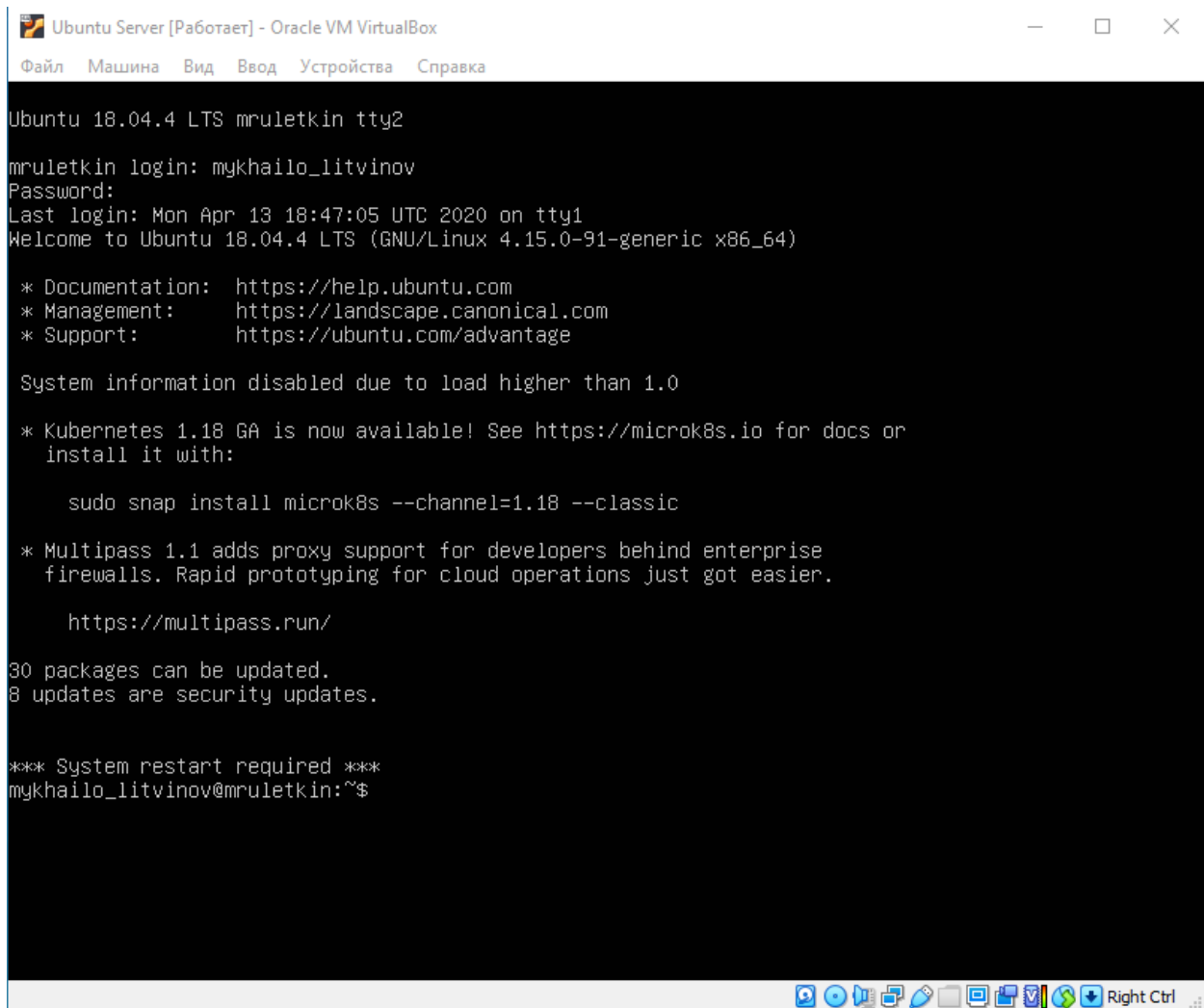


EPAM University Programs
DevOps external course
Module 4 DevOps Introduction
TASK 4.2

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 \$HISTSIZE \$HISTFILESIZE**, **who**, **w**, **whoami**, **id**).

