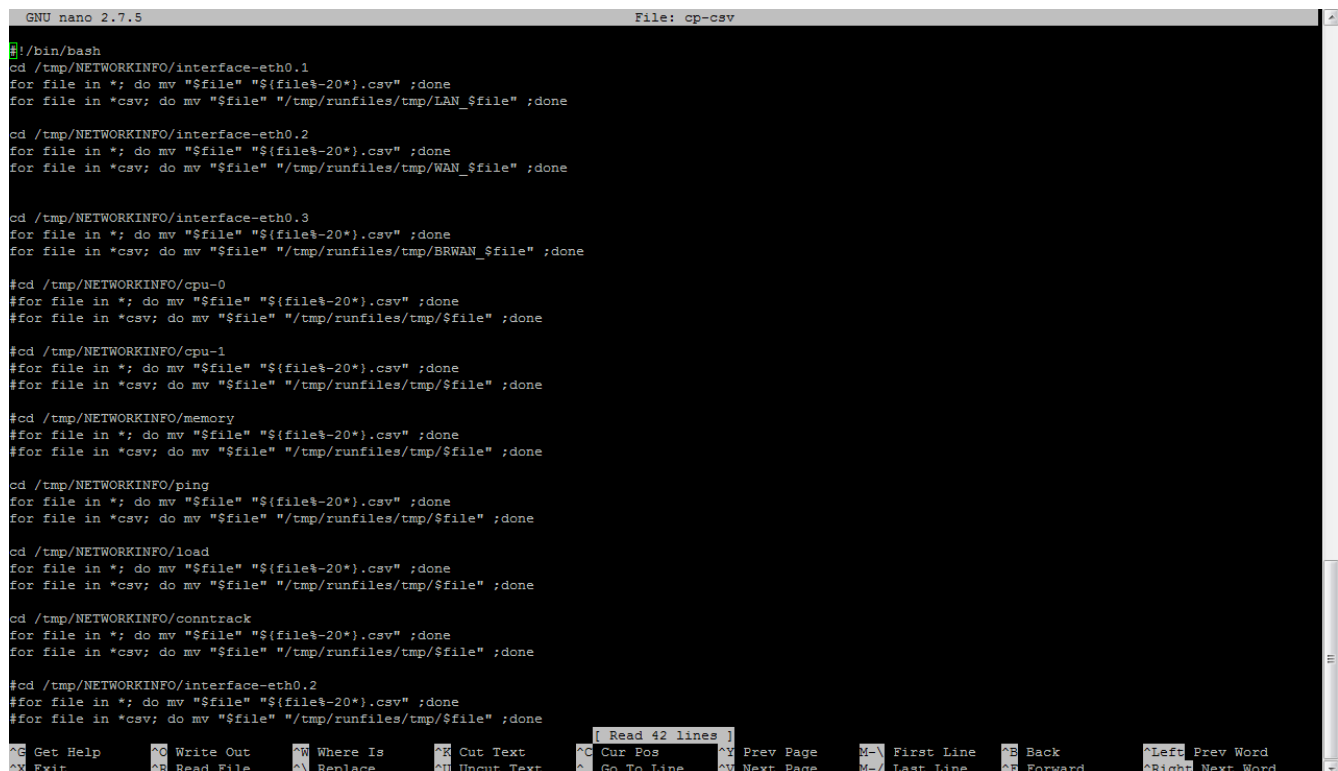
```
GNU nano 2.7.5                               File: Sendinflux.pl
#!/usr/bin/perl
#use strict;
use warnings;

my $rec = `/sbin/ifconfig -a | grep "HWaddr":`;
my ($field1, $field2, $field3, $field4, $mac) = split(/\s+/, $rec);
$mac =~ tr/:-/;/;
`/tmp/runfiles/./cp-csv`;
@files = <*>;
foreach $file (@files) {
    if($file =~ m/\.\.csv/) {
        @filename = split('\.c', $file);
        $name = $filename[0];
        #print "$name.csv";
        `/runfiles/tmp/awk-csv -f $name.csv`;
        #Names=${name%-2*};
        #print "$Names";
        `/tmp/runfiles/CSV/./csv-to-influxdb --batch-size=1 --server=http://polymorphic.ddns.me:8086 --database=$mac --measurement=$name /tmp/runfiles/CSV/$na$
    }
}
print "\ndone :)";
```

