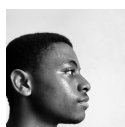


SEPTEMBER 15, 2022 / #LINUX

How to Install Kali Linux on Your Computer



Daniel Iwugo

Kali Linux (formerly known as BackTrack) is an open-source Linux distro developed and funded by Offensive Security.

It's basically an ethical hacker's dream operating system, because it has most of the tools you'll ever need built-in. From Metasploit to JohntheRipper to the one and only Aircrack-ng, this OS has it all.

But enough of the history lesson. Let's jump right in and learn how to install Kali Linux on your computer.

Requirements

Before we carry on, you should know that this is the process for installing on the bare system itself and you should do this with extreme caution.

If you wish to dual boot your machine, you will need to partition your hard drive to give Kali at least 20 GB of hard disk space and then install it on that partition.

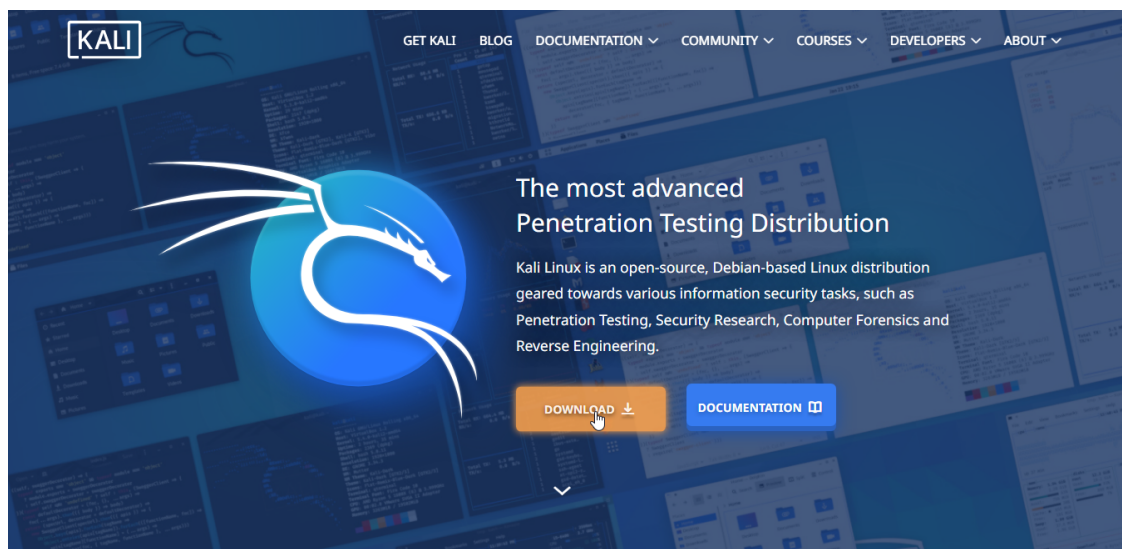
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1. A Computer (Minimum Requirements: 20GB Hard Disk space, 2GB RAM, Intel Core i3 or AMD E1 equivalent)
2. A USB stick (6 GB or more)
3. A Kali .iso file
4. Rufus (To create a bootable drive)
5. A really cool head (Trust me, you'll need it 🤖)

How to Install Kali Linux on Your Computer – Step by Step

Step 1: Download the iso file

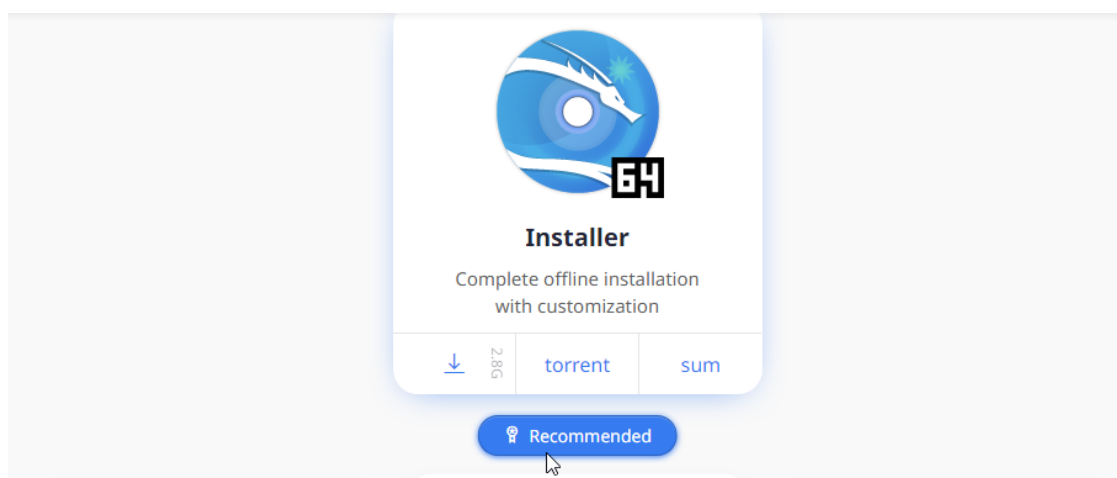
Go to kali.org and hit the download button.



