

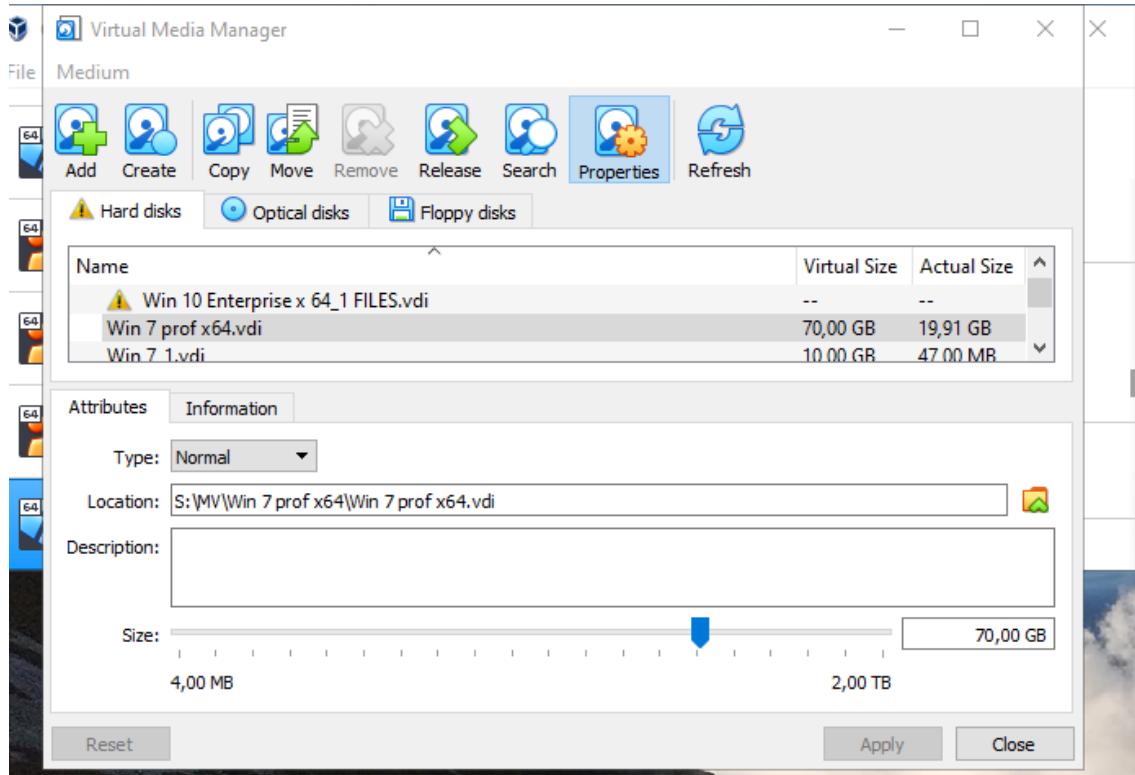
## Dual Booting Exercises Unit 2

1

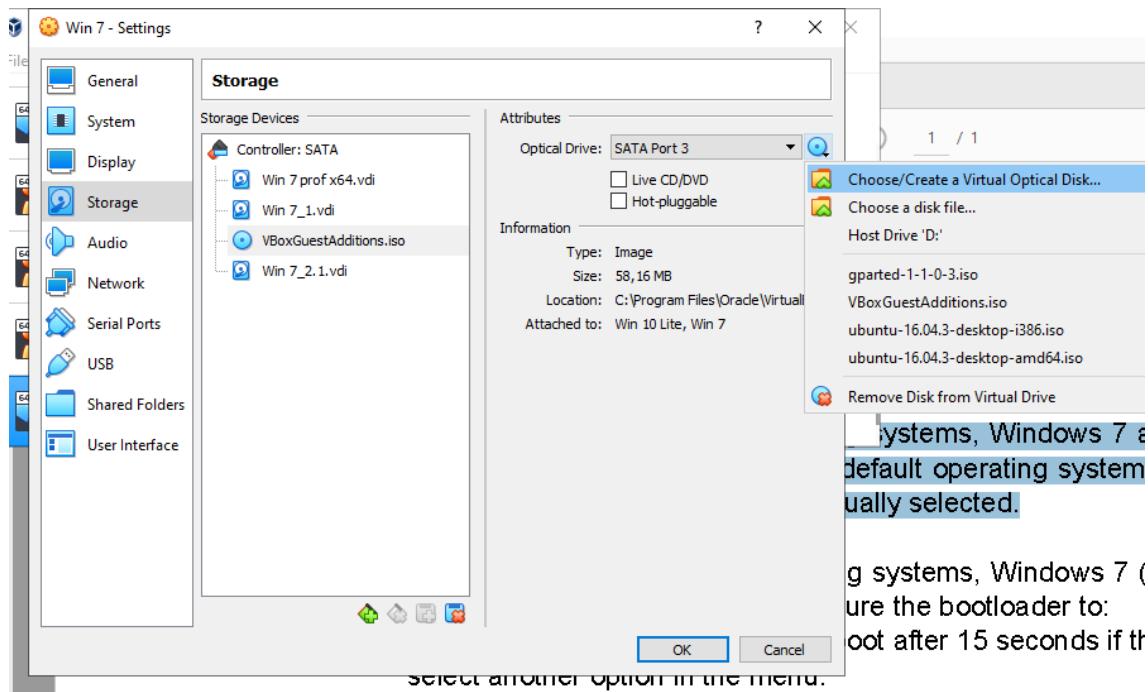
### Create a document with screenshots to explain the answer for each exercise

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.

