

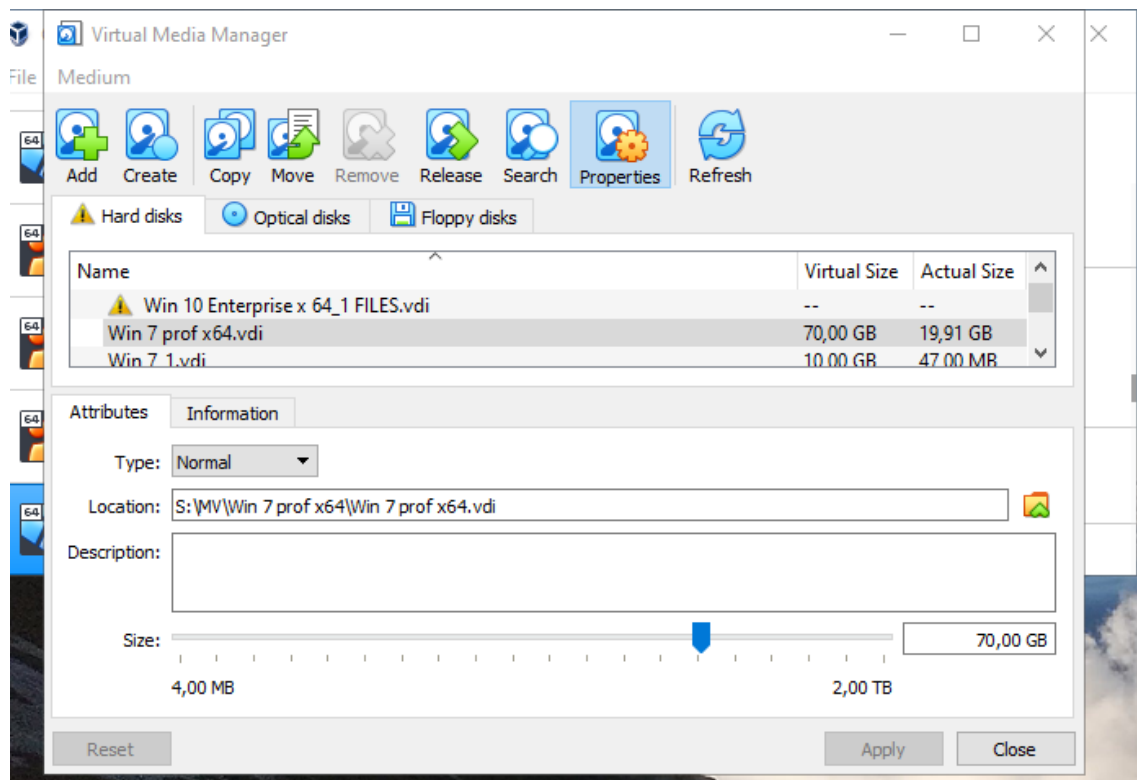
## Dual Booting Exercises Unit 2

1

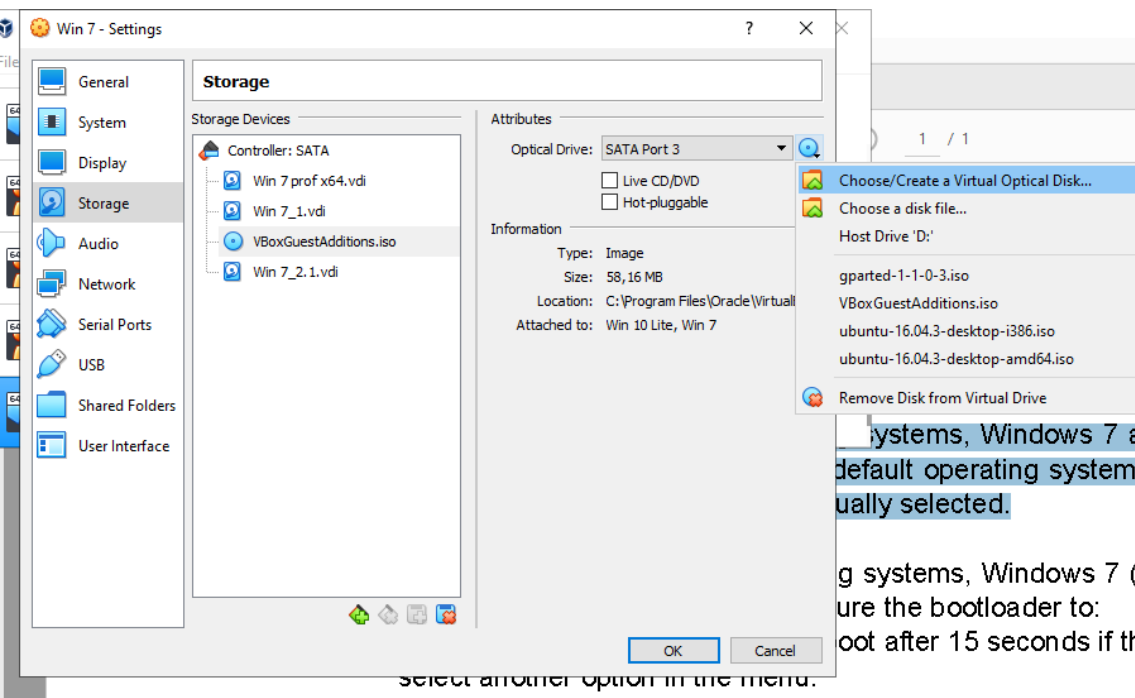
### Create a document with screenshots to explain the answer for each exercise

1. Create a virtual machine with two operating systems, Windows 7 and Windows 10 (in this order). Choose Windows 7 as the default operating system, which will boot after 5 seconds unless Windows 10 is manually selected.

