

Module 4 (Task 4.2)

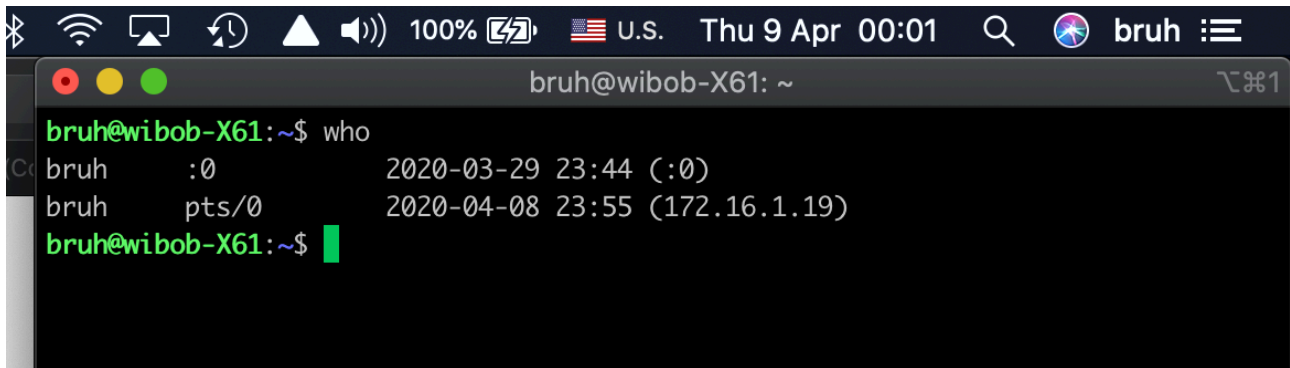
1. Set up Linux Virtual Machine in VirtualBox.
2. Familiarize yourself with the commands and utilities listed in the presentation (switching between **virtual terminals** (consoles); **printenv**; content of **/etc/profile** and **~/.bash_profile**, **\$echo \$HISTFILE \$HISTSIZ**
\$HISTFILESIZE, **who**, **w**, **whoami**, **id**). Make 5 screenshots.



