

# How to Install Linux on Windows


Followed at 6pm by exercises covering command line fundamentals



Please open the presentation at <https://goo.gl/E3mXQg>

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**DevOps Engineer**

Applied Information Sciences - Washington, DC

Linux server administration with RedHat, Centos or similar. Patch and maintain Windows and Linux servers. Currently, AIS is seeking DevOps Engineers!...

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**Linux Engineer**

Casleigh Consulting - Reston, VA

Excellent working knowledge of Linux, comfortable solving virtually any technical challenge associated with a Linux server....

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**Technical Support Specialist**

The MathWorks ★★★★★ [32 reviews](#) - Natick, MA

Working knowledge of Linux, Windows, Mac, Networking, and knowledge of License Management. The Technical Support Specialist must have working knowledge of...

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Company with Linux jobs



**Applied Information Sciences**

As a Technical Services Firm, AIS seeks to leverage new innovations to deliver transformative solutions.

**Dual boot** means:

Divide your hard drive into halves, called 'partitions' and install Linux (or another operating system) on one half. To run Linux you restart your computer.

A **virtual machine** is:

An operating system running inside of a program inside of Windows. To run Linux you open VirtualBox (or other virtualization software) just like you would open any program.

# Pros and Cons

## **Dual boot:**

Main advantage is Windows and Linux aren't sharing your main memory (i.e. RAM) and CPU, so performance is better. If you have an older computer, you might \*have\* to dual boot in order to use Linux and not end up in a mental ward. If you have a newer computer, you might not notice the difference.

## **Virtual machine:**

Main advantage is you can switch back and forth between operating systems without having to restart your computer. Less invasive.

## **Both :**

The advantage of this method is you'd get to try out both.

**Raise your hand if you  
would like to create a  
virtual machine.**

# Raise your hand if you would like to create a virtual machine.

People with your hand raised please move so you're all sitting in one big group.

Start Installing VirtualBox



**Raise your hand if  
you would like to  
dual boot.**

Raise both hands if you would like  
to dual boot and brought a flash  
drive or blank DVD.

**Raise your hand if  
you would like to  
dual boot.**

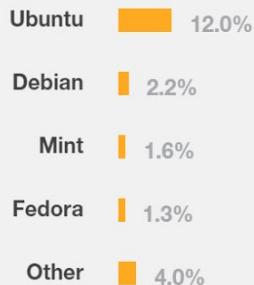
Please move so you're all sitting in  
one big dual booting group.



## Developer poll - what Linux distro do you use?



### THE LINUXES - DEV SHARE 2015



4,667 responses

<http://stackoverflow.com/research/developer-survey-2015>

Linux comes in several distributions, or “distros”. Today we’ll be going over how to install Ubuntu. I think the process is the same for the other distros, if you’d like to try them out later.

