



Optical Network Management System

ONMSi Linux

Ubuntu integration

Edited by	VIAVI Solutions	
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Optical Network Management System

Version	Date	Author	Index
A.0	04/02/2019	Ph Cornu	First release
A1	22/02/2019	Ph Cornu	Adjustment after TAC remarks

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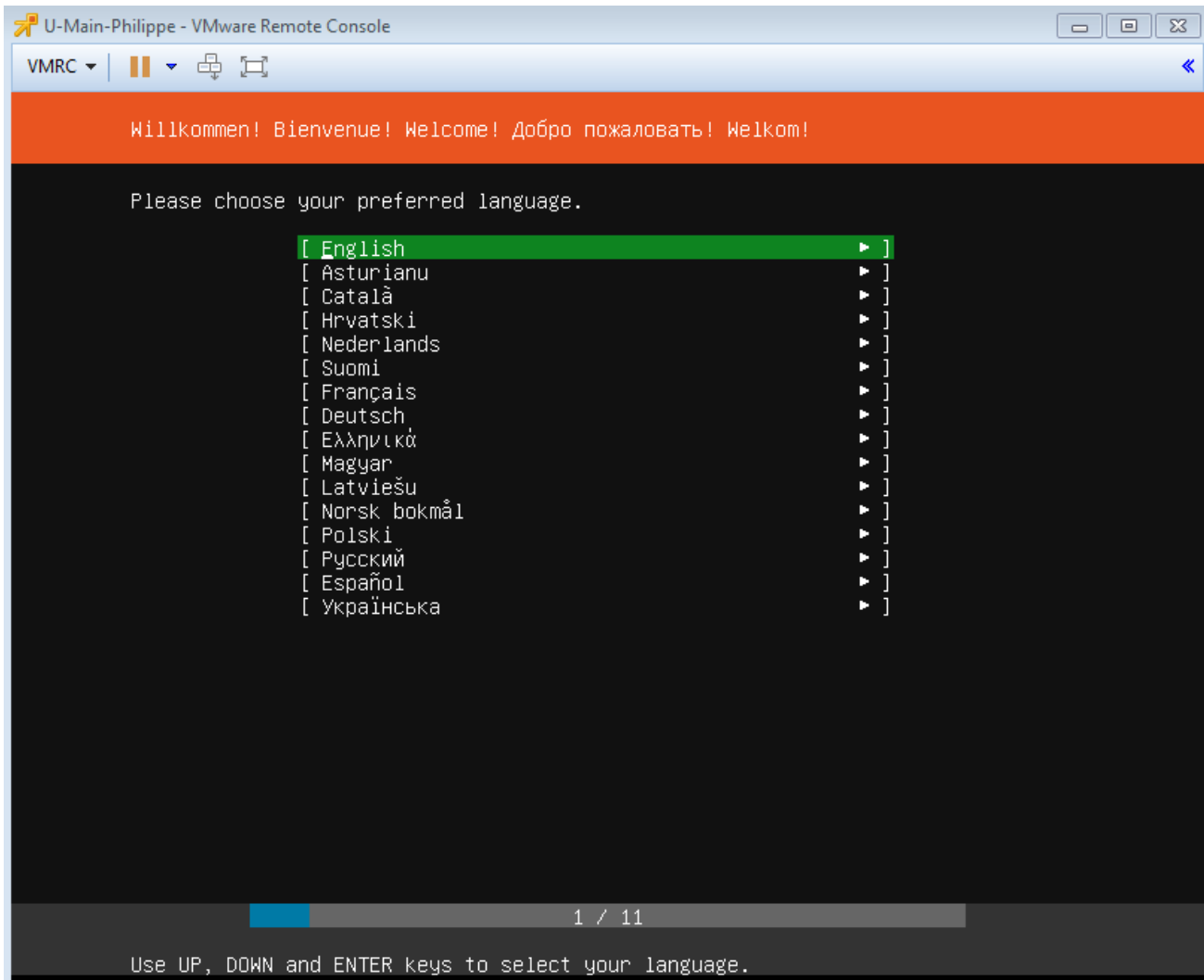


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Optical Network Management System

1. Install Ubuntu





Optical Network Management System

Keyboard configuration

Please select your keyboard layout below, or select "Identify keyboard" to detect your layout automatically.