- **Switching between virtual terminals**



The screenshot shows a VirtualBox window titled "Ubuntu Server [Работает] - Oracle VM VirtualBox". The terminal window displays the following text:

```
Ubuntu 18.04.4 LTS mruletkin tty2
mruletkin login: mykhailo_litvinov
Password:
Last login: Mon Apr 13 18:47:05 UTC 2020 on tty1
Welcome to Ubuntu 18.04.4 LTS (GNU/Linux 4.15.0-91-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information disabled due to load higher than 1.0

 * Kubernetes 1.18 GA is now available! See https://microk8s.io for docs or
   install it with:

     sudo snap install microk8s --channel=1.18 --classic

 * Multipass 1.1 adds proxy support for developers behind enterprise
   firewalls. Rapid prototyping for cloud operations just got easier.

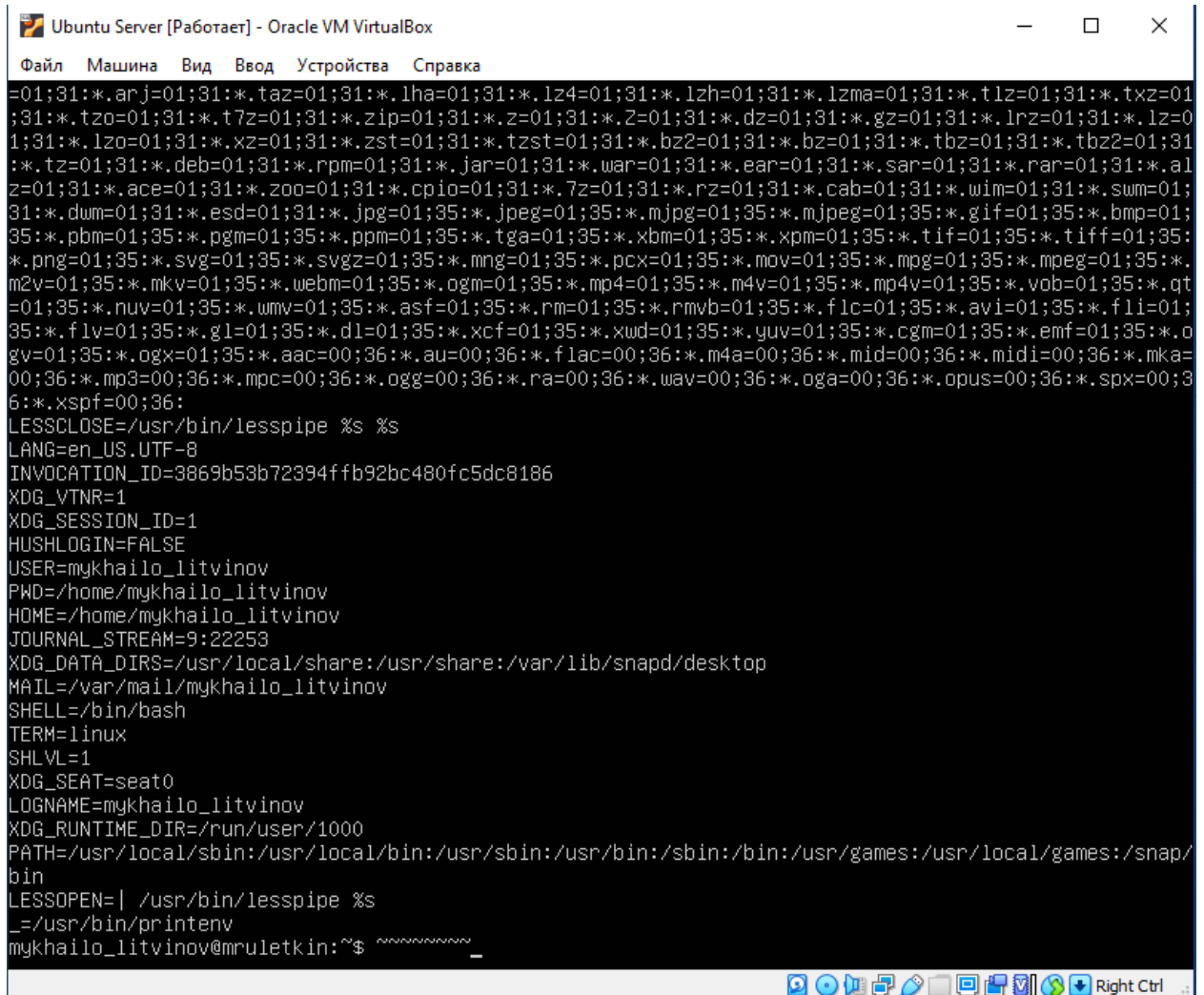
     https://multipass.run/

30 packages can be updated.
8 updates are security updates.

*** System restart required ***
mykhailo_litvinov@mruletkin:~$
```