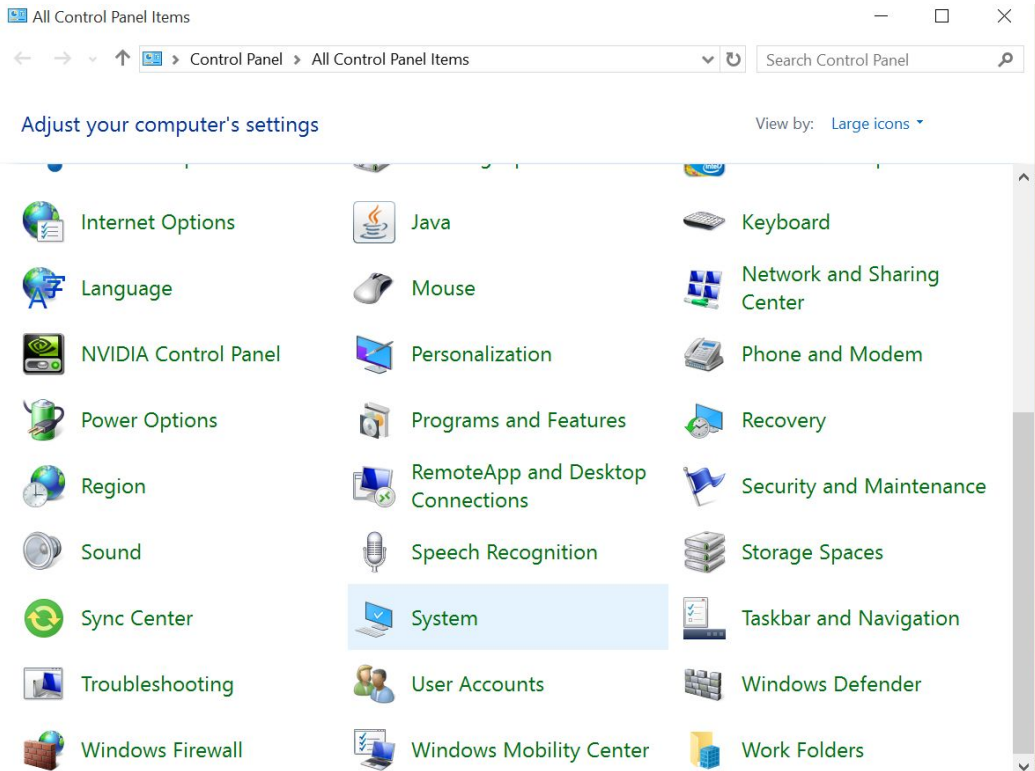
# Step 0: Download Ubuntu

If you're dual booting and you brought a flash drive or blank DVD, or you're installing a virtual machine, you'll need to download Ubuntu.

Go to google and search “download Ubuntu”, etc. Download Ubuntu 64-bit.

# How much RAM do I have?

Open the Control Panel and locate System.



System

Control Panel > All Control Panel Items > System

Search Control Panel

Control Panel Home

Device Manager

Remote settings

System protection


Advanced system settings

### View basic information about your computer

Windows edition

Windows 10 Home


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System


Processor:	Intel(R) Core(TM) i7-4710HQ CPU @ 2.50GHz 2.50 GHz
Installed memory (RAM):	12.0 GB
System type:	64-bit Operating System, x64-based processor
Pen and Touch:	No Pen or Touch Input is available for this Display

Computer name, domain, and workgroup settings

Computer name:	max-laptop	 <a href="#">Change settings</a>
Full computer name:	max-laptop	
Computer description:		
Workgroup:	WORKGROUP	

Windows activation

Windows is activated [Read the Microsoft Software License Terms](#)

Product ID: 00326-10000-00000-AA394  [Change product key](#)

See also

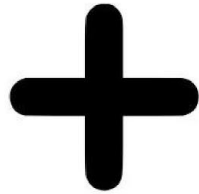
Security and Maintenance

Inside the  
System  
panel you'll  
see your  
RAM.  
Remember  
this number  
for later.

# How to Dual Boot



Windows



# Step 1) Go to

[https://help.ubuntu.com/community/WindowsDualB](https://help.ubuntu.com/community/WindowsDualBoot)

(Ubuntu has some really sweet community-written wiki pages like this one.)

## Step 2) Back up your stuff.

There is a small chance of losing your data when you dual boot.