Layout: [English (US) ▼]

Variant: [English (US) ▼]

[Identify keyboard]

[Done]
[Back]

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Use UP, DOWN and ENTER keys to select your keyboard.

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Optical Network Management System

Ubuntu 18.04

Welcome to Ubuntu! The world's favourite platform for clouds, clusters, and amazing internet things. This is the installer for Ubuntu on servers and internet devices.

- [Install Ubuntu ▶]
- [Install MAAS bare-metal cloud (region) ▶]
- [Install MAAS bare-metal cloud (rack) ▶]

[Back]

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Use UP, DOWN arrow keys, and ENTER, to navigate options

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Network connections

Configure at least one interface this server can use to talk to other machines, and which preferably provides sufficient access for updates.

NAME	TYPE	NOTES / ADDRESSES
[ens160	eth	10.33.20.134/24 (from dhcp) ▶]
00:50:56:96:8c:fd / VMware / VMXNET3 Ethernet Controller		

[Create bond ▶]

[Done]
[Back]

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Select an interface to configure it or select Done to continue

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Configure proxy

If this system requires a proxy to connect to the internet, enter its details here.

Proxy address:

If you need to use a HTTP proxy to access the outside world, enter the proxy information here. Otherwise, leave this blank.

The proxy information should be given in the standard form of "http://[[user] [:pass]@]host[:port]/".

[Done]
[Back]

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Configure Ubuntu archive mirror

If you use an alternative mirror for Ubuntu, enter its details here.

Mirror address:
You may provide an archive mirror that will be used instead of the default 'http://archive.ubuntu.com/ubuntu'

[Done]
[Back]

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Optical Network Management System

Filesystem setup

The installer can guide you through partitioning an entire disk either directly or using LVM, or, if you prefer, you can do it manually.

If you choose to partition an entire disk you will still have a chance to review and modify the results.

- [Use An Entire Disk]
- [Use An Entire Disk And Set Up LVM]
- [Manual]
- [Back]

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Choose guided or manual partitioning



Optical Network Management System

Filesystem setup

The selected guided partitioning scheme creates the required bootloader partition on the chosen disk and then creates a single partition covering the rest of the disk, formatted as ext4 and mounted at '/'.
Choose the disk to install to:

[/dev/sda	60.000G ▶]
[/dev/sdb	100.000G ▶]

[Cancel]

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Choose the installation target

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Optical Network Management System

