0001
Introduction to Linux

Félix Bertoni
contact@felix-bertoni.fr

02.01.2021
(gen. 11.01.2021)
version 0.1

Abstract

Acknowledgement

Chapter 1

About this course

Chapter 2

What is Linux ?

2.1 Open source operating system

2.2 Compatibility

Chapter 3

Distributions

3.1 Philosophies

3.2 Packages

3.3 Windows and Desktop managers

3.4 Forums and problem-solving

Chapter 4

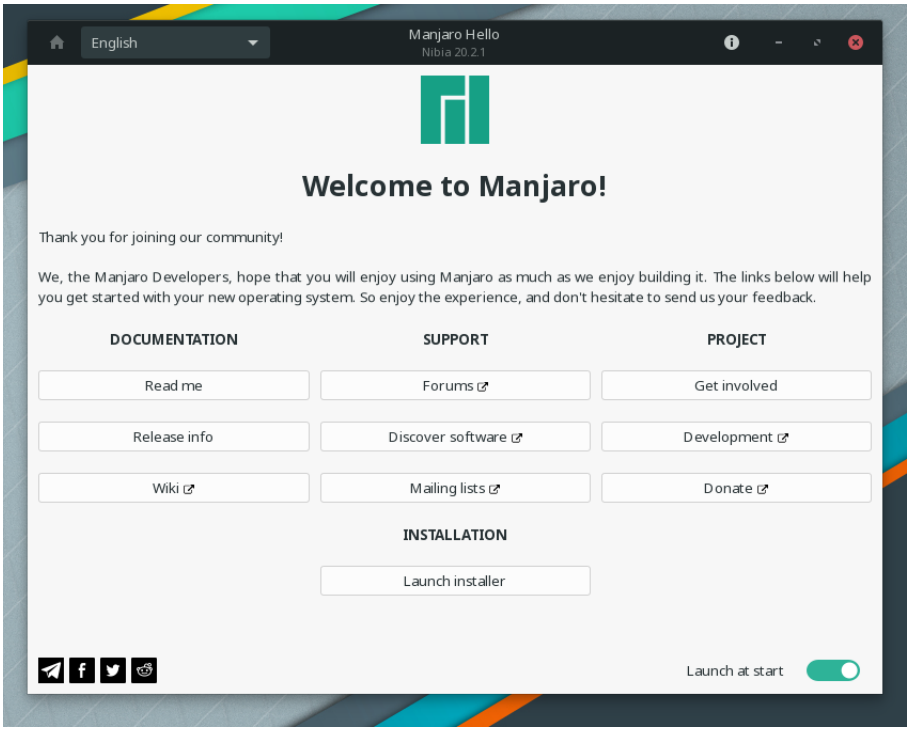
Installing

Installing Linux is each year easier with improvement of automated tools. This chapter discusses important points to pay attention to when installing an operating system, as well as tutorials on installing Manjaro Xfce in different configuration. Beginners are strongly advised to get help from an advanced user to perform, as installing an operating system is always a tricky operation, which can lead to data loss and complex to solve problems in case of mistake. It is also recommended reading the entire chapter before starting.

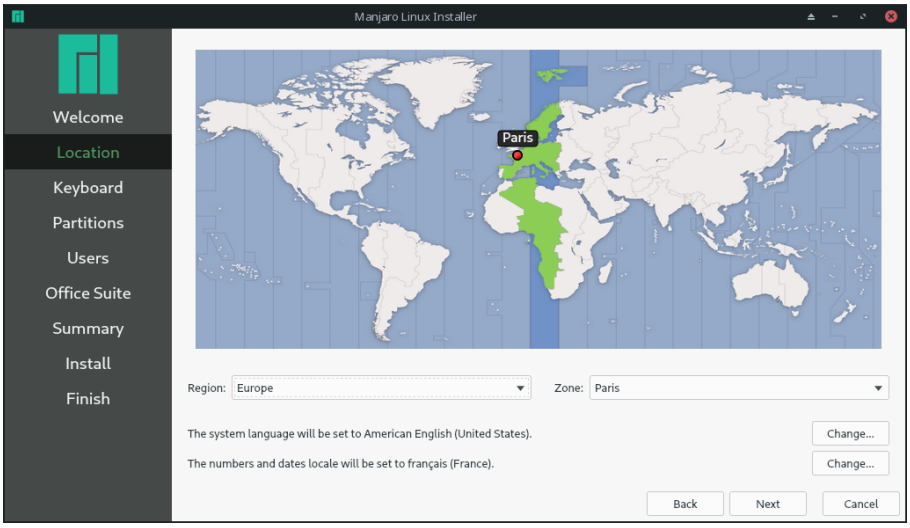
4.1 Download Manjaro ISO and burn a USB key

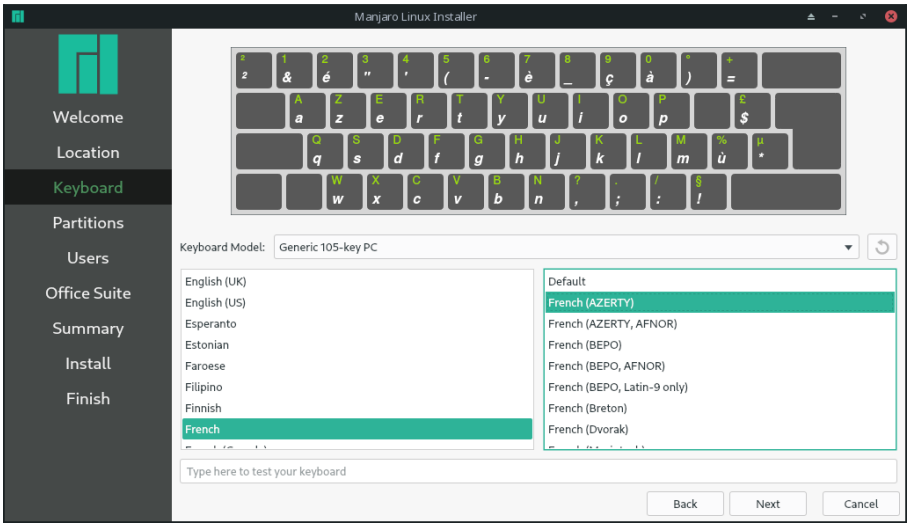
4.2 Booting from USB

4.3 Starting installer



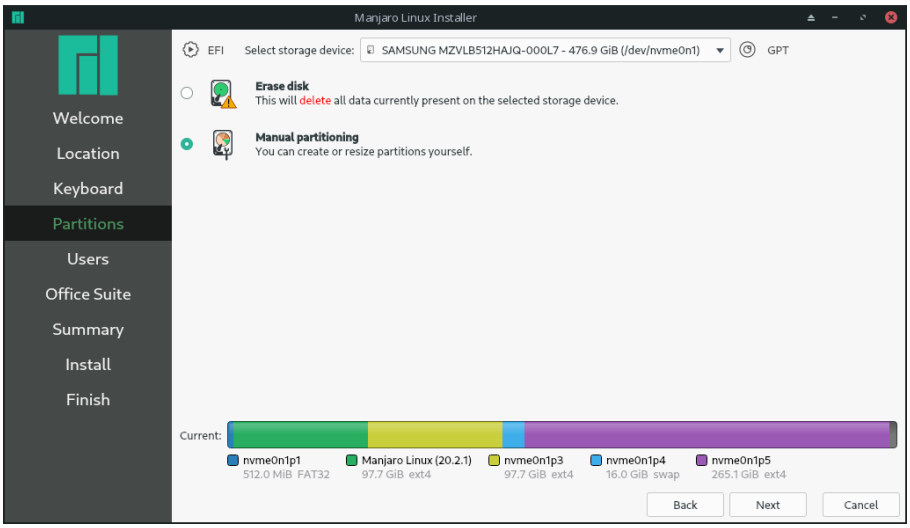
Manjaro Linux Installer
Welcome
Location
Keyboard
Partitions
Users
Office Suite
Summary
Install
Finish
Welcome to the Manjaro Linux 20.2.1 "Nibia" installer.
This program will ask you some questions and set up Manjaro Linux on your computer.
American English
About
Back
Next
Cancel