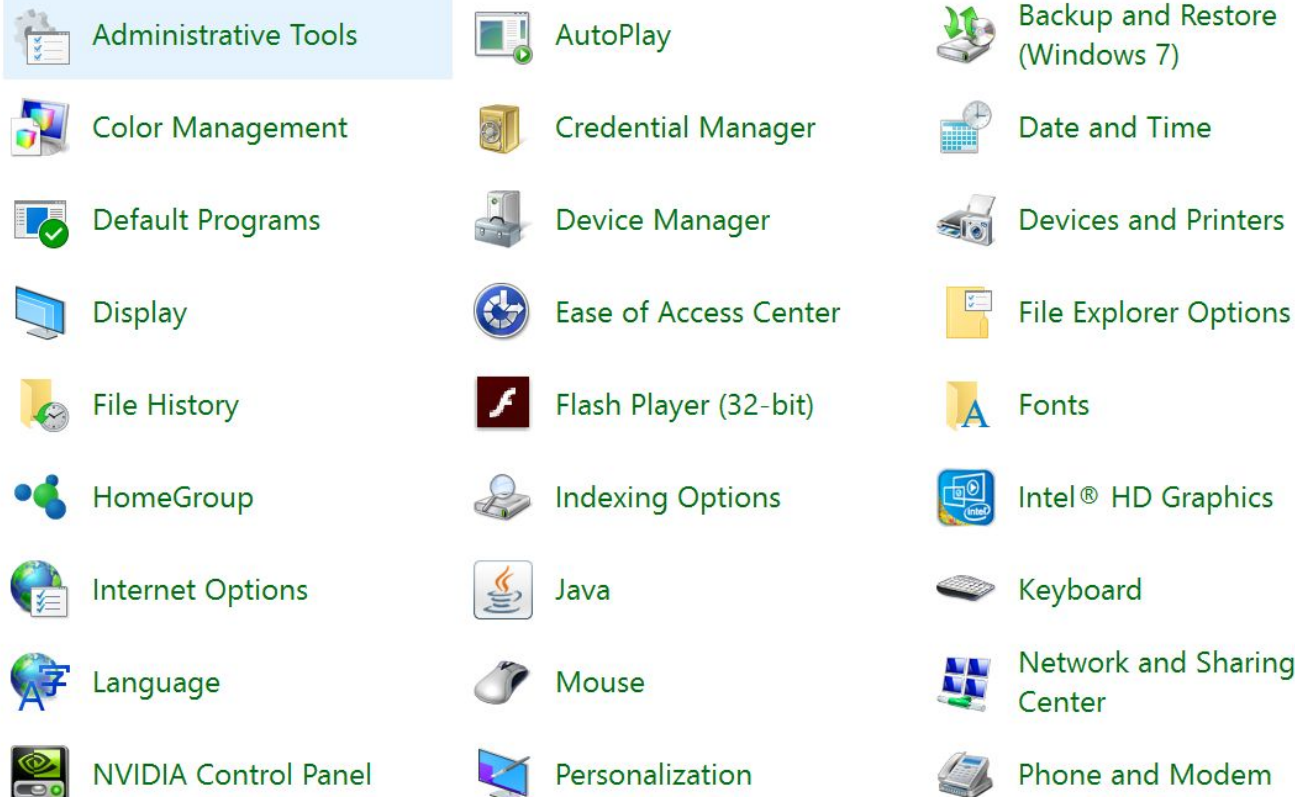
I personally back up by downloading DropBox and copying or moving all the files I don't want to lose to the installed DropBox folder (is that the right way? I don't know, but it's better than nothing).

More options/info available at  
<https://help.ubuntu.com/community/BackupYourSystem>

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Adjust your computer's settings