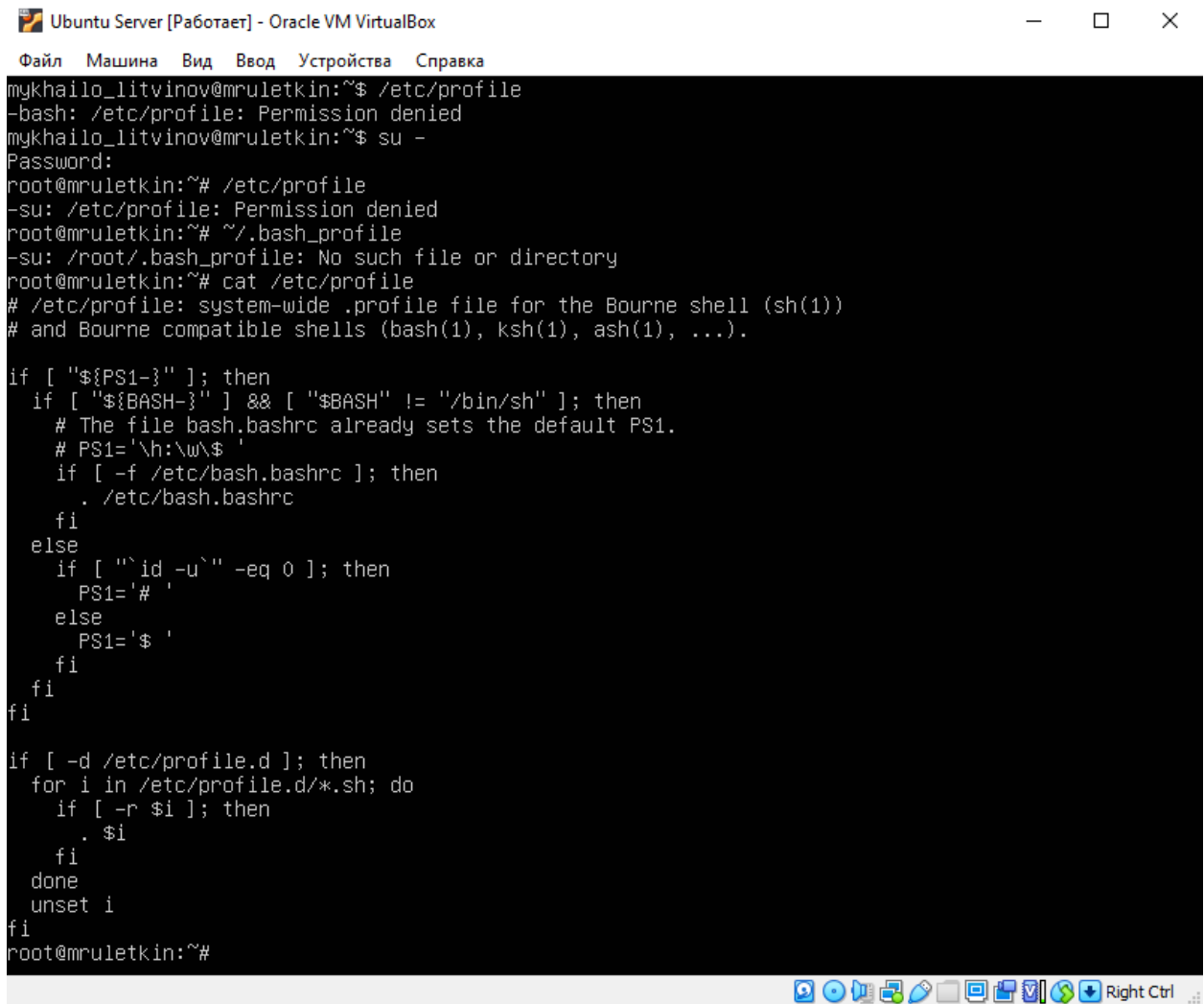
The bottom of the window shows a taskbar with various application icons and a "Right Ctrl" button.