Filesystem setup

```

FILE SYSTEM SUMMARY

  MOUNT POINT      SIZE   TYPE  DEVICE TYPE
  [ /              59.997G  ext4  partition of local disk ▶ ]

AVAILABLE DEVICES

  DEVICE          SIZE   TYPE
  [ /dev/sdb      100.000G  local disk ▶ ]
  unused

  [ Create software RAID (md) ▶ ]
  [ Create volume group (LVM) ▶ ]

USED DEVICES

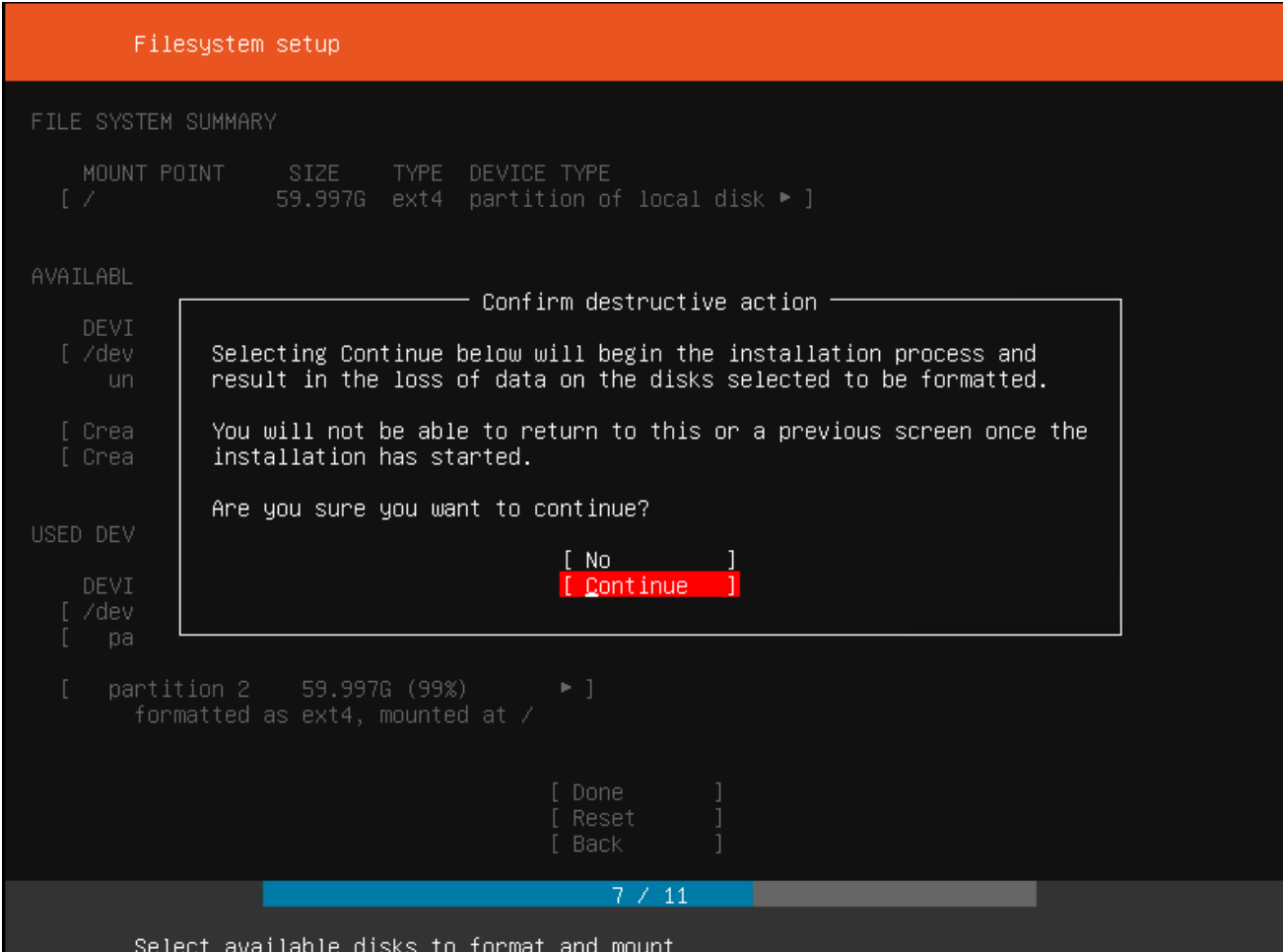
  DEVICE          SIZE   TYPE
  [ /dev/sda      60.000G  local disk ▶ ]
  [ partition 1   1.000M  (0%) ▶ ]
  bios_grub
  [ partition 2   59.997G  (99%) ▶ ]
  formatted as ext4, mounted at /

                                [ Done ]
                                [ Reset ]
                                [ Back ]

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Select available disks to format and mount
  
```

Optical Network Management System



Define server name with only letters, numbers and dash – (underscore forbidden)



Optical Network Management System

Profile setup

Enter the username and password (or ssh identity) you will use to log in to the system.

Your name:

Your server's name:
The name it uses when it talks to other computers.

Pick a username:

Choose a password:

Confirm your password:

Import SSH identity: [No ▼]
You can import your SSH keys from Github or Launchpad.

