

Network Monitoring with **smokeping**

Docker environment made it easy to run ...

Presentation

“ All the hassle for a **PING** !!!!! ”

- **Not about:** protocols and tools technicalities



- **It is about:** quick troubleshooting deployment tool



Ping



Widely used to test destination availability



Measures RTT between source and destination



Show packet loss and jitter



Source sends echo request "ping" and receives echo reply "pong" from destination

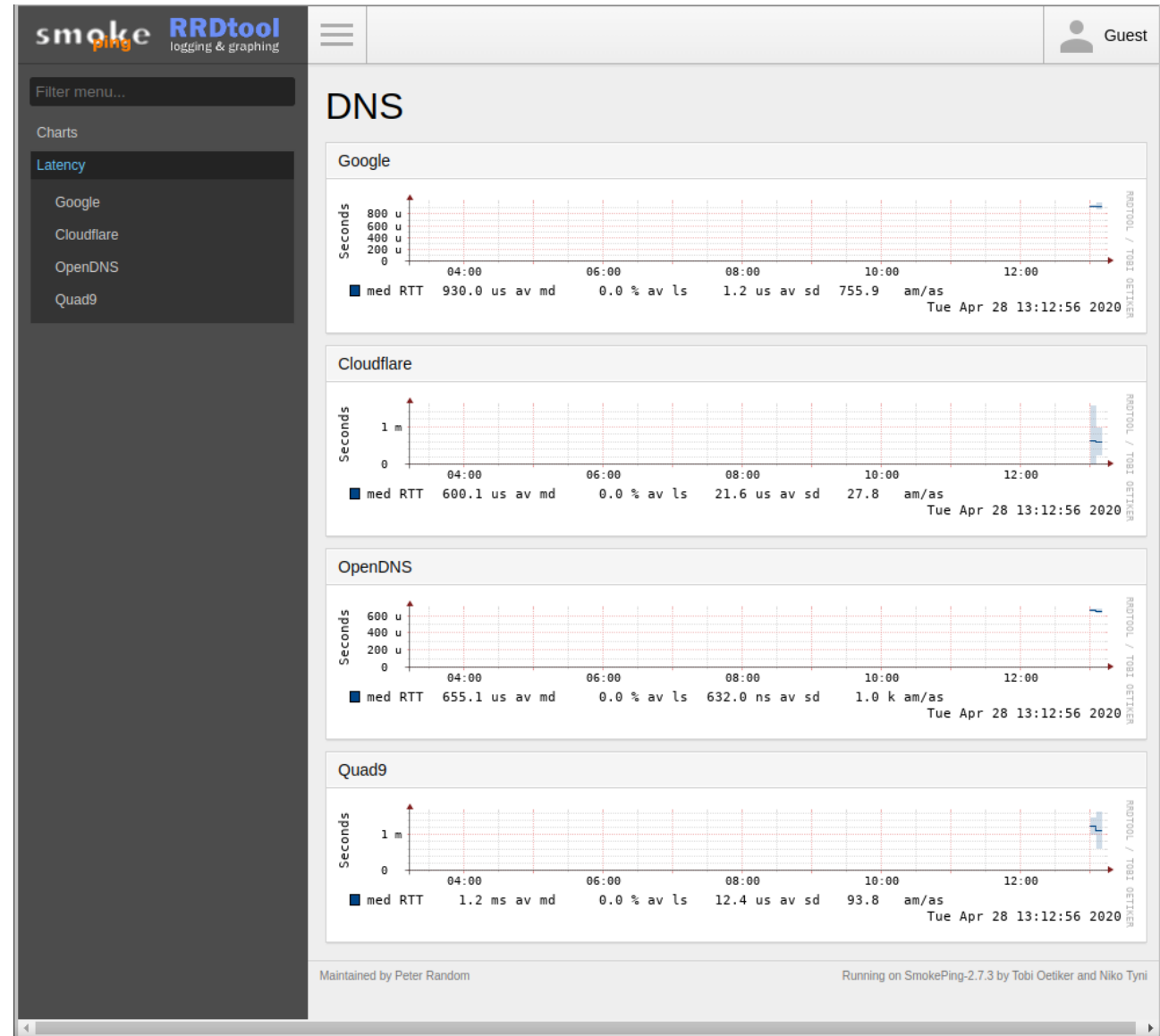
```

64 bytes from 9.9.9.9: icmp_seq=3 ttl=59 time=5.324 ms
64 bytes from 9.9.9.9: icmp_seq=4 ttl=59 time=5.607 ms
64 bytes from 9.9.9.9: icmp_seq=5 ttl=59 time=4.780 ms
64 bytes from 9.9.9.9: icmp_seq=6 ttl=59 time=27.366 ms
64 bytes from 9.9.9.9: icmp_seq=7 ttl=59 time=5.063 ms
64 bytes from 9.9.9.9: icmp_seq=8 ttl=59 time=30.186 ms
64 bytes from 9.9.9.9: icmp_seq=9 ttl=59 time=55.553 ms
64 bytes from 9.9.9.9: icmp_seq=10 ttl=59 time=4.172 ms
64 bytes from 9.9.9.9: icmp_seq=11 ttl=59 time=3.631 ms
64 bytes from 9.9.9.9: icmp_seq=12 ttl=59 time=4.877 ms
64 bytes from 9.9.9.9: icmp_seq=13 ttl=59 time=4.165 ms
64 bytes from 9.9.9.9: icmp_seq=14 ttl=59 time=4.920 ms

64 bytes from 1.1.1.1: icmp_seq=1 ttl=60 time=61.855 ms
64 bytes from 1.1.1.1: icmp_seq=2 ttl=60 time=62.243 ms
64 bytes from 1.1.1.1: icmp_seq=3 ttl=60 time=60.384 ms
64 bytes from 1.1.1.1: icmp_seq=4 ttl=60 time=60.966 ms
64 bytes from 1.1.1.1: icmp_seq=5 ttl=60 time=61.565 ms
64 bytes from 1.1.1.1: icmp_seq=6 ttl=60 time=60.873 ms
64 bytes from 1.1.1.1: icmp_seq=7 ttl=60 time=59.893 ms
64 bytes from 1.1.1.1: icmp_seq=8 ttl=60 time=58.555 ms
64 bytes from 1.1.1.1: icmp_seq=9 ttl=60 time=58.598 ms
64 bytes from 1.1.1.1: icmp_seq=10 ttl=60 time=61.855 ms
64 bytes from 1.1.1.1: icmp_seq=11 ttl=60 time=62.243 ms
64 bytes from 1.1.1.1: icmp_seq=12 ttl=60 time=60.384 ms
64 bytes from 1.1.1.1: icmp_seq=13 ttl=60 time=60.966 ms
64 bytes from 1.1.1.1: icmp_seq=14 ttl=60 time=61.565 ms
64 bytes from 1.1.1.1: icmp_seq=15 ttl=60 time=60.873 ms
64 bytes from 1.1.1.1: icmp_seq=16 ttl=60 time=59.893 ms
64 bytes from 1.1.1.1: icmp_seq=17 ttl=60 time=58.555 ms