- Printenv



```
Ubuntu Server [Работает] - Oracle VM VirtualBox
Файл  Машина  Вид  Ввод  Устройства  Справка
=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:*.t7z=01;31:*.zip=01;31:*.z=01;31:*.Z=01;31:*.dz=01;31:*.gz=01;31:*.lrz=01;31:*.lz=01;31:*.lzo=01;31:*.xz=01;31:*.zst=01;31:*.tzst=01;31:*.bz2=01;31:*.bz=01;31:*.tbz=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=01;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=01;35:*.emf=01;35:*.ogv=01;35:*.ogx=01;35:*.aac=00;36:*.au=00;36:*.flac=00;36:*.m4a=00;36:*.mid=00;36:*.midi=00;36:*.mka=00;36:*.mp3=00;36:*.mpc=00;36:*.ogg=00;36:*.ra=00;36:*.wav=00;36:*.oga=00;36:*.opus=00;36:*.spx=00;36:*.xspf=00;36:
LESSCLOSE=/usr/bin/lesspipe %s %s
LANG=en_US.UTF-8
INVOCATION_ID=3869b53b72394ffb92bc480fc5dc8186
XDG_VTNR=1
XDG_SESSION_ID=1
HUSHLOGIN=FALSE
USER=mykhailo_litvinov
PWD=/home/mykhailo_litvinov
HOME=/home/mykhailo_litvinov
JOURNAL_STREAM=9:22253
XDG_DATA_DIRS=/usr/local/share:/usr/share:/var/lib/snapd/desktop
MAIL=/var/mail/mykhailo_litvinov
SHELL=/bin/bash
TERM=linux
SHLVL=1
XDG_SEAT=seat0
LOGNAME=mykhailo_litvinov
XDG_RUNTIME_DIR=/run/user/1000
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
LESSOPEN=| /usr/bin/lesspipe %s
_=/usr/bin/printenv
mykhailo_litvinov@mruletkin:~$ ~~~~~~
```

- **content of /etc/profile**

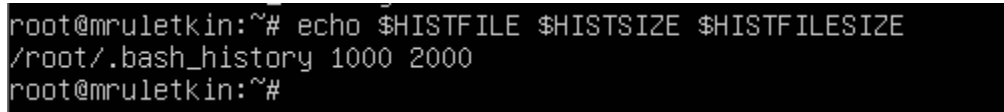


```
mykhailo_litvinov@mruletkin:~$ /etc/profile
-bash: /etc/profile: Permission denied
mykhailo_litvinov@mruletkin:~$ su -
Password:
root@mruletkin:~# /etc/profile
-su: /etc/profile: Permission denied
root@mruletkin:~# ~/.bash_profile
-su: /root/.bash_profile: No such file or directory
root@mruletkin:~# 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
root@mruletkin:~#
```

- **\$echo \$HISTFILE \$HISTSIZE \$HISTFILESIZE**



```
root@mruletkin:~# echo $HISTFILE $HISTSIZE $HISTFILESIZE
/root/.bash_history 1000 2000
root@mruletkin:~#
```

- **who, w, whoami, id**

```

root@mruletkin:~# who
mykhailo_litvinov tty1          2020-04-13 18:47
mykhailo_litvinov tty2          2020-04-13 18:52
root@mruletkin:~# uname
Linux
root@mruletkin:~# whoami
root
root@mruletkin:~# w
 19:43:03 up 56 min,  2 users,  load average: 0.11, 0.18, 0.25
USER      TTY      FROM            LOGIN@   IDLE   JCPU   PCPU WHAT
mykhailo  tty1     -               18:47    7.00s  0.21s  0.11s -bash
mykhailo  tty2     -               18:52    6:22   0.10s  0.08s -bash
root@mruletkin:~# id
uid=0(root) gid=0(root) groups=0(root),997(microk8s)
root@mruletkin:~#

```

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

```

root@mruletkin:~# uname -a #
Linux mruletkin 4.15.0-91-generic #92-Ubuntu SMP Fri Feb 28 11:09:48 UTC 2020 x86_64 x86_64 x86_64 GNU/Linux
root@mruletkin:~# hostname #
mruletkin
root@mruletkin:~# uptime #
 19:47:53 up 1:01,  2 users,  load average: 0.19, 0.23, 0.26
root@mruletkin:~# shutdown -r 23:30 #
Shutdown scheduled for Mon 2020-04-13 23:30:00 UTC, use 'shutdown -c' to cancel.
root@mruletkin:~# shutdown -c
root@mruletkin:~# _

