

## Install and Configure SmokePing on RHEL/CentOS 8.x

**Smokeping** software is one of the most popular network management free software used for analyses network availability with many different links like internet hosts, local devices and quality of internal and external connectivity.

### Features of Smokeping:

- Best of breed latency visualization.
- Interactive graph explorer.
- Wide range of latency measurement plugins.
- Master/Slave System for distributed measurement.
- Highly configurable alerting system.
- Live Latency Charts with the most 'interesting' graphs.
- Free and open-source Software written in Perl written by Tobi Oetiker, the creator of MRTG and RRDtool

### 1- Install prerequisites

To install smokeping, at first need to install other software packages that are listed as Dependencies of smokeping.

#### Install EPEL:

```
# yum install epel-release
```

#### Install Development Tools:

```
# yum groupinstall "Development tools"
```

#### Install http and Perl library:

```
# yum install perl mailx bind-utils httpd httpd-devel mod_fcgid rrdtool  
perl-CGI-SpeedyCGI fping rrdtool-perl perl-Sys-Syslog perl-HTML-Parser  
perl-FCGI perl-Net-DNS perl-Socket6 perl-Text-Soundex perl-LDAP perl-  
CPAN
```

### 2- Install smokeping

Now download the latest version of Smokeping from smokeping FTP server:

```
# cd /opt  
# wget https://oss.oetiker.ch/smokeping/pub/smokeping-2.7.3.tar.gz
```

then extract it in the /opt:

```
# tar -zxvf smokeping-2.7.3.tar.gz
```

create a directory called smokeping in /opt:

```
# mkdir /opt/smokeping/
```

then go to extracted smokeping archive and run configure script:

```
# cd /opt/smokeping-2.7.3/
```

```
# ./configure --prefix=/opt/smokeping
```

now install smokeping by running:

```
# /usr/bin/gmake install
```

### 3- Configure smokeping

now created required directories:

```
# cd /opt/smokeping/  
# mkdir data var cache
```

change config files names:

```
# cd /opt/smokeping/etc/
```

```
# for foo in *.dist; do mv $foo `basename $foo .dist`; done
```

then change permission of smokeping secret file and some ownerships:

```
# chmod 600 /opt/smokeping/etc/smokeping_secrets  
# ln -s /opt/smokeping/cache /opt/smokeping/htdocs/cache  
# chown -R apache /opt/smokeping/cache  
# chown -R apache /opt/smokeping/data
```

create smokeping.conf file in httpd conf directory and put the following content in it:

```
# vim /etc/httpd/conf.d/smokeping.conf
```

```
ScriptAlias /smokeping/smokeping.cgi /opt/smokeping/htdocs/smokeping.fcgi.dist  
Alias /smokeping /opt/smokeping/htdocs
```

```
<Directory "/opt/smokeping/htdocs">  
    Options FollowSymLinks  
    Require all granted  
</Directory>
```