64 bytes from 1.1.1.1: icmp_seq=18 ttl=60 time=58.598 ms
ping: sendto: No route to host
Request timeout for icmp_seq 81
ping: sendto: No route to host
Request timeout for icmp_seq 82
ping: sendto: No route to host
Request timeout for icmp_seq 83
ping: sendto: No route to host
Request timeout for icmp_seq 84
ping: sendto: No route to host
Request timeout for icmp_seq 85
ping: sendto: No route to host
Request timeout for icmp_seq 86
ping: sendto: No route to host
Request timeout for icmp_seq 87
ping: sendto: No route to host
Request timeout for icmp_seq 88
ping: sendto: No route to host
Request timeout for icmp_seq 89
ping: sendto: No route to host
Request timeout for icmp_seq 90
ping: sendto: No route to host
Request timeout for icmp_seq 91
ping: sendto: No route to host
Request timeout for icmp_seq 92
ping: sendto: No route to host
Request timeout for icmp_seq 93
ping: sendto: No route to host
Request timeout for icmp_seq 94
ping: sendto: No route to host
Request timeout for icmp_seq 95
ping: sendto: No route to host
Request timeout for icmp_seq 96
ping: sendto: No route to host
Request timeout for icmp_seq 97
ping: sendto: No route to host
Request timeout for icmp_seq 98
ping: sendto: No route to host
Request timeout for icmp_seq 99
ping: sendto: No route to host
Request timeout for icmp_seq 100
64 bytes from 1.1.1.1: icmp_seq=93 ttl=60 time=133.863 ms
64 bytes from 1.1.1.1: icmp_seq=94 ttl=60 time=63.377 ms
64 bytes from 1.1.1.1: icmp_seq=95 ttl=60 time=64.721 ms
64 bytes from 1.1.1.1: icmp_seq=96 ttl=60 time=64.788 ms
64 bytes from 1.1.1.1: icmp_seq=97 ttl=60 time=70.485 ms
64 bytes from 1.1.1.1: icmp_seq=98 ttl=60 time=61.328 ms
64 bytes from 1.1.1.1: icmp_seq=99 ttl=60 time=64.885 ms
64 bytes from 1.1.1.1: icmp_seq=100 ttl=60 time=217.718 ms
64 bytes from 1.1.1.1: icmp_seq=101 ttl=60 time=190.175 ms
64 bytes from 1.1.1.1: icmp_seq=102 ttl=60 time=149.458 ms
64 bytes from 1.1.1.1: icmp_seq=103 ttl=60 time=60.178 ms
64 bytes from 1.1.1.1: icmp_seq=104 ttl=60 time=60.389 ms
64 bytes from 1.1.1.1: icmp_seq=105 ttl=60 time=179.594 ms
64 bytes from 1.1.1.1: icmp_seq=106 ttl=60 time=175.795 ms
  
