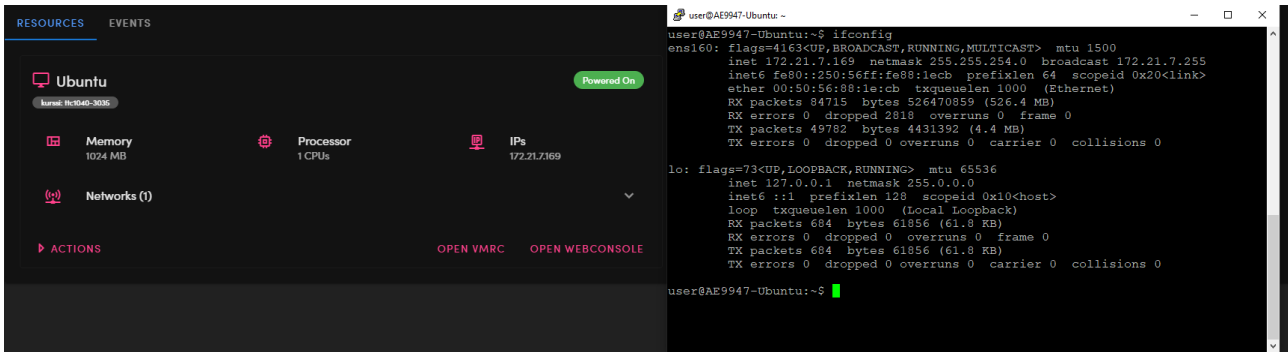


Linuxin käyttö ja hallinta : Harjoitukset 1

06.09.2023

Tehtävä 1



Tehtävä 2

Hostname:

```
uname -m
```

```
x86_64
```

Kernel info:

```
uname -srv
```

```
Linux 5.4.0-125-generic #141-Ubuntu SMP Wed Aug 10 13:42:03 UTC 2022
```

Uname-komennon versio:

```
uname --version
```

```
uname (GNU coreutils) 8.30
```

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Proessori:

```
lshw -short -class processor
```

WARNING: you should run this program as super-user.

```
H/W path    Device    Class    Description
```

```
=====
/0/1        processor AMD EPYC 7702P 64-Core Processor
```

WARNING: output may be incomplete or inaccurate, you should run this program as super-user.

jakelupaketin selite ja julkaisunumero:

```
lsb_release -dr
```

```
Description:  Ubuntu 20.04.4 LTS
```

```
Release:      20.04
```

Jakelupaketin koodinimi:

```
lsb_release -c
```

```
Codename:     focal
```

Tehtävä 3

```
user@AE9947-Ubuntu:~$ su root
```

Password:

```
root@AE9947-Ubuntu:/home/user# su user
```

```
user@AE9947-Ubuntu:~$
```

Tehtävä 4

```
cat /etc/shells
```

```
# /etc/shells: valid login shells
```

```
/bin/sh
```

```
/bin/bash
```

```
/usr/bin/bash
```

/bin/rbash

/usr/bin/rbash

/bin/dash

/usr/bin/dash

/usr/bin/tmux

/usr/bin/screen

Tehtävä 5

Etsi selitteet (descriptions) seuraaville komennoille:

Echo:

```
user@AE9947-Ubuntu:~$ man echo
```

NAME

echo - display a line of text

SYNOPSIS

echo [SHORT-OPTION]... [STRING]...

echo LONG-OPTION

DESCRIPTION

Echo the STRING(s) to standard output.

- n do not output the trailing newline
- e enable interpretation of backslash escapes
- E disable interpretation of backslash escapes (default)

History:

```
user@AE9947-Ubuntu:~$ man history
```

NAME

history - GNU History Library

COPYRIGHT

The GNU History Library is Copyright (C) 1989-2017 by the Free Software Foundation, Inc.

DESCRIPTION

Many programs read input from the user a line at a time. The GNU History library is able to keep track of those lines, associate arbitrary data with each line, and utilize information from previous lines in composing new ones.

