

# ? Ubuntu 18.04 ??????????????????

Ubuntu 18.04 20  
[Progress bar]  
[Progress bar]

## 1. ?? sar?System Activity Reporter?

sar [Progress bar] sysstat  
[Progress bar] sar [Progress bar]

sysstat

```
sudo apt update  
sudo apt install sysstat
```

sysstat  
sysstat [Progress bar]

```
sudo systemctl enable sysstat  
sudo systemctl start sysstat
```

[Progress bar]  
sar [Progress bar] 10 [Progress bar] /var/log/sysstat/  
[Progress bar]

```
sar -u -f /var/log/sysstat/sa<day_of_month> -s <start_time> -e <end_time>
```

[Progress bar] 7 22 [Progress bar] 20:00 20:30 CPU [Progress bar]

```
sar -u -f /var/log/sysstat/sa22 -s 20:00:00 -e 20:30:00
```

[Progress bar] sar [Progress bar]

- -u [Progress bar] CPU [Progress bar]
- -r [Progress bar]
- -q [Progress bar]

## 2. ?? uptime ? w



## 5. ?? atop ??????????????

atop [redacted]  
[redacted]

sar

atop

```
sudo apt install atop
```

[redacted]

atop [redacted]

/var/log/atop/ [redacted]

```
atop -r /var/log/atop/atop_<date>.gz
```

[redacted] 7 22 [redacted]

```
atop -r /var/log/atop/atop_2025-07-22.gz
```

## 6. ?? journalctl ???????

journalctl [redacted] systemd [redacted]

systemd

- [redacted]

```
journalctl --since "2025-07-22 20:00:00" --until "2025-07-22 20:30:00"
```

- [redacted]

```
journalctl | grep "load"
```

[redacted] sysstat [redacted] sar [redacted]

Cannot open /var/log/sysstat/sa23: No such file or directory [redacted]

sa23

[redacted] sysstat [redacted]

### ?????

1. [redacted]

sysstat [redacted]

10 [redacted]

/var/log/sysstat/ [redacted]

sa<day\_of\_month> [redacted]

sysstat [redacted]

23

[redacted]

```
ls /var/log/sysstat/
```

```
sa23 23 sar  
sar -u -f /var/log/sysstat/sa23
```

2. sysstat  
sadc  
sudo sadc -S DISK 1 /var/log/sysstat/sa\$(date +%d)

```
sa<day> sar
```

3. sar CPU sar -u 1 5  
sar -r 1 5 #  
sar -q 1 5 #

4. sysstat  
/etc/default/sysstat  
sudo nano /etc/default/sysstat  
ENABLED="true"

5. sysstat  
sudo systemctl restart sysstat

??

- sysstat sar
- sar -u 1 5

• `sysstat` `XXXXXXXXXX`

`XXXXXXXXXXXXXXXXXXXX`

`sar` `XXXXXXXXXX`

`sar` `XXXXXXXXXX`

`eth0` `XXXX`

`XXXXXX`

`grep` `XXX`

`awk` `XXXXX`

`sadf`

`XXXXXXXXXX`

? ?????? `sar -n DEV` + `grep eth0`

`XXXXXXXXXXXX`

```
sar -n DEV -f /var/log/sysstat/sa24 | grep 'eth0'
```

`XXXX`

10:05:01 AM	eth0	1.06	0.82	0.11	0.06	0.00	0.00
0.53	0.00						
10:15:01 AM	eth0	106.82	25.62	127.40	30.38	0.00	0.00
0.45	0.10						
Average:	eth0	21.39	5.11	25.31	5.99	0.00	0.00
0.44	0.02						

? ?????? `awk` ?????????????????? `rxkB/s` ?  
`txkB/s`?

```
sar -n DEV -f /var/log/sysstat/sa24 | awk '$3=="eth0" {print $1, $2, $6, $7}'
```

`XXXX`

10:05:01 AM	0.11	0.06		
10:15:01 AM	127.40	30.38		
Average:	25.31	5.99		

```
“ $6 $7 rxkB/s txkB/s /XXXX
```

# ? ?????? `sadf` ? CSV / JSON / JSON-pretty ????? eth0

```
sadf -d /var/log/sysstat/sa24 -- -n DEV | grep "eth0"
```

????? JSON?

```
sadf -j /var/log/sysstat/sa24 -- -n DEV | jq '.sysstat.hosts[0].statistics[] | select(.network_iface.iface=="eth0")'
```

??????????

# ? ?????????????????? eth0 ??

???? 09:00 11:00

```
sar -n DEV -s 09:00:00 -e 11:00:00 -f /var/log/sysstat/sa24 | grep eth0
```

## ??

??	??
?? eth0 ????	<code>`sar -n DEV -f /var/log/sysstat/saXX</code>
?? rx/tx ??	<code>awk '\$3=="eth0" {print \$1, \$2, \$6, \$7}'</code>
????	<code>sar -s HH:MM:SS -e HH:MM:SS</code>
JSON / CSV ????	<code>sadf -j</code> / <code>sadf -d</code>

???????????? CSV ???

????? `sar` + `awk` + `gnuplot` ???? **eth0** ? **rx/tx** ???? ???? HTML ?  
PDF ???? ?

???????????? Ubuntu 18.04??

? ???????

```
sudo apt update
sudo apt install sysstat gnuplot
```

? ?????????????? + ??????HTML?

????? eth0 ?????

?? /usr/local/bin/gen\_net\_report.sh

```
#!/bin/bash

# 
DATE=$(date +%d)
FILE="/var/log/sysstat/sa$DATE"
TMPDIR="/tmp/net_report"
mkdir -p "$TMPDIR"

# 
DATFILE="$TMPDIR/net_data.dat"
PNGFILE="$TMPDIR/net_usage_$DATE.png"
HTMLFILE="$TMPDIR/net_usage_$DATE.html"

#  rx/tx 
sar -n DEV -f "$FILE" | awk '$3=="eth0" && $1 ~ /[0-9]/ {print $1, $2, $6, $7}' > "$DATFILE"

#  gnuplot 
GNUPLLOT_SCRIPT="$TMPDIR/plot_script.gp"
cat > "$GNUPLLOT_SCRIPT" <<EOF
set terminal png size 1000,600
set output "$PNGFILE"
set title "Network Usage (eth0) - $DATE"
set xdata time
set timefmt "%I:%M:%S %p"
set format x "%H:%M"
set xlabel "Time"
```

```
set ylabel "kB/s"
set grid
plot "$DATFILE" using 1:3 title "rxkB/s" with lines lw 2 lt rgb "blue", \
    "$DATFILE" using 1:4 title "txkB/s" with lines lw 2 lt rgb "red"
EOF

# █ █ gnuplot
gnuplot "$GNUPLLOT_SCRIPT"

# █ █ HTML █ █
cat > "$HTMLFILE" <<EOF
<html>
<head><title>Network Daily Report - eth0</title></head>
<body>
<h2>Network Usage Report - $(date '+%Y-%m-%d')</h2>
<p>Interface: <strong>eth0</strong></p>

</body>
</html>
EOF

# █ █ █ █ █ █
echo "██████████: $PNGFILE"
echo "██HTML███: $HTMLFILE"
```

? ??????????????????

██ crontab█

```
sudo crontab -e
```

██████ 7 ████

```
0 7 * * * /usr/local/bin/gen_net_report.sh
```

? ??????????????

