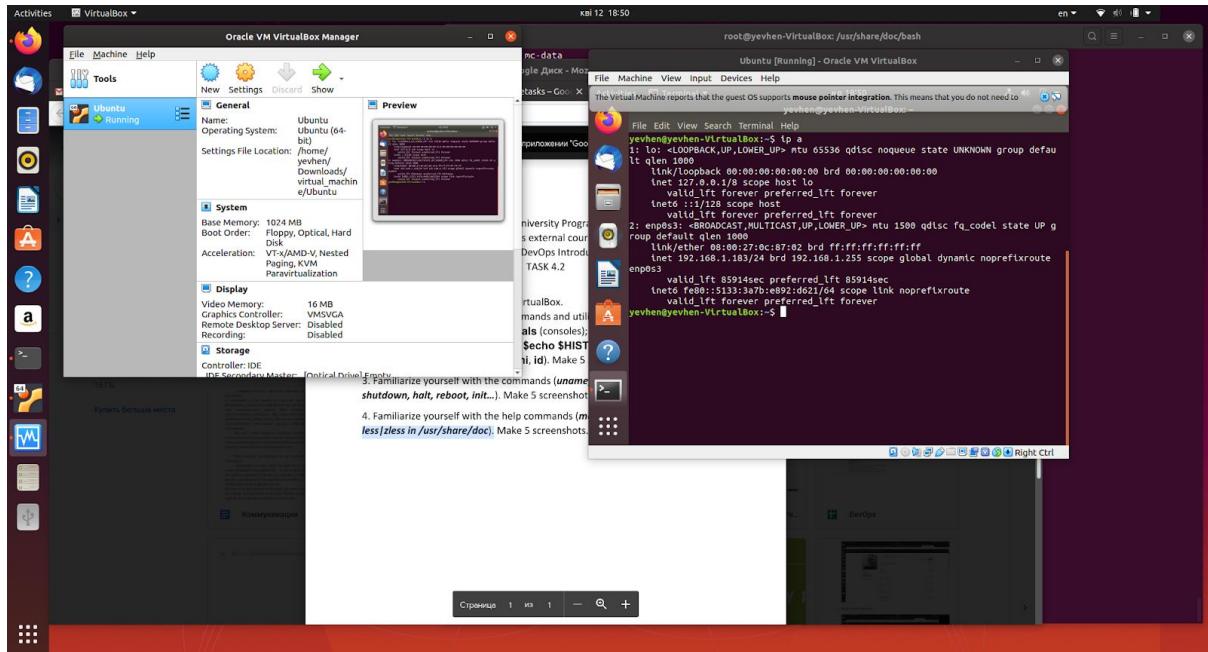


Linux Essentials + Bash

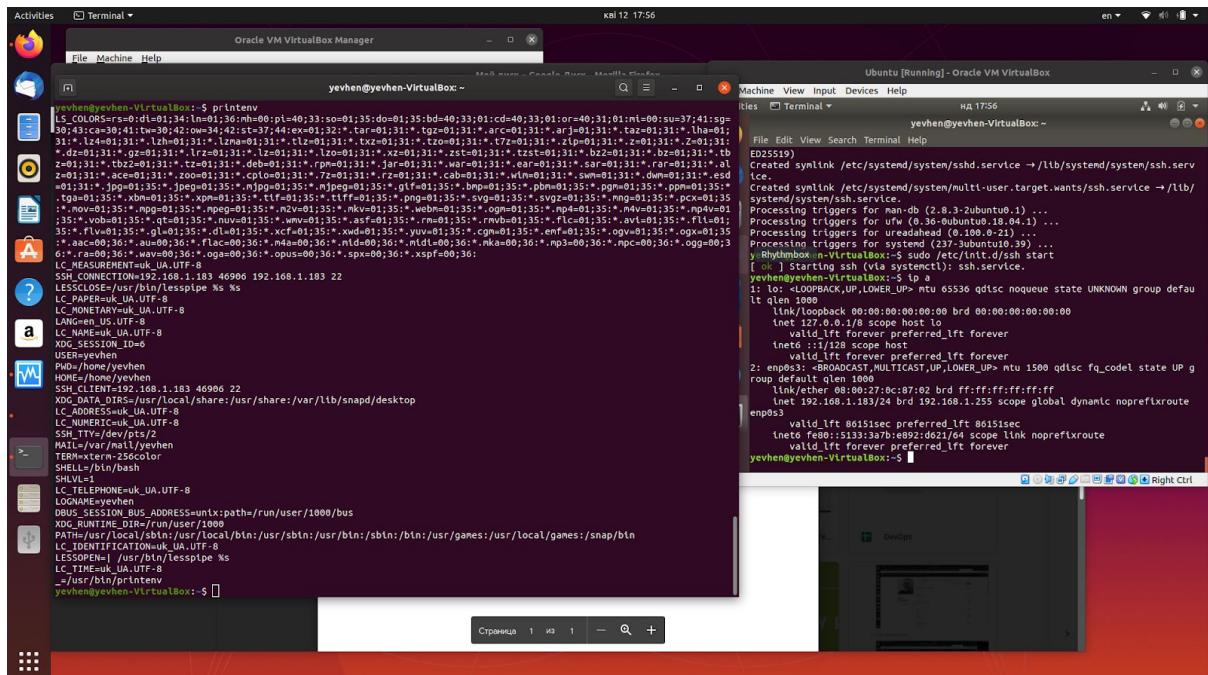
Linux intro

1. Set up Linux Virtual Machine



2. Examples with commands and utilities

printenv



```
cat /etc/profile
```

```
Activities Terminal Oracle VM VirtualBox Manager xai 12 17:56
File Machine Help
Mой диск - Google Диск - Mozilla Firefox
Входящие - tereschenko | x | + | New Tab
yevhen@yevhen-VirtualBox: ~
LC_NUMERIC=C.UTF-8
SSH_TTY=/dev/pts/2
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/bin:/usr/games:/snap/bin
TERM=xterm-256color
SHELL=/bin/bash
SHLVL=1
LC_TELEPHONE=uk_UA.UTF-8
LC_MONETARY=uk_UA.UTF-8
LC_SESSION_BUS_ADDRESS=:unix:path=/run/user/1000/bus
XDG_RUNTIME_DIR=/run/user/1000
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/bin:/usr/games:/snap/bin
LC_IDENTIFICATION=uk_UA.UTF-8
LC_NUMERIC=uk_UA.UTF-8
LC_TIME=uk_UA.UTF-8
/_usr/bin/printenv
yevhen@yevhen-VirtualBox: ~ cat /etc/profile
# /etc/profile: system-wide .profile for the Bourne shell (sh(1))
# and other compatible shells (bash(1), ksh(1), ash(1), ...).

if [ "$PS1" ]; then
    # If $BASH is set and is not "/bin/sh", then
    # The file bash.bashrc already sets the default PS1.
    # It also sets $PS1
    if [ -f /etc/bash.bashrc ]; then
        . /etc/bash.bashrc
    fi
    else
        if [ "$id -u " -eq 0 ]; then
            PS1=$#
        else
            PS1=$-
        fi
    fi
fi

if [ -d /etc/profile.d ]; then
    for file in /etc/profile.d/*; do
        if [ -r $file ]; then
            . $file
        done
    unset i
    fi
yevhen@yevhen-VirtualBox: ~
```

```
Activities Terminal Ubuntu [Running] - Oracle VM VirtualBox 17:56
File Machine View Input Devices Help
yevhen@yevhen-VirtualBox: ~
LC_NUMERIC=C.UTF-8
Created symlink /etc/systemd/system/sshd.service → /lib/systemd/system/sshd.service.
Created symlink /etc/systemd/system/multi-user.target.wants/sshd.service → /lib/systemd/system/sshd.service.
Processing triggers for ureadahead (0.100.0-21) ...
Processing triggers for ufw (0.36-0ubuntu0.18.04.1) ...
Processing triggers for systemd (237-3~ubuntu10.04.1) ...
yevhen@yevhen-VirtualBox: ~ sudo /etc/init.d/ssh start
[...]
Starting ssh (via systemctl): ssh.service.
yevhen@yevhen-VirtualBox: ~ S -p a
1: lo <LOOPBACK,UP,LOWER_UP> mtu 4500 qdisc noqueue state UNKNOWN group default
qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
        inet 127.0.0.1/8 brd 127.0.0.1 scope host lo
            valid_lft forever preferred_lft forever
            netmask 0.0.0.0
    2: enp0s3 <NO-CARRIER,BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
        link/ether 00:0c:29:82:d6:14 brd ff:ff:ff:ff:ff:ff
        inet 192.168.1.183/24 brd 192.168.1.255 scope global dynamic noprefixroute enp0s3
            valid_lft 861sec preferred_lft 861sec
            inet 192.168.1.183 brd 192.168.1.255 scope link noprefixroute
                valid_lft forever preferred_lft forever
yevhen@yevhen-VirtualBox: ~
```

```
cat ~/.bash_profile or .profile
```

```
yvhen@yvhen-VirtualBox:~
```

```
drwxr-xr-x 2 yvhen yvhen 4096 paź 12 17:40 Desktop
drwxr-xr-x 2 yvhen yvhen 4096 paź 12 17:40 Documents
drwxr-xr-x 2 yvhen yvhen 4096 paź 12 17:40 Downloads
-rw-r--r-- 1 yvhen yvhen 9890 paź 12 17:25 examples.desktop
drwxr-xr-x 3 yvhen yvhen 4096 paź 12 17:40 .gnupg
drwxr-xr-x 3 yvhen yvhen 4096 paź 12 17:40 .local/share/authority
drwxr-xr-x 3 yvhen yvhen 4096 paź 12 17:40 .local
drwxr-xr-x 2 yvhen yvhen 4096 paź 12 17:40 Music
drwxr-xr-x 2 yvhen yvhen 4096 paź 12 17:40 Pictures
-rw-r--r-- 1 yvhen yvhen 807 paź 12 17:25 .profile
drwxr-xr-x 2 yvhen yvhen 4096 paź 12 17:55 .public
drwxr-xr-x 2 yvhen yvhen 4096 paź 12 17:55 .local
-rw-r--r-- 1 yvhen yvhen 0 paź 12 17:48 .sudo_as_admin_successful
drwxr-xr-x 2 yvhen yvhen 4096 paź 12 17:48 Templates
drwxr-xr-x 2 yvhen yvhen 4096 paź 12 17:48 Videos
yvhen@yvhen-VirtualBox:~$ ./profile
./profile: executed by the command Interpreter for login shells.
# This file is not read by bash(), if -.bash_profile or ~/.bash_login
# exists.
# see /usr/share/doc/bash/examples/startup-files for examples.
# the files are located in the bash-doc package.

# the default umask is set in /etc/profile; for setting the umask
# for ssh logins, install and configure the libpam-umask package.
#umask 022

# If running bash
if [ -n "$BASH_VERSION" ]; then
    # Include .bashrc if it exists
    if [ ! -f "$HOME/.bashrc" ]; then
        . "$HOME/.bashrc"
    fi
fi

# Set PATH so it includes user's private bin if it exists
if [ -d "$HOME/bin" ] ; then
    PATH=$HOME/bin:$PATH
fi

# Set PATH so it includes user's private bin if it exists
if [ -d "$HOME/.local/bin" ]; then
    PATH=$HOME/.local/bin:$PATH
fi

yvhen@yvhen-VirtualBox:~$
```

```
Ubuntu [Running] - Oracle VM VirtualBox
```

```
ne View Input Devices Help
```

