# Ubuntu Linux Setup Guide

For ThinkPad P1

\*\*\* Official support of Ubuntu 18.04 LTS.





#### Section 1 – BIOS Setup and Pre-Installation Steps

The first step before installing Linux is to make sure the system BIOS is setup correctly.

• Boot into BIOS by pressing the function F1 key at the "Lenovo" splash screen.



Tab over to the 'Restart' menu tab, and set "OS Optimized Defaults" to "Disabled".

				Thin	kPad Set	tup		
Main	Con	fig	Date/	Time	Secur	ity Sta	artup	Restart
Main Exit Sa Exit Di Load Se - OS O Discard Save Ch	Con ving C scardi tup De ptimiz Chang anges	fig hanges ng Chan faults ed Defa es	Date/ ges ults	Time [Disab]	Secur : ed]	itý Sta	Iter	Restart n Specific Help Setup and save changes.
F1 Hel Esc Exi	p 1↓ t ↔	Select Select	Item Menu	+/- Enter	Change Select	Values ▶ Sub-Menu	F9 1 F10	Setup Defaults Save and Exit

• Tab over to the "Startup" menu tab and make sure the following parameters are set accordingly.

\*\*\*<u>Note</u>: Pressing F9 will allow "UEFI/Legacy Boot" to be selectable; otherwise, it will be an unchangeable setting to "UEFI only".

			ThinkPad Se	tup		
Main	Config	📃 Date/Tir	me Secur	ity Sta	artup	Restart
▶ Boot					Ite	m Specific Help
Network	Boot		[PCI LAN]			
UEFI/Leg - UEFI/ - CSM S	acy Boot Legacy Boot upport	Priority	[Both] [UEFI Firs [Yes]	t)		
Boot Mod	е		[Quick]			
Option k	ey Display		[Enabled]			
Boot dev	ice List F1	2 Option	[Enabled]			
Boot Ord	er Lock		[Disabled]			
F1 Help Esc Exit	↑↓ Selec ↔ Selec	t Item 🔸	/- Change nter Select	Values ▶ Sub-Mem	F9 u F10	Setup Defaults Save and Exit

\*\*\*<u>Note</u>: Pressing F9 after setting "OS Optimized Defaults" to "Disabled" will also disable "Secure Boot" under the "Security" menu tab -> "Secure Boot" menu.

#### Section 2 – Discrete vs Hybrid Graphics

The Thinkpad P1 offers both Nvidia and Intel graphics. To run exclusively Nvidia graphics, use the discrete graphics mode.

• Boot into BIOS, tab over to the "Config" menu option, and select the "Display" option.

			ThinkPad Se	tup		
Main	Config	👘 Date/Ti	ime Secur	ity Sta	rtup 👘	Restart
<ul> <li>Network</li> <li>USB</li> <li>Keyboard/</li> <li>Display</li> <li>Power</li> <li>Beep and</li> <li>Storage</li> <li>CPU</li> <li>Thunderbook</li> <li>Intel (R)</li> </ul>	Mouse Alarm olt(TM) 3 AMT				Item	Specific Help
F1 Help Esc Exit	T↓ Selea ↔ Selea	:t Item → :t Menu 🗜	M- Change Enter Select	Values ► Sub-Menu	F9 F10	Setup Defaults Save and Exit

• By default, the "Graphics Device" is likely set to "Hybrid Graphics". To run exclusively Nvidia graphics, set the "Graphics Device" to "Discrete Graphics".

IninkPad Setup	
Config	
Display	Item Specific Help
Boot Display Device Graphics Device Total Graphics MemoryIThinkPad LCDI Lybrid GraphicsBoot Time ExtensionIDDiscrete Graphics Hybrid Graphics	Discrete Graphics mode will achieve higher graphics performance. Hybrid Graphics mode runs as Integrated Graphics mode to achieve longer battery life, and Discrete Graphics is enabled on demand.
F1 Help ↑↓ Select Item +/- Change Values Esc Exit ↔ Select Menu Enter Select ▶ Sub-Menu	F9 Setup Defaults F10 Save and Exit

### Section 3 – Installing Ubuntu Linux 18.04 LTS

Please refer to the following instructions and screenshots on how to install Ubuntu 18.04 LTS on the Lenovo Thinkpad P1.

- Insert the Ubuntu 18.04 installation media (either through USB or CD/DVD).
- Power on the system and press the F12 function key whenever the following Lenovo splash screen appears:



• Select the Linux bootable installation media from the F12 boot menu list.



Lenovo

• Highlight "Install Ubuntu" from the Ubuntu GRUB boot menu and press 'e'.



 OPTIONAL: Add the following line, "acpi=off", to the end of the boot kernel parameter and press F10 to boot.
 \*\*\*WARNING – This stops all power management settings from within Linux!



- Add the following line, "<u>module\_blacklist=nouveau</u>", to the end of the boot kernel parameter since the open source graphics driver doesn't support the newer Nvidia graphics.
- The Ubuntu logo screen should then appear as the Ubuntu installation is being loaded.

	ubuntu <sup>®</sup> 	

• The Ubuntu installation Welcome screen should appear. Select the Language.