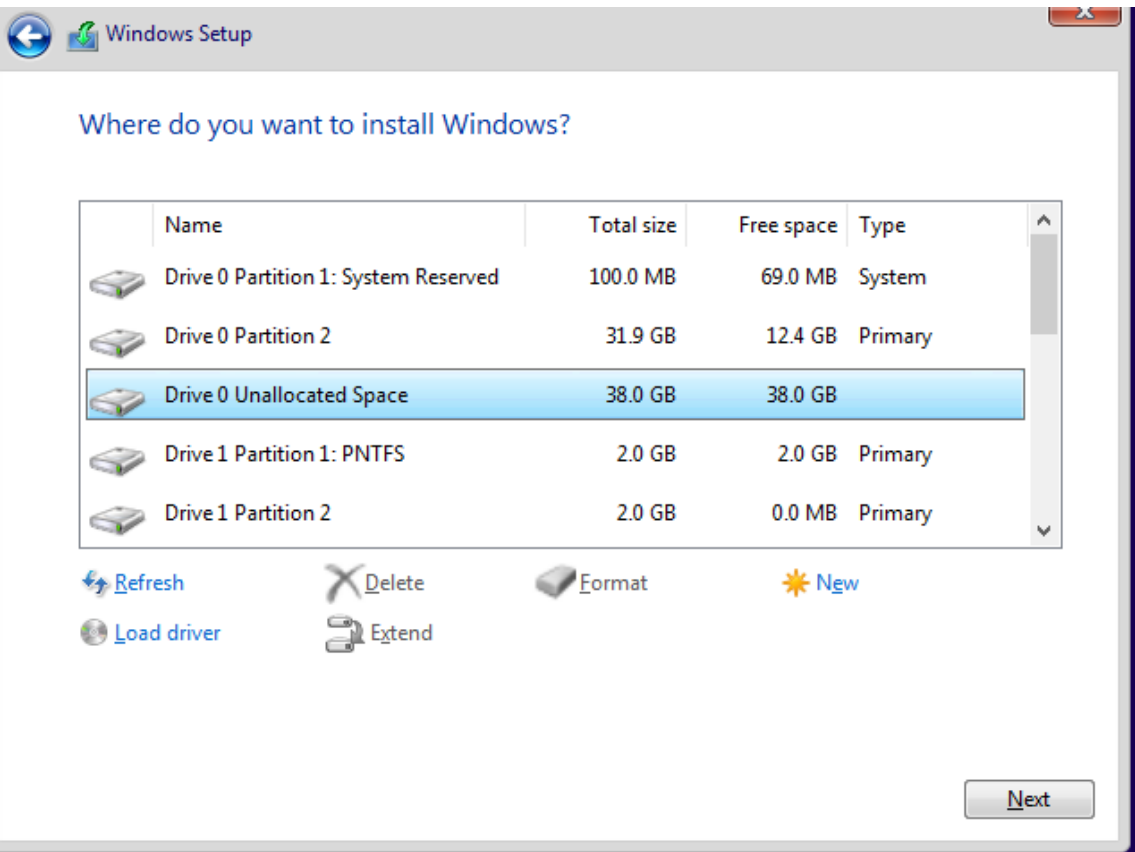
### Upsizing my original Win 7 virtual disk



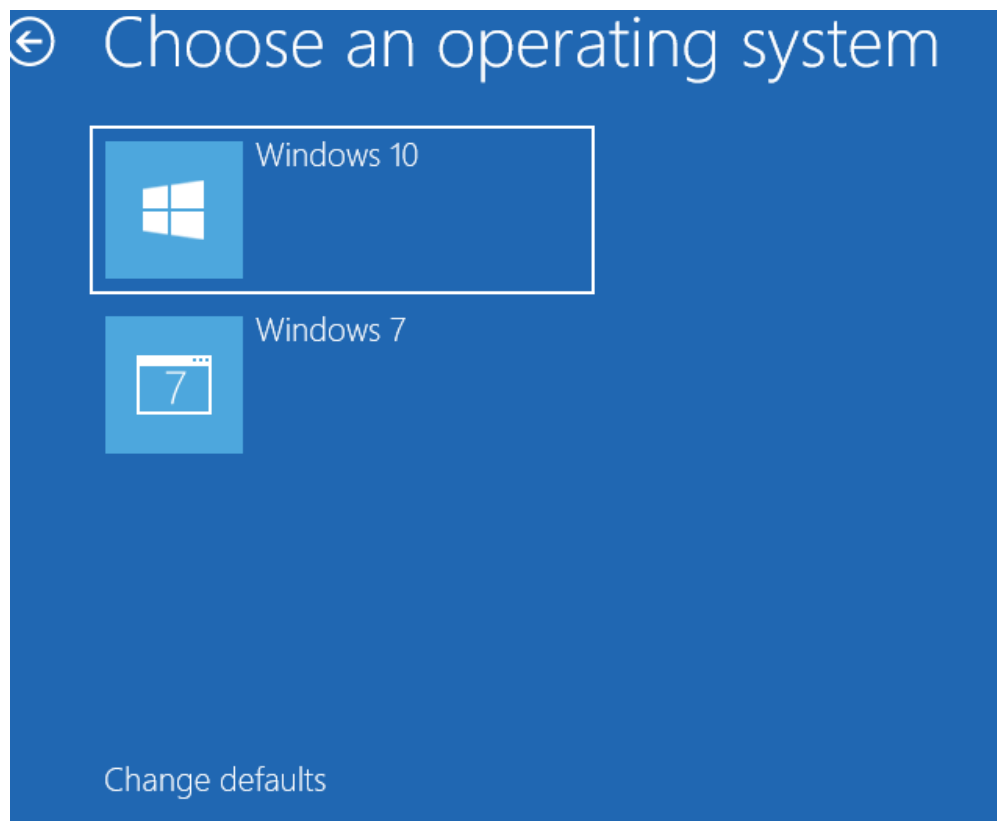
Shifting optical drive to the Win 10 iso



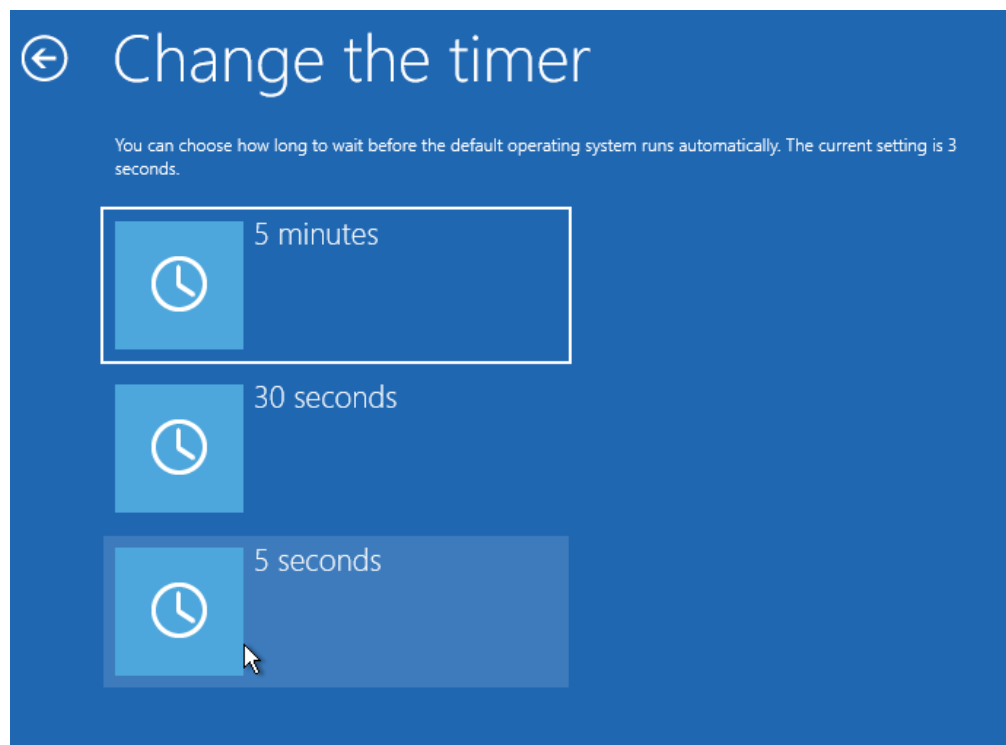
Choosing proper virtual drive to install it