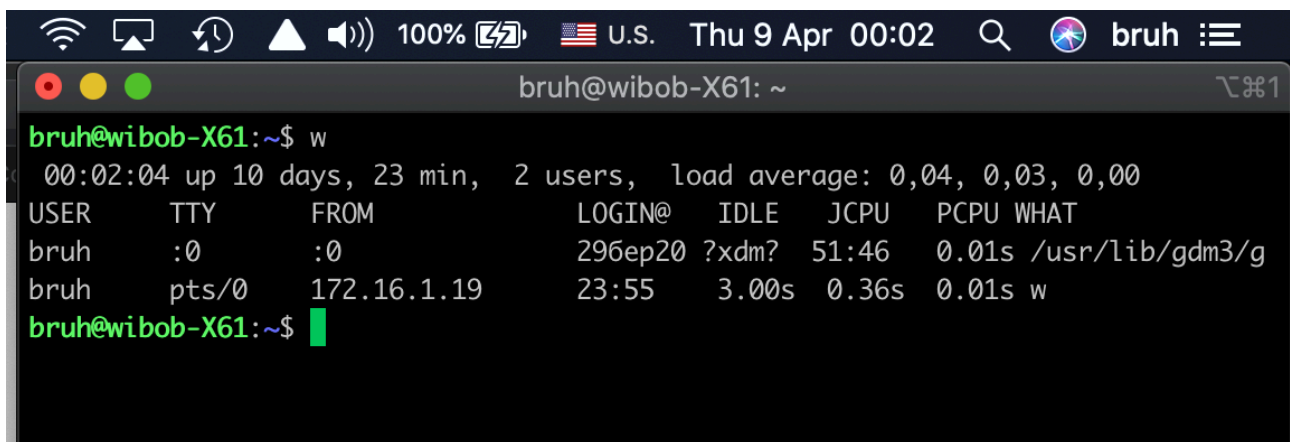
```
bruh@wibob-X61: ~  
bruh@wibob-X61:~$ printenv  
LS_COLORS=rs=0:di=01;34:ln=01;36:mh=00:pi=40;33:so=01;35:do=01;35:bd=40;33;01:cd  
=40;33;01:or=40;31;01:mi=00:su=37;41:sg=30;43:ca=30;41:tw=30;42:ow=34;42:st=37;4  
4:ex=01;32:*.tar=01;31:*.tgz=01;31:*.arc=01;31:*.arj=01;31:*.taz=01;31:*.lha=01;  
31:*.lz4=01;31:*.lzh=01;31:*.lzma=01;31:*.tlz=01;31:*.txz=01;31:*.tzo=01;31:*.t7  
z=01;31:*.zip=01;31:*.z=01;31:*.Z=01;31:*.dz=01;31:*.gz=01;31:*.lrz=01;31:*.lz=0  
1;31:*.lzo=01;31:*.xz=01;31:*.zst=01;31:*.tztst=01;31:*.bz2=01;31:*.bz=01;31:*.tb  
z=01;31:*.tbz2=01;31:*.tz=01;31:*.deb=01;31:*.rpm=01;31:*.jar=01;31:*.war=01;31:  
*.ear=01;31:*.sar=01;31:*.rar=01;31:*.alz=01;31:*.ace=01;31:*.zoo=01;31:*.cpio=0  
1;31:*.7z=01;31:*.rz=01;31:*.cab=01;31:*.wim=01;31:*.swm=01;31:*.dwm=01;31:*.esd  
=01;31:*.jpg=01;35:*.jpeg=01;35:*.mjpg=01;35:*.mjpeg=01;35:*.gif=01;35:*.bmp=01;  
35:*.pbm=01;35:*.pgm=01;35:*.ppm=01;35:*.tga=01;35:*.xbm=01;35:*.xpm=01;35:*.tif  
=01;35:*.tiff=01;35:*.png=01;35:*.svg=01;35:*.svgz=01;35:*.mng=01;35:*.pcx=01;35  
:*.mov=01;35:*.mpg=01;35:*.mpeg=01;35:*.m2v=01;35:*.mkv=01;35:*.webm=01;35:*.ogm  
=01;35:*.mp4=01;35:*.m4v=01;35:*.mp4v=01;35:*.vob=01;35:*.qt=01;35:*.nuv=01;35:*.  
.wmv=01;35:*.asf=01;35:*.rm=01;35:*.rmvb=01;35:*.flc=01;35:*.avi=01;35:*.fli=01;  
35:*.flv=01;35:*.gl=01;35:*.dl=01;35:*.xcf=01;35:*.xwd=01;35:*.yuv=01;35:*.cgm=0  
1;35:*.emf=01;35:*.ogv=01;35:*.ogx=01;35:*.aac=00;36:*.au=00;36:*.flac=00;36:*.m  
4a=00;36:*.mid=00;36:*.midi=00;36:*.mka=00;36:*.mp3=00;36:*.mpc=00;36:*.ogg=00;3  
6:*.ra=00;36:*.wav=00;36:*.oga=00;36:*.opus=00;36:*.spx=00;36:*.xspf=00;36:  
LC_MEASUREMENT=uk_UA.UTF-8  
SSH_CONNECTION=172.16.1.19 63838 172.16.1.26 22  
LESSCLOSE=/usr/bin/lesspipe %s %s  
LC_PAPER=uk_UA.UTF-8  
LC_MONETARY=uk_UA.UTF-8  
LANG=C.UTF-8  
LC_NAME=uk_UA.UTF-8  
XDG_SESSION_ID=1023  
USER=bruh  
QT_QPA_PLATFORMTHEME=appmenu-qt5  
PWD=/home/bruh  
HOME=/home/bruh  
LC_CTYPE=C.UTF-8  
LC_TERMINAL=iTerm2  
SSH_CLIENT=172.16.1.19 63838 22  
LC_TERMINAL_VERSION=3.3.9  
XDG_DATA_DIRS=/usr/local/share:/usr/share:/var/lib/snapd/desktop  
LC_ADDRESS=uk_UA.UTF-8  
LC_NUMERIC=uk_UA.UTF-8  
SSH_TTY=/dev/pts/0  
MAIL=/var/mail/bruh  
TERM=xterm-256color  
SHELL=/bin/bash  
SHLVL=1  
LC_TELEPHONE=uk_UA.UTF-8
```

```
bru@wibob-X61: ~  
bru@wibob-X61:~$ cat /etc/profile  
# /etc/profile: system-wide .profile file for the Bourne shell (sh(1))  
# and Bourne compatible shells (bash(1), ksh(1), ash(1), ...).  
  
if [ "${PS1-}" ]; then  
  if [ "${BASH-}" ] && [ "$BASH" != "/bin/sh" ]; then  
    # The file bash.bashrc already sets the default PS1.  
    # PS1='\h:\w\$ '  
    if [ -f /etc/bash.bashrc ]; then  
      . /etc/bash.bashrc  
    fi  
  else  
    if [ "`id -u`" -eq 0 ]; then  
      PS1='# '  
    else  
      PS1='$ '  
    fi  
  fi  
fi  
  
if [ -d /etc/profile.d ]; then  
  for i in /etc/profile.d/*.sh; do  
    if [ -r $i ]; then  
      . $i  
    fi  
  done  
  unset i  
fi  
bru@wibob-X61:~$
```

