Mawlana Bhashani Science and Technology University

Lab-Report

Lab Report No: 01

Course code: ICT-3110

Course title: Operating System Lab

Date of Performance:

Date of Submission:

Submitted by

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Session : 2017-18

Year : 3rd Semester : 3rd

Dept of ICT , MBSTU

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MBSTU

Experiment No : 01

Experiment Name : How To Set Up Linux Ubuntu.(17.10)

Objectives:

i) What is Linux Operating system?

ii) Different Type of Linux Distribution.

iii) How can we install Linux Operating System?

What is Linux operating system?

Ans:

Linux is a Unix -like, open source and community-developed operating system for computers, servers, mainframes, mobile devices and embedded devices. It is supported on almost every major computer platform including x86, ARM and SPARC, making it one of the most widely supported operating systems**.**

Different Type of Linux Distribution:

Ans:

Debian Based Linux Distributions

The deb package type was created in 1993 for the Debian Linux distribution. Debian is one of oldest Linux distributions and it's a very popular choice on which new distributions are based. Popular distributions that use .deb packages include:

- Debian
- Ubuntu
- Linux Mint
- Steam OS

Debian

In 1993 Ian Murdock announced a new Linux distribution that was to be developed openly with the GNU philosophy. Ian gave his distribution the name Debian which is a combination of his girlfriend's name Debra and his own name. At first it was a small project, but today Debian is one of biggest open source projects in existence.

Debian is an universal operating system and supports almost all CPU architectures and it is a very popular in the server space. Although Debian is known for rock solid stable software, there are variants. There is Debian old stable, stable, testing, unstable and experimental. As you go from old stable to experimental, you find newer and less stable software. As for package management, Debian uses two package managers, apt and aptitude.

Ubuntu

Announced in 2004, Ubuntu is based on Debian unstable. Ubuntu is the most widely used and most popular Linux distribution today. It's also the Linux distribution surrounded by the most controversies. Ubuntu started with the Gnome desktop, but a few years ago Ubuntu developed its own desktop environment named Unity. The Ubuntu installation process is easy and thus is popular with those new to Linux. Ubuntu uses apt and its graphical fronted Ubuntu Software Center for package management.

Linux Mint

Linux Mint is a popular distribution based on Ubuntu. Mint started out simply being Ubuntu with pre-installed multimedia codecs and proprietary drivers. However, it has since grown and is a very popular alternative to Ubuntu.

RPM Based Linux Distributions

RedHat created the rpm package format for use in its distribution. Popular RPM based distributions include:

- RedHat Enterprise Linux (RHEL)
- CentOS
- Fedora
- OpenSuse
- Mageia

Fedora

Fedora is the upstream of the commercial RedHat Enterprise Linux distribution, or RHEL for short. What makes Fedora special is it uses newer technology and packages from the open source world than RHEL. Fedora, like RHEL, uses the yum package manager.

OpenSuse

OpenSuse started out a German translation of Slackware Linux, but eventually grew into its own distribution. OpenSuse is known for the KDE desktop and stability. For package management OpenSuse uses zypper and its graphical fronted, the Yast software center.

Mageia

Mageia Linux is an fairly new Linux distribution that is based on Mandrake Linux. Mageia is easy to install and easy to use. Mageia utilizes urpmi and drakrpm for package management.

Other Linux distributions

Arch Linux

Arch Linux uses pkg.tar.xz packages and has it's own package manager called pacman. Arch does not come with a graphical installer and the whole installation process is done via a terminal. This can be intimidating for new Linux users. The main philosophy behind Arch is KISS – keep it simple, stupid. Arch has been forked in some popular beginner-friendly distributions such as Manjaro Linux.

Slackware Linux

Founded in 1992 by Patrick Volkerding, Slackware is the oldest Linux distribution in use today. Slackware does not have a package manager and all the software is compiled by the system administrator or normal users of the system. Slackware packages are simply source code. If you really want to learn a lot about the Linux really works, use Slackware.

Gentoo Linux

Gentoo is based on the portage package management system. Gentoo can be difficult to install and can even take as long as a couple of days to complete the entire installation process. The advantage of such an approach is that the software is built for the specific hardware that it will be running on. Like Slackware, Portage uses application source code. If you like the idea of Gentoo, but are looking for something beginner friendly, try Sabayon.

Graphical User Environments

When choosing the right Linux distribution for you, it can be confusing given the variety of choices in desktop managers. While Microsoft Windows users only have one desktop manager, Linux users can chose their desktop environment. The desktop environment, or the graphical user interface (GUI), is what is displayed on the monitor. Said another way, it's how the system looks. Popular desktop managers include KDE, Gnome, Xfce, Cinnamon and LXDE.

KDE

KDE was created in 1996 and is probably the most advanced desktop manager on the market. By default KDE includes several applications that every user needs for a complete desktop environment. KDE has some features that are not available in other desktop managers. The KDE workspace is called Plasma. Combine Plasma with the other KDE applications and you get what is called the KDE software compilation, or KDE SC for short.

Popular distributions that use KDE include:

- OpenSuse
- Slackware
- Linux Mint
- Kubuntu
- Mageia

Gnome

Gnome is an desktop manager made for the community and by the community. This is a great example of how the open source community works. Gnome can easily be expanded with the use of plug-ins. It doesn't require a lot of resources and can be a great choice for older and slower hardware. Popular distributions that use Gnome include:

- Debian
- OpenSuse
- Fedora
- CentOS

Cinnamon

Cinnamon is a fork of the Gnome desktop manager and is developed by the Linux Mint community. It recreates the look of Gnome 2 with an modern touch. The minimum system requirements for Cinnamon are the same as they are for Gnome.

Xfce

Xfce is an excellent choice for older computers. Light and fast are Xfce's two biggest features. The system requirements are a measly 300Mhz CPU and 192Mb of RAM. Popular distributions that use Xfce include:

- Debian
- Xubuntu
- Fedora
- OpenSuse

LXDE

LXDE is an another fast and light desktop manager. Based on the OpenBox windows manager, LXDE is suitable for old computers. Popular distributions using LXDE include:

- Lubuntu
- Debian
- OpenSuse
- Linux Mint

Unity

Unity was developed by Canonical for their Ubuntu Linux distribution. To date, Ubuntu is the only distribution that uses Unity. Unity requires greater hardware resources than most graphical environments. You'll need a 1 GHz CPU and 1Gb RAM in order to get Unity to work. With those specs, Unity will be so slow that it's almost unusable. For Unity, the more RAM and CPU, the better.

We use linux operating system because:

i) Linux is Free an Open Source.

ii) Linux can run low Hardware machines too.

iii) Well supported.

iv) Lots of Flavors.

v) Good security.

Experiment Setup : Here we will implement Linux Ubuntu 17.10 . We will do Dual-Boot Linux ubuntu 17.10 and Windows 10.

The install process is given below.

5 steps to Dual-Booting:

1) Download the Linux Mint operating system (in an iso file format) from Linux ubuntu website.

2) Downloads Rufus (a program for creating boot-able USB flash drives).

3) Use Rufus to create a boot-able USB flash drive and copy Linux Mint onto it.

4) Restart your pc and load Linux Ubuntu from your USB flash drive.

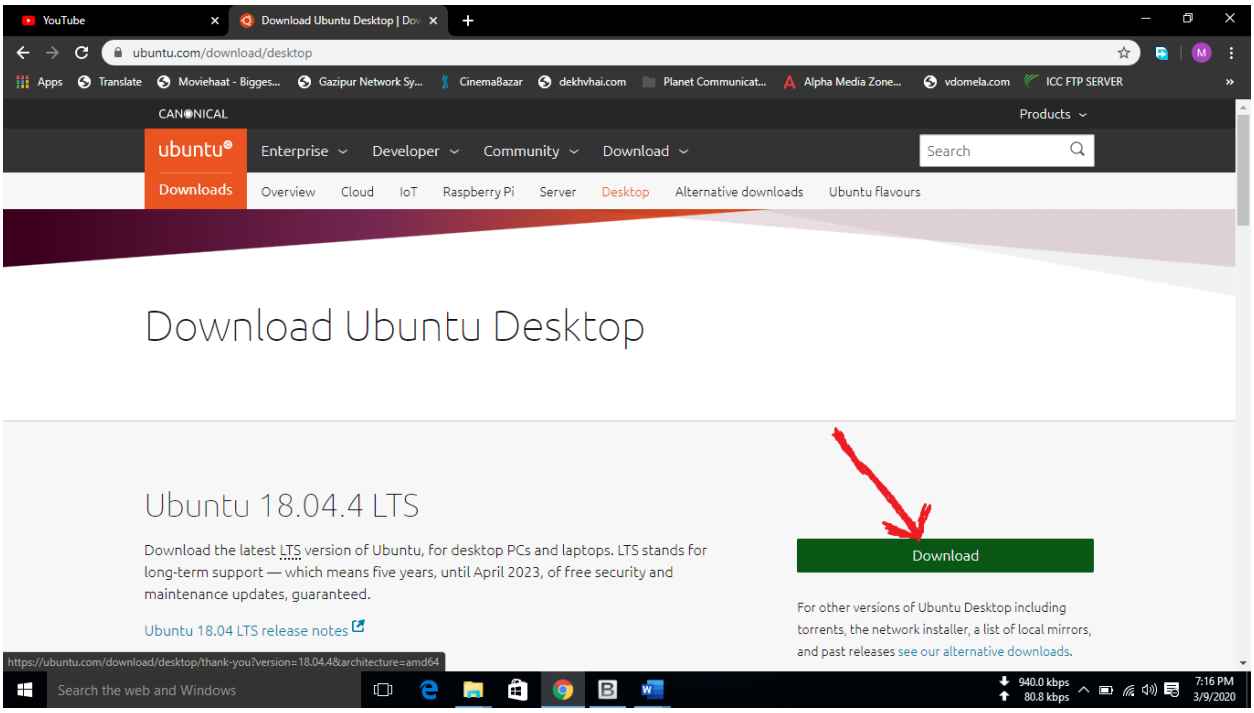
5) Run the Mint installation wizard to install Linux Mint 18.2 along-side Windows 10 (64 bit).

