# **CAELinux 2007 Installation guide**

J. Cugnoni, <u>www.caelinux.com</u>, 2007

This guide is intended to help you start and install CAELinux 2007 on your computer. CAELinux 2007 is distributed as a liveDVD, which means that you can run all the softwares by simply booting from the DVD. But for enhanced performance and customization, it is highly recommended to use a native installation of CAELinux on your hard disk.

This guide presents two installation scenarios:

- A) installation of CAELinux 2007 on an empty hard disk
- B) installation of CAELinux 2007 in dual-boot with Windows

Please note that CAELinux is a customization of the excellent PCLinuxOS distribution. For more details and documentation on PCLinuxOS, please visit <u>www.pclinuxos.com</u>. If you like CAELinux, we also encourage you to support the efforts of the PCLinuxOS development community with a small donation. CAELinux would not have been so good without their great contribution!

## Starting CAELinux 2007 from the LiveDVD

In all cases, you will need to start CAELinux 2007 in liveDVD mode before you can try the tutorials or install the linux distribution to you hard disk. To use the liveDVD, you will have to insert the DVD in your drive and restart your computer to start your PC from the DVD drive (please note that DVD drives are usually called CD-ROM in the BIOS...). Depending on your type of BIOS & boot options, booting the computer from the DVD may or may not be the default choice.

If starting from the DVD is not automatic, you will need to change the Boot settings in your BIOS. To do it, enter the BIOS when the computer starts; depending on you computer, you will need to press F1, F2, F8, or DEL (see your computer manuals for more details). Then in BOOT options, put your DVD drive at the top of the priority list.

	a com		1993	Phoeni	BIOS	Setup	Utility	and the second
	Mair	n Adva	anced	Securit	y	Power	Boot	Exit
ſ	(	CD-ROM Dr	ive					Item Specific Help
	++	Removable lard Drive letwork b	Devices abot from	AND An79	C970A	i)		Keys used to view or configure devices: <enter> expands or collapses devices with a + or - <ctrl+enter> expands all <shift +="" 1=""> enables or disables a device. &lt;+&gt; and &lt;-&gt; moves the device up or down. <n> May move removable device between Hard Disk or Removable Disk <d> Remove a device that is not installed.</d></n></shift></ctrl+enter></enter>
	F1 H Esc H	lelp 14 Exit ↔	Select Select	Iten - Menu E	/• nter	Change Select	Values ► Sub-Me	F9 Setup Defaults mu F10 Save and Exit

One recent computers, you may also find an option to display a "Boot device selection menu" which allows you to simply select which media you would like to boot at computer startup.

When the computer boots from the DVD, you will see this 'Start up menu':



By default, the system will start in the "LiveCD" mode, but if you experience problems, you can also try to boot in "VideoSafeModeVesa" (uses the generic VESA driver to circumvent graphic card compatibility problems) or "MediaCheck" (checks if the DVD media has some errors before starting the system). The other options should be used only in critical cases. So now press Enter to start the system in LiveCD mode; you will then see the startup screen:



If you would like to have more information about the boot process & possible messages, just press ESC to activate "verbose" mode:

Jsing IPI No-Shortcut mode	
ACP1: (supports S0<6>Time: tsc clocksource has been insta	lled.
\$1 \$5)	
md: Autodetecting RAID arrays.	
nd: autorun	
nd: autorun DONE.	
RANDISK: Compressed image found at block 0	
VFS: Hounted root (ext2 filesystem).	
HKLIVECD LINUXKC	
Setting up kernel parameters: input: AT Translated Set	[ OK ]
Restoring udev files:	C OK J
Creating randisk - usable memory (511742/1023484/10357	68kB) [ OK ]
Creating 2.6 root filesystem (511742/1035768kB) on /dev.	∕shn: [ OK ]
Making extra nodes:	C OK 1
Loading basic cdron modules for Kernel 2.6	[LOADED]
Loading conpressed loop nodule:	(LUADED)
Probing SCSI devices:	[LOADED]
Starting USB support	ly simple. OK 1
Probing USB devices:	[LOADED]
	I OK J
Searching for the loop image:	/deu/hdc
	[ OK ]
Mounting loop image on /initrd/loopfs:	C OK J
Exiting LIMUXRC	
MKLIVECD RC.SYSINIT	
Setting up AUFS	
rc.sysinit: Starting hudetect	
HWDETECT - MAIN	
Initialising USB controllers	

When the system has succesfully started, you will see the initial configuration wizard. In this first window, select your preferred keyboard layout & click Next.