The Kali Homepage | Credit: kali.org

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Here you are given a lot of options, but go for the 'Bare Metal'. There are options for 64-bit, 32-bit, and Apple M1 here (though I have no clue why the last one exists). Choose the tab applicable to your system, and download the Installer. For torrent lovers, the torrent is also available.



The Installer option | Credit: kali.org

Step 2: Create a bootable drive

You can download Rufus from rufus.ie (Rufus 3.18 as at the time of writing). In order to make the stick bootable, we are going to run Rufus and make a few changes.

Connect the stick and select it under the 'Device' options. Under 'Boot selection' select your newly downloaded Kali iso file. Now for the tricky part.

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The screenshot shows the Rufus software interface. At the top, a dropdown menu shows 'Random Stick (D:) [8 GB]' with a save icon. Below this is the 'Boot selection' section with a dropdown menu set to 'Disk or ISO image (Please select)', a checkmark icon, and a 'SELECT' button. The 'Partition scheme' is set to 'MBR' and the 'Target system' is set to 'BIOS (or UEFI-CSM)'. There are several checkboxes: 'Hide advanced drive properties' (checked), 'List USB Hard Drives' (unchecked), 'Add fixes for old BIOSes (extra partition, align, etc.)' (unchecked), and 'Use Rufus MBR with BIOS ID' (unchecked). A dropdown menu for '0x80 (Default)' is also present. The 'Format Options' section has a 'Volume label' field with 'Random Stick'. The 'File system' is set to 'NTFS' and the 'Cluster size' is set to '4096 bytes (Default)'. There are checkboxes for 'Quick format' (checked), 'Create extended label and icon files' (checked), and 'Check device for bad blocks' (unchecked). A dropdown menu for '1 pass' is also present. The 'Status' section shows a progress bar that is full and labeled 'READY'. At the bottom, there are icons for help, information, settings, and a list of devices. The text '1 device found' is displayed at the bottom left. There are 'START' and 'CLOSE' buttons at the bottom right.

The Rufus Software | Credit: Mercury

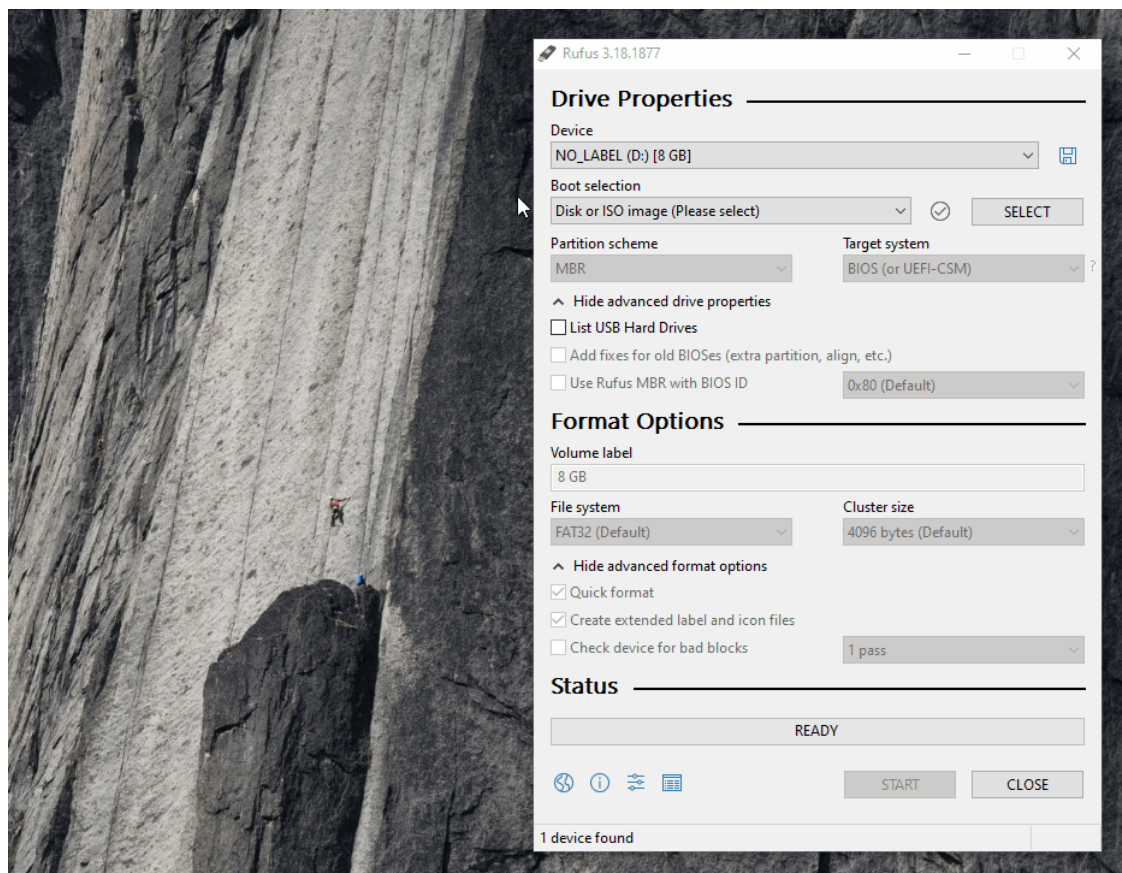
Before we proceed, a quick lesson: a partition scheme/table is the format in which a hard disk saves data. Think of it like your video files saved in .mp4 or .mkv – they are both videos but different formats.