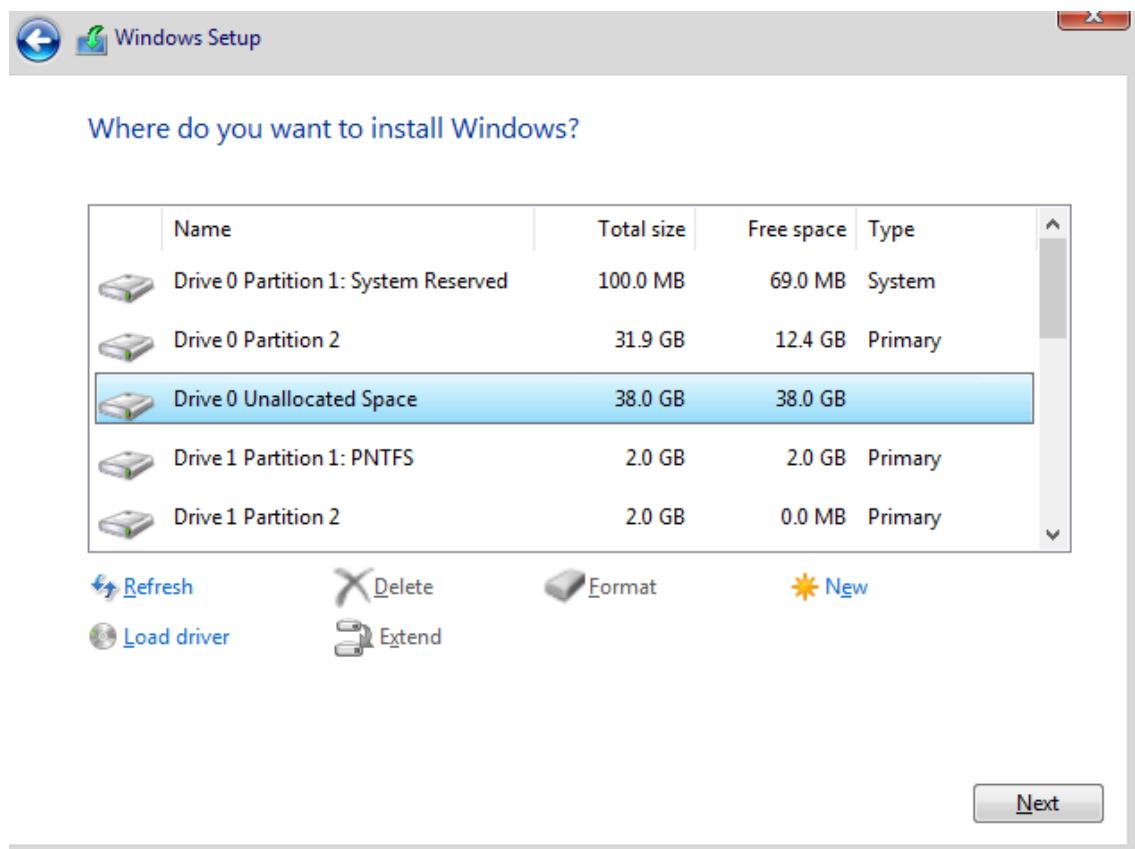
### Upsizing my original Win 7 virtual disk



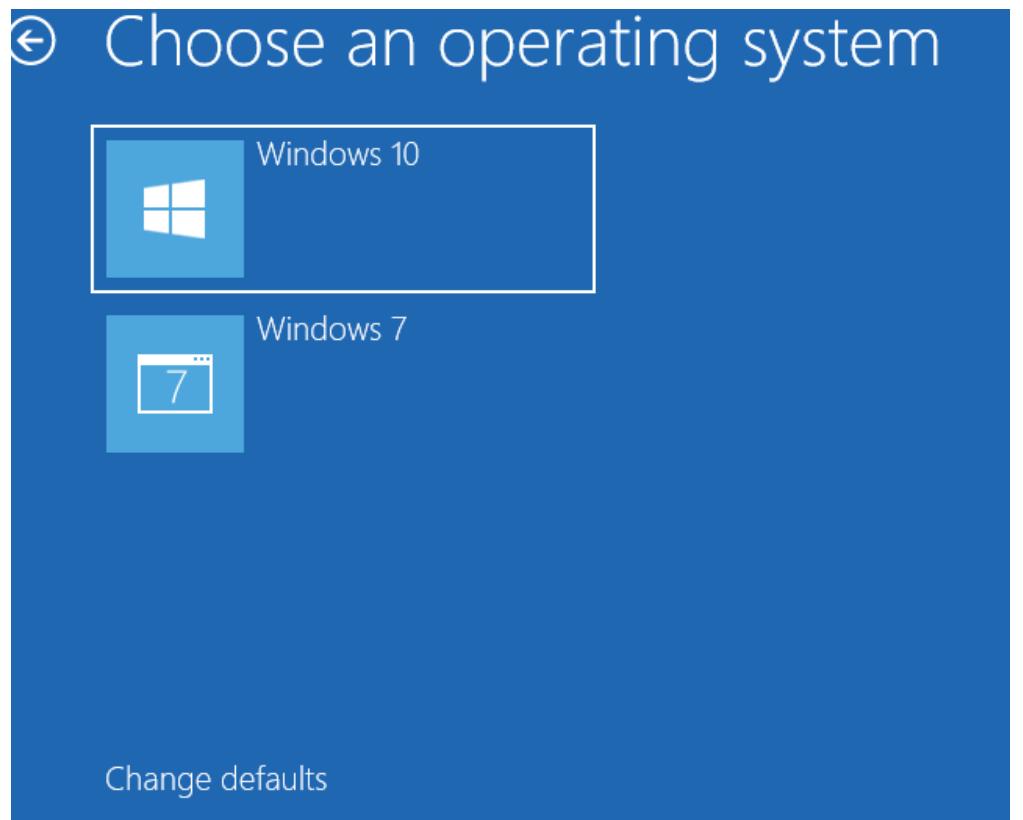
## Shifting optical drive to the Win 10 iso



