



# **Installing Ubuntu 14.04 and Windows® 7/8 in Dual-boot Mode**

Installation Guide

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# 1 Introduction

This document describes how to set up a “dual-boot” configuration on your system for Windows® and Ubuntu. Each operating system is installed and configured on a different partition.

Please contact your AMD Field Applications Engineer or technical representative with any questions about this document.

## 2 Installation Requirements

Before you begin the installation process, make sure that there is adequate space on your system's hard disk and that the following prerequisites are met:

- Boot mode is set to Native UEFI
- Internet connection is available
- Installation media is available:
  - Windows® 7/Windows® 8 installation disc
  - Ubuntu 14.04 LTS installation disc (also available for download from <http://www.ubuntu.com>)

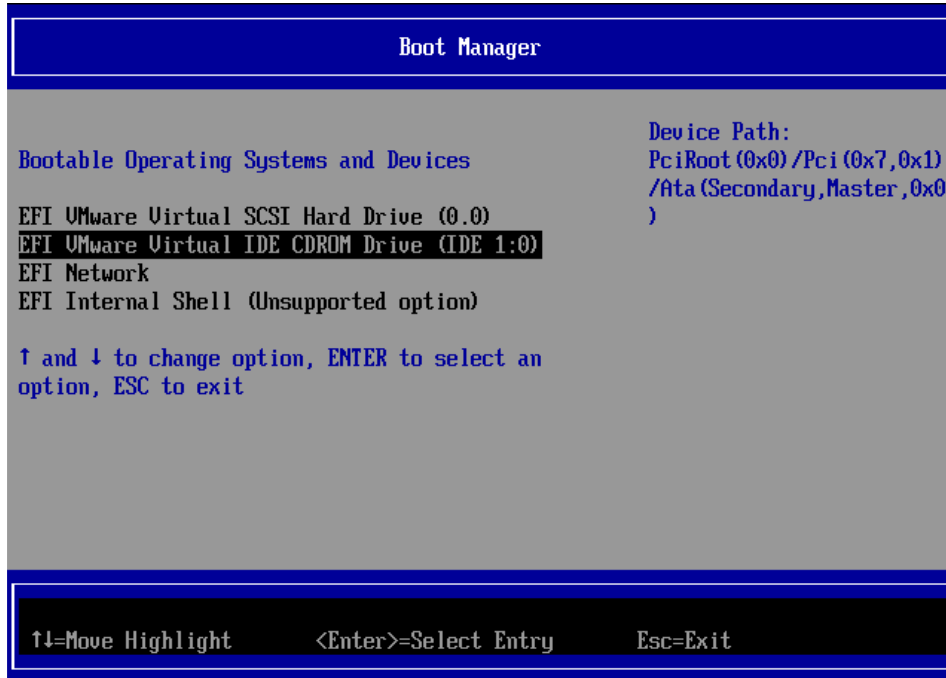
## 3 Installation Procedures

The following procedures describe how to install both Windows® and Ubuntu on your system. When both operating systems are correctly installed, a dual-boot menu should appear each time you start your system.

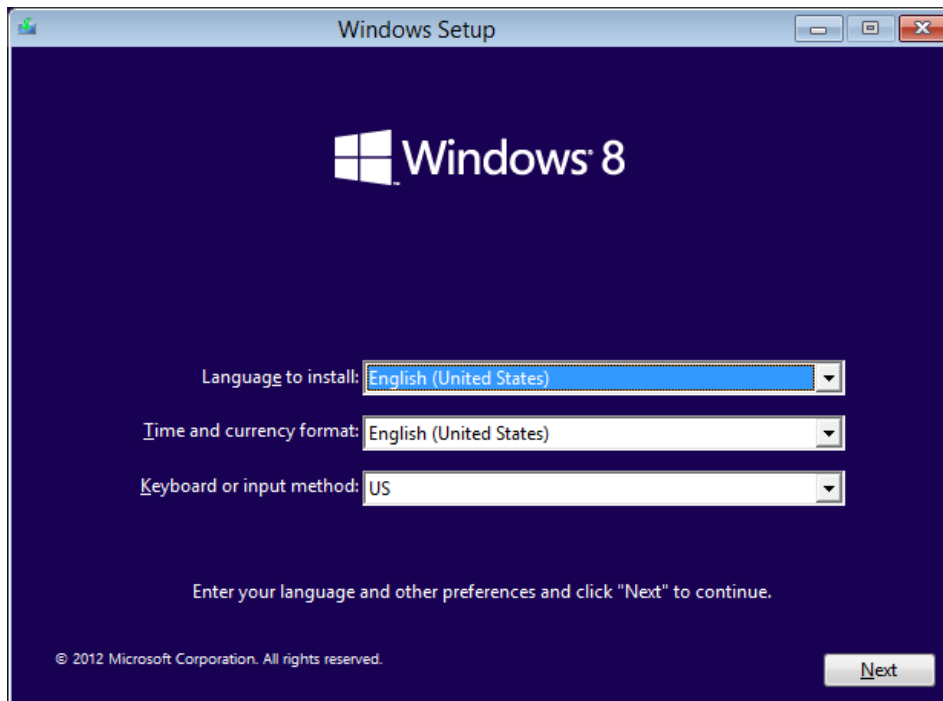
### 3.1 Installing Windows®

Complete the following steps to install Windows. For more detailed installation instructions, see the documentation that is available with your operating system.

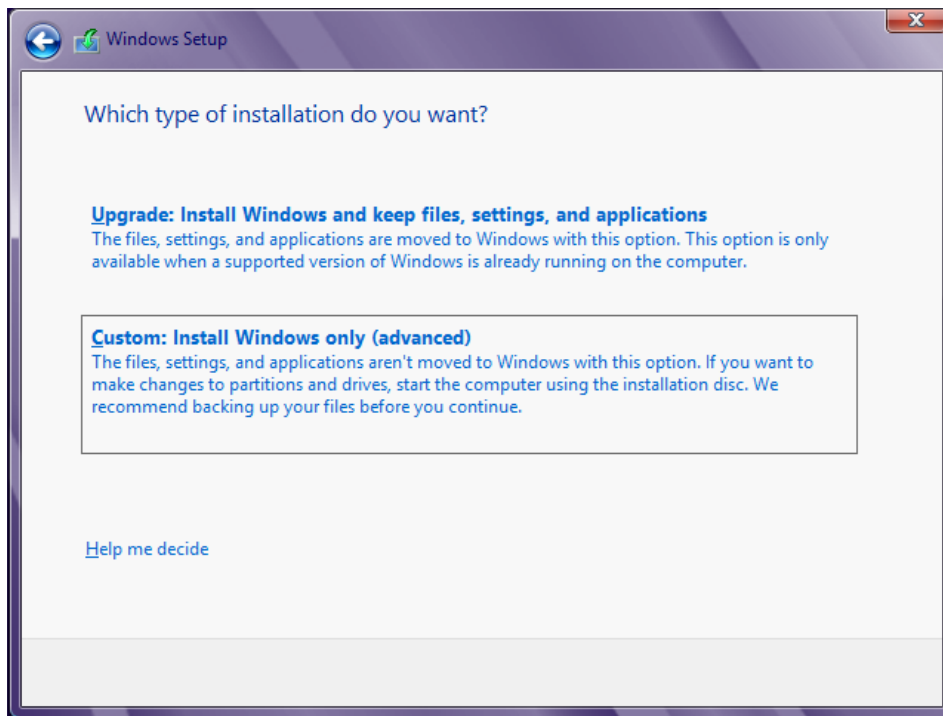
1. Insert the Windows installation CD into the CD-ROM drive, open **Boot Manager**, and boot your system using the UEFI CDROM option as shown below.