English Español				
Esperanto				
Euskara	ß			
Français				
Gaeilge				
Galego				
Hrvatski				
Íslenska				
Italiano				
Kurdî				
Latviski				
			Quit Back	Continue

Lenovo

• Select the keyboard layout.

Choose your keyboard layout: English (Ghana) English (Nigeria) English (South Africa) English (UK)	<mark>English (US)</mark> English (US) - Cherokee English (US) - English (Colemak) English (US) - English (Dvorak)
English (US) Esperanto Estonian Faroese Filipino	English (US) - English (Dvorak, alt. intl.) English (US) - English (Dvorak, intl., with dead keys) English (US) - English (Dvorak, left-handed) English (US) - English (Dvorak, right-handed) English (US) - English (Macintosh)
Type here to test your keyboard Detect Keyboard Layout	
	Quit Back Continue

• Choose the Wireless Network.

onnect	ing this computer to a wi-fi network allows you to install this	rd-party software, d	ownload updates, automatically detect your
imezon	ie, and install full support for your language.		
	post to this potwork		J
	⇒ CSC		
	≈ dd-wrt		
	DIRECT-SzPhaser 3260		
	HP-Print-15-Officeiet Pro 8610		
	lenovo		
	🗇 lenovo-auest		
	🤝 lenovo-internet		
	•		
		N	Quit Back Continue
		2	

Lenovo

• Select the type of installation. For simplicity sake, choose "Normal installation".

What apps would you like to inst	all to start with?				
Web because utilities office coffice	a anno an an an air a burner				
Minimal installation	e, games, and media players.				
Web browser and basic utilities					
Other options					
Download updates while install	ing Ubuntu				
This saves time after installation.	11 12 - THE REPORTS OF THE				
Install third-party software for	graphics and Wi-Fi hardw	are and additional media	a formats		
This software is subject to license ter	ms included with its document	ation. Some is proprietary.			
					2 93
		$\Im$	Quit	Back	Continue

• Select the "Installation type" partitioning method and select "Install Now". \*\*\*For non-dual boot systems (single boot), select "Erase disk and install Ubuntu".

This o	computer currently has Ubuntu 18.04 LTS on it. What would you like to do?	
	Reinstall Ubuntu 18.04 LTS Documents, music, and other personal files will be kept. Installed software will be kept where possible. System-wide settings will be cleared.	
	Erase Ubuntu 18.04 LTS and reinstall Warning: This will delete all your Ubuntu 18.04 LTS programs, documents, photos, music, and any other files.	
	Install Ubuntu 18.04 LTS alongside Ubuntu 18.04 LTS Documents, music, and other personal files will be kept. You can choose which operating system you want each time the computer starts up.	
	Prase 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 spanshots and easier partition resizing.	
	Something else You can create or resize partitions yourself, or choose multiple partitions for Ubuntu.	tall Now

Lenovo

• Confirm the partitioning method from the previous step below.

s computer currently has Ubun	tu 18.04 LTS on it. What would you like to do	•
Reinstall Ubuntu 18.04 LTS Documents, music, and other press.	ersonal files will be kept. Installed software will be ker	t where possible. System-wide settings will be cleared.
	Write the changes to	disks?
If you continue, the changes lis	sted below will be written to the disks. Other	wise, you will be able to make further changes manually.
WARNING: This will destroy al	l data on any partitions you have removed as	well as on the partitions that are going to be formatted
The partition tables of the fol /dev/nvme0n1	lowing devices are changed:	
The following partitions are g partition #1 of /dev/nvme0n1 partition #2 of /dev/nvme0n1	oing to be formatted: as ESP as ext4	
		Go Back Continue
You can create or resize partitic	ns yourself, or choose multiple partitions for Ubuntu.	N

• Select the geographical location and "Continue" to proceed.



• Customize the installation by filling out the appropriate boxes. See example below.

	Install	
Who are you?		
5		
Your name:		
Your computer's name:		
The r	name it uses when it talks to other computers.	
Pick a username:		
Choose a password:		
Confirm your password:		
	Log in automatically Require my password to log in	
	na na terra de la terra de la constante de la c	
	\$	
		_
	Back Continue	1
• •		

• Example from previous step.



Lenovo

• Installing Ubuntu screen.

Tue 14:29		•0 ⊕ <del>-</del>
Install  Melcome to Ubuntu  Fast and full of new features, the latest, we have exception graviers to look out for  Amout Finished copying files.	0	

• Installation Complete screen. Select "Restart Now".



• Login using the credentials created above.

Tue 1435	<b>₿ - </b> •• 0 -
lenovo	
Met listed?	
instact.	
ubuntu®	

• Ubuntu 18.04 LTS desktop screen.



## Section 4 – Installing the Nvidia Graphics Driver

The proprietary Nvidia driver will not work properly on Pascal-based GPU's within Linux; therefore, use the Linux Nouveau driver.