Now select a city near your place (for time zone selection).



Now select or adjust the time settings.



In the next part of the configuration wizard, you have the opportunity to setup network & interface parameters. If you do not want to configure the network at this stage, just press "Cancel". To go on in the setup of the network, select a type of network connection for internet access, for example Ethernet.

Choose the connection you want to configure Ethernet Satellite (DVB) Cable modem DSL ISDN Wireless GPR5/Edge/3G Bluetooth Dial Up Networking Analog telephone modem (POTS) Cancel Next
Ethernet Satellite (DVB) Cable modem DSL ISDN Wireless GPR5/Edge/3G Bluetooth Dial Up Networking Analog telephone modem (POTS) Cancel Next
Satellite (DVB) Cable modem DSL ISDN Wireless GPRS/Edge/3G Bluetooth Dial Up Networking Analog telephone modem (POTS) Cancel Next
Cancel

Select the network interface to configure:



And choose between Automatic (DHCP) or manual IP configuration. If you don't kn ow your IP address settings, it probably means that DHCP is the right choice (to be used with ADSL routers for example).



In this next page, you will need to define the settings for DNS & hostname. If you selected DHCP before, it is probably a good choice to use also DHCP to configure

the DNS.

CAUTION: be sure to uncheck 'assign host name from DHCP' and to define host name = localhost



Using these settings, all the included softwares will work without any manual change of their settings (some CAE application are designed to work in a well defined network environment!!).

Finally, click twice on Next to activate the network connection:

Ethernet Connection control Allow users to manage the connection Start the connection at boot			
Cancel	Prev	ious	

Congratulation, the network was successfully configured:



## Logging in and opening a KDE desktop session:

In CAELinux 2007, there are two predefined user accounts:

#### caelinux

This is the default user of CAELinux 2007 and it is highly recommended to use this account for everyday normal usage.

Login : caelinux Password: caelinux

#### root

This account is the "super administrator" user of the distribution. You should only use it to install & configure your computer.

Login : root Password: root

In the login screen below, click a user account, and enter the password. Validate with Enter.



Note that you can also shutdown or restart the system in the System menu below and select alternative session option in the Sessions menu.

The KDE desktop will now be loaded ...



Finally, here is how the KDE desktop of CAELinux 2007 looks like:



The most important links are proposed on the desktop:

• "My Computer" summarize all the resources / media available on your computer;

- "Home" is a link to your personal folder.
- In the main tool bar, the first icon is called the K-menu (similar to the wellknown Windows Start menu) and give you access to all the installed programs.
- The 5<sup>th</sup> icon (at the left of the "S" icon ) will open the "PCLinuxOs Control Center", which give you access to all the configuration settings of your computer.

To learn more on CAELinux 2007 and its content you should then have a look at the "CAELinux Docs" link on the desktop. Here you will find a "GettingStarted" document and several tutorials to start learning how to use all these great open source CAE softwares.

### Installing CAELinux 2007 on a blank hard disk

Installing CAELinux to hard disk is a really simple task. To start with the simplest case, we will first see how to install CAELinux to a blank hard disk.

First of all, open a session as "root":

	Thu 13 September 15:40     Period     Username:   root        Password:	
Sessions	System Menu	

On the desktop, click "Install PCLinuxOS" to start the installer



Click Next to start the installation Wizard:



Select "Normal Hard drive":

na n		
Installation Help Install PCLinuxOS	Draklive-Install Enhanced     Please select the type of hard drive install you will be doing.     Normal Hard drive (ide,sata)     USB Hard drive (usb)	
Konsole My Computer		
Co Trash	Cancel	
		PCLinuxOS
🖻 🧇 🕲	A Sector State S	

Choose "Custom disk partitionning":

e Home		
Installation Help Install PCLinuxOS Konsole	Draklive-Install Enhanced     The DrakX Partitioning wizard found the following solutions:     Use free space     Custom disk partitioning	
My Computer	Cancel	
R 🕹 🏠 🚺	🛞 🏟 🔃 2 🖬 Draklive-Install Enha	