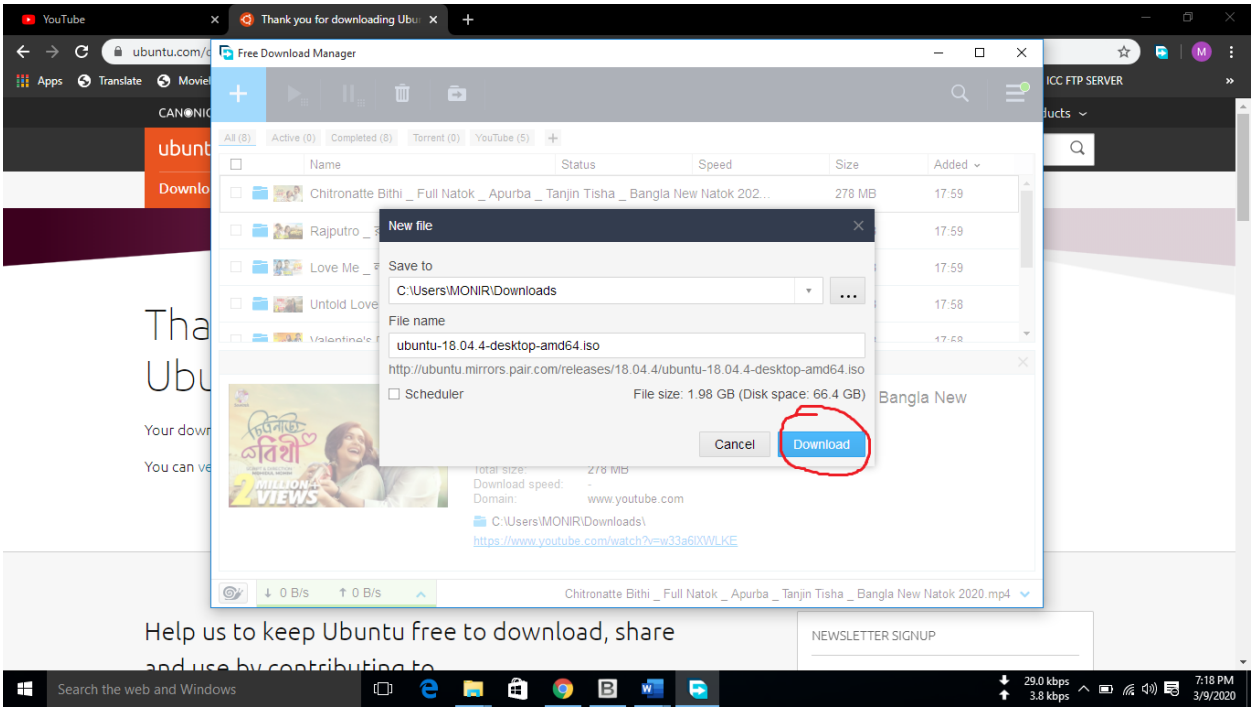
Step 1:

Download Linux Ubuntu:

we will Download Linux ubuntu operating System in an iso file format from linux ubuntu website. http://linuxubuntu.com/

We will dowload it so that during downloading Linux mint no error is occured.