Free:

man free

NAME

free - Display amount of free and used memory in the system

SYNOPSIS

free [options]

DESCRIPTION

free displays the total amount of free and used physical and swap memory in the system, as well as the buffers and caches used by the kernel. The information is gathered by parsing /proc/meminfo. The displayed columns are:

total Total installed memory (MemTotal and SwapTotal in /proc/meminfo)

used Used memory (calculated as total - free - buffers - cache)

free Unused memory (MemFree and SwapFree in /proc/meminfo)

shared Memory used (mostly) by tmpfs (Shmem in /proc/meminfo)

buffers

Memory used by kernel buffers (Buffers in /proc/meminfo)

cache Memory used by the page cache and slabs (Cached and SReclaimable in /proc/meminfo)

buff/cache

Sum of buffers and cache

available

Estimation of how much memory is available for starting new applications, without swapping. Unlike the data provided by the cache or free fields, this field takes into account page cache and also that not all reclaimable memory slabs

will be reclaimed due to items being in use (MemAvailable in /proc/meminfo, available on kernels 3.14, emulated on kernels 2.6.27+, otherwise the same as free)

Tehtävä 6

echo:

```
user@AE9947-Ubuntu:~$ echo päivää
```

```
päivää
```

History:

```
user@AE9947-Ubuntu:~$ history
```

```
1 history -w
2 history -w
3 passwd
4 ipconfig
5 /ipconfig
6 ipconfig .
7 ipconfig
8 ifconfig
9 pwd
10 la /
11 cd /
12 pwd
13 cd tmp
14 cd /
15 cd la
```

Free:

```
user@AE9947-Ubuntu:~$ free -b
```

```
      total    used    free   shared buff/cache available
Mem:  1024262144 168005632 127537152   430080  728719360  687386624
Swap:  2057302016  24301568 2033000448
```

Tehtävä 7

```
user@AE9947-Ubuntu:/$ tree -L 1
```

```
.
├── bin -> usr/bin
├── boot
├── cdrom
├── dev
├── etc
├── home
```

```
├─ lib -> usr/lib
├─ lib32 -> usr/lib32
├─ lib64 -> usr/lib64
├─ libx32 -> usr/libx32
├─ lost+found
├─ media
├─ mnt
├─ opt
├─ proc
├─ root
├─ run
├─ sbin -> usr/sbin
├─ snap
├─ srv
├─ swap.img
├─ sys
├─ tmp
├─ usr
└─ var
```

24 directories, 1 file

```
user@AE9947-Ubuntu:/var/log$ tree -f
```

```
.
├─ ./alternatives.log
├─ ./alternatives.log.1
├─ ./alternatives.log.2.gz
├─ ./alternatives.log.3.gz
├─ ./alternatives.log.4.gz
├─ ./alternatives.log.5.gz
└─ ./alternatives.log.6.gz
```

```
└─ ./apt
  | └─ ./apt/eipp.log.xz
  | └─ ./apt/history.log
  | └─ ./apt/history.log.1.gz
  | └─ ./apt/history.log.2.gz
  | └─ ./apt/history.log.3.gz
  | └─ ./apt/history.log.4.gz
  | └─ ./apt/history.log.5.gz
  | └─ ./apt/history.log.6.gz
  | └─ ./apt/term.log
  | └─ ./apt/term.log.1.gz
  | └─ ./apt/term.log.2.gz
  | └─ ./apt/term.log.3.gz
  | └─ ./apt/term.log.4.gz
  | └─ ./apt/term.log.5.gz
  | └─ ./apt/term.log.6.gz
```

```
user@AE9947-Ubuntu:/bin$ tree -fpa | grep xs
```

```
└─ [-rwxr-xr-x] ./enc2xs
└─ [-rwxr-xr-x] ./h2xs
└─ [-rwxr-xr-x] ./xsubpp
```