Import Username:

[Done]

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Install complete



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Featured Server Snaps

These are popular snaps in server environments. Select or deselect with SPACE, press ENTER to see more details of the package, publisher and versions available.

wekan	Open-Source kanban
kata-containers	Lightweight virtual machines that seamlessly plug into
docker	Docker container runtime
google-cloud-sdk	Command-line interface for Google Cloud Platform produc
canonical-livepatch	Canonical Livepatch Client
rocketchat-server	Group chat server for 100s, installed in seconds.
mosquitto	Eclipse Mosquitto MQTT broker
etcd	Resilient key-value store by CoreOS
powershell	PowerShell for every system!
stress-ng	A tool to load, stress test and benchmark a computer sy
sabnzbd	SABnzbd
wormhole	get things from one computer to another, safely
aws-cli	Universal Command Line Interface for Amazon Web Service
doctl	DigitalOcean command line tool
conjure-up	Package runtime for conjure-up spells
minidlna-escoand	server software with the aim of being fully compliant w
postgresql10	PostgreSQL is a powerful, open source object-relational
heroku	CLI client for Heroku
slcli	Python based SoftLayer API Tool.
amazon-ssm-agent	Agent to enable remote management of your Amazon EC2 in
keepalived	High availability VRRP and load-balancing for Linux
prometheus	The Prometheus monitoring system and time series databa
juju	juju client

[Done]

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Install complete

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```

Install complete!

----- Finished install! -----
  configuring mount: mount-0
configuring network
  running 'curtin net-meta auto'
  curtin command net-meta
writing install sources to disk
  running 'curtin extract'
  curtin command extract
  acquiring and extracting image from cp:///media/filesystem
configuring installed system
  running 'curtin curthooks'
  curtin command curthooks
  configuring apt configuring apt
  installing missing packages
  installing kernel
  setting up swap
  apply networking config
  writing etc/fstab
  configuring multipath
  updating packages on target system
  configuring pollinate user-agent on target system
finalizing installation
  running 'curtin hook'
  curtin command hook
executing late commands

[ View full log ]
[ Reboot Now ]

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Thank you for using Ubuntu!
  
```




Optical Network Management System

```
e (DSA)
<14>Feb  4 12:57:03 ec2: 256 SHA256:NCvpFDpJEtIuk8JSZDUzESX+p/SLAs3T6RKNx1LUW/Q root@u-main-philippe
(ECDSA)
<14>Feb  4 12:57:03 ec2: 256 SHA256:vnDFva/2JVGLaCvQHVWvYvmFbxP/12K1nUuSXTH2hh3Q root@u-main-philippe
(ED25519)
<14>Feb  4 12:57:03 ec2: 2048 SHA256:2JBXB0FyKwAhWY06m0J6hIN8XpK4LrPAnN3QI19G/pI root@u-main-philipp
e (RSA)
<14>Feb  4 12:57:03 ec2: -----END SSH HOST KEY FINGERPRINTS-----
<14>Feb  4 12:57:03 ec2: #####
-----BEGIN SSH HOST KEY KEYS-----
ecdsa-sha2-nistp256 AAAAE2VjZHNhLXNoYTItbmlzdHAuNTYAAAAIbmlzdHAuNTYAAABBBGcRN7ksHY9UQM93naFVAKHpKzHy
jkgjunXrN4C9M+tWj006PsLF9T+PK3f/5d/aF9+qDi6y/TUaHHD1K/2NDu0= root@u-main-philippe
ssh-ed25519 AAAAC3NzaC11ZDI1NTE5AAAAIKRzdGtM0Ij/6Yps/BWkq041kx6oTBHLdiB2Bz+PEnd root@u-main-philipp
e
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQCsSnCJoEL1WT51MpUAEyEY/AzONTzoJfWZcd10+MST7PbhUypsWnkRTkA2i4oj
iFa0U1Yb9pkSTBgVZK1xnX+/ZvFWFvweaBhQ91zf7T+XfotBev2SSh2nd2aeWPDGX2ATLyc/3oTThwXqeZb6/2iudDWexg9BAbEJ
ZAxjun/uzDhtj1iWAMqUdQEwi+2QV9I4db0GtTo2I/6e2du2cKTNFA7U4GQGuhcAqKnyEx2BMfY0s5EEa2kzVGan85+oA7y3G/V9
nk5p2CqoEsehVH3+HqvV1Yw/LcbszeKaudpvKdJePdXBBmkdD1S36oYprv6QzCBnNQx08ld9z7nRpBh root@u-main-philipp
e
-----END SSH HOST KEY KEYS-----
[ 19.937759] cloud-init[1520]: Cloud-init v. 18.2 running 'modules:final' at Mon, 04 Feb 2019 12:5
7:03 +0000. Up 19.78 seconds.
[ 19.939040] cloud-init[1520]: ci-info: no authorized ssh keys fingerprints found for user rftsmng
r.
[ 19.940377] cloud-init[1520]: Cloud-init v. 18.2 finished at Mon, 04 Feb 2019 12:57:03 +0000. Dat
a source DataSourceNoCloud [seed=/var/lib/cloud/seed/nocloud-net] [dsmode=net]. Up 19.93 seconds
[ OK ] Started Execute cloud user/final scripts.
[ OK ] Reached target Cloud-init target.