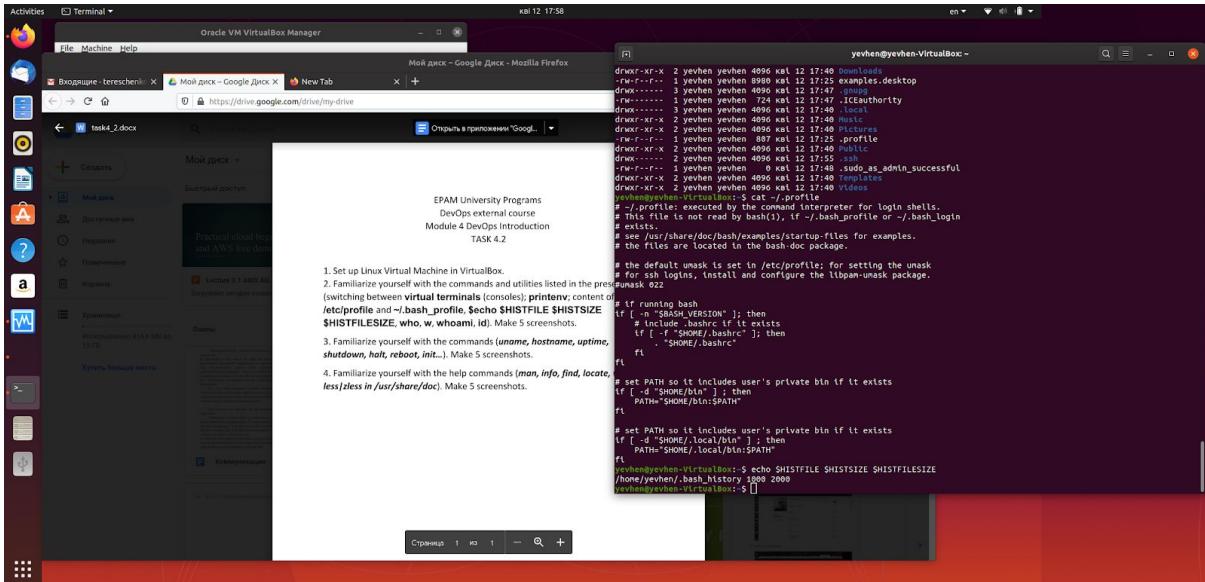
```
Terminal
```

```
нд 17:57
```

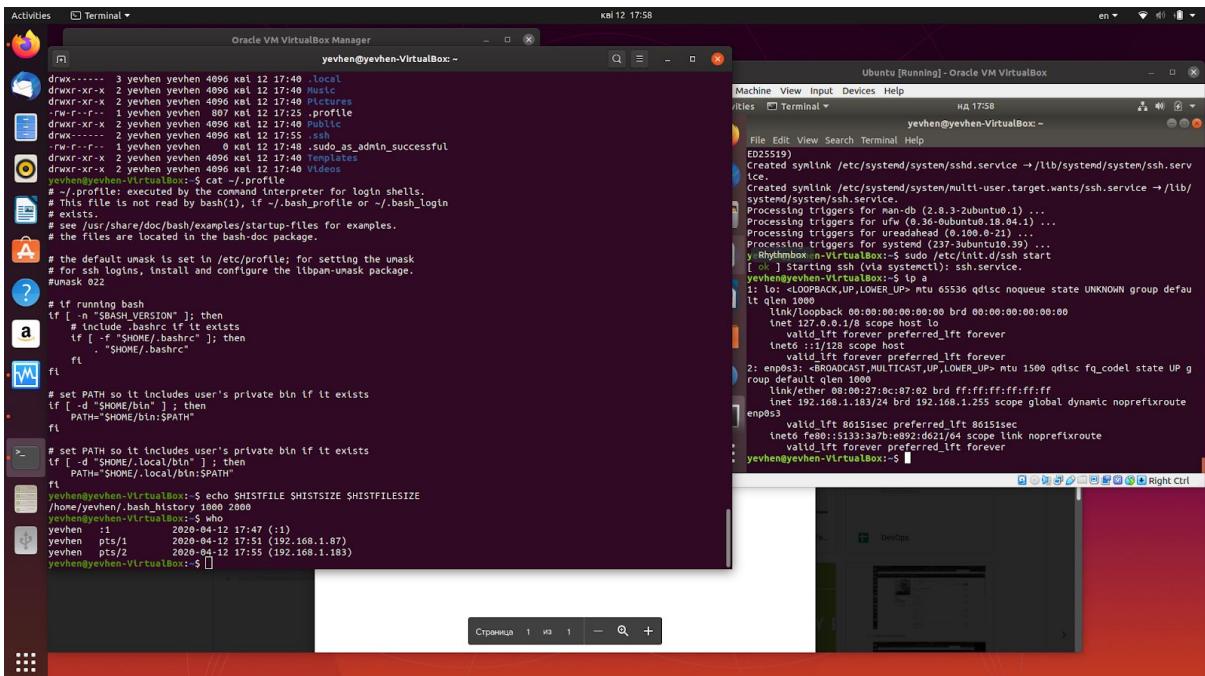
```
yvhen@yvhen-VirtualBox:~
```

```
25519) created symlink /etc/systemd/system/sshd.service → /lib/systemd/system/ssh.service
25519) created symlink /etc/systemd/system/multi-user.target.wants/ssh.service → /lib/systemd/system/ssh.service
processing triggers for man-db (2.8.3-2ubuntu0.1) ...
processing triggers for uwf (0.36-ubuntu18.04.1) ...
processing triggers for broadFileSystem (2.32-1ubuntu0.39) ...
yvhen@yvhen-VirtualBox:~$ sudo /etc/init.d/ssh start
[ ok ] Starting ssh (via systemctl): ssh.service.
yvhen@yvhen-VirtualBox:~$ lpt a
lo: <LOOPBACK,UP,LOWER_UP> mtu 5536 qdisc noqueue state UNKNOWN group defau
qlt qlen 1
link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
inet 127.0.0.1/8 brd 0.0.0.0 scope host lo
    valid_lft forever preferred_lft forever
    inet6 ::/128 brd 0.0.0.0 scope host
        valid_lft forever preferred_lft forever
        link/ether 00:00:00:00:00:00 brd ff:ff:ff:ff:ff:ff
        inet 192.168.1.183/24 brd 192.168.1.255 scope global dynamic noprefixroute
        valid_lft 86151sec preferred_lft 86151sec
        inet6 fe80::5133:37b:892:621%1/64 scope link noprefixroute
            valid_lft forever preferred_lft forever
yvhen@yvhen-VirtualBox:~$
```

```
$echo $HISTFILE $HISTSIZE $HISTFILESIZE
```



who



W

```
drwxr-xr-x 2 yevhen yevhen 4096 paź 12 17:40 .profile
# This file is executed by the command interpreter for login shells.
# This file is not read by bash(1), if -./bash_profile or ./bash_login
# exists.
# see /usr/share/doc/bash/examples/startup-files for examples.
# the files are located in the bash-doc package.

# the default umask is set in /etc/profile; for setting the umask
# for ssh logins, install and configure the libpam-umask package.
#umask 022

# If running bash
if [ -n "$BASH_VERSION" ]; then
    # include .bashrc if it exists
    if [ -f "$HOME/.bashrc" ]; then
        . "$HOME/.bashrc"
    fi
fi

# set PATH so it includes user's private bin if it exists
if [ -d "$HOME/bin" ]; then
    PATH="$HOME/bin:$PATH"
fi

# set PATH so it includes user's private bin if it exists
if [ -d "$HOME/local/bin" ]; then
    PATH="$HOME/local/bin:$PATH"
fi

yevhen@yevhen-VirtualBox:~$ echo $HISTFILE $HISTSIZE $HISTFILESIZE
/home/yevhen/.bash_history 1000 2000
yevhen@yevhen-VirtualBox:~$ who
yevhen pts/1    2020-04-12 17:47 (:)
yevhen pts/1    2020-04-12 17:51 (192.168.1.87)
yevhen pts/2    2020-04-12 17:55 (192.168.1.183)
yevhen@yevhen-VirtualBox:~$ w
17:58:59 up 12 min, 3 users, load average: 0.00, 0.15, 0.21
USER   TTY      FROM          LOGIN@        IDLE   JCPU   WCPUTIME
yevhen pts/1    192.168.1.87    17:51   1.00s  0.16s  0.11s ssh yevhen@192.168.1.183
yevhen pts/2    192.168.1.183  17:55   1.00s  0.25s  0.06s w
yevhen@yevhen-VirtualBox:~$ 

yevhen@yevhen-VirtualBox:~$ cat /etc/profile
# This file is executed by the command interpreter for login shells.
# This file is not read by bash(1), if -./bash_profile or ./bash_login
# exists.
# see /usr/share/doc/bash/examples/startup-files for examples.
# the files are located in the bash-doc package.

# the default umask is set in /etc/profile; for setting the umask
# for ssh logins, install and configure the libpam-umask package.
#umask 022

# If running bash
if [ -n "$BASH_VERSION" ]; then
    # include .bashrc if it exists
    if [ -f "$HOME/.bashrc" ]; then
        . "$HOME/.bashrc"
    fi
fi

# set PATH so it includes user's private bin if it exists
if [ -d "$HOME/bin" ]; then
    PATH="$HOME/bin:$PATH"
fi

# set PATH so it includes user's private bin if it exists
if [ -d "$HOME/local/bin" ]; then
    PATH="$HOME/local/bin:$PATH"
fi

yevhen@yevhen-VirtualBox:~$ echo $HISTFILE $HISTSIZE $HISTFILESIZE
/home/yevhen/.bash_history 1000 2000
yevhen@yevhen-VirtualBox:~$ who
yevhen pts/1    2020-04-12 17:47 (:)
yevhen pts/1    2020-04-12 17:51 (192.168.1.87)
yevhen pts/2    2020-04-12 17:55 (192.168.1.183)
yevhen@yevhen-VirtualBox:~$ sudo /etc/init.d/ssh start
[ ok ] Starting ssh (via systemctl): ssh.service.

yevhen@yevhen-VirtualBox:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 brd 127.0.0.1 scope host lo
        valid_lft forever preferred_lft forever
        inet6 ::1/128 brd :: scope host
            valid_lft forever preferred_lft forever
2: enp0s3: <NOQUEUE,BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 00:0c:29:0d:62:14 brd ff:ff:ff:ff:ff:ff
    inet 192.168.1.183/24 brd 192.168.1.255 scope global dynamic noprefixroute
        valid_lft 86151sec preferred_lft 86151sec
        inet6 fe80::1c29:62ff:fe0d:621/64 scope link noprefixroute
            valid_lft forever preferred_lft forever
yevhen@yevhen-VirtualBox:~$ 
```

