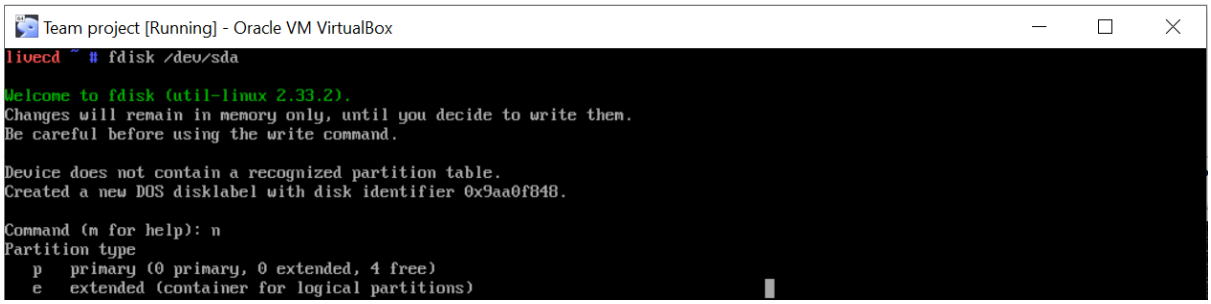
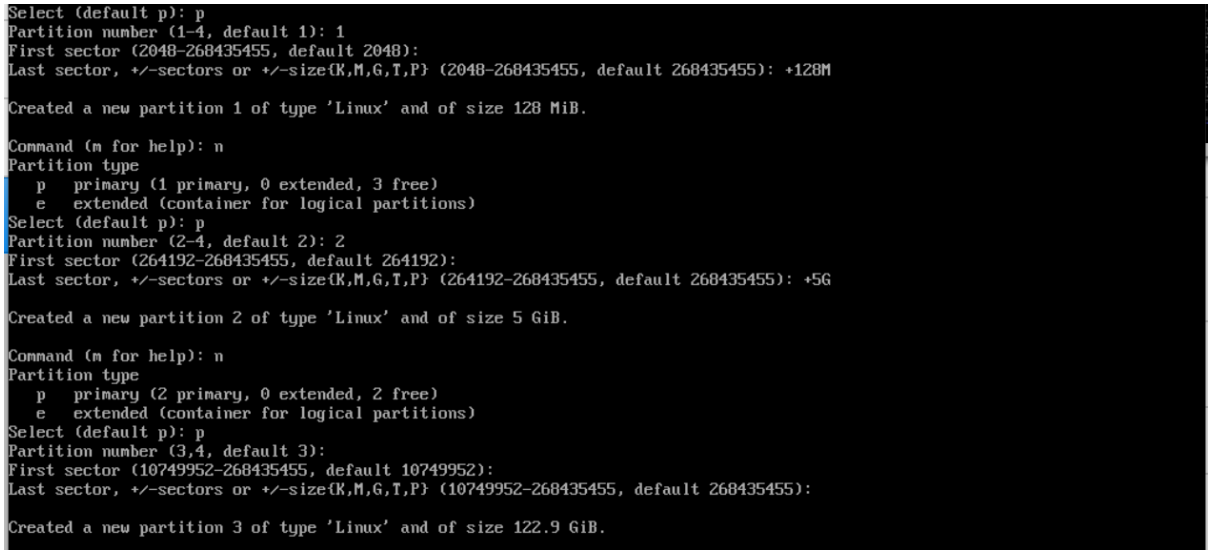
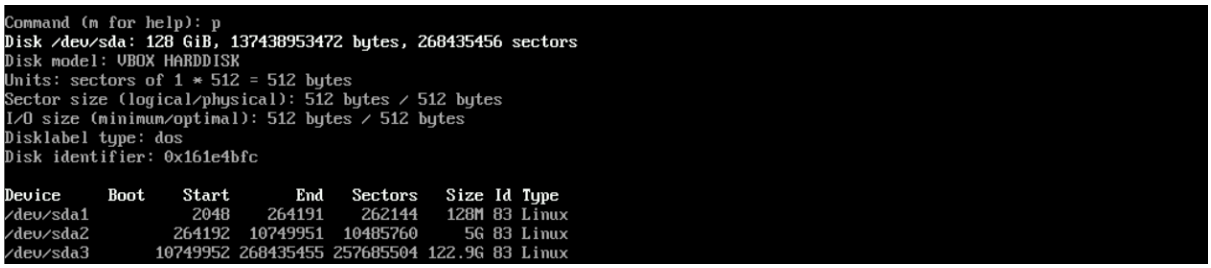
1.


Team project [Running] - Oracle VM VirtualBox
livecd ~ # fdisk /dev/sda
Welcome to fdisk (util-linux 2.33.2).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.
Device does not contain a recognized partition table.
Created a new DOS disklabel with disk identifier 0x9aa0f848.
Command (m for help): n
Partition type
p primary (0 primary, 0 extended, 4 free)
e extended (container for logical partitions)

2.


Select (default p): p
Partition number (1-4, default 1): 1
First sector (2048-268435455, default 2048):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (2048-268435455, default 268435455): +128M
Created a new partition 1 of type 'Linux' and of size 128 MiB.
Command (m for help): n
Partition type
p primary (1 primary, 0 extended, 3 free)
e extended (container for logical partitions)
Select (default p): p
Partition number (2-4, default 2): 2
First sector (264192-268435455, default 264192):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (264192-268435455, default 268435455): +5G
Created a new partition 2 of type 'Linux' and of size 5 GiB.
Command (m for help): n
Partition type
p primary (2 primary, 0 extended, 2 free)
e extended (container for logical partitions)
Select (default p): p
Partition number (3,4, default 3):
First sector (10749952-268435455, default 10749952):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (10749952-268435455, default 268435455):
Created a new partition 3 of type 'Linux' and of size 122.9 GiB.

3.


Command (m for help): p
Disk /dev/sda: 128 GiB, 137438953472 bytes, 268435456 sectors
Disk model: VBOX HARDDISK
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0x161e4bfc
Device Boot Start End Sectors Size Id Type
/dev/sda1 2048 264191 262144 128M 83 Linux
/dev/sda2 264192 10749951 10485760 5G 83 Linux
/dev/sda3 10749952 268435455 257685504 122.9G 83 Linux

4.

```
Command (m for help): t
Partition number (1-3, default 3): 2
Hex code (type L to list all codes): L

 0  Empty           24  NEC DOS         81  Minix / old Lin bf  Solaris
 1  FAT12           27  Hidden NTFS Win 82  Linux swap / So c1  DRDOS/sec (FAT-
 2  XENIX root      39  Plan 9          83  Linux           c4  DRDOS/sec (FAT-
 3  XENIX usr       3c  PartitionMagic  84  OS/2 hidden or  c6  DRDOS/sec (FAT-
 4  FAT16 <32M      40  Venix 80286     85  Linux extended  c7  Syrinx
 5  Extended        41  PPC PReP Boot   86  NTFS volume set da  Non-FS data
 6  FAT16           42  SFS             87  NTFS volume set db  CP/M / CTOS / .
 7  HPFS/NTFS/exFAT 4d  QNX4.x          88  Linux plaintext de  Dell Utility
 8  AIX             4e  QNX4.x 2nd part 8e  Linux LVM       df  BootIt
 9  AIX bootable    4f  QNX4.x 3rd part 93  Amoeba          e1  DOS access
 a  OS/2 Boot Manag 50  OnTrack DM      94  Amoeba BBT      e3  DOS R/O
 b  W95 FAT32       51  OnTrack DM6 Aux 9f  BSD/OS          e4  SpeedStor
 c  W95 FAT32 (LBA) 52  CP/M            a0  IBM Thinkpad hi ea  Rufus alignment
 e  W95 FAT16 (LBA) 53  OnTrack DM6 Aux a5  FreeBSD         eb  BeOS fs
 f  W95 Ext'd (LBA) 54  OnTrackDM6      a6  OpenBSD         ee  GPT
10  OPUS            55  EZ-Drive        a7  NeXTSTEP        ef  EFI (FAT-12/16/
11  Hidden FAT12    56  Golden Bow      a8  Darwin UFS      f0  Linux/PA-RISC b
12  Compaq diagnost 5c  Priam Edisk     a9  NetBSD          f1  SpeedStor
14  Hidden FAT16 <3 61  SpeedStor       ab  Darwin boot     f4  SpeedStor
16  Hidden FAT16    63  GNU HURD or Sys af  HFS / HFS+      f2  DOS secondary
17  Hidden HPFS/NTF 64  Novell Netware  b7  BSDI fs         fb  VMware VMFS
18  AST SmartSleep  65  Novell Netware  b8  BSDI swap       fc  VMware VMKCORE
1b  Hidden W95 FAT3 70  DiskSecure Mult bb  Boot Wizard hid fd  Linux raid auto
1c  Hidden W95 FAT3 75  PC/IX           bc  Acronis FAT32 L fe  LANstep
1e  Hidden W95 FAT1 80  Old Minix       be  Solaris boot    ff  BBT
Hex code (type L to list all codes):
```