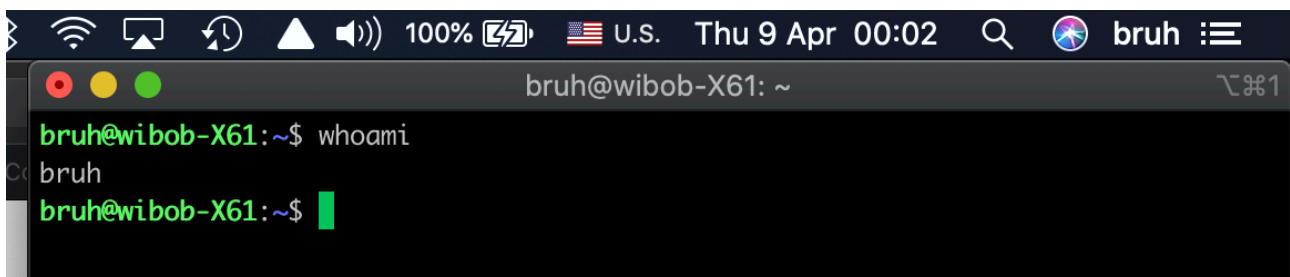
```
bru@wibob-X61: ~  
bru@wibob-X61:~$ echo $HISTFILE $HISTFILESIZE $HISTSIZE  
/home/bru/.bash_history 2000 1000  
bru@wibob-X61:~$
```



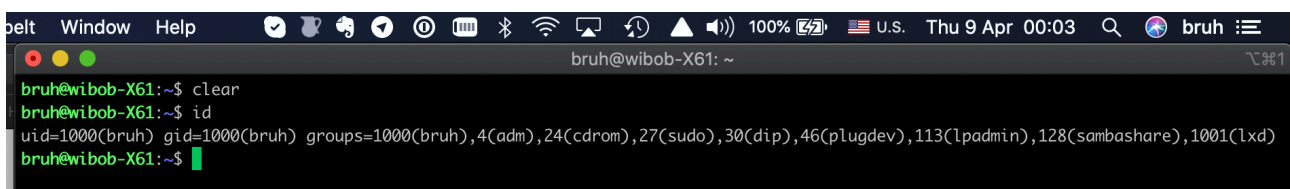
```
bruha@wibob-X61: ~  
bruha@wibob-X61:~$ who  
bruha      :0                2020-03-29 23:44 (:0)  
bruha      pts/0            2020-04-08 23:55 (172.16.1.19)  
bruha@wibob-X61:~$
```



```
bruha@wibob-X61:~$ w  
00:02:04 up 10 days, 23 min,  2 users,  load average: 0,04, 0,03, 0,00  
USER      TTY      FROM            LOGIN@   IDLE   JCPU   PCPU WHAT  
bruha      :0        :0               296ep20  ?xdm?  51:46   0.01s /usr/lib/gdm3/g  
bruha      pts/0     172.16.1.19      23:55    3.00s   0.36s   0.01s w  
bruha@wibob-X61:~$
```

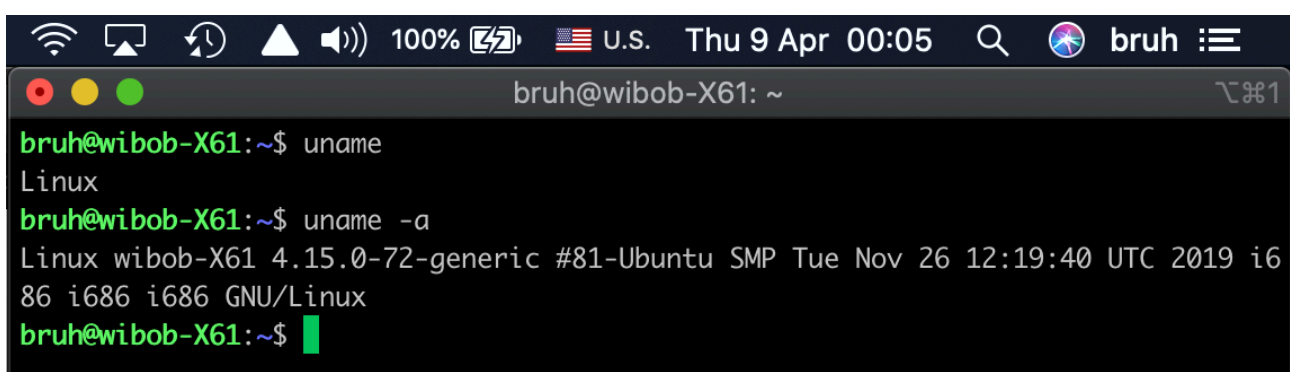


```
bruha@wibob-X61:~$ whoami  
bruha  
bruha@wibob-X61:~$
```