Modifying Data Collection

You can modify what data you wish to collect and at what rate by changing adding in parameters . Collection is based on collectd you can add and remove CollectD plugin which can be added through the software manager located under the System in the web interface. Then those can be enabled/disabled or viewed in Statistic

once you have successfully added or removed your CollectD plugin to can add it ot the influx data send by simply adding/removing it name from cp-csv which is found in the runfile directory



```
GNU nano 2.7.5 File: cp-csv
#!/bin/bash
cd /tmp/NETWORKINFO/interface-eth0.1
for file in *; do mv "$file" "${file%-20*}.csv" ;done
for file in *csv; do mv "$file" "/tmp/runfiles/tmp/LAN_$file" ;done

cd /tmp/NETWORKINFO/interface-eth0.2
for file in *; do mv "$file" "${file%-20*}.csv" ;done
for file in *csv; do mv "$file" "/tmp/runfiles/tmp/WAN_$file" ;done

cd /tmp/NETWORKINFO/interface-eth0.3
for file in *; do mv "$file" "${file%-20*}.csv" ;done
for file in *csv; do mv "$file" "/tmp/runfiles/tmp/BRWAN_$file" ;done

#cd /tmp/NETWORKINFO/cpu-0
#for file in *; do mv "$file" "${file%-20*}.csv" ;done
#for file in *csv; do mv "$file" "/tmp/runfiles/tmp/$file" ;done

#cd /tmp/NETWORKINFO/cpu-1
#for file in *; do mv "$file" "${file%-20*}.csv" ;done
#for file in *csv; do mv "$file" "/tmp/runfiles/tmp/$file" ;done

#cd /tmp/NETWORKINFO/memory
#for file in *; do mv "$file" "${file%-20*}.csv" ;done
#for file in *csv; do mv "$file" "/tmp/runfiles/tmp/$file" ;done

cd /tmp/NETWORKINFO/ping
for file in *; do mv "$file" "${file%-20*}.csv" ;done
for file in *csv; do mv "$file" "/tmp/runfiles/tmp/$file" ;done

cd /tmp/NETWORKINFO/load
for file in *; do mv "$file" "${file%-20*}.csv" ;done
for file in *csv; do mv "$file" "/tmp/runfiles/tmp/$file" ;done

cd /tmp/NETWORKINFO/conntrack
for file in *; do mv "$file" "${file%-20*}.csv" ;done
for file in *csv; do mv "$file" "/tmp/runfiles/tmp/$file" ;done

#cd /tmp/NETWORKINFO/interface-eth0.2
#for file in *; do mv "$file" "${file%-20*}.csv" ;done
#for file in *csv; do mv "$file" "/tmp/runfiles/tmp/$file" ;done

[ Read 42 lines ]
^G Get Help      ^O Write Out    ^W Where Is    ^K Cut Text    ^C Cur Pos     ^Y Prev Page  M-^ First Line ^B Back      ^Left Prev Word
^X Exit          ^R Read File    ^\ Replace     ^U Uncut Text  ^_ Go To Line   ^V Next Page  M-^ Last Line  ^F Forward   ^Right Next Word
```

Controlling Data Rate & Send Frequency

If you have problems with slower internet connections you can modify the data collection Rate and the frequency. Currently the data collection Rate is set at 2 seconds. That can be modified to collect at either a faster or slower rate . The data will be collected and then averaged out over that time period and then sent.

To modify data rate go to Statistic > Setup > Data collection intervals

To modify Send Frequency ssh in and modify either influxsend (frequency at which data is sent to the influx server) or runtimerSTI.sh (speedtest run frequency)

modify
the 30

```
GNU nano 2.7.5
#!/bin/bash
cd /tmp/runfiles/tmp
/tmp/runfiles/./timer.pl 30 /tmp/runfiles/./Sendinflux.pl
```

changes the number of seconds between sends

Debugging

Enabling/Disabling Startup

To enable and disable start up for debugging purpose go to System> Startup and disable the command in local startup and commenting out line with #

Local Startup

This is the content of /etc/rc.local. Insert your own commands here (in front of 'exit 0') to execute them at the end of the boot process.

```
# Put your custom commands here that should be executed once
# the system init finished. By default this file does nothing.
/runfiles/./start.sh & echo "started sending to influxdb" & /runfiles/./runtimeSTI.sh & echo " started speedtest-cli to influx"
exit 0
```

then reboot router

debugging influxsend

then simply run `/runfiles/./start.sh` this will copy the files over to the /tmp directory (volatile memory of the router) and then after 30 seconds start sending to influxdb,

from there it will display what is happening and if there are any errors

to kill process press ctrl+c twice then you can modify and re run commands again

you can modify nano `/tmp/runfiles/Sendinflux.pl` then run `/tmp/runfiles/./influxsend` to test its operation. Once it is configured and working how you like just make sure you modify it in /runfiles directory. As everytime the router is rebooted all files in the /tmp directory are lost and then recreated at startup based on what is found in /runfile directory