whoami

```
drwxr-xr-x 2 yevhen yevhen 4096 paź 12 17:40 .profile
# This file is executed by the command interpreter for login shells.
# This file is not read by bash(1), if -./bash_profile or ./bash_login
# exists.
# see /usr/share/doc/bash/examples/startup-files for examples.
# the files are located in the bash-doc package.

# the default umask is set in /etc/profile; for setting the umask
# for ssh logins, install and configure the libpam-umask package.
#umask 022

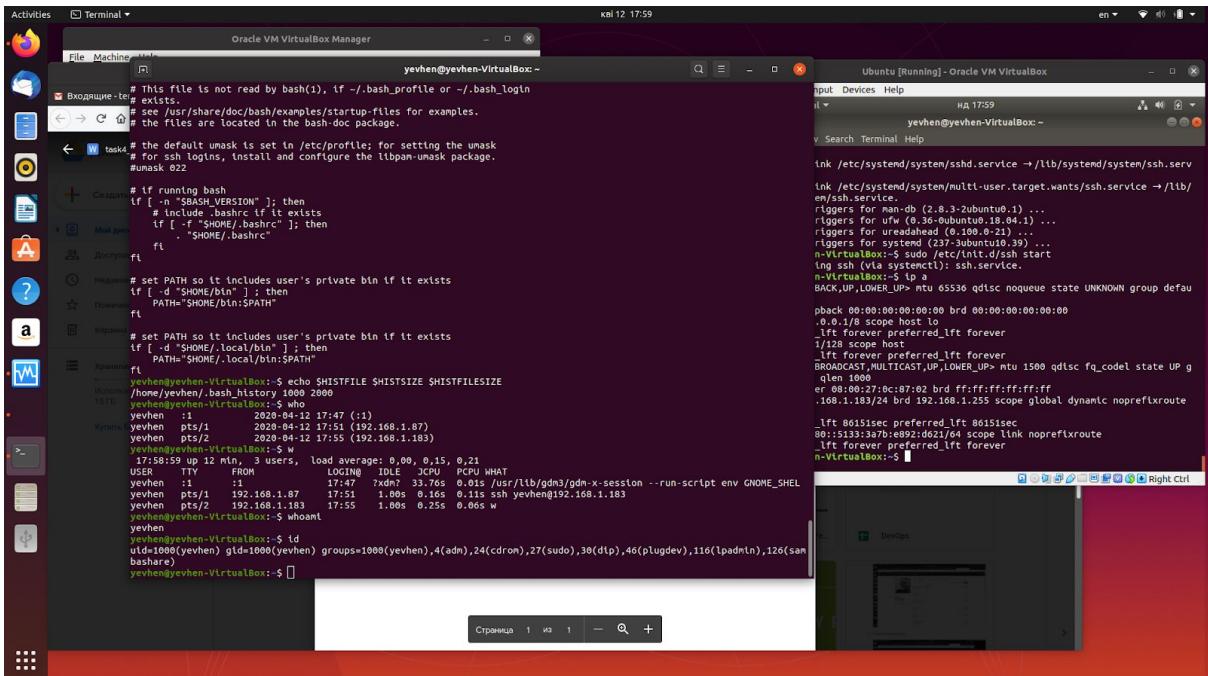
# If running bash
if [ -n "$BASH_VERSION" ]; then
    # include .bashrc if it exists
    if [ -f "$HOME/.bashrc" ]; then
        . "$HOME/.bashrc"
    fi
fi

# set PATH so it includes user's private bin if it exists
if [ -d "$HOME/bin" ]; then
    PATH="$HOME/bin:$PATH"
fi

# set PATH so it includes user's private bin if it exists
if [ -d "$HOME/local/bin" ]; then
    PATH="$HOME/local/bin:$PATH"
fi

yevhen@yevhen-VirtualBox:~$ echo $HISTFILE $HISTSIZE $HISTFILESIZE
/home/yevhen/.bash_history 1000 2000
yevhen@yevhen-VirtualBox:~$ who
yevhen pts/1    2020-04-12 17:47 (:)
yevhen pts/1    2020-04-12 17:51 (192.168.1.87)
yevhen pts/2    2020-04-12 17:55 (192.168.1.183)
yevhen@yevhen-VirtualBox:~$ whoami
yevhen
yevhen@yevhen-VirtualBox:~$ 
```

id



```
# This file is not read by bash(1), if ~/.bash_profile or ~/.bash_login
# exists.
# see /usr/share/doc/bash/examples/startup-files for examples.
# The files are located in the bash-doc package.

task4# the default umask is set in /etc/profile; for setting the umask
# For ssh logins, install and configure the libpam-umask package.
#umask 022

# If running bash
if [ -n "$SHELL_VERSION" ]; then
    # include .bashrc if it exists
    if [ -f "$HOME/.bashrc" ]; then
        . "$HOME/.bashrc"
    fi
fi

# Set PATH so it includes user's private bin if it exists
if [ -d "$HOME/local/bin" ]; then
    PATH="$HOME/local/bin:$PATH"
fi

# Set PATH so it includes user's private bin if it exists
if [ -d "$HOME/.local/bin" ]; then
    PATH="$HOME/.local/bin:$PATH"
fi

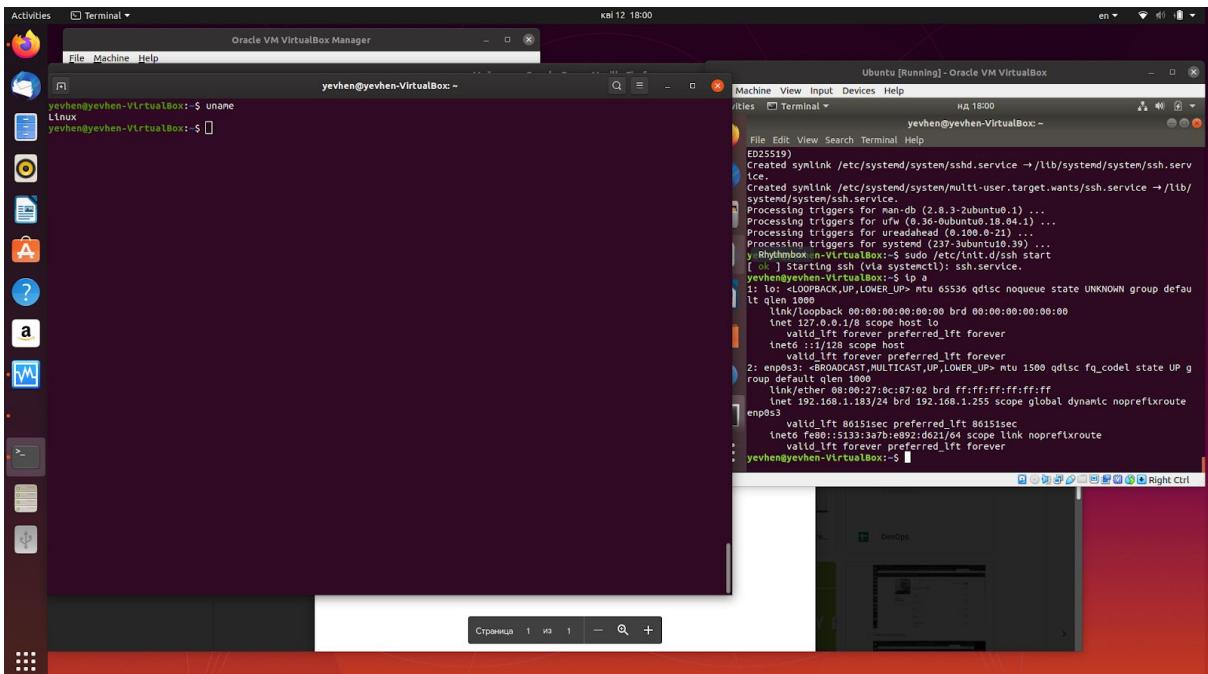
# If running bash
if [ -n "$SHELL_VERSION" ]; then
    # include .bashrc if it exists
    if [ -f "$HOME/.bashrc" ]; then
        . "$HOME/.bashrc"
    fi
fi

# Set PATH so it includes user's private bin if it exists
if [ -d "$HOME/local/bin" ]; then
    PATH="$HOME/local/bin:$PATH"
fi

yevhen@yevhen-VirtualBox:~$ echo $HISTFILE $HISTSIZE $HISTFILESIZE
/home/yevhen/.bash_history 1000 2000
10.11.1.132:yevhen@yevhen-VirtualBox:~ who
yevhen :1 2020-04-12 17:57 (192.168.1.87)
yevhen pts/2 2020-04-12 17:55 (192.168.1.83)
yevhen@yevhen-VirtualBox:~$ w
17:58:59 up 12 min, 3 users, load average: 0.00, 0.15, 0.21
USER TTY FROM LOGINID JCPU PCPU WHAT
yevhen pts/1 17:47 7x0m 33.76s 0.01s /usr/lib/gdm/gdm-x-session --run-script env GNOME_SHELL_SESSION_MODE=unity
yevhen pts/1 192.168.1.87 17:51 1.06s 0.16s ssh yevhen@192.168.1.83
yevhen pts/2 192.168.1.83 17:55 1.06s 0.25s 0.06s w
yevhen@yevhen-VirtualBox:~$ whoami
yevhen
yevhen@yevhen-VirtualBox:~$ id
uid=1000(yevhen) gid=1000(yevhen) groups=1000(yevhen),4(adm),24(cdrom),27(sudo),30(dip),46(plugdev),116(lpadmin),126(sambashare)
yevhen@yevhen-VirtualBox:~$
```