```



Smokeping keeps track of your network latency with amazing interactive graph explorer. Smokeping “ping” multiple servers from multiple locations around the world and it also keeps track of historical data

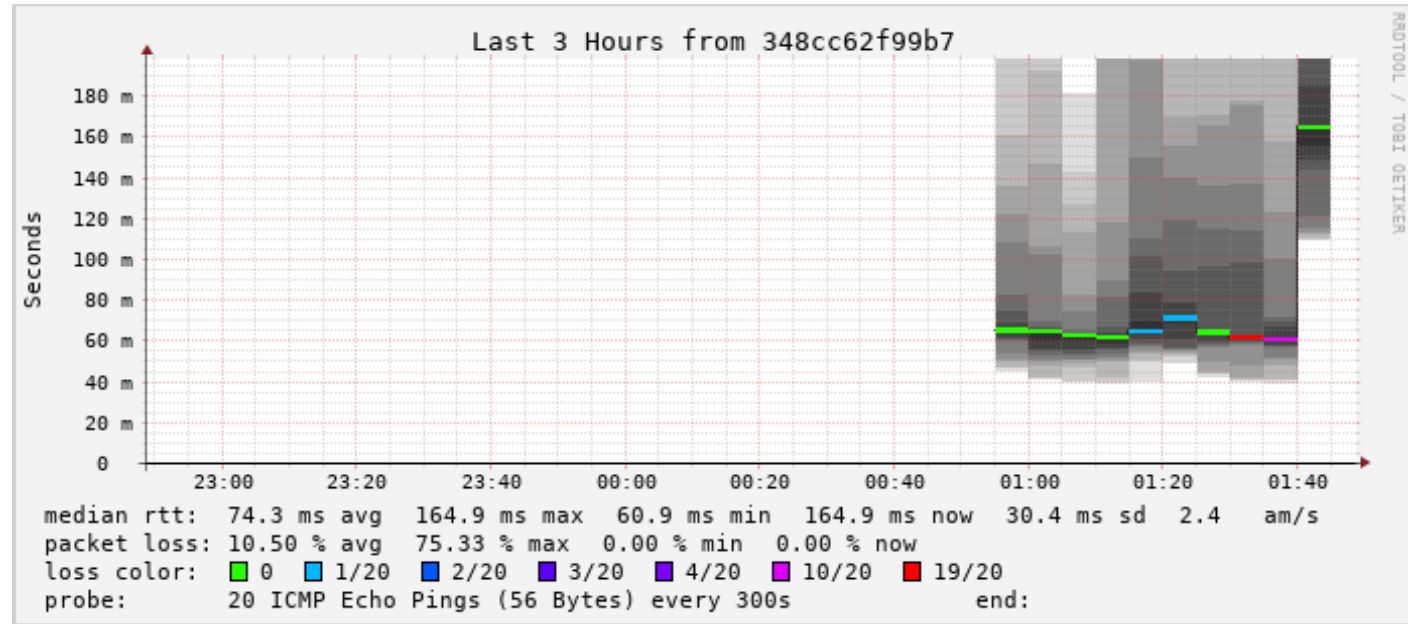


Maintained by Peter Random

Running on SmokePing-2.7.3 by Tobi Oetiker and Niko Tyni

Smokeping

```
64 bytes from 1.1.1.1: icmp_seq=66 ttl=60 time=61.855 ms
64 bytes from 1.1.1.1: icmp_seq=67 ttl=60 time=62.243 ms
64 bytes from 1.1.1.1: icmp_seq=68 ttl=60 time=60.304 ms
64 bytes from 1.1.1.1: icmp_seq=69 ttl=60 time=60.966 ms
64 bytes from 1.1.1.1: icmp_seq=70 ttl=60 time=61.565 ms
64 bytes from 1.1.1.1: icmp_seq=71 ttl=60 time=60.873 ms
64 bytes from 1.1.1.1: icmp_seq=72 ttl=60 time=199.093 ms
64 bytes from 1.1.1.1: icmp_seq=73 ttl=60 time=300.555 ms
64 bytes from 1.1.1.1: icmp_seq=74 ttl=60 time=186.598 ms
64 bytes from 1.1.1.1: icmp_seq=75 ttl=60 time=238.069 ms
64 bytes from 1.1.1.1: icmp_seq=76 ttl=60 time=66.988 ms
64 bytes from 1.1.1.1: icmp_seq=77 ttl=60 time=61.245 ms
64 bytes from 1.1.1.1: icmp_seq=78 ttl=60 time=61.554 ms
64 bytes from 1.1.1.1: icmp_seq=79 ttl=60 time=61.154 ms
64 bytes from 1.1.1.1: icmp_seq=80 ttl=60 time=60.725 ms
ping: sendto: No route to host
ping: sendto: No route to host
Request timeout for icmp_seq 81
ping: sendto: No route to host
Request timeout for icmp_seq 82
ping: sendto: No route to host
Request timeout for icmp_seq 83