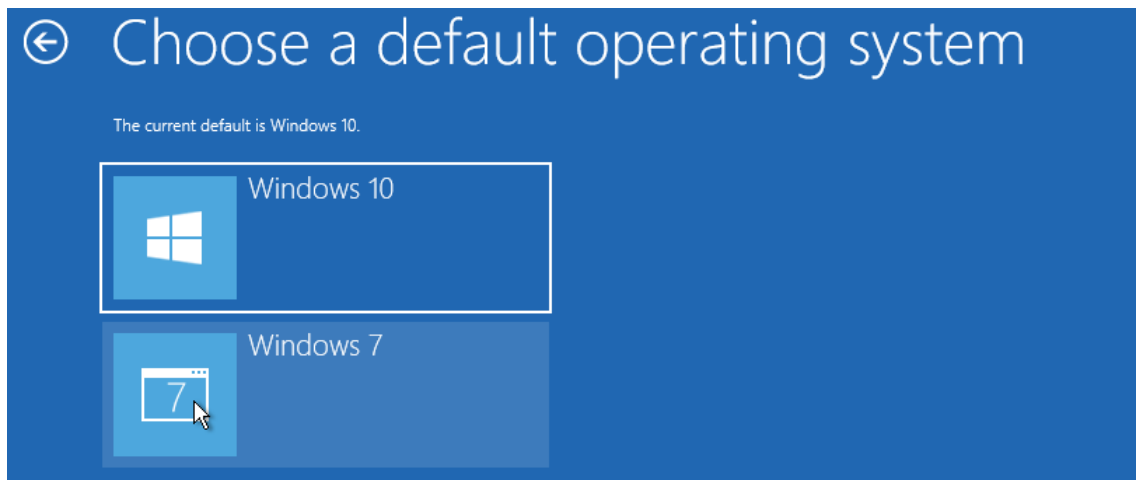
First figure after installing Win 10. I chose change defaults



Changing the timer



## Choosing default OS

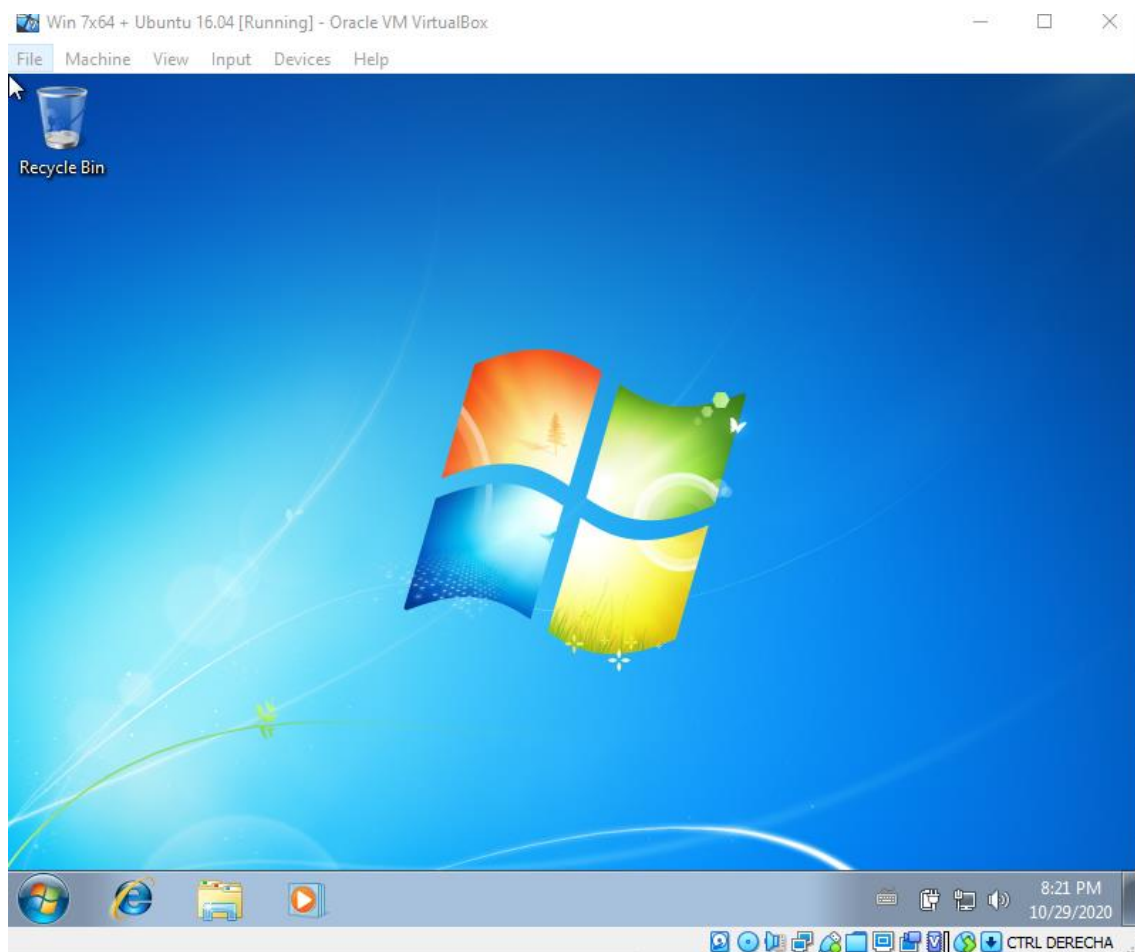


2. Create a virtual machine with two operating systems, Windows 7 (or Windows 10) and Ubuntu 16.04 (in this order) and configure the bootloader to:
  - a. Set Windows as default entry and boot after 15 seconds if the user does not select another option in the menu.
  - b. Boot Ubuntu after displaying a 10 seconds countdown.
  - c. Boot Ubuntu without displaying the menu.
  - d. Boot Windows without displaying the menu.