3 Example commands

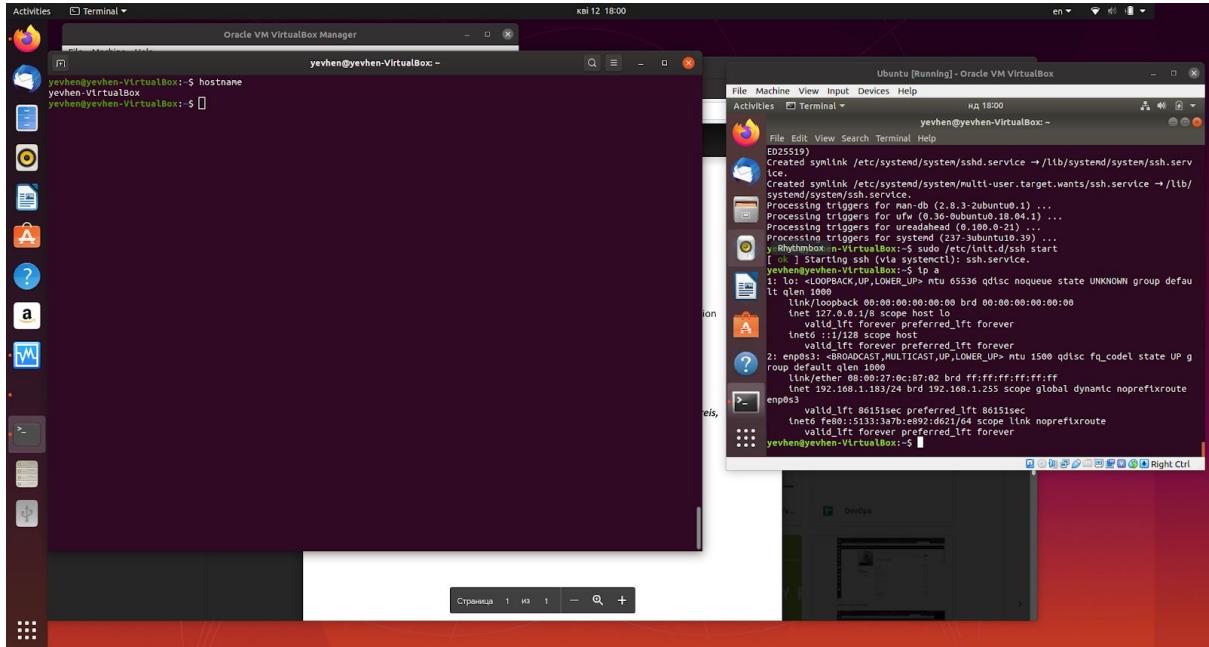
uname



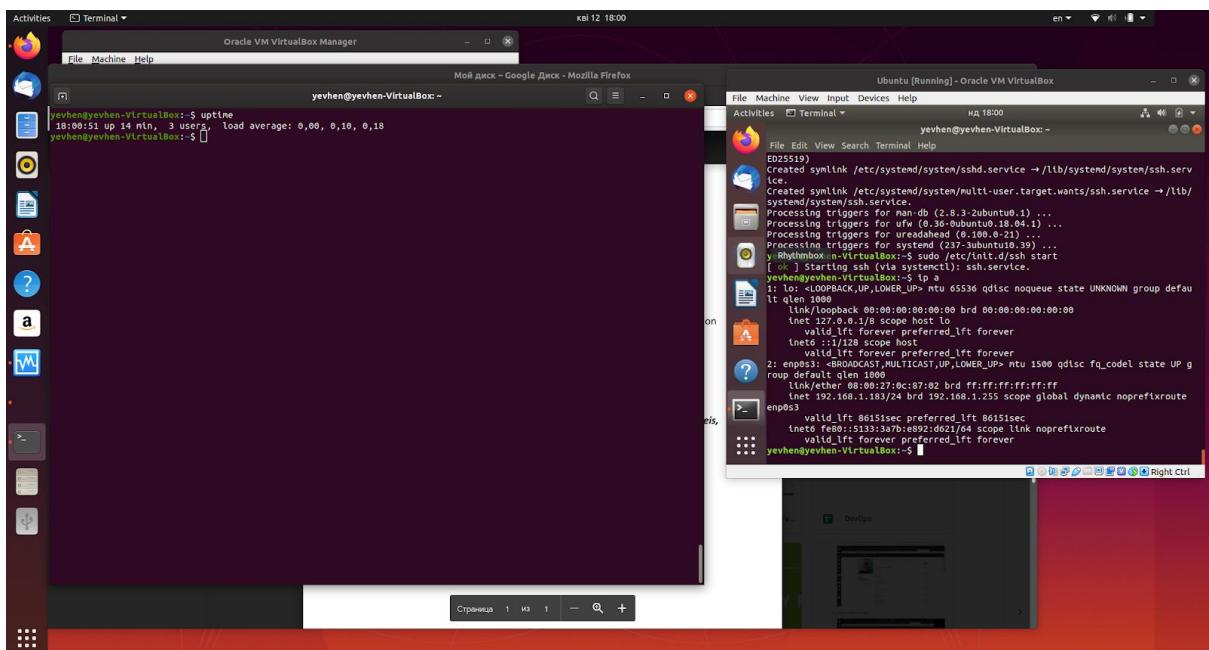
```
yevhen@yevhen-VirtualBox:~$ uname
Linux
yevhen@yevhen-VirtualBox:~$
```

```
ED25519)
Created symlink /etc/systemd/system/sshd.service → /lib/systemd/system/ssh.service.
Created symlink /etc/systemd/system/multi-user.target.wants/ssh.service → /lib/
system/system/ssh.service.
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for ufw (0.36-0ubuntu0.18.04.1) ...
Processing triggers for udeadhead (0.100.0-21) ...
Processing triggers for systemd (237-3ubuntu10.39) ...
Processing triggers for ssh (via systemctl): ssh.service.
[ ok ] Starting ssh (via systemctl): ssh.service.
yevhen@yevhen-VirtualBox:~$ sudo /etc/init.d/ssh start
[ ok ] Starting ssh (via systemctl): ssh.service.
yevhen@yevhen-VirtualBox:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 1500 qdisc noqueue state UNKNOWN group defau
lt qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 brd 0.0.0.0 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 brd :: scope host
        valid_lft forever preferred_lft forever
2: enp0s3: <NO-CARRIER,BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP g
roup default qlen 1000
    link/ether 00:0c:29:87:02 brd ff:ff:ff:ff:ff:ff
    inet 192.168.1.132 brd 192.168.1.255 scope global dynamic noprefixroute
        valid_lft 86400sec preferred_lft 86400sec
        inet6 fe80::192:168.1.132%enp0s3/64 brd fe80::ff:ff:ff:ff:ff:ff scope link
            valid_lft forever preferred_lft forever
yevhen@yevhen-VirtualBox:~$
```

