Linux perusteet [TTC1040]

harjoitus 5

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1. **Create the tar archive from dir2 directory created in previous exercise (Linux exercise 4 - Basic commands) and compress it using gzip.**

```
user@P0033-Ubuntu:~/h1$ tar -cf dir2.tar dir2/*
user@P0033-Ubuntu:~/h1$ ls
dir1  dir2  dir2.tar  dir3
user@P0033-Ubuntu:~/h1$ gzip dir2.tar
user@P0033-Ubuntu:~/h1$ ls
dir1  dir2  dir2.tar.gz  dir3
```

2. **Open one of the files you have created earlier with text editor of your choice. Add text to the file and save it with different name.**

```
user@P0033-Ubuntu:~/h1/dir1$ ls
File2.txt  File3.txt  File4.txt  NewFileX1.txt
user@P0033-Ubuntu:~/h1/dir1$ nano NewFileX1.txt
```

```
  GNU nano 4.8                                                    NewFileX1.txt
Lisään tänne tekstiä ja tallennan sitten eri nimellä.



^G Get Help    ^O Write Out   ^W Where Is    ^K Cut Text    ^J Justify     ^C Cur Pos     M-U
^X Exit        ^R Read File   ^\ Replace     ^U Paste Text  ^T To Spell    ^  Go To Line  M-E
```

Ctrl+o

```
File Name to Write: NewFileX2.txt
^G Get Help                                        M-D DOS For
^C Cancel                                          M-M Mac For
```

```
user@P0033-Ubuntu:~/h1/dir1$ ls
File2.txt  File3.txt  File4.txt  NewFileX1.txt  NewFileX2.txt
user@P0033-Ubuntu:~/h1/dir1$ cat NewFileX2.txt
Lisään tänne tekstiä ja tallennan sitten eri nimellä.
```

3. **Open some file using less command. Find out how search feature works in less command.**

```
user@P0033-Ubuntu:/etc$ less rsyslog.conf
```

```
#
$FileOwner syslog
$FileGroup adm
$FileCreateMode 0640
$DirCreateMode 0755
$Umask 0022
$PrivDropToUser syslog
$PrivDropToGroup syslog

#
# Where to place spool and state files
#
$WorkDirectory /var/spool/rsyslog

#
# Include all config files in /etc/rsyslog.d/
#
$IncludeConfig /etc/rsyslog.d/*.conf
(END)
```

Search feature

```
user@P0033-Ubuntu:/$ find /etc -name "r*" | less
```

```
/etc/alternatives/rcp.1.gz
/etc/alternatives/rcp
/etc/alternatives/rmt
/etc/alternatives/rmt.8.gz
/etc/alternatives/rview
/etc/alternatives/rsh
/etc/alternatives/rlogin.1.gz
/etc/alternatives/rlogin
/etc/alternatives/rsh.1.gz
/etc/rc6.d
/etc/networkd-dispatcher/routable.d
/etc/fwupd/remotes.d
/etc/fwupd/redfish.conf
/etc/resolv.conf
/etc/console-setup/remap.inc
/etc/iproute2/rt_dsfield
/etc/iproute2/rt_tables
/etc/iproute2/rt_scopes
/etc/iproute2/rt_protos.d
/etc/iproute2/rt_tables.d
/etc/iproute2/rt_realms
/etc/iproute2/rt_protos
(END)
```