Most computers have one of the following formats: GPT (GUID Partition Table) or MBR (Master Boot Record). You may not be able to boot your drive if you pick the wrong option here.

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the other option and try again.

You could also go to the advanced drive properties and check the box with 'Add fixes for old BIOSes'. This should make the drive more compatible with your computer if it is a very old one. And by old, I mean ancient 🙄.



How to prepare the USB stick | Credit: Mercury

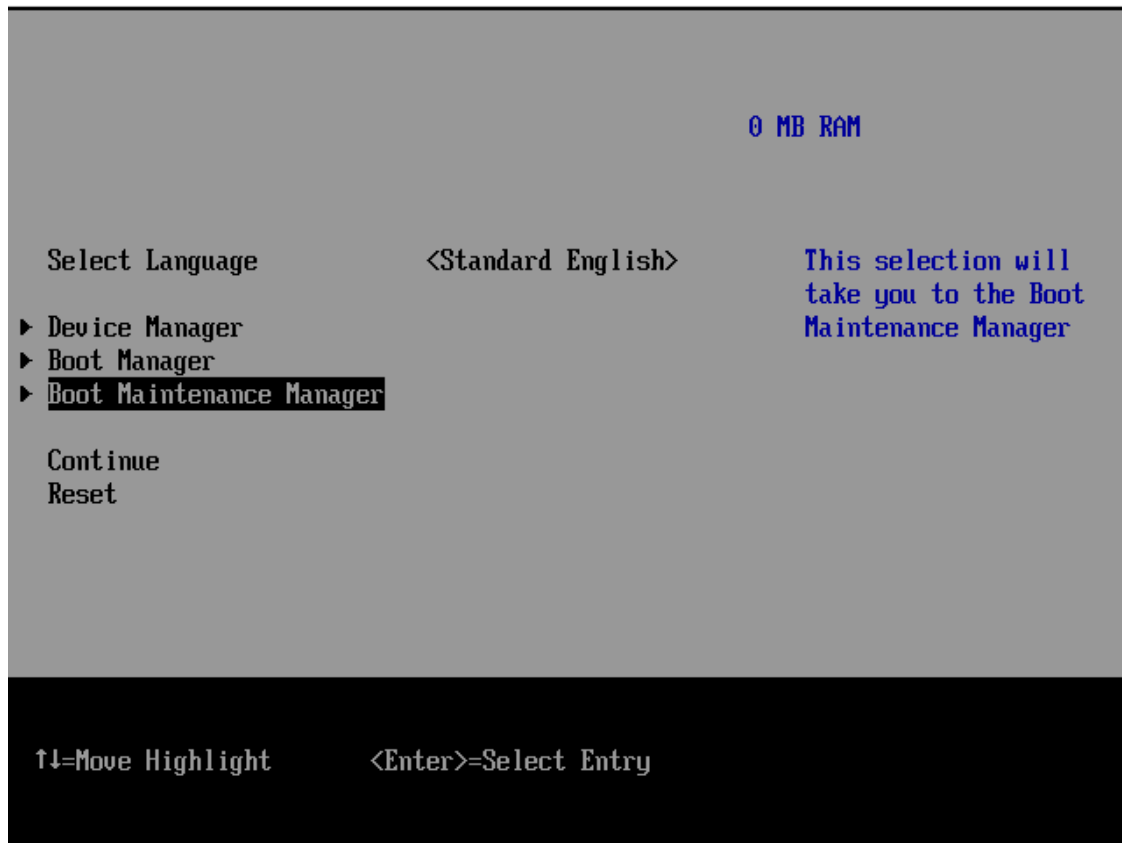
Back to easier ground now, you can leave the default format options. Hit the Start Button and wait for the image to be written to the stick (This takes some time so, relax 😊).