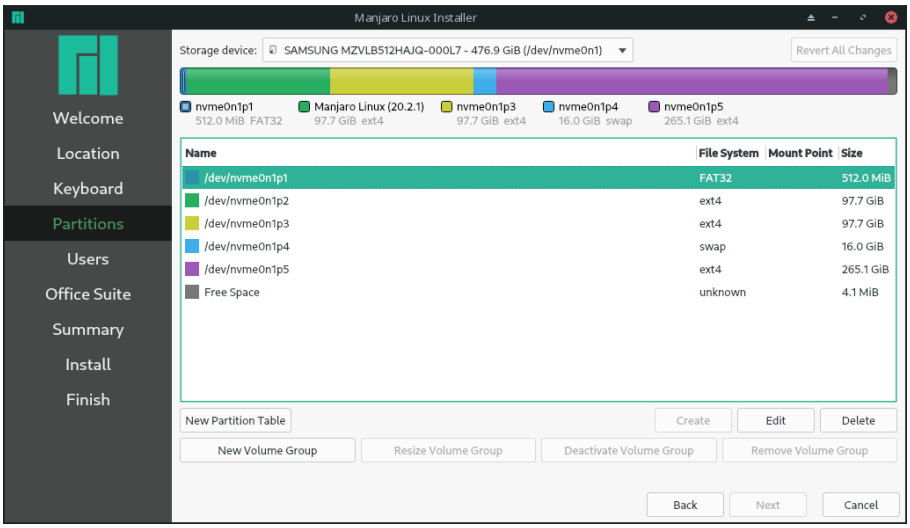

Manjaro Linux Installer
Welcome
Location
Keyboard
Partitions
Users
Office Suite
Summary
Install
Finish
Paris
Region: Europe
Zone: Paris
The system language will be set to American English (United States).
Change...
The numbers and dates locale will be set to français (France).
Change...
Back
Next
Cancel

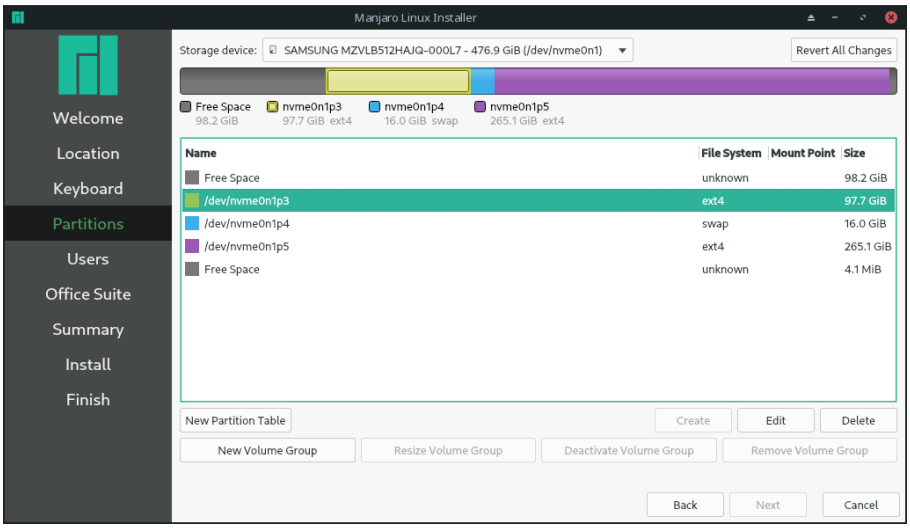

Manjaro Linux Installer
Welcome
Location
Keyboard
Partitions
Users
Office Suite
Summary
Install
Finish
Keyboard Model: Generic 105-key PC
English (UK)
English (US)
Esperanto
Estonian
Faroese
Filipino
Finnish
French
Default
French (AZERTY)
French (AZERTY, AFNOR)
French (BEPO)
French (BEPO, AFNOR)
French (BEPO, Latin-9 only)
French (Breton)
French (Dvorak)
Type here to test your keyboard
Back
Next
Cancel

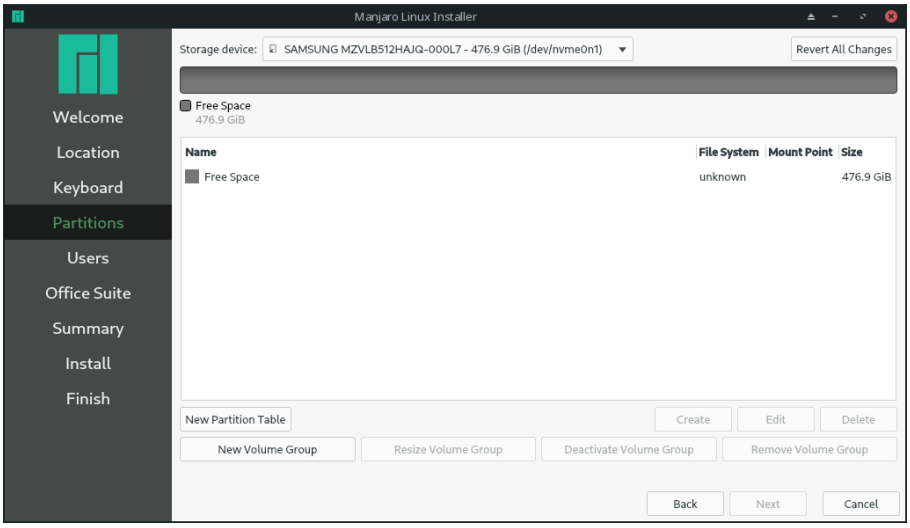
4.4 Dual Boot, automatic (simplest)