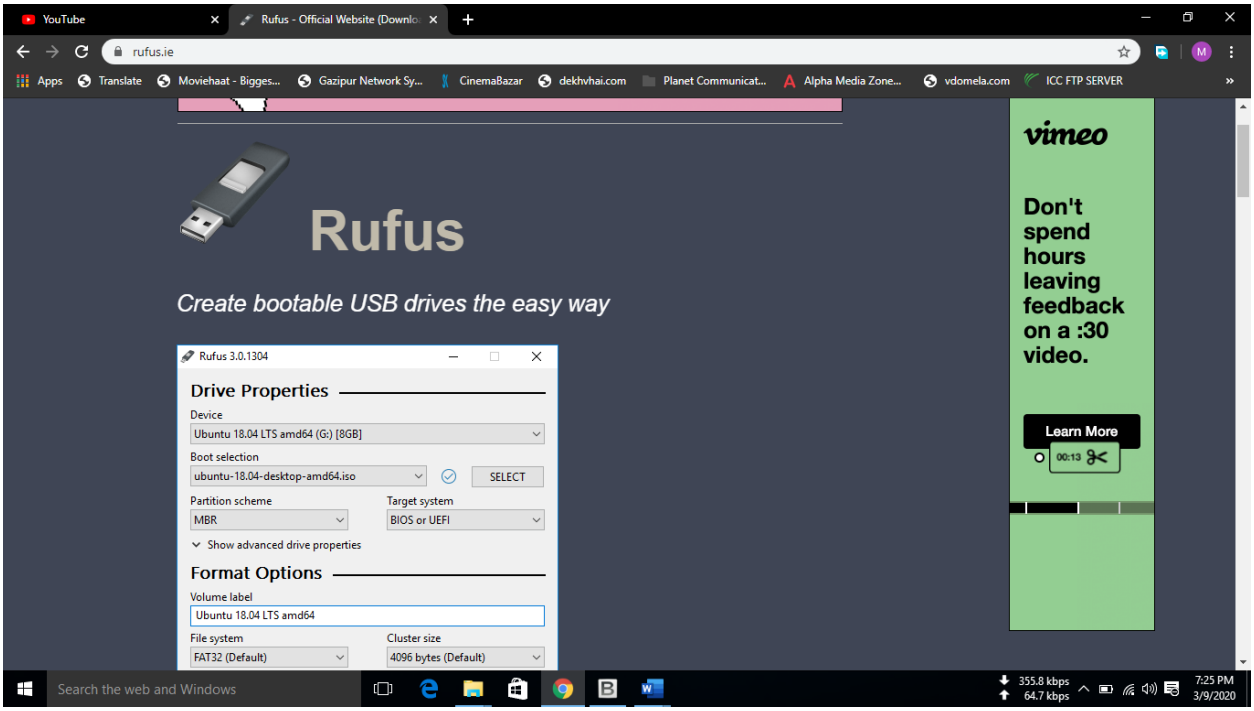


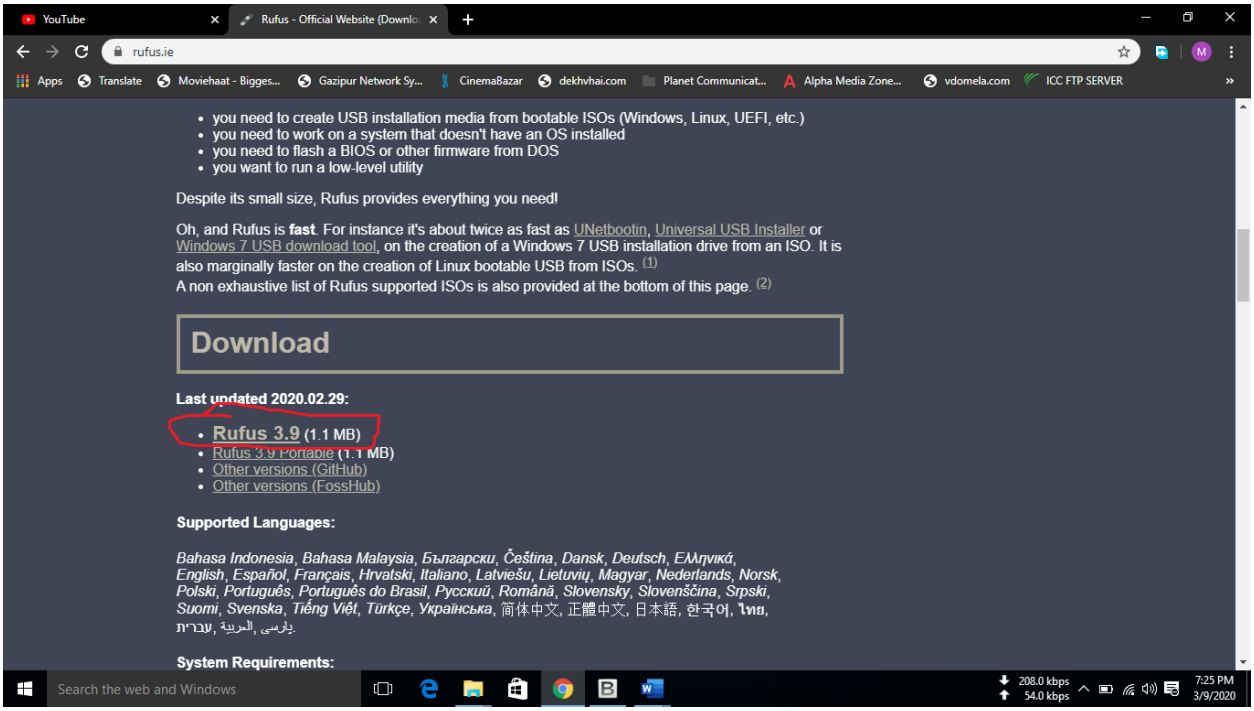


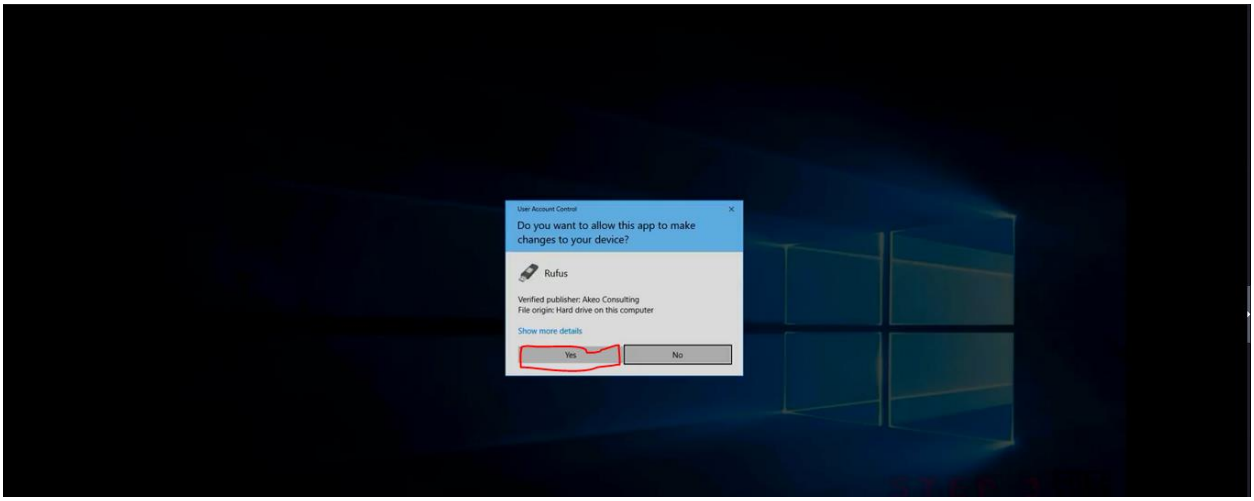
STEP 02 and 03:

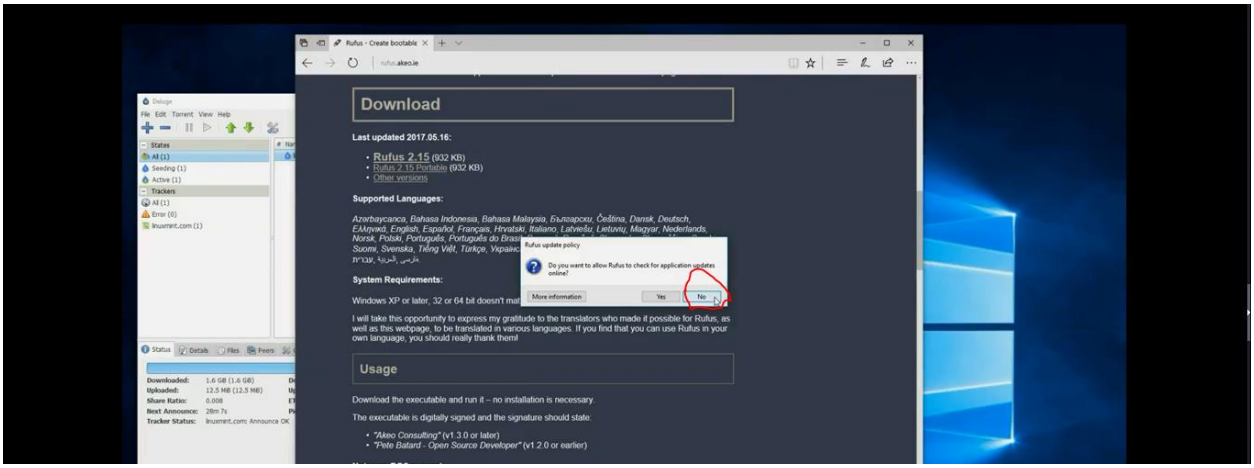
We will download and install Rufus.

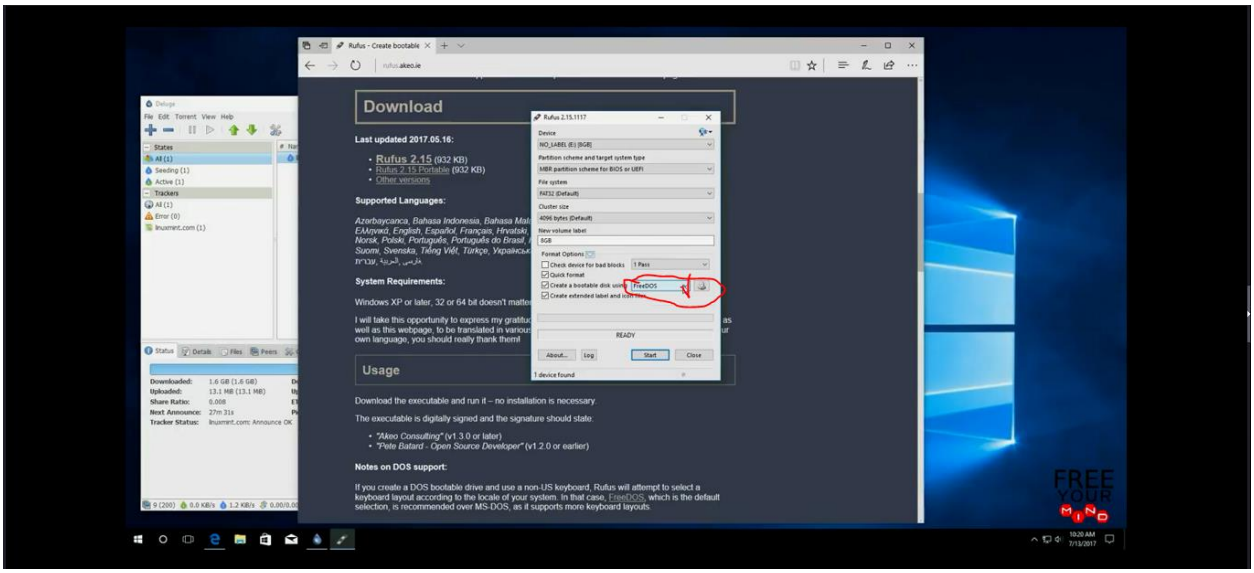
Befor installing Rufus connect a USB flash drive with pc.




YouTube
Rufus - Official Website (Downlo
rufus.ie
Apps
Translate
Moviehaat - Bigges...
Gazipur Network Sy...
CinemaBazar
dekhvhai.com
Planet Communicat...
Alpha Media Zone...
vdomela.com
ICC FTP SERVER
you need to create USB installation media from bootable ISOs (Windows, Linux, UEFI, etc.)
you need to work on a system that doesn't have an OS installed
you need to flash a BIOS or other firmware from DOS
you want to run a low-level utility
Despite its small size, Rufus provides everything you need!
Oh, and Rufus is fast. For instance it's about twice as fast as UNetbootin, Universal USB Installer or Windows 7 USB download tool, on the creation of a Windows 7 USB installation drive from an ISO. It is also marginally faster on the creation of Linux bootable USB from ISOs. (1)
A non exhaustive list of Rufus supported ISOs is also provided at the bottom of this page. (2)
Download
Last updated 2020.02.29:
Rufus 3.9 (1.1 MB)
Rufus 3.9 Portable (1.1 MB)
Other versions (GitHub)
Other versions (FossHub)
Supported Languages:
Bahasa Indonesia, Bahasa Malaysia, Български, Čeština, Dansk, Deutsch, Ελληνικά, English, Español, Français, Hrvatski, Italiano, Latviešu, Lietuvių, Magyar, Nederlands, Norsk, Polski, Português, Português do Brasil, Русский, Română, Slovensky, Slovenščina, Srpski, Suomi, Svenska, Tiếng Việt, Türkçe, Українська, 简体中文, 正體中文, 日本語, 한국어, ไทย, עברית, العربية, فارسی.
System Requirements:
Search the web and Windows
208.0 kbps
54.0 kbps
7:25 PM
3/9/2020


User Account Control
Do you want to allow this app to make changes to your device?
Rufus
Verified publisher: Akeo Consulting
File origin: Hard drive on this computer
Show more details
Yes
No


Rufus - Create bootable
rufus.akeo.ie
Download
Last updated 2017.05.16:
Rufus 2.15 (932 KB)
Rufus 2.15 Portable (932 KB)
Other versions
Supported Languages:
Azerbaycanca, Bahasa Indonesia, Bahasa Malaysia, Български, Čeština, Dansk, Deutsch, Ελληνικά, English, Español, Français, Hrvatski, Italiano, Latviešu, Lietuvių, Magyar, Nederlands, Norsk, Polski, Português, Português do Brasil, Română, Slovenčina, Slovenščina, Srpski, Suomi, Svenska, Tiếng Việt, Türkçe, Українська, עברית, العربية, فارسی
Rufus update policy
Do you want to allow Rufus to check for application updates online?
More information
Yes
No
System Requirements:
Windows XP or later, 32 or 64 bit doesn't mat
I will take this opportunity to express my gratitude to the translators who made it possible for Rufus, as well as this webpage, to be translated in various languages. If you find that you can use Rufus in your own language, you should really thank them!
Usage
Download the executable and run it – no installation is necessary.
The executable is digitally signed and the signature should state:
"Akeo Consulting" (v1.3.0 or later)
"Pete Batard - Open Source Developer" (v1.2.0 or earlier)