ping: sendto: No route to host
Request timeout for icmp_seq 84
ping: sendto: No route to host
Request timeout for icmp_seq 85
ping: sendto: No route to host
Request timeout for icmp_seq 86
ping: sendto: No route to host
Request timeout for icmp_seq 87
ping: sendto: No route to host
Request timeout for icmp_seq 88
ping: sendto: No route to host
Request timeout for icmp_seq 89
ping: sendto: No route to host
Request timeout for icmp_seq 90
ping: sendto: No route to host
Request timeout for icmp_seq 91
Request timeout for icmp_seq 92
64 bytes from 1.1.1.1: icmp_seq=93 ttl=60 time=133.063 ms
64 bytes from 1.1.1.1: icmp_seq=94 ttl=60 time=63.977 ms
64 bytes from 1.1.1.1: icmp_seq=95 ttl=60 time=60.721 ms
64 bytes from 1.1.1.1: icmp_seq=96 ttl=60 time=60.700 ms
64 bytes from 1.1.1.1: icmp_seq=97 ttl=60 time=76.402 ms
64 bytes from 1.1.1.1: icmp_seq=98 ttl=60 time=61.320 ms
64 bytes from 1.1.1.1: icmp_seq=99 ttl=60 time=60.805 ms
64 bytes from 1.1.1.1: icmp_seq=100 ttl=60 time=217.718 ms
64 bytes from 1.1.1.1: icmp_seq=101 ttl=60 time=190.175 ms
64 bytes from 1.1.1.1: icmp_seq=102 ttl=60 time=149.458 ms
64 bytes from 1.1.1.1: icmp_seq=103 ttl=60 time=60.178 ms
64 bytes from 1.1.1.1: icmp_seq=104 ttl=60 time=60.389 ms
64 bytes from 1.1.1.1: icmp_seq=105 ttl=60 time=60.699 ms
64 bytes from 1.1.1.1: icmp_seq=106 ttl=60 time=177.354 ms
64 bytes from 1.1.1.1: icmp_seq=107 ttl=60 time=61.795 ms
```