Ubuntu 18.04.1 LTS u-main-philippe tty1
u-main-philippe login:

Ubuntu 18.04.1 LTS u-main-philippe tty1
u-main-philippe login:
```

Login : rftsmngr

Password : System0

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```
u-main-philippe login: rftsmngr
Password:
Welcome to Ubuntu 18.04.1 LTS (GNU/Linux 4.15.0-45-generic x86_64)

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

System information as of Mon Feb  4 14:19:53 UTC 2019

System load:  0.0                Processes:           113
Usage of /:   10.2% of 58.80GB   Users logged in:    0
Memory usage: 2%                IP address for ens160: 10.33.20.143
Swap usage:  0%

 * 'snap info' now shows the freshness of each channel.
   Try 'snap info microk8s' for all the latest goodness.

165 packages can be updated.
80 updates are security updates.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

rftsmngr@u-main-philippe:~$
```

2. Mount the disk for backup

2.1 Identify backup disk

To identify device name for backup disk type:

```
sudo lshw -c disk
```

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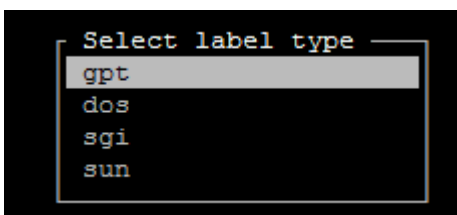
```
rftsmngr@u-backup-philippe:~$ sudo lshw -c disk
[sudo] password for rftsmngr:
*-disk:0
  description: SCSI Disk
  product: Virtual disk
  vendor: VMware
  physical id: 0.0.0
  bus info: scsi@2:0.0.0
  logical name: /dev/sda
  version: 2.0
  size: 60GiB (64GB)
  capabilities: 7200rpm gpt-1.00 partitioned partitioned:gpt
  configuration: ansiversion=6 guid=199ca4da-c616-4fb8-a570-5836b50e2eab logicalsectorsize=512 sectorsize=512
*-disk:1
  description: SCSI Disk
  product: Virtual disk
  vendor: VMware
  physical id: 0.1.0
  bus info: scsi@2:0.1.0
  logical name: /dev/sdb
  version: 2.0
  size: 100GiB (107GB)
  capabilities: 7200rpm
  configuration: ansiversion=6 logicalsectorsize=512 sectorsize=512
*-cdrom
  description: DVD-RAM writer
  product: VMware IDE CDR00
  vendor: NECVMWar
  physical id: 0.0.0
  bus info: scsi@0:0.0.0
  logical name: /dev/cdrom
  logical name: /dev/cdrw
  logical name: /dev/dvd
  logical name: /dev/sr0
  version: 1.00
  capabilities: removable audio cd-r cd-rw dvd dvd-r dvd-ram
  configuration: ansiversion=5 status=ready
*-medium
  physical id: 0
  logical name: /dev/cdrom
  capabilities: partitioned partitioned:dos
  configuration: signature=5072b7db
rftsmngr@u-backup-philippe:~$ sudo cfdisk /dev/sdb
```

2.2 Create partition

To create partition type:

`sudo cfdisk /dev/sdb` (sdb depends on above result)

Select gpt option



```
Select label type
gpt
dos
sgi
sun
```



Optical Network Management System

```
rftsmngr@u-main-philippe: ~  
Disk: /dev/sdb  
Size: 100 GiB, 107374182400 bytes, 209715200 sectors  
Label: gpt, identifier: 04107461-BC32-DD4E-827D-47F3BC94F929  
Device      Start      End      Sectors   Size Type  
>> Free space 2048      209715199 209713152 100G  
  
[ New ] [ Quit ] [ Help ] [ Write ] [ Dump ]  
Partition 1 has been deleted.
```