Rufus - Create bootable
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Last updated 2017.05.16:
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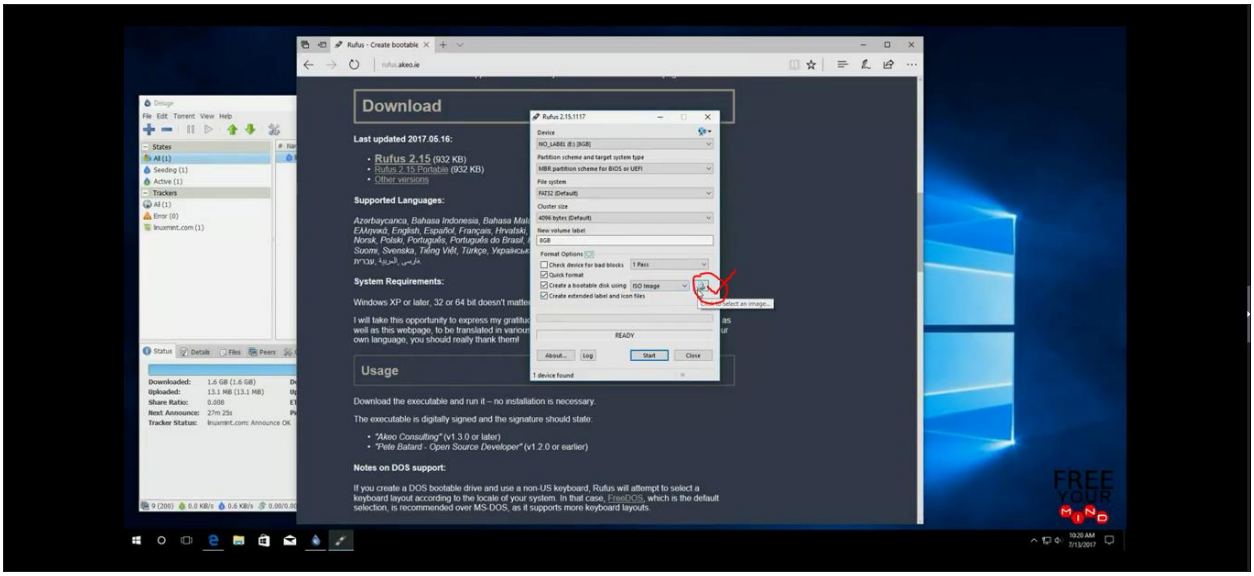
Notes on DOS support:
If you create a DOS bootable drive and use a non-US keyboard, Rufus will attempt to select a keyboard layout according to the locale of your system. In that case, FreeDOS, which is the default selection, is recommended over MS-DOS, as it supports more keyboard layouts.
Rufus 2.15.1117
READY
About...
Log
Start
Close
1 device found


Rufus - Create bootable
rufus.akeo.ie
Download
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Rufus 2.15 (932 KB)
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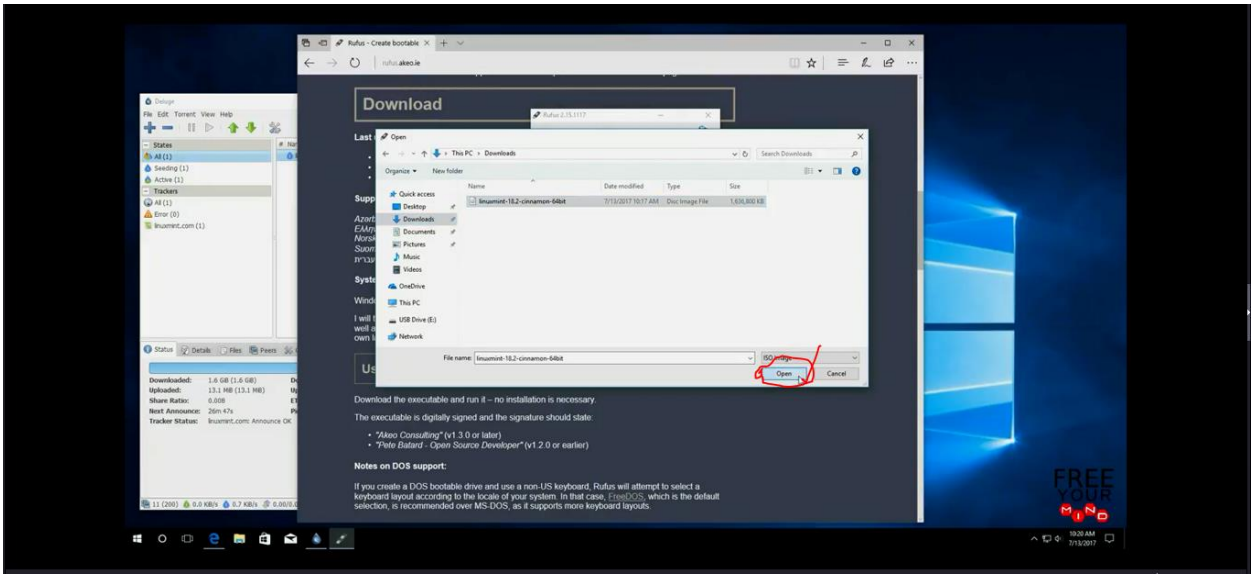
Rufus 2.15.1117
READY
About...
Log
Start
Close
1 device found


Rufus - Create bootable
rufus.akeo.ie
Download
Open
This PC › Downloads
linuxmint-18.2-cinnamon-64bit
File name: linuxmint-18.2-cinnamon-64bit
Open
Cancel
Download the executable and run it – no installation is necessary.
The executable is digitally signed and the signature should state:
"Akeo Consulting" (v1.3.0 or later)
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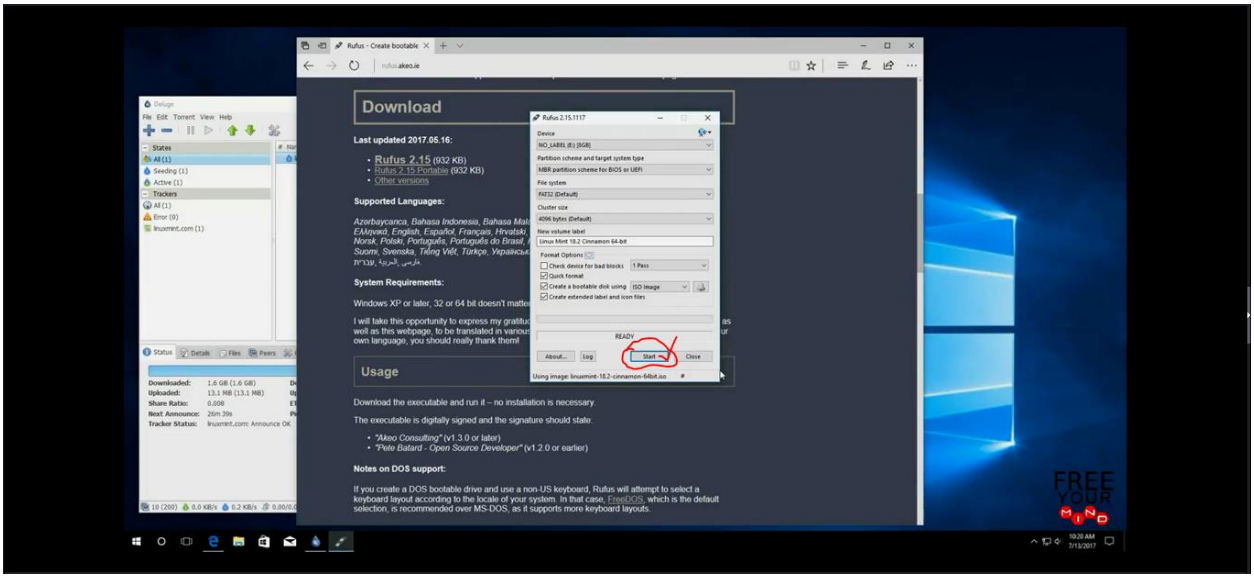
Rufus - Create bootable
rufus.akeo.ie
Download
Last updated 2017.05.16:
Rufus 2.15 (932 KB)
Rufus 2.15 Portable (932 KB)
Other versions
Supported Languages:
System Requirements:
Windows XP or later, 32 or 64 bit doesn't matter
Rufus 2.15.1117
Device
Partition scheme and target system type
File system
Cluster size
New volume label
Linux Mint 18.2 Cinnamon 64-bit
Format Options
READY
About...
Log
Start
Close
Usage
Download the executable and run it – no installation is necessary.
The executable is digitally signed and the signature should state:
"Akeo Consulting" (v1.3.0 or later)
"Pete Batard - Open Source Developer" (v1.2.0 or earlier)
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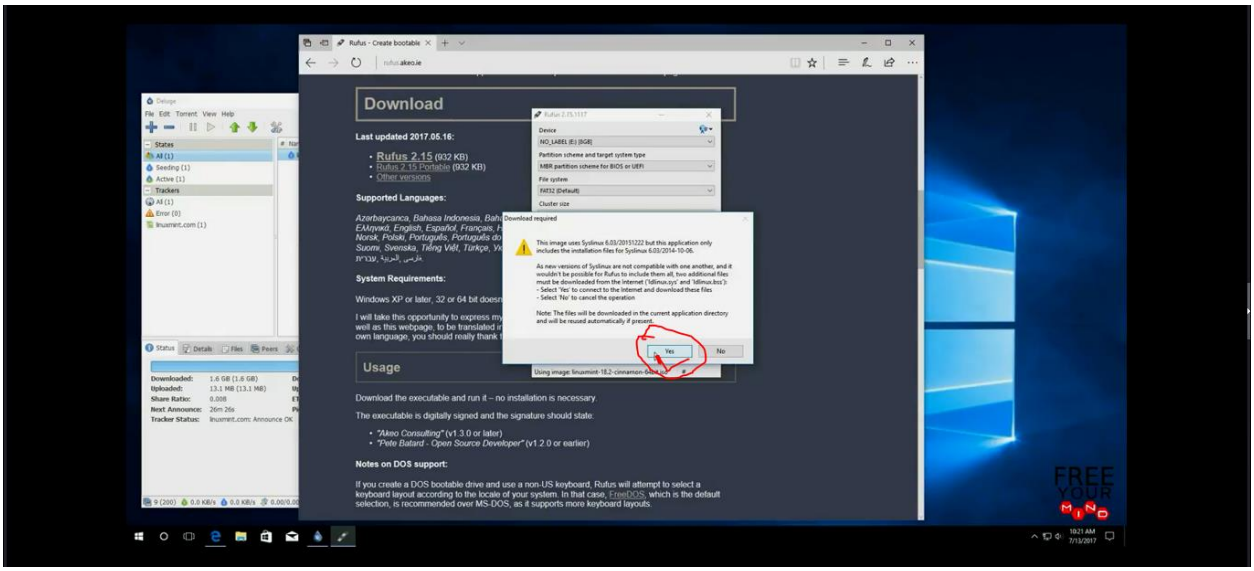
If you create a DOS bootable drive and use a non-US keyboard, Rufus will attempt to select a keyboard layout according to the locale of your system. In that case, FreeDOS, which is the default selection, is recommended over MS-DOS, as it supports more keyboard layouts.