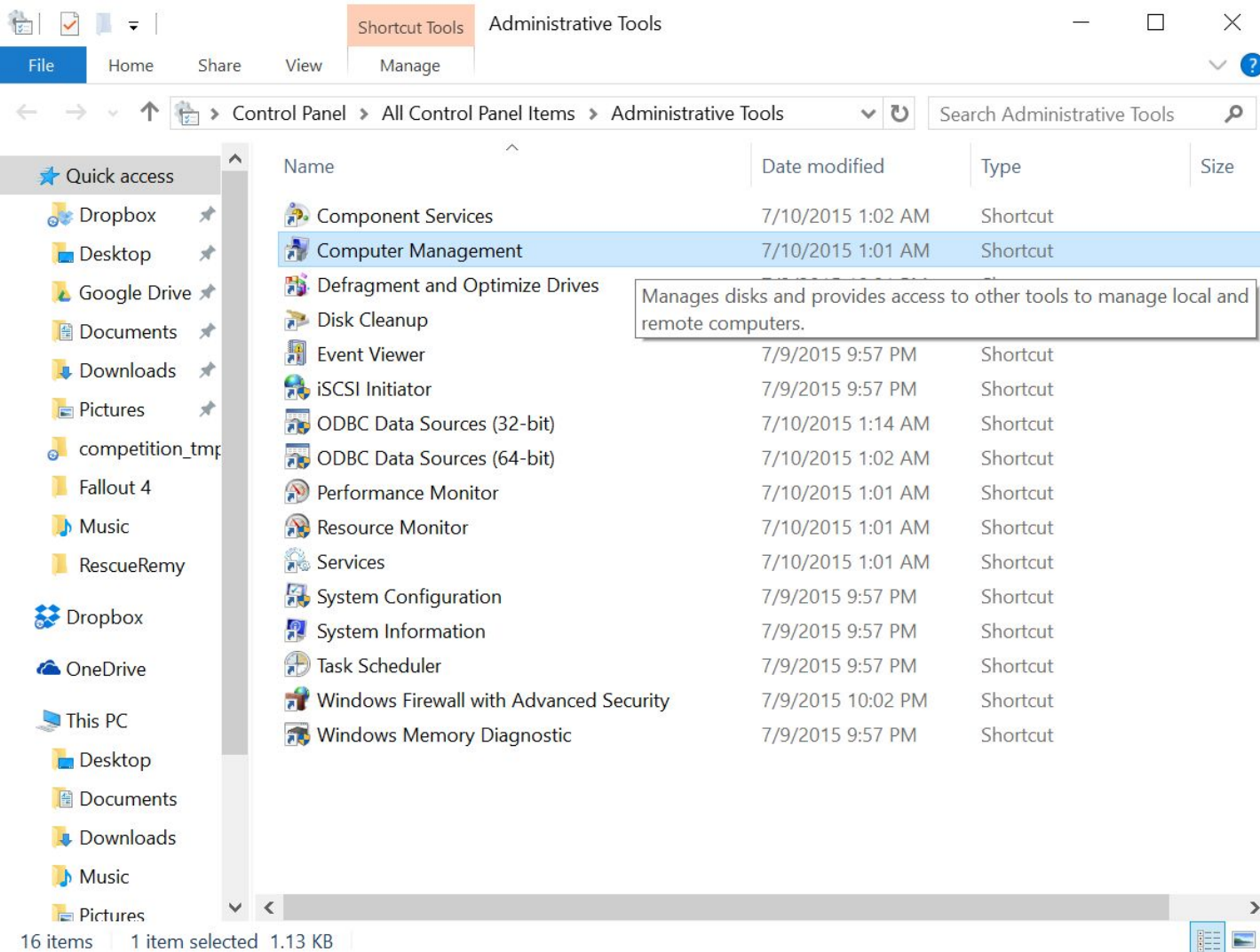
View by: Large icons ▾



Step 3)

Go to Control Panel. Locate and open Administrative Tools.





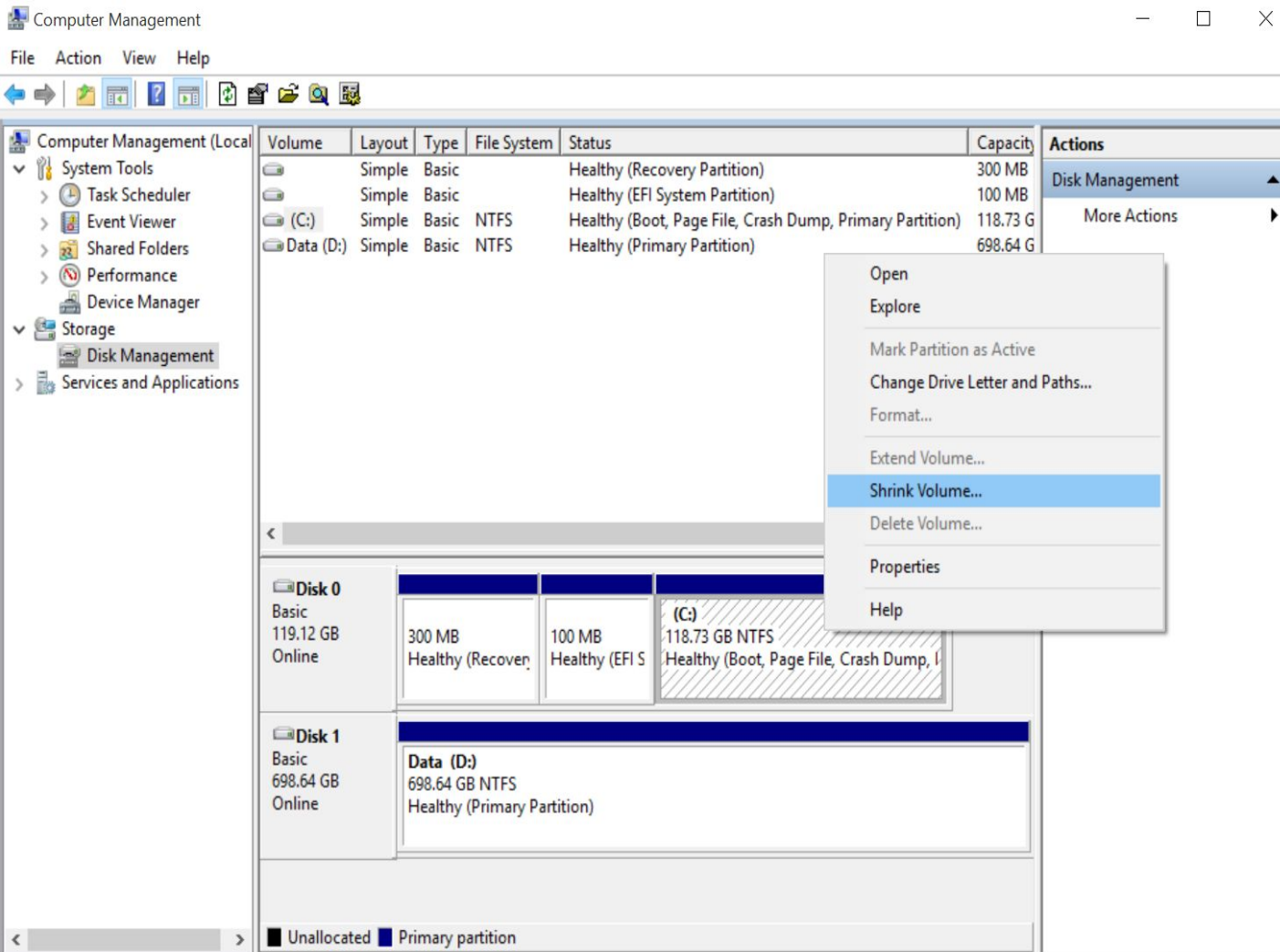
Step 4)