Step 3: Access the Kali Installer Menu

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You may need to do a little research into how to access your BIOS and boot menu. It usually involves spamming (continuously pressing) a key on your keyboard when the computer starts to boot.

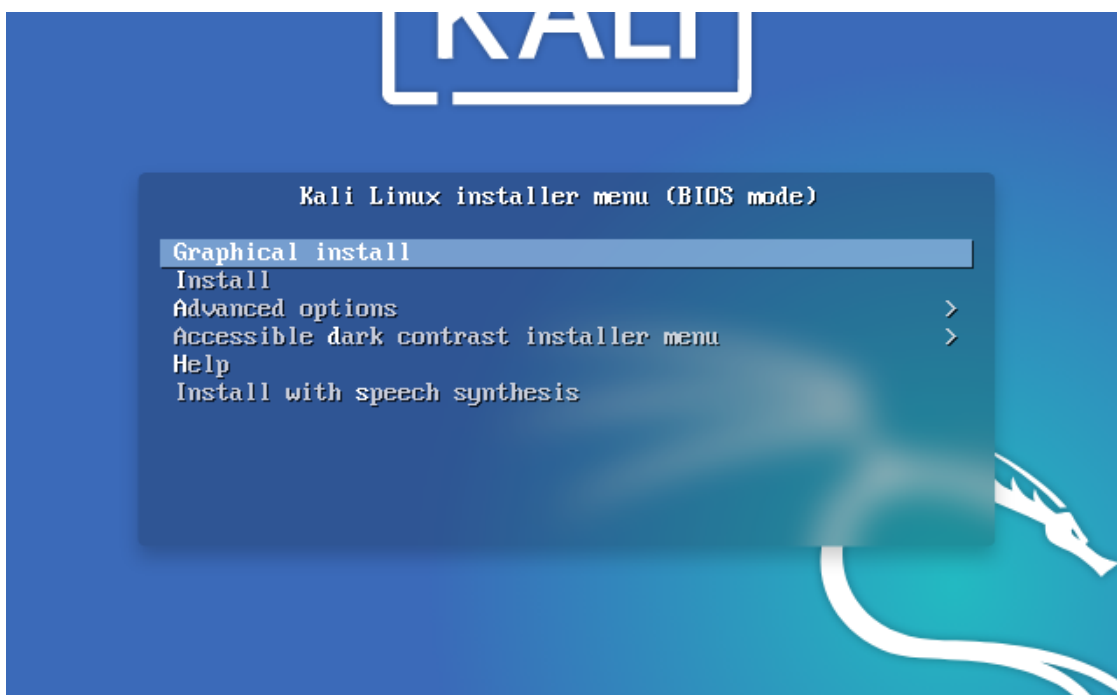
As mentioned before, if you are dual booting, take note of the partition size you made for Kali so you don't overwrite your other OS (been there, done that 🤪).



A Legacy BIOS | Credit: VMware

After disabling secure boot, we can finally boot to the drive. At startup, you'll have to access the boot menu and then choose the stick you just made. You should be welcomed with the Kali Installer Menu.

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The Kali Installer Menu | Credit: Mercury

Note: You can also edit the boot menu configuration in the BIOS menu, but that is permanent and may need to be changed post-installation. It is usually preferred to find a way to access the boot menu when starting up the computer, as this will only be a temporary configuration.

The installer menu only allows the keyboard for input so you'll have to use the arrow keys, Enter, and Esc to navigate it.

Step 4: Begin the installation

Select graphical install, and you can now use your mouse. Select your preferred language, region, and keyboard layout in the following menus:

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Choose the language to be used for the installation process. The selected language will also be the default language for the installed system.

Language:

Chinese (Simplified)	-	中文(简体)
Chinese (Traditional)	-	中文(繁體)
Croatian	-	Hrvatski
Czech	-	Čeština
Danish	-	Dansk
Dutch	-	Nederlands
Dzongkha	-	ཇོང་ཁྱེད་
English	-	English
Esperanto	-	Esperanto
Estonian	-	Eesti
Finnish	-	Suomi
French	-	Français
Galician	-	Galego
Georgian	-	ქართული
German	-	Deutsch

Screenshot

Go Back Continue

Language Menu | Credit: Mercury

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Select your location

The selected location will be used to set your time zone and also for example to help select the system locale. Normally this should be the country where you live.

This is a shortlist of locations based on the language you selected. Choose "other" if your location is not listed.

Country, territory or area:

India
Ireland
Israel
New Zealand
Nigeria
Philippines
Seychelles
Singapore
South Africa
United Kingdom
United States
Zambia
Zimbabwe
other

Screenshot

Go Back Continue

Region Menu | Credit: Mercury

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Fill in a hostname as this will identify your computer on a public network. You can skip the domain name part as this isn't necessary. Next, type in your full name for your new user account.