Rufus - Create bootable
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Windows XP or later, 32 or 64 bit doesn
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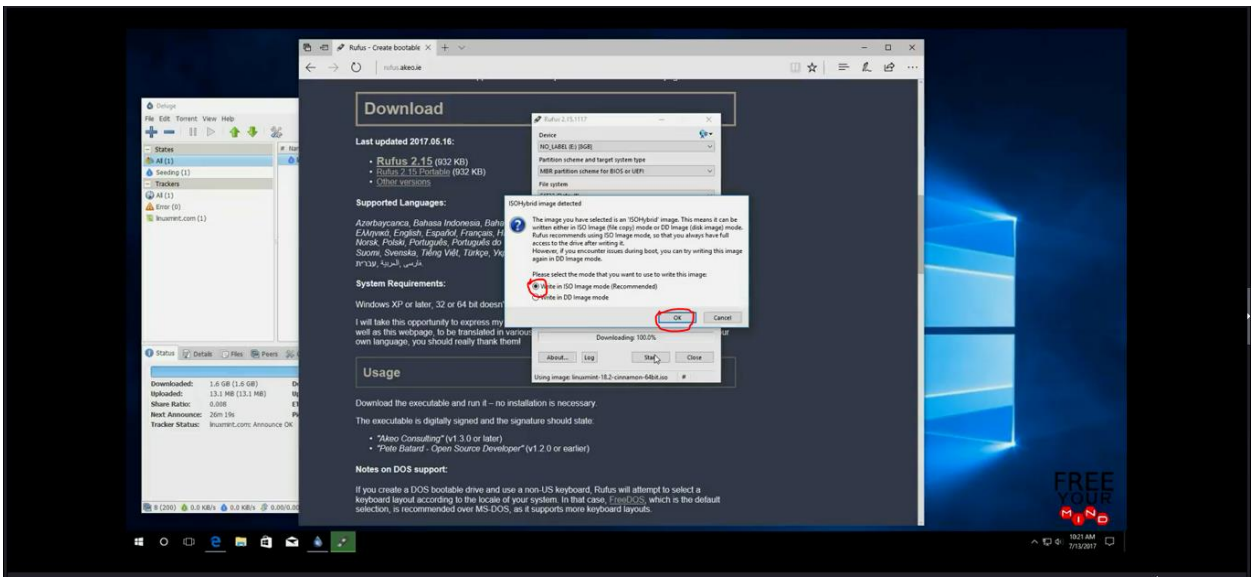
Download required
This image uses Syslinux 6.03/20151222 but this application only includes the installation files for Syslinux 6.03/2014-10-06.
As new versions of Syslinux are not compatible with one another, and it wouldn't be possible for Rufus to include them all, two additional files must be downloaded from the Internet ('ldlinux.sys' and 'ldlinux.bss')
- Select 'Yes' to connect to the Internet and download these files
- Select 'No' to cancel the operation
Note: The files will be downloaded in the current application directory and will be reused automatically if present.
Yes
No
Using image: linuxmint-18.2-cinnamon-64bit.iso
Deluge
Downloaded: 1.6 GB (1.6 GB)
Uploaded: 13.1 MB (13.1 MB)
Share Ratio: 0.008
Next Announce: 26m 26s
Tracker Status: linuxmint.com: Announce OK
FREE YOUR MIND


Rufus - Create bootable
rufus.akeo.ie
Download
Last updated 2017.05.16:
Rufus 2.15 (932 KB)
Rufus 2.15 Portable (932 KB)
Other versions
Supported Languages:
System Requirements:
Windows XP or later, 32 or 64 bit doesn
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"Pete Batard - Open Source Developer" (v1.2.0 or earlier)
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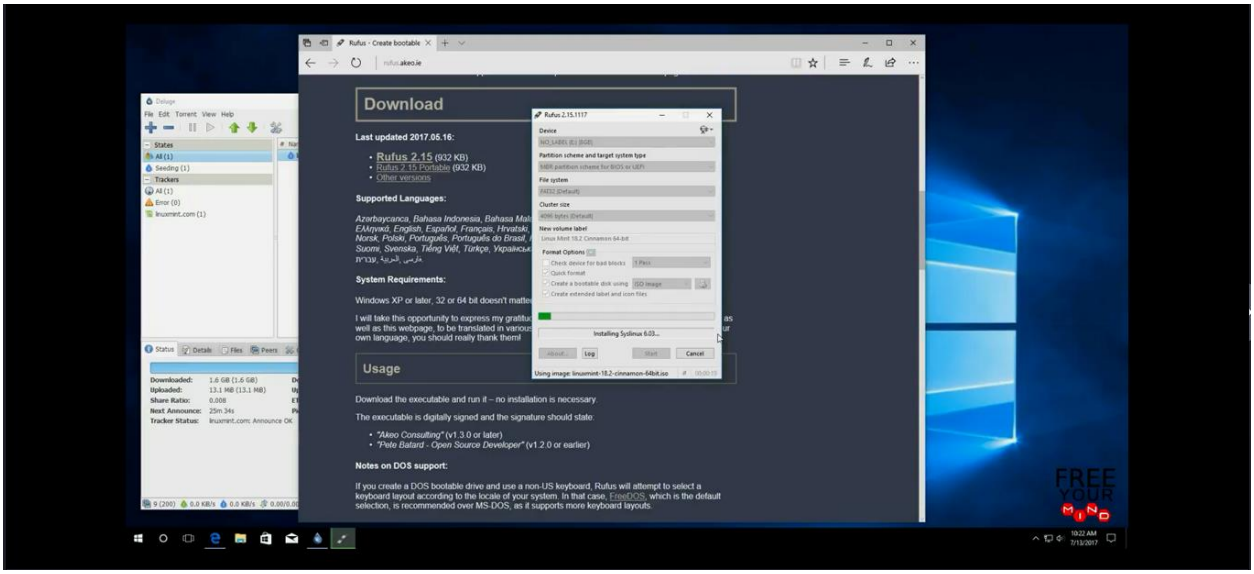
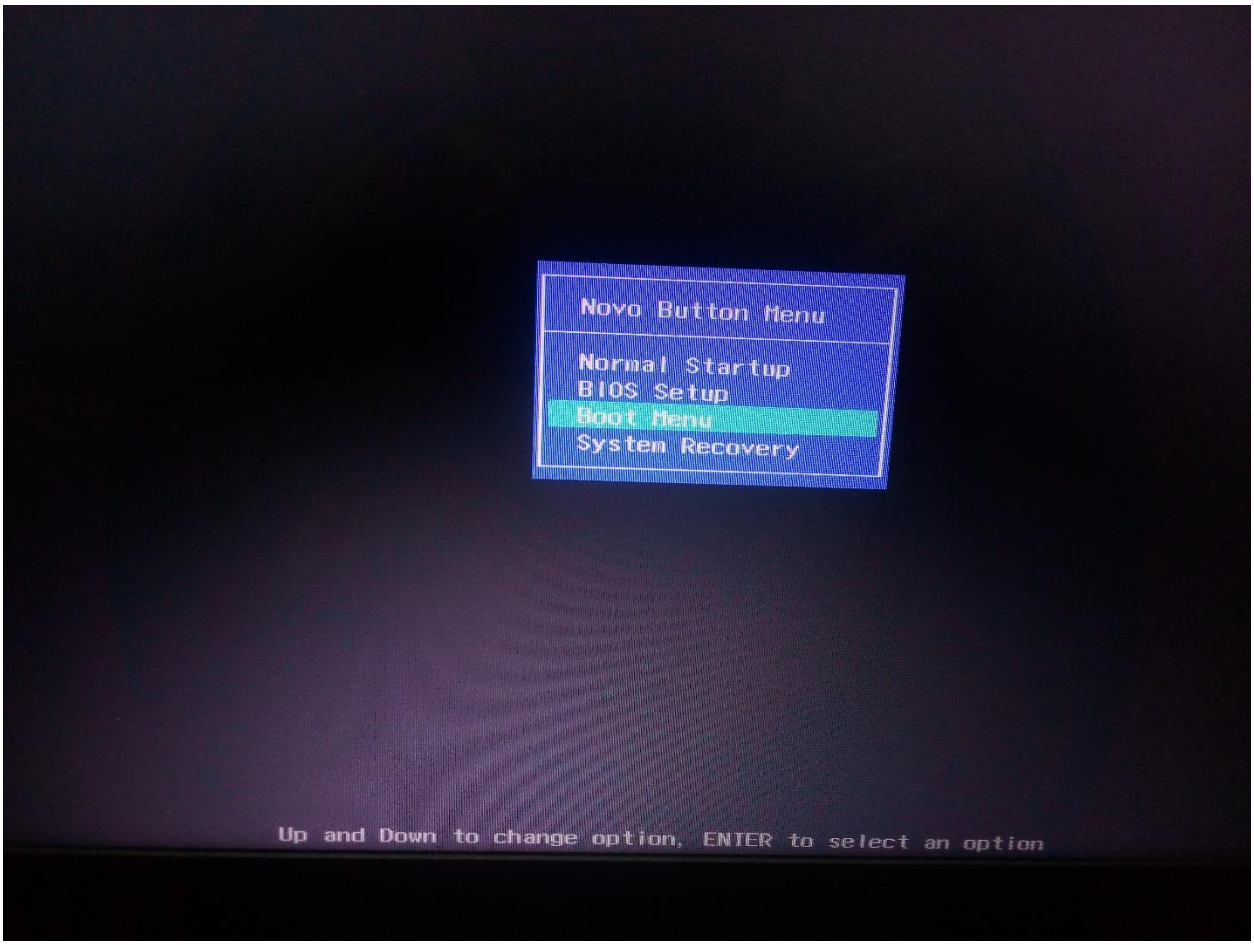
ISOHybrid image detected
The image you have selected is an 'ISOHybrid' image. This means it can be written either in ISO Image (file copy) mode or DD Image (disk image) mode. Rufus recommends using ISO Image mode, so that you always have full access to the drive after writing it.
However, if you encounter issues during boot, you can try writing this image again in DD Image mode.
Please select the mode that you want to use to write this image:
Write in ISO Image mode (Recommended)
Write in DD Image mode
OK
Cancel
Downloading: 100.0%
About...
Log
Start
Close
Using image: linuxmint-18.2-cinnamon-64bit.iso
Deluge
Downloaded: 1.6 GB (1.6 GB)
Uploaded: 13.1 MB (13.1 MB)
Share Ratio: 0.008
Next Announce: 26m 19s
Tracker Status: linuxmint.com: Announce OK
FREE YOUR MIND

