Презентация по лабораторной работе №1

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Цель работы

Целью данной работы является приобретение практических навыков установки операционной системы на виртуальную машину, настройки минимально необходимых для дальнейшей работы сервисов.

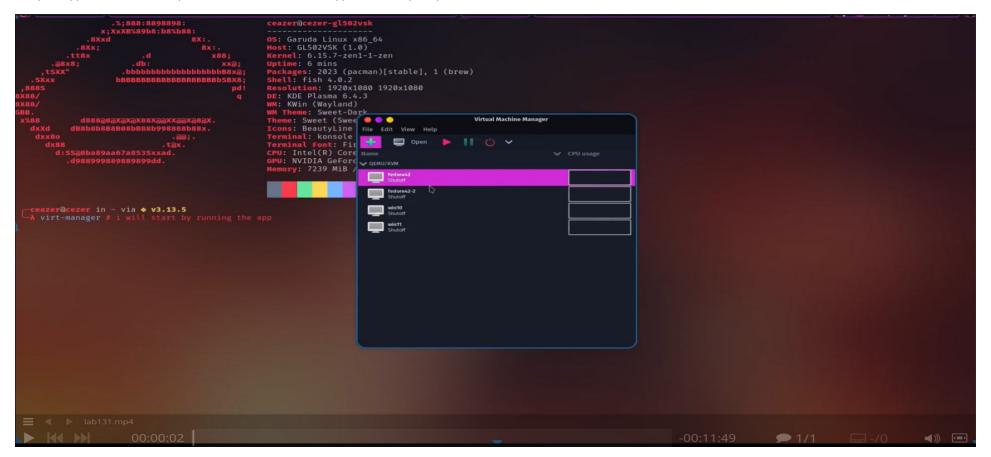
Задание

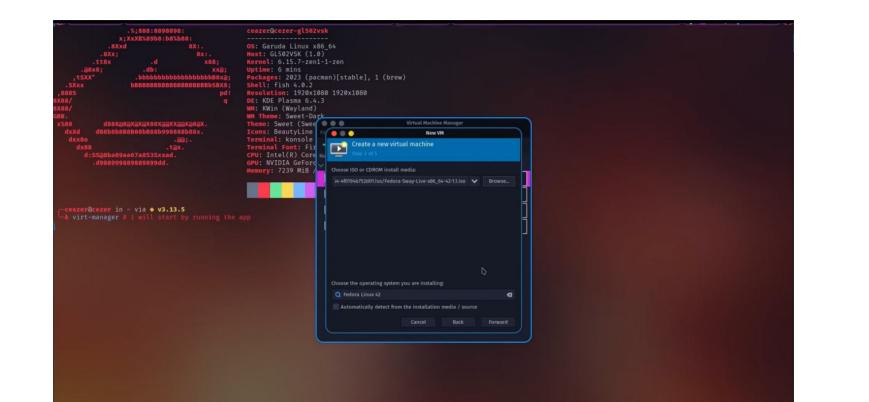
- 1. Создание виртуальной машины
- 2. Установка операционной системы
- 3. Установка драйверов для VirtualBox
- 4. Настройка раскладки клавиатуры

Выполнение лабораторной работы

- Создание виртуальной машины

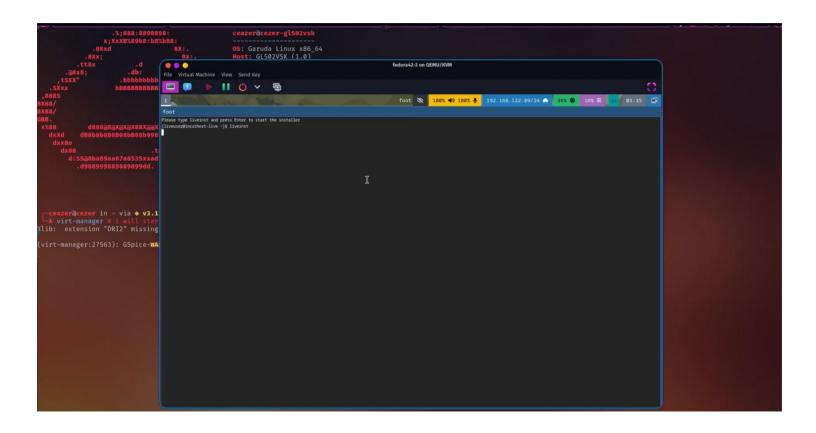
Запускаю VirtualBox и создаю новую виртуальную машину с именем "Fedora 42". Выбираю тип операционной системы "Linux" и версию "Fedora 42(64-bit)". Задаю 4049 МБ оперативной памяти и 65 ГБ дискового пространства.