Installing Win 7. Previous and afterwards steps are practically the same as in the previous exercises. In order to save time since my computer is slightly slow and these series of exercises are taking many hours indeed, I am going to summarize pasting the screenshots I consider key. I hope you find the enough, otherwise please advise...



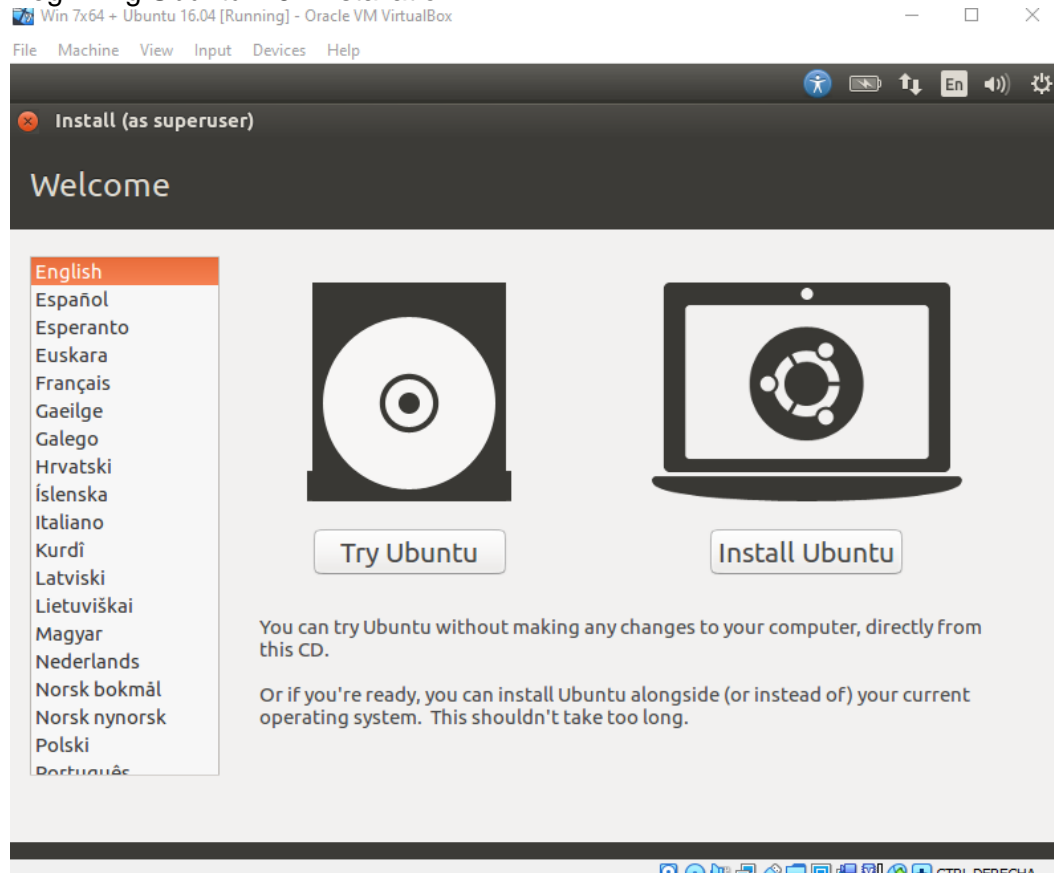
## Win 7 installation completed



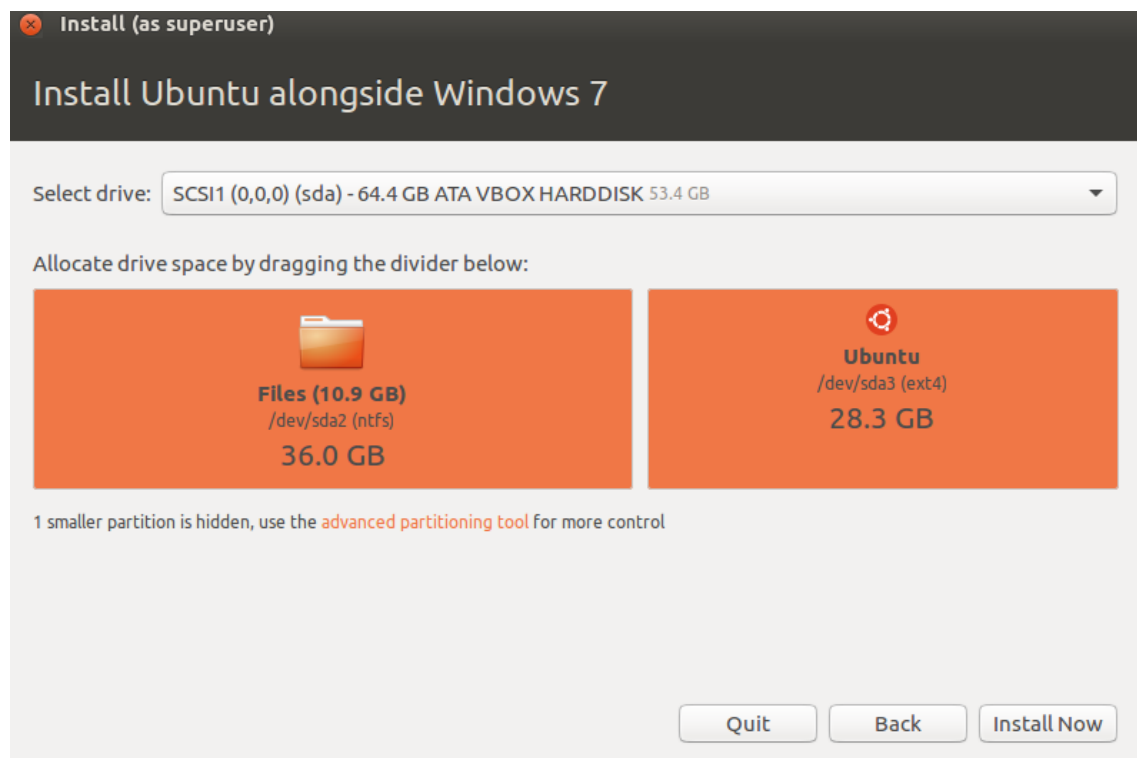