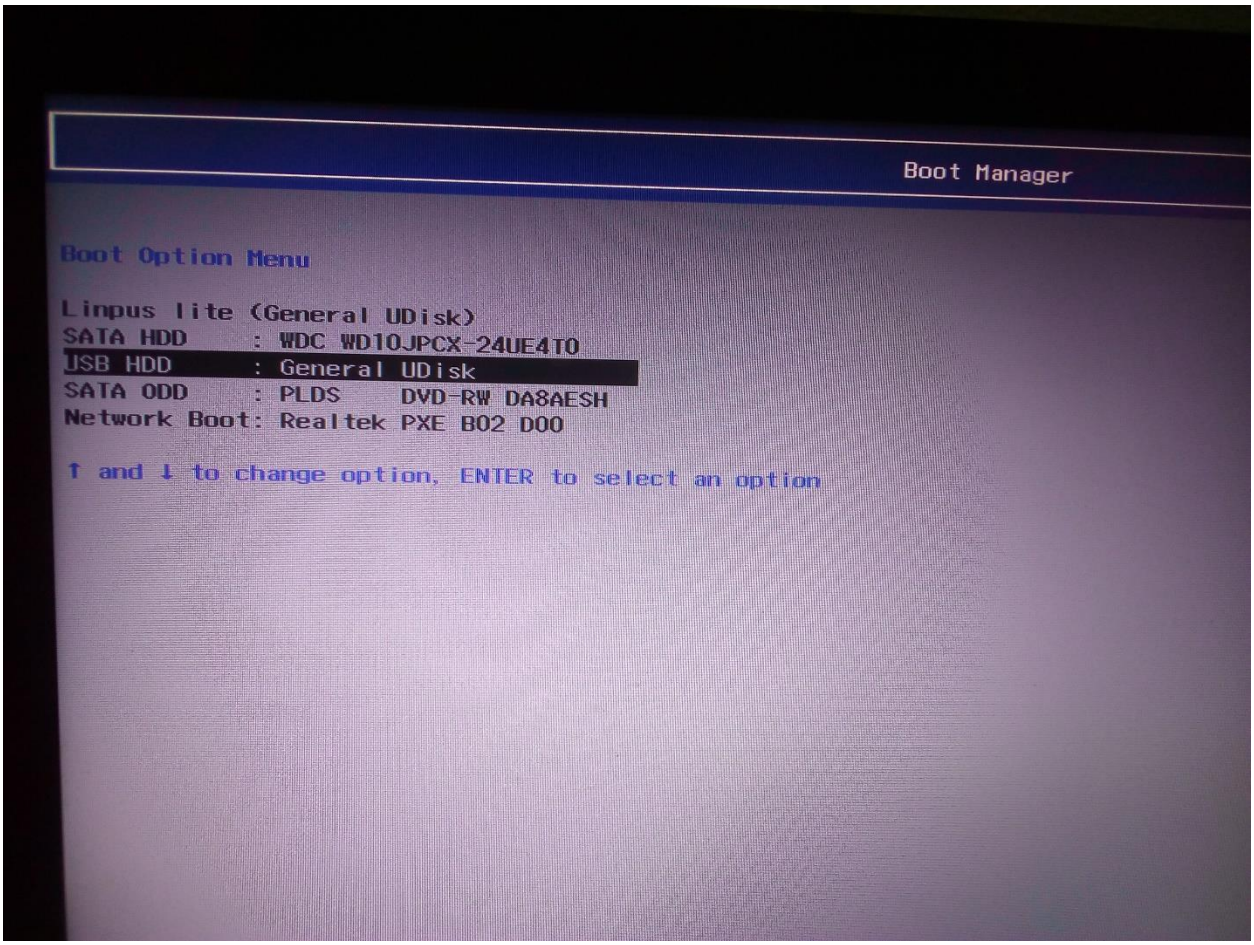


Step 04:

Boot Linux-Mint From USB .



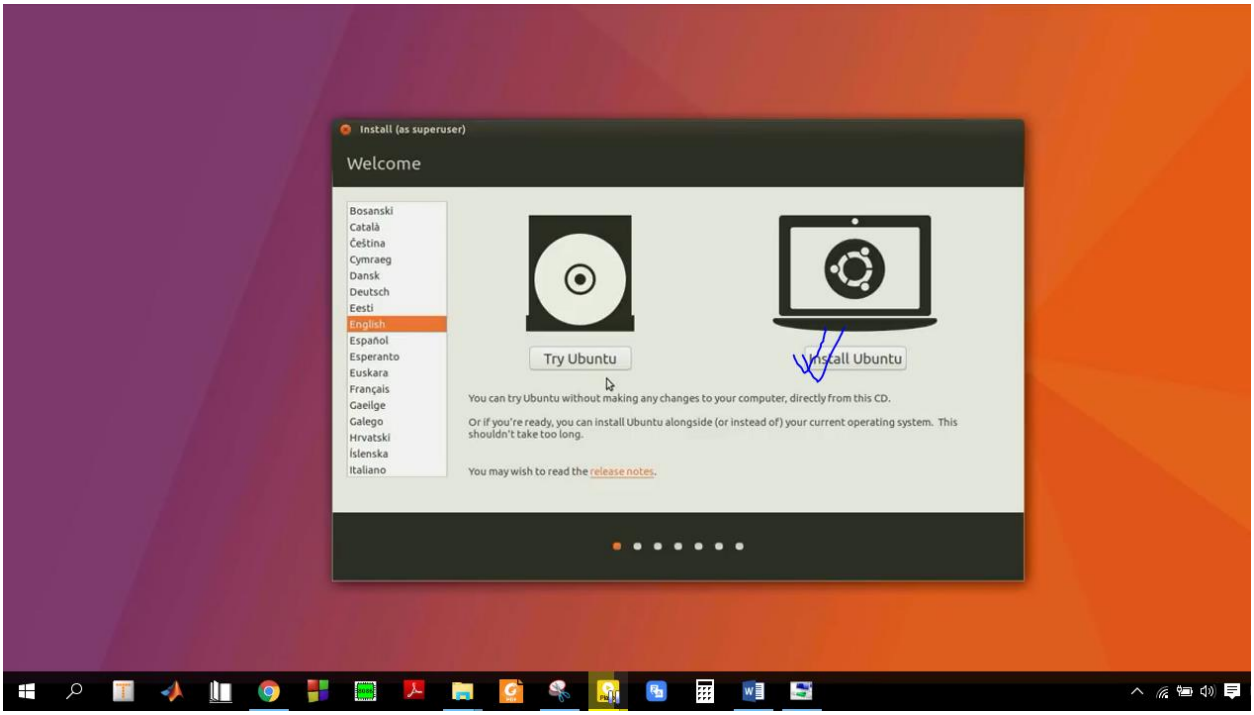
Press enter button.