```

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

- **man**

```
mykhailo_litvinov@mruletkin:~$ man ls
LS(1) User Commands LS(1)

NAME
  ls - list directory contents

SYNOPSIS
  ls [OPTION]... [FILE]...

DESCRIPTION
  List information about the FILES (the current directory by default). Sort entries alpha-
  betically if none of -cftuvSUX nor --sort is specified.

  Mandatory arguments to long options are mandatory for short options too.

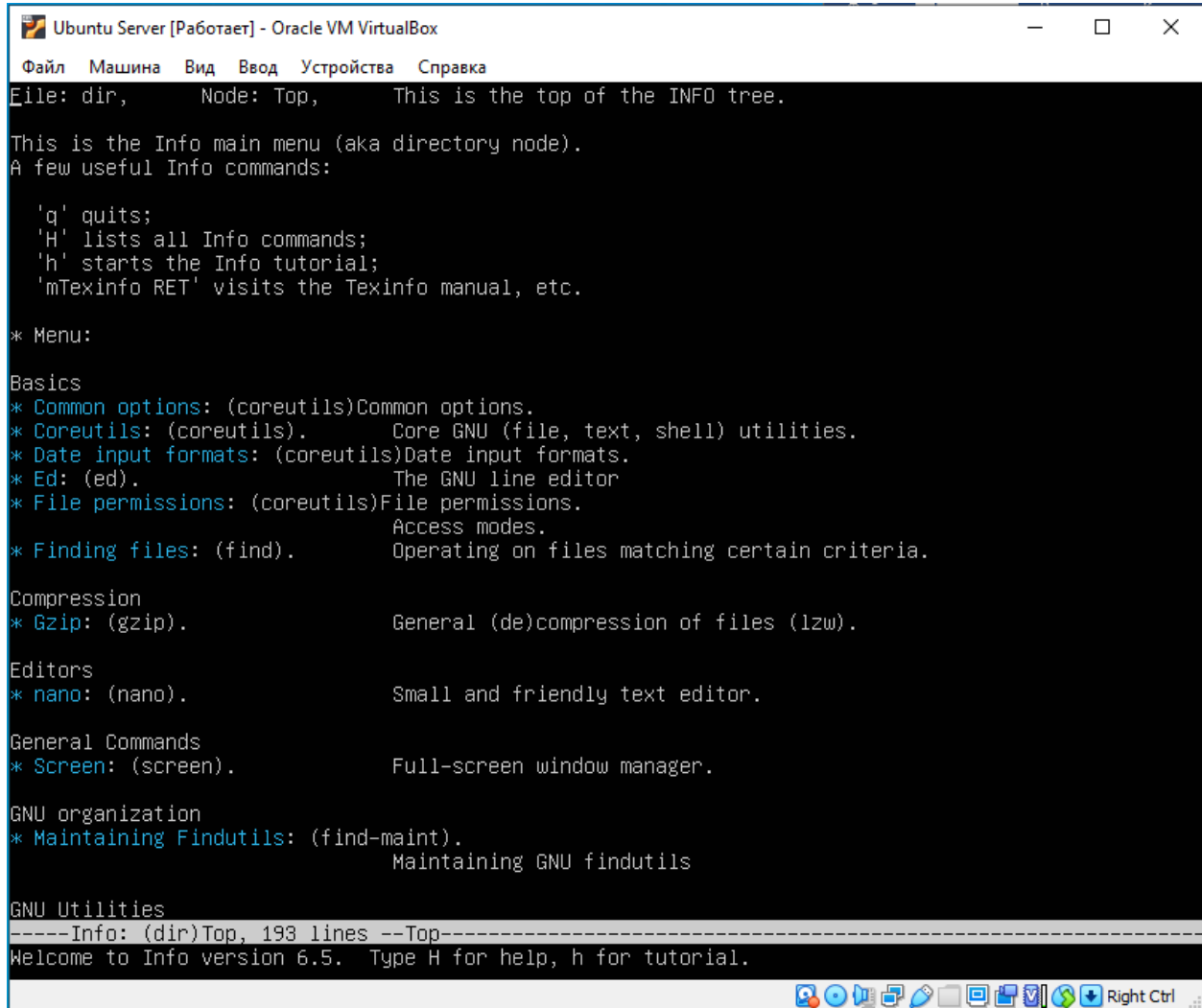
  -a, --all
      do not ignore entries starting with .

  -A, --almost-all
      do not list implied . and ..
```