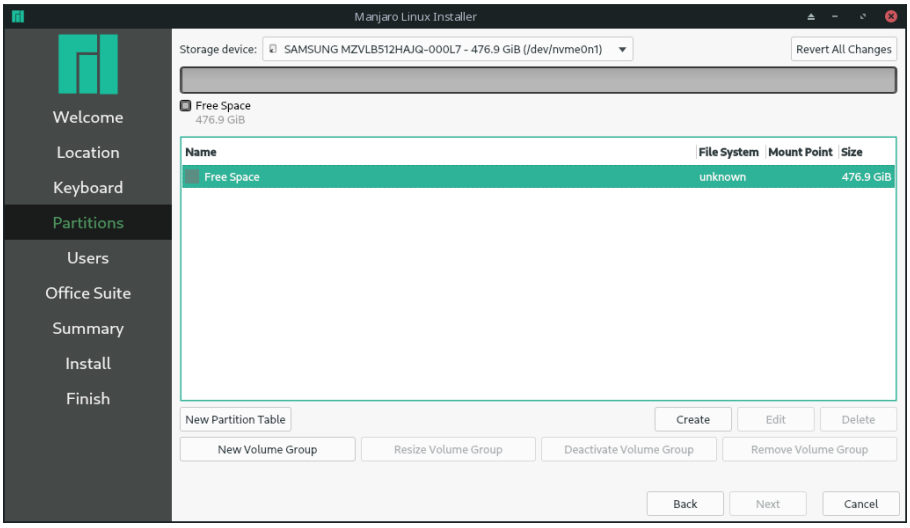
4.5 Standalone, manual partitioning

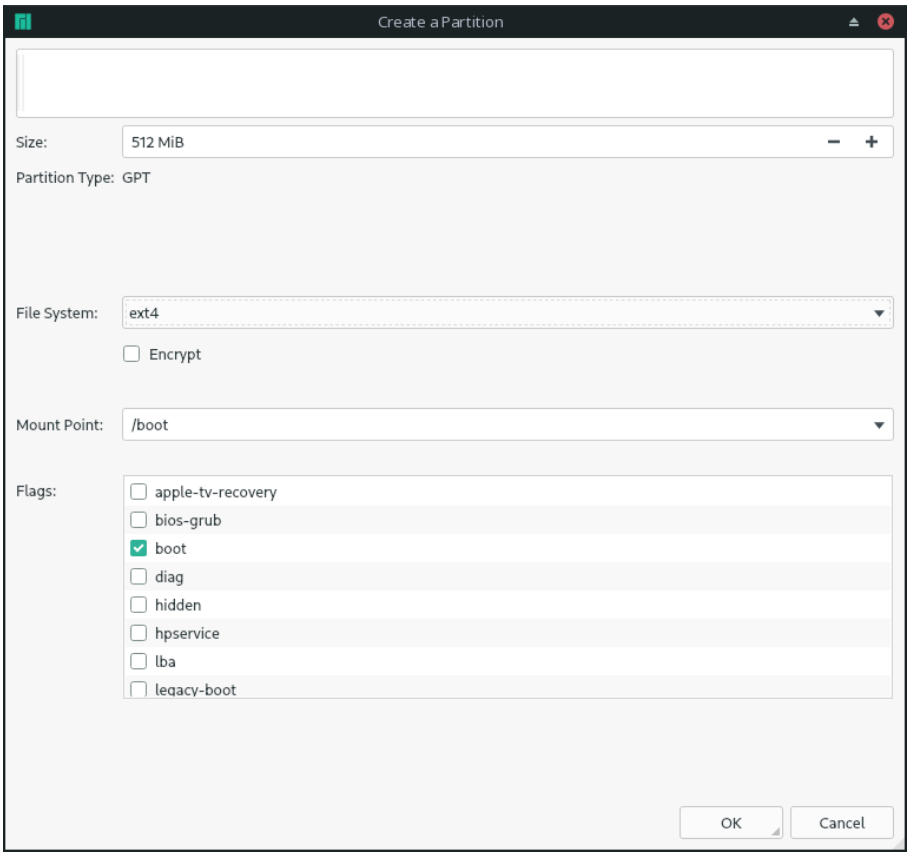


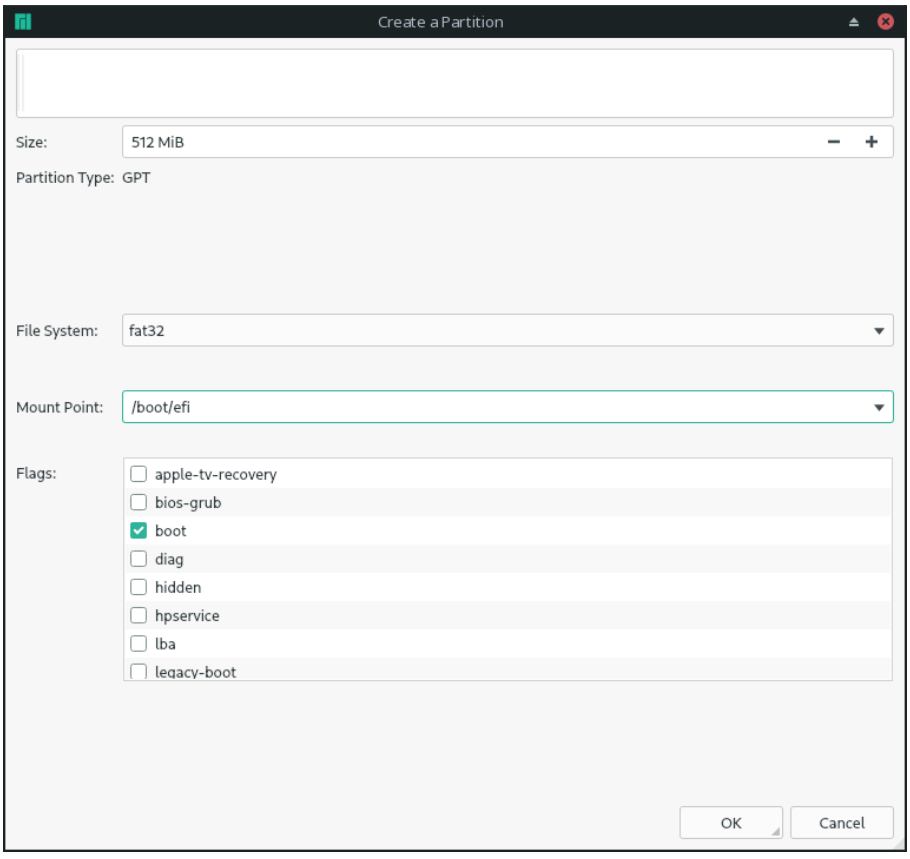


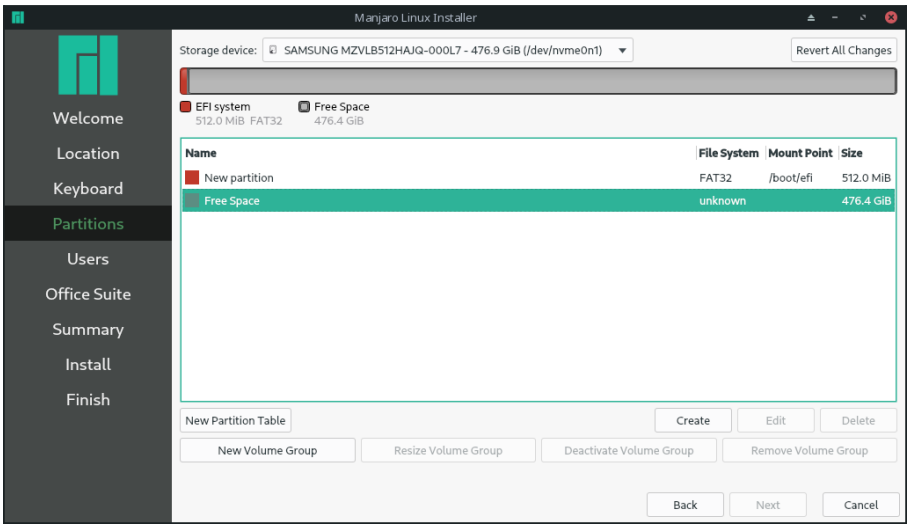

Manjaro Linux Installer
Welcome
Location
Keyboard
Partitions
Users
Office Suite
Summary
Install
Finish
Storage device: SAMSUNG MZVLB512HAJQ-000L7 - 476.9 GiB (/dev/nvme0n1)
Revert All Changes
Free Space 98.2 GiB
nvme0n1p3 97.7 GiB ext4
nvme0n1p4 16.0 GiB swap
nvme0n1p5 265.1 GiB ext4
Name
File System
Mount Point
Size
Free Space unknown 98.2 GiB
/dev/nvme0n1p3 ext4 97.7 GiB
/dev/nvme0n1p4 swap 16.0 GiB
/dev/nvme0n1p5 ext4 265.1 GiB
Free Space unknown 4.1 MiB
New Partition Table
Create
Edit
Delete
New Volume Group
Resize Volume Group
Deactivate Volume Group
Remove Volume Group
Back
Next
Cancel