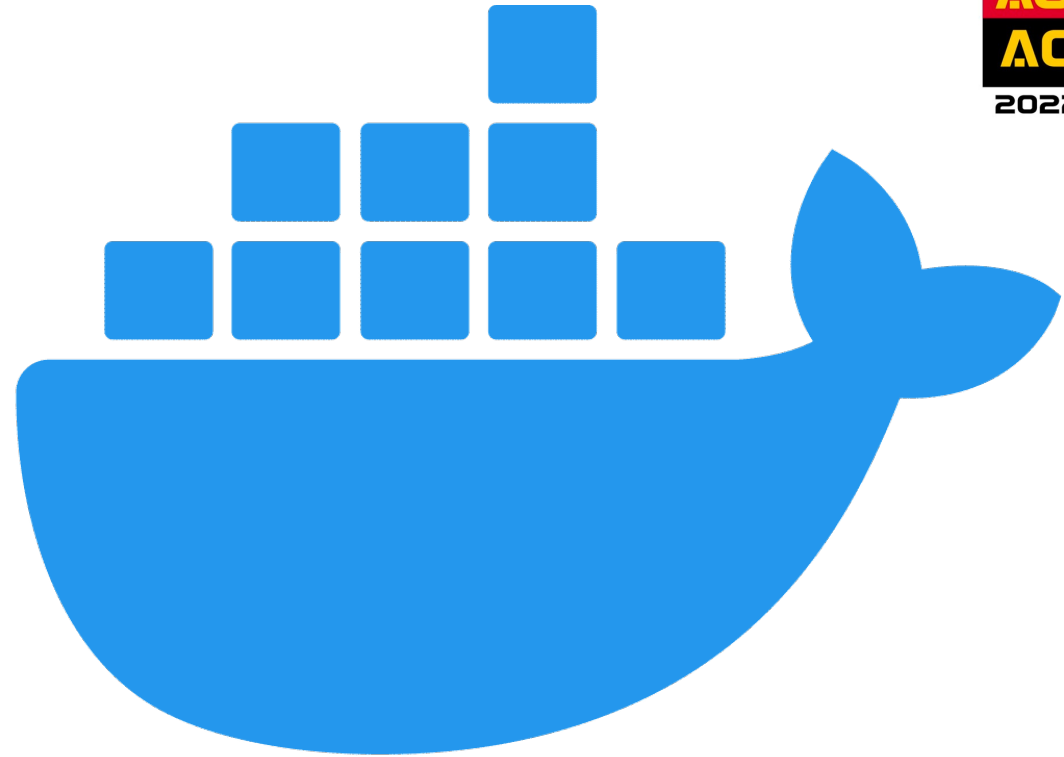
Where to start ?

- Install **Docker** environment
- Clone Github repository
- Edit Targets *(optional)*
- Run container



Docker ?

- Docker platform provides the ability to package and run an application in a loosely isolated environment called a **container**. The isolation and security allows you to run many containers simultaneously on a given host.
- Install Docker environment at your localhost
<https://www.docker.com/>