5.

```
Hex code (type L to list all codes): 82

Changed type of partition 'Linux' to 'Linux swap / Solaris'.

Command (m for help): p
Disk /dev/sda: 128 GiB, 137438953472 bytes, 268435456 sectors
Disk model: VBOX HARDDISK
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0x161e4bfc

Device     Boot    Start       End   Sectors   Size Id Type
/dev/sda1          2048    264191    262144   128M 83 Linux
/dev/sda2        264192  10749951  10485760     5G 82 Linux swap / Solaris
/dev/sda3      10749952 268435455 257685504 122.9G 83 Linux
```

6.

```
Command (m for help): t
Partition number (1-3, default 3): 1
Hex code (type L to list all codes): 83

Changed type of partition 'Linux' to 'Linux'.

Command (m for help): p
Disk /dev/sda: 128 GiB, 137438953472 bytes, 268435456 sectors
Disk model: VBOX HARDDISK
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0x161e4bfc

Device     Boot    Start       End   Sectors   Size Id Type
/dev/sda1          2048    264191    262144   128M 83 Linux
/dev/sda2        264192  10749951  10485760     5G 82 Linux swap / Solaris
/dev/sda3      10749952 268435455 257685504 122.9G 83 Linux
```

7.

```
Command (m for help): a
Partition number (1-3, default 3): 1

The bootable flag on partition 1 is enabled now.

Command (m for help): p
Disk /dev/sda: 128 GiB, 137438953472 bytes, 268435456 sectors
Disk model: VBOX HARDDISK
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0x161e4bfc

Device     Boot    Start       End   Sectors   Size Id Type
/dev/sda1  *        2048    264191    262144   128M 83 Linux
/dev/sda2         264192  10749951  10485760     5G 82 Linux swap / Solaris
/dev/sda3       10749952 268435455 257685504 122.9G 83 Linux
```

8.

```
Command (m for help): w
The partition table has been altered.
Calling ioctl() to re-read partition table.
Syncing disks.

livecd ~ # mkfs.ext2 /dev/sda1
mke2fs 1.45.4 (23-Sep-2019)
Creating filesystem with 131072 1k blocks and 32768 inodes
Filesystem UUID: 72688858-ddf3-41cf-b706-36fac7de99cd
Superblock backups stored on blocks:
        8193, 24577, 40961, 57345, 73729

Allocating group tables: done
Writing inode tables: done
Writing superblocks and filesystem accounting information: done
```

9.

```
livecd ~ # mkswap /dev/sda2
Setting up swapspace version 1, size = 5 GiB (5368705024 bytes)
no label, UUID=1699b989-dc69-4484-af2a-59e4009b133b
```

10.

```
livecd ~ # cryptsetup -s 512 luksFormat /dev/sda3

WARNING!
========
This will overwrite data on /dev/sda3 irrevocably.

Are you sure? (Type uppercase yes): YES
Enter passphrase for /dev/sda3:
Verify passphrase:
```

11.

```
livecd ~ # cryptsetup luksOpen /dev/sda3 root
Enter passphrase for /dev/sda3:
No key available with this passphrase.
Enter passphrase for /dev/sda3:
```

12.

```
livecd ~ # mount /dev/mapper/root /mnt/gentoo/
NTFS signature is missing.
Failed to mount '/dev/mapper/root': Invalid argument
The device '/dev/mapper/root' doesn't seem to have a valid NTFS.
Maybe the wrong device is used? Or the whole disk instead of a
partition (e.g. /dev/sda, not /dev/sda1)? Or the other way around?
```

13.

```
livecd ~ # mkfs.ext4 /dev/mapper/root
mke2fs 1.45.4 (23-Sep-2019)
Creating filesystem with 32210176 4k blocks and 8052736 inodes
Filesystem UUID: 32c6f6f2-1d31-49c6-9c31-f21b89b6417f
Superblock backups stored on blocks:
        32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208,
        4096000, 7962624, 11239424, 20480000, 23887872

Allocating group tables: done
Writing inode tables: done
Creating journal (131072 blocks): done
Writing superblocks and filesystem accounting information: done
```

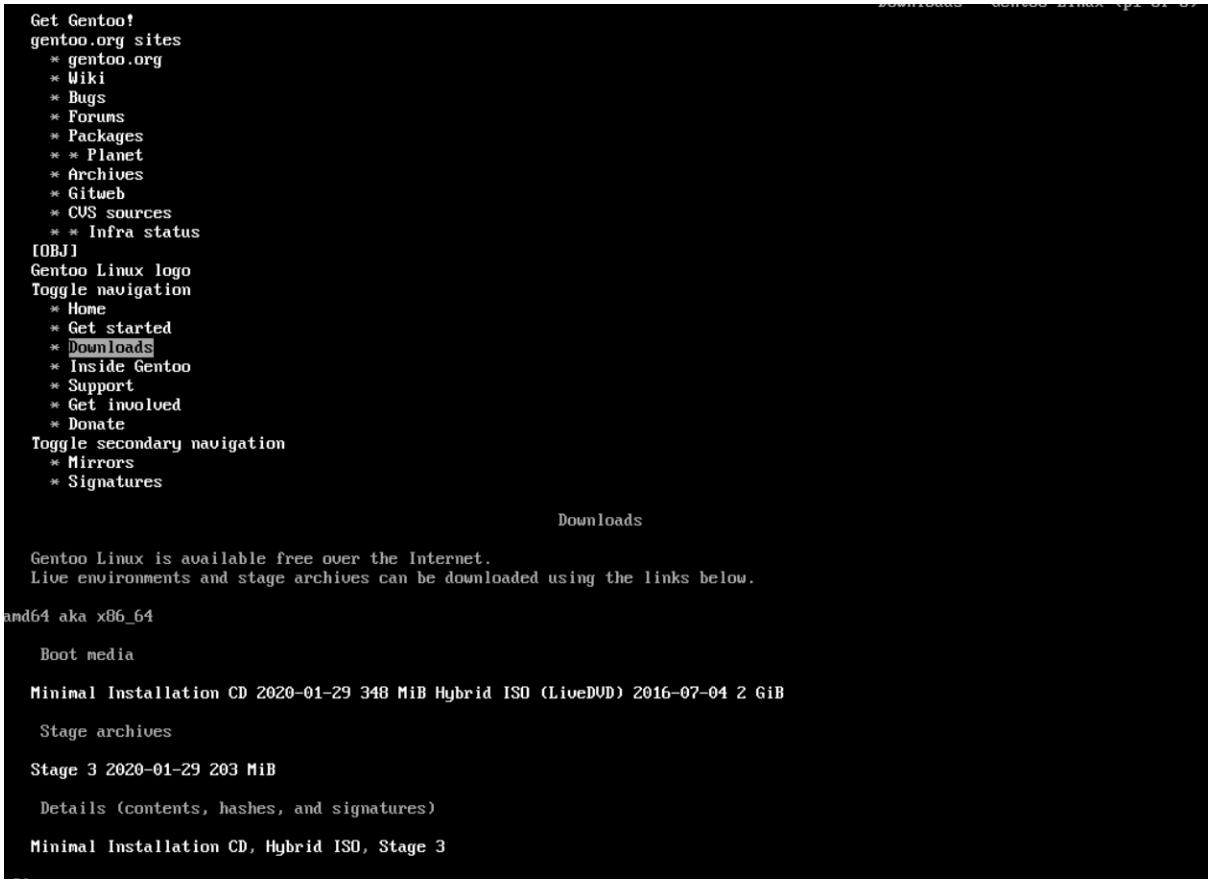
14.

```
livecd ~ # mount /dev/mapper/root /mnt/gentoo/
livecd ~ # cd //mnt/gentoo/
```