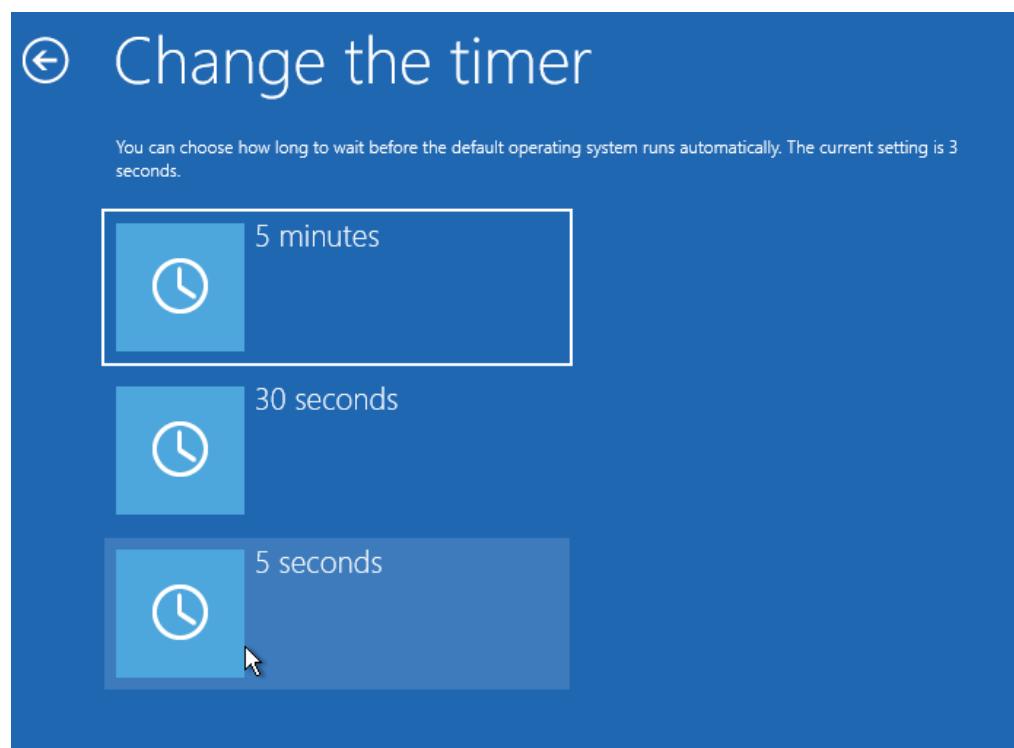
Choosing proper virtual drive to install it



First figure after installing Win 10. I chose change defaults



Changing the timer



## Choosing default OS

### ④ Choose a default operating system

The current default is Windows 10.