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Set up users and passwords

A user account will be created for you to use instead of the root account for non-administrative activities.

Please enter the real name of this user. This information will be used for instance as default origin for emails sent by this user as well as any program which displays or uses the user's real name. Your full name is a reasonable choice.

Full name for the new user:

Screenshot Go Back Continue

Full Name setup | Credit: Mercury

Quick lesson: On the terminal, Linux allows you to send and receive emails with commands. However, Gmail and Yahoo make sending a lot easier these days. You may never have to use this feature in your lifetime.

Next type, in the username for your account (This could be your hacker alias 🤖).

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Select a username for the new account. Your first name is a reasonable choice. The username should start with a lower-case letter, which can be followed by any combination of numbers and more lower-case letters.

Username for your account:

Username setup | Credit: Mercury

Choose a strong password/passphrase to input in the next menu.

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A good password will contain a mixture of letters, numbers and punctuation and should be changed at regular intervals.
Choose a password for the new user:

●●●●●●●●

☐ Show Password in Clear

Please enter the same user password again to verify you have typed it correctly.
Re-enter password to verify:

●●●●●●●●

☐ Show Password in Clear

[Screenshot](#) [Go Back](#) [Continue](#)

Password setup | Credit: Mercury

Select your time zone. This is important as it could affect your network configurations post-installation.

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If the desired time zone is not listed, then please go back to the step "Choose language" and select a country that uses the desired time zone (the country where you live or are located).

Select your time zone:

Eastern
Central
Mountain
Pacific
Alaska
Hawaii
Arizona
East Indiana
Samoa

Time zone setup | Credit:

Step 5: Set up the storage

Next would be to select the partitioning method. Now for the cool head mentioned earlier. If you want to format the entire hard drive for Kali, the Guided options will be best.

LVM (Logic Volume Management) is a feature that allows you to have relatively flexible partitions. This means that you can extend, shrink or even merge partitions while the OS is being run. It's a pretty nifty feature.

The encrypted LVM feature keeps your data safe if someone unauthorized gets access to your hard drive. Just note that there is a trade-off here: your hard drive will tend to be slower than if it wasn't encrypted. So most people go with the 'Guided -use entire disk' option.

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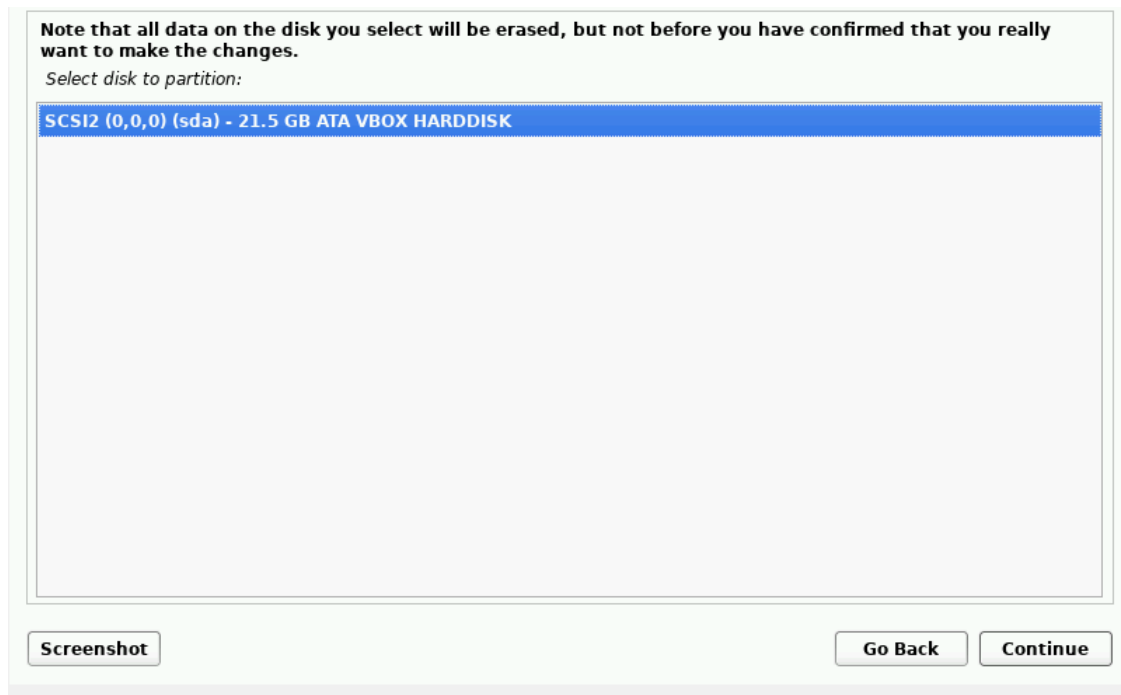


Partitioning method setup | Credit: Mercury

If you are dual-booting, though, you will need to choose the manual option and make the necessary configurations. I'll go with the use entire disk option here.