## Giving instructions to keep both OS



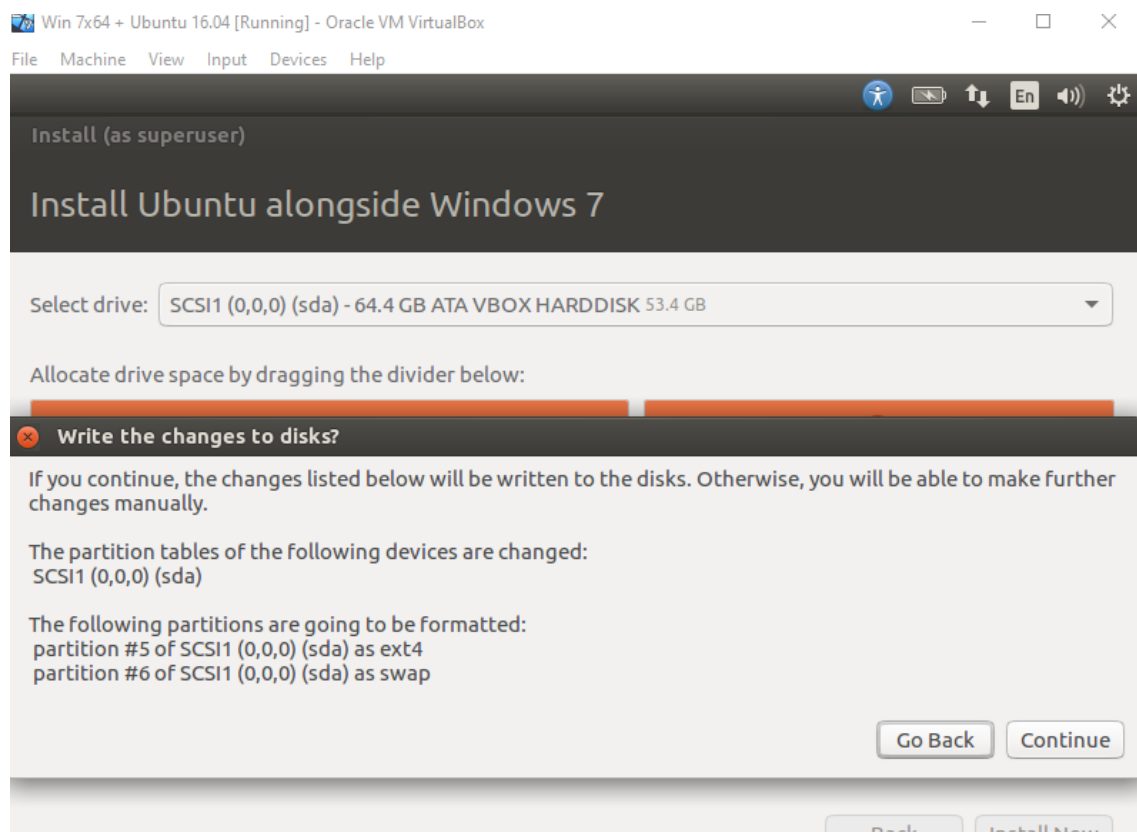
## Beginning Ubuntu x 64 installation



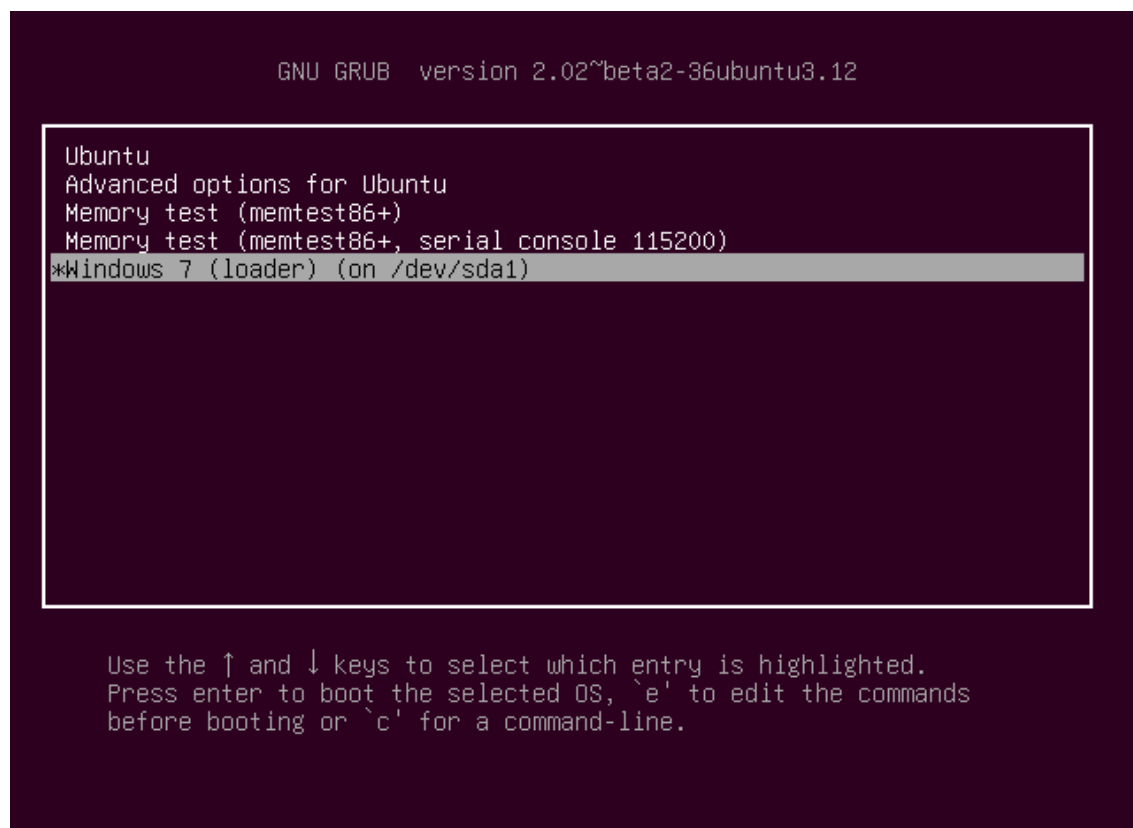
## Assigning space to system and files



## Accepting the provisional standard partitioning

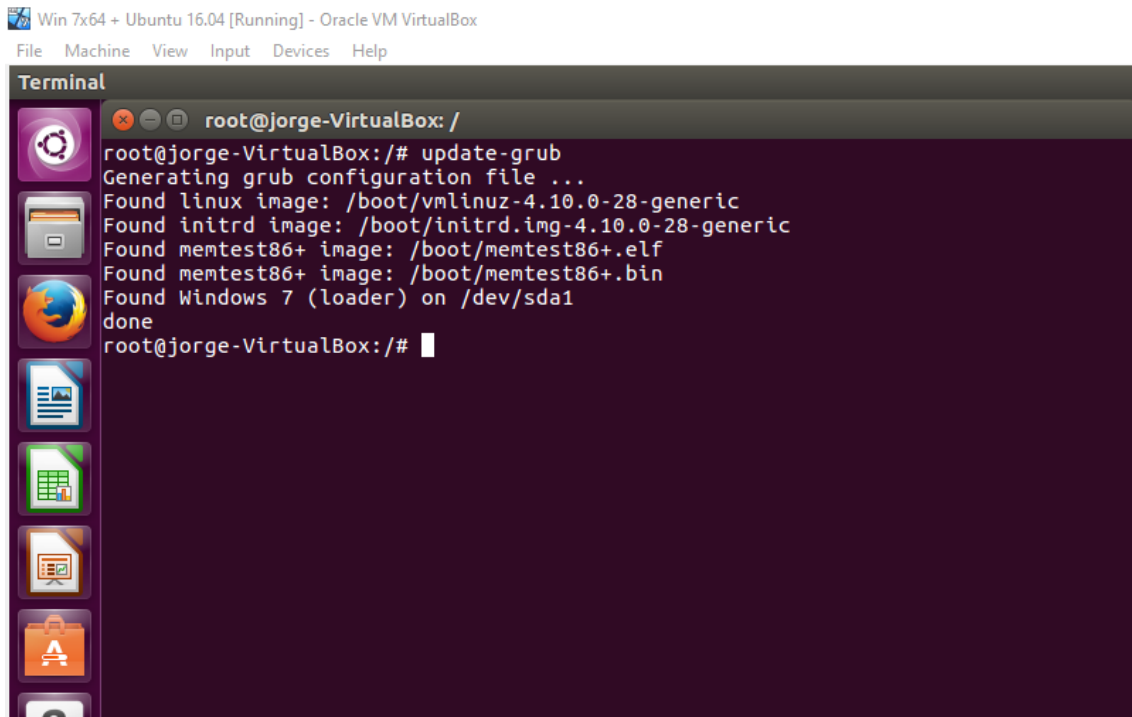


## First image after restart





## GRUB updated



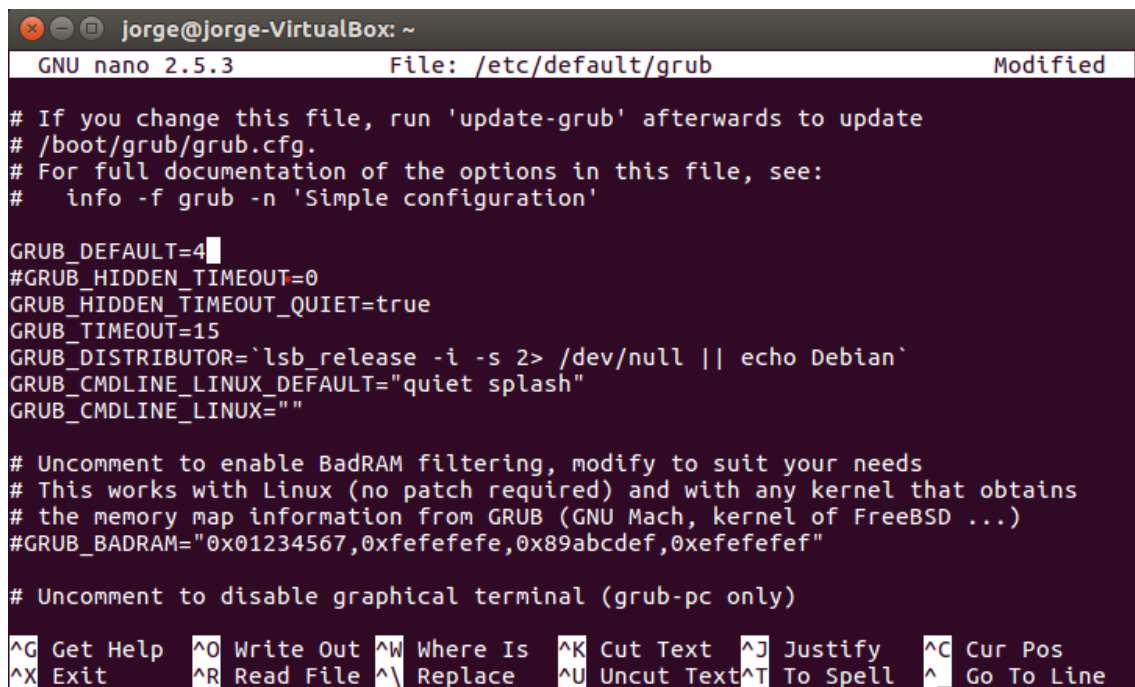
Win 7x64 + Ubuntu 16.04 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Terminal

```
root@jorge-VirtualBox: /
root@jorge-VirtualBox:/# update-grub
Generating grub configuration file ...
Found linux image: /boot/vmlinuz-4.10.0-28-generic
Found initrd image: /boot/initrd.img-4.10.0-28-generic
Found memtest86+ image: /boot/memtest86+.elf
Found memtest86+ image: /boot/memtest86+.bin
Found Windows 7 (loader) on /dev/sda1
done
root@jorge-VirtualBox:/#
```