Optical Network Management System

```
ftsmngr@u-main-philippe: ~  
Disk: /dev/sdb  
Size: 100 GiB, 107374182400 bytes, 209715200 sectors  
Label: gpt, identifier: 04107461-BC32-DD4E-827D-47F3BC94F929  
Device      Start      End        Sectors    Size Type  
>> Free space 2048      209715199 209713152 100G  
  
Partition size: 100G  
  
May be followed by M for MiB, G for GiB, T for TiB, or S for sectors.
```

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Optical Network Management System

```
rftsmngr@u-main-philippe: ~  
Disk: /dev/sdb  
Size: 100 GiB, 107374182400 bytes, 209715200 sectors  
Label: gpt, identifier: 04107461-BC32-DD4E-827D-47F3BC94F929  
Device      Start      End        Sectors    Size Type  
>> /dev/sdb1 2048       209715166 209713119 100G Linux filesystem  
  
Partition UUID: 4D28F3C0-9484-D44D-85D3-E8EA006EFOF1  
Partition type: Linux filesystem (0FC63DAF-8483-4772-8E79-3D69D8477DE4)  
[ Delete ] [ Resize ] [ Quit ] [ Type ] [ Help ] [ Write ] [ Dump ]  
  
Write partition table to disk (this might destroy data)
```

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Optical Network Management System

```
fftsmgr@u-main-philippe: ~  
Disk: /dev/sdb  
Size: 100 GiB, 107374182400 bytes, 209715200 sectors  
Label: gpt, identifier: AA12BB6D-2727-DF4E-94FA-E47D7F46CB0D  


| Device       | Start | End       | Sectors   | Size | Type             |
|--------------|-------|-----------|-----------|------|------------------|
| >> /dev/sdb1 | 2048  | 209715166 | 209713119 | 100G | Linux filesystem |


Partition UUID: 7FE4198B-047E-0B47-833D-8E059794C73E  
Partition type: Linux filesystem (0FC63DAF-8483-4772-8E79-3D69D8477DE4)



Are you sure you want to write the partition table to disk? █



Type "yes" or "no", or press ESC to leave this dialog.


```

Yes

Optical Network Management System

```

ftsmngr@u-main-philippe: ~
Disk: /dev/sdb
Size: 100 GiB, 107374182400 bytes, 209715200 sectors
Label: gpt, identifier: 04107461-BC32-DD4E-827D-47F3BC94F929

Device          Start      End        Sectors    Size Type
--          --
>> /dev/sdb1    2048      209715166 209713119  100G Linux filesystem

Partition UUID: 4D28F3C0-9484-D44D-85D3-E8EA006EF0F1
Partition type: Linux filesystem (0FC63DAF-8483-4772-8E79-3D69D8477DE4)

[ Delete ] [ Resize ] [ Quit ] [ Type ] [ Help ] [ Write ] [ Dump ]

Quit program without writing changes
  
```

To check the new partition type :

```
sudo lshw -c disk
```




Optical Network Management System

```
rftsmngr@u-backup-philippe:/dev$ sudo lshw -c disk
*-disk:0
  description: SCSI Disk
  product: Virtual disk
  vendor: VMware
  physical id: 0.0.0
  bus info: scsi@2:0.0.0
  logical name: /dev/sda
  version: 2.0
  size: 60GiB (64GB)
  capabilities: 7200rpm gpt-1.00 partitioned partitioned:gpt
  configuration: ansiversion=6 guid=199ca4da-c616-4fb8-a570-5836b50e2eab logicalsectorsize=512 sectorsize=512
*-disk:1
  description: SCSI Disk
  product: Virtual disk
  vendor: VMware
  physical id: 0.1.0
  bus info: scsi@2:0.1.0
  logical name: /dev/sdb
  version: 2.0
  size: 100GiB (107GB)
  capabilities: 7200rpm gpt-1.00 partitioned partitioned:gpt
  configuration: ansiversion=6 guid=b6bd8e66-380d-a04a-a203-623e7a5ae7c0 logicalsectorsize=512 sectorsize=512
*-cdrom
  description: DVD-RAM writer
  product: VMware IDE CDR00
  vendor: NECVMWar
  physical id: 0.0.0
  bus info: scsi@0:0.0.0
  logical name: /dev/cdrom
  logical name: /dev/cdrw
  logical name: /dev/dvd
  logical name: /dev/sr0
  version: 1.00
  capabilities: removable audio cd-r cd-rw dvd dvd-r dvd-ram
  configuration: ansiversion=5 status=ready
*-medium
  physical id: 0
  logical name: /dev/cdrom
  capabilities: partitioned partitioned:dos
  configuration: signature=5072b7db
rftsmngr@u-backup-philippe:/dev$
```