Inside  
Administrative  
Tools, locate  
and open  
Computer  
Management.

# Step 5) Calculate the size of your partition.

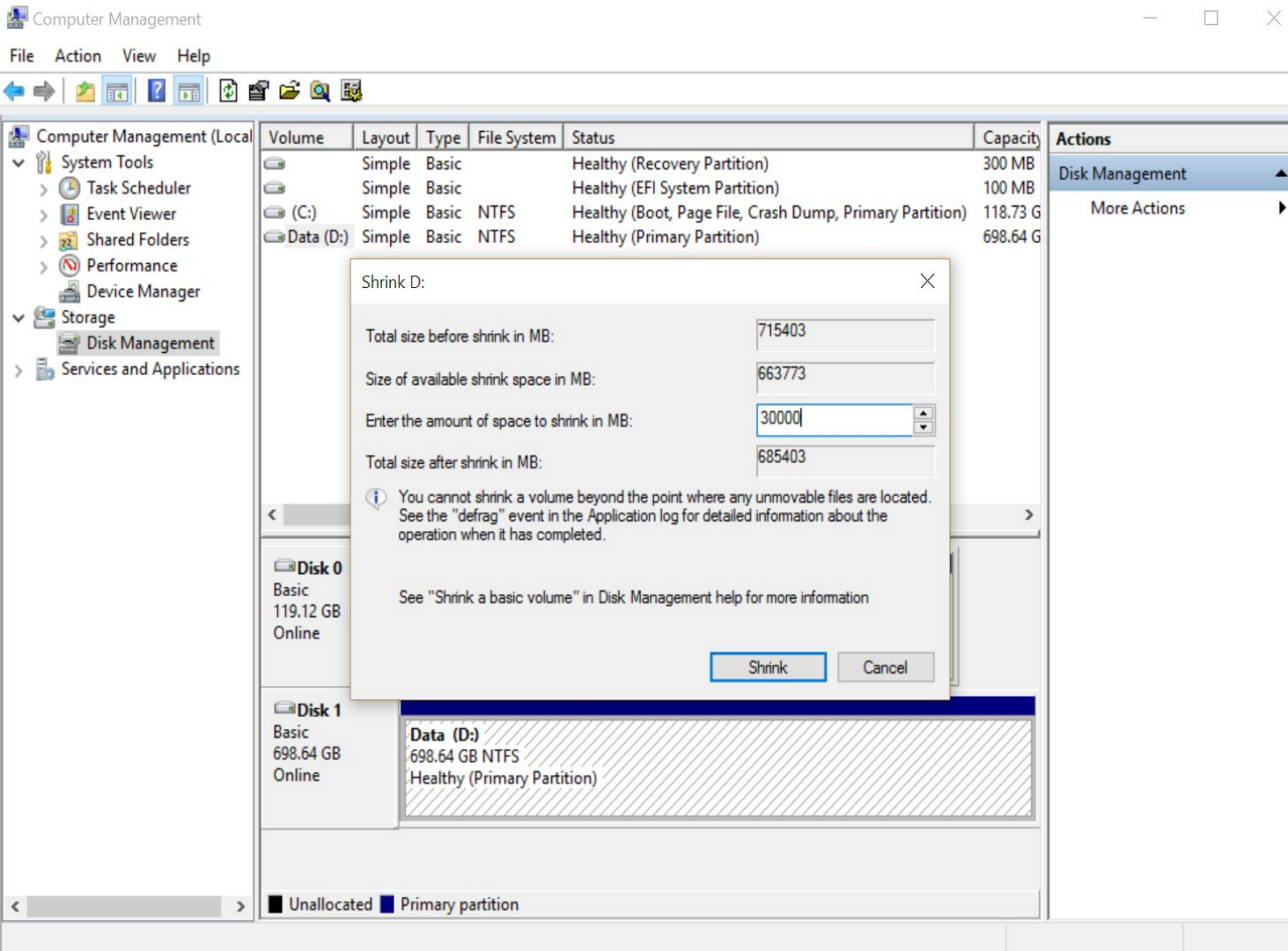
The size will depend on what you want to use Windows and Linux for (i.e. will Windows hold your substantial video collection, or will you play games on Linux?)