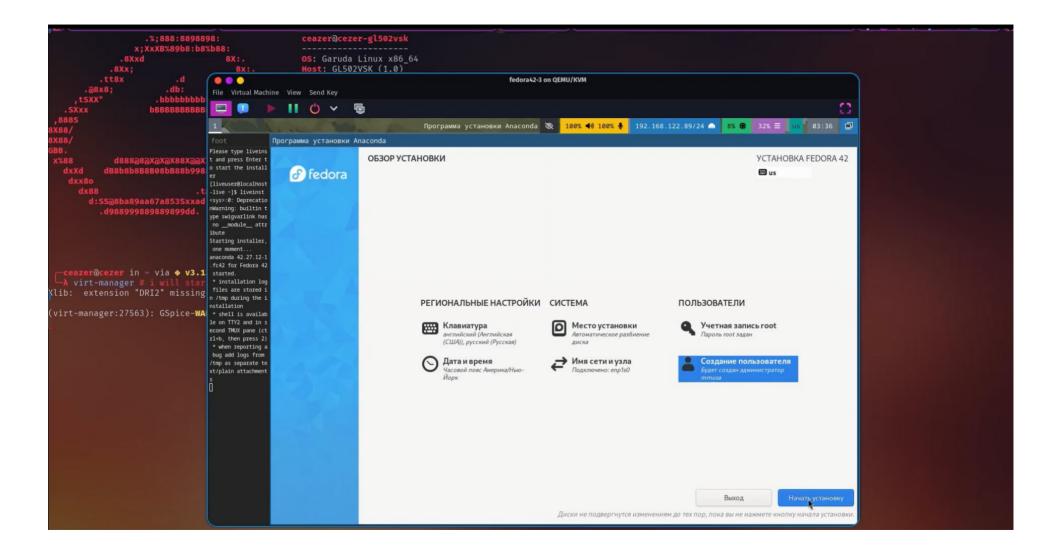




- Установка операционной системы

Запускаю виртуальную машину и запускаю установку операционной системы Fedora 42. Выбираю язык интерфейса и перехожу к настройкам установки операционной системы.



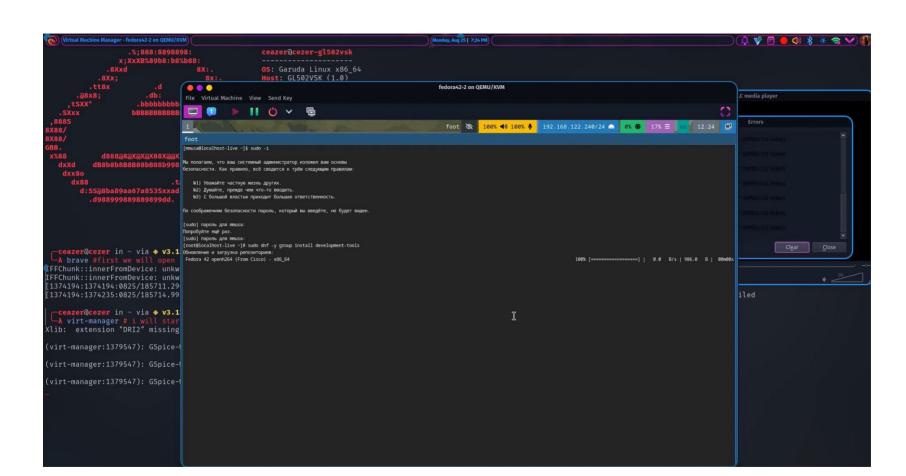


- Установка драйверов для VirtualBox

после завершения загрузки я загрузил необходимые драйверы.