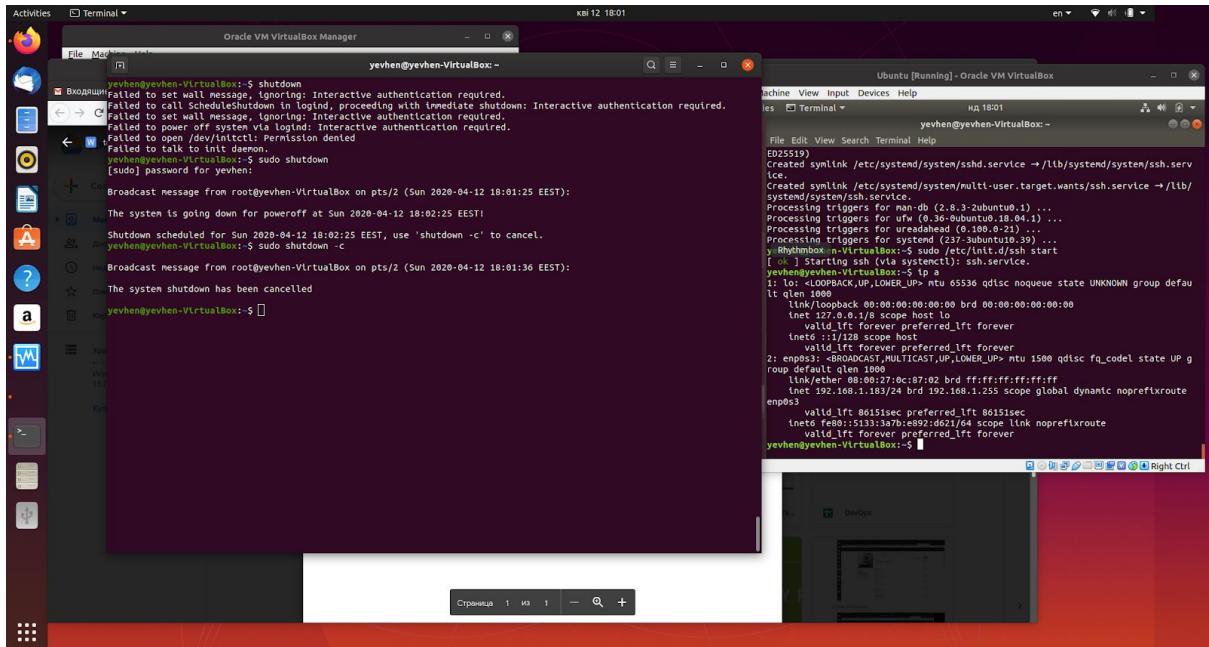
hostname



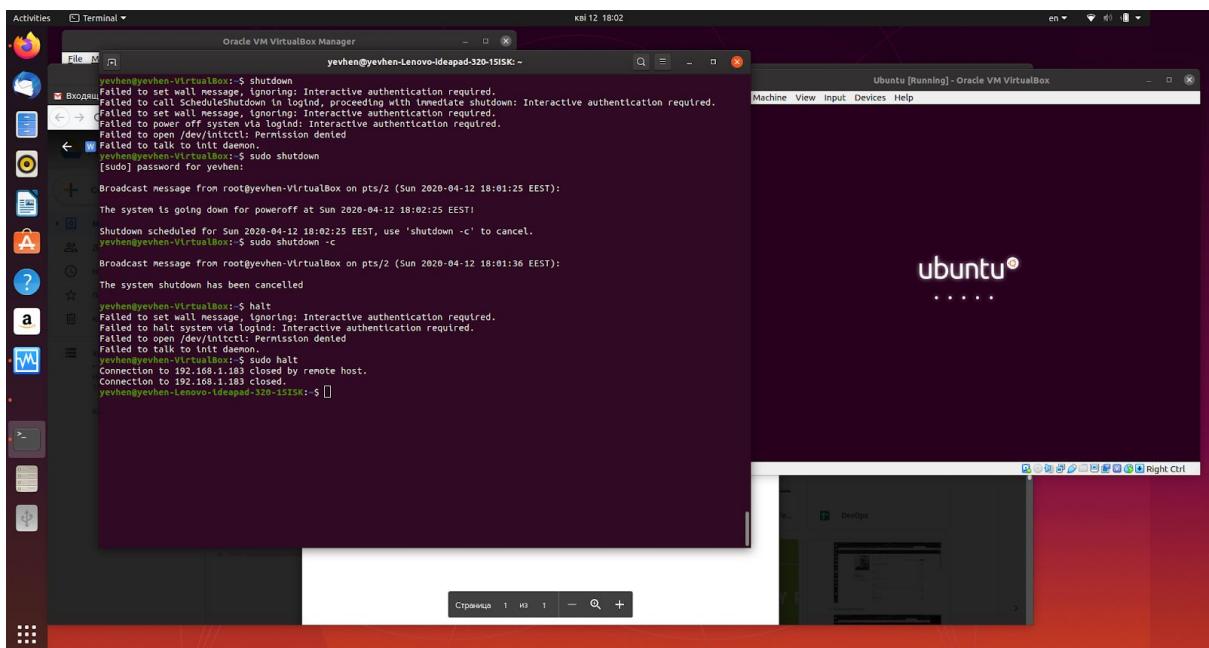
uptime



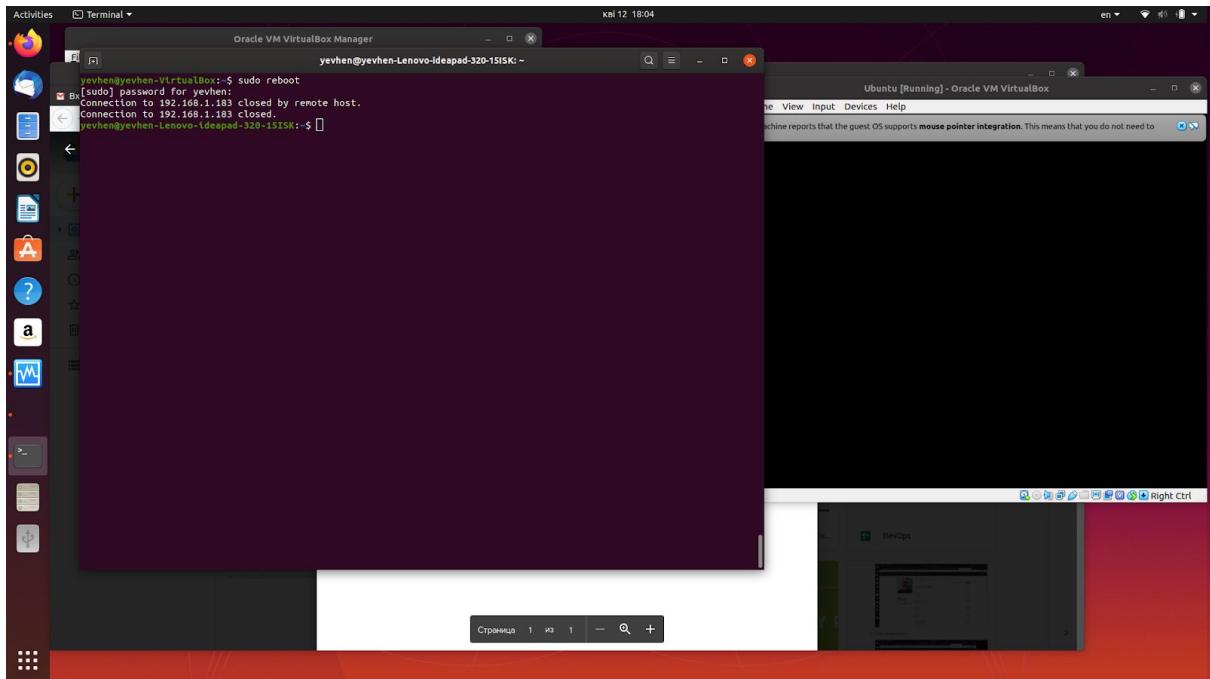
shutdown



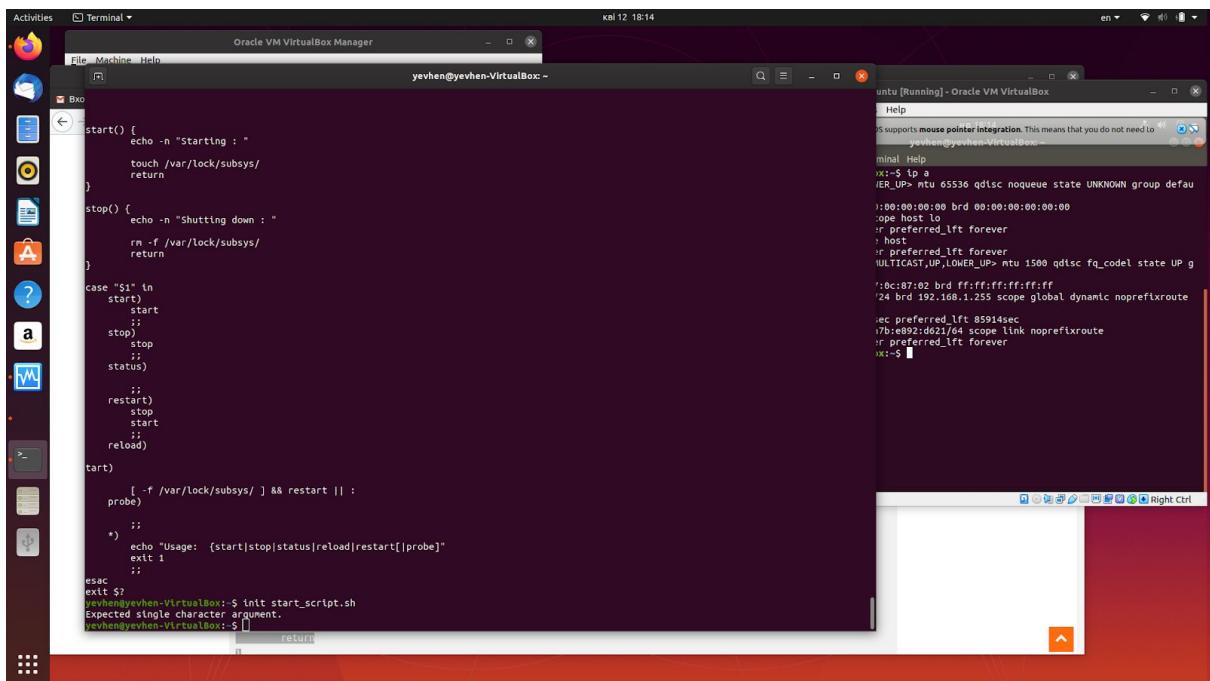
halt

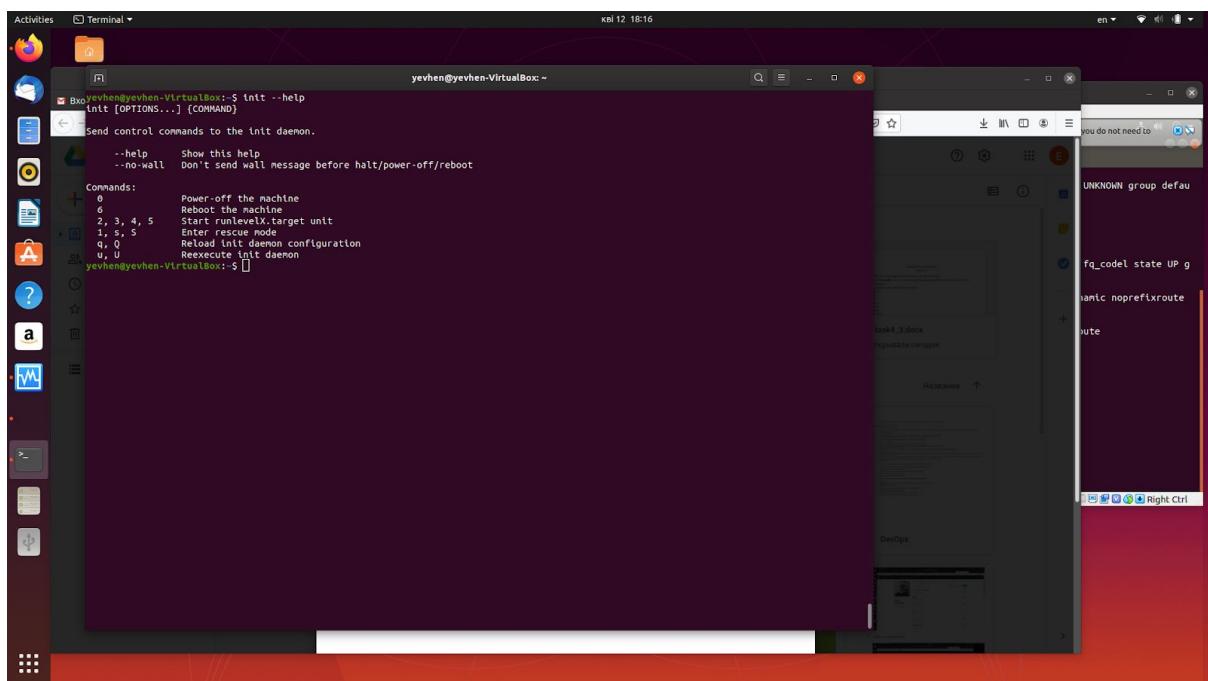


reboot



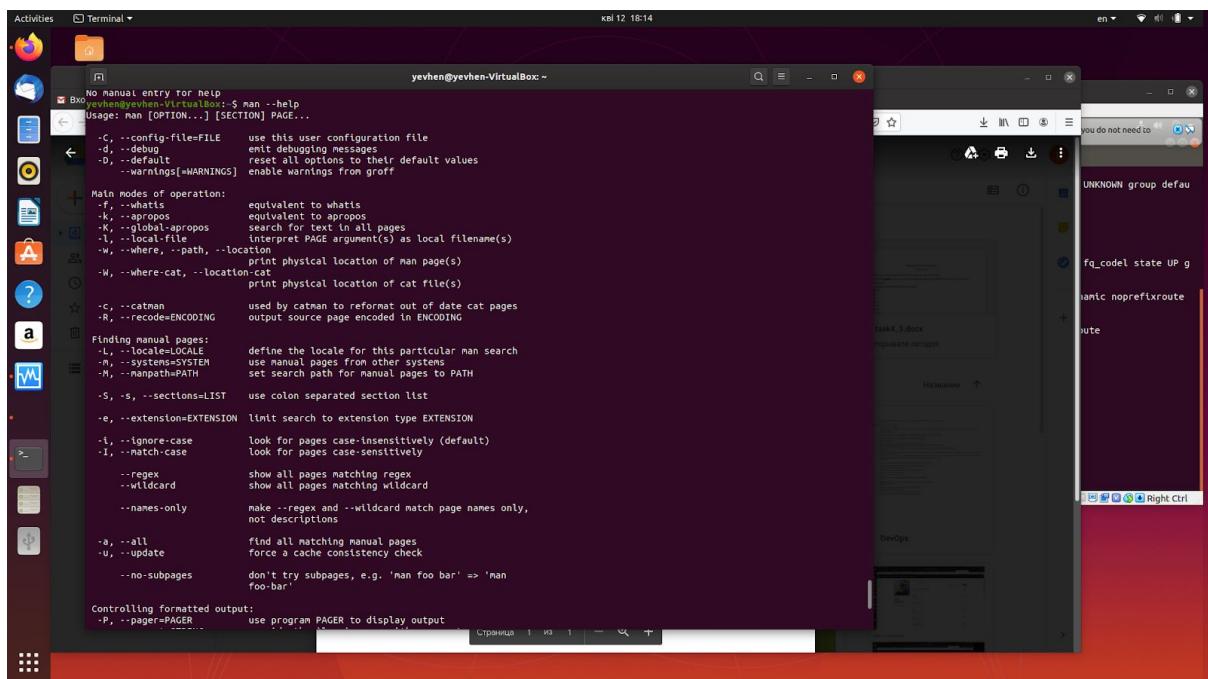
init



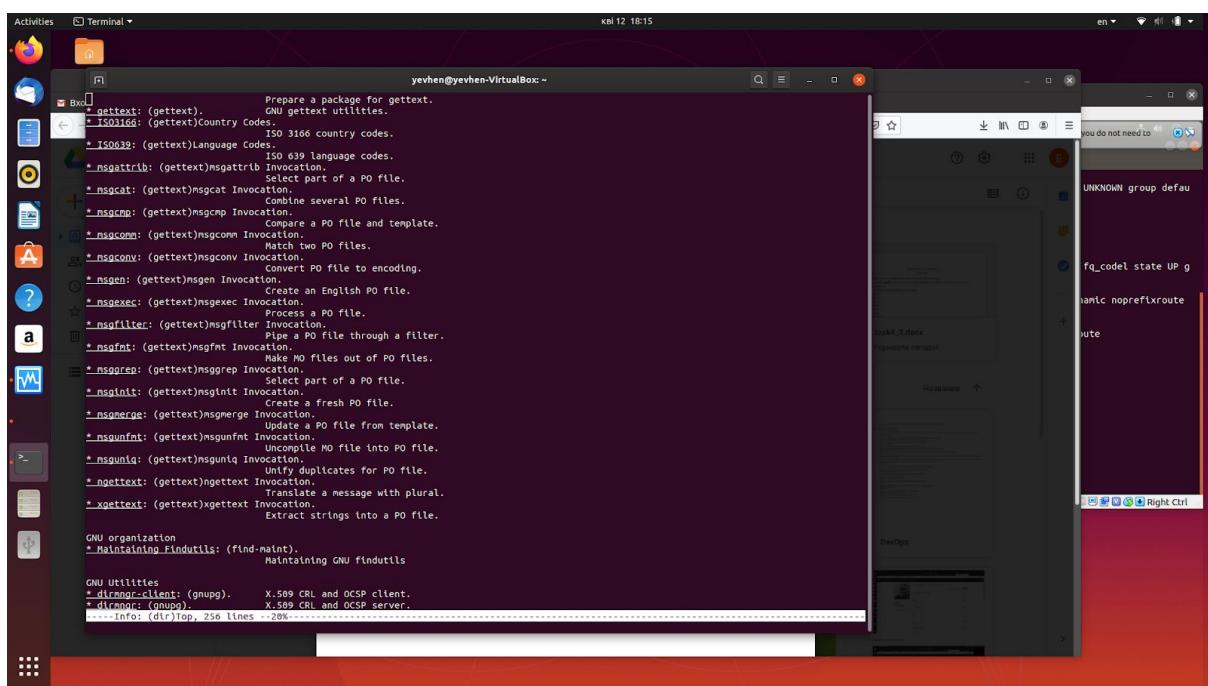
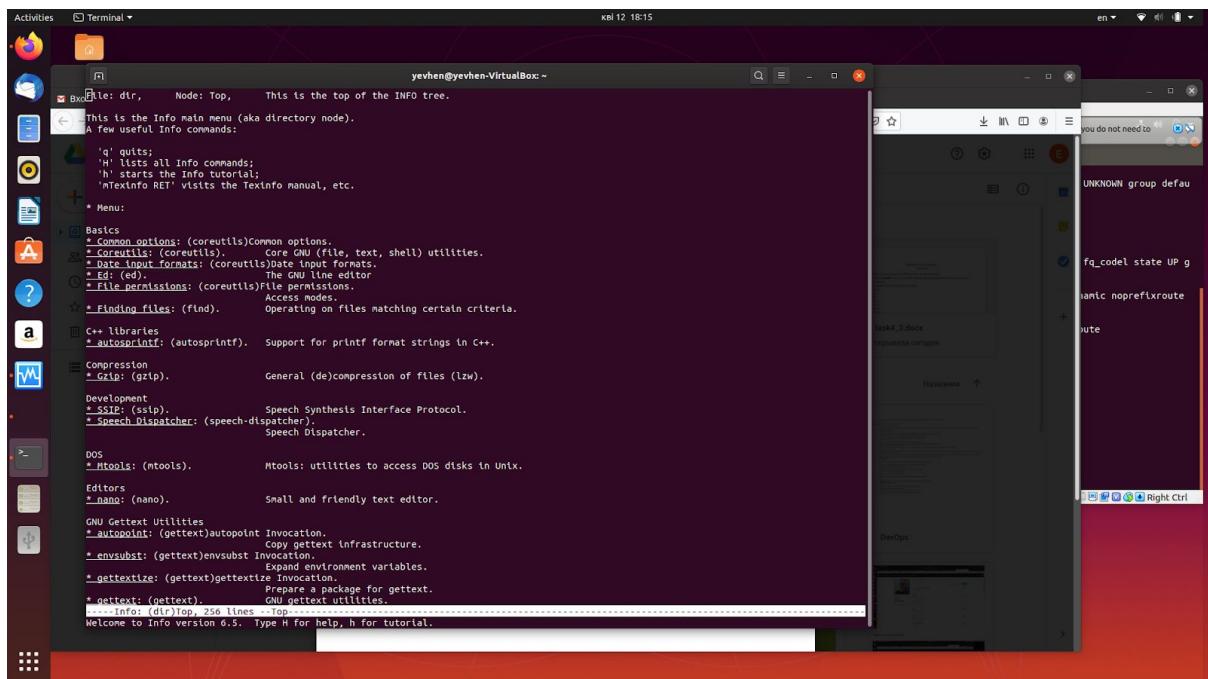


4 Example

man



info



Activities Terminal ~

```
yevhen@yevhen-VirtualBox: ~
```

```

Bx0  dirngr-client: (gnupg). X.509 CRL and OCSP client.
* b2sum: (gnupg). X.509 CRL and OCSP server.
* gpg-agent: (gnupg). The secret key daemon.
* gpg: (gnupg). OpenPGP encryption and signing tool.
* gpgsm: (gnupg). S/MIME encryption and signing tool.

Individual utilities
* arch: (coreutils)arch invocation. Print machine hardware name.
* b2sum: (coreutils)b2sum invocation. Print or check BLAKE2 digests.
* base32: (coreutils)base32 invocation. Base32 encode/decode data.
* base64: (coreutils)base64 invocation. Base64 encode/decode data.
* basename: (coreutils)basename invocation. Strip directory and suffix.
* cat: (coreutils)cat invocation. Concatenate and write files.
* chcon: (coreutils)chcon invocation. Change SELinux CTX of files.
* chgrp: (coreutils)chgrp invocation. Change file groups.
* chmod: (coreutils)chmod invocation. Change file permissions.
* chown: (coreutils)chown invocation. Change file owners and groups.
* chroot: (coreutils)chroot invocation. Specify the root directory.
* cksum: (coreutils)cksum invocation. Print POSIX CRC checksum.