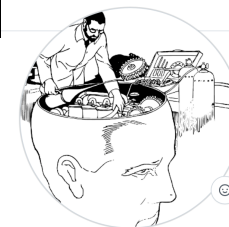


docker®

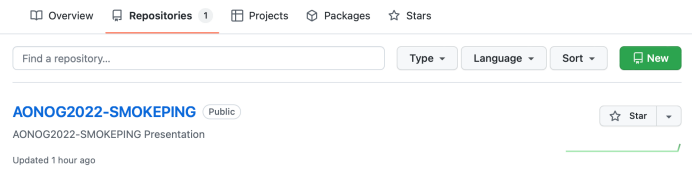
Clone Repository

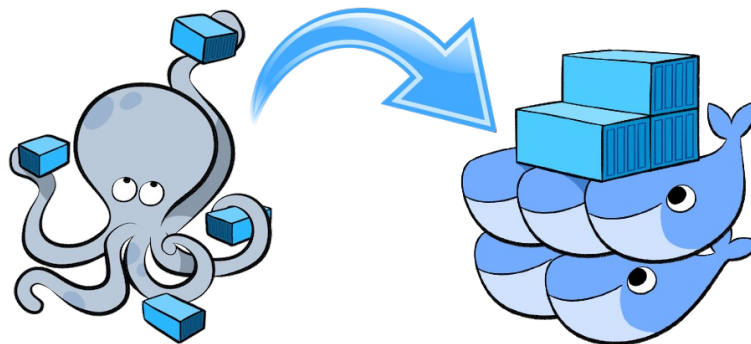
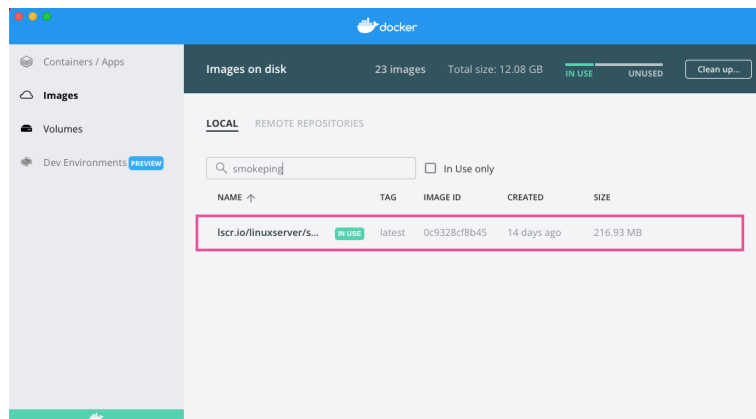
git clone <https://github.com/schneto/AONOG2022-SMOKEPING.git>

```
% git clone https://github.com/schneto/AONOG2022-SMOKEPING.git
Cloning into 'AONOG2022-SMOKEPING'...
remote: Enumerating objects: 51, done.
remote: Counting objects: 100% (51/51), done.
remote: Compressing objects: 100% (37/37), done.
remote: Total 51 (delta 21), reused 42 (delta 12), pack-reused 0
Receiving objects: 100% (51/51), 133.15 KiB | 136.00 KiB/s, done.
Resolving deltas: 100% (21/21), done.
```



schneto





linuxserver/smokeping SPONSORED OSS ☆

By linuxserver.io • Updated 13 days ago

A Smokeping container, brought to you by LinuxServer.io.