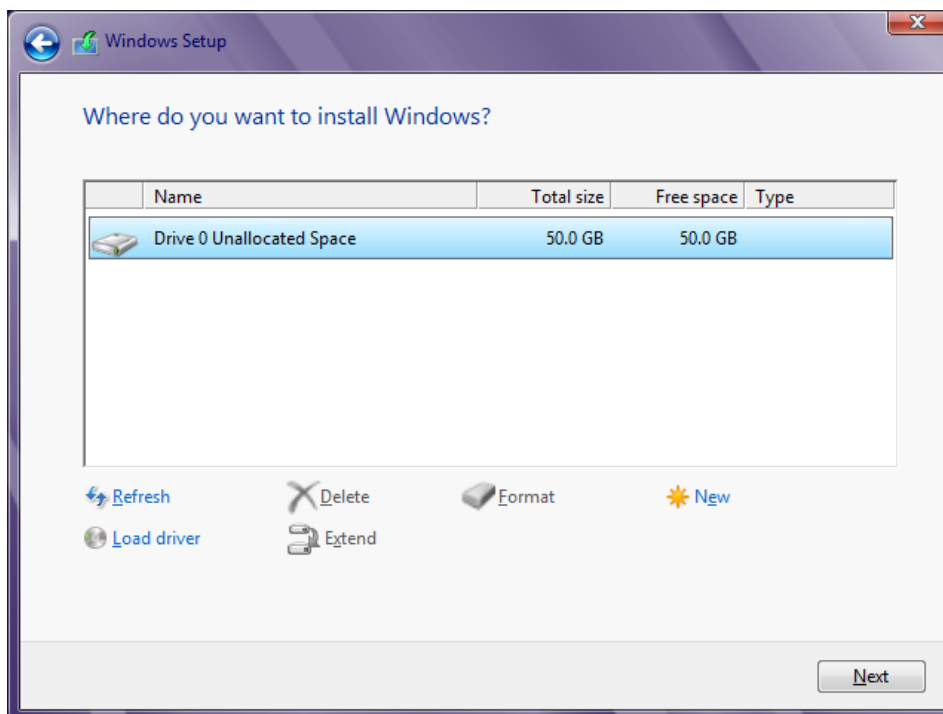
2. Select the appropriate language and click **Next**.



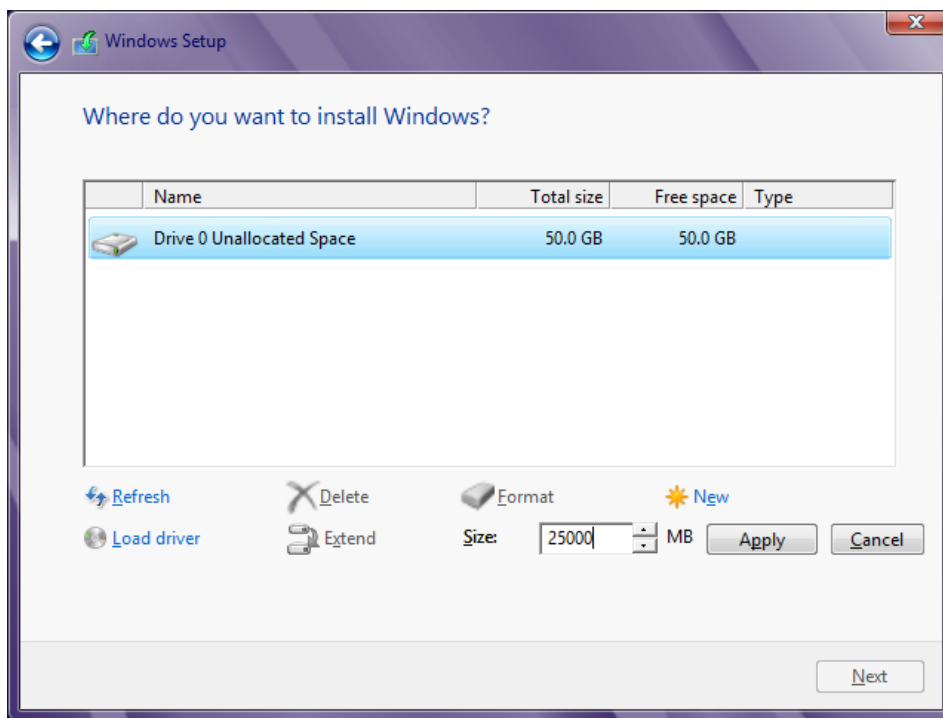
3. When prompted, select to install Windows only.



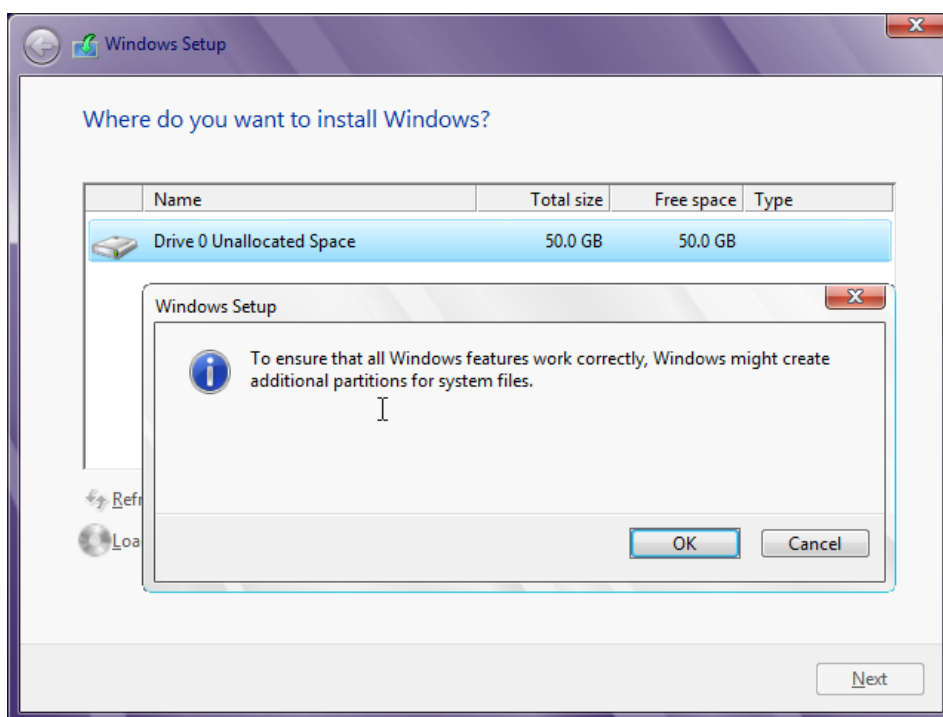
4. Delete all existing partitions, leaving the whole hard disk empty, and click **Next**.



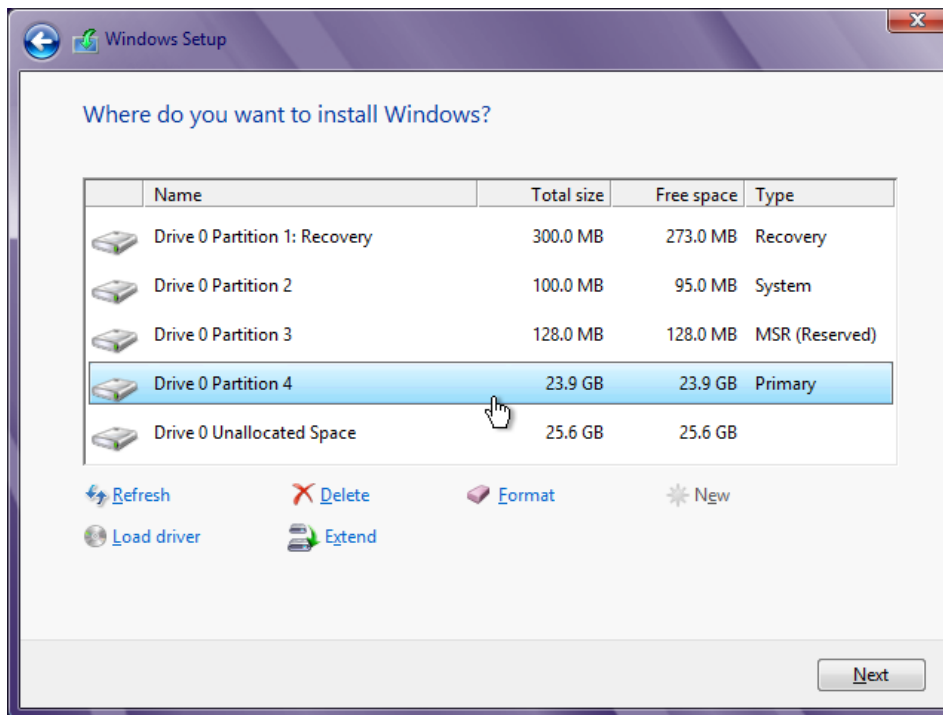
5. Create a new partition that is half the size of the hard disk.