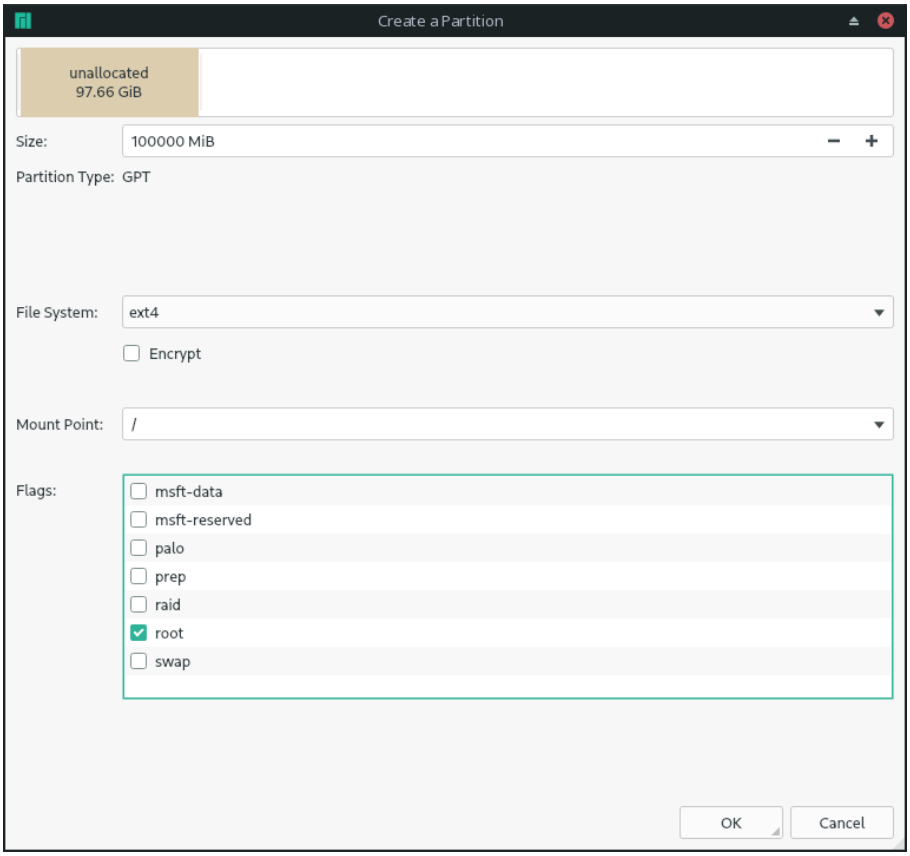

Manjaro Linux Installer
Welcome
Location
Keyboard
Partitions
Users
Office Suite
Summary
Install
Finish
Storage device: SAMSUNG MZVLB512HAJQ-000L7 - 476.9 GiB (/dev/nvme0n1)
Revert All Changes
Free Space 476.9 GiB
Name
File System
Mount Point
Size
Free Space unknown 476.9 GiB
New Partition Table
Create
Edit
Delete
New Volume Group
Resize Volume Group
Deactivate Volume Group
Remove Volume Group
Back
Next
Cancel

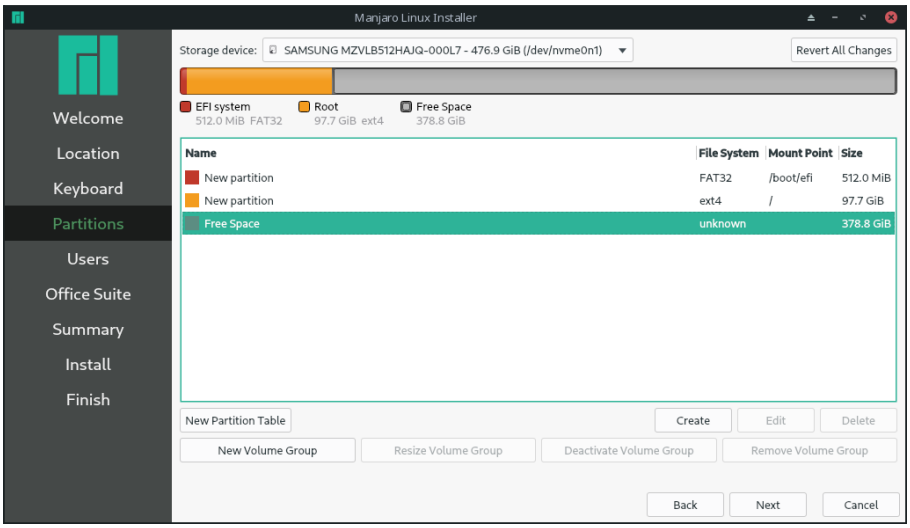

Manjaro Linux Installer
Welcome
Location
Keyboard
Partitions
Users
Office Suite
Summary
Install
Finish
Storage device: SAMSUNG MZVLB512HAJQ-000L7 - 476.9 GiB (/dev/nvme0n1)
Revert All Changes
Free Space 476.9 GiB
Name
File System
Mount Point
Size
Free Space unknown 476.9 GiB
New Partition Table
Create
Edit
Delete
New Volume Group
Resize Volume Group
Deactivate Volume Group
Remove Volume Group
Back
Next
Cancel

