

dualboot ubuntu and windows with encrypted ubuntu partition

<https://www.mikekasberg.com/blog/2020/04/08/dual-boot-ubuntu-and-windows-with-encryption.html>

/dev/nvme0n1 - GParted

GParted Edit View Device Partition Help

/dev/nvme0n1 (476.94 GiB)

/dev/nvme0n1p3 85.07 GiB

unallocated 390.62 GiB

Partition	Name	File System	Label	Size	Used	Unuse
/dev/nvme0n1p1	EFI system partition	fat32	SYSTEM	260.00 MiB	40.78 MiB	219.22 M
/dev/nvme0n1p2	Microsoft reserved partition	unknown		16.00 MiB	—	
/dev/nvme0n1p3	Basic data partition	ntfs	Windows	85.07 GiB	38.77 GiB	46.30
unallocated		unallocated		390.62 GiB	—	
/dev/nvme0n1p4	Basic data partition	ntfs	WinRE_DRV	1000.00 MiB	467.74 MiB	532.26 M

Delete /dev/nvme0n1p5 (ext4, 390.62 GiB) from /dev/nvme0n1

1 operation pending

Create new Partition

Minimum size: 1 MiB Maximum size: 400000 MiB

Free space preceding (MiB): 0 Create as: Primary Partition

New size (MiB): 2048 Partition name: boot

Free space following (MiB): 397952 File system: ext4

Align to: MiB Label: boot

Cancel Add

Create new Partition ✕

Minimum size: 1 MiB Maximum size: 397952 MiB

Free space preceding (MiB):	0	-	+	Create as:	Primary Partition ▼
New size (MiB):	397952	-	+	Partition name:	crypt
Free space following (MiB):	0	-	+	File system:	unformatted ▼
Align to:	MiB ▼			Label:	

Cancel
Add

	/dev/nvme0n1p3 85.07 GiB		/dev/nvme0n1p6 388.62 GiB
--	--	--	---

Partition	Name	File System	Label	Size	Used	Unused
/dev/nvme0n1p1	EFI system partition		fat32 SYSTEM	260.00 MiB	40.78 MiB	219.22 MiB
/dev/nvme0n1p2	Microsoft reserved partition		unknown	16.00 MiB	—	—
/dev/nvme0n1p3	Basic data partition		ntfs Windows	85.07 GiB	38.77 GiB	46.30 GiB
/dev/nvme0n1p5	boot		ext4 boot	2.00 GiB	99.36 MiB	1.90 GiB
/dev/nvme0n1p6	crypt		unknown	388.62 GiB	—	—
/dev/nvme0n1p4	Basic data partition		ntfs WinRE_DRV	1000.00 MiB	467.74 MiB	532.26 MiB

```
cryptsetup luksFormat -type=luks1 /dev/nvme0n1p6
```

```
cryptsetup open /dev/nvme0n1p6 crypt
```

```
pvccreate /dev/mapper/crypt
```

```
vgcreate ubuntu-vg /dev/mapper/crypt
```

```
lvcreate -L 8G -n swap ubuntu-vg
```

```
lvcreate -l 100%FREE -n root ubuntu-vg
```

Installation type

This computer currently has Windows Boot Manager on it. What would you like to do?

☐ Install Ubuntu alongside Windows Boot Manager

Documents, music, and other personal files will be kept. You can choose which operating system you want each time the computer starts up.

☐ Erase disk and install Ubuntu

Warning: This will delete all your programs, documents, photos, music, and any other files in all operating systems.

Advanced features... None selected

☒ Something else

You can create or resize partitions yourself, or choose multiple partitions for Ubuntu.

Device	Type	Mount point	Format?	Size	Used	System
/dev/mapper/crypt						
/dev/mapper/ubuntu--vg-root						
/dev/mapper/ubuntu--vg-root						
/dev/mapper/ubuntu--vg-swap						
/dev/mapper/ubuntu--vg-swap						
/dev/nvme0n1						
free space						
/dev/nvme0n1p1	efi					
/dev/nvme0n1p2						
/dev/nvme0n1p3	ntfs					

+

-

Change...