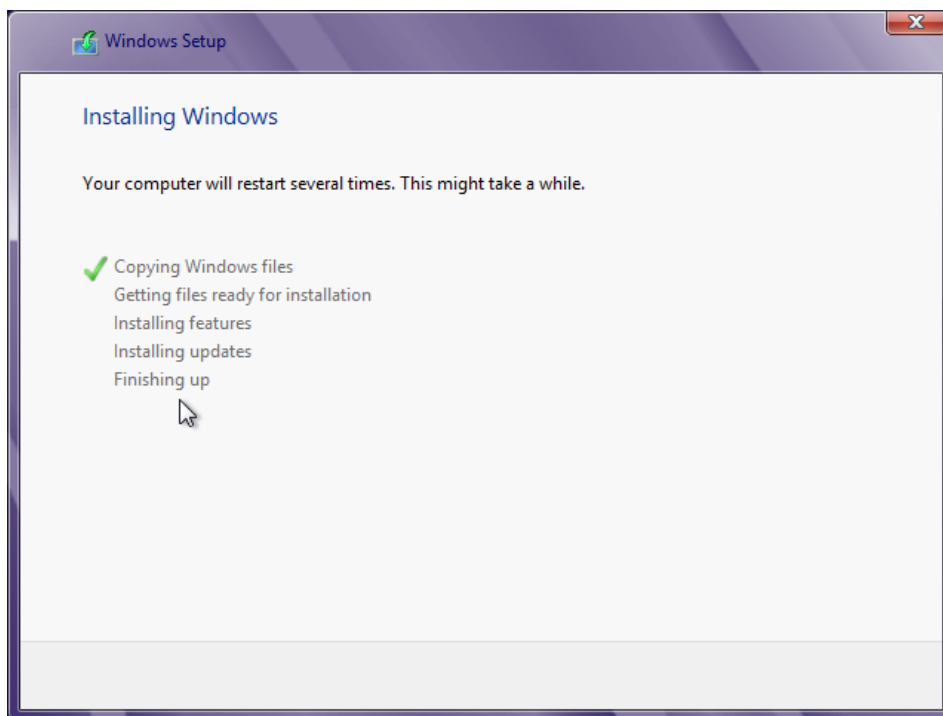
6. Click **OK** to allow additional partitions to be created by Windows as needed.



7. Make sure that the **Recovery**, **System**, **MSR**, and **Primary** partitions have been created, and click **Next** to continue with the installation.



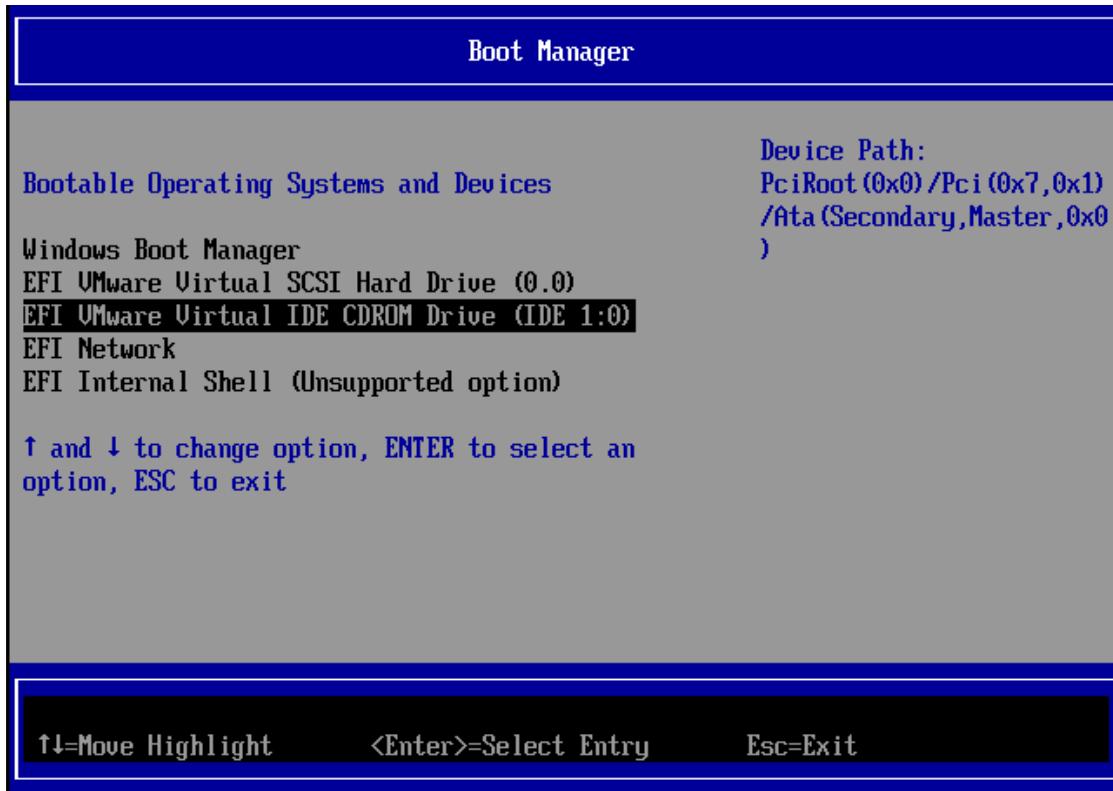
8. Complete all remaining installation steps until Windows is fully set up and running.



## 3.2 Installing Ubuntu

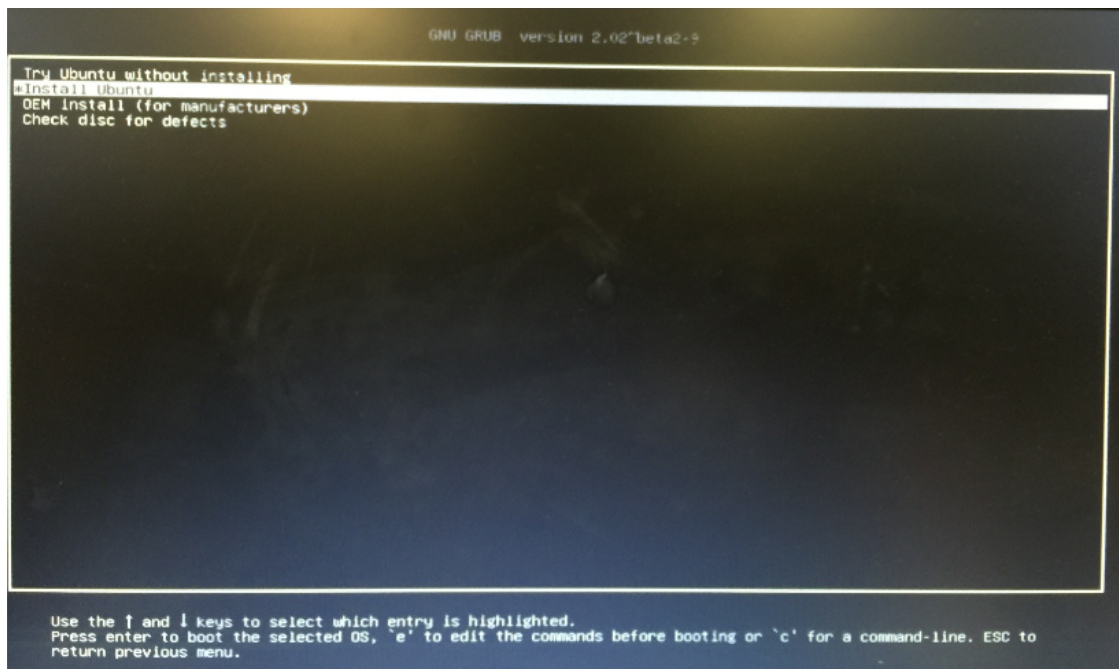
Complete the following steps to install Ubuntu. For more detailed installation instructions, see the documentation that is available with your operating system.

1. Insert the Ubuntu installation CD into the CD-ROM drive, open **Boot Manager**, and boot your system using the UEFI CDROM option as shown below.