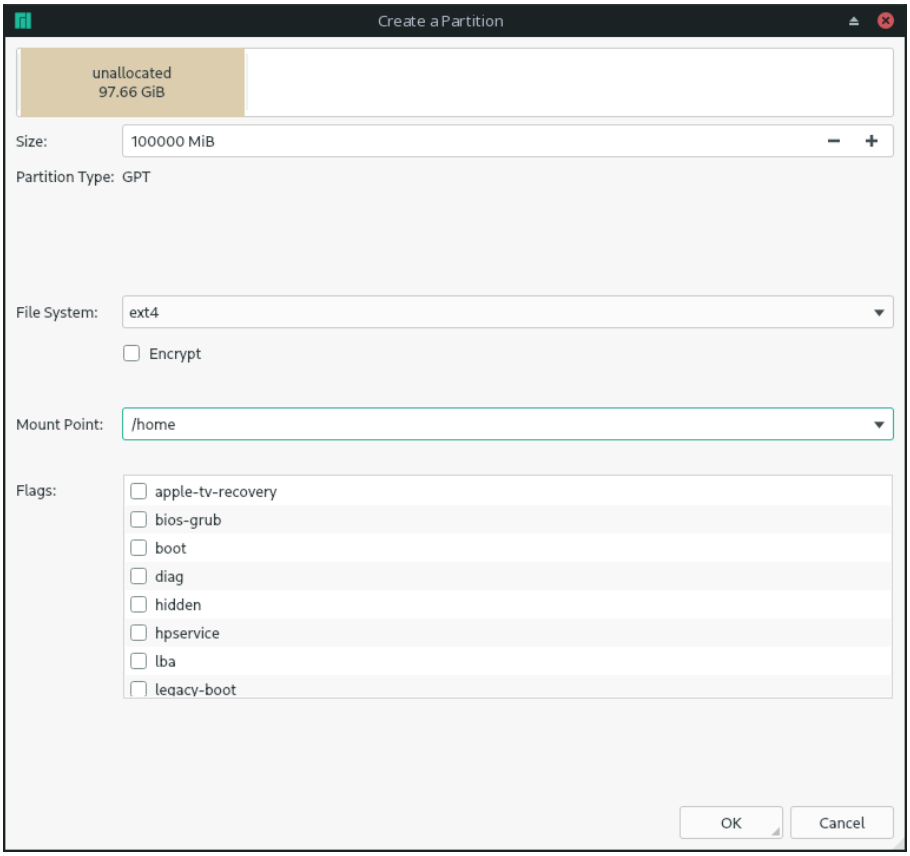

Create a Partition
Size:
512 MiB
Partition Type: GPT
File System:
ext4
Encrypt
Mount Point:
/boot
Flags:
apple-tv-recovery
bios-grub
boot
diag
hidden
hpservice
lba
legacy-boot
OK
Cancel

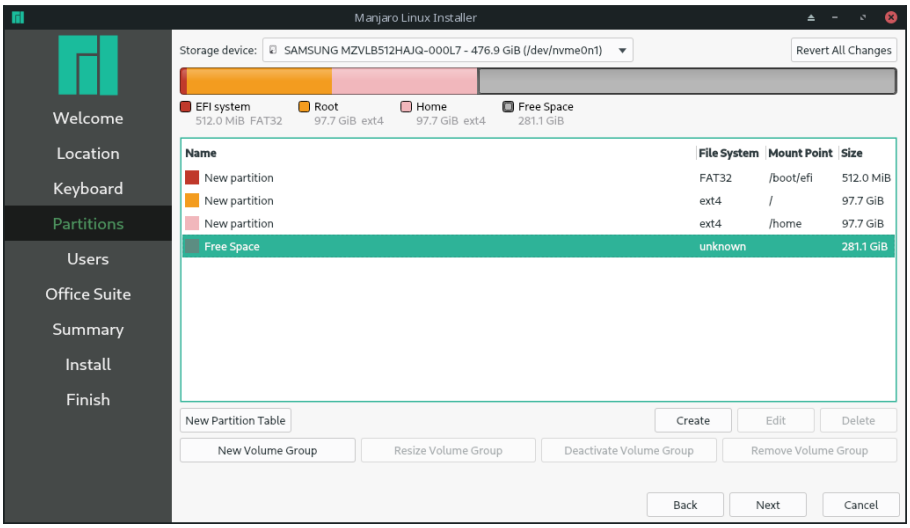

Create a Partition
Size:
512 MiB
Partition Type: GPT
File System:
fat32
Mount Point:
/boot/efi
Flags:
apple-tv-recovery
bios-grub
boot
diag
hidden
hpservice
lba
legacy-boot
OK
Cancel

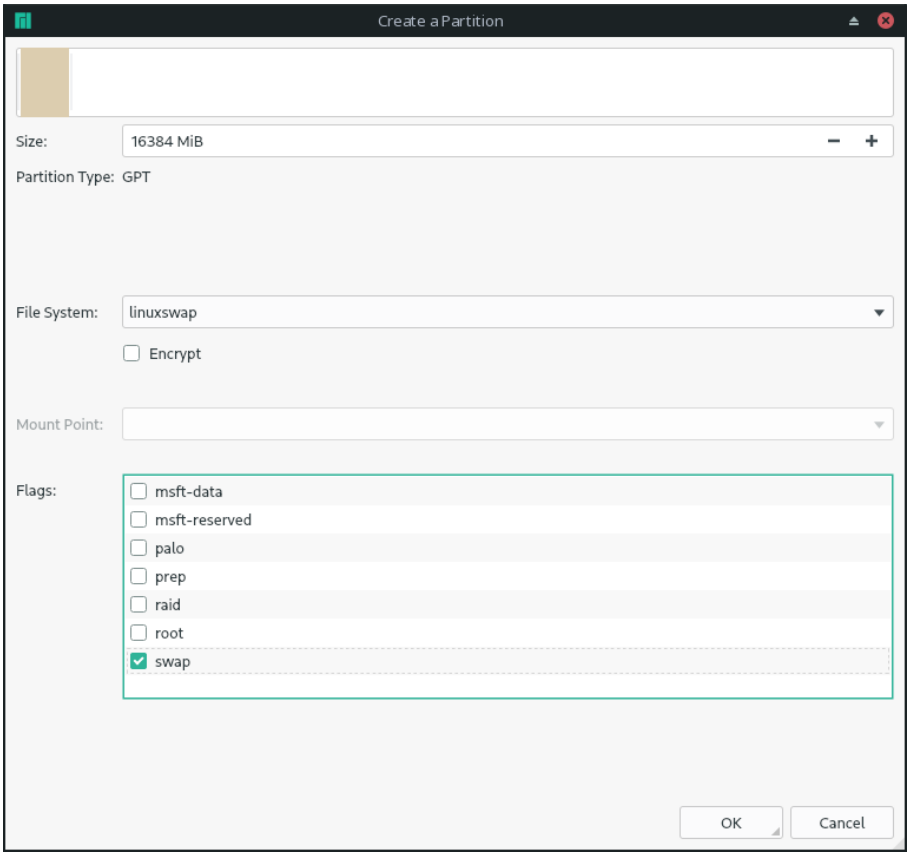

Manjaro Linux Installer
Welcome
Location
Keyboard
Partitions
Users
Office Suite
Summary
Install
Finish
Storage device: SAMSUNG MZVLB512HAJQ-000L7 - 476.9 GiB (/dev/nvme0n1)
Revert All Changes
EFI system
512.0 MiB FAT32
Free Space
476.4 GiB
Name
File System
Mount Point
Size
New partition
FAT32
/boot/efi
512.0 MiB
Free Space
unknown
476.4 GiB
New Partition Table
Create
Edit
Delete
New Volume Group
Resize Volume Group
Deactivate Volume Group
Remove Volume Group
Back
Next
Cancel

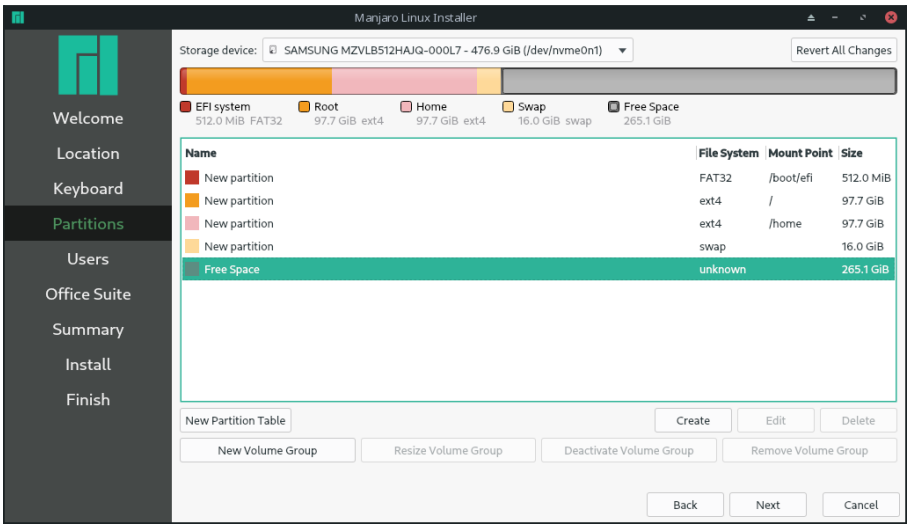

Create a Partition
unallocated
97.66 GiB
Size:
100000 MiB
Partition Type: GPT
File System:
ext4
Encrypt
Mount Point:
/
Flags:
msft-data
msft-reserved
palo
prep
raid
root
swap
OK
Cancel