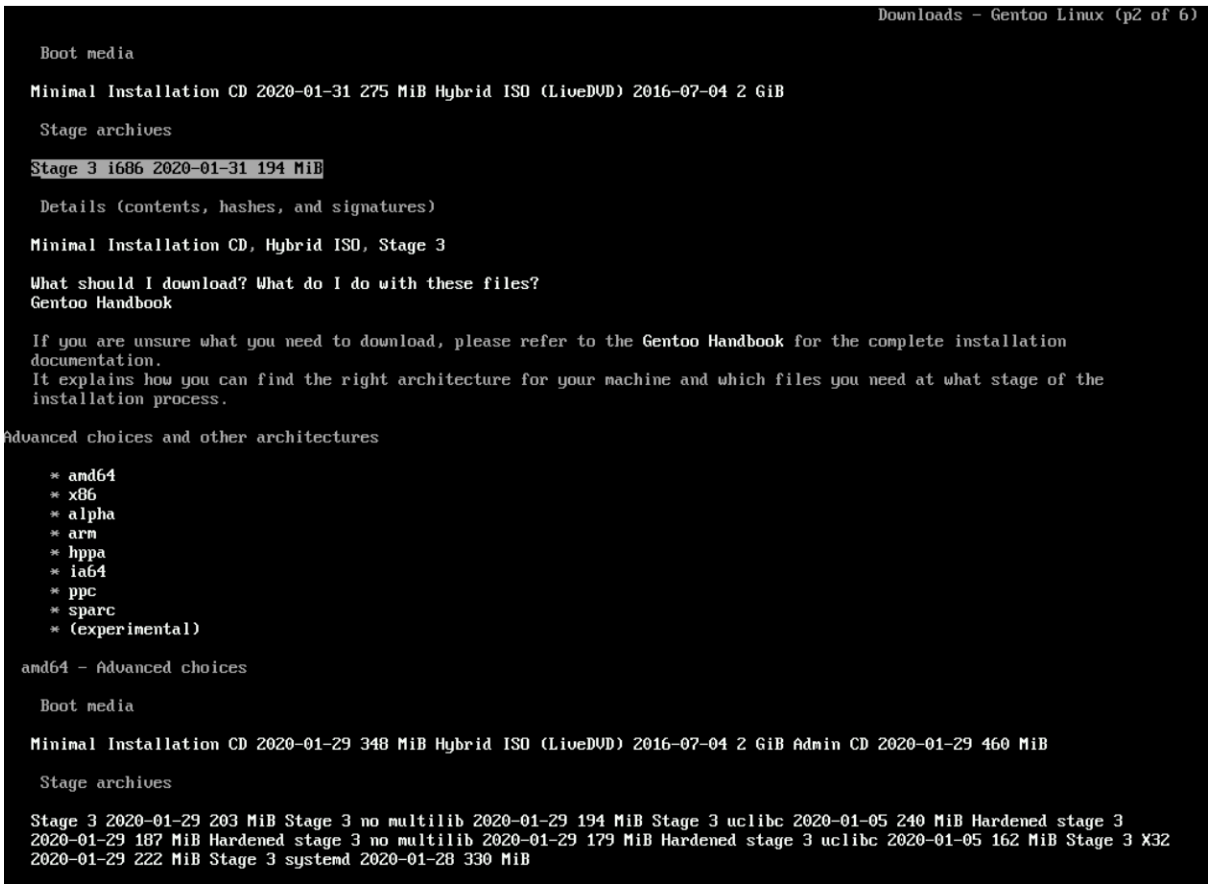
15.

```
  Get Gentoo!
  gentoo.org sites
    * gentoo.org
    * Wiki
    * Bugs
    * Forums
    * Packages
    * * Planet
    * Archives
    * Gitweb
    * CVS sources
    * * Infra status
  [OBJ]
  Gentoo Linux logo
  Toggle navigation
    * Home
    * Get started
    *
    *    +----------------------------------------------------Welcome----------------------------------------------------+
    *    |                                                                                                               |
    *    |                                          Welcome to links!                                                    |
    *    |                                                                                                               |
    *    |  To display menu, press ESC or click on the top line in window. Select Help->Manual in menu for user's       |
  Welc   |                                                manual.                                                        |
    *    |                                                                                                               |
  Lear   |                                             [ OK ]                                                            |
    *    +---------------------------------------------------------------------------------------------------------------+
OSDEM

  FOSDEM logo

  It's FOSDEM time again! Join us at Universite libre de Bruxelles, Campus du Solbosch, in Brussels, Belgium. This year's
  FOSDEM 2020 will be held on February 1st and 2nd.

  Our developers will be happy to greet all open source enthusiasts at our Gentoo stand in building K where we will also
  celebrate 20 years compiling! Visit this year's wiki page to see who's coming.

Arch64 (arm64) profiles are now stable! (Aug 11, 2019)

  Packet.com logo

  The ARM64 project is pleased to announce that all ARM64 profiles are now stable.

  While our developers and users have contributed significantly in this accomplishment, we must also thank our Packet
  sponsor for their contribution. Providing the Gentoo developer community with access to bare metal hardware has
```

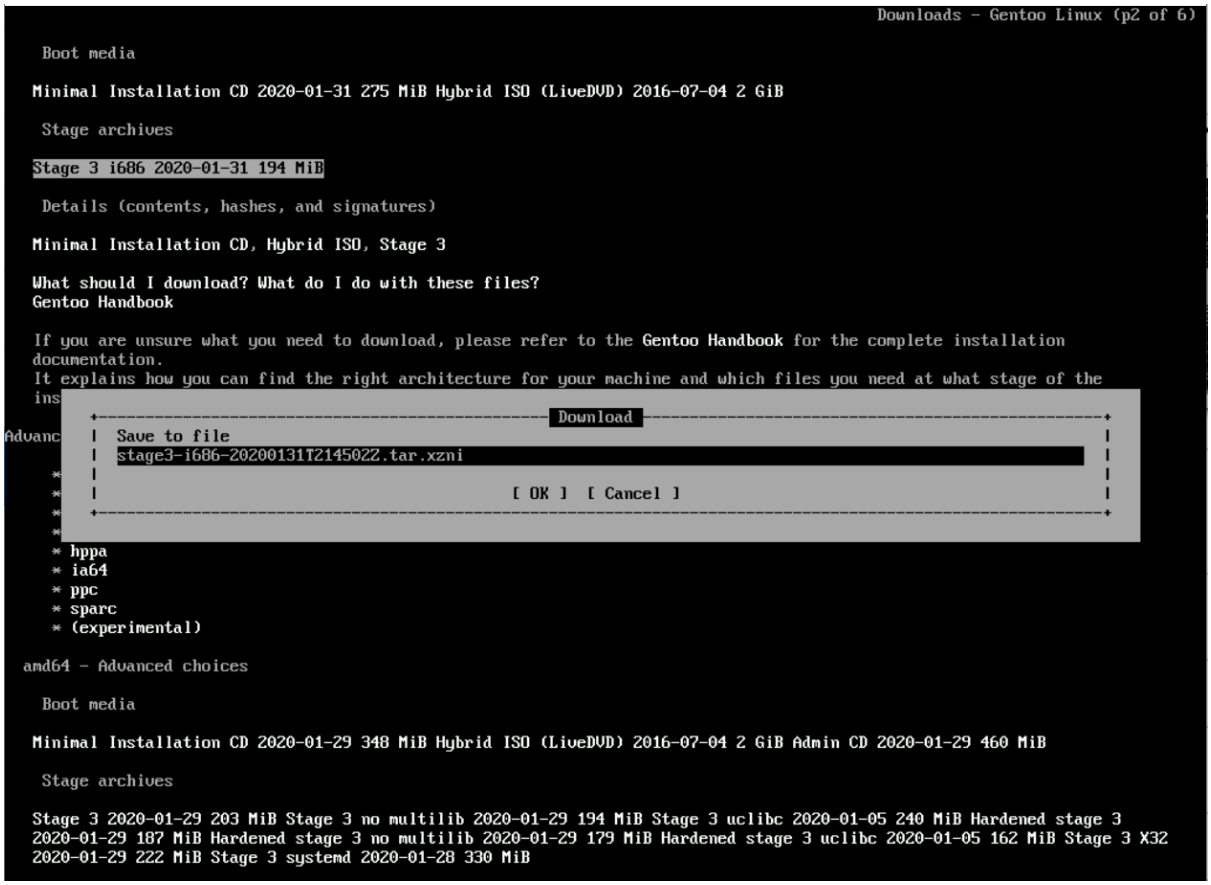
16.


Get Gentoo!
gentoo.org sites
* gentoo.org
* Wiki
* Bugs
* Forums
* Packages
* * Planet
* Archives
* Gitweb
* CVS sources
* * Infra status
[OBJ]
Gentoo Linux logo
Toggle navigation
* Home
* Get started
* Downloads
* Inside Gentoo
* Support
* Get involved
* Donate
Toggle secondary navigation
* Mirrors
* Signatures
Downloads
Gentoo Linux is available free over the Internet.
Live environments and stage archives can be downloaded using the links below.
amd64 aka x86_64
Boot media
Minimal Installation CD 2020-01-29 348 MiB Hybrid ISO (LiveDVD) 2016-07-04 2 GiB
Stage archives
Stage 3 2020-01-29 203 MiB
Details (contents, hashes, and signatures)
Minimal Installation CD, Hybrid ISO, Stage 3

17.