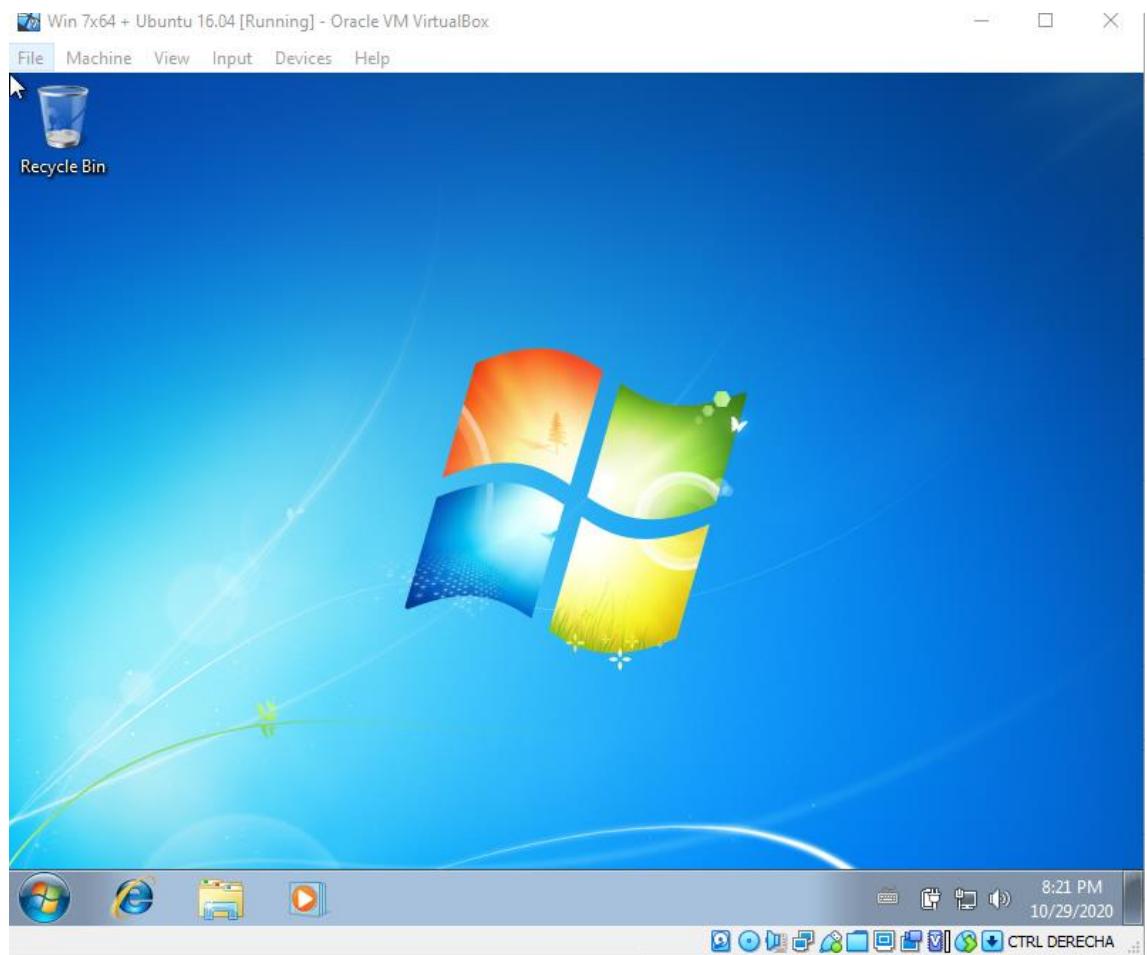


2. Create a virtual machine with two operating systems, Windows 7 (or Windows 10) and Ubuntu 16.04 (in this order) and configure the bootloader to:
- Set Windows as default entry and boot after 15 seconds if the user does not select another option in the menu.
  - Boot Ubuntu after displaying a 10 seconds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

✖ **Install (as superuser)**

### Installation type

This computer currently has Windows 7 on it. What would you like to do?

**Install Ubuntu alongside Windows 7**  
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.

**Encrypt the new Ubuntu installation for security**  
You will choose a security key in the next step.

**Use LVM with the new Ubuntu installation**  
This will set up Logical Volume Management. It allows taking snapshots and easier partition resizing.

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

Quit   Back   Continue

## Beginning Ubuntu x 64 installation

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

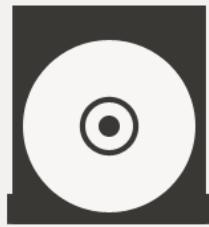
File Machine View Input Devices Help



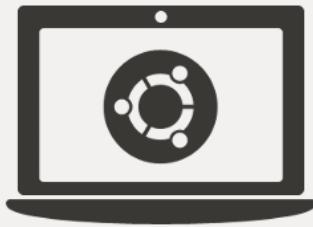
Install (as superuser)

### Welcome

English  
Español  
Esperanto  
Euskara  
Français  
Gaeilge  
Galego  
Hrvatski  
íslenska  
Italiano  
Kurdî  
Latviski  
Lietuviškai  
Magyar  
Nederlands  
Norsk bokmål  
Norsk nynorsk  
Polski  
Português



Try Ubuntu



Install Ubuntu

You can try Ubuntu without making any changes to your computer, directly from this CD.

Or if you're ready, you can install Ubuntu alongside (or instead of) your current operating system. This shouldn't take too long.

File Edit View Insert Devices System Help

## Assigning space to system and files

Install (as superuser)

### Install Ubuntu alongside Windows 7

Select drive: SCSI1 (0,0,0) (sda) - 64.4 GB ATA VBOX HARDDISK 53.4 GB

Allocate drive space by dragging the divider below:

Files (10.9 GB)  
/dev/sda2 (ntfs)