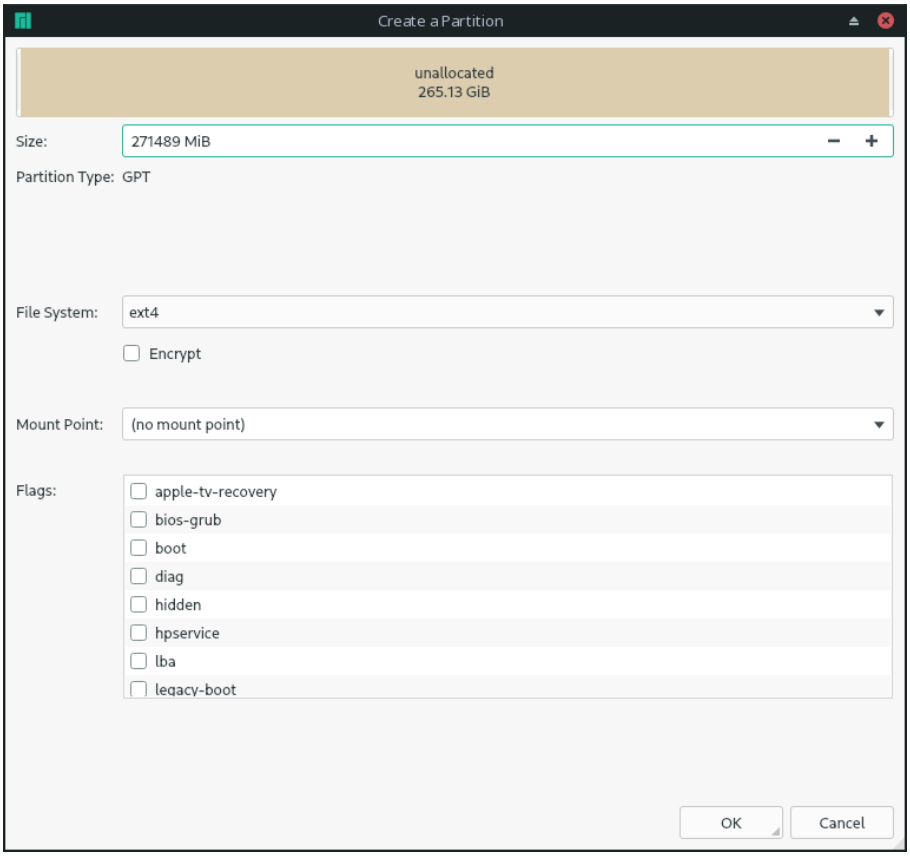

Manjaro Linux Installer
Welcome
Location
Keyboard
Partitions
Users
Office Suite
Summary
Install
Finish
Storage device: SAMSUNG MZVLB512HAJQ-000L7 - 476.9 GiB (/dev/nvme0n1)
Revert All Changes
EFI system 512.0 MiB FAT32
Root 97.7 GiB ext4
Free Space 378.8 GiB
Name
File System
Mount Point
Size
New partition FAT32 /boot/efi 512.0 MiB
New partition ext4 / 97.7 GiB
Free Space unknown 378.8 GiB
New Partition Table
Create
Edit
Delete
New Volume Group
Resize Volume Group
Deactivate Volume Group
Remove Volume Group
Back
Next
Cancel

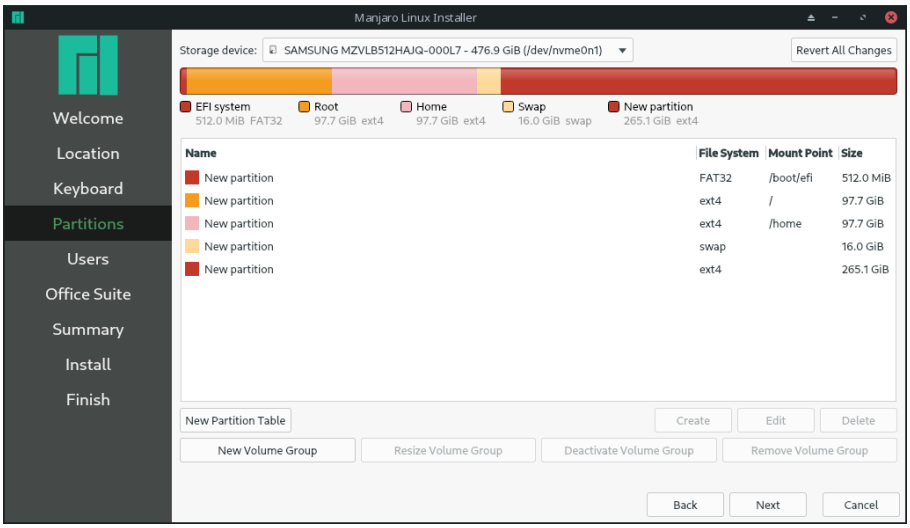

Create a Partition
unallocated
97.66 GiB
Size:
100000 MiB
Partition Type: GPT
File System:
ext4
Encrypt
Mount Point:
/home
Flags:
apple-tv-recovery
bios-grub
boot
diag
hidden
hpservice
lba
legacy-boot
OK
Cancel


Manjaro Linux Installer
Welcome
Location
Keyboard
Partitions
Users
Office Suite
Summary
Install
Finish
Storage device: SAMSUNG MZVLB512HAJQ-000L7 - 476.9 GiB (/dev/nvme0n1)
Revert All Changes
EFI system 512.0 MiB FAT32
Root 97.7 GiB ext4
Home 97.7 GiB ext4
Free Space 281.1 GiB
Name
File System
Mount Point
Size
New partition FAT32 /boot/efi 512.0 MiB
New partition ext4 / 97.7 GiB
New partition ext4 /home 97.7 GiB
Free Space unknown 281.1 GiB
New Partition Table
Create
Edit
Delete
New Volume Group
Resize Volume Group
Deactivate Volume Group
Remove Volume Group
Back
Next
Cancel