Downloads - Gentoo Linux (p2 of 6)
Boot media
Minimal Installation CD 2020-01-31 275 MiB Hybrid ISO (LiveDVD) 2016-07-04 2 GiB
Stage archives
Stage 3 i686 2020-01-31 194 MiB
Details (contents, hashes, and signatures)
Minimal Installation CD, Hybrid ISO, Stage 3
What should I download? What do I do with these files?
Gentoo Handbook
If you are unsure what you need to download, please refer to the Gentoo Handbook for the complete installation documentation.
It explains how you can find the right architecture for your machine and which files you need at what stage of the installation process.
Advanced choices and other architectures
* amd64
* x86
* alpha
* arm
* hppa
* ia64
* ppc
* sparc
* (experimental)
amd64 - Advanced choices
Boot media
Minimal Installation CD 2020-01-29 348 MiB Hybrid ISO (LiveDVD) 2016-07-04 2 GiB Admin CD 2020-01-29 460 MiB
Stage archives
Stage 3 2020-01-29 203 MiB Stage 3 no multilib 2020-01-29 194 MiB Stage 3 uclibc 2020-01-05 240 MiB Hardened stage 3 2020-01-29 187 MiB Hardened stage 3 no multilib 2020-01-29 179 MiB Hardened stage 3 uclibc 2020-01-05 162 MiB Stage 3 X32 2020-01-29 222 MiB Stage 3 systemd 2020-01-28 330 MiB

18.


Downloads - Gentoo Linux (p2 of 6)
Boot media
Minimal Installation CD 2020-01-31 275 MiB Hybrid ISO (LiveDVD) 2016-07-04 2 GiB
Stage archives
Stage 3 i686 2020-01-31 194 MiB
Details (contents, hashes, and signatures)
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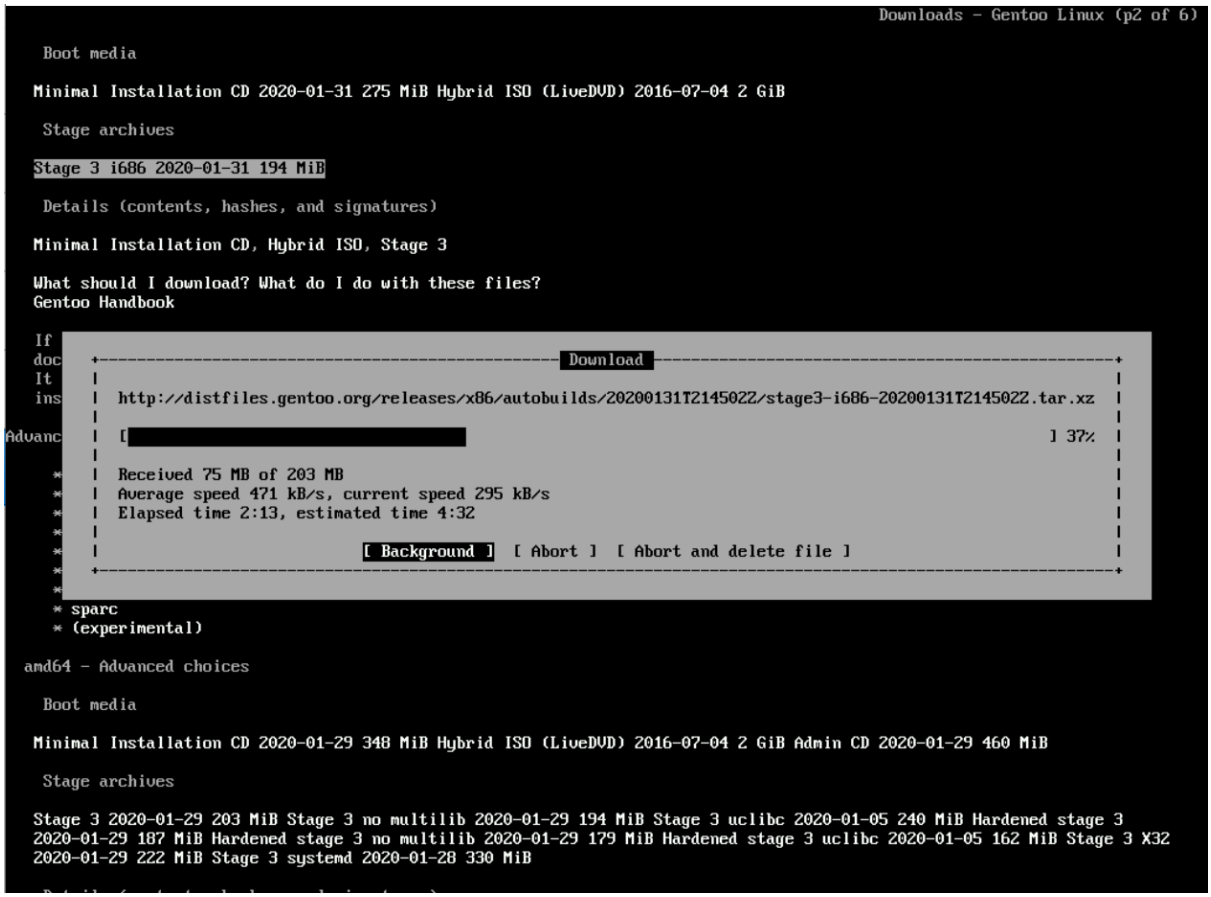
What should I download? What do I do with these files?
Gentoo Handbook
If you are unsure what you need to download, please refer to the Gentoo Handbook for the complete installation documentation.
It explains how you can find the right architecture for your machine and which files you need at what stage of the
Download
Save to file
stage3-i686-20200131T214502Z.tar.xzni
[OK] [Cancel]
* hppa
* ia64
* ppc
* sparc
* (experimental)
amd64 - Advanced choices
Boot media
Minimal Installation CD 2020-01-29 348 MiB Hybrid ISO (LiveDVD) 2016-07-04 2 GiB Admin CD 2020-01-29 460 MiB
Stage archives
Stage 3 2020-01-29 203 MiB Stage 3 no multilib 2020-01-29 194 MiB Stage 3 uclibc 2020-01-05 240 MiB Hardened stage 3 2020-01-29 187 MiB Hardened stage 3 no multilib 2020-01-29 179 MiB Hardened stage 3 uclibc 2020-01-05 162 MiB Stage 3 X32 2020-01-29 222 MiB Stage 3 systemd 2020-01-28 330 MiB

19.



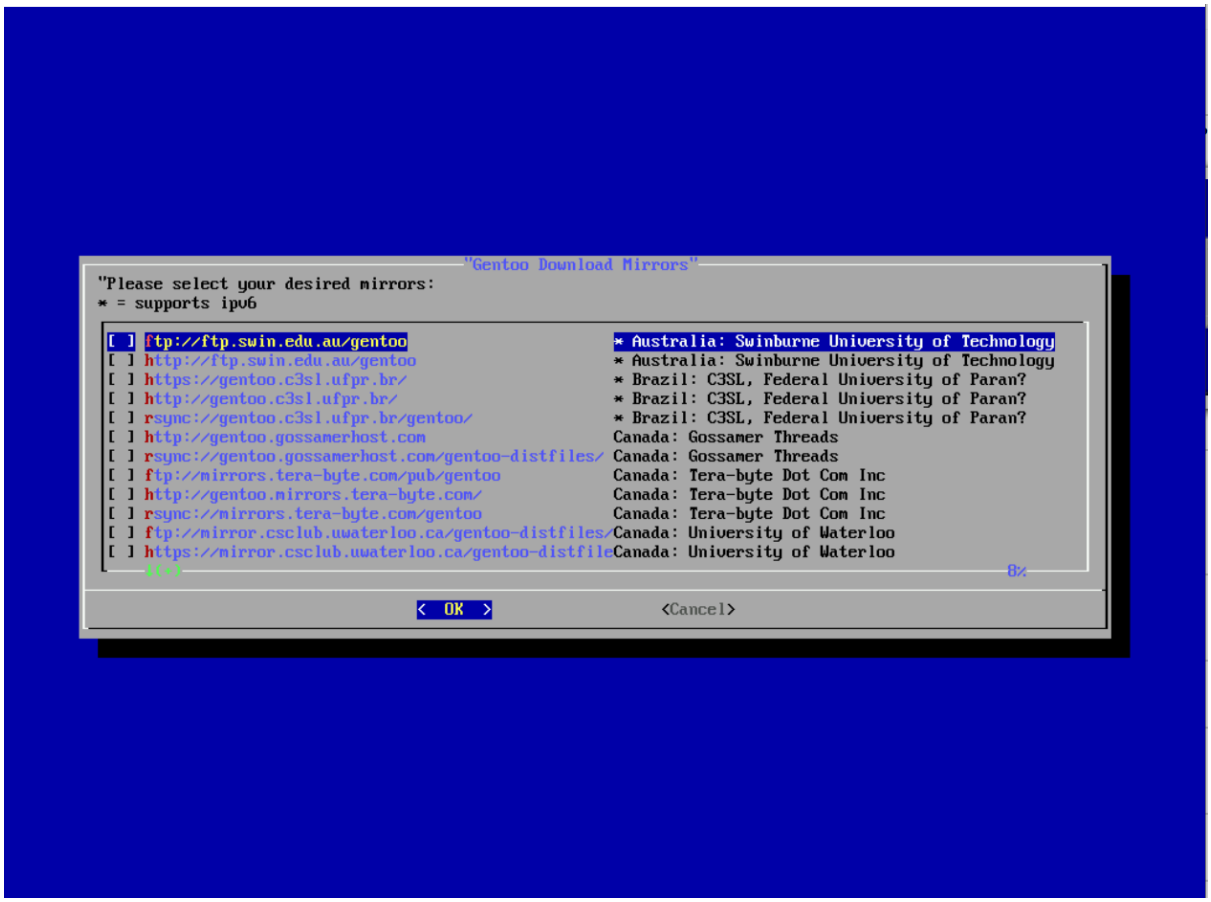
20.

```
livecd /mnt/gentoo # ls
lost+found  stage3-amd64-20200129T214502Z.tar.xz  stage3-i686-20200131T214502Z.tar.xz  stage3-i686-20200131T214502Z.tar.xzni
livecd /mnt/gentoo # tar xpf  stage3-amd64-20200129T214502Z.tar.xz
```