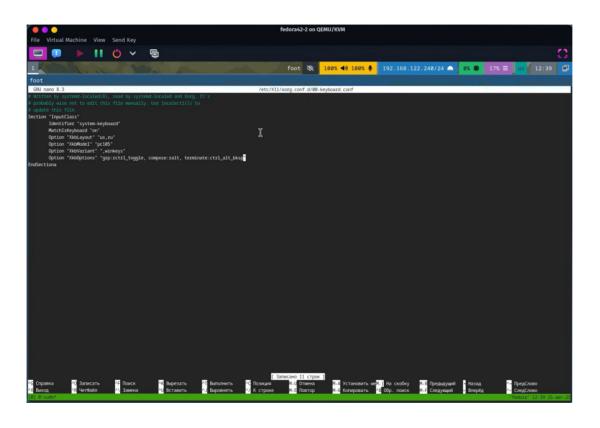
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[123/144] )CTanobka qettext-0.0.23.1-2.1042.x00_04
                                                                                                                         J.
[126/144] Установка apr-util-lmdb-0:1.6.3-22.fc42.x86_64
                                                                                                                                                             100% | 716.0 KiB/s | 15.0 KiB |
[127/144] Установка apr-util-openssl-0:1.6.3-22.fc42.x86_64
                                                                                                                                                                    1.0 MiB/s | 23.2 KiB |
[128/144] Установка perl-NDBM_File-0:1.17-519.fc42.x86_64
                                                                                                                                                                    1.3 MiB/s | 29.6 KiB | 00m00s
[129/144] Установка diffstat-0:1.67-2.fc42.x86 64
                                                                                                                                                                    1.3 MiB/s | 82.1 KiB |
                                                                                                                                                                                             00m00s
[130/144] Удаление elfutils-0:0.192-9.fc42.x86 64
                                                                                                                                                                     1.2 KiB/s | 67.0 B |
                                                                                                                                                                                              00m00s
[131/144] Удаление elfutils-debuginfod-client-0:0.192-9.fc42.x86 64
                                                                                                                                                              100% | 428.0 B/s | 15.0 B |
                                                                                                                                                                                              00m00s
[132/144] Удаление elfutils-libs-0:0.192-9.fc42.x86 64
                                                                                                                                                              100% | 305.0 B/s | 11.0 B |
[133/144] Удаление xz-1:5.6.3-3.fc42.x86_64
                                                                                                                                                              100% | 2.1 KiB/s | 124.0 B |
                                                                                                                                                                                              00m00s
[134/144] Удаление cpp-0:15.0.1-0.11.fc42.x86_64
                                                                                                                                                              100% | 925.0 B/s | 37.0 B |
                                                                                                                                                                                              00m00s
[135/144] Удаление xz-libs-1:5.6.3-3.fc42.x86_64
                                                                                                                                                              100% | 333.0 B/s | 7.0
                                                                                                                                                                                              00m00s