2.3 Format disk

```
sudo mkfs.ext4 /dev/sdb1
```

```
rftsmngr@u-backup-philippe:~$ sudo mkfs.ext4 /dev/sdb1
mke2fs 1.44.1 (24-Mar-2018)
Creating filesystem with 26214139 4k blocks and 6553600 inodes
Filesystem UUID: 8368a20e-7a03-44e2-9bb0-0503d0803992
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

rftsmngr@u-backup-philippe:~$
```

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Optical Network Management System

2.4 Create the folder for backup :

```
sudo mkdir /mnt/backup
```

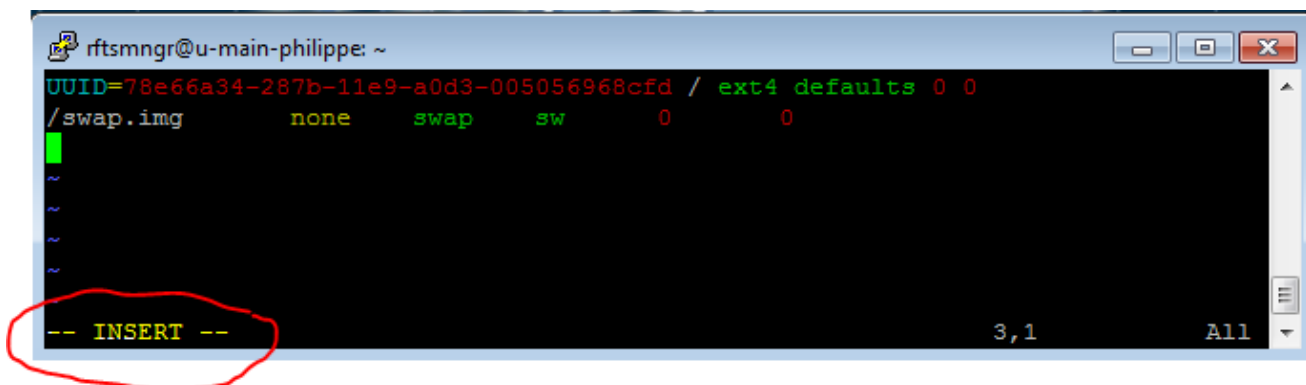
2.5 Automount disk

Modify fstab in order to mount this disk:

```
sudo chmod +666 /etc/fstab
```

```
vi /etc/fstab
```

Type **i** to move to insert mode



```
rftsmngr@u-main-philippe: ~
UUID=78e66a34-287b-11e9-a0d3-005056968cfd / ext4 defaults 0 0
/swap.img none swap sw 0 0
-- INSERT --
3,1 All
```

Add the second line at the end of document, use tab between each block.

```
UUID=78e66a34-287b-11e9-a0d3-005056968cfd / ext4 defaults 0 0
/swap.img none swap sw 0 0
/dev/sdb1 /mnt/backup ext4 defaults 0 0
```

Type **esc** to move out of insert mode

Type **:wq!** to save and quit vi.

Check the modification done in the fstab file

```
cat /et//fstab
```

```
rftsmngr@u-main-philippe:~$ cat /etc/fstab
UUID=78e66a34-287b-11e9-a0d3-005056968cfd / ext4 defaults 0 0
/swap.img none swap sw 0 0
/dev/sdb1 /mnt/backup ext4 defaults 0 0
rftsmngr@u-main-philippe:~$
```

```
sudo reboot
```