- Ubuntu usually requires two sub-partitions: / and swap
  - Swap should be at least the size of your RAM and not more than twice the size of your RAM
  - / should be at least 10GB, and houses Ubuntu and any installed updates.
  - /home is optional. See <https://help.ubuntu.com/community/DiskSpace> for more info.
  - Add the size of each sub-partition and make a note of the total size you'll need.
-



Step 6)

Right-click the disk you intend to install Ubuntu on, and select Shrink Volume...



Step 6)

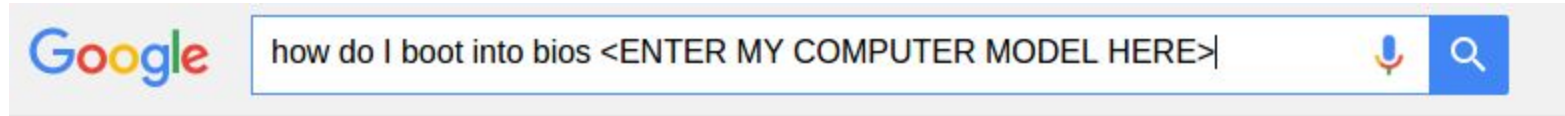
Enter the total space you'd like to create for your partition.

## **Step 7) Boot into BIOS.**

To boot into BIOS, you'll need to press a key repeatedly while your computer is booting up. What key depends on your computer model. For instance on my laptop, I press Delete repeatedly to enter BIOS.

# What key do I press repeatedly to boot into BIOS?

## Method 1: Google it



Press Enter to search.

## Method 2: Guess and check

It's going to be F2, F12, Delete or ESC, so if googling doesn't work, you can repeatedly press one of these until you find it.



Boot Configuration

Bootup NumLock State [On]  
Fast Boot [Enabled]  
Boot mode select [UEFI]

Sets the system boot order

FIXED BOOT ORDER Priorities

Boot Option #1 [USB Hard Disk:UEFI: ...]  
Boot Option #2 [Hard Disk:Windows Bo...]  
Boot Option #3  
Boot Option #4

Boot Option #1

USB CD/DVD  
Hard Disk:Windows Boot Manager  
USB Hard Disk:UEFI: KingstonDataTraveler 2.0PMAP  
Network:UEFI: IP4 Qualcomm Atheros PCIe Network Controller  
Disabled