[136/144] Удаление elfutils-libelf-0:0.192-9.fc42.x86_64
                                                                                                                                                              100% | 600.0 B/s | 15.0 B |
[137/144] Удаление libxcrypt-0:4.4.38-6.fc42.x86_64
                                                                                                                                                              100% | 782.0 B/s | 18.0 B |
                                                                                                                                                                                              00m00s
[138/144] Удаление libgomp-0:15.0.1-0.11.fc42.x86 64
                                                                                                                                                              100% | 450.0 B/s | 9.0
[139/144] Удаление zlib-nq-compat-0:2.2.4-3.fc42.x86 64
                                                                                                                                                              100% | 121.0 B/s | 5.0 B |
                                                                                                                                                                                              00m00s
[140/144] Удаление qlibc-0:2.41-1.fc42.x86_64
                                                                                                                                                                     1.9 KiB/s | 102.0 B |
[141/144] Удаление glibc-all-langpacks-0:2.41-1.fc42.x86_64
                                                                                                                                                                     1.8 KiB/s | 41.0 B |
                                                                                                                                                                                              00m00s
                                                                                                                                                              100% I
[142/144] Удаление glibc-gconv-extra-0:2.41-1.fc42.x86_64
                                                                                                                                                                     7.2 KiB/s | 637.0 B |
                                                                                                                                                                                              00m00s
[143/144] Удаление glibc-common-0:2.41-1.fc42.x86_64
                                                                                                                                                                     1.1 KiB/s | 50.0 B |
                                                                                                                                                                                              00m00s
[144/144] Удаление libgcc-0:15.0.1-0.11.fc42.x86_64
                                                                                                                                                                     4.0 B/s | 11.0 B |
                                                                                                                                                                                             00m03s
[root@localhost-live ~]# sudo dnf -y install
```

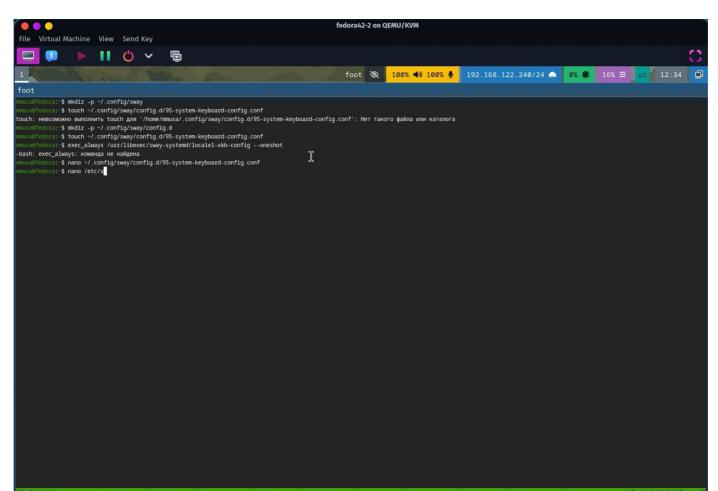
1	foot 🗞	100% 🜒 100% 🍨	192.168.122.240/24 🧥	6% 🗰	20% ≡	us 12:46	
foot							
[245/4614] texlive-zootaxa-bst-11:svn50619-76.fc42.noarch				100%	187.2 KiB/s	147.2 KiB	00m01s