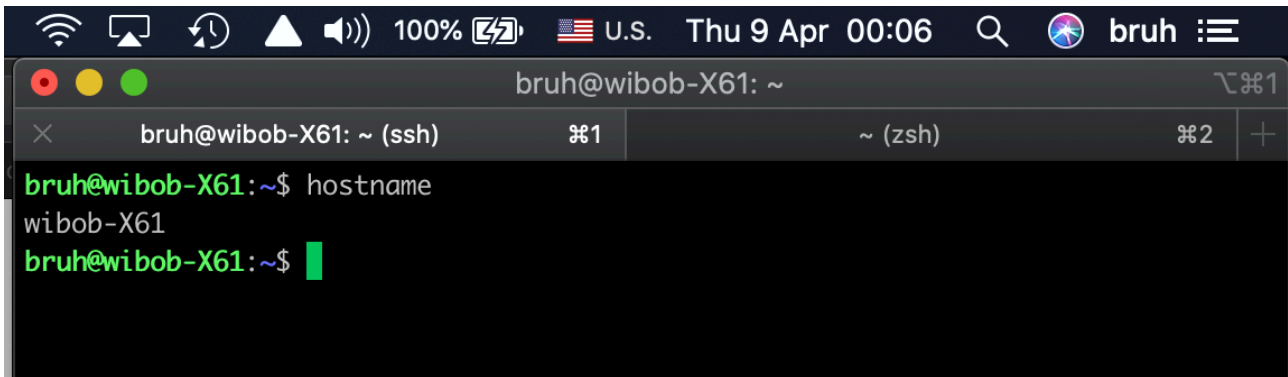


```
bruha@wibob-X61:~$ clear  
bruha@wibob-X61:~$ id  
uid=1000(bruha) gid=1000(bruha) groups=1000(bruha),4(adm),24(cdrom),27(sudo),30(dip),46(plugdev),113(lpadmin),128(sambashare),1001(lxd)  
bruha@wibob-X61:~$
```

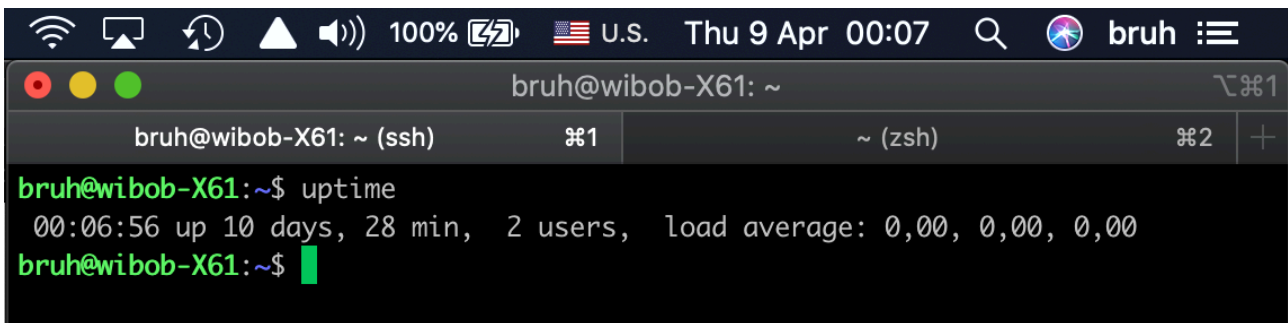
3. Familiarize yourself with the commands (*uname*, *hostname*, *uptime*, *shutdown*, *halt*, *reboot*, *init*...). Make 5 screenshots.



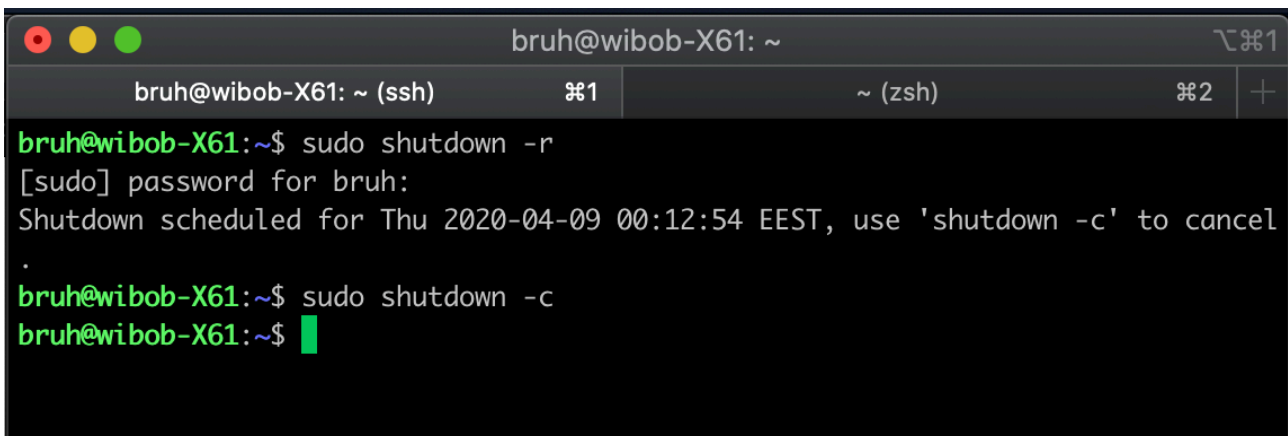
```
bruha@wibob-X61:~$ uname  
Linux  
bruha@wibob-X61:~$ uname -a  
Linux wibob-X61 4.15.0-72-generic #81-Ubuntu SMP Tue Nov 26 12:19:40 UTC 2019 i6  
86 i686 i686 GNU/Linux  
bruha@wibob-X61:~$
```



```
bruha@wibob-X61: ~  
bruha@wibob-X61: ~ (ssh) %1 ~ (zsh) %2 +  
bruha@wibob-X61:~$ hostname  
wibob-X61  
bruha@wibob-X61:~$
```