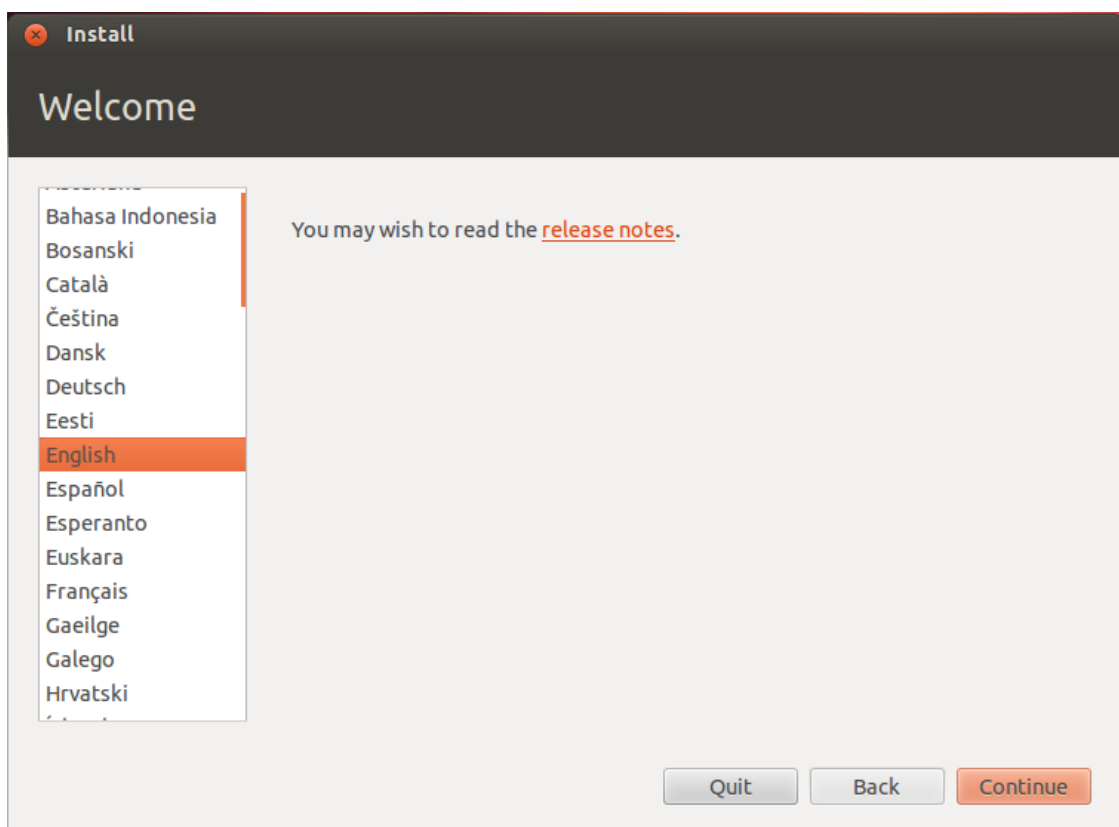




## 2. Select to install Ubuntu.



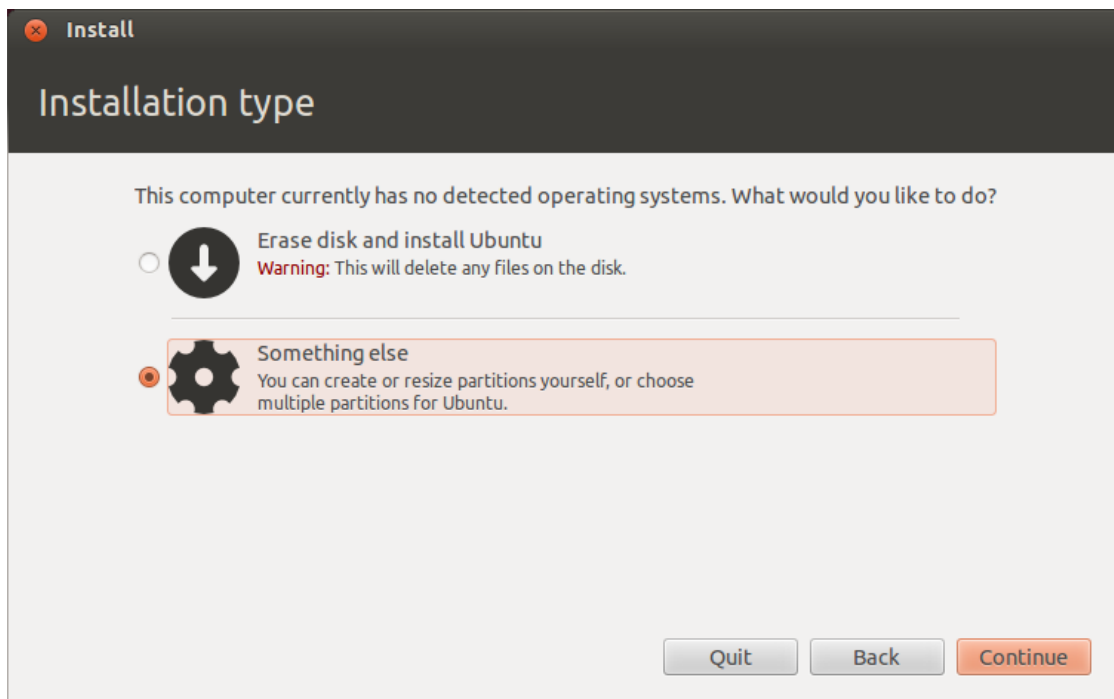
## 3. Select the appropriate language and click **Continue**.



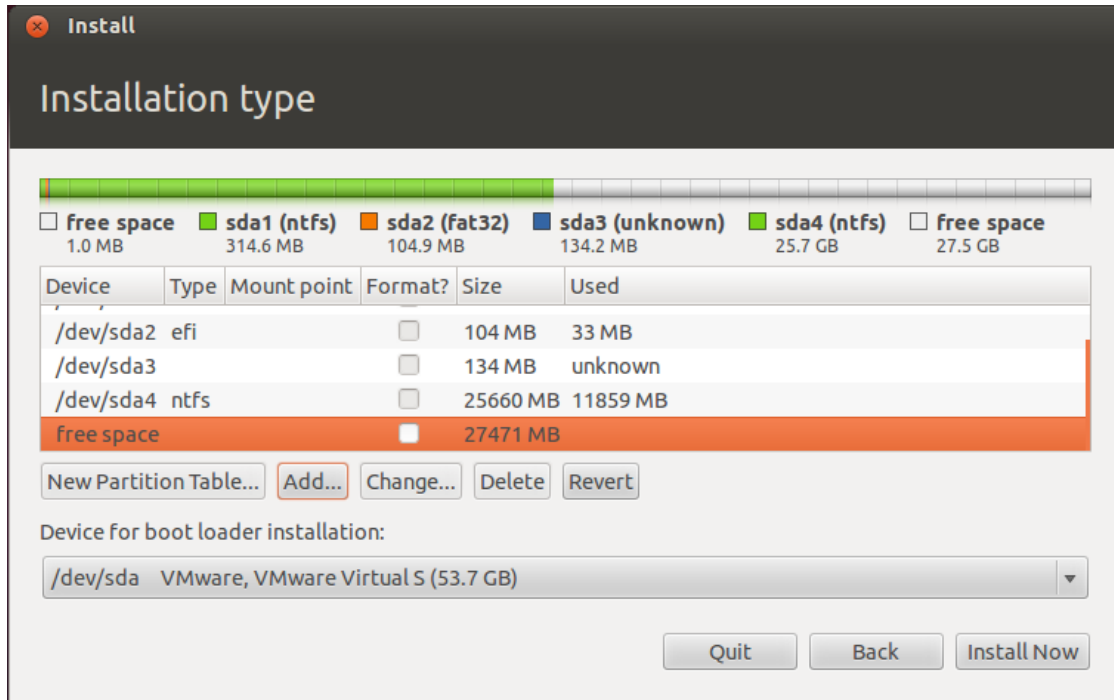
4. When prompted, click **Continue** to prepare the installation.