[246/4614] texlive-bibtex8-11:svn66186-89.fc42.x86_64				100%	244.1 KiB/s	98.4 KiB	00m00s
[247/4614] texlive-bundledoc-11:svn64620-89.fc42.noarch				100%	184.3 KiB/s	39.4 KiB	00m00s
[248/4614] texlive-bibtexu-11:svn66186-89.fc42.x86_64				100%	221.8 KiB/s	132.6 KiB	00m01s
[249/4614] texlive-checklistings-11:svn38300-89.fc42.noarch				100%	650.0 KiB/s	371.1 KiB	00m01s
[250/4614] texlive-chktex-11:svn64797-89.fc42.x86_64				100%	924.2 KiB/s	403.9 KiB	00m00s
[251/4614] texlive-clojure-pamphlet-11:svn60981-89.fc42.noarch				100%	931.1 KiB/s	203.0 KiB	00m00s
[252/4614] texlive-chklref-11:svn52649-89.fc42.noarch				100%	253.1 KiB/s	313.6 KiB	00m01s
[253/4614] texlive-cluttex-11:svn60964-89.fc42.noarch				100%	1.4 MiB/s	405.2 KiB	00m00s
[254/4614] texlive-ctan-o-mat-11:svn51578-89.fc42.noarch				100%	170.9 KiB/s	54.7 KiB	00m00s
[255/4614] texlive-ctan_chk-doc-11:svn36304.1.0-76.fc42.noarch				100%	426.3 KiB/s	235.3 KiB	00m01s
[256/4614] texlive-ctanbib-11:svn66068-89.fc42.noarch				100%	113.6 KiB/s	51.9 KiB	00m00s
[257/4614] texlive-ctanify-11:svn44129-89.fc42.noarch				100%	189.1 KiB/s	60.5 KiB	00m00s
[258/4614] texlive-ctie-11:svn66186-89.fc42.x86_64				100%	118.8 KiB/s	20.8 KiB	00m00s
[259/4614] texlive-ctanupload-11:svn26313-89.fc42.noarch				100%			00m01s
[260/4614] texlive-cweb-11:svn66186-89.fc42.x86_64				100%			00m00s
[261/4614] texlive-de-macro-11:svn61719-89.fc42.noarch				100%			00m01s
[262/4614] texlive-detex-11:svn66186-89.fc42.x86_64				100%		38.7 KiB	00m00s
[263/4614] texlive-dtl-11:svn62387-89.fc42.x86_64				100%	159.4 KiB/s		00m00s
[264/4614] texlive-dtxgen-11:svn51663-89.fc42.noarch				100%			00m00s
[265/4614] texlive-dvi2tty-11:svn66186-89.fc42.x86_64				100%		45.0 KiB	00m00s
[266/4614] texlive-dviasm-11:svn64430-89.fc42.noarch				100%		24.6 KiB	00m00s
[267/4614] texlive-digestif-11:svn65223-89.fc42.noarch				100%	401.6 KiB/s		00m02s
[268/4614] texlive-dvicopy-11:svn66186-89.fc42.x86_64				100%	177.6 KiB/s		00m00s
[269/4614] texlive-dvidvi-11:svn65952-89.fc42.x86_64				100%	101.9 KiB/s		00m00s
[270/4614] texlive-dviinfox-11:svn59216-89.fc42.noarch				100%		16.1 KiB	00m00s
[271/4614] texlive-dviout-util-11:svn66186-89.fc42.x86 64				100%		46.1 KiB	00m01s
[272/4614] texlive-dvilgk-11:svn66186-89.fc42.x86_64				100%		79.0 KiB	00m01s
[273/4614] texlive-dvipos-11:svn66186-89.fc42.x86_64				100%	146.5 KiB/s		00m00s
[274/4614] texlive-dvipng-11:svn66203-89.fc42.x86_64							00m02s
[275/4614] texlive-dviping-11:3vnob263-65:1042.x66_64 [275/4614] texlive-findhyph-11:svn47444-89.fc42.noarch				100%	153.0 KiB/s	20.6 KiB	00m00s
[276/4614] texlive-findhyph-11.svn26313-89.fc42.noarch				100%	129.1 KiB/s		00m01s
							00m03s
[277/4614] texlive-dvisvgm-11:svn66532-89.fc42.x86_64				100%	484.0 KiB/s		
[278/4614] texlive-git-latexdiff-11:svn54732-89.fc42.x86_64				100%		22.3 KiB	00m00s
[279/4614] texlive-gsftopk-11:svn52851-89.fc42.x86_64				100%	100.3 KiB/s		00m00s
[280/4614] texlive-hook-pre-commit-pkg-doc-11:svn41378-76.fc42.noarch				100%		22.7 KiB	00m00s
[281/4614] texlive-installfont-11:svn31205-89.fc42.noarch				100%	273.1 KiB/s		00m00s
[282/4614] texlive-arara-11:svn63760-89.fc42.noarch				100%		16.2 MiB	00m11s
[283/4614] texlive-lacheck-11:svn66186-89.fc42.x86_64				100%		38.5 KiB	00m00s
[284/4614] texlive-latex-papersize-11:svn53131-89.fc42.noarch			10/ 5	100%		16.5 KiB	00m00s
[285/4614] texlive-ketcindy-11:svn58661-89.fc42.noarch			1% [199.0 KiB	05m02s
[286/4614] texlive-latex-git-log-11:svn54010-89.fc42.noarch			70% [======	==]		70.4 KiB	00m00s
[287/4614] texlive-latex2man-11:svn64477-89.fc42.noarch			56% [=======	1	9.0 B/s	193.7 KiB	04h44m



- Настройка раскладки клавиатуры

Я настраиваю клавиатуру на английскую и русскую раскладку.





1:035h* Tedora" 12:34 25-asr

- Дополнительное задание

В окне терминала проанализирую последовательность загрузки системы, выполнив команду dmesg:

```
root@localhost-live:~# dmesq | grep "linux version'
root@localhost-live:~# dmesq | grep "Linux version"
    0.000000] Linux version 6.14.0-63.fc42.x86 64 (mockbuild@d5701c6d040c430c8283c8c9847dc93f) (qcc (GCC) 15.0.1 20250228 (Red Hat 15.0.1-0), GNU ld version 2.44-3.fc42) #1 SMP PREEMPT DYNAMIC Mon Mar 24 19:53:3
7 UTC 2025
root@localhost-live:~# dmesg | grep "Mhz processor"
root@localhost-live:~# dmesq | grep "mhz"
root@localhost-live:~# dmesq | grep -i "mhz"
    0.000006] tsc: Detected 2807.998 NHz processor
root@localhost-live:~# dmesg | grep -i "cpu0"
    0.142354] smpboot: CPU0: Intel(R) Core(TM) i7-7700HQ CPU @ 2.80GHz (family: 0x6, model: 0x9e, stepping: 0x9)
root@localhost-live:~# dmesq | grep -i "memory available"
root@localhost-live:~# dmesq | grep -i "MemTotal"
root@localhost-live:~# dmesq | grep -i "available" | grep -i "memory"
    0.145794] Memory: 3951748K/4193764K available (20880K kernel code, 4471K rwdata, 17416K rodata, 5004K init, 6100K bss, 234244K reserved, 0K cma-reserved)
root@localhost-live:~# dmesg | grep -i "hypervisor detected"
    0.000000] Hypervisor detected: KVM
root@localhost-live:~# dmesq | grep -i "mounted root"
root@localhost-live:~# dmesg | grep -i "mounted root" | grep -i "filesystem"
root@localhost-live:~# exit
зыход
```