- **locate**

```
mykhailo_litvinov@mruletkin:~$ locate query
/usr/bin/dpkg-query
/usr/lib/python3/dist-packages/cloudinit/cmd/query.py
/usr/lib/python3/dist-packages/cloudinit/cmd/__pycache__/query.cpython-36.pyc
/usr/lib/x86_64-linux-gnu/glib-2.0/gio-querymodules
/usr/share/bash-completion/completions/dpkg-query
/usr/share/bash-completion/completions/querybts
/usr/share/man/de/man1/dpkg-query.1.gz
/usr/share/man/fr/man1/dpkg-query.1.gz
/usr/share/man/it/man1/dpkg-query.1.gz
/usr/share/man/man1/dpkg-query.1.gz
/usr/share/man/nl/man1/dpkg-query.1.gz
/usr/share/man/sv/man1/dpkg-query.1.gz
/usr/share/vim/vim80/syntax/xquery.vim
mykhailo_litvinov@mruletkin:~$ _
```

- info



```

Ubuntu Server [Работает] - Oracle VM VirtualBox
Файл  Машина  Вид  Ввод  Устройства  Справка
File: dir,      Node: Top,      This is the top of the INFO tree.

This is the Info main menu (aka directory node).
A few useful Info commands:

  'q' quits;
  'H' lists all Info commands;
  'h' starts the Info tutorial;
  'mTexinfo RET' visits the Texinfo manual, etc.

* Menu:

Basics
* Common options: (coreutils)Common options.
* Coreutils: (coreutils).      Core GNU (file, text, shell) utilities.
* Date input formats: (coreutils)Date input formats.
* Ed: (ed).                    The GNU line editor
* File permissions: (coreutils)File permissions.
                                Access modes.
* Finding files: (find).        Operating on files matching certain criteria.

Compression
* Gzip: (gzip).                General (de)compression of files (lzw).

Editors
* nano: (nano).                Small and friendly text editor.

General Commands
* Screen: (screen).            Full-screen window manager.

GNU organization
* Maintaining Findutils: (find-maint).
                                Maintaining GNU findutils

GNU Utilities
-----Info: (dir)Top, 193 lines --Top-----
Welcome to Info version 6.5.  Type H for help, h for tutorial.

```

- **find**

```
root@mruletkin:~# find /usr/share/doc -type f
```

```
/usr/share/doc/libtext-iconv-perl/changelog.Debian.gz
/usr/share/doc/libexpat1/copyright
/usr/share/doc/libexpat1/changelog.Debian.gz
/usr/share/doc/libexpat1/AUTHORS
/usr/share/doc/base-files/README.FHS
/usr/share/doc/base-files/copyright
/usr/share/doc/base-files/README
/usr/share/doc/base-files/changelog.gz
/usr/share/doc/pciutils/README.gz
/usr/share/doc/pciutils/TODO.Debian
/usr/share/doc/pciutils/copyright
/usr/share/doc/pciutils/examples/example.c
/usr/share/doc/iproute2/copyright
/usr/share/doc/iproute2/changelog.Debian.gz
/usr/share/doc/iproute2/README.Debian
/usr/share/doc/libisns0/copyright
/usr/share/doc/libisns0/changelog.Debian.gz
/usr/share/doc/python3/python-policy.txt.gz
/usr/share/doc/python3/python-policy.dbk.gz
/usr/share/doc/python3/copyright
/usr/share/doc/python3/python-policy.html/upgrade.html
/usr/share/doc/python3/python-policy.html/python3.html
/usr/share/doc/python3/python-policy.html/build_dependencies.html
/usr/share/doc/python3/python-policy.html/index.html
/usr/share/doc/python3/python-policy.html/python.html
/usr/share/doc/python3/python-policy.html/embed.html
/usr/share/doc/python3/python-policy.html/other.html
/usr/share/doc/python3/python-policy.html/module_packages.html
/usr/share/doc/python3/python-policy.html/programs.html
/usr/share/doc/python3/python-policy.html/packaging_tools.html
/usr/share/doc/libmnl0/copyright
/usr/share/doc/libmnl0/changelog.Debian.gz
/usr/share/doc/linux-modules-extra-4.15.0-91-generic/copyright
/usr/share/doc/linux-modules-extra-4.15.0-91-generic/changelog.Debian.gz
/usr/share/doc/libcap-ng0/copyright
/usr/share/doc/libcap-ng0/changelog.Debian.gz
root@mruletkin:~#
```

- **whereis**

```
root@mruletkin:~# whereis bash
bash: /bin/bash /etc/bash.bashrc /usr/share/man/man1/bash.1.gz
root@mruletkin:~#
```