Set up Grub for Windows to be the default entry after 15 seconds if no other option is selected



```
jorge@jorge-VirtualBox: ~
GNU nano 2.5.3      File: /etc/default/grub      Modified

# If you change this file, run 'update-grub' afterwards to update
# /boot/grub/grub.cfg.
# For full documentation of the options in this file, see:
#   info -f grub -n 'Simple configuration'

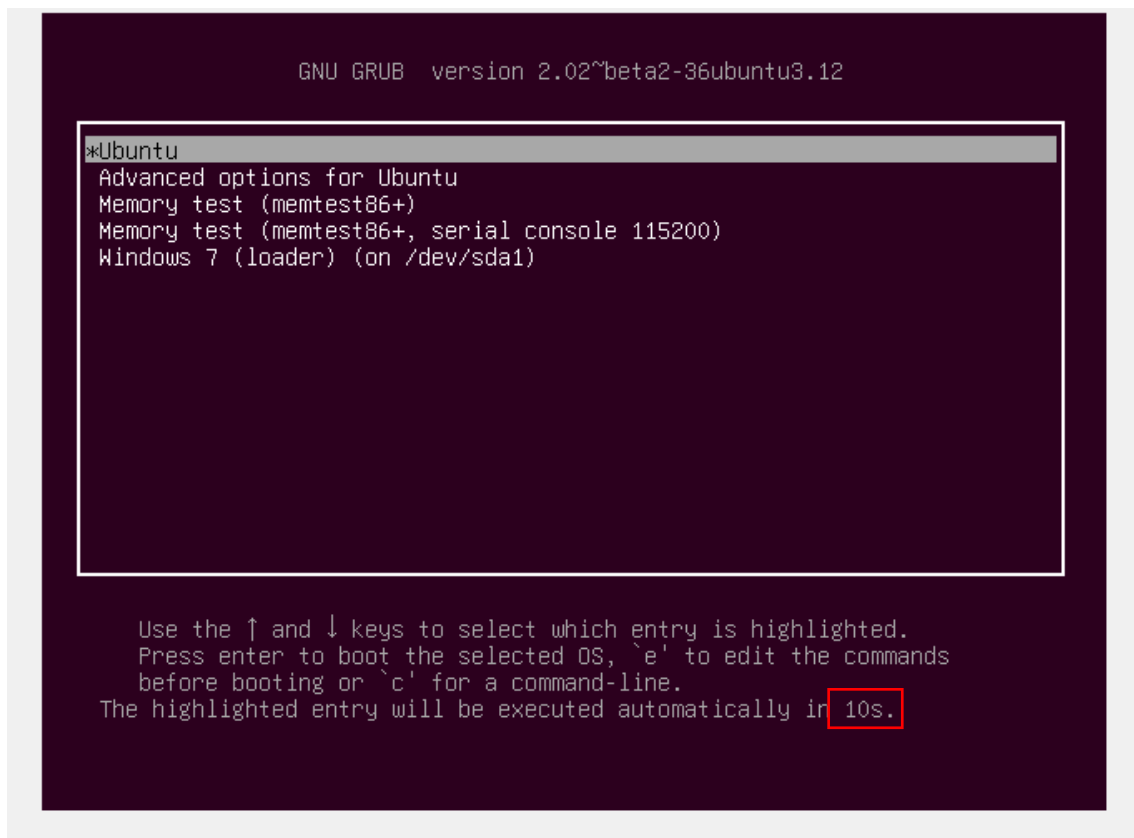
GRUB_DEFAULT=4
#GRUB_HIDDEN_TIMEOUT=0
GRUB_HIDDEN_TIMEOUT_QUIET=true
GRUB_TIMEOUT=15
GRUB_DISTRIBUTOR=`lsb_release -i -s 2> /dev/null || echo Debian`
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash"
GRUB_CMDLINE_LINUX=""

# Uncomment to enable BadRAM filtering, modify to suit your needs
# This works with Linux (no patch required) and with any kernel that obtains
# the memory map information from GRUB (GNU Mach, kernel of FreeBSD ...)
#GRUB_BADRAM="0x01234567,0xfefefefe,0x89abcdef,0xefefefef"

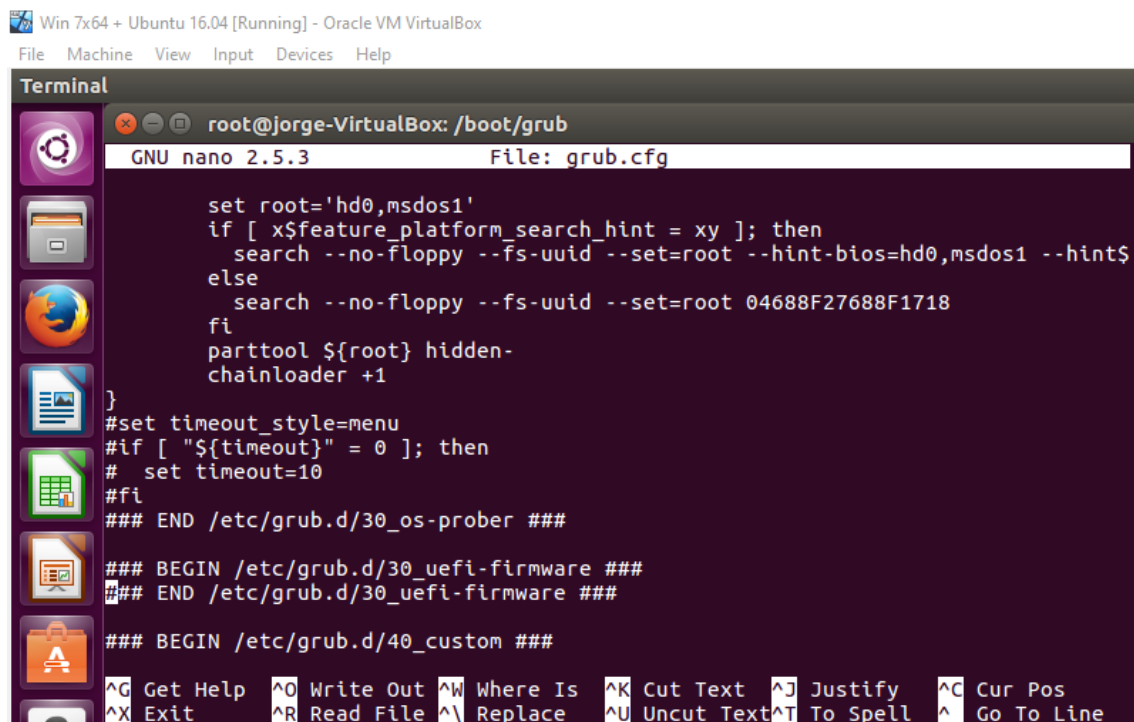
# Uncomment to disable graphical terminal (grub-pc only)

^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify  ^C Cur Pos
^X Exit      ^R Read File ^\ Replace   ^U Uncut Text ^T To Spell  ^_ Go To Line
```

Trying up the new setting (I was not fast enough as for getting the 15 secs screenshot):



Commenting file grub.cfg as suggested by your notes



Configuring for booting Ubuntu without displaying the menu after showing a 10 seconds countdown.

```
Win 7x64 + Ubuntu 16.04 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

Terminal
jorge@jorge-VirtualBox: ~
GNU nano 2.5.3 File: /etc/default/grub

# If you change this file, run 'update-grub' afterwards to update
# /boot/grub/grub.cfg.
# For full documentation of the options in this file, see:
# info -f grub -n 'Simple configuration'

GRUB_DEFAULT=0
#GRUB_HIDDEN_TIMEOUT=0
GRUB_HIDDEN_TIMEOUT_QUIET=true
GRUB_TIMEOUT=10
GRUB_DISTRIBUTOR=`lsb_release -i -s 2> /dev/null || echo Debian`
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash"
GRUB_CMDLINE_LINUX=""

# Uncomment to enable BadRAM filtering, modify to suit your needs
# This works with Linux (no patch required) and with any kernel that obtains
# the memory map information from GRUB (GNU Mach, kernel of FreeBSD ...)
#GRUB_BADRAM="0x01234567,0xfefefefe,0x89abcdef,0xefefefef"

# Uncomment to disable graphical terminal (grub-pc only)
Read 34 lines
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^B Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line
```