```
[mmusa@fedora ~1$ tmux
[exited]
[mmusa@fedora ~]$ dmesq | grep "mounted root"
dmesg: read kernel buffer failed: Операция не позволена
[mmusa@fedora ~]$ sudo dmesq | grep "mounted root"
[sudo] пароль для mmusa:
[mmusa@fedora ~]$ dmesq | grep "filesystem"
dmesg: read kernel buffer failed: Операция не позволена
[mmusa@fedora ~1$ sudo -i
[root@momusa ~]# dmesq | grep -i "mounted root" | grep -i "filesystem"
[root@momusa ~]# dmesq | grep -i "filesvstem"
   2.901461] BTRFS info (device vda3): first mount of filesystem 052cdf73-49cf-4efe-ad7d-fb655ba9bae0
   5.555577] EXT4-fs (vda2): mounted filesystem 0b959183-a56d-49cf-bc9a-584c59b3eff3 r/w with ordered data mode. Quota mode: none.
[root@momusa ~1# cat /proc/mounts
/dev/vda3 / btrfs rw.seclabel.relatime.compress=zstd:1.discard=async.space_cache=v2.subvolid=257.subvol=/root 0 0
devtmpfs /dev devtmpfs rw.seclabel.nosuid.size=4096k.nr inodes=494940.mode=755.inode64 0 0
tmpfs /dev/shm tmpfs rw.seclabel.nosuid.nodev.inode64 0 0
devpts /dev/pts devpts rw.seclabel.nosuid.noexec.relatime.qid=5.mode=620.ptmxmode=000 0 0
sysfs /sys sysfs rw,seclabel,nosuid,nodev,noexec,relatime 0 0
securityfs /sys/kernel/security securityfs rw.nosuid.nodev.noexec.relatime 0 0
cgroup2 /sys/fs/cgroup cgroup2 rw,seclabel,nosuid,nodev,noexec,relatime,nsdelegate,memory_recursiveprot 0 0
ostore /sys/fs/pstore pstore rw,seclabel,nosuid,nodev,noexec,relatime 0 0
opf /sys/fs/bpf bpf rw,nosuid,nodev,noexec,relatime,mode=700 0 0
configfs /sys/kernel/config configfs rw,nosuid,nodev,noexec,relatime 0 0
oroc /proc proc rw,nosuid,nodev,noexec,relatime 0 0
tmpfs /run tmpfs rw.seclabel.nosuid.nodev.size=799464k.nr_inodes=8192<u>00.mode=755.inode64 0 0</u>
selinuxfs /sys/fs/selinux selinuxfs rw,nosuid,noexec,relatime 0 0
systemd-1 /proc/sys/fs/binfmt_misc autofs rw,relatime,fd=37,pqrp=1,timeout=0,minproto=5,maxproto=5,direct,pipe_ino=4622 0 0
nugetlbfs /dev/hugepages hugetlbfs rw.seclabel.nosuid.nodev.relatime.pagesize=2M 0 0
tracefs /sys/kernel/tracing tracefs rw,seclabel,nosuid,nodev,noexec,relatime 0 0
debugfs /sys/kernel/debug debugfs rw.seclabel.nosuid.nodev.noexec.relatime 0 0
mqueue /dev/mqueue mqueue rw,seclabel,nosuid,nodev,noexec,relatime 0 0
tmpfs /run/credentials/systemd-journald.service tmpfs ro,seclabel,nosuid,nodev,noexec,relatime,nosymfollow,size=1024k,nr_inodes=1024,mode=700,inode64,noswap 0 0
fusectl /sys/fs/fuse/connections fusectl rw,nosuid,nodev,noexec,relatime 0 0
tmpfs /tmp tmpfs rw,seclabel,nosuid,nodev,size=1998656k,nr_inodes=1048576,inode64 0 0
/dev/vda3 /home btrfs rw,seclabel,relatime,compress=zstd:1,discard=async,space_cache=v2,subvolid=256,subvol=/home 0 0
/dev/vda2 /boot ext4 rw,seclabel,relatime 0 0
tmpfs /run/credentials/systemd-resolved.service tmpfs ro.seclabel.nosuid.nodev.noexec.relatime.nosymfollow.size=1024k.nr inodes=1024.mode=700.inode64.noswap 0 0
sunrpc /var/lib/nfs/rpc pipefs rpc pipefs rw.relatime 0 0
tmpfs /run/user/1000 tmpfs rw.seclabel.nosuid.nodev.relatime.size=399728k.nr inodes=99932.mode=700.uid=1000.gid=1000.inode64 0 0
oortal /run/user/1000/doc fuse.portal rw.nosuid.nodev.relatime.user id=1000.group id=1000 0 0
tmpfs /run/user/0 tmpfs rw,seclabel,nosuid,nodev,relatime,size=399728k,nr_inodes=99932,mode=700,inode64 0 0
[root@momusa ~]# m
```