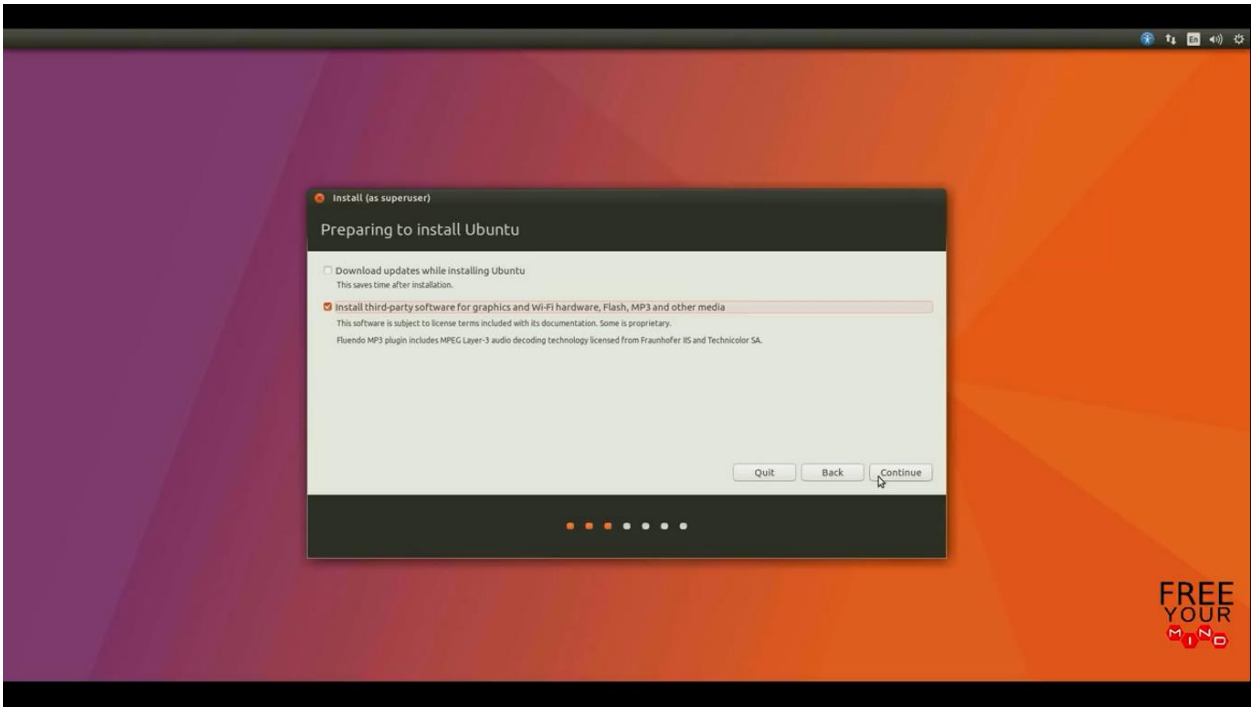


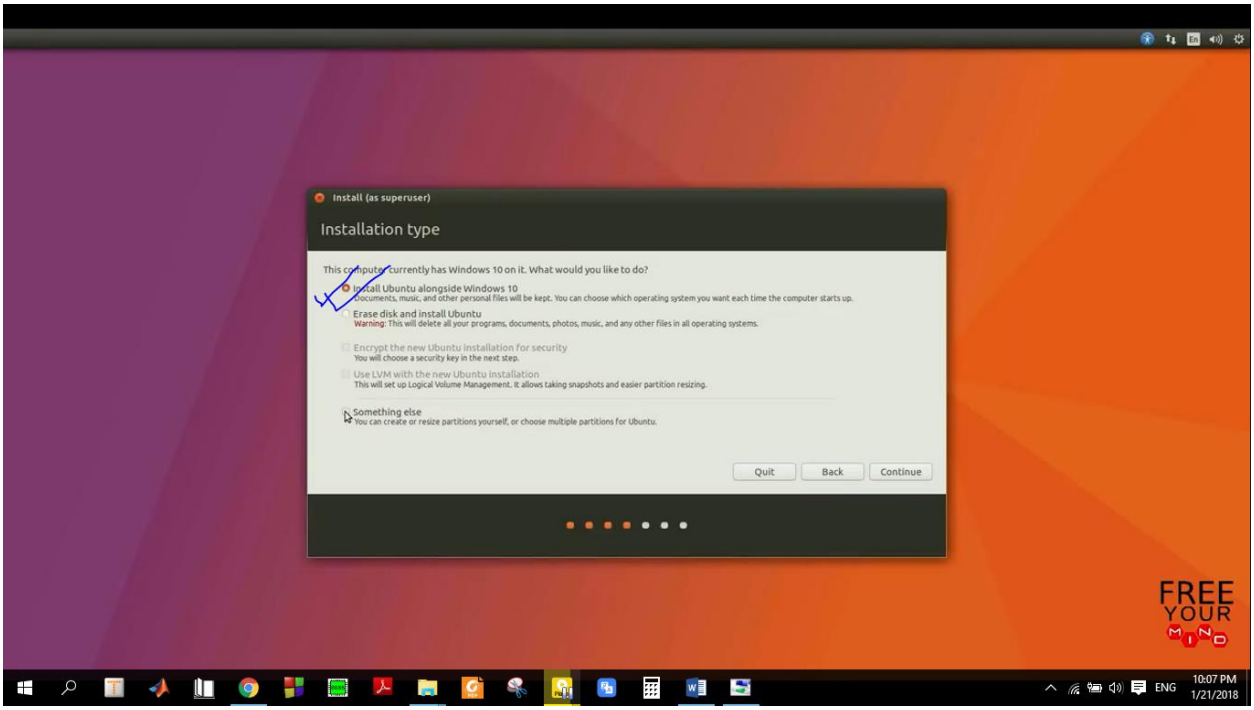
Again press Enter.