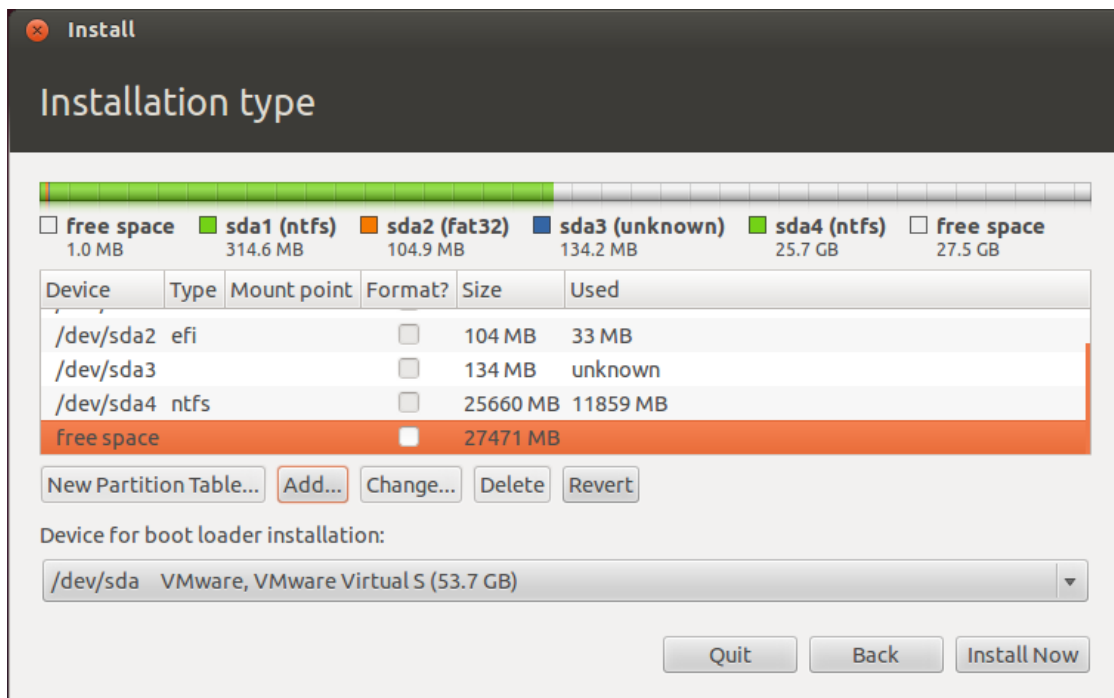
5. Select an installation type of **Something else** and click **Continue**.



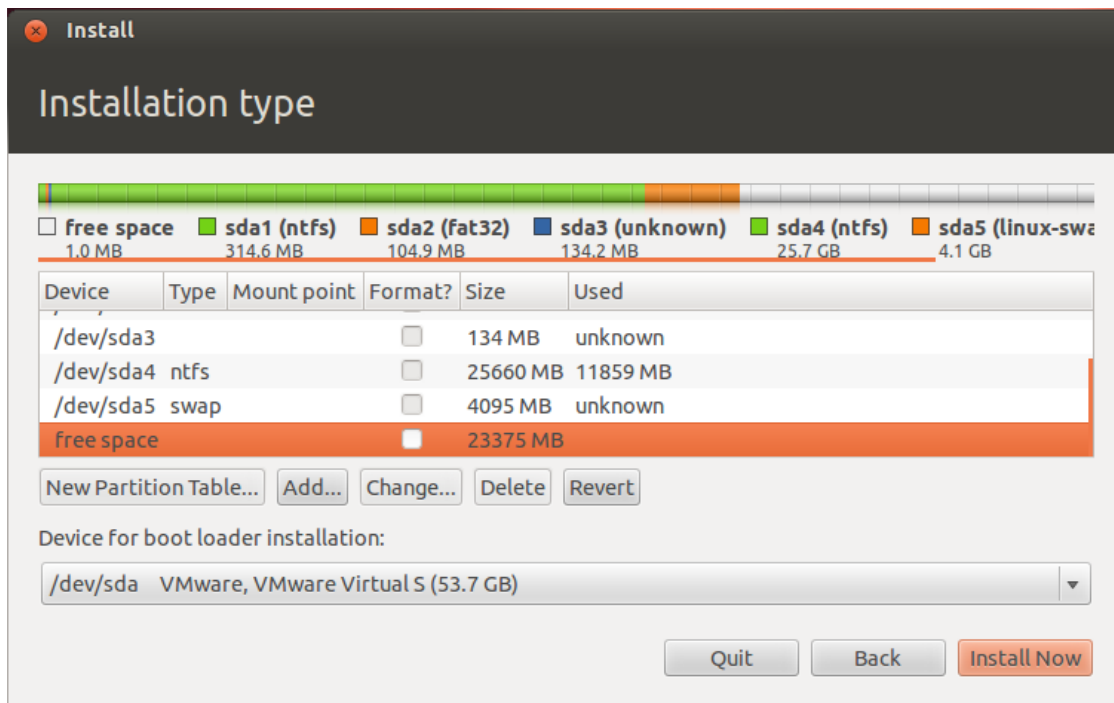
6. Create a partition for the installation by clicking **free space** followed by **Add**.



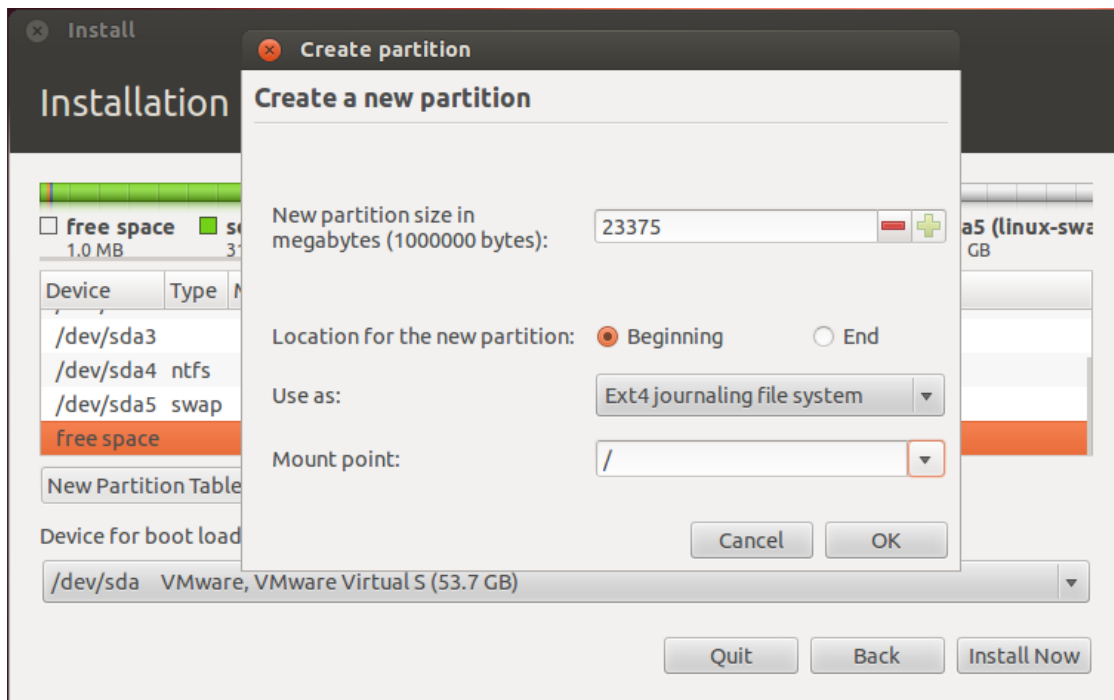
7. In the **Use as** field, select **swap area**. Specify a partition size that is the same as your physical memory size, e.g., 4096.



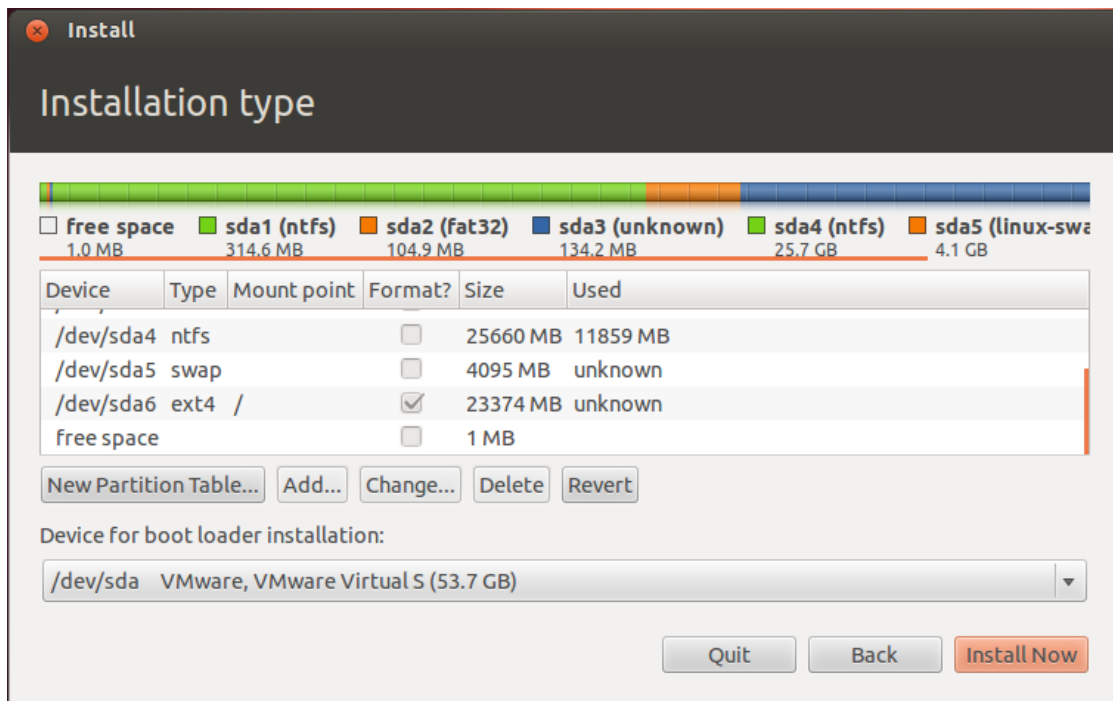
8. When the swap partition is created, it should appear as shown below. Create another partition by clicking **free space** followed by **Add**.