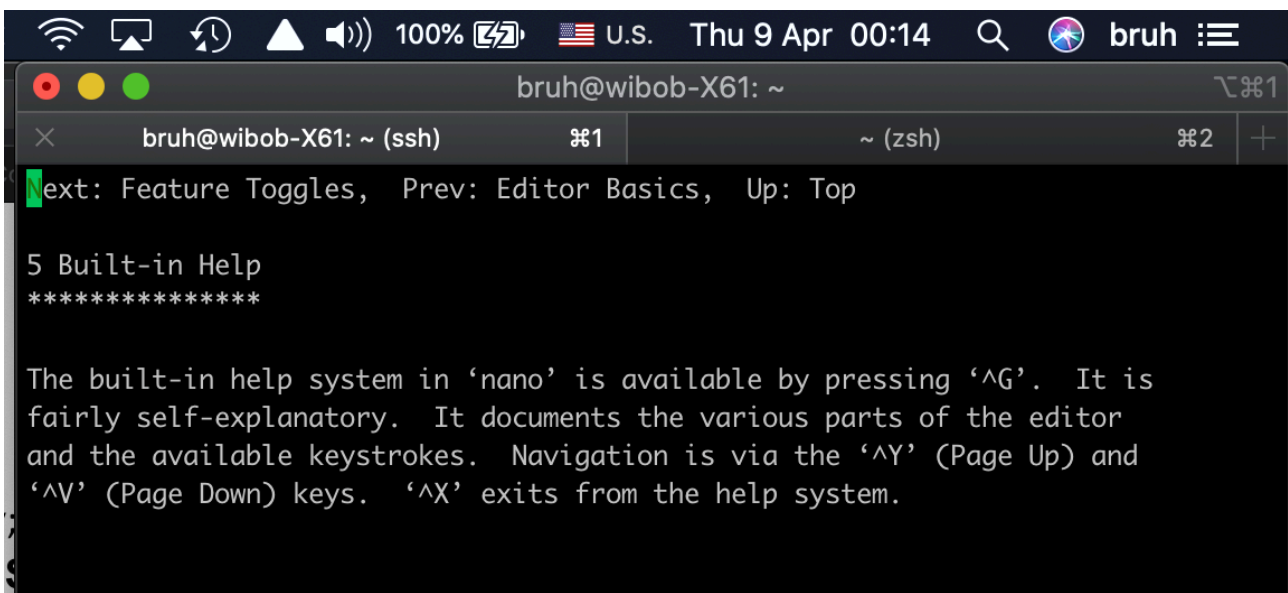


```
bruha@wibob-X61: ~  
bruha@wibob-X61: ~ (ssh) %1 ~ (zsh) %2 +  
bruha@wibob-X61:~$ uptime  
00:06:56 up 10 days, 28 min, 2 users, load average: 0,00, 0,00, 0,00  
bruha@wibob-X61:~$
```



```
bruha@wibob-X61: ~  
bruha@wibob-X61: ~ (ssh) %1 ~ (zsh) %2 +  
bruha@wibob-X61:~$ sudo shutdown -r  
[sudo] password for bruha:  
Shutdown scheduled for Thu 2020-04-09 00:12:54 EEST, use 'shutdown -c' to cancel  
.  
bruha@wibob-X61:~$ sudo shutdown -c  
bruha@wibob-X61:~$
```

4. Familiarize yourself with the help commands (*man, info, find, locate, whereis, less/zless in /usr/share/doc*). Make 5 screenshots.



```
Next: Feature Toggles, Prev: Editor Basics, Up: Top  
5 Built-in Help  
*****  
  
The built-in help system in 'nano' is available by pressing '^G'. It is fairly self-explanatory. It documents the various parts of the editor and the available keystrokes. Navigation is via the '^Y' (Page Up) and '^V' (Page Down) keys. '^X' exits from the help system.
```