21.

```
livecd /mnt/gentoo # mkdir /mnt/gentoo/etc/portage/repos.conf
livecd /mnt/gentoo # cp /mnt/gentoo/usr/share/portage/config/repos.conf /mnt/gentoo/etc/portage/repos.conf/gentoo.conf
```

22.



23.

```
livecd /mnt/gentoo # cp /etc/resolv.conf /mnt/gentoo/etc/
livecd /mnt/gentoo # mount --types proc /proc /mnt/gentoo/proc
livecd /mnt/gentoo # mount --rbind /sys /mnt/gentoo/sys
livecd /mnt/gentoo # mount --make-rslave /mnt/gentoo/sys
livecd /mnt/gentoo # mount --rbind /dev /mnt/gentoo/dev/
livecd /mnt/gentoo # mount --rbind /dev /mnt/gentoo/dev
livecd /mnt/gentoo # mount --make-rslave /mnt/gentoo/dev
livecd /mnt/gentoo # chroot /mnt/gentoo /bin/bash
livecd / # source /etc/profile
livecd / # mount /dev/sda1 /boot
livecd / # emerge-webrsync
!!! Section 'gentoo' in repos.conf has location attribute set to nonexistent directory: '/var/db/repos/gentoo'
!!! Invalid Repository Location (not a dir): '/var/db/repos/gentoo'
Fetching most recent snapshot ...
Trying to retrieve 20200201 snapshot from http://distfiles.gentoo.org ...
Fetching file gentoo-20200201.tar.xz.md5sum ...
Fetching file gentoo-20200201.tar.xz.gpgsig ...
Fetching file gentoo-20200201.tar.xz ...
```

24.

```
livecd / # echo "Europe/Paris" > /etc/timezone
livecd / # emerge --config timezone-data


Configuring pkg...

 * Updating /etc/localtime with /usr/share/zoneinfo/Europe/Paris
```

25.

```
# Where <charset> is a charset located in /usr/share/i18n/charmaps/ (sans any
# suffix like ".gz").
#
# All blank lines and lines starting with # are ignored.
#
# For the default list of supported combinations, see the file:
# /usr/share/i18n/SUPPORTED
#
# Whenever glibc is emerged, the locales listed here will be automatically
# rebuilt for you.  After updating this file, you can simply run `locale-gen`
# yourself instead of re-emerging glibc.

en_US ISO-8859-1
en_US.UTF-8 UTF-8
#ja_JP.EUC-JP EUC-JP
#ja_JP.UTF-8 UTF-8
#ja_JP EUC-JP
#en_HK ISO-8859-1
#en_PH ISO-8859-1
#de_DE ISO-8859-1
#de_DE@euro ISO-8859-15
#es_MX ISO-8859-1
#fa_IR UTF-8
#fr_FR ISO-8859-1
#fr_FR@euro ISO-8859-15
#it_IT ISO-8859-1
```

26.

```
livecd / # locale-gen
 * Generating 3 locales (this might take a while) with 1 jobs
 *  (1/3) Generating en_US.ISO-8859-1 ...                                  [ ok ]
 *  (2/3) Generating en_US.UTF-8 ...                                       [ ok ]
 *  (3/3) Generating C.UTF-8 ...                                           [ ok ]
 * Generation complete
 * Adding locales to archive ...                                           [ ok ]
```

27.

```
livecd / # eselect locale list
Available targets for the LANG variable:
  [1]   C
  [2]   C.utf8
  [3]   POSIX
  [4]   en_US
  [5]   en_US.iso88591
  [6]   en_US.utf8
  [ ]   (free form)
```

28.

```
livecd / # eselect locale set en_US.utf8
Setting LANG to en_US.utf8 ...
Run ". /etc/profile" to update the variable in your shell.
```

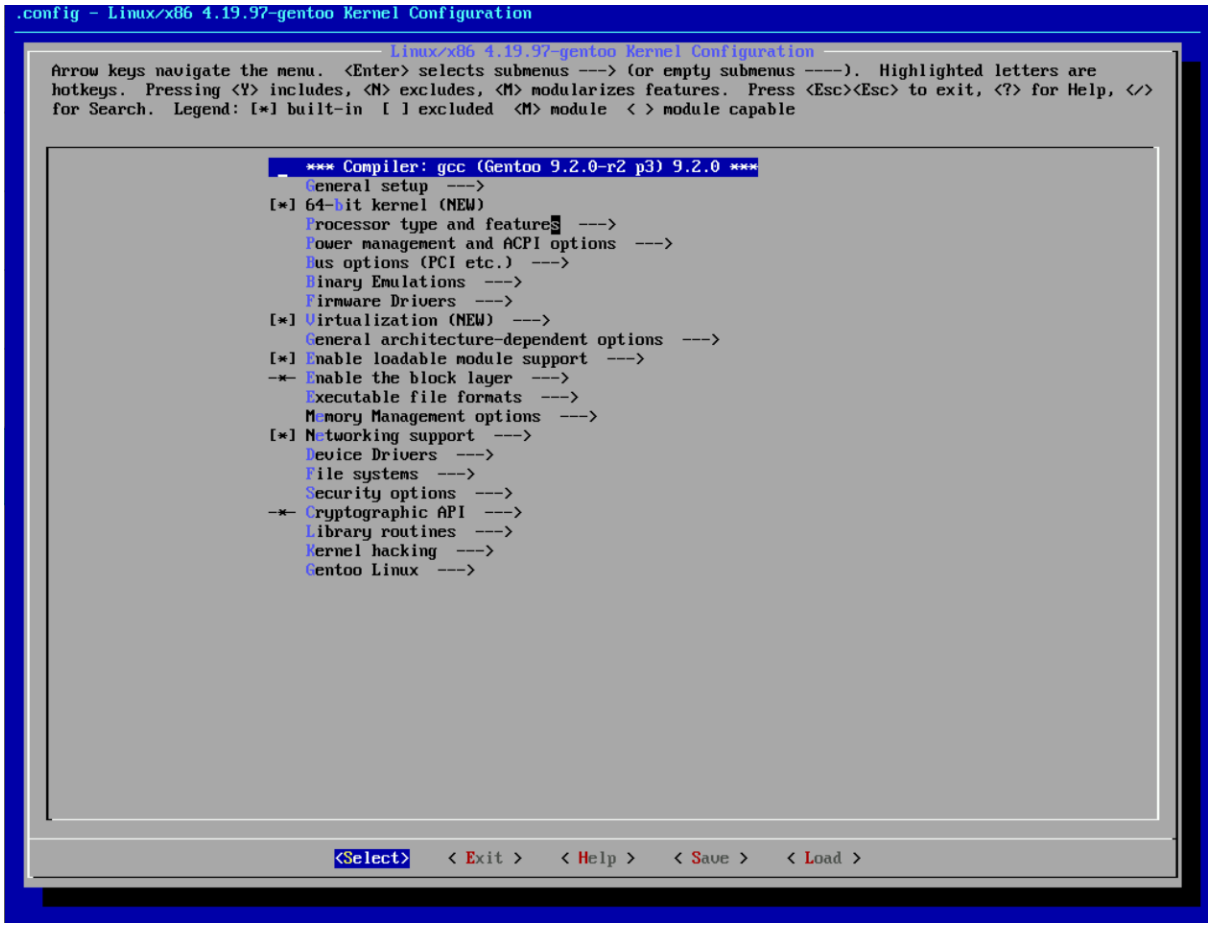
29.

```
livecd / # env-update && source /etc/profile
>>> Regenerating /etc/ld.so.cache...
```

30.

```
livecd / # emerge gentoo-sources

 * IMPORTANT: 4 news items need reading for repository 'gentoo'.
 * Use eselect news read to view new items.

Calculating dependencies... done!

>>> Verifying ebuild manifests

>>> Emerging (1 of 4) dev-libs/elfutils-0.177::gentoo
 * Fetching files in the background.
 * To view fetch progress, run in another terminal:
 * tail -f /var/log/emerge-fetch.log
```

31.