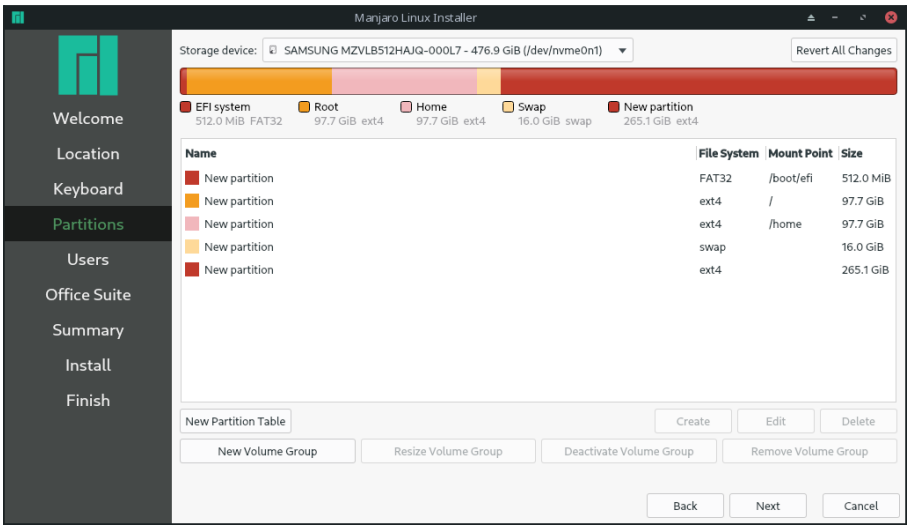

Create a Partition
Size:
16384 MiB
Partition Type: GPT
File System:
linuxswap
Encrypt
Mount Point:
Flags:
msft-data
msft-reserved
palo
prep
raid
root
swap
OK
Cancel

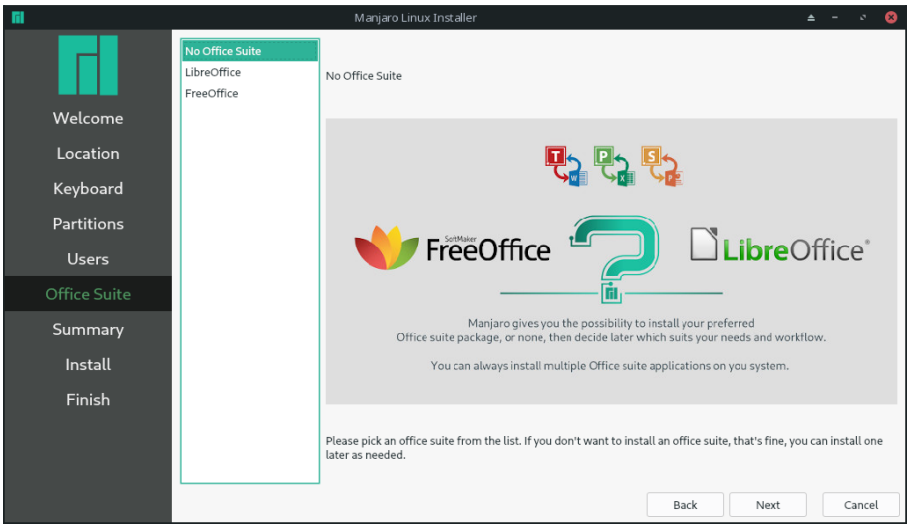

Manjaro Linux Installer
Welcome
Location
Keyboard
Partitions
Users
Office Suite
Summary
Install
Finish
Storage device: SAMSUNG MZVLB512HAJQ-000L7 - 476.9 GiB (/dev/nvme0n1)
Revert All Changes
EFI system 512.0 MiB FAT32
Root 97.7 GiB ext4
Home 97.7 GiB ext4
Swap 16.0 GiB swap
Free Space 265.1 GiB
Name
File System
Mount Point
Size
New partition FAT32 /boot/efi 512.0 MiB
New partition ext4 / 97.7 GiB
New partition ext4 /home 97.7 GiB
New partition swap 16.0 GiB
Free Space unknown 265.1 GiB
New Partition Table
Create
Edit
Delete
New Volume Group
Resize Volume Group
Deactivate Volume Group
Remove Volume Group
Back
Next
Cancel

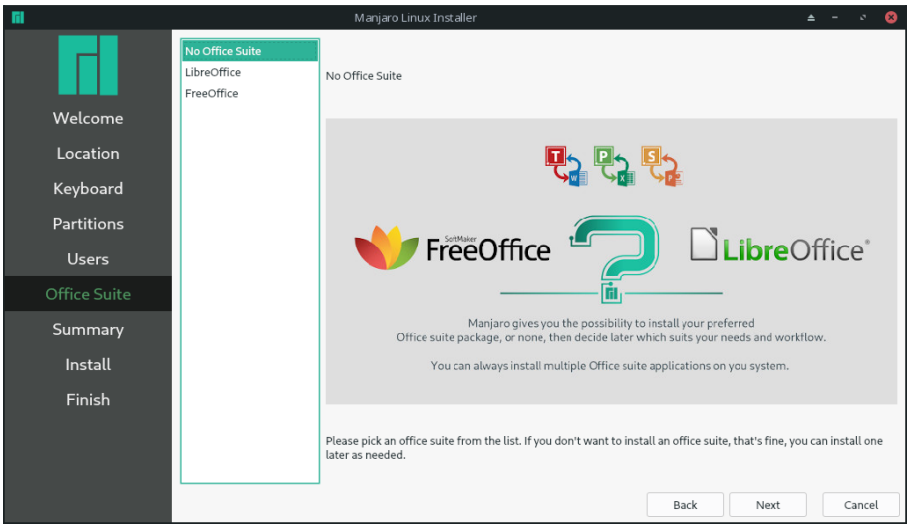

Create a Partition
unallocated
265.13 GiB
Size:
271489 MiB
Partition Type: GPT
File System:
ext4
Encrypt
Mount Point:
(no mount point)
Flags:
apple-tv-recovery
bios-grub
boot
diag
hidden
hpservice
lba
legacy-boot
OK
Cancel