```
tmpfs /tmp tmpfs rw.seclabel.nosuid.nodev.size=1998656k.nr inodes=1048576.inode64 0 0
/dev/vda3 /home btrfs rw,seclabel,relatime,compress=zstd:1,discard=async,space cache=v2,subvolid=256,subvol=/home 0 0
/dev/vda2 /boot ext4 rw.seclabel.relatime 0 0
tmpfs /run/credentials/systemd-resolved.service tmpfs ro,seclabel,nosuid,nodev,noexec,relatime,nosymfollow,size=1024k,nr inodes=1024,mode=700,inode64,noswap 0 0
sunrpc /var/lib/nfs/rpc pipefs rpc pipefs rw.relatime 0 0
tmpfs /run/user/1000 tmpfs rw.seclabel.nosuid.nodev.relatime.size=399728k.nr inodes=99932.mode=700.uid=1000.gid=1000.jnode64 0 0
oortal /run/user/1000/doc fuse.portal rw.nosuid.nodev.relatime.user_id=1000.group_id=1000 0 0
tmpfs /run/user/0 tmpfs rw.seclabel.nosuid.nodev.relatime.size=399728k.nr inodes=99932.mode=700.inode64 0 0
[root@momusa ~1# mount
/dev/vda3 on / type btrfs (rw.relatime.seclabel.compress=zstd:1.discard=async.space cache=v2.subvolid=257.subvol=/root)
devtmpfs on /dev type devtmpfs (rw.nosuid.seclabel.size=4096k.nr inodes=494940.mode=755.inode64)
tmpfs on /dev/shm type tmpfs (rw.nosuid.nodev.seclabel.inode64)
devpts on /dev/pts type devpts (rw.nosuid.noexec.relatime.seclabel.qid=5.mode=620.ptmxmode=000)
sysfs on /sys type sysfs (rw,nosuid,nodev,noexec,relatime,seclabel)
securityfs on /sys/kernel/security type securityfs (rw,nosuid,nodev,noexec,relatime)
cgroup2 on /sys/fs/cgroup type cgroup2 (rw.nosuid.nodev.noexec.relatime.seclabel.nsdelegate.memory recursiveprot)
ostore on /sys/fs/pstore type pstore (rw.nosuid.nodev.noexec.relatime.seclabel)
opf on /svs/fs/bpf type bpf (rw.nosuid.nodev.noexec.relatime.mode=700)
configfs on /sys/kernel/config type configfs (rw,nosuid,nodev,noexec,relatime)
proc on /proc type proc (rw,nosuid,nodev,noexec,relatime)
tmpfs on /run type tmpfs (rw.nosuid.nodev.seclabel.size=799464k.nr inodes=819200.mode=755,inode64)
selinuxfs on /sys/fs/selinux type selinuxfs (rw,nosuid,noexec,relatime)
systemd-1 on /proc/sys/fs/binfmt misc type autofs (rw.relatime.fd=37.pgrp=1.timeout=0.minproto=5.maxproto=5.direct.pipe ino=4622)
nugetlbfs on /dev/hugepages type hugetlbfs (rw.nosuid.nodev.relatime.seclabel.pagesize=2M)
tracefs on /sys/kernel/tracing type tracefs (rw.nosuid.nodev.noexec.relatime.seclabel)
debugfs on /sys/kernel/debug type debugfs (rw,nosuid,nodev,noexec,relatime,seclabel)
ngueue on /dev/mgueue type mgueue (rw.nosuid.nodev.noexec.relatime.seclabel)
tmpfs on /run/credentials/systemd-journald.service type tmpfs (ro,nosuid,nodev,noexec,relatime,nosymfollow,seclabel,size=1024k,nr inodes=1024,mode=700,inode64,noswap)
fusectl on /sys/fs/fuse/connections type fusectl (rw,nosuid,nodev,noexec,relatime)
tmpfs on /tmp type tmpfs (rw.nosuid.nodev.seclabel.size=1998656k.nr inodes=1048576.inode64)
/dev/vda3 on /home type btrfs (rw,relatime,seclabel,compress=zstd:1,discard=async,space_cache=v2,subvolid=256,subvol=/home)
/dev/vda2 on /boot type ext4 (rw,relatime,seclabel)
tmpfs on /run/credentials/systemd-resolved.service type tmpfs (ro,nosuid,nodev,noexec,relatime,nosymfollow,seclabel,size=1024k,nr_inodes=1024,mode=700,inode64,noswap)
sunrpc on /var/lib/nfs/rpc pipefs type rpc pipefs (rw.relatime)
tmpfs on /run/user/1000 type tmpfs (rw,nosuid,nodev,relatime,seclabel,size=399728k,nr_inodes=99932,mode=700,uid=1000,qid=1000,inode64)
portal on /run/user/1000/doc type fuse.portal (rw,nosuid,nodev,relatime,user id=1000,group id=1000)
tmpfs on /run/user/0 type tmpfs (rw,nosuid,nodev,relatime,seclabel,size=399728k,nr_inodes=99932,mode=700,inode64)
[root@momusa ~]# dmesg grep -i "mounted"
Try 'dmesq --help' for more information.
[root@momusa ~]# dmesg | grep -i "mounted"
    4.483415] systemd[1]: Mounted dev-hugepages.mount - Huge Pages File System.
    4.483681] systemd[1]: Mounted dev-mqueue.mount - POSIX Message Queue File System.
    4.483893] systemd[1]: Mounted sys-kernel-debug.mount - Kernel Debug File System.
    4.4841381 systemd[1]: Mounted sys-kernel-tracing mount - Kernel Trace File System.
    5.555577] EXT4-fs (vda2): mounted filesystem 0b959183-a56d-49cf-bc9a-584c59b3eff3 r/w with ordered data mode. Quota mode: none.
[root@momusa ~]# exit
```