

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

```
user@AC4892-Ubuntu:~/h1$ ls
dir1  dir2  dir3
user@AC4892-Ubuntu:~/h1$ tar -cf dir2.tar dir2
user@AC4892-Ubuntu:~/h1$ ls
dir1  dir2  dir2.tar  dir3
user@AC4892-Ubuntu:~/h1$
```

```
dir1  dir2  dir2.tar  dir3
user@AC4892-Ubuntu:~/h1$ gzip dir2.tar
user@AC4892-Ubuntu:~/h1$ ls
dir1  dir2  dir2.tar.gz  dir3
user@AC4892-Ubuntu:~/h1$
```

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@AC4892-Ubuntu:~/h1/dir2$ nano File1.txt
```

After add the text press ctrl+o and then change the text file name and press 'y' to confirm the message File will be save with the new name

```
user@AC4892-Ubuntu:~/h1/dir2$ ls
File1.txt  File1_addtext.txt  File2.txt  File3.txt  File4.txt
user@AC4892-Ubuntu:~/h1/dir2$ cat File1_addtext.txt
Adding Sample Text
```

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

```
user@AC4892-Ubuntu:~$ less newtext.txt
```

Then use '/pattern' that we need to search here I searched for 'am'

```
T I am fine
  Whats happening
  This is easy
```

4. Download and extract the Apache web server package: [Apache web server](#).

```
user@AC4892-Ubuntu:~/h1/dir3$ wget http://student.labranet.jamk.fi/~hanth/apache/httpd-2.4.41.tar.gz
```

```
user@AC4892-Ubuntu:~/h1/dir3$ tar -xvf httpd-2.4.41.tar.gz
```

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.

Fist open the file

```
user@AC4892-Ubuntu:~/h1/dir3/httpd-2.4.41$ vi CHANGES
```

Then press I to Insert the line

Insert the line and press escape and the use 'x' to save and exit

When you view again following will be added

```
• ===== This file has been edited in 05102022 =====
coding: utf-8 -*-
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]
```

To print the first 18 lines

```
user@AC4892-Ubuntu:~/h1/dir3/httpd-2.4.41$ head -18 CHANGES
• ===== This file has been edited in 05102022 =====
coding: utf-8 -*-
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>]

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PR 63633. [Rainer Jung, Joe Orton]

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configured for a domain managed by mod_md. [Stefan Eissing]

Changes with Apache 2.4.40
```

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

```
user@AC4892-Ubuntu:/$ cd /var/log
user@AC4892-Ubuntu:/var/log$ tail -f kern.log
```

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.

Used sudo command because of the permission issue

```
user@AC4892-Ubuntu:/$ sudo curl -o funetpage.html https://fi.wikipedia.org/wiki/Funet
```

To view the file