then open smokeping config file:

```
# vim /opt/smokeping/etc/config
```

```
*** General ***
owner      = NMS-BootCamp-1
contact    = cse.mahedi@gmail.com
mailhost   = localhost
sendmail   = /usr/bin/mail
# NOTE: do not put the Image Cache below cgi-bin
# since all files under cgi-bin will be executed ... this is not
# good for images.
imgcache   = /opt/smokeping/cache
imgurl     = cache
datadir    = /opt/smokeping/data
piddir     = /opt/smokeping/var
cgiurl     = http://some.url/smokeping.cgi
smokemail  = /opt/smokeping/etc/smokemail
tmail      = /opt/smokeping/etc/tmail
# specify this to get syslog logging
syslogfacility = local0
# each probe is now run in its own process
# disable this to revert to the old behaviour
# concurrentprobes = no

*** Alerts ***
to = alertee@address.somewhere
from = smokealert@company.xy

+someloss
type = loss
# in percent
pattern = >0%,*12*,>0%,*12*,>0%
comment = loss 3 times in a row

*** Database ***

step      = 300
pings     = 20

# consfn mrhb steps total

AVERAGE  0.5   1   1008
AVERAGE  0.5  12   4320
          MIN  0.5  12   4320
          MAX  0.5  12   4320
AVERAGE  0.5 144   720
```

```
MAX 0.5 144 720
MIN 0.5 144 720
```

```
*** Presentation ***
```

```
template = /opt/smokeping/etc/basepage.html
```

```
+ charts
```

```
menu = Charts
```

```
title = The most interesting destinations
```

```
++ stddev
```

```
sorter = StdDev(entries=>4)
```

```
title = Top Standard Deviation
```

```
menu = Std Deviation
```

```
format = Standard Deviation %f
```

```
++ max
```

```
sorter = Max(entries=>5)
```

```
title = Top Max Roundtrip Time
```

```
menu = by Max
```

```
format = Max Roundtrip Time %f seconds
```

```
++ loss
```

```
sorter = Loss(entries=>5)
```

```
title = Top Packet Loss
```

```
menu = Loss
```

```
format = Packets Lost %f
```

```
++ median
```

```
sorter = Median(entries=>5)
```

```
title = Top Median Roundtrip Time
```

```
menu = by Median
```

```
format = Median RTT %f seconds
```

```
+ overview
```

```
width = 600
```

```
height = 50
```

```
range = 10h
```

```
+ detail
```

```
width = 600
```

```
height = 200
```

```
unison_tolerance = 2
```

```
"Last 3 Hours" 3h
```

```
"Last 30 Hours"    30h
"Last 10 Days"    10d
"Last 400 Days"   400d

#+ hierarchies
#++ owner
#title = Host Owner
#++ location
#title = Location

*** Probes ***

+ FPing

binary = /usr/sbin/fping
+ DNS
binary = /usr/bin/dig
lookup = google.com
pings = 5
step = 180

+ EchoPingHttp
+ EchoPingHttps
pings = 5
#binary = /usr/bin/echoping
# forks = 5
#offset = 50%
#step = 300
#url = /test-url
accept_redirects = yes

*** Slaves ***
secrets=/opt/smokeping/etc/smokeping_secrets
+boomer
display_name=boomer
color=0000ff

+slave2
display_name=another
color=00ff00

*** Targets ***

probe = FPing
menu = Top
title = Network Latency Grapher
remark = Welcome to NMS-Lab SmokePing website.
```

```

+ Internet
menu = Internet Latency
title = Network latency (ICMP pings)

++ Google
host = www.google.com

++ Facebook
host = www.facebook.com

++ Youtube
host = www.youtube.com

++ Yahoo
host = www.yahoo.com

++ Public-DNS
host = 4.2.2.2

++ Public-DNS2
host = 8.8.8.8

+ Multihost
menu = Multihost
title = Internet Latency (Google, Facebook)
host = /Internet/Google /Internet/Facebook

+ network
menu = Net latency
title = Network latency (ICMP pings)

++ CISCO-R1
host = 192.168.15.30

++ CISCO-R2
host = 192.168.15.30

```

#### 4- Configure firewall

to view graphs and access web interface, we should open port 80:

```

# firewall-cmd --permanent --add-service=http
# firewall-cmd --reload

```

#### 5- Smokeping systemd service

basically, smokeping runs by executing its script and passing parameters. for better handling smokeping execution, we will make a systemd service unit for it.

so create a service unit file:

```
# vim /lib/systemd/system/smokeping.service
```

and put these lines in it:

```
[Unit]
Description=Smokeping Server
After=network.target remote-fs.target nss-lookup.target

[Service]
Type=simple
ExecStart=/opt/smokeping/bin/smokeping --nodaemon --
  config=/opt/smokeping/etc/config --logfile=/var/log/smoke.log

[Install]
WantedBy=multi-user.target
```

## 6- Start Services

now it's time to start httpd and smokeping services. run these command to start and check both services:

```
# systemctl start httpd
# systemctl enable httpd
# systemctl status httpd

# systemctl start smokeping
# systemctl enable smokeping
# systemctl status smokeping
```

then open browser and point to this address for smokeping web interface:

```
http://Server-IP/smokeping/smokeping.cgi
```