36.0 GB

Ubuntu  
/dev/sda3 (ext4)  
28.3 GB

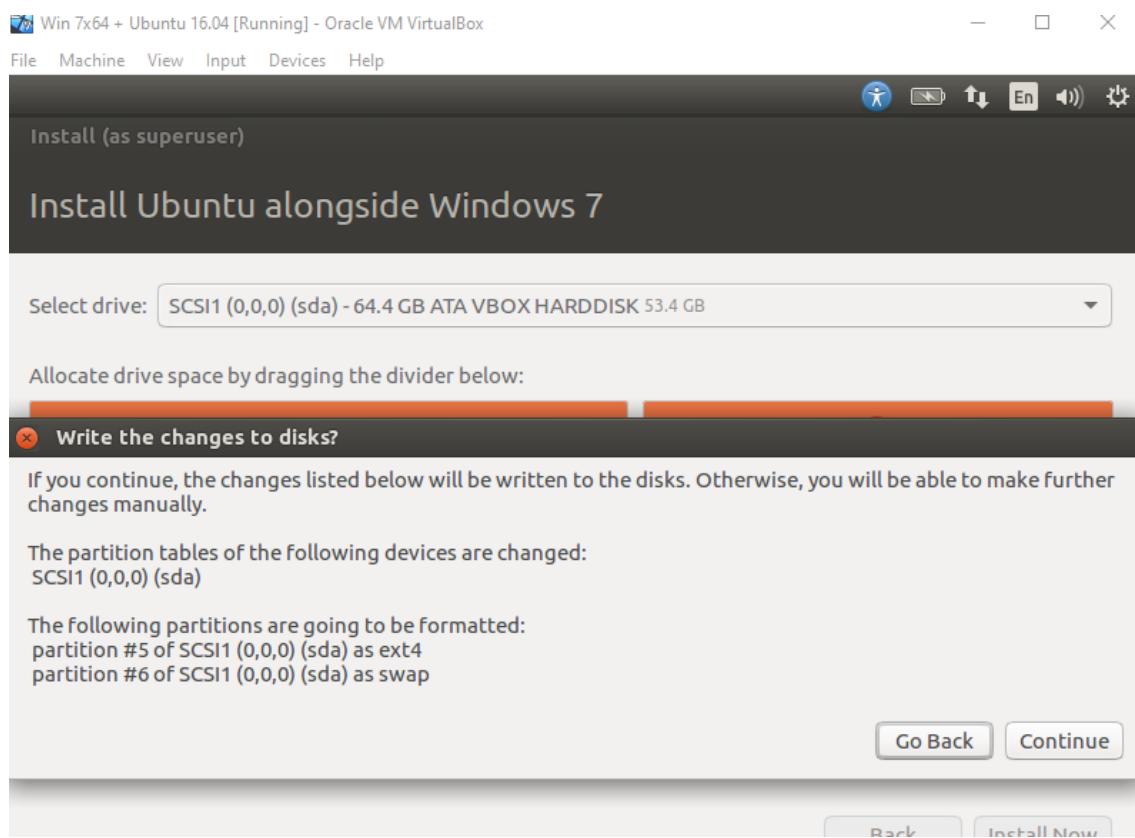
1 smaller partition is hidden, use the [advanced partitioning tool](#) for more control

Quit

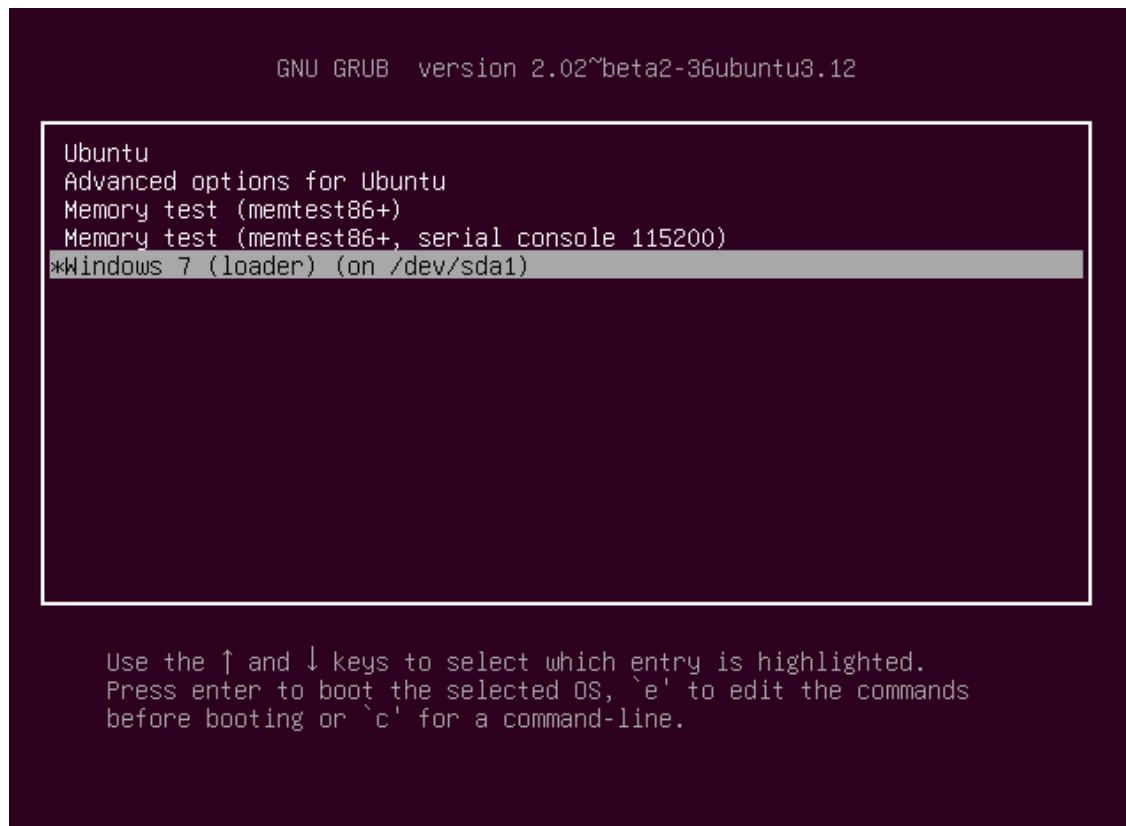
Back

Install Now

## Accepting the provisional standard partitioning



## First image after restart



GRUB updated

The screenshot shows a terminal window titled "Terminal" running on a Linux system. The window title bar indicates "Win 7x64 + Ubuntu 16.04 [Running] - Oracle VM VirtualBox". The terminal window displays the following command and its output:

```
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