* cmp: (diffutils)Invoking cmp. Compare 2 files byte by byte.
* comm: (coreutils)comm invocation. Compare sorted files by line.
* cp: (coreutils)cp invocation. Copy files.
* csplit: (coreutils)csplit invocation. Split by context.
* cut: (coreutils)cut invocation. Print selected parts of lines.
* date: (coreutils)date invocation. Print/set system date and time.
* df: (coreutils)df invocation. Report file system disk usage.
* diff: (diffutils)Invoking diff. Compare 2 files line by line.
* diff3: (diffutils)Invoking diff3. Compare 3 files line by line.
* dir: (coreutils)dir invocation. List directories briefly.
* dirname: (coreutils)dirname invocation. Get the last file name component.
* du: (coreutils)du invocation. Report on disk usage.
* echo: (coreutils)echo invocation. Print a line of text.
* env: (coreutils)env invocation. Modify the environment.
* expand: (coreutils)expand invocation. Convert tabs to spaces.
* export: (coreutils)export invocation. Evaluate expressions.
* factor: (coreutils)factor invocation. Print prime factors.
* false: (coreutils)false invocation. Do nothing, unsuccessfully.
* find: (findutils)Invoking find. Finding and acting on files.
* fold: (coreutils)fold invocation. Wrap long lines.
* groups: (coreutils)groups invocation. Print group names a user is in.
* gunzip: (gzip)Overview. Decompression.
* gzip: (gzip)Overview. Compress executables.
* head: (coreutils)head invocation. Output the first part of files.
--- Info: (dir)Top, 256 lines - 41% ---
```