.config - Linux/x86 4.19.97-gentoo Kernel Configuration
Linux/x86 4.19.97-gentoo Kernel Configuration
Arrow keys navigate the menu. <Enter> selects submenus ---> (or empty submenus ----). Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes, <M> modularizes features. Press <Esc><Esc> to exit, <?> for Help, </> for Search. Legend: [*] built-in [ ] excluded <M> module < > module capable
*** Compiler: gcc (Gentoo 9.2.0-r2 p3) 9.2.0 ***
General setup --->
[*] 64-bit kernel (NEW)
Processor type and features --->
Power management and ACPI options --->
Bus options (PCI etc.) --->
Binary Emulations --->
Firmware Drivers --->
[*] Virtualization (NEW) --->
General architecture-dependent options --->
[*] Enable loadable module support --->
-*- Enable the block layer --->
Executable file formats --->
Memory Management options --->
[*] Networking support --->
Device Drivers --->
File systems --->
Security options --->
-*- Cryptographic API --->
Library routines --->
Kernel hacking --->
Gentoo Linux --->
<Select> < Exit > < Help > < Save > < Load >

32.


livecd /usr/src/linux # make

33.


livecd /usr/src/linux # make modules
CALL scripts/checksyscalls.sh
DESCEND objtool
Building modules, stage 2.
MODPOST 19 modules

34.

```
livecd /usr/src/linux # make modules_install
  INSTALL drivers/i2c/busses/i2c-piix4.ko
  INSTALL drivers/thermal/x86_pkg_temp_thermal.ko
  INSTALL drivers/virt/vboxguest/vboxguest.ko
  INSTALL fs/efivarfs/efivarfs.ko
  INSTALL net/ipv4/netfilter/ipt_MASQUERADE.ko
  INSTALL net/ipv4/netfilter/iptable_nat.ko
  INSTALL net/ipv4/netfilter/nf_log_arp.ko
  INSTALL net/ipv4/netfilter/nf_log_ipv4.ko
  INSTALL net/ipv4/netfilter/nf_nat_ipv4.ko
  INSTALL net/ipv6/netfilter/nf_log_ipv6.ko
  INSTALL net/netfilter/nf_log_common.ko
  INSTALL net/netfilter/nf_nat.ko
  INSTALL net/netfilter/nf_nat_ftp.ko
  INSTALL net/netfilter/nf_nat_irc.ko
  INSTALL net/netfilter/nf_nat_sip.ko
  INSTALL net/netfilter/xt_LOG.ko
  INSTALL net/netfilter/xt_addrtype.ko
  INSTALL net/netfilter/xt_mark.ko
  INSTALL net/netfilter/xt_nat.ko
  DEPMOD  4.19.97-gentoo
```

35.

```
livecd /usr/src/linux # make install
sh ./arch/x86/boot/install.sh 4.19.97-gentoo arch/x86/boot/bzImage \
        System.map "/boot"
```

36.

```
  GNU nano 4.6                                  /etc/portage/make.conf
# These settings were set by the catalyst build script that automatically
# built this stage.
# Please consult /usr/share/portage/config/make.conf.example for a more
# detailed example.
COMMON_FLAGS="-O2 -pipe"
CFLAGS="${COMMON_FLAGS}"
CXXFLAGS="${COMMON_FLAGS}"
FCFLAGS="${COMMON_FLAGS}"
FFLAGS="${COMMON_FLAGS}"

# NOTE: This stage was built with the bindist Use flag enabled
PORTDIR="/var/db/repos/gentoo"
DISTDIR="/var/cache/distfiles"
PKGDIR="/var/cache/binpkgs"

# This sets the language of build output to English.
# Please keep this setting intact when reporting bugs.
LC_MESSAGES=C
```

37.

```
livecd /usr/src/linux # emerge --autounmask-write genkernel

 * IMPORTANT: 4 news items need reading for repository 'gentoo'.
 * Use eselect news read to view new items.

Calculating dependencies... done!
[ebuild  N     ] app-arch/cpio-2.12-r1  USE="nls"
[ebuild  N     ] sys-devel/autoconf-archive-2018.03.13
[ebuild  N     ] sys-kernel/linux-firmware-20200122  USE="redistributable -initramfs -savedconfig (-unknown-license)"
[ebuild  N     ] sys-kernel/genkernel-4.0.2  USE="firmware (-ibm)"

The following license changes are necessary to proceed:
 (see "package.license" in the portage(5) man page for more details)
# required by sys-kernel/genkernel-4.0.2::gentoo[firmware]
# required by genkernel (argument)
=sys-kernel/linux-firmware-20200122 linux-fw-redistributable no-source-code

Autounmask changes successfully written.

 * IMPORTANT: config file '/etc/portage/package.license' needs updating.
 * See the CONFIGURATION FILES and CONFIGURATION FILES UPDATE TOOLS
 * sections of the emerge man page to learn how to update config files.
```

38.

```
--- /tmp/tmpBsx3ehbp/0  2020-02-02 15:56:42.770000000 +0100
+++ /etc/portage/._cfg0000_package.license      2020-02-02 15:54:20.810000000 +0100
@@ -1 +1,3 @@
-/dev/null
+# required by sys-kernel/genkernel-4.0.2::gentoo[firmware]
+# required by genkernel (argument)
+=sys-kernel/linux-firmware-20200122 linux-fw-redistributable no-source-code

>> (1 of 1) -- /etc/portage/package.license
>> q quit, h help, n next, e edit-new, z zap-new, u use-new
   m merge, t toggle-merge, l look-merge:
```

39.

```
livecd / # dispatch-conf
```

40.

```
livecd / # dispatch-conf
```

41.

```
livecd / # genkernel --luks --install initramfs
* Gentoo Linux Genkernel; Version 4.0.2
* Using genkernel configuration from '/etc/genkernel.conf' ...
* Running with options: --luks --install initramfs

* Working with Linux kernel 4.19.97-gentoo for x86_64
* Using kernel config file '/usr/share/genkernel/arch/x86_64/generated-config' ...

* Current kernel's LOCALVERSION is set to ''; Will ignore set --kernel-localversion value '-x86_64' because kernel was not build
 ...

* initramfs: >> Initializing ...
*         >> Appending devices cpio data ...
*         >> Appending base_layout cpio data ...
*         >> Appending auxilary cpio data ...
*         >> Appending blkid cpio data ...
```

42.

```
livecd / # nano /etc/fstab_
```

43.

```
# /etc/fstab: static file system information.
#
# noatime turns off atimes for increased performance (atimes normally aren't
# needed); notail increases performance of ReiserFS (at the expense of storage
# efficiency).  It's safe to drop the noatime options if you want and to
# switch between notail / tail freely.
#
# The root filesystem should have a pass number of either 0 or 1.
# All other filesystems should have a pass number of 0 or greater than 1.
#
# See the manpage fstab(5) for more information.
#

# <fs>                  <mountpoint>    <type>          <opts>          <dump/pass>

# NOTE: If your BOOT partition is ReiserFS, add the notail option to opts.
#
# NOTE: Even though we list ext4 as the type here, it will work with ext2/ext3
#       filesystems.  This just tells the kernel to use the ext4 driver.
#
# NOTE: You can use full paths to devices like /dev/sda3, but it is often
#       more reliable to use filesystem labels or UUIDs. See your filesystem
#       documentation for details on setting a label. To obtain the UUID, use
#       the blkid(8) command.

#LABEL=boot             /boot           ext4            noauto,noatime  1 2
#UUID=58e72203-57d1-4497-81ad-97655bd56494              /               ext4            noatime         0 1
#LABEL=swap             none            swap            sw              0 0
#/dev/cdrom             /mnt/cdrom      auto            noauto,ro       0 0
```