Choose the hard drive you want to install Kali on. I'm using a virtual machine so my only option is a small 21 GB drive.

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Hard Disk selection | Credit: Mercury

Choose how you want your files to be partitioned. Each option differs by separating certain important directories in separate partitions (More on that in a later post).

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Selected for partitioning:

SCSI2 (0,0,0) (sda) - ATA VBOX HARDDISK: 21.5 GB

The disk can be partitioned using one of several different schemes. If you are unsure, choose the first one.

Partitioning scheme:

- All files in one partition (recommended for new users)**
- Separate /home partition
- Separate /home, /var, and /tmp partitions

Screenshot **Go Back** **Continue**

Partitioning Scheme | Credit: Mercury

Finish up the partitioning changes.

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Partition disks

This is an overview of your currently configured partitions and mount points. Select a partition to modify its settings (file system, mount point, etc.), a free space to create partitions, or a device to initialize its partition table.

Guided partitioning

- Configure software RAID
- Configure the Logical Volume Manager
- Configure encrypted volumes
- Configure iSCSI volumes

▼ **SCSI2 (0,0,0) (sda) - 21.5 GB ATA VBOX HARDDISK**

>	#1	primary	20.4 GB	f	ext4	/
>	#5	logical	1.0 GB	f	swap	swap

Undo changes to partitions

Finish partitioning and write changes to disk

Screenshot **Help** **Go Back** **Continue**

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Select 'Yes' to write the changes to the disk.



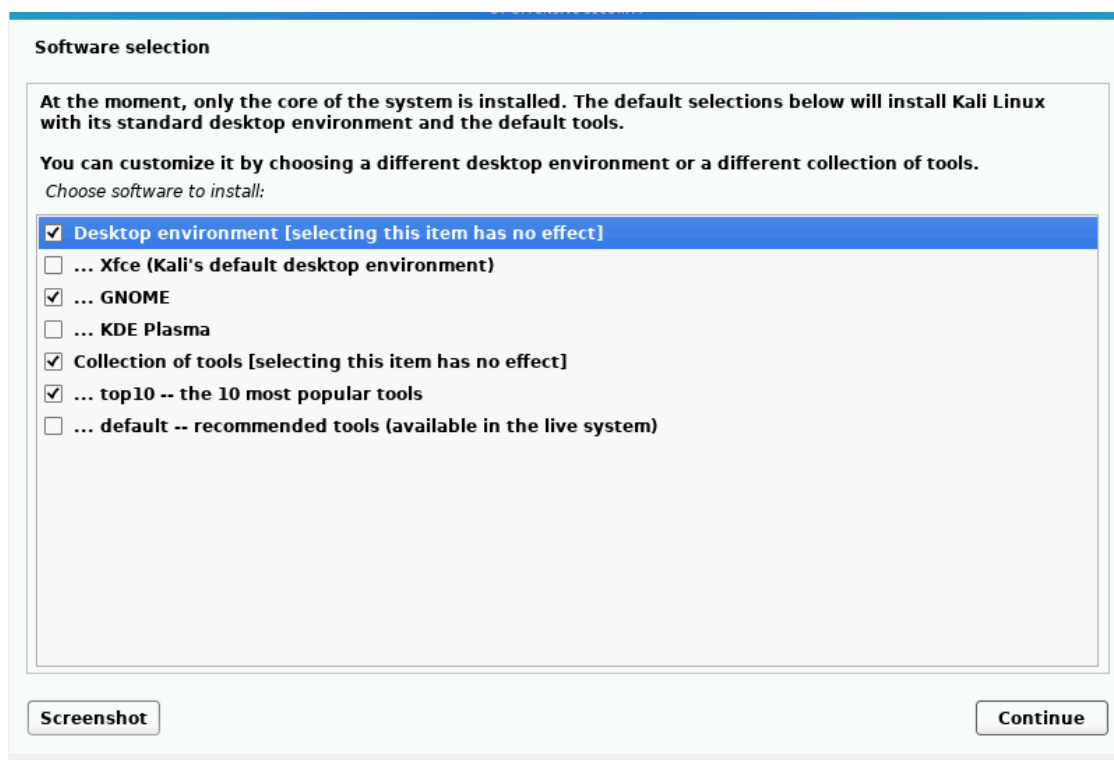
Partition Changes verification | Credit: Mercury

Step 5: Chose software and a desktop look

Now, choose the software you wish to install. Check the desktop environment and collection of tools options, as these will help you avoid having to install a lot of things later.