Activities Terminal ~

```
yevhen@yevhen-VirtualBox: ~
```

```

Bx0  groov: (cdip)Overview. Compress executables.
* head: (coreutils)head invocation. Output the first part of files.
* hostid: (coreutils)hostid invocation. Print numeric host identifier.
* hostname: (coreutils)hostname invocation. Print or set system name.
* id: (coreutils)id invocation. Print user identity.
* install: (coreutils)install invocation. Copy files and set attributes.
* kill: (coreutils)kill invocation. Send a signal to processes.
* lnlink: (coreutils)ln invocation. Make hard links between files.
* ln: (coreutils)ln invocation. Make links between files.
* locate: (findutils)locate. Find files in a database.
* login: (coreutils)login invocation. Print current login name.
* ls: (coreutils)ls invocation. List directory contents.
* md5sum: (coreutils)md5sum invocation. Print or check MD5 digests.
* mkdir: (coreutils)mkdir invocation. Create directories.
* mkfifo: (coreutils)mkfifo invocation. Create FIFOs (named pipes).
* mknod: (coreutils)mknod invocation. Create special files.
* mktemp: (coreutils)mktemp invocation. Create temporary files.
* mv: (coreutils)mv invocation. Rename files.
* nice: (coreutils)nice invocation. Modify nice ness.
* nohup: (coreutils)nohup invocation. Number lines and write files.
* nproc: (coreutils)nproc invocation. Print the number of processors.
* numfmt: (coreutils)numfmt invocation. Rerformat numbers.
* od: (coreutils)od invocation. Dump files in octal, etc.
* paste: (coreutils)paste invocation. Merge lines from files.
* patch: (coreutils)patch invocation. Apply a patch to a file.
* patchchk: (coreutils)patchchk invocation. Check file name portability.
* pr: (coreutils)pr invocation. Paginate or columate files.
* printenv: (coreutils)printenv invocation. Print environment variables.
* rmif: (coreutils)rmif invocation. Format and print files.
* rmdir: (coreutils)rmdir invocation. Remove empty directories.
* pwd: (coreutils)pwd invocation. Print working directory.
* readlink: (coreutils)readlink invocation. Print referent of a symlink.
* realpath: (coreutils)realpath invocation. Print resolved file names.
* rm: (coreutils)rm invocation. Remove files.
* rmdir: (coreutils)rmdir invocation. Remove empty directories.
* runcon: (coreutils)runcon invocation. Run in specified SELinux CTX.
* sdiff: (diffutils)Invoking sdiff. Merge 2 files side-by-side.
* seq: (coreutils)seq invocation. Print numeric sequences.
* sha1sum: (coreutils)sha1sum invocation. Print or check SHA1 digests.
* sha256sum: (coreutils)sha256sum invocation. Print or check SHA-2 digests.
* shred: (coreutils)shred invocation. Remove files more securely.
* shuf: (coreutils)shuf invocation. Shuffling text files.
* sleep: (coreutils)sleep invocation. Delay for a specified time.
* sort: (coreutils)sort invocation. Sort text files.
--- Info: (dir)Top, 256 lines - 62% ---
```

```
yevhen@yevhen-VirtualBox: ~
Bxcl
sleep: (coreutils)sleep invocation.
  * sleep: (coreutils)sort invocation.
  * sort: (coreutils)split invocation.
  * stat: (coreutils)stat invocation.
  * stdbuf: (coreutils)stdbuf invocation.
  * sum: (coreutils)sum invocation.
  * sync: (coreutils)sync invocation.
  * tail: (coreutils)tail invocation.
  * tee: (coreutils)tee invocation.
  * test: (coreutils)test invocation.
  * time: (time)

  * timeout: (coreutils)timeout invocation.
  * touch: (coreutils)touch invocation.
  * true: (coreutils)true invocation.
  * truncate: (coreutils)truncate invocation.
  * xargs: (coreutils)xargs invocation.
  * xtrm: (coreutils)xterm invocation.
  * uname: (coreutils)uname invocation.
  * unexpand: (coreutils)unexpand invocation.
  * uniq: (coreutils)uniq invocation.
  * unlink: (coreutils)unlink invocation.
  * who: (coreutils)who invocation.
  * uptime: (coreutils)uptime invocation.
  * users: (coreutils)users invocation.
  * vdir: (coreutils)vdir invocation.
  * whoami: (coreutils)whoami invocation.
  * xargs: (find)invoking xargs.
  * yes: (coreutils)yes invocation.

  * zdiff: (gzip)overview.
  * zforce: (gzip)overview.
  * zgrep: (gzip)overview.
  * zmore: (gzip)overview.

Kernel
  * GRUB: (grub).          The Grand Unified Bootloader
  * grub-dev: (grub-dev).   The Grand Unified Bootloader Dev
  * grub-install: (grub)invoking grub-install
    Install GRUB on your drive
  * grub-mkconfig: (grub)invoking grub-mkconfig
    Generate GRUB configuration
  * grub-md5-pbkdf2: (grub)invoking grub-md5-pbkdf2.
  * grub-kernpath: (grub)invoking grub-kernpath.
  * grub-rescue: (grub)invoking grub-rescue
    Make a GRUB rescue image
  * grub-mount: (grub)invoking grub-mount.
    Mount a file system using GRUB
  * grub-probe: (grub)invoking grub-probe.
    Probe device information
  * grub-script-check: (grub)invoking grub-script-check.

Libraries
  * Rlusersman: (rlusersman).  The GNU readline library User's Manual.

Math
  * bc: (bc).              An arbitrary precision calculator language.

Miscellaneous
  * dc: (dc).              Arbitrary precision RPN "Desktop Calculator".

Network applications
  * Wget: (wget).           Non-interactive network downloader.

Sound
  * SSIP: (ssip).           Speech Synthesis Interface Protocol.
  * Say for Speech Dispatcher: (spd-say).
    Say.
  * Speech Dispatcher: (speech-dispatcher).
    Speech Dispatcher.

Text creation and manipulation
  * Diffutils: (diffutils). Comparing and merging files.
  * grep: (grep).            Print lines matching a pattern.
  * sed: (sed).              Stream Editor.

----Info: (dir)Top, 256 lines --Bot----
```

```
yevhen@yevhen-VirtualBox: ~
Bxcl
grub-mkconfig: (grub)invoking grub-mkconfig.
  * grub-md5-pbkdf2: (grub)invoking grub-md5-pbkdf2.
  * grub-kernpath: (grub)invoking grub-kernpath.
  * grub-rescue: (grub)invoking grub-rescue
    Make a GRUB rescue image
  * grub-mount: (grub)invoking grub-mount.
    Mount a file system using GRUB
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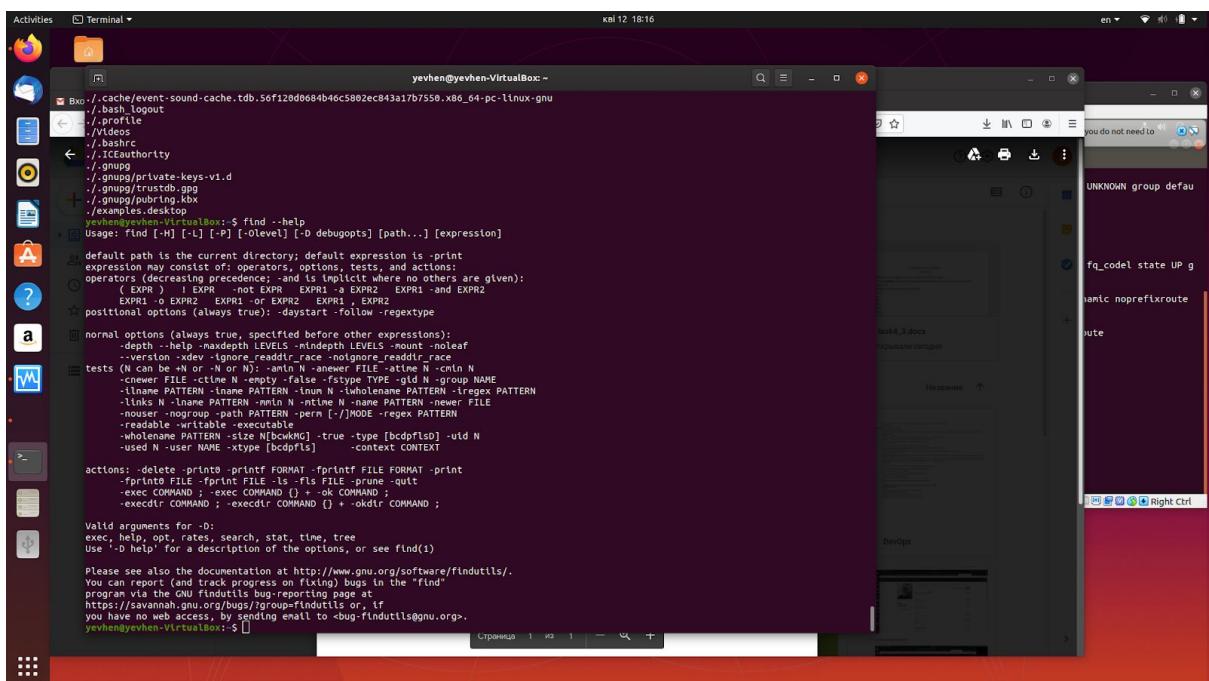
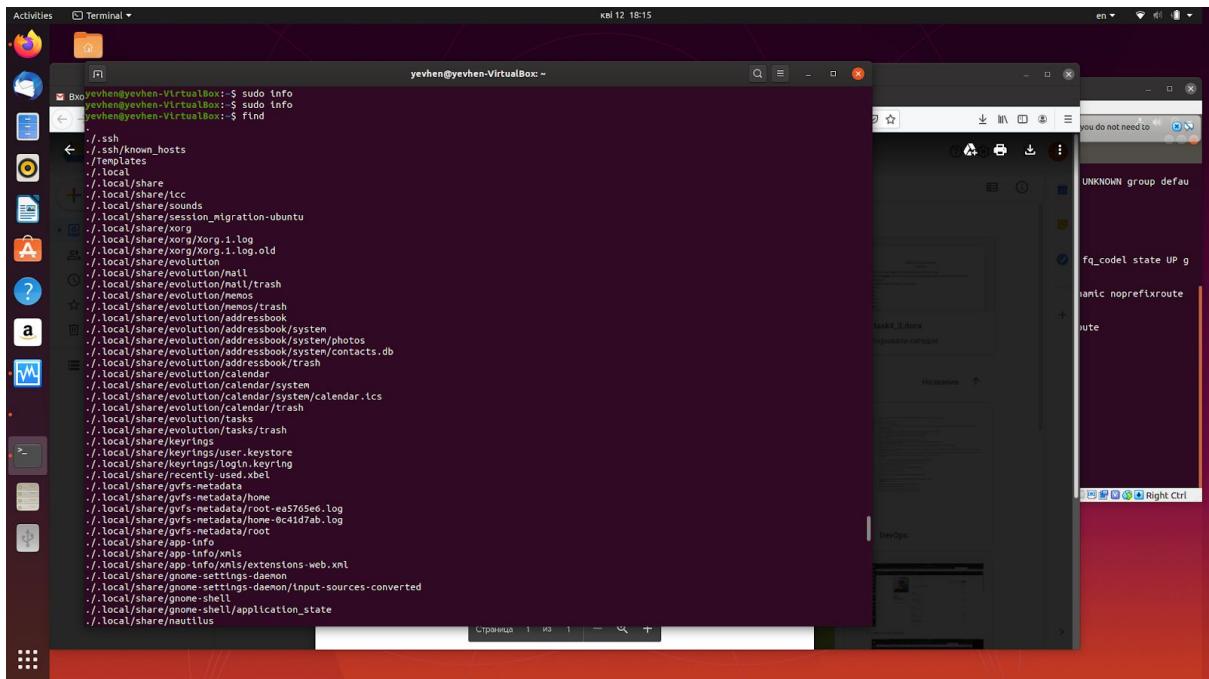
Network applications
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Sound
  * SSIP: (ssip).           Speech Synthesis Interface Protocol.
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Text creation and manipulation
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  * sed: (sed).              Stream Editor.

----Info: (dir)Top, 256 lines --Bot----
```