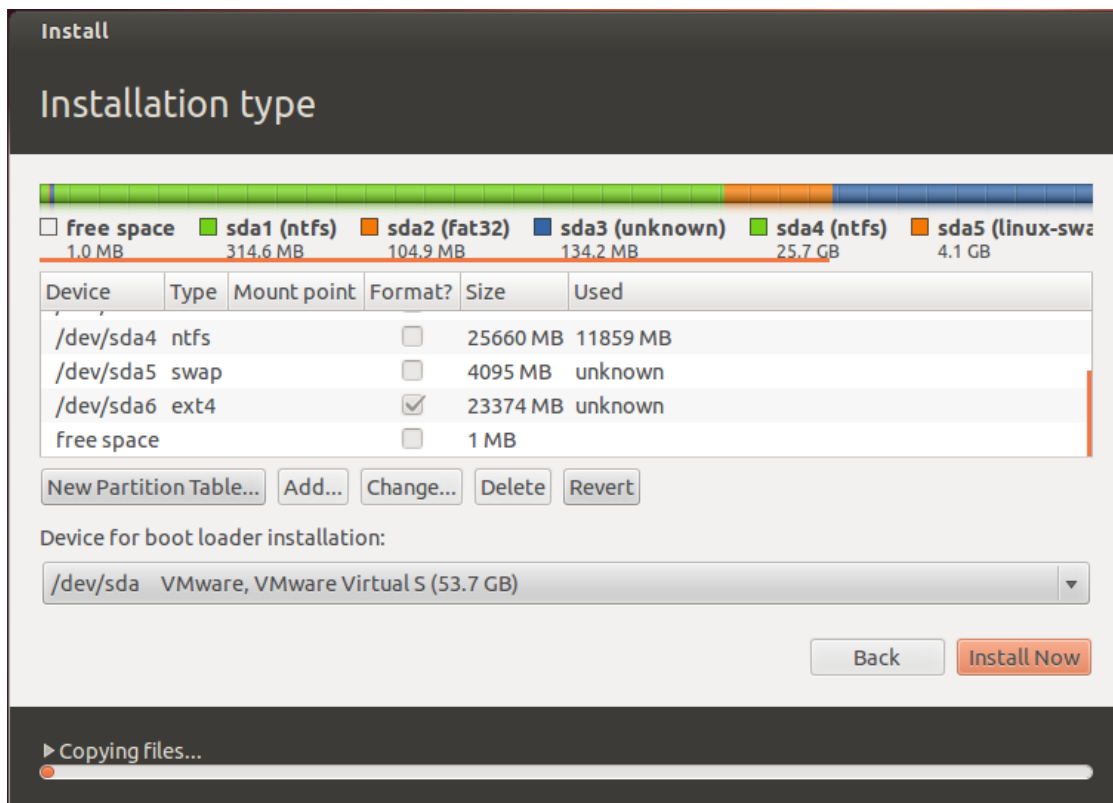
9. In the **Use as** field, select the Ext4 option and select / as the **Mount point**. Specify all remaining space as the partition size.



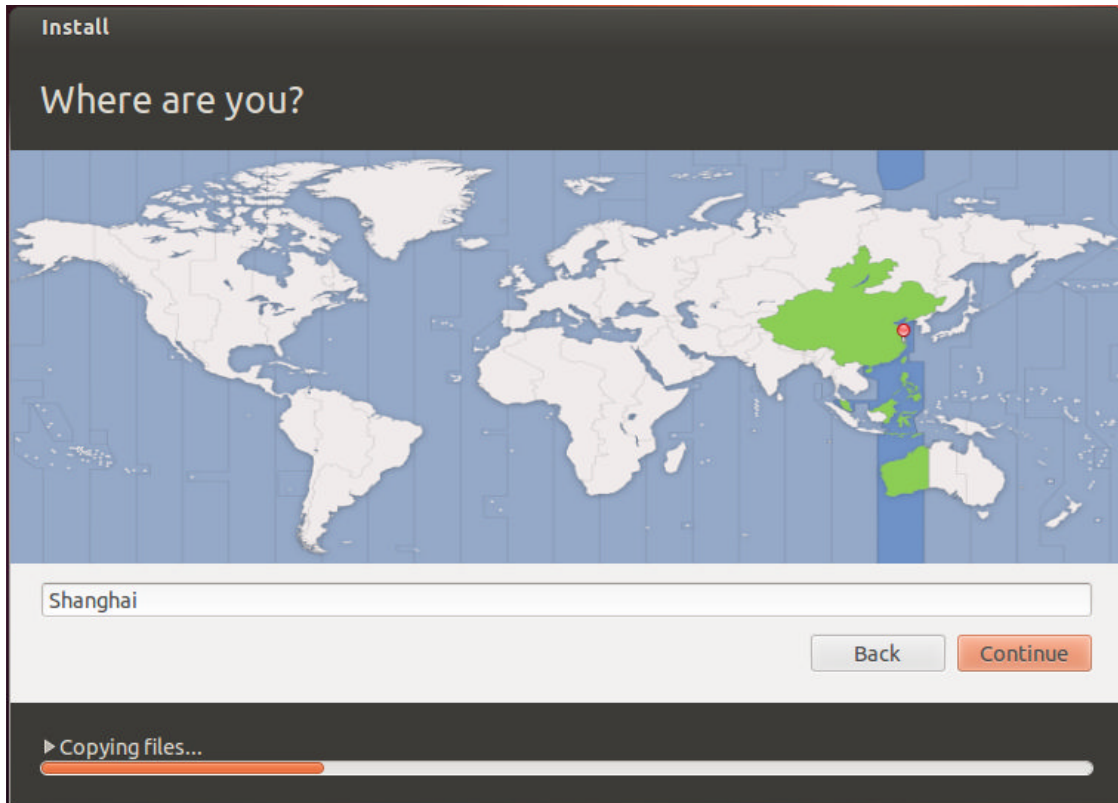
10. When the Ext4 partition is created, it should appear as shown below. Click **Install Now** to begin the installation.



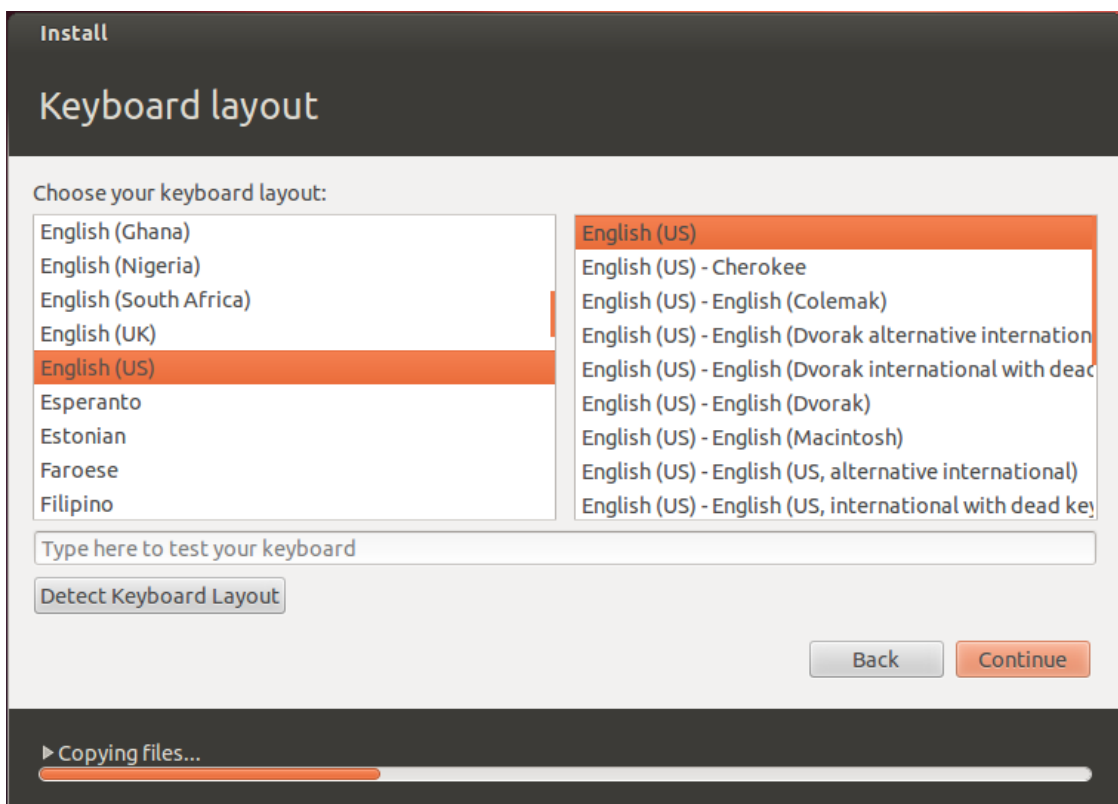
A status bar appears at the bottom of the window during installation as shown below.