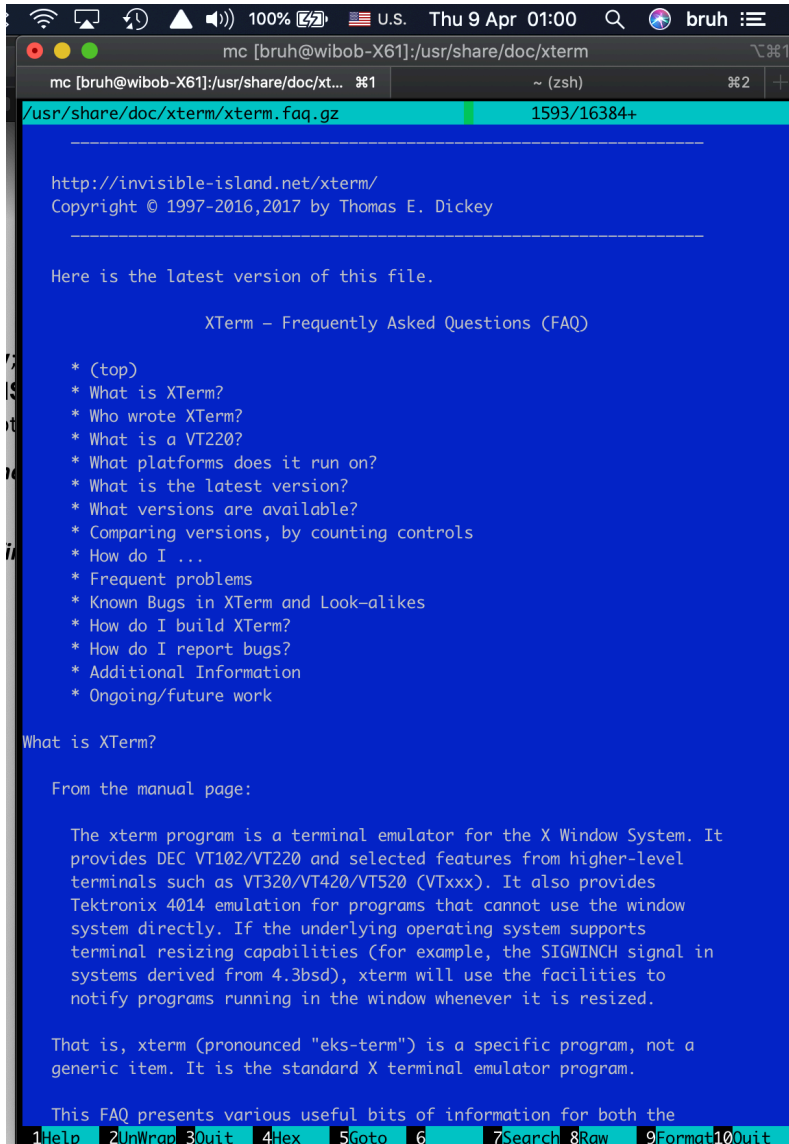
```
bruha@wibob-X61: ~  
MAN(1) Manual pager utils MAN(1)  
  
NAME  
man - an interface to the on-line reference manuals  
  
SYNOPSIS  
man [-C file] [-d] [-D] [--warnings[=warnings]] [-R encoding] [-L  
locale] [-m system[,...]] [-M path] [-S list] [-e extension] [-il-I  
--regex|--wildcard] [--names-only] [-a] [-u] [--no-subpages] [-P  
pager] [-r prompt] [-7] [-E encoding] [--no-hyphenation] [--no-justifi-  
cation] [-p string] [-t] [-T[device]] [-H[browser]] [-X[dpi]] [-Z  
[[section] page[.section] ...] ...  
man -k [apropos options] regexp ...  
man -K [-wl-W] [-S list] [-il-I] [--regex] [section] term ...  
man -f [whatis options] page ...  
man -l [-C file] [-d] [-D] [--warnings[=warnings]] [-R encoding] [-L  
locale] [-P pager] [-r prompt] [-7] [-E encoding] [-p string] [-t  
-T[device]] [-H[browser]] [-X[dpi]] [-Z file] ...  
man -wl-W [-C file] [-d] [-D] page ...  
man -c [-C file] [-d] [-D] page ...  
man [-?V]  
  
DESCRIPTION  
man is the system's manual pager. Each page argument given to man is  
normally the name of a program, utility or function. The manual page  
associated with each of these arguments is then found and displayed. A  
section, if provided, will direct man to look only in that section of  
the manual. The default action is to search in all of the available  
sections following a pre-defined order ("1 n l 8 3 2 3posix 3pm 3perl  
3am 5 4 9 6 7" by default, unless overridden by the SECTION directive  
in /etc/manpath.config), and to show only the first page found, even if  
page exists in several sections.  
  
The table below shows the section numbers of the manual followed by the  
types of pages they contain.  
  
1 Executable programs or shell commands  
2 System calls (functions provided by the kernel)  
3 Library calls (functions within program libraries)  
4 Special files (usually found in /dev)  
5 File formats and conventions eg /etc/passwd  
6 Games  
7 Miscellaneous (including macro packages and conventions), e.g.  
man(7), groff(7)  
Manual page man(1) line 1 (press h for help or q to quit)
```

```
bruha@wibob-X61: ~$ whereis visudo  
visudo: /usr/sbin/visudo /usr/share/man/man8/visudo.8.gz  
bruha@wibob-X61: ~$ whereis bash  
bash: /bin/bash /etc/bash.bashrc /usr/share/man/man1/bash.1.gz  
bruha@wibob-X61: ~$ whereis -b bash  
bash: /bin/bash /etc/bash.bashrc  
bruha@wibob-X61: ~$
```



```
bru@wibob-X61: ~  
bru@wibob-X61: ~ (ssh) %1 ~ (zsh) %2 +  
bru@wibob-X61:~$ sudo find / -name "main.rc"  
/snap/gtk-common-themes/1353/share/gtk2/Adwaita/gtk-2.0/main.rc  
/snap/gtk-common-themes/1353/share/gtk2/Adwaita-dark/gtk-2.0/main.rc  
/snap/gtk-common-themes/1353/share/gtk2/Arc/gtk-2.0/main.rc  
/snap/gtk-common-themes/1353/share/gtk2/Arc-Dark/gtk-2.0/main.rc  
/snap/gtk-common-themes/1353/share/gtk2/Arc-Darker/gtk-2.0/main.rc  
/snap/gtk-common-themes/1353/share/gtk2/Matcha-aliz/gtk-2.0/main.rc  