44.

```
livecd / # emerge grub

 * IMPORTANT: 5 news items need reading for repository 'gentoo'.
 * Use eselect news read to view new items.

Calculating dependencies... done!

>>> Verifying ebuild manifests

>>> Emerging (1 of 6) virtual/libudev-232-r3::gentoo
 * Fetching files in the background.
 * To view fetch progress, run in another terminal:
 * tail -f /var/log/emerge-fetch.log
>>> Unpacking source...
>>> Source unpacked in /var/tmp/portage/virtual/libudev-232-r3/work
>>> Preparing source in /var/tmp/portage/virtual/libudev-232-r3/work ...
>>> Source prepared.
 >>> Configuring source in /var/tmp/portage/virtual/libudev-232-r3/work ...
>>> Source configured.
>>> Compiling source in /var/tmp/portage/virtual/libudev-232-r3/work ...
>>> Source compiled.
>>> Test phase [not enabled]: virtual/libudev-232-r3

>>> Install virtual/libudev-232-r3 into /var/tmp/portage/virtual/libudev-232-r3/image
>>> Completed installing virtual/libudev-232-r3 into /var/tmp/portage/virtual/libudev-232-r3/image

 * Final size of build directory: 4 KiB
 * Final size of installed tree:  4 KiB


>>> Installing (1 of 6) virtual/libudev-232-r3::gentoo

>>> Emerging (2 of 6) media-libs/freetype-2.9.1-r3::gentoo
 * freetype-2.9.1.tar.bz2 BLAKE2B SHA512 size ;-) ...                                      [ ok ]
```

45.

```
# Copyright 1999-2015 Gentoo Foundation
# Distributed under the terms of the GNU General Public License v2
#
# To populate all changes in this file you need to regenerate your
# grub configuration file afterwards:
#     'grub2-mkconfig -o /boot/grub/grub.cfg'
#
# See the grub info page for documentation on possible variables and
# their associated values.

GRUB_DISTRIBUTOR="Gentoo"

# Default menu entry
#GRUB_DEFAULT=0

# Boot the default entry this many seconds after the menu is displayed
#GRUB_TIMEOUT=5
#GRUB_TIMEOUT_STYLE=menu

# Append parameters to the linux kernel command line
#GRUB_CMDLINE_LINUX=""
#
# Examples:
#
# Boot with network interface renaming disabled
# GRUB_CMDLINE_LINUX="net.ifnames=0"
#
# Boot with systemd instead of sysvinit (openrc)
# GRUB_CMDLINE_LINUX="init=/usr/lib/systemd/systemd"

# Append parameters to the linux kernel command line for non-recovery entries
#GRUB_CMDLINE_LINUX_DEFAULT=""

# Uncomment to disable graphical terminal (grub-pc only)
#GRUB_TERMINAL=console

# The resolution used on graphical terminal.
# Note that you can use only modes which your graphic card supports via VBE.
# You can see them in real GRUB with the command `vbeinfo'.
#GRUB_GFXMODE=640x480

# Set to 'text' to force the Linux kernel to boot in normal text
# mode, 'keep' to preserve the graphics mode set using
# 'GRUB_GFXMODE', 'WIDTHxHEIGHT['xDEPTH'] to set a particular
```

46.

```
livecd / # grub-install /dev/sda_
```

47.

```
livecd / # grub-install /dev/sda
Installing for i386-pc platform.
Installation finished. No error reported.
```

48.

```
livecd / # grub-mkconfig -o /boot/grub/grub.cfg_
```

49.

```
livecd / # grub-mkconfig -o /boot/grub/grub.cfg
Generating grub configuration file ...
Found linux image: /boot/vmlinuz-4.19.97-gentoo
Found initrd image: /boot/initramfs-4.19.97-gentoo.img
done
```

50.

```
livecd / # emerge dhcpcd_
```

51.

```
livecd / # ifconfig
```

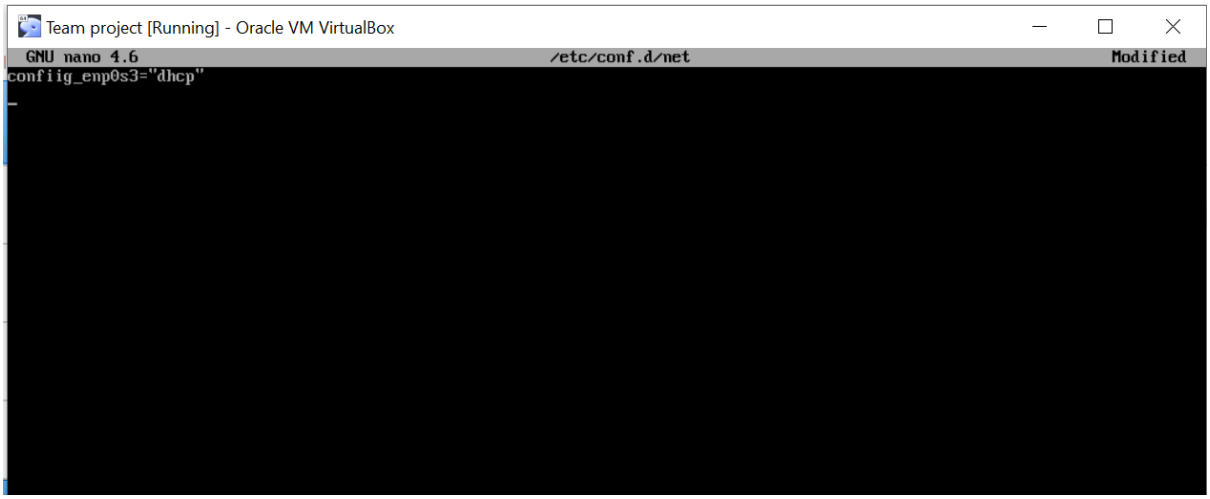
52.

```
livecd / # ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.0.2.15  netmask 255.255.255.0  broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fe80:8ce1  prefixlen 64  scopeid 0x20<link>
        ether 08:00:27:80:8c:e1  txqueuelen 1000  (Ethernet)
        RX packets 9721  bytes 11405742 (10.8 MiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 1770  bytes 109233 (106.6 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 12  bytes 792 (792.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 12  bytes 792 (792.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

53.

```
livecd / # nano /etc/conf.d/net
```

54.



55.

```
livecd / # cd /etc/init.d
```

56.

```
livecd / # cd /etc/init.d
livecd /etc/init.d # _
```

57.

```
livecd / # cd /etc/init.d
livecd /etc/init.d # _
```

58.

```
livecd / # cd /etc/init.d
livecd /etc/init.d # ln -s net.lo net.enp0s3
livecd /etc/init.d # rc-update add net.enp0s3 default
```

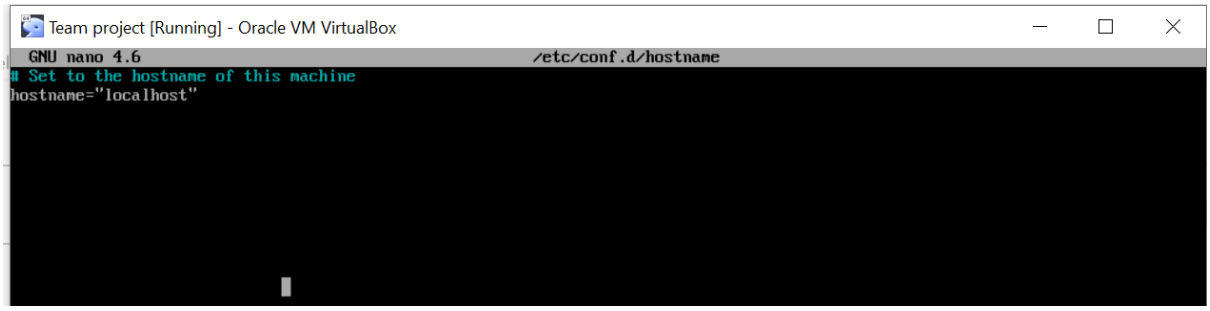
59.

```
livecd / # cd /etc/init.d
livecd /etc/init.d # ln -s net.lo net.enp0s3
livecd /etc/init.d # rc-update add net.enp0s3 default
 * service net.enp0s3 added to runlevel default
```

60.

```
livecd /etc/init.d # nano /etc/conf.d/hostname
```

61.



62.