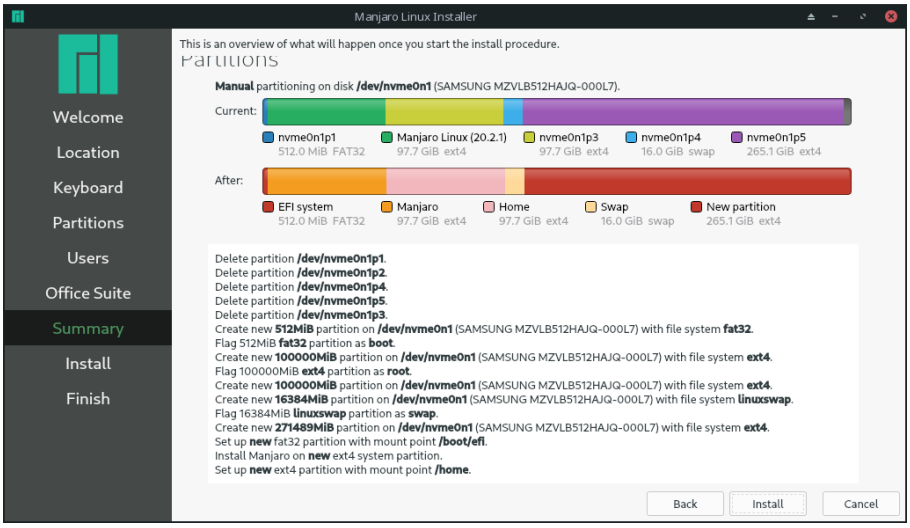


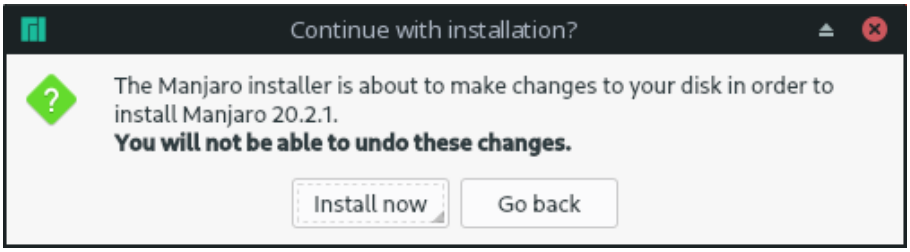
4.6 Finishing steps

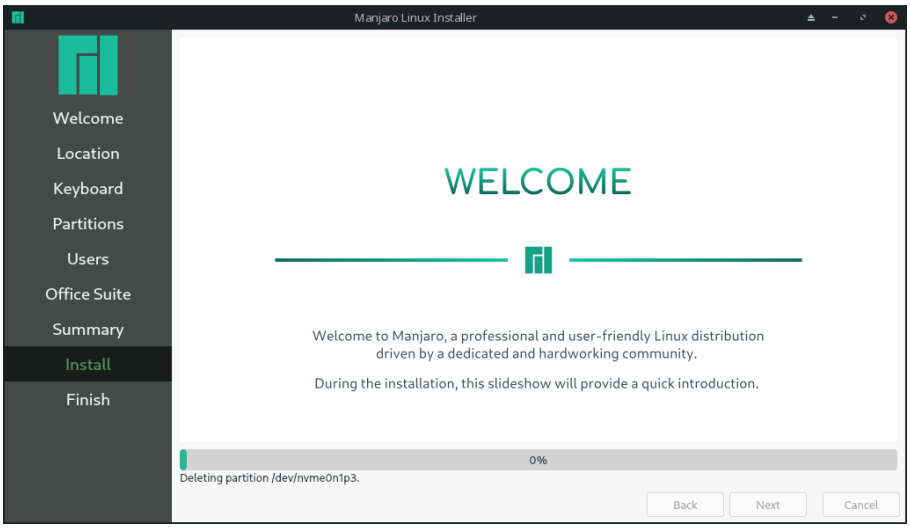


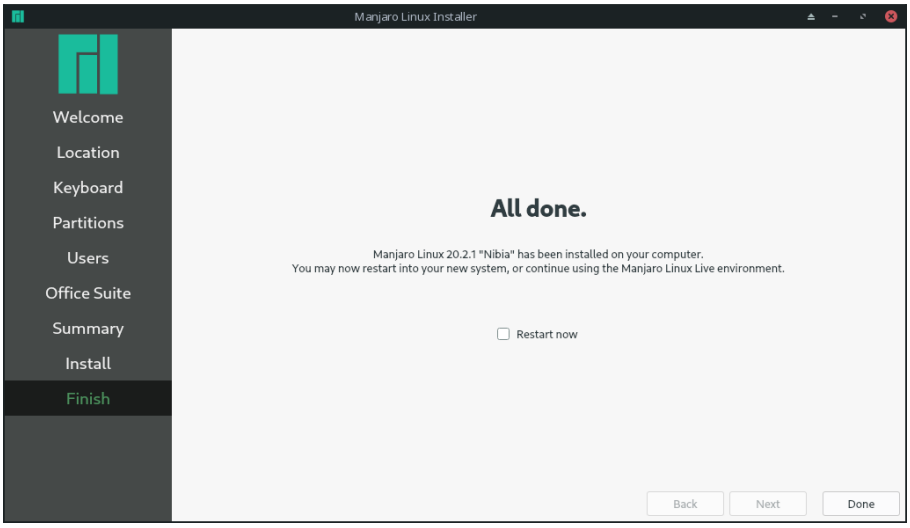



Manjaro Linux Installer
Welcome
Location
Keyboard
Partitions
Users
Office Suite
Summary
Install
Finish
No Office Suite
LibreOffice
FreeOffice
No Office Suite
FreeOffice
LibreOffice
Manjaro gives you the possibility to install your preferred
Office suite package, or none, then decide later which suits your needs and workflow.
You can always install multiple Office suite applications on you system.
Please pick an office suite from the list. If you don't want to install an office suite, that's fine, you can install one later as needed.
Back
Next
Cancel


Manjaro Linux Installer
Welcome
Location
Keyboard
Partitions
Users
Office Suite
Summary
Install
Finish
This is an overview of what will happen once you start the install procedure.
Partitions
Manual partitioning on disk /dev/nvme0n1 (SAMSUNG MZVLB512HAJQ-000L7).
Current:
nvme0n1p1 512.0 MiB FAT32
Manjaro Linux (20.2.1) 97.7 GiB ext4
nvme0n1p3 97.7 GiB ext4
nvme0n1p4 16.0 GiB swap
nvme0n1p5 265.1 GiB ext4
After:
EFI system 512.0 MiB FAT32
Manjaro 97.7 GiB ext4
Home 97.7 GiB ext4
Swap 16.0 GiB swap
New partition 265.1 GiB ext4
Delete partition /dev/nvme0n1p1.
Delete partition /dev/nvme0n1p2.
Delete partition /dev/nvme0n1p4.
Delete partition /dev/nvme0n1p5.
Delete partition /dev/nvme0n1p3.
Create new 512MiB partition on /dev/nvme0n1 (SAMSUNG MZVLB512HAJQ-000L7) with file system fat32.
Flag 512MiB fat32 partition as boot.
Create new 100000MiB partition on /dev/nvme0n1 (SAMSUNG MZVLB512HAJQ-000L7) with file system ext4.
Flag 100000MiB ext4 partition as root.
Create new 100000MiB partition on /dev/nvme0n1 (SAMSUNG MZVLB512HAJQ-000L7) with file system ext4.
Create new 16384MiB partition on /dev/nvme0n1 (SAMSUNG MZVLB512HAJQ-000L7) with file system linuxswap.
Flag 16384MiB linuxswap partition as swap.
Create new 271489MiB partition on /dev/nvme0n1 (SAMSUNG MZVLB512HAJQ-000L7) with file system ext4.
Set up new fat32 partition with mount point /boot/efi.
Install Manjaro on new ext4 system partition.
Set up new ext4 partition with mount point /home.
Back
Install
Cancel


Continue with installation?
The Manjaro installer is about to make changes to your disk in order to install Manjaro 20.2.1.
You will not be able to undo these changes.
Install now
Go back


Manjaro Linux Installer
Welcome
Location
Keyboard
Partitions
Users
Office Suite
Summary
Install
Finish
WELCOME
Welcome to Manjaro, a professional and user-friendly Linux distribution
driven by a dedicated and hardworking community.
During the installation, this slideshow will provide a quick introduction.
0%
Deleting partition /dev/nvme0n1p3.
Back
Next
Cancel


Manjaro Linux Installer
Welcome
Location
Keyboard
Partitions
Users
Office Suite
Summary
Install
Finish
All done.
Manjaro Linux 20.2.1 "Nibia" has been installed on your computer.
You may now restart into your new system, or continue using the Manjaro Linux Live environment.
Restart now
Back
Next
Done

Chapter 5

Command line interface

5.1 CLWHAT ?

A command line interface is a way to interact with a program, OS included, through mostly text inputs and outputs. It is done through a *command interpreter* software. There are various command interpreters and thus command formats, so we will demonstrate through this chapter using *Bash* command interpreter. Interpreters are often referred to as *terminals* or *terminal emulators* in Linux. Try finding one in your software and open it.

Chapter 6

Management

6.1 Partitioning

6.2 Devices

6.3 Configuration

6.4 Permissions

6.5 Services

Chapter 7

Architecture

7.1 Bootloader

7.2 Drivers

7.3 File system

7.4 Graphics server

Chapter 8

Emulating other operating systems