/snap/gtk-common-themes/1353/share/gtk2/Matcha-azul/gtk-2.0/main.rc  
/snap/gtk-common-themes/1353/share/gtk2/Matcha-dark-aliz/gtk-2.0/main.rc  
/snap/gtk-common-themes/1353/share/gtk2/Matcha-dark-azul/gtk-2.0/main.rc  
/snap/gtk-common-themes/1353/share/gtk2/Matcha-dark-sea/gtk-2.0/main.rc  
/snap/gtk-common-themes/1353/share/gtk2/Matcha-sea/gtk-2.0/main.rc  
/snap/gtk-common-themes/1353/share/gtk2/Yaru/gtk-2.0/main.rc  
/snap/gtk-common-themes/1353/share/gtk2/Yaru-dark/gtk-2.0/main.rc  
/snap/gtk-common-themes/1353/share/gtk2/Yaru-light/gtk-2.0/main.rc  
/snap/gtk-common-themes/1474/share/gtk2/Adwaita/gtk-2.0/main.rc  
/snap/gtk-common-themes/1474/share/gtk2/Adwaita-dark/gtk-2.0/main.rc  
/snap/gtk-common-themes/1474/share/gtk2/Arc/gtk-2.0/main.rc  
/snap/gtk-common-themes/1474/share/gtk2/Arc-Dark/gtk-2.0/main.rc  
/snap/gtk-common-themes/1474/share/gtk2/Arc-Darker/gtk-2.0/main.rc  
/snap/gtk-common-themes/1474/share/gtk2/Matcha-aliz/gtk-2.0/main.rc  
/snap/gtk-common-themes/1474/share/gtk2/Matcha-azul/gtk-2.0/main.rc  
/snap/gtk-common-themes/1474/share/gtk2/Matcha-dark-aliz/gtk-2.0/main.rc  
/snap/gtk-common-themes/1474/share/gtk2/Matcha-dark-azul/gtk-2.0/main.rc  
/snap/gtk-common-themes/1474/share/gtk2/Matcha-dark-sea/gtk-2.0/main.rc  
/snap/gtk-common-themes/1474/share/gtk2/Matcha-sea/gtk-2.0/main.rc  
/snap/gtk-common-themes/1474/share/gtk2/Yaru/gtk-2.0/main.rc  
/snap/gtk-common-themes/1474/share/gtk2/Yaru-dark/gtk-2.0/main.rc  
/snap/gtk-common-themes/1474/share/gtk2/Yaru-light/gtk-2.0/main.rc  
find: '/run/user/1000/gvfs': Permission denied  
/usr/share/themes/Adwaita/gtk-2.0/main.rc  
/usr/share/themes/Adwaita-dark/gtk-2.0/main.rc  
bru@wibob-X61:~$ locate -S  
Database /var/lib/mlocate/mlocate.db:  
42 394 directories  
417 920 files  
28 004 806 bytes in file names  
10 412 957 bytes used to store database  
bru@wibob-X61:~$ locate sudoers  
/etc/sudoers  
/etc/sudoers.d  
/etc/sudoers.d/README  
/snap/core18/1289/etc/sudoers  
/snap/core18/1289/etc/sudoers.d  
/snap/core18/1289/etc/sudoers.d/README  
/snap/core18/1289/usr/lib/sudo/sudoers.la  
/snap/core18/1289/usr/lib/sudo/sudoers.so  
/snap/core18/1703/etc/sudoers  
/snap/core18/1703/etc/sudoers.d  
/snap/core18/1703/etc/sudoers.d/README  
/snap/core18/1703/usr/lib/sudo/sudoers.la  
/snap/core18/1703/usr/lib/sudo/sudoers.so  
/snap/snapd/6439/etc/sudoers.d  
/snap/snapd/6439/etc/sudoers.d/99-snapd.conf  
/snap/snapd/6952/etc/sudoers.d  
/snap/snapd/6952/etc/sudoers.d/99-snapd.conf  
/usr/lib/sudo/sudoers.la  
/usr/lib/sudo/sudoers.so  
/usr/share/doc/sudo/examples/sudoers.dist  
/usr/share/doc/sudo/examples/sudoers.gz  
/usr/share/locale-langpack/en_AU/LC_MESSAGES/sudoers.mo  
/usr/share/locale-langpack/en_GB/LC_MESSAGES/sudoers.mo  
/usr/share/man/man5/sudoers.5.gz  
/usr/share/vim/vim80/ftplugin/sudoers.vim  
/usr/share/vim/vim80/syntax/sudoers.vim  
bru@wibob-X61:~$
```