Validate with "Continue":



In this next window, you can manage your hard disk partition as you would do it with other tools like Partition Magic for example. Click in a "blank" area on your hard disk and click "Create" to create new partitions.

ation p	Filesystem types:	Enhansed xt2 Journalised FS Swap Wind	Other Empty	
all	sda			
uxOS				
ole	Choose action Create	Details Empty		
		Size: 14GB (99%) Cylinder 0 to 1957		
uter	Clear all	Auto allocate	More	
a h	Undo	Toggle to expert mode	Done	
	1			

First, you will need to create a Linux Swap partition of approx. 1.5 Gb (can be less if necessary). Move the cursor to adjust the size of the new partition & click OK.

Home	Drakliva	Install Enhanced			
PC Installation Help	Filesystem	n types: Ext2	Journalised FS Swap	Other Empty	
Install PCLinuxOS Konsole My Computer Trash	Choose a	Create a new pa Size in MB: Filesystem type: Mount point:	artition 1500 Linux swap		
		Ok	Toggle to expert mode	Done	os
🐵 🎸 🏠 🖸	1 🛞 🚱		Draklive-Install Enha		97 simple <b>3:44</b> 09/13/07

This what you get after this first step. Now click the "blank" area on your hard drive map and click once again on Create.

n sda swap 1.4G	system types.	LOLE D		other chipt
swap 1.4G				
	E			
Choo	Create	Details Empty Size: 130 Cylinder	58 (90%) 191 to 1957	
	Clear all		Auto allocate	More

The content of CAELinux 2007 is compressed on the DVD and will take approx.

8Gb of hard disk space once installed. Too work in good conditions, we strongly recommend to only use a single "root" (or "/") partition of approx. 15Gb. The preferred file system type is "Journalized FS: Ext3". Adjust the cursor, select "Ext3" file system, check that mount point = / and click OK to create a large "/" partition.

Home	ive-Install Enhanced		
Filesys Filesys Help	tem types: Ext2	Journalised F5 Swap	Other Empty
A SWAP Install CLinuxOS Choose Console	Create a new p a Size in MB: Filesystem type: Mount point:	artition Journalised FS: ext3 [/	
Contrash	Ok	Toggle to expert mode	Done

Now you have all the necessary partitions to continue the installation. Click "Done" and confirm with "OK".

	Draklive-Install	Enhanced		
ion	Filesystem types:	Ext2 Journalised FS Swap	Other Empty	
	swap 1.4GE	/ 13GB		
05	Choose action Mount point	Details Mount point: / Device: sda5		
e	Resize Format	Type: Journalised FS: ext3 Size: 13GR (90%) Read.carefully!		
er		Partition table of drive sda is going to be writ	ten to disk!	
	Clear all	Auto allocate	More	5
	Undo	Toggle to expert mode	Done	
4				ETU.

In the next window, you should confirm that you want to format the newly created root ("/") partition.



Click "Next" to start copying the files to the hard disk.



During the file copy, you can continue your activity in the OS as usual, or if you prefer have a coffee ;-)



Now we have reached the last stages of the installation. To be able to boot your new OS, you will need to install a boot loader. We recommend that you install the "Grub" bootloader in the MBR (this is the default option). Click Next.

📓 Draklive-Install Enhanced	
Bootloader	
Bootloader to use	GRUB with graphical menu 🛛 🖨
Boot device	/dev/hda (IBM-DARA-212000) 🖨
Main options	
Delay before booting default image	10
✓ Enable ACPI	
	<b>•</b>
Cancel Advanced	Next

Finally, you can configure the entries (menu) of the bootloader. If you don't have any other OS installed; you should just click Next to accept the default settings.

If you have any FAT or NTFS partition in the system, you will see one or more "Windows\_X" entries that will allow you to boot any Microsoft OS installed on these partitions. If you have another Linux OS installed on another partition, you should manually add an entry with its boot options by clicking "Add".