Edit partition

Use as: Ext4 journaling file system

☒ Format the partition:

Mount point: /

Cancel

OK

Device	Type	Mount point	Format?	Size	Used	System
/dev/mapper/crypt						
/dev/mapper/ubuntu--vg-root						
/dev/mapper/ubuntu--vg-root	ext4	/				
/dev/mapper/ubuntu--vg-swap						
/dev/mapper/ubuntu--vg-swap						
/dev/nvme0n1						
free space						
/dev/nvme0n1p1	efi					
/dev/nvme0n1p2						

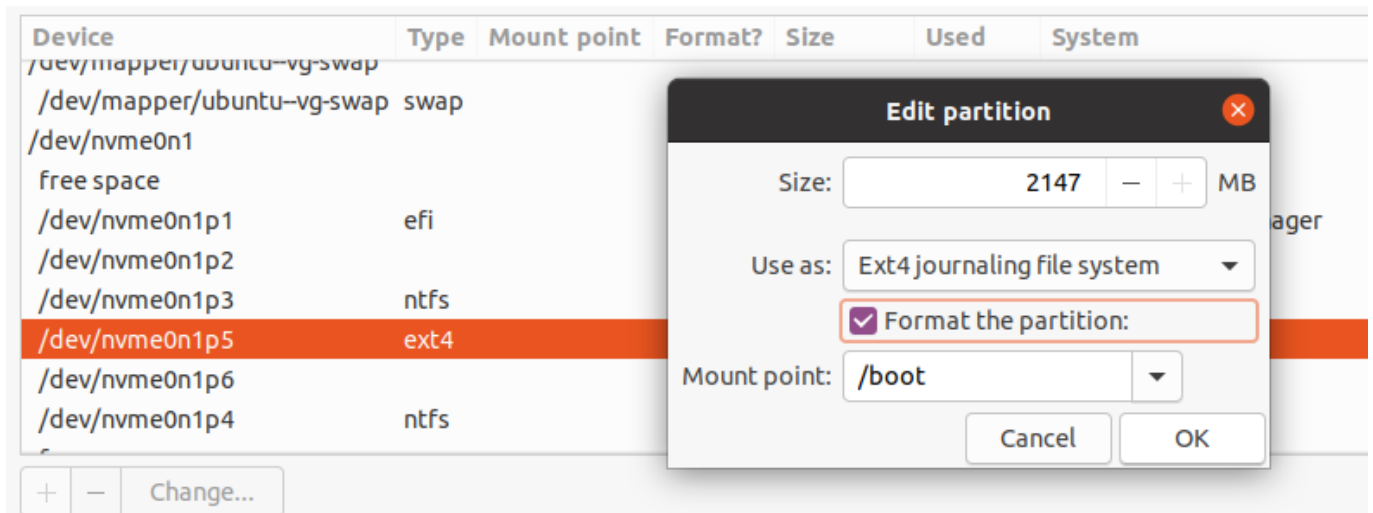
Edit partition

Use as: swap area

☐ Format the partition:

Cancel

OK



next, click on "Install Now" to proceed with the installation.. from now on just do whatever you do to install ubuntu, but when you are done, don't reboot yet, click on "Continue Testing"

open a terminal

```
mount /dev/ubuntu-vg/root /mnt
```

```
mount PARTLABEL=boot /mnt/boot/
```

```
for i in dev proc sys etc/resolv.conf; do mount -o bind /$i /mnt/$i; done
```

```
chroot /mnt
```

```
blkid /dev/nvme0n1p6
```

```
nano /etc/crypttab
```

```
# <target name> <source device> <key file> <options>
```

```
# options used:
```

```
# luks - specifies that this is a LUKS encrypted device
```

```
# tries=0 - allows to re-enter password unlimited number of times
```

```
# discard - allows SSD TRIM command, WARNING: potential security risk (more: "man crypttab")
```

```
# loud - display all warnings
```

```
crypt UUID="879761ba-42bc-455a-9126-fd21fa386f07" none luks,discard
```

```
update-initramfs -k all -c
```

```
exit
```

```
reboot
```

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