/usr/share/doc практически бесполезна как источник документации, поскольку ни единой структуры ни как правило ценного справочного наполнения, внизу два примера. FAQ из каталога программы xterm пример присутствующей документации.



The screenshot shows a terminal window with a blue background. The title bar indicates the user is 'mc [bruh@wibob-X61]' in the directory '/usr/share/doc/xterm'. The terminal displays the contents of the file '/usr/share/doc/xterm/xterm.faq.gz'. At the top, it shows the URL 'http://invisible-island.net/xterm/' and the copyright 'Copyright © 1997-2016,2017 by Thomas E. Dickey'. Below this, it says 'Here is the latest version of this file.' followed by 'XTerm - Frequently Asked Questions (FAQ)'. A table of contents follows, listing topics like '(top)', 'What is XTerm?', 'Who wrote XTerm?', etc. The section 'What is XTerm?' is expanded, showing text from the manual page that describes xterm as a terminal emulator for the X Window System. At the bottom, a navigation bar shows options like '1Help', '2UnWrap', '3Quit', etc.

```
mc [bruh@wibob-X61]:/usr/share/doc/xterm
mc [bruh@wibob-X61]:/usr/share/doc/xt... #1 ~ (zsh) #2 +
/usr/share/doc/xterm/xterm.faq.gz 1593/16384+

-----
http://invisible-island.net/xterm/
Copyright © 1997-2016,2017 by Thomas E. Dickey
-----

Here is the latest version of this file.

      XTerm - Frequently Asked Questions (FAQ)

* (top)
* What is XTerm?
* Who wrote XTerm?
* What is a VT220?
* What platforms does it run on?
* What is the latest version?
* What versions are available?
* Comparing versions, by counting controls
* How do I ...
* Frequent problems
* Known Bugs in XTerm and Look-alikes
* How do I build XTerm?
* How do I report bugs?
* Additional Information
* Ongoing/future work

What is XTerm?

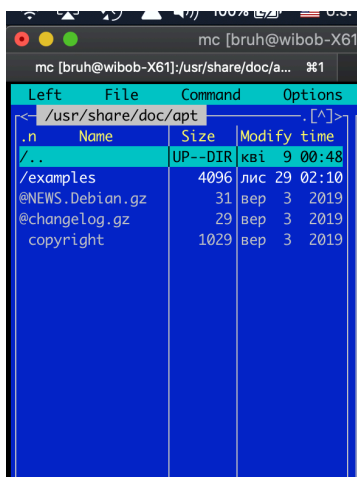
From the manual page:

The xterm program is a terminal emulator for the X Window System. It
provides DEC VT102/VT220 and selected features from higher-level
terminals such as VT320/VT420/VT520 (VTxxx). It also provides
Tektronix 4014 emulation for programs that cannot use the window
system directly. If the underlying operating system supports
terminal resizing capabilities (for example, the SIGWINCH signal in
systems derived from 4.3bsd), xterm will use the facilities to
notify programs running in the window whenever it is resized.

That is, xterm (pronounced "eks-term") is a specific program, not a
generic item. It is the standard X terminal emulator program.

This FAQ presents various useful bits of information for both the
1Help 2UnWrap 3Quit 4Hex 5Goto 6 7Search 8Raw 9Format10Quit
```

в каталоге apt ничего кроме лога релизов и новостей.



The screenshot shows a terminal window with a blue background. The title bar indicates the user is 'mc [bruh@wibob-X61]' in the directory '/usr/share/doc/apt'. The terminal displays a directory listing of the contents of the 'apt' directory. The listing shows files like '.n', '..', '/examples', '@NEWS.Debian.gz', '@changelog.gz', and 'copyright' with their respective sizes and modification times.

.n	Name	Size	Modify time
..	UP--DIR	kbi	9 00:48
/examples		4096	лис 29 02:10
@NEWS.Debian.gz		31	вер 3 2019
@changelog.gz		29	вер 3 2019
copyright		1029	вер 3 2019