4	Draklive-Install Enhanced	
	Here are the entries on your boot menu so far. You can create additional entries or change the existing ones.	
	linux (/boot/vmlinuz) *	Add
	linux-nonfb (/boot/vmlinuz)	Modify
	failsafe (/boot/vmlinuz)	Remove
(	Cancel Previous	Finish

Finally, you should change the password of the 'root' user. Try to select a rather complex password, which is recommended to be at least 8 character long and should contain a combination of at least 3 type of characters (lower & upper case, numbers, symbols). Enter your root password twice and click Next.

🔚 Draklive-Install E	nhanced	
Set administrator (r	oot) password	
Password		
Password (again)		
Cancel	Authentication me No password	lext

Finally, you can add other user accounts. Please note that the predefined user called "caelinux" (pass: "caelinux") is already present by default. Normally, all the softwares should work for newly created users, but we still recommend that you keep the "caelinux" account if something does not work as it should.

Click "Done" to continue.

📱 Draklive-Install I	Inhanced	
Enter a user		
Real name	texstar	
Login name	texstar	▼
Password	*****	
Password (again)	****	
lcon		
Cancel	ed Accept us	er Done

Congratulation, you have finished the installation of CAELinux 2007 !! When you reboot your computer, you should be able to start CAELinux directly from your hard disk.

÷:	Draklive-Install Enhanced	
	Please halt your computer, remove your live system, and restart your computer.	
	Cancel	Finish

#### Troubleshooting the installation:

- If the system hangs during the file copy operation, please try to boot the DVD in "Mediacheck" mode to be sure that the DVD does not contain any error and is fully readable.

- If the file copy operation appears to be successful (the file copy window closes) but you do not see the bootloader installation window, it probably means that your installation partition is not large enougth. Please make sure to install the system to a single root partition ("/") of at least 10Gb.

## Installing CAELinux 2007 in dual-boot with Windows

You can also easily install CAELinux in parallel to Windows (any version up to XP SP2). As Windows will probably use the whole space available on your hard disk, you will probably need to resize the Windows partitions to free some space to install CAELinux. The resizing of the Windows partition can be done directly from within the CAELinux/PCLinuxOS installation wizard.

## Warning: Resizing a partition is always a risky procedure, be sure to backup your data first !!!

This guide will only show you the steps that differs from the standard installation

procedure described previously. We highly recommend you to read the previous section first

First of all, we recommend that you **defragment your FAT/NTFS Windows partition** before you start the installation procedure. To do so, boot your Windows OS, and run the disk defragmenter tool (this may take a few hours to complete!!)

If you skip this defragmentation step, the maximum size of your future Linux partition could be seriously limited or the resizing of the partition could fail (without creating any damage hopefully).

Now start the system from the CAELinux DVD and run the installation procedure as described in the previous section. When you reach the Partitioning wizard window, choose "Custom disk partitionning":



Validate with "Continue":



In this next window, you can manage your hard disk partition as you would do it with other tools like Partition Magic for example. To make some free space for CAELinux, click in your existing Windows partition on your hard disk and then click "Resize".



Once again, resizing a partition can be risky , backup your data first !! Click OK.

	Ext2 journalised FS Swap Windo	Other Empty
hda		
Choose action	Details	
Mount point	Device: hda1 DOS drive letter: C (just a quess)	
Resize	Type: NTFS Size: 49GB (99%)	
Delete	Read carefully!	
Durite	Be careful: this operation is dangerous.	
	All data on this partition should be backed	l-up
	Ok	
Clear al	Auto allocate	More
	Toggle to expert mode	Done
Undo		

In the next window, you can choose the new size of your Windows partition. Adjust the slider bar so that you have at least 15Gb free space after resizing the Windows partition. Then click OK.

Home	Filesystem typ	es: Ext2	Journalised	FS Swap	Windows	Other	Empty	
stallatio Help	hda							
(Install CLinuxC	Choose acti Mount p Resiz	Resize 100se the New size in MI	e new size		33560			
<b>E</b> ionsole	Forma Delet	Minimum size: Maximum size	3081 MB : 51199 MB					
_								
My mpute								
My mpute								
My ompute		Ok						
My ompute	Clea	Ok Ir all	A	uto allocate		More		
My mpute	Clea	Ok ar all	A Toggle t	uto allocate so expert mode		More	e	

The partition resizing will now run, this should not take a lot of time, but DO NOT INTERRUPT this process!!