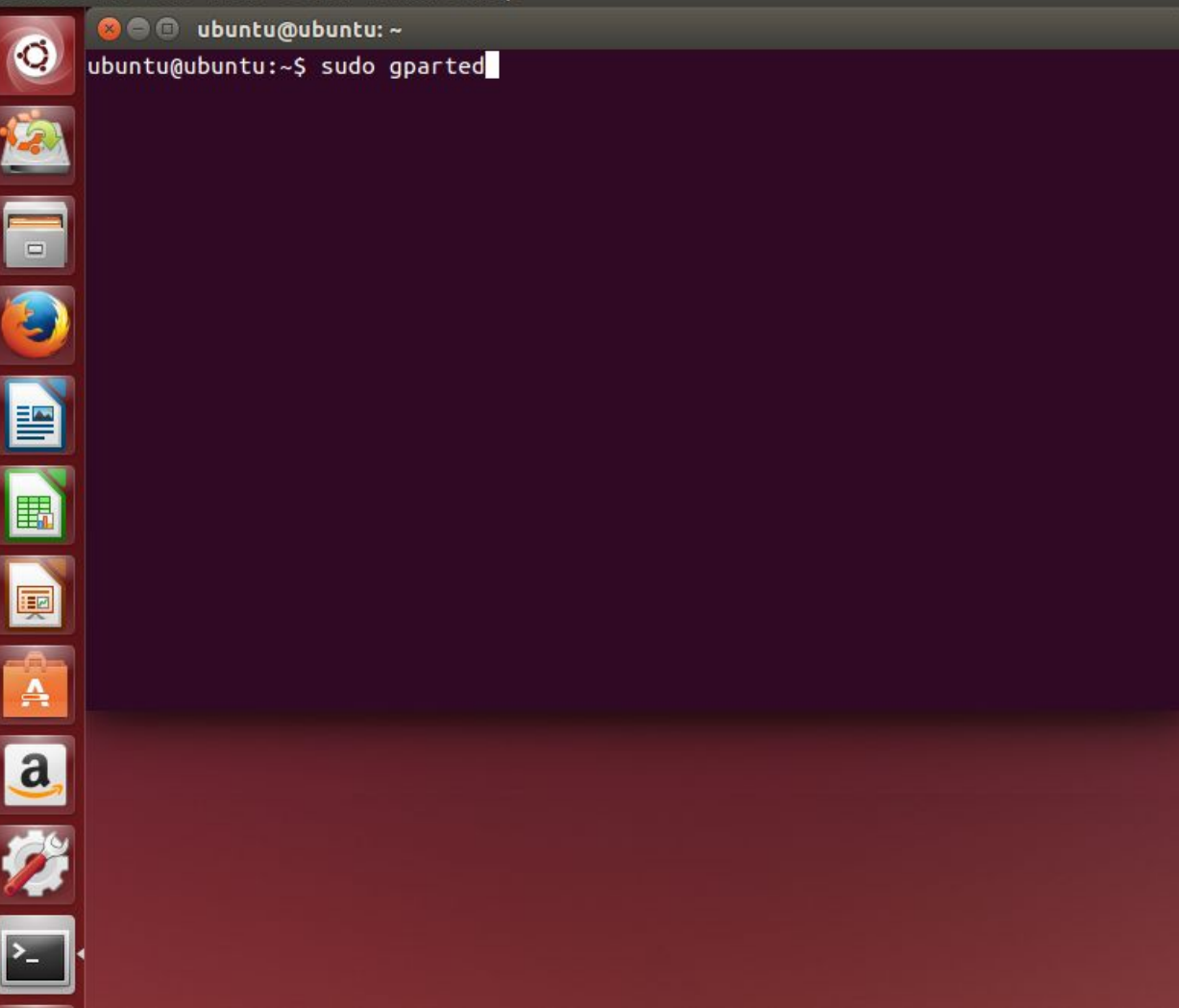
- ▶ UEFI Hard Disk D
- ▶ UEFI NETWORK Dri
- ▶ UEFI USB Hard Di

F1: General Help  
F9: Optimized Defaults  
F10: Save & Reset  
ESC: Exit

Step 8)  
Set the first  
boot option  
to the USB  
drive with  
Linux on it.