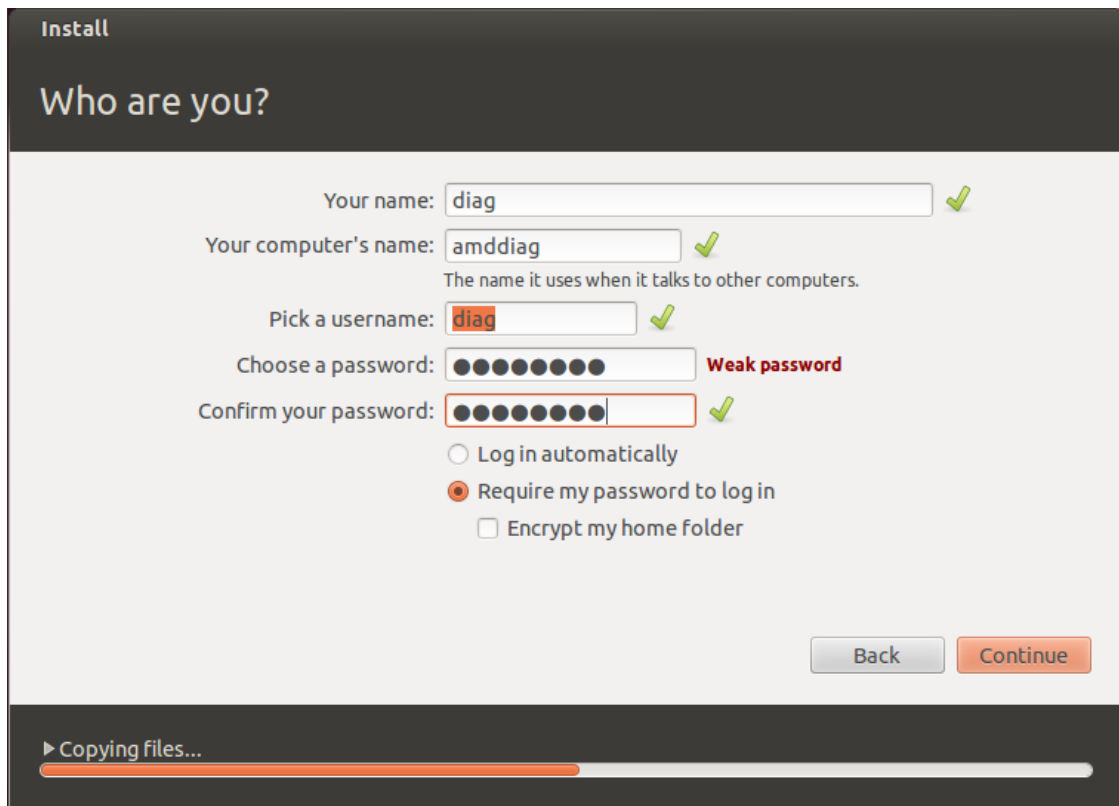
11. When prompted, select your nearest location and click **Continue**.



12. Select the appropriate keyboard layout and click **Continue**.



**13.** Provide your credentials as needed and click **Continue**.



The image shows the 'Who are you?' screen from the Ubuntu installer. The window has a dark header with the word 'Install' in white. Below the header, the title 'Who are you?' is displayed in a large, light-colored font. The main area contains several input fields and checkboxes. The 'Your name' field contains 'diag' with a green checkmark to its right. The 'Your computer's name' field contains 'amddiag' with a green checkmark to its right; below this field is the text 'The name it uses when it talks to other computers.' The 'Pick a username' field contains 'diag' with a green checkmark to its right. The 'Choose a password' field contains ten black dots, with the text 'Weak password' in red to its right. The 'Confirm your password' field contains ten black dots with a green checkmark to its right. Below these fields are three radio button options: 'Log in automatically' (unselected), 'Require my password to log in' (selected), and 'Encrypt my home folder' (unselected). At the bottom right of the main area are two buttons: 'Back' and 'Continue'. At the bottom of the window, there is a dark bar containing a progress indicator labeled '▶ Copying files...' with an orange progress bar that is approximately one-third full.

Install

Who are you?

Your name:  ✓

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

Pick a username:  ✓

Choose a password:  Weak password

Confirm your password:  ✓

☐ Log in automatically  
☒ Require my password to log in  
☐ Encrypt my home folder

Back Continue

▶ Copying files...