```
x 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'

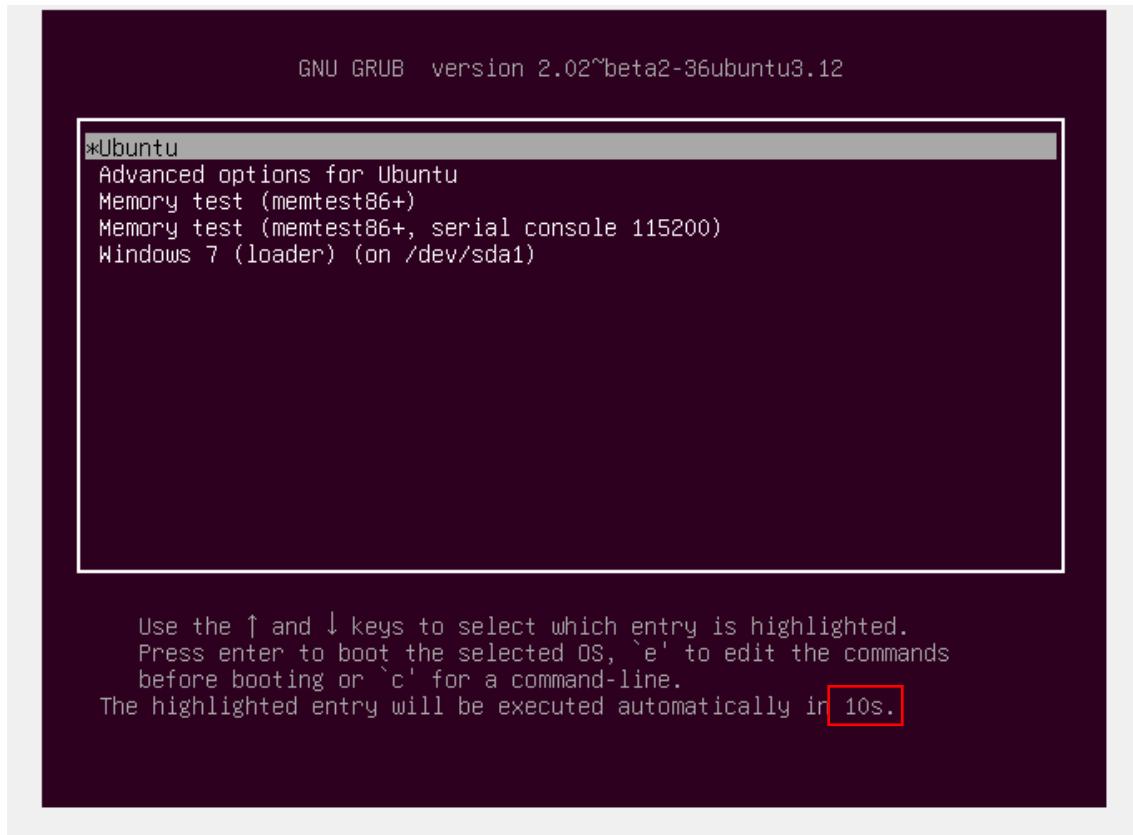
GRUB_DEFAULT=4
#GRUB_HIDDEN_TIMEOUT=0
GRUB_HIDDEN_TIMEOUT_QUIET=true
GRUB_TIMEOUT=15
GRUB_DISTRIBUTOR=`lsb_release -i -s 2> /dev/null || echo Debian`
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash"
GRUB_CMDLINE_LINUX=""

# 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"

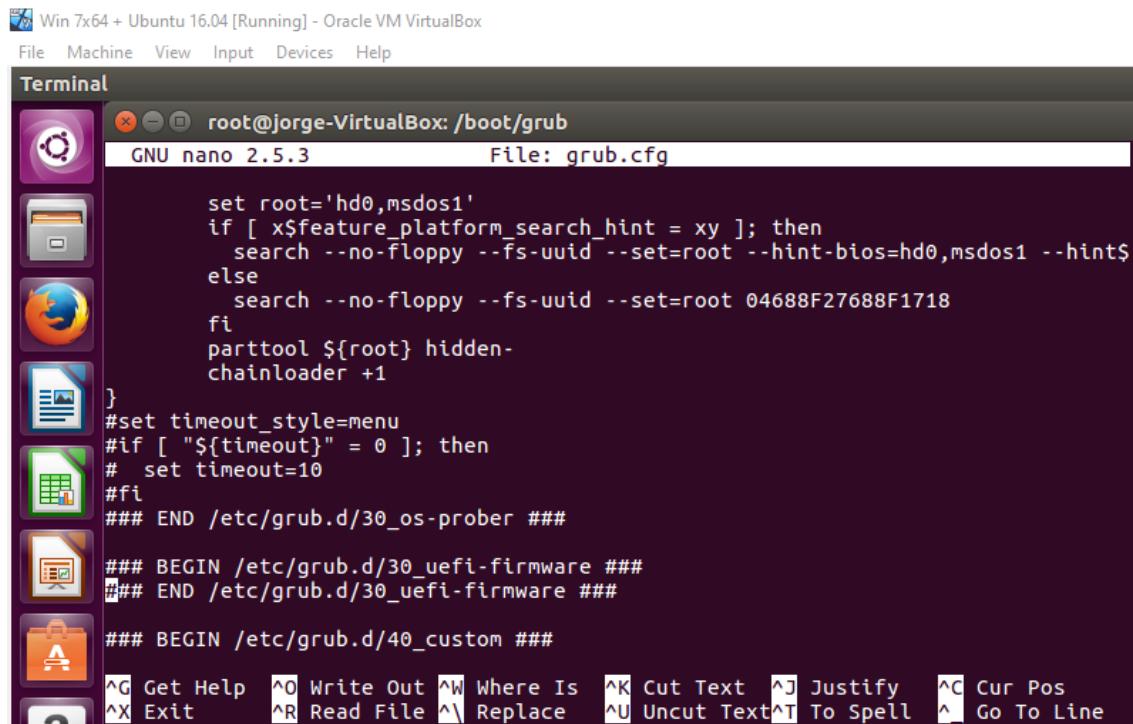
# Uncomment to disable graphical terminal (grub-pc only)