Filesystem types:	Ext2 Journalised F5 Swap Winds	Other Empty
da		
hoose action	Details	
Mount point	Device: hda1 DOS drive letter: C (just a quess)	
Resize	Type: NTFS Size: 49GB (99%)	
Poloto	5126. 4900 (55%)	
Delete		
	Please wait	
	Resizing	
Clear all	Auto allocate	More
	Toggle to expert mode	Done
Undo	loggie to expert mode	

If any problem occurs, you will see an error report window. Please note the error message if something happens. The most frequent cause of error is that your Windows partition is not well defragmented (clusters are used near the end of the partition). In this case, try to free less space or re-run the Windows defragmentation tool and retry the installation procedure.

When the Windows partition has been succesfully resized, you will see the following dialog. After installing CAELinux, the next time you will boot Windows, a full file system verification will run. Do not interrupt this verification too !!

Click OK.

Filosystem types	Ext2	Inumbelingen FS	Swan	Ot	her Empty
nda					
Choose action	Details				
Resize	DOS drive	e letter: C (just a	guess)		
Format a	Size: 49G	-5 R (99%)			-
Delete	To ensure dat filesystem ch Windows® Ok	a integrity after necks will be run o	resizing the part n your next boo	tition(s), t into Microsof	t
Clear a		Auto	allocate		More
Clear a Undo		Auto a	allocate pert mode		More Done

Now we have created enough free space to install CAELinux in a native linux partition. Click the free space after your Windows partition and choose "Create" to continue.

Filesystem types:	Ext2 Journalised FS Swap	ndows Other Empty	
hda			
Choose action	Details		
Create	Empty		
C	Cylinder 4278 to 6526		
e			
e			
Clear all	Auto allocate	More	
Undo	Toggle to expert mode	Done	j 🔤
		191	<b>LLin</b>

First, you will need to create a Linux Swap partition of approx. 1.5 Gb (can be less if necessary). Move the cursor to adjust the size of the new partition & click OK.

Filesystem	types: Ext2	journalised FS Swap Windo	Other Empty	
Ilatie Ilatie Choose acti Creat Creat	Create a new p Size in MB: Filesystem type: Mount point:	artition 1525 Linux swap		
3				
ash	Ok Clear all	Auto allocate	More	

Now click the "blank" area on your hard drive map and click once again on Create.

					hda
			s 1		elp
			Details	ose action	Cho
			Empty Size: 15GB (31%)	Create	tall huxC
			Cylinder 4472 to 652		
					sole
					pute
					3
					ash
	More	to allocate		Clear all	
	Dana	expert mode	Toggle	Undo	
	Done				
rcuirus	Done				
					sole y pute ash

Too work in good conditions, we strongly recommend to only use a single "root" (or "/") partition of approx. 15Gb. The preferred file system type is "Journalized FS: Ext3". Adjust the cursor, select "Ext3" file system, check that mount point = / and click OK to create a large "/" partition.

(RC)	Filesystem types:	journalised FS Swap	Other Empty	
nstallatie Help Install CLinuxC Konsole My Compute	Choose acti Creat Creat Filesystem t Mount point	new partition		
	Ok Clear all	Auto allocate	More	
	Undo	Toggle to expert mode	Done	

Now you have all the necessary partitions to continue the installation. Click "Done" and confirm with "OK".

Filesystem types:	Ext2 journalised FS Swap Winck	WS Other Empty	
hda			
	s) // 11568		
Choose action	Details		
Mount point	Mount point: /		
Resize	Type: Journalised FS: ext3		
Format	Size: 15GB (31%) Not formatted		
Delete			
Clear all	Auto allocate	More	
Undo	Toggle to expert mode	Done	
		۲۲	Lin

In the next window, you should confirm that you want to format the newly created root ("/") partition.

Abome (	Draklive-Install Enhanced		
Installatic Help	The partition/s you have selected will be formatted. All the data will be wiped.		
Install PCLinuxC			
My Compute Trash	Press Next to format selected partitions or Cancel to quit.		
	Cancel	Next	ıxOS
<b>@</b> 🦑	👚 🔝 🐼 🧐 🥹 🔳 2 3 4	•	이 비:관

Now you should continue the installation process as described in the previous section. When it comes to the boot loader installation, you will see a "Win\_C" entry in