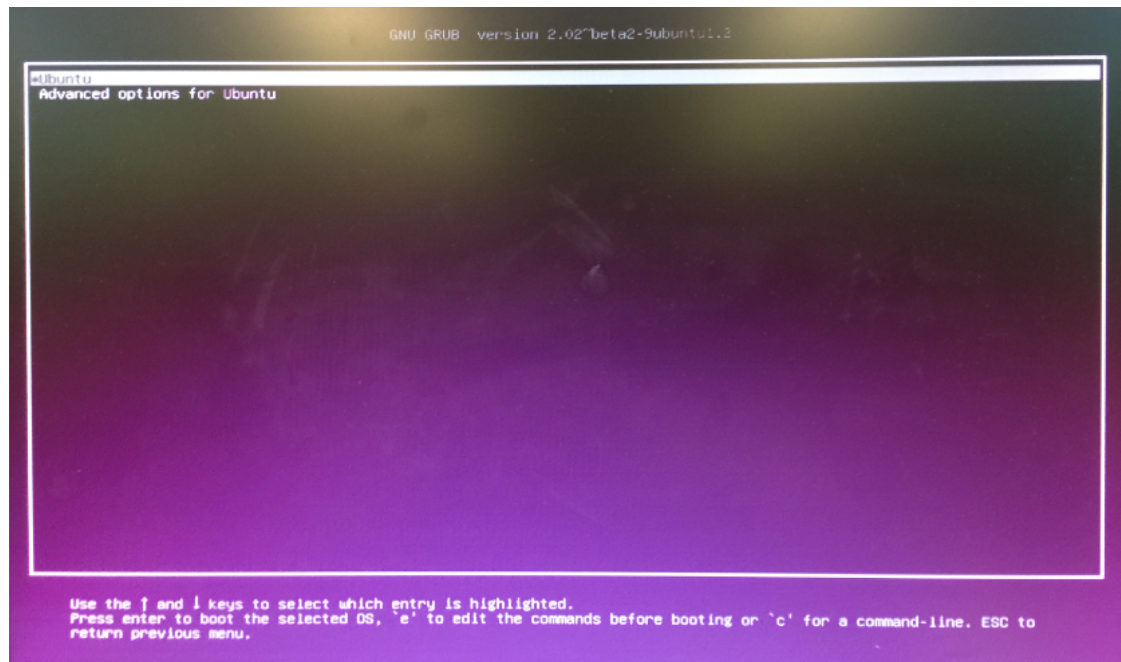


14. Once the installation is complete, remove the installation CD and press **Enter** to restart your system.

```
* Checking battery state...
* Starting crash report submission daemon
* Stopping System V runlevel compatibility
* Stopping cold plug devices
* Starting enable remaining boot-time encrypted block devices
* Starting configure network device security
* Stopping log initial device creation
* Starting configure virtual network devices
* Stopping configure virtual network devices
* Starting save udev log and update rules
* Stopping save udev log and update rules
* Stopping enable remaining boot-time encrypted block devices
* Starting Mount network filesystems
* Stopping Mount network filesystems
acpid: exiting
Checking for running unattended-upgrades:
speech-dispatcher disabled: edit /etc/default/speech-dispa
tcher
* Asking all remaining processes to terminate... [ OK ]

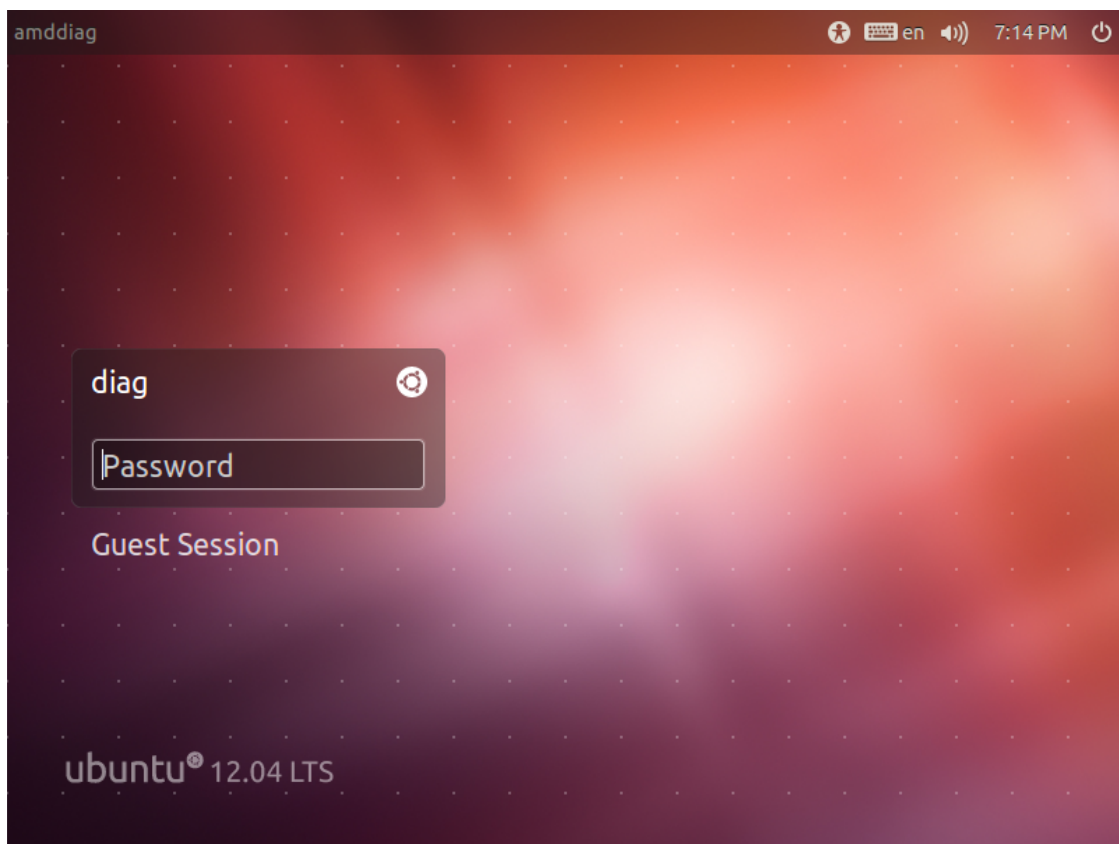
Please remove installation media and close the tray (if any) then press ENTER:
```

15. In the GRUB boot screen, select **Ubuntu** (Linux). Do not enter recovery mode.





16. When Ubuntu boots to GUI mode, as shown below, press **Ctrl + Alt + F1** to switch to text mode.



17. When in text mode, enter your credentials username and password as required.

```
Ubuntu 14.04 LTS amddiag tty1
amddiag login: diag
Password:
Welcome to Ubuntu 14.04 LTS (GNU/Linux 3.13.0-53-generic x86_64)

 * Documentation:  https://help.ubuntu.com/

441 packages can be updated.
177 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.

diag@amddiag:~$
```

18. Type **sudo passwd root** to change the root password.

```
diag@amddiag:~$ sudo passwd root
[sudo] password for diag:
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
diag@amddiag:~$ _
```

19. Type **su -** to switch to root user.

```
diag@amddiag:~$ su -
Password:
root@amddiag:~# _
```

**Note:** All steps from this point must be carried out by the root user. If the system restarts, make sure that you log on to the system with as the root user.

20. Do one of the following:

- Type **grub-probe --target=fs\_uuid /boot/efi/efi/Microsoft/Boot/bootmgfw.efi** and record the output (for example, “EC8F-14C6” as shown below).

```
root@amddiag:~# grub-probe --target=fs_uuid /boot/efi/EFI/Microsoft/Boot/bootmgfw.efi
EC8F-14C6
root@amddiag:~# _
```

- Type **ls /dev/disk/by-uuid/ -l** and record the output (for example, “EC8F-14C6” which points to “../sda2” as shown below).

```
root@amddiag:~# ls /dev/disk/by-uuid/ -l
total 0
lrwxrwxrwx 1 root root 10 Aug 9 23:12 01ec39d3-e957-4feb-a82f-fbd7fb13992c -> ../sda5
lrwxrwxrwx 1 root root 10 Aug 9 23:12 6a6eded5-c6d3-4636-81b7-bed07fb18552 -> ../sda6
lrwxrwxrwx 1 root root 10 Aug 9 23:12 CE4AAEB54AAE9A2B -> ../sda4
lrwxrwxrwx 1 root root 10 Aug 9 23:12 CEA48EB1A48E9B99 -> ../sda1
lrwxrwxrwx 1 root root 10 Aug 9 23:12 EC8F-14C6 -> ../sda2
root@amddiag:~#
```

21. Type “nano boot/grub/grub.cfg” and do the following:

- Find the first instance of **menuentry** and insert the following before it:

```
menuentry 'Windows UEFI' {
    search --fs-uuid --no-floppy --set=root EC8F-14C6
    chainloader (${root})/efi/Microsoft/Boot/bootmgfw.efi
}
```

- Replace “EC8F-14C6” with the output recorded in the previous step.
- Press **Ctrl + X** to exit and press **Y** to save your changes.

```

GNU nano 2.2.6                               File: /boot/grub/grub.cfg                               Modified
if [ -e ${prefix}/gfxblacklist.txt ]; then
if hmatch ${prefix}/gfxblacklist.txt 3; then
if [ ${match} = 0 ]; then
set linux_gfx_mode=keep
else
set linux_gfx_mode=text
fi
else
set linux_gfx_mode=text
fi
else
set linux_gfx_mode=keep
fi
else
set linux_gfx_mode=text
fi
export linux_gfx_mode
if [ "${linux_gfx_mode}" != "text" ]; then load_video; fi
menuentry 'Windows UEFI' {
search --fs-uuid --no-floppy --set=root EC8F-14C6
chainloader ($root)/efi/Microsoft/Boot/bootmgfw.efi
}

menuentry 'Ubuntu, with Linux 3.5.0-23-generic' --class ubuntu --class gnu-linux --class gnu --class os {
recordfail
gfxmode $linux_gfx_mode
insmod gzio
insmod part_gpt
insmod ext2
set root='(hd0,gpt6)'
search --no-floppy --fs-uuid --set=root 6a6eded5-c6d3-4636-81b7-bed07fb18552
linux /boot/vmlinuz-3.5.0-23-generic root=UUID=6a6eded5-c6d3-4636-81b7-bed07fb18552 ro text mem=1024M quiet splash t$
initrd /boot/initrd.img-3.5.0-23-generic
}

menuentry 'Ubuntu, with Linux 3.5.0-23-generic (recovery mode)' --class ubuntu --class gnu-linux --class gnu --class os {
recordfail
insmod gzio
insmod part_gpt
insmod ext2
set root='(hd0,gpt6)'
search --no-floppy --fs-uuid --set=root 6a6eded5-c6d3-4636-81b7-bed07fb18552
echo 'Loading Linux 3.5.0-23-generic ...'
linux /boot/vmlinuz-3.5.0-23-generic root=UUID=6a6eded5-c6d3-4636-81b7-bed07fb18552 ro recovery nomodeset text mem=10$

```

**22.** Reboot your system. The dual-boot menu should now appear.

## Revision History

Rev 1.00 (December 2, 2015)

- Initial release.