```
# /etc/hosts: Local Host Database
#
# This file describes a number of aliases-to-address mappings for the for
# local hosts that share this file.
#
# The format of lines in this file is:
#
# IP_ADDRESS    canonical_hostname      [aliases...]
#
#The fields can be separated by any number of spaces or tabs.
#
# In the presence of the domain name service or NIS, this file may not be
# consulted at all; see /etc/host.conf for the resolution order.
#

# IPv4 and IPv6 localhost aliases
127.0.0.1       localhost
::1             localhost

#
# Imaginary network.
#10.0.0.2               myname
#10.0.0.3               myfriend
#
# According to RFC 1918, you can use the following IP networks for private
# nets which will never be connected to the Internet:
#
#       10.0.0.0        -   10.255.255.255
#       172.16.0.0      -   172.31.255.255
#       192.168.0.0     -   192.168.255.255
#
# In case you want to be able to connect directly to the Internet (i.e. not
# behind a NAT, ADSL router, etc...), you need real official assigned
# numbers.  Do not try to invent your own network numbers but instead get one
# from your network provider (if any) or from your regional registry (ARIN,
# APNIC, LACNIC, RIPE NCC, or AfriNIC.)
#
```

63.

```
livecd /etc/init.d # nano /etc/conf.d/keymaps
```

64.

```
# Use keymap to specify the default console keymap.  There is a complete tree
# of keymaps in /usr/share/keymaps to choose from.
keymap="us"

# Should we first load the 'windowkeys' console keymap?  Most x86 users will
# say "yes" here.  Note that non-x86 users should leave it as "no".
# Loading this keymap will enable VT switching (like ALT+Left/Right)
# using the special windows keys on the linux console.
windowkeys="YES"

# The maps to load for extended keyboards.  Most users will leave this as is.
extended_keymaps=""
#extended_keymaps="backspace keypad euro2"

# Tell dumpkeys(1) to interpret character action codes to be
# from the specified character set.
# This only matters if you set unicode="yes" in /etc/rc.conf.
# For a list of valid sets, run `dumpkeys --help`
dumpkeys_charset=""

# Some fonts map AltGr-E to the currency symbol instead of the Euro.
# To fix this, set to "yes"
fix_euro="NO"
```

65.

```
livecd /etc/init.d # emerge cronie sysklogd_
```

66.

```
livecd /etc/init.d # rc-update add cronie default
 * service cronie added to runlevel default
```

67.

```
livecd /etc/init.d # rc-update  add sysklogd default
 * service sysklogd added to runlevel default
```

68.

```
livecd /etc/init.d # passwd root
New password:
BAD PASSWORD: it is based on a dictionary word
Retype new password:
passwd: password updated successfully
```

69.

```
livecd /etc/init.d # exit
exit
```

70.

```
livecd ~ # unmount /mnt/gentoo/boot
-bash: unmount: command not found
livecd ~ # umount /mnt/gentoo/boot
livecd ~ # umount /mnt/gentoo/proc
livecd ~ # umount -R /mnt/gentoo/dev
livecd ~ # umount -R /mnt/gentoo/sys
livecd ~ # cd /
livecd / # umount /mnt/gentoo
```

71.

```
livecd ~ # useradd -m -G users,wheel,audio -s/bin/bash john
livecd ~ # passwd john
```

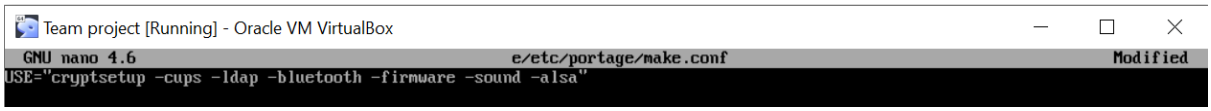
72.

```
passwd: password updated successfully
```

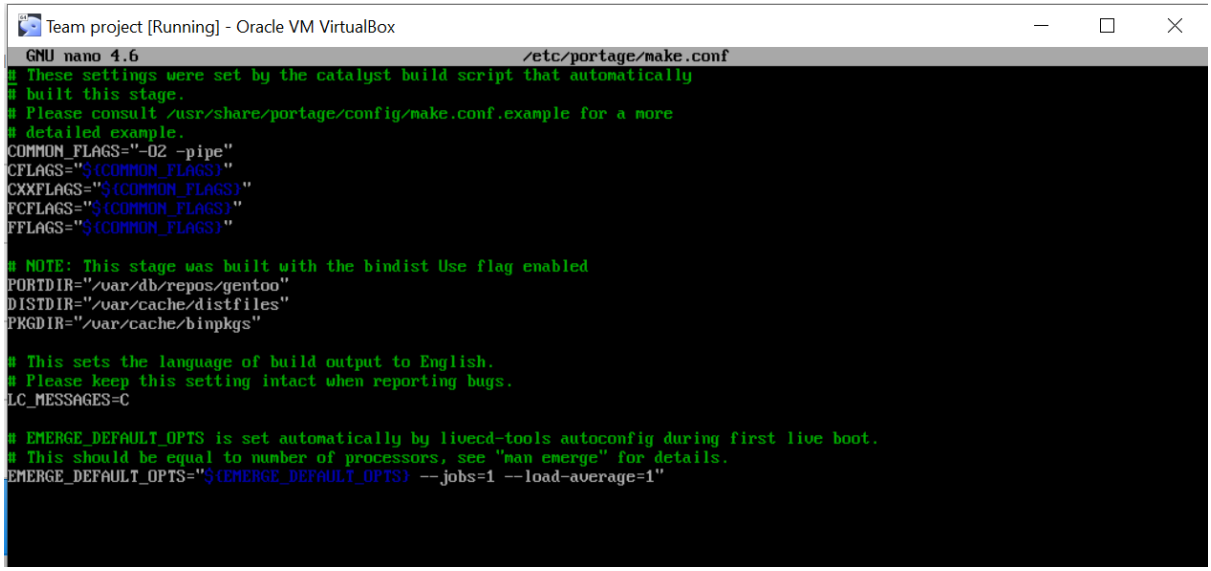
73.

```
livecd ~ # nano e/etc/portage/make.conf
```

74.



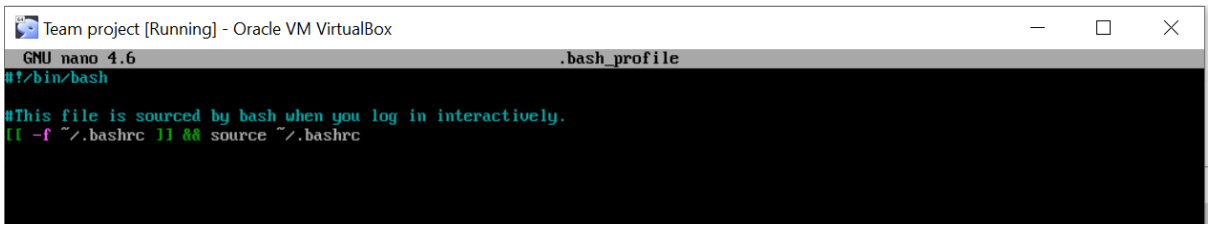
75.



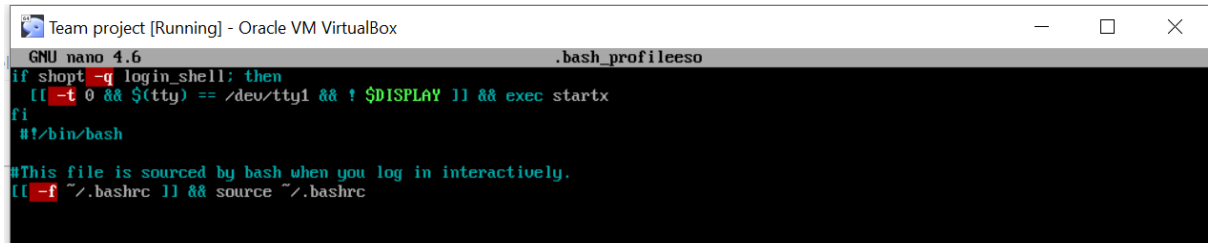
76.

```
livecd ~ # emerge --update --deep --newuse @world
```

77.



78.



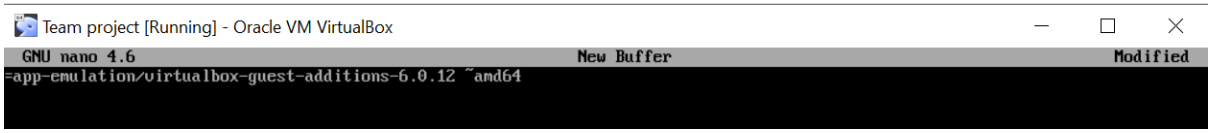
79.

```
livecd ~ # nano .xinitrc_
```

80.

```
livecd ~ # emerge ranger
```

81.



82.

```
livecd ~ # emerge virtualbox-guest-additions
```

83.

```
livecd ~ # nano /home/john/.xinitrc
```

84.