^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 ^L Go To Line
```

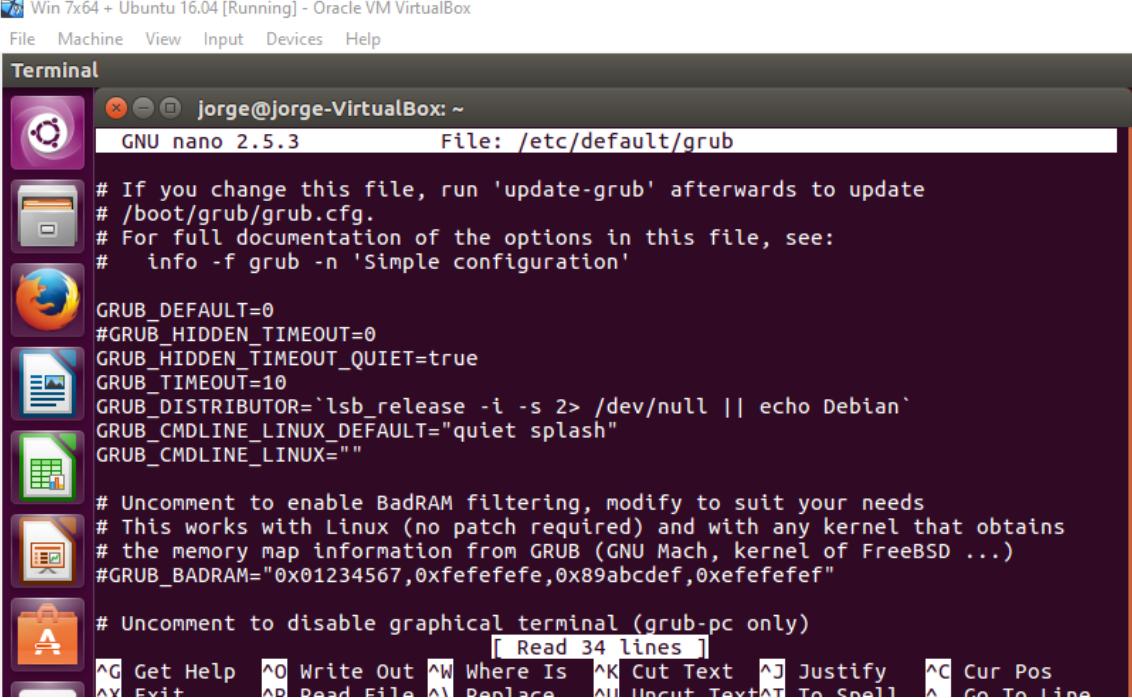
Trying up the new setting (I was not fast enough as for getting the 15 secs screenshot):



## 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

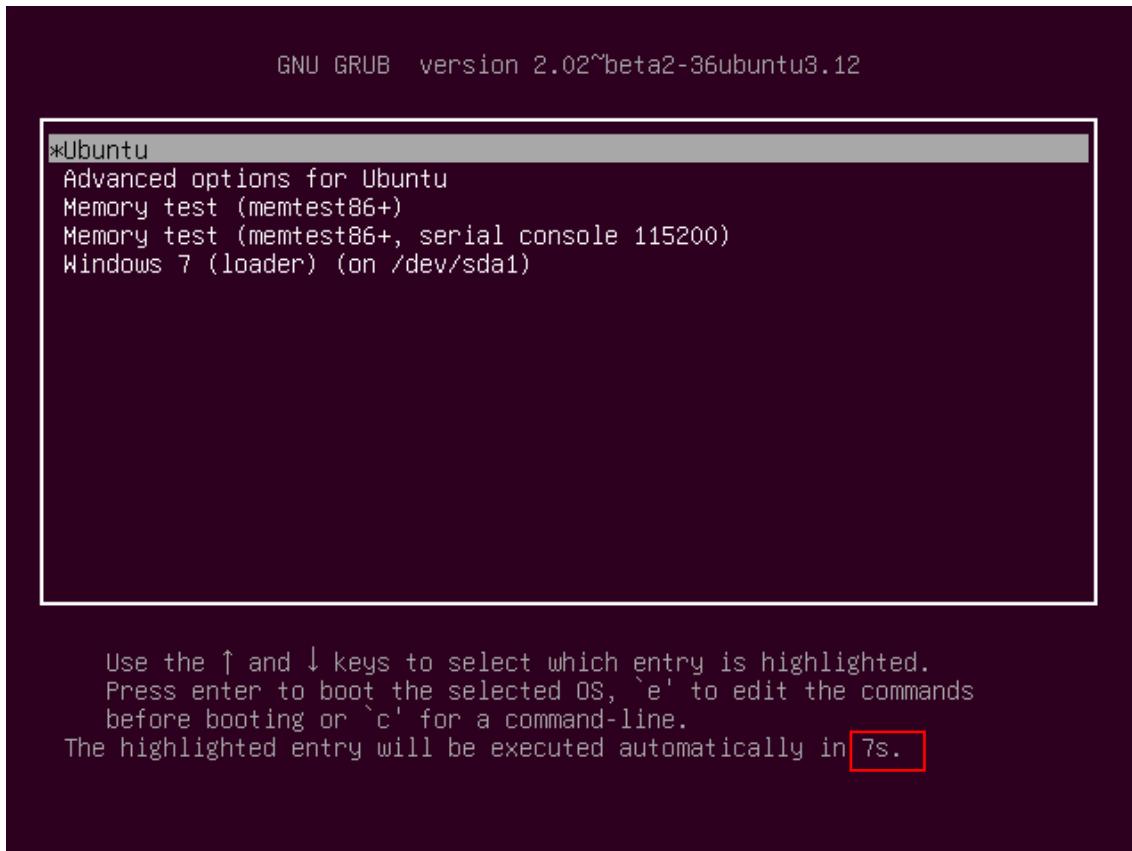
```
# If you change this file, run 'update-grub' afterwards to update
# /boot/grub/grub.cfg.
# For full documentation of the options in this file, see:
#   info -f grub -n 'Simple configuration'