Eli find polku -name "hakusana" | less

4. **Download and extract the Apache web server package: Apache web server.**

```
user@P0033-Ubuntu:~$ wget http://student.labranet.jamk.fi/~hantt/apache/httpd-2.4.41.tar.gz
--2021-09-22 13:06:23--  http://student.labranet.jamk.fi/~hantt/apache/httpd-2.4.41.tar.gz
Resolving student.labranet.jamk.fi (student.labranet.jamk.fi)... 192.168.20.20
Connecting to student.labranet.jamk.fi (student.labranet.jamk.fi)|192.168.20.20|:80... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://student.labranet.jamk.fi/~hantt/apache/httpd-2.4.41.tar.gz [following]
--2021-09-22 13:06:23--  https://student.labranet.jamk.fi/~hantt/apache/httpd-2.4.41.tar.gz
Connecting to student.labranet.jamk.fi (student.labranet.jamk.fi)|192.168.20.20|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 9267917 (8.8M) [application/x-gzip]
Saving to: 'httpd-2.4.41.tar.gz'

httpd-2.4.41.tar.gz                      100%[============================================

2021-09-22 13:06:23 (238 MB/s) - 'httpd-2.4.41.tar.gz' saved [9267917/9267917]

user@P0033-Ubuntu:~$ ls
data1  datahakemisto  h1  httpd-2.4.41.tar.gz  sensor-collection  testi.txt  testihakemisto2  tmp
user@P0033-Ubuntu:~$ gzip -d h
h1/                httpd-2.4.41.tar.gz
user@P0033-Ubuntu:~$ gzip -d httpd-2.4.41.tar.gz
user@P0033-Ubuntu:~$ ls
data1  datahakemisto  h1  httpd-2.4.41.tar  sensor-collection  testi.txt  testihakemisto2  tmp
```

```
user@P0033-Ubuntu:~$ tar -xf httpd-2.4.41.tar
user@P0033-Ubuntu:~$ ls
data1  datahakemisto  h1  httpd-2.4.41  httpd-2.4.41.tar  sensor-coll
```

5. **Use Vim editor in this task. Open CHANGES file from extracted Apache web server directory and add this line to the beginning of the file:**

- **====== This file has been edited in *current_date* ======**

- **Save the file and print first 18 lines of the file to the command line.**

```
user@P0033-Ubuntu:~/httpd-2.4.41$ vim CHANGES
user@P0033-Ubuntu:~/httpd-2.4.41$ head -18 CHANGES
       ====== This file has been edited in 22.9.2021 ======
Changes with Apache 2.4.41

  *) mod_proxy_balancer: Improve balancer-manager protection against
     XSS/XSRF attacks from trusted users.  [Joe Orton,
     Niels Heinen <heinenn google.com>]

  *) mod_session: Introduce SessionExpiryUpdateInterval which allows to
     configure the session/cookie expiry's update interval. PR 57300.
     [Paul Spangler <paul.spangler ni.com>]

  *) modules/filters: Fix broken compilation when using old GCC (<4.2.x).
     PR 63633.  [Rainer Jung, Joe Orton]

  *) mod_ssl: Fix startup failure in 2.4.40 with SSLCertificateChainFile
     configured for a domain managed by mod_md.  [Stefan Eissing]

Changes with Apache 2.4.40
```

```
       ====== This file has been edited in 22.9.2021 ======
Changes with Apache 2.4.41

  *) mod_proxy_balancer: Improve balancer-manager protection against
     XSS/XSRF attacks from trusted users.  [Joe Orton,
     Niels Heinen <heinenn google.com>]

  *) mod_session: Introduce SessionExpiryUpdateInterval which allows to
     configure the session/cookie expiry's update interval. PR 57300.
     [Paul Spangler <paul.spangler ni.com>]
```

Vimin sisällä:

Ensiksi i-kirjain jotta päästään insert-moodiin, kirjoitetaan muutokset, painetaan ESCia, ja sitten :wq jotta tallennetaan muutokset ja poistutaan Vimistä.

6. **Open Kernel log file (/var/log/kern.log) using tail command so that new log lines are listed in real-time.**

```
user@P0033-Ubuntu:~$ tail -f /var/log/kern.log.1
Sep 15 13:10:10 P0033-Ubuntu kernel: [    4.067995] audit: type=1400 audit(16317
00591.941:7): apparmor="STATUS" operation="profile_load" profile="unconfined" na
me="/{,usr/}sbin/dhclient" pid=652 comm="apparmor_parser"
Sep 15 13:10:10 P0033-Ubuntu kernel: [    4.071207] audit: type=1400 audit(16317
00591.945:8): apparmor="STATUS" operation="profile_load" profile="unconfined" na
me="/usr/bin/man" pid=653 comm="apparmor_parser"
Sep 15 13:10:10 P0033-Ubuntu kernel: [    4.071209] audit: type=1400 audit(16317
00591.945:9): apparmor="STATUS" operation="profile_load" profile="unconfined" na
me="man_filter" pid=653 comm="apparmor_parser"
Sep 15 13:10:10 P0033-Ubuntu kernel: [    4.071210] audit: type=1400 audit(16317
00591.945:10): apparmor="STATUS" operation="profile_load" profile="unconfined" n
ame="man_groff" pid=653 comm="apparmor_parser"
Sep 15 13:10:10 P0033-Ubuntu kernel: [    4.117426] NET: Registered protocol fam
ily 40
Sep 15 13:10:10 P0033-Ubuntu kernel: [   20.111358] vmxnet3 0000:03:00.0 ens160:
 intr type 3, mode 0, 2 vectors allocated
Sep 15 13:10:10 P0033-Ubuntu kernel: [   20.112716] vmxnet3 0000:03:00.0 ens160:
 NIC Link is Up 10000 Mbps
Sep 16 23:55:11 P0033-Ubuntu kernel: [125120.835705] perf: interrupt took too lo
ng (2585 > 2500), lowering kernel.perf_event_max_sample_rate to 77250
Sep 17 14:47:26 P0033-Ubuntu kernel: [178654.086195] perf: interrupt took too lo
ng (3237 > 3231), lowering kernel.perf_event_max_sample_rate to 61750
Sep 18 08:17:36 P0033-Ubuntu kernel: [241663.099583] perf: interrupt took too lo
ng (4063 > 4046), lowering kernel.perf_event_max_sample_rate to 49000
```

7. **Examine curl program parameter through help feature. Download Funet network's wiki page https://fi.wikipedia.org/wiki/Funet and save the content of the page to the file (Write to file) called funetpage.html. Add screenshot presenting part of this file's content.**

```
user@P0033-Ubuntu:~$ curl https://fi.wikipedia.org/wiki/Funet --output funetpage.html
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 37720  100 37720    0     0   250k      0 --:--:-- --:--:-- --:--:--  252k
user@P0033-Ubuntu:~$ head -5 funetpage.html
<!DOCTYPE html>
<html class="client-nojs" lang="fi" dir="ltr">
<head>
<meta charset="UTF-8"/>
<title>Funet - Wikipedia</title>
```

8. **In this task curl command will be used to connect to remote servers:**

   a) **README file is located in the server http://ftp.funet.fi. How do you open this file using curl command so that you can view it page by page (hint: utilize other commands with curl)?**

```
user@P0033-Ubuntu:~$ curl http://ftp.funet.fi/README | more
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
  0     0    0     0    0     0      0      0 --:--:-- --:--:-- --:--:--     0#
# Introduction to nic.funet.fi archive
#
# Status: Update in progress
# Author: staff of ftp.funet.fi
# Created: Sat Aug 22 20:31:58 1992
# Last modified: 2019-06-18
#
^L
100 18733  100 18733    0     0   831k      0 --:--:-- --:--:-- --:--:--  831k
```

b) **How do you list the content of remote server's folder ftp://speedtest.tele2.net/? What files are included in listing?**

```
user@P0033-Ubuntu:~$ curl ftp://speedtest.tele2.net/
-rw-r--r--    1 0        0       1073741824000 Feb 19   2016 1000GB.zip
-rw-r--r--    1 0        0       107374182400 Feb 19   2016 100GB.zip
-rw-r--r--    1 0        0           102400 Feb 19   2016 100KB.zip
-rw-r--r--    1 0        0        104857600 Feb 19   2016 100MB.zip
-rw-r--r--    1 0        0       10737418240 Feb 19   2016 10GB.zip
-rw-r--r--    1 0        0         10485760 Feb 19   2016 10MB.zip
-rw-r--r--    1 0        0       1073741824 Feb 19   2016 1GB.zip
-rw-r--r--    1 0        0             1024 Feb 19   2016 1KB.zip
-rw-r--r--    1 0        0          1048576 Feb 19   2016 1MB.zip
-rw-r--r--    1 0        0        209715200 Feb 19   2016 200MB.zip
-rw-r--r--    1 0        0         20971520 Feb 19   2016 20MB.zip
-rw-r--r--    1 0        0          2097152 Feb 19   2016 2MB.zip
-rw-r--r--    1 0        0          3145728 Feb 19   2016 3MB.zip
-rw-r--r--    1 0        0        524288000 Feb 19   2016 500MB.zip
-rw-r--r--    1 0        0       53687091200 Jul 24   2014 50GB.zip
-rw-r--r--    1 0        0         52428800 Feb 19   2016 50MB.zip
-rw-r--r--    1 0        0           524288 Feb 19   2016 512KB.zip
-rw-r--r--    1 0        0          5242880 Feb 19   2016 5MB.zip
drwxr-xr-x    2 106      109          81920 Sep 22 17:18 upload
```

Näköjään tulee .zip-tiedostoja ja upload-niminen hakemisto.