**Step 9)**  
**Select “Try**  
**Ubuntu without**  
**Installing” from**  
**the boot menu**

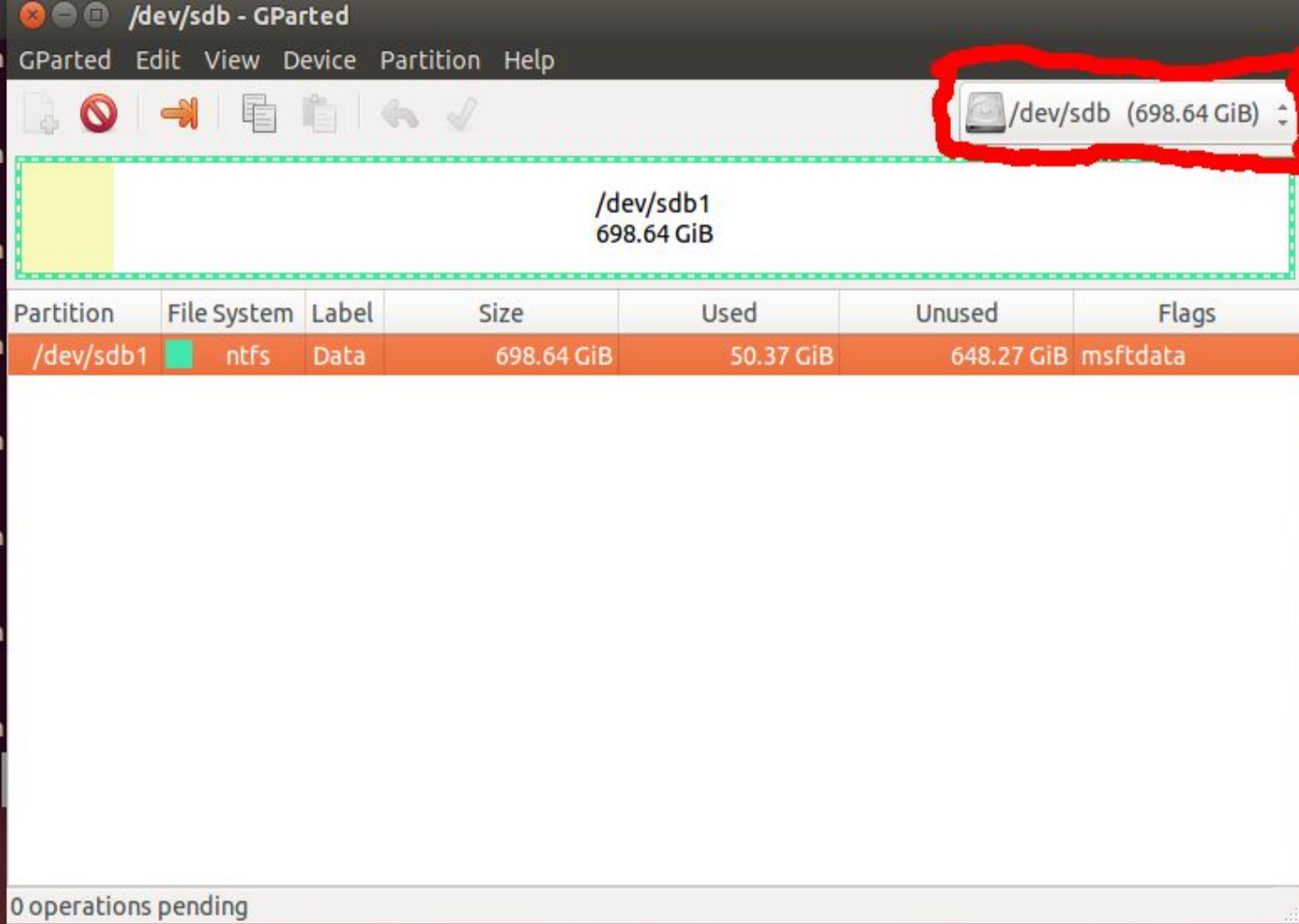




Step 10)

Open the terminal  
by pressing  
CTRL+ALT+T.

Type “sudo  
gparted” and press  
Enter.



Step 11)  
Select the disk  
you'd like to  
partition (outlined  
in red) and the  
partition you'd like  
to shrink  
(highlighted in  
orange). Right  
click the partition  
and click Resize.

**Thanks for coming to our workshop!**



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