GRUB_DEFAULT=0
#GRUB_HIDDEN_TIMEOUT=0
GRUB_HIDDEN_TIMEOUT_QUIET=true
GRUB_TIMEOUT=10
GRUB_DISTROITOR='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 ^P Read File ^L Replace ^U Uncut Text ^T To Spell ^L Go To Line
```

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



## 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

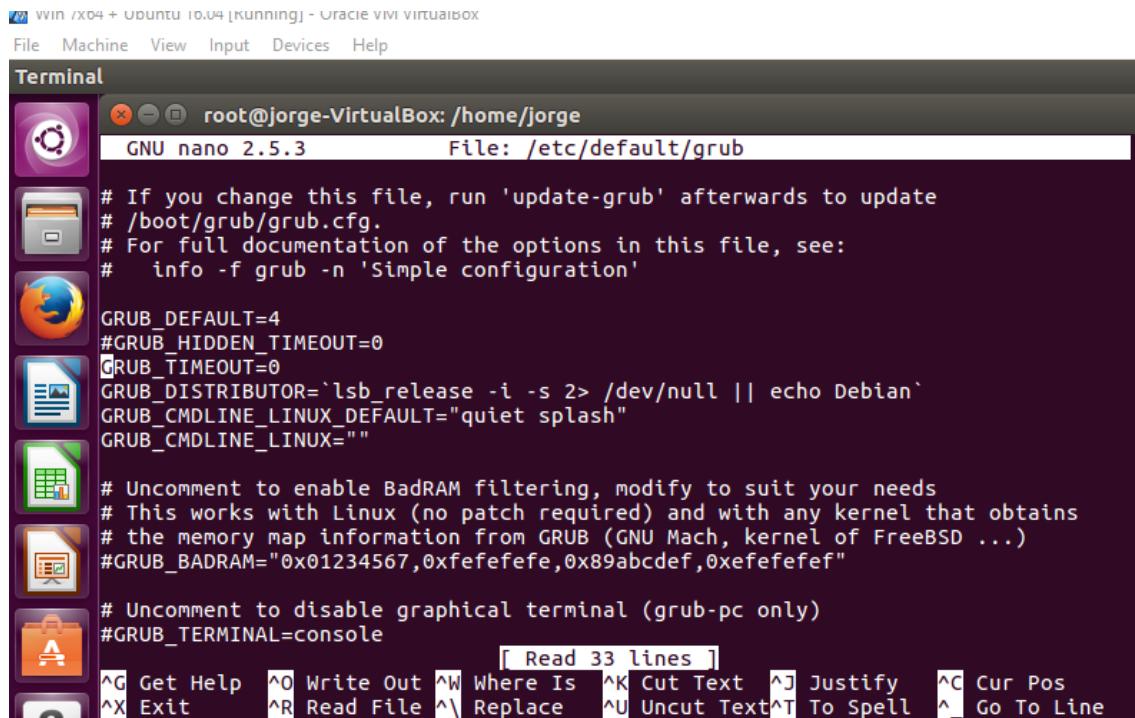
Terminal

```
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="0x01234567,0xefefefef,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  ^L Go To Line
```

Booting Ubuntu straight on



## Settings for booting Windows straight on



A screenshot of a terminal window titled "root@jorge-VirtualBox: /home/jorge". The window shows the contents of the "/etc/default/grub" file. The file contains configuration options for GRUB, such as GRUB\_DEFAULT=4, GRUB\_HIDDEN\_TIMEOUT=0, and GRUB\_CMDLINE\_LINUX\_DEFAULT="quiet splash". There are also comments about BadRAM filtering and graphical terminals.

```
# 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="0x01234567,0xefefefef,0x89abcdef,0xefefefef"

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

## Starting Windows straight on