find



locate

```
yevhen@yevhen-VirtualBox: ~
Bx0:yevhen@yevhen-VirtualBox: ~$ locate COMMAND ; -execdir COMMAND {} + -okdir COMMAND ;
Valid arguments for -D:
exec, help, opt, rates, search, stat, time, tree
Use '-D help' for a description of the options, or see find(1)

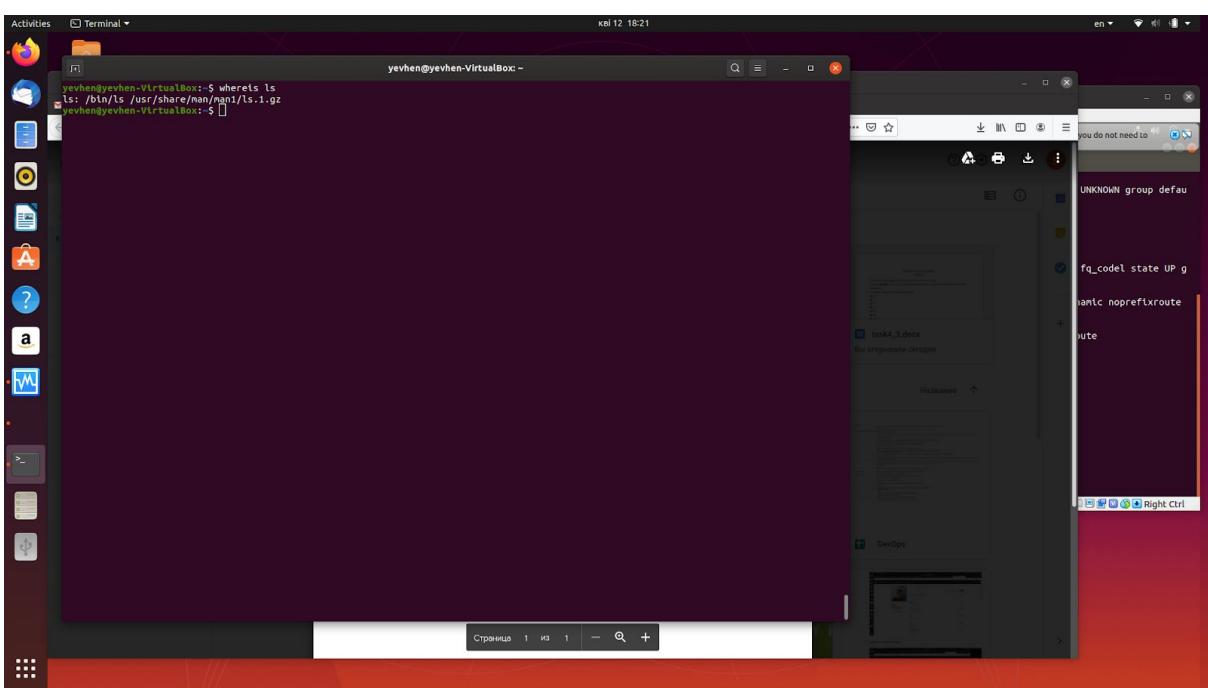
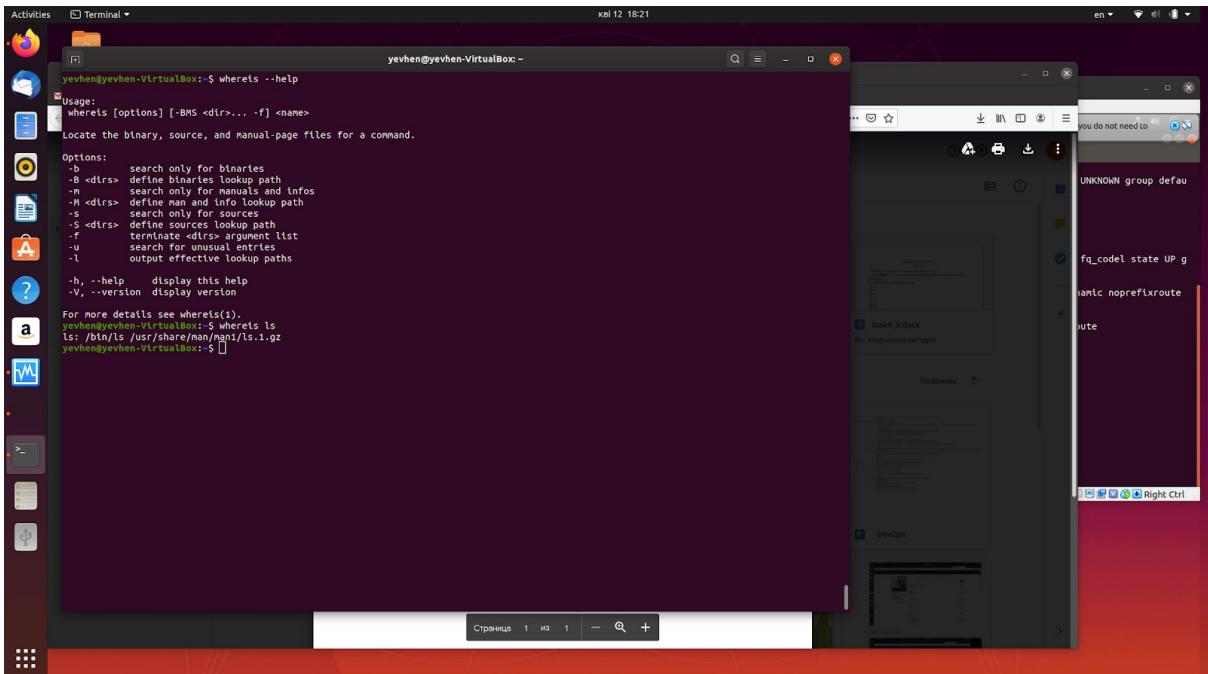
Please see also the documentation at http://www.gnu.org/software/findutils/.
You can report (and track progress on fixing) bugs in the "find"
program on the GNU bug reporting page at
https://savannah.gnu.org/bugs/?group=findutils or, if
you have no web access, by sending email to <bug-findutils@gnu.org>.
yevhen@yevhen-VirtualBox: ~$ locate local
local          locale      locale-check  localesctl   localesdef  locale-gen   locate
yevhen@yevhen-VirtualBox: ~$ locate & locate
located        locate      search    /etc/locate
yevhen@yevhen-VirtualBox: ~$ locate --help
Usage: locate [OPTION]... [PATTERN]...
Search for entries in a mlocate database.

-A, --all           only print entries that match all patterns
-B, --basename      match only the base name of path names
-C, --count         only print number of found entries
-D, --database DBPATH  use DBPATH instead of default database (which is
                      /var/lib/mlocate/mlocate.db)
-E, --existing     follow trailing symbolic links when checking file
-L, --follow        existence (default)
-h, --help          print this help
-i, --ignore-case   ignore case distinctions when matching patterns
-p, --ignore-spaces ignore spaces in pattern and spaces when matching patterns
-t, --transliterate ignore accents using iconv transliteration when
                      matching patterns
-l, --limit, -n LIMIT limit output (or counting) to LIMIT entries
-m, --mmap          ignored, for backward compatibility
-P, --nofollow, -H  don't follow trailing symbolic links when checking file
                     existence
-o, --null          separate entries with NUL on output
-s, --statistics    don't search for entries, print statistics about each
                     used database
-q, --quiet         report no error messages about reading databases
-r, --regexp REGEXP search for basic regexps REGEXP instead of patterns
-x, --regex          patterns are extended regexps
-s, --stdlo          ignored, for backward compatibility
-V, --version       print version information
-w, --wholename     match whole path name (default)

Report bugs to https://pagure.io/mlocate.
yevhen@yevhen-VirtualBox: ~$
```

```
yevhen@yevhen-VirtualBox: ~$ locate .bashrc
/etc/bash.bashrc
/etc/skel/.bashrc
/home/yevhen/.bashrc
/etc/skel/.bashrc
/snap/core/8268/etc/skel/.bashrc
/snap/core/8268/usr/share/base/files/.dot.bashrc
/snap/core18/1668/etc/bash.bashrc
/snap/core18/1668/etc/skel/.bashrc
/snap/core18/1668/usr/share/base/files/.dot.bashrc
/usr/share/base/files/.dot.bashrc
/usr/share/doc/adduser/examples/adduser.local.conf.examples/bash.bashrc
/usr/share/doc/adduser/examples/adduser.local.conf.examples/skel/.dot.bashrc
yevhen@yevhen-VirtualBox: ~$
```

whereis



less|zless in /usr/share/doc

```
yevhen@yevhen-VirtualBox: ~
```

```
total 96
drwxr-xr-x 15 yevhen yevhen 4096 kcal 12 18:11 .
drwxr-xr-x  3 root  root 4096 kcal 12 17:25 ..
-rw-r--r--  1 yevhen yevhen 345 kcal 12 18:04 .bash_history
-rw-r--r--  1 yevhen yevhen 220 kcal 12 17:25 .bash_logout
-rw-r--r--  1 yevhen yevhen 377 kcal 12 17:25 .bashrc
drwxr-xr-x 11 yevhen yevhen 4096 kcal 12 17:40 .config
drwxr-xr-x 11 yevhen yevhen 4096 kcal 12 17:41 .config
drwxr-xr-x  2 yevhen yevhen 4096 kcal 12 17:40 Desktop
drwxr-xr-x  2 yevhen yevhen 4096 kcal 12 17:40 Documents
drwxr-xr-x  2 yevhen yevhen 4096 kcal 12 17:40 Downloads
-rw-r--r--  1 yevhen yevhen 177 kcal 12 17:40 examples.desktop
drwxr-xr-x  3 yevhen yevhen 4096 kcal 12 17:47 .ICEauthority
-rw-r--r--  1 yevhen yevhen 1448 kcal 12 18:05 .local
drwxr-xr-x  2 yevhen yevhen 4096 kcal 12 17:40 Music
drwxr-xr-x  2 yevhen yevhen 4096 kcal 12 17:40 Pictures
-rw-r--r--  1 yevhen yevhen 807 kcal 12 17:25 .profile
drwxr-xr-x  2 yevhen yevhen 4096 kcal 12 17:40 Public
drwxr-xr-x  2 yevhen yevhen 4096 kcal 12 17:55 .ssh
-rw-r--r--  1 yevhen yevhen 65 kcal 12 17:40 startx-script.sh
-rw-r--r--  1 yevhen yevhen 0 kcal 12 17:40 .SuSE_Logo_admin_successful
drwxr-xr-x  2 yevhen yevhen 4096 kcal 12 17:40 Templates
drwxr-xr-x  2 yevhen yevhen 4096 kcal 12 17:40 Videos
yevhen@yevhen-VirtualBox: ~ less .bashrc
yevhen@yevhen-VirtualBox: ~ less .bashrc
```



```
yevhen@yevhen-VirtualBox: ~
```

```
#!/bin/sh
# /etc/.bashrc: executed by bash(1) for non-login shells.
# see /usr/share/doc/bash/examples/startup-files (in the package bash-doc)
# for examples
#
# If not running interactively, don't do anything
# case $- in
#   *c*) ;;
#       *) return;;
# esac
#
# don't put duplicate lines or lines starting with space in the history.
# See bash(1) for more options
# HISTCONTROL=ignoreboth
#
# append to the history file, don't overwrite it
#shot -s histappend
#
# for setting history length see HISTSIZE and HISTFILESIZE in bash(1)
#HISTSIZE=1000
#HISTFILESIZE=2000
#
# check the window size after each command and, if necessary,
# update the values of LINES and COLUMNS.
#shot -s checkwinsize
#
# If set, the pattern "*" used in a pathname expansion context will
# match all files and zero or more directories and subdirectories.
#shot -s globstar
#
# make less more friendly for non-text input files, see lesspipe(1)
# [ -x /usr/bin/lesspipe ] && eval "$SHELL=/bin/sh lesspipe"
#
# set variable identifying the chroot you work in (used in the prompt below)
# if [ -z "$debian_chroot" ] && [ -e /etc/debian_chroot ]; then
#     debian_chroot=$(cat /etc/debian_chroot)
# fi
#
# set a fancy prompt (non-color, unless we know we "want" color)
case "$TERM" in
    xterm-color|*-256color) color_prompt=yes;;
esac
#
# uncomment for a colored prompt, if the terminal has the capability; turned
# off by default to not distract the user: the focus in a terminal window
# should be on the output of commands, not on the prompt
#force_color_prompt=yes
#
if [ -n "$force_color_prompt" ]; then
    if [ -x /usr/bin/tput ] && tput setaf 1 >/dev/null; then
        # We have color support; assume it's compliant with Ecma-48
        # (ISO/IEC-6429). (Lack of such support is extremely rare, and such
        # a case would tend to support setf rather than setaf.)
```

less|zless in /usr/share/doc