Desktop environments are basically the way the desktop looks to the user. Kali offers Xfce (most common), Gnome, and KDE. I'm a sucker for Gnome so I went with that option. You can still install all three and later configure your computer to choose the one you'd like.

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Software selection

At the moment, only the core of the system is installed. The default selections below will install Kali Linux with its standard desktop environment and the default tools.

You can customize it by choosing a different desktop environment or a different collection of tools.

Choose software to install:

- ☒ Desktop environment [selecting this item has no effect]
- ☐ ... Xfce (Kali's default desktop environment)
- ☒ ... GNOME
- ☐ ... KDE Plasma
- ☒ Collection of tools [selecting this item has no effect]
- ☒ ... top10 -- the 10 most popular tools
- ☐ ... default -- recommended tools (available in the live system)

[Screenshot](#) [Continue](#)

Software Installation Menu | Credit: Mercury

You can check the sixth box to install the top 10 most popular tools on Kali. These are:

1. [Aircrack-ng](#)
2. [Burpsuite](#)
3. [Crackmapexec](#)
4. [Hydra](#)
5. [Johntheripper](#) (jtr)
6. [Metasploit](#)
7. [Nmap](#) (Network Mapper)
8. [Responder](#)
9. [Sqlmap](#)
10. [Wireshark](#)

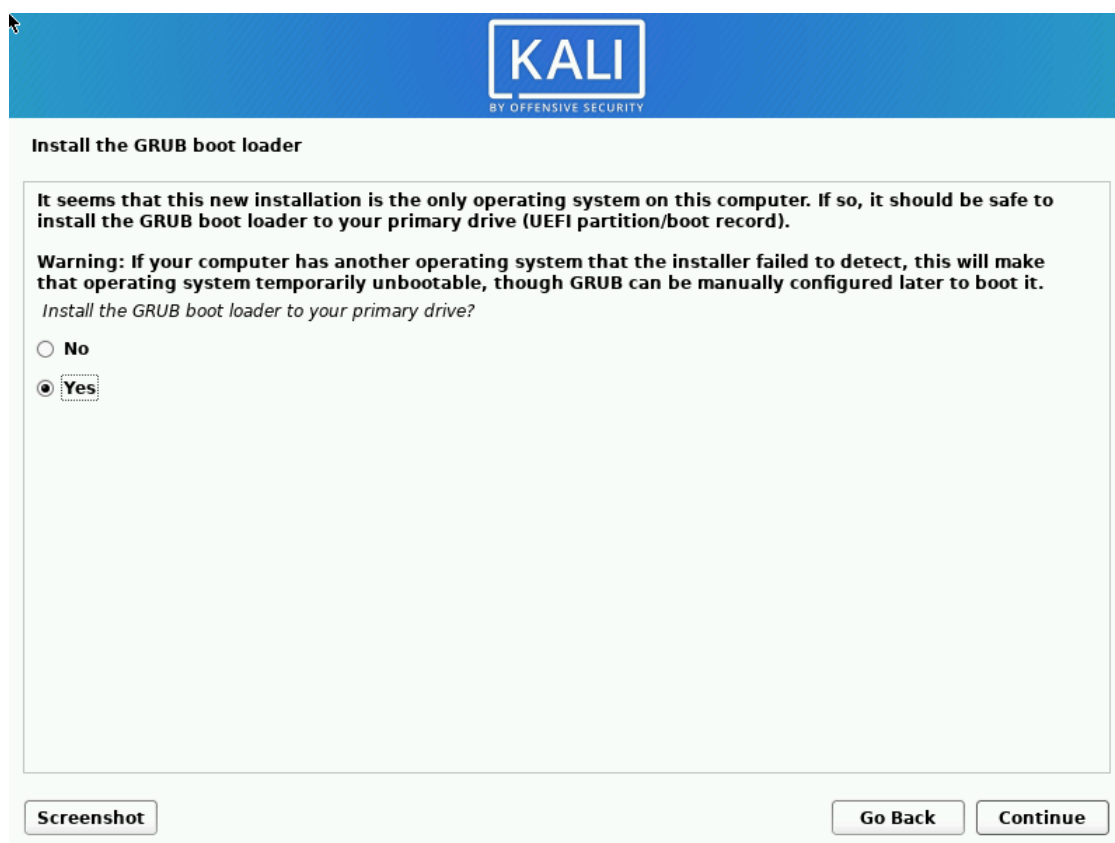
As a hacker, you're definitely going to need one of these sooner or later, so it's best if you check that box. You can check the 'default — recommended tools' box if you want a whole bunch of tools on your

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Quick tip: It is generally recommended that you only have the tools you absolutely need on your computer. This is because additional tools could slow your computer down, you could waste data updating tools you never use, and you are likely to be more vulnerable if there is an active exploit on the loose.