Image

Run Container

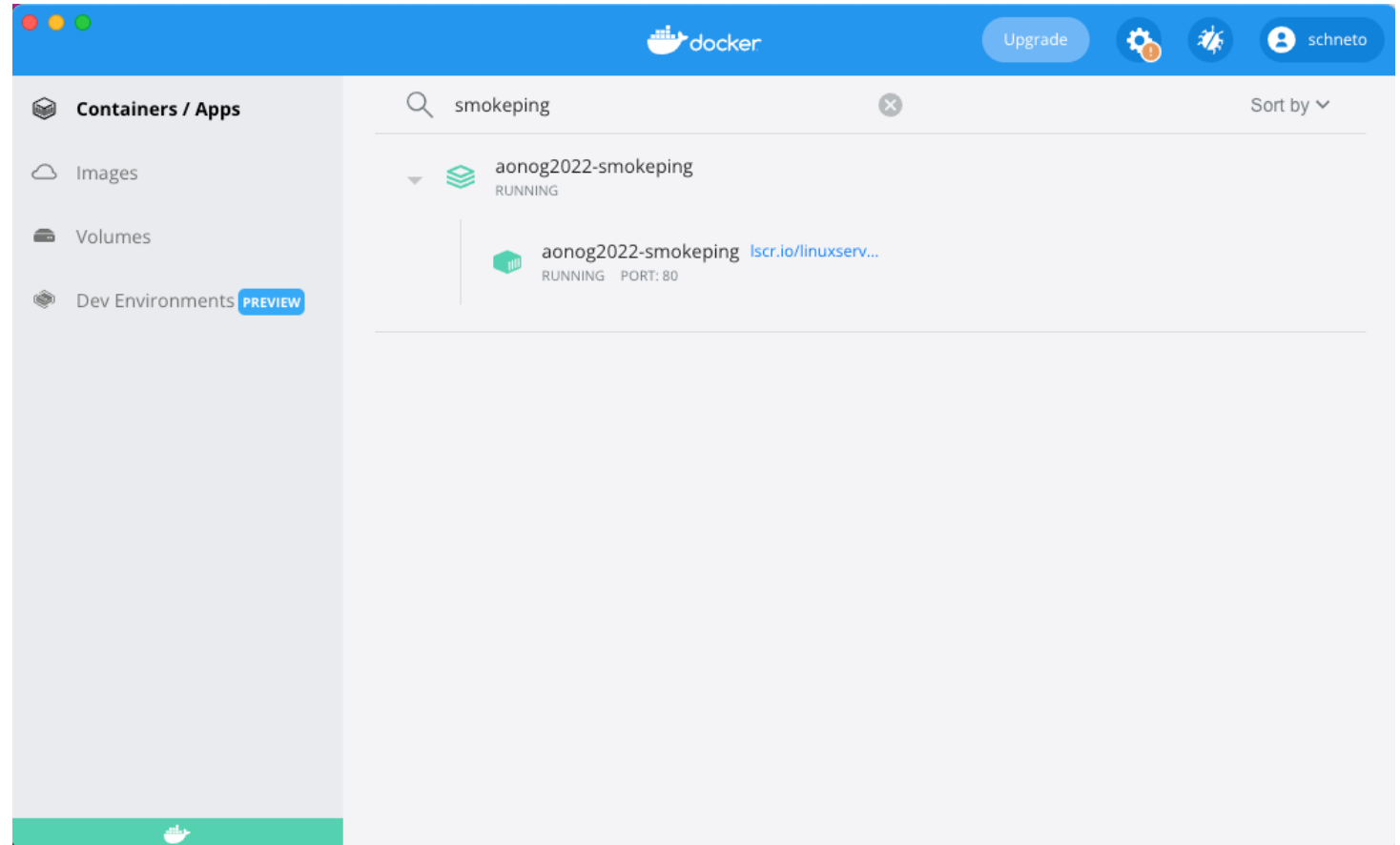
docker-compose up -d

```
AONOG2022-SMOKEPING % docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS                    NAMES
1cf4d14bfc93   lscr.io/linuxserver/smokeping:latest  "/init"                 31 minutes ago Up 31 minutes  0.0.0.0:80->80/tcp      aonog2022-smokeping
```

GUI / CLI Verification

Pull image from docker hub repository

perform multiple checks for a given service and returns a simple pass or fail based response.



```
AONOG2022-SMOKEPING % docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS                    NAMES
99f3282be323   lscr.io/linuxserver/smokeping:latest  "/init"                 4 seconds ago Up 4 seconds   0.0.0.0:80->80/tcp      aonog2022-smokeping
```

Running Smokeping

Open and navigate to :

<http://127.0.0.1/smokeping/>



A screenshot of a web browser displaying the SmokePing website. The browser's address bar shows '127.0.0.1/smokeping/'. The page title is 'SmokePing Latency Page for Network Latency Grapher'. The website header includes the 'smoke ping' logo and 'RRDtool logging & graphing'. A navigation menu on the left lists 'Charts', 'Internet Sites', 'Africa', 'DNS', and 'DNS Probes'. The main content area is titled 'Network Latency Grapher' and contains a welcome message: 'Welcome to the SmokePing website for AONOG 2022 presentation. Here you will learn few things about the latency performance of the connected network.' At the bottom, it states 'Maintained by LinuxServer.io' and 'Running on SmokePing-2.7.3 by Tobi Oetiker and Niko Tyni'. The user is logged in as 'Guest'.





References



Github repository:

<https://github.com/schumacherneto/AONOG2022-SMOKEPING>

Smokeping website:

<https://oss.oetiker.ch/smokeping/index.en.html>

Docker Hub container image:

<https://hub.docker.com/r/linuxserver/smokeping>

Public DNS info:

<https://public-dns.info/nameserver/ao.html>