Boot without displaying with 10 secs countdown (I got in time to get only 7)

```
GNU GRUB version 2.02~beta2-36ubuntu3.12

*Ubuntu
Advanced options for Ubuntu
Memory test (memtest86+)
Memory test (memtest86+, serial console 115200)
Windows 7 (loader) (on /dev/sda1)

Use the ↑ and ↓ keys to select which entry is highlighted.
Press enter to boot the selected OS, 'e' to edit the commands
before booting or 'c' for a command-line.
The highlighted entry will be executed automatically in 7s.
```

## Configuring grub default to boot Ubuntu without displaying the menu

Win 7x64 + Ubuntu 16.04 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Terminal

root@jorge-VirtualBox: /

GNU nano 2.5.3 File: /etc/default/grub Modified

```
# If you change this file, run 'update-grub' afterwards to update
# /boot/grub/grub.cfg.
# For full documentation of the options in this file, see:
#   info -f grub -n 'Simple configuration'

GRUB_DEFAULT=0
#GRUB_HIDDEN_TIMEOUT=0
GRUB_TIMEOUT=0
GRUB_DISTRIBUTOR=`lsb_release -i -s 2> /dev/null || echo Debian`
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash"
GRUB_CMDLINE_LINUX=""

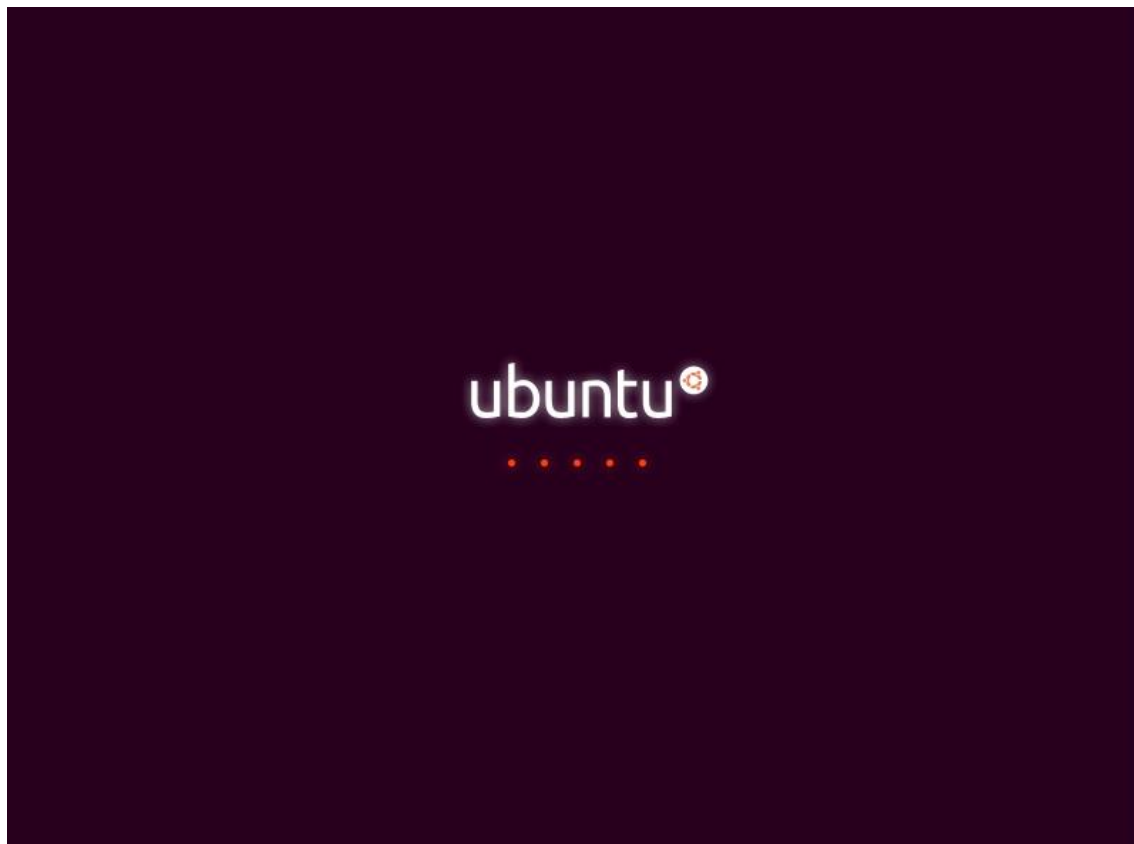
# Uncomment to enable BadRAM filtering, modify to suit your needs
# This works with Linux (no patch required) and with any kernel that obtains
# the memory map information from GRUB (GNU Mach, kernel of FreeBSD ...)
#GRUB_BADRAM="0x01234567,0xfefefefe,0x89abcdef,0xefefefef"

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

[ Read 33 lines ]

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos  
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^\_ Go To Line

## Booting Ubuntu straight on



## Settings for booting Windows straight on

WIN /X04 + Ubuntu 16.04 [running] - Oracle VM VirtualBox

File Machine View Input Devices Help

```
Terminal
root@jorge-VirtualBox: /home/jorge
GNU nano 2.5.3 File: /etc/default/grub

# If you change this file, run 'update-grub' afterwards to update
# /boot/grub/grub.cfg.
# For full documentation of the options in this file, see:
#   info -f grub -n 'Simple configuration'

GRUB_DEFAULT=4
#GRUB_HIDDEN_TIMEOUT=0
GRUB_TIMEOUT=0
GRUB_DISTRIBUTOR=`lsb_release -i -s 2> /dev/null || echo Debian`
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash"
GRUB_CMDLINE_LINUX=""

# Uncomment to enable BadRAM filtering, modify to suit your needs
# This works with Linux (no patch required) and with any kernel that obtains
# the memory map information from GRUB (GNU Mach, kernel of FreeBSD ...)
#GRUB_BADRAM="0x01234567,0xfefefefe,0x89abcdef,0xefefefef"

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

[ Read 33 lines ]
^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^\ Replace   ^U Uncut Text ^T To Spell  ^_ Go To Line
```

## Starting Windows straight on

```
Windows Error Recovery

Windows did not shut down successfully. If this was due to the system not
responding, or if the system was shut down to protect data, you might be
able to recover by choosing one of the Safe Mode configurations from the
menu below:
(Use the arrow keys to highlight your choice.)

Safe Mode
Safe Mode with Networking
Safe Mode with Command Prompt

Start Windows Normally

Seconds until the highlighted choice will be selected automatically: 30
Description: Start Windows with its regular settings.
```