Step 6: Install the GRUB bootloader

The GRUB boot loader is a piece of software that allows you to pick which OS to boot from when the computer starts up. For both single boot readers and dual boot readers, the best option here is 'Yes'.



Grub Bootloader setup | Credit: Mercury

Select the your hard drive.

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Install the GRUB boot loader

You need to make the newly installed system bootable, by installing the GRUB boot loader on a bootable device. The usual way to do this is to install GRUB to your primary drive (UEFI partition/boot record). You may instead install GRUB to a different drive (or partition), or to removable media.

Device for boot loader installation:

Enter device manually

`/dev/sda (ata-VBOX_HARDDISK_VB8fb701c5-e34ba644)`

Screenshot

Go Back Continue

Grub Bootloader setup | Credit: Mercury

Mission Accomplished 🎉🥂. You have successfully installed your Kali Linux OS. Hit continue to clean up and reboot your computer.

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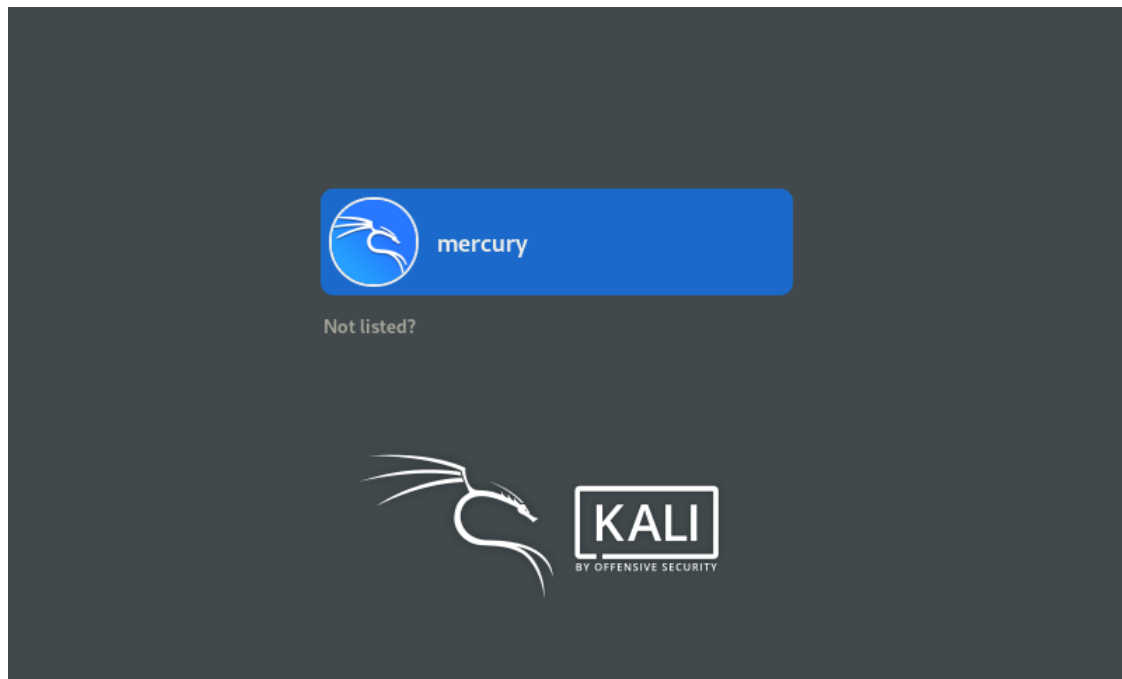


Grub Bootloader setup | Credit: Mercury

Note: If you performed dual boot, you may need to change the boot menu to load Kali first before Windows so you have the option of choosing which OS to use.

Once booted up, your screen should be like the one below.

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Login screen | Credit: Mercury

If you installed the xfce desktop environment, you will have to put in your username, enter your password, and you should have a nice looking desktop.

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Kali Linux Desktop | Credit: Mercury

Conclusion

Alright so let's do a quick recap of what we did:

1. Downloaded the iso file
2. Created a bootable drive
3. Accessed the Kali Installer Menu
4. Began the installation
5. Set up the Storage
6. Installed the GRUB bootloader

And finally, enjoy your new OS. Happy hacking! 🤖

Helpful Resources

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[this freeCodeCamp article](#).

3. Here's an article from Kali Linux about [how to change your desktop environment](#)

Acknowledgements

Thanks to [Chinaza Nwukwa](#), [Holumidey Mercy](#), [Georgina Awani](#), and my family for the inspiration, support and knowledge used to put this article together. You're the real MVPs.



Daniel Iwugo

Just another guy fascinated by the world of Hacking, Cybersecurity and the Internet

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