

```
% Monitoring Netflow with NfSen
%
% Network Monitoring and Management
```

```
# Introduction
```

```
## Goals
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```
* Learn how to install the nfdump and NfSen tools
```

```
## Notes
```

```
* Commands preceded with "$" imply that you should execute the command as
  a general user - not as root.
* Commands preceded with "#" imply that you should be working as root.
* Commands with more specific command lines (e.g. "RTR-GW>" or "mysql>")
  imply that you are executing commands on remote equipment, or within
  another program.
```

```
## Assumption
```

This assumes you have already configured your router to export flows to a PC in your group and that your neighbor group has configured a router to export flows to the same PC. See exercisel-flow-export for additional details.

```
# Configure Your Collector
```

```
## Install NFDump and associated software
```

NFDump is the Netflow flow collector. We install several additional packages that we will need a bit later:

```
~~~~~
$ sudo apt-get install rrdtool mrtg librrds-perl librrdp-perl librrd-dev \
libmailtools-perl php5 bison flex
~~~~~
```

If prompted to "Make /etc/mrtg.cfg owned by and readable only by root?" select "<Yes>" and press ENTER to continue.

```
### Building and installing nfdump
```

We are still missing some tools:

nfcapd, nfdump, nfreplay, nfexpire, nftest, nfgn

There is a package in Ubuntu, but it's too old - so we've built a newer one which is ready to download from the NOC:

```
~~~~~
cd /tmp/
wget http://noc.ws.nsrc.org/downloads/nfdump_1.6.6-1_i386.deb
wget http://noc.ws.nsrc.org/downloads/nfdump-flow-tools_1.6.6-1_i386.deb
~~~~~
```

Installation:

```
~~~~~
sudo dpkg --install nfdump_1.6.6-1_i386.deb
sudo dpkg --install nfdump-flow-tools_1.6.6-1_i386.deb
~~~~~
```

#####  
### Testing nfcapd and nfdump

#####  
mkdir /tmp/nfcap-test  
nfcapd -E -p 9001 -l /tmp/nfcap-test  
#####

... after a while, a series of flows should be dumped on your screen.

Stop the tool with CTRL+C, then look at the contents of /tmp/nfcap-test

#####  
\$ ls -l /tmp/nfcap-test  
#####

You should see one or more files called nfcapd.2013xyyyzz

Process the file(s) with nfdump:

#####  
nfdump -r /tmp/nfcap-test/nfcapd.2013xyyyzz | less  
nfdump -r /tmp/nfcap-test/nfcapd.2013xyyyzz -s srcip/bytes  
#####

You should get some useful information :)

## Installing and setting up NfSen

#####  
cd /usr/local/src  
sudo wget http://noc.ws.nsrc.org/downloads/nfsen-1.3.6p1.tar.gz  
sudo tar xvzf nfsen-1.3.6p1.tar.gz  
cd nfsen-1.3.6p1  
sudo wget http://noc.ws.nsrc.org/downloads/nfsen-socket6.patch  
sudo patch -p0 < nfsen-socket6.patch  
cd etc  
sudo cp nfsen-dist.conf nfsen.conf  
sudo editor nfsen.conf  
#####

Set the \$BASEDIR variable

#####  
\$BASEDIR="/var/nfsen";  
#####

Adjust the tools path to where items actually reside:

#####  
# nfdump tools path  
\$PREFIX = '/usr/bin';  
#####

Set the users appropriately so that Apache can access files:

```
~~~~~  
$WWWUSER = 'www-data';  
$WWWGROUP = 'www-data';  
~~~~~
```

Set the buffer size to something small, so that we see data quickly

```
~~~~~  
# Receive buffer size for nfcapd - see man page nfcapd(1)  
$BUFFLEN = 2000;  
~~~~~
```

Find the %sources definition, and change it to:

```
~~~~~  
%sources=(  
'rtr1' => {'port'=>'9001','col'=>'#0000ff','type'=>'netflow'},  
'rtr2' => {'port'=>'9002','col'=>'#00ff00','type'=>'netflow'},  
);  
~~~~~
```

Now save and exit from the file.

```
## Create the netflow user on the system
```

```
~~~~~  
$ sudo useradd -d /var/netflow -G www-data -m -s /bin/false netflow  
~~~~~
```

```
## Install NfSen and start it
```

Make sure we are in the right location:

```
~~~~~  
$ cd /usr/local/src/nfsen-1.3.6pl  
~~~~~
```

Now, finally, we install:

```
~~~~~  
$ sudo perl install.pl etc/nfsen.conf  
~~~~~
```

Press ENTER when prompted for the path to Perl.

```
## Install init script
```

In order to have nfsen start and stop automatically when the system starts, add a link to the init.d directory pointing to the nfsen startup script:

```
~~~~~  
sudo ln -s /var/nfsen/bin/nfsen /etc/init.d/nfsen  
sudo update-rc.d nfsen defaults 20  
~~~~~
```

Start NfSen

```
~~~~~
```

```
sudo service nfsen start
```

```
## View flows via the web:
```

```
You can find the nfsen page here:
```

```
http://pcX.ws.nsrc.org/nfsen/nfsen.php
```

```
You may see a message such as:
```

```
Frontend - Backend version mismatch!
```

```
This will go away if you reload the page, it's not a problem.
```

```
Done! Move on to the third lab, exercise3-NfSen-PortTracker
```

```
* NOTES:
```

```
## Adding sources
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```
To add new sources to nfsen, the way to proceed is as follows:
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```
- edit /var/nfsen/etc/nfsen.conf, and add the source, for example:
```

```
%sources = (  
    'rtrX'  => { 'port' => '900X', 'col' => '#0000ff', 'type' => 'netflow' },  
    'rtrY'  => { 'port' => '900Y', 'col' => '#00ff00', 'type' => 'netflow' },  
    'rtr10' => { 'port' => '9010', 'col' => '#ff0000', 'type' => 'netflow' }, # <- new  
);
```

```
- Reconfigure NfSen.
```

```
You will need to run this every time you modify /var/nfsen/etc/nfsen.conf:
```

```
$ sudo /etc/init.d/nfsen reconfig
```

```
You should see:
```

```
New sources to configure : rtr10
```

```
Continue? [y/n] y
```

```
Add source 'rtr10'
```

```
Reconfig done!
```