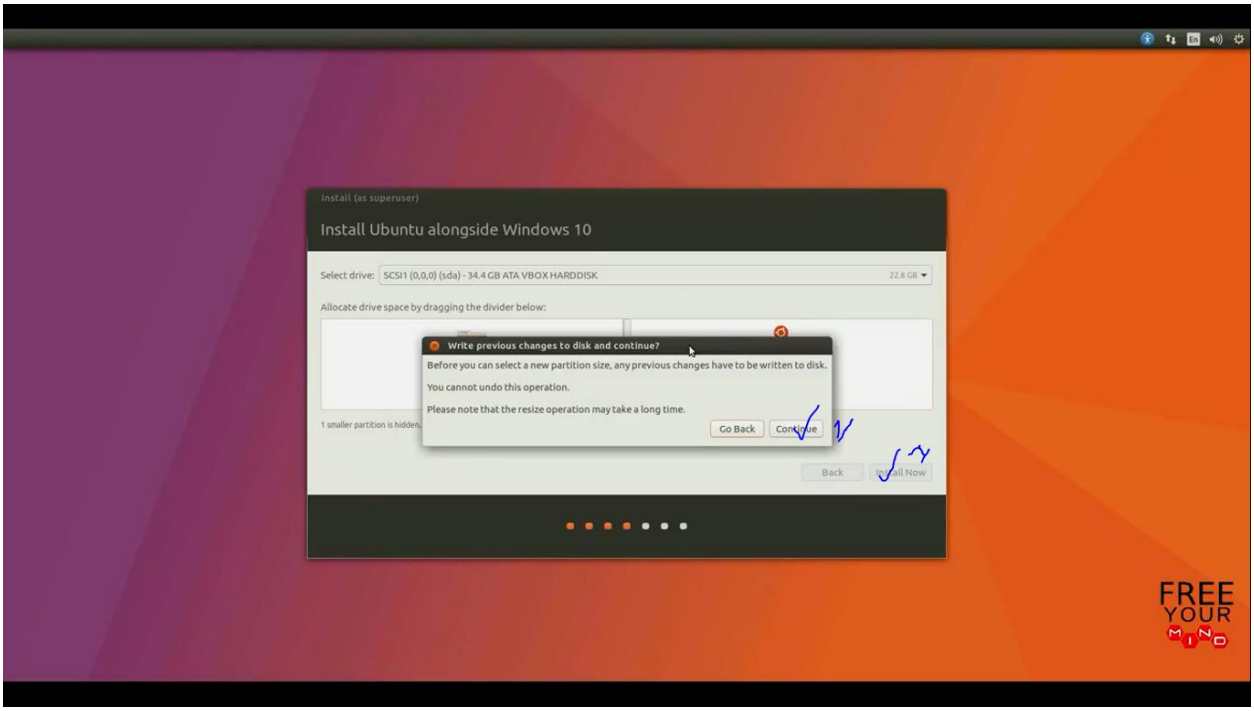
Step 05: Install Linux-ubuntu

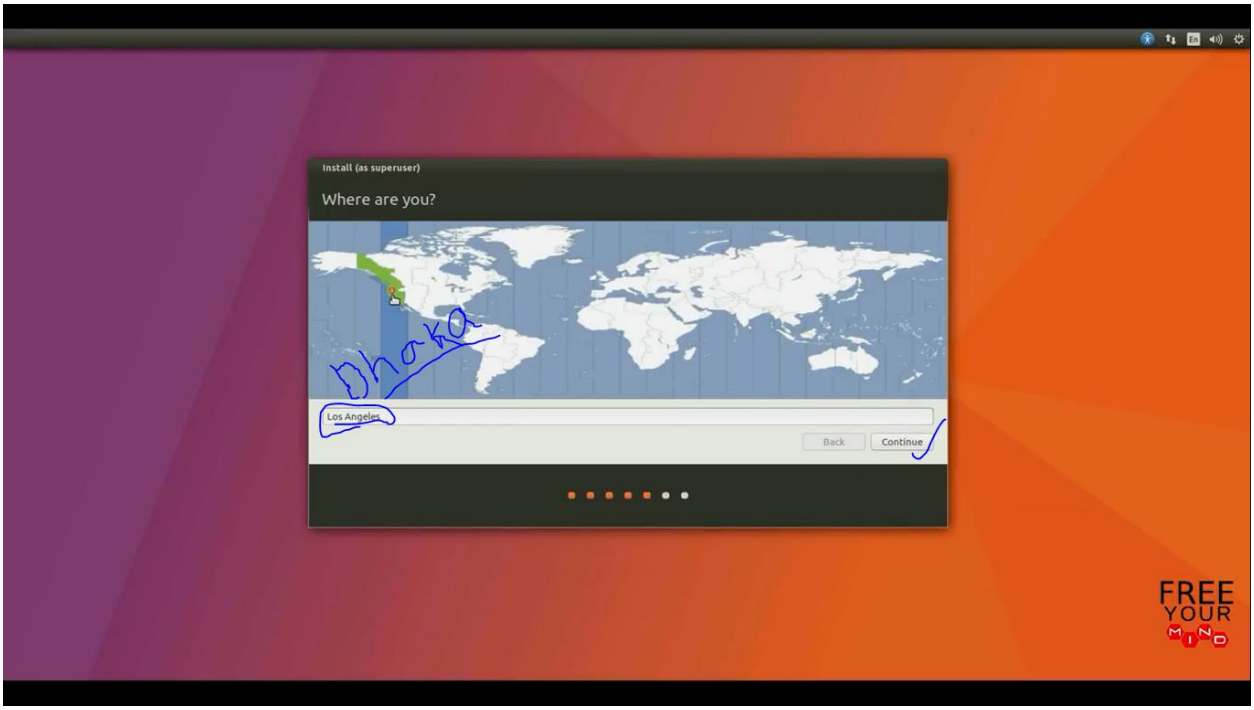
ubuntu

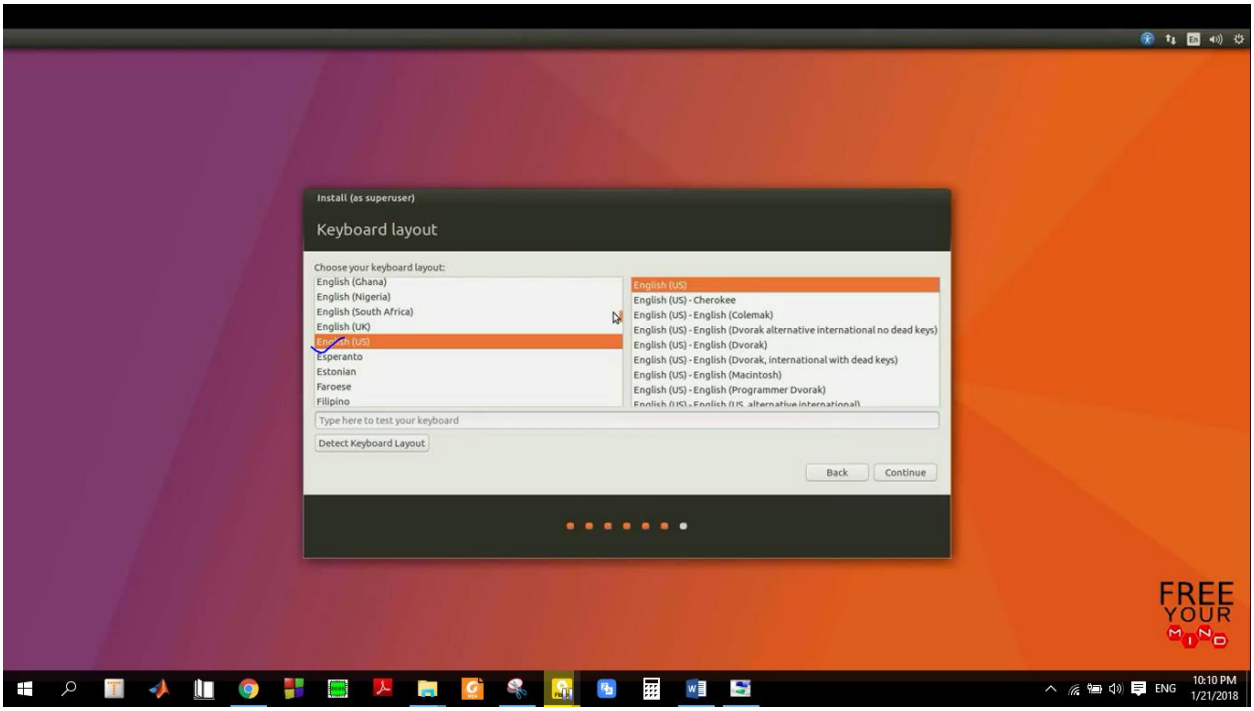

Install (as superuser)
Welcome
Bosanski
Català
Čeština
Cymraeg
Dansk
Deutsch
Eesti
English
Español
Esperanto
Euskara
Français
Gaeilge
Galego
Hrvatski
Íslenska
Italiano
Try Ubuntu
Install Ubuntu
You can try Ubuntu without making any changes to your computer, directly from this CD.
Or if you're ready, you can install Ubuntu alongside (or instead of) your current operating system. This shouldn't take too long.
You may wish to read the release notes.

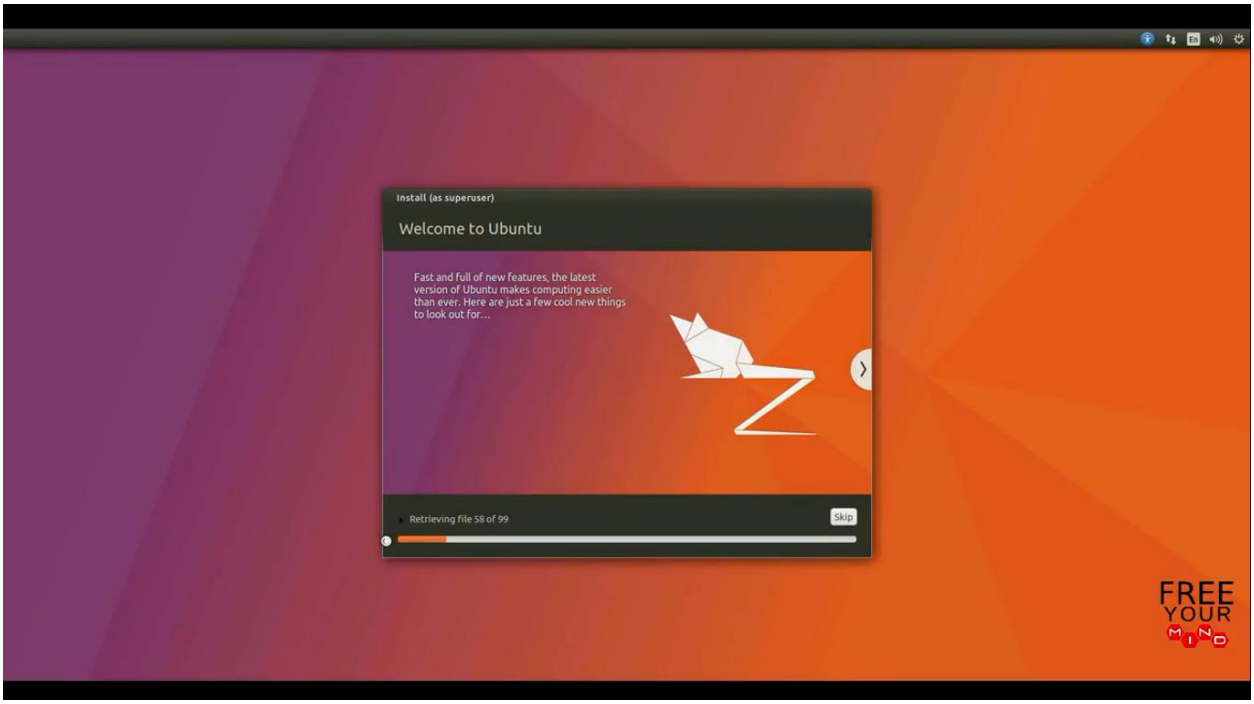

Install (as superuser)
Preparing to install Ubuntu
Download updates while installing Ubuntu
This saves time after installation.
Install third-party software for graphics and Wi-Fi hardware, Flash, MP3 and other media
This software is subject to license terms included with its documentation. Some is proprietary.
Fluendo MP3 plugin includes MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Technicolor SA.
Quit
Back
Continue
FREE YOUR MIND


Install (as superuser)
Installation type
This computer currently has Windows 10 on it. What would you like to do?
Install Ubuntu alongside Windows 10
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
FREE YOUR MIND
ENG
10:07 PM
1/21/2018


Install (as superuser)
Install Ubuntu alongside Windows 10
Select drive: SCSI1 (0,0,0) (sda) - 34.4 GB ATA VBOX HARDDISK
22.8 GB
Allocate drive space by dragging the divider below:
Write previous changes to disk and continue?
Before you can select a new partition size, any previous changes have to be written to disk.
You cannot undo this operation.
Please note that the resize operation may take a long time.
Go Back
Continue
1 smaller partition is hidden
Back
Install Now
FREE
YOUR
MIND


Install (as superuser)
Where are you?
Dhaka
Los Angeles
Back
Continue
FREE
YOUR
MIND





Conclusion: Finally i install the linux from the help of online video and different blog . Actually it is Linux-mint 18.2 'Sonya' cinnamon.