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SUBJECT - COMPUTER WORKSHOP

TOPIC - How to make a bootable stick on windows and ubantu?

1. Overview

With a bootable Ubuntu USB stick, you can:

- Install or upgrade Ubuntu
- Test out the Ubuntu desktop experience without touching your PC configuration
- Boot into Ubuntu on a borrowed machine or from an internet cafe
- Use tools installed by default on the USB stick to repair or fix a broken configuration

Creating a bootable Ubuntu USB stick from Microsoft Windows is very simple and we're going to cover the process in the next few steps.

2. Requirements

You will need:

- A 4GB or larger USB stick/flash drive
- Microsoft Windows XP or later
- <u>Rufus</u>, a free and open source USB stick writing tool
- An Ubuntu ISO file. See <u>Get Ubuntu</u> for download links



3. USB selection

Perform the following to configure your USB device in Rufus:

- 1. Launch Rufus
- 2. Insert your USB stick
- 3. Rufus will update to set the device within the Device field
- 4. If the Device selected is incorrect (perhaps you have multiple USB storage devices), select the correct one from the device field's drop-down menu

Drive Properties —			
Device			
8GB (F:) [7.8GB]			~
8GB (F:) [7.8GB]			
Disk or ISO image (Please select)	v Ø	SELEC	1
Partition scheme	Target system		
MBR ~	BIOS (or UEFI-CSM	/ I)	
 Show advanced drive properties 			
Volume label			
Volume label 8GB File system	Cluster size		
Volume label 8GB File system FAT32 (Default)	Cluster size 4096 bytes (Defau	lt)	
Volume label 8GB File system FAT32 (Default) V Show advanced format options	Cluster size 4096 bytes (Defau	lt)	
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4. Boot selection and Partition scheme

Now choose the Boot selection. Choices will be *Non bootable* and *FreeDOS*. Since you are creating a bootable Ubuntu device select FreeDOS.

The default selections for Partition scheme (*MBR*) and Target system (*BIOS (or UEFI-CSM)*) are appropriate (and are the only options available).

Device						
KINGSTON (F:) [7.8GB]						~
Boot selection						- 202
FreeDOS		~	\odot		SELECT	
Partition scheme	-	larget sys	tem			
MPR	~	BIOS (or	UEFI-C	SM)		~
 Show advanced drive properties Format Options - Volume label Ubuntu 18.04.1 Desktop 	erties	Chuster -	0_			
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5. Select the Ubuntu ISO file

To select the Ubuntu ISO file you downloaded previously, click the SELECT to the right of "Boot selection". If this is the only ISO file present in the Downloads folder you will only see one file listed.

Select the appropriate ISO file and click on Open.

KINGSTON (F:) [7.8GB					
]	~			
Boot selection					
FreeDOS	& Open				×
Partition scheme MBR	$\leftrightarrow \rightarrow \neg \uparrow \clubsuit \rightarrow$ This P	C > Downloads	v Ö	Search Downloads	٩
 Show advanced d 	Organize 👻 New folder			E • 💷	0
Format Opti Volume label Ubuntu 18.04.1 Desk	This PC	wbuntu-18.04.1-desktop-amd64.iso Type: Disc Image File		Date modified: 8/8/2018 10:21 A Size: 1.81 GB	м
File system	Documents				
FAT32 (Default)	🕹 Downloads				
✓ Show advanced for Show advanced for Status ——	Music Pictures Videos				
	··· 05 (C)				
© () ≋ П	XP Boot (D:) User Data (E:)				



6. Write the ISO

The Volume label will be updated to reflect the ISO selected.

Leave all other parameters with their default values and click START to initiate the write process.

Device					
8GB (F:) [7.8GB]					~
Boot selection					
ubuntu-18.04.1-deskto	p-amd64.iso	\sim	\oslash	SELE	ст
Partition scheme		Target syste	m		
		DIOS UE	FI		~
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7. Additional downloads

You may be alerted that Rufus requires additional files to complete writing the ISO. If this dialog box appears, select Yes to continue

Λ	This image uses Syslinux 6.03/20171017 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 ('Idlinux.sys' and 'Idlinux.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.



8. Write warnings

You will then be alerted that Rufus has detected that the Ubuntu ISO is an *ISOHybrid image*. This means the same image file can be used as the source for both a DVD and a USB stick without requiring conversion.

Keep Write in ISO Image mode selected and click on OK to continue.



Rufus will also warn you that all data on your selected USB device is about to be destroyed. This is a good moment to double check you've selected the correct device before clicking OK when you're confident you have.

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	WARNING: BE DESTRO To continu CANCEL.	ALL DATA ON I OYED. e with this ope	DEVICE 'KIN tration, clic	IGSTON (F:) _e k OK. To qu	[7.8GB]' WILL it click	
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9. Writing the ISO

The ISO will now be written to your USB stick, and the progress bar in Rufus will give you some indication of where you are in the process. With a reasonably modern machine, this should take around 10 minutes. Total elapsed time is shown in the lower right corner of the Rufus window.

F Rufus 3.1.1320	·		×
Drive Properties —			
Device			
KINGSTON (F:) [7.8GB]			
Boot selection			
ubuntu-18.04.1-desktop-amd64.iso	∘ ∨ ⊘	SELE	СТ
Partition scheme	Target system		
MBR v	BIOS or UEFI		
Format Options — Volume label Ubuntu 18.04.1 LTS amd64			
Format Options — Volume label Ubuntu 18.04.1 LTS amd64 File system	Cluster size		
Format Options Volume label Ubuntu 18.04.1 LTS amd64 File system FAT32 (Default)	Cluster size 4096 bytes (Def	ault)	~
Format Options — Volume label Ubuntu 18.04.1 LTS amd64 File system FAT32 (Default) Show advanced format options Status	Cluster size 4096 bytes (Def	ault)	~
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Format Options — Volume label Ubuntu 18.04.1 LTS amd64 File system FAT32 (Default) Show advanced format options Status	Cluster size 4096 bytes (Def g ISO files	ault)	CEL



10. Installation complete

When Rufus has finished writing the USB device, the Status bar will be green filled and the word READY will appear in the center. Select CLOSE to complete the write process.

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Target sys	stem		
BIOS or I	JEFI		~
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LEARNING OUTCOMES

- 1. Apply coding skills to solve application based problems on competitive platforms such as Hacker Rank/ Hacker Earth/Code Chef.
- 2. Understand the basic concept and structure of computer hardware
- 3. Identify the existing configuration of the computers and peripherals.
- 4. Installing and uninstalling multiple operating systems on a machine.
- 5. Apply their knowledge about computer peripherals to identify /rectify problems on-board.

EVALUATION COLUMN (To be filled by concerned faculty only)

Sr. No.	Parameters	Maximum Marks	Marks Obtained
1.	Worksheet Completion including writing learning objective/ Outcome	10	
2.	Post Lab Quiz Result	5	
3.	Student engagement in Simulation/ Performance/ Pre Lab Questions	5	
4.	Total Marks	20	