```
user@AC4892-Ubuntu:/$ vi funetpage.html
```

```
<!DOCTYPE html>
<html class="client-nojs" lang="fi" dir="ltr">
<head>
<meta charset="UTF-8"/>
<title>
<script>document
"client-js"
{"wgBreakFrames" false "wgSeparatorTransformTa
" ," " "wgDigitTransformTable" ["" "" "wgDefaultDateFormat" "fi normal" "wgMonthNames" ["" "tammikuu" "he
liskuu" "huhtikuu" "toukokuu" "kesäkuu" "heinäkuu" "elokuu" "syyskuu" "lokakuu" "marraskuu" "joulukuu"] "wgl
ae561be-4a58-4ce8-a646-09f10f721926" "wgCSPNonce" false "wgCanonicalNamespace" "" "wgCanonicalSpecialPageNam
NamespaceNumber" 0 "wgPageName" "Funet" "wgTitle" "Funet" "wgCurRevisionId" 19676556 "wgRevisionId" 19676556
d" 340035 "wgIsArticle" true "wgIsRedirect" false "wgAction" "view" "wgUserName" null "wgUserGroups" ["" ] '
" ["Tietotekniikkatyngät" "CSC" "Internet" "Suomen koulutus"] "wgPageContentLanguage" "fi" "wgPageContentMod
t" "wgRelevantPageName" "Funet" "wgRelevantArticleId" 340035 "wgIsProbablyEditable" true "wgRelevantPageIsPr
le" true "wgRestrictionEdit" []
"wgRestrictionMove" [] "wgFlaggedRevsParams" {"tags" {"accuracy" {"levels" 3}} "wgStableRevisionId" 1967655
ditor" {"pageLanguageCode" "fi" "pageLanguageDir" "ltr" "pageVariantFallbacks" "fi"} "wgMFDisplayWikibaseDes
"search" true "nearby" true "watchlist" true "tagline" true} "wgWMESchemaEditAttemptStepOversample" false "v
th" 4000 "wgNoticeProject" "wikipedia" "wgVector2022PreviewPages" [] "wgMediaViewerOnClick" true "wgMediaVie
Default" true "wgPopupsFlags" 4 "wgULSCurrentAutonym" "suomi" "wgEditSubmitButtonLabelPublish" true "wgCentr
Domain" false "wgULSPosition" "interLanguage" "wgULSisCompactLinksEnabled" true "wgWikibaseItemId" "Q4357084
eSuggestedEditsEnableTopics" true "wgGETopicsMatchModeEnabled" false "wgGESTructuredTaskRejectionReasonTextI
false} {"ext.gadget.hidePersonalSandboxEdits" "ready" "ext.gadget.fiwiki_flaggedrevs_css_refix" "re
obalCssJs,user.styles" "ready"
"site.styles" "ready" "user.styles" "ready" "ext.globalCssJs.user" "ready" "user" "ready" "user.options" "le
flaggedRevs.icons" "ready" "oojs-ui-core.styles" "ready" "oojs-ui.styles.indicators" "ready" "mediawiki.widg
"ready" "oojs-ui-core.icons" "ready" "ext.cite.styles" "ready" "skins.vector.styles.legacy" "ready" "ext.fle
ic" "ready" "ext.visualEditor.desktopArticleTarget.noscript" "ready" "ext.wikimediaBadges" "ready" "ext.uls.
e" "ready" "wikibase.client.init" "ready"} {"ext.cite.ux-enhancements" "site" "mediawiki.page.
awiki.toc" "skins.vector.legacy.js" "ext.flaggedRevs.advanced" "mmv.head" "mmv.bootstrap.autostart" "ext.vis
sktopArticleTarget.init" "ext.visualEditor.targetLoader" "ext.eventLogging" "ext.wikimediaEvents" "ext.navig
"ext.cx.eventlogging.campaigns" "ext.centralNotice.geoIP" "ext.centralNotice.startUp" "ext.gadget.ViikonKil
gadget.WikiLovesMonumets"
"ext.gadget.ProtectionIndicator" "ext.gadget.frwiki_infobox_v3" "ext.gadget.Linkedata" "ext.centralauth.cer
n" "ext.popups" "ext.uls.compactlinks" "ext.uls.interface" "ext.growthExperiments.SuggestedEditSession"] </s
```

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)?

b) How do you list the content of remote server's folder <ftp://ftp.gnu.org/>?

What files are included in listing?

a)

```
root@AC4892-Ubuntu:~$ curl http://ftp.funet.fi/README
```

Welcome to FTP.FUNET.FI aka NIC.FUNET.FI aka BIO.NIC.FUNET.FI

It runs on two Linux servers with dual 20 core processors,
786GB of memory and 2 x 25Gbit/s network connections.
80+TB storage is provided from NetApp NFS NAS servers.

This system is owned by the finnish ministry of education
and operated on their behalf by CSC primarily for the Finnish Academic
and Research Network FUNET users and the Elixir Community.
It is located in the town of Espoo in Finland.

Paper mail address:

NIC.FUNET.FI coordinator
Harri Salminen
CSC
POBOX 405 (street address is Keilaranta 14)
FIN-02101 Espoo
FINLAND

<https://www.nic.funet.fi/contact>

b)

```
user@AC4892-Ubuntu:~$ curl -l ftp://ftp.gnu.org/  
CRYPTO README
```

```
user@AC4892-Ubuntu:~$ curl -I ftp://ftp.gnu.org/ftp.gnu.org/
CRYPTO.README
MISSING-FILES
MISSING-FILES.README
README
before-2003-08-01.md5sums.asc
find.txt.gz
gnu
gnu+linux-distros
ls-lrRt.txt.gz
mirrors
non-gnu
old-gnu
pub
savannah
third-party
tmp
tree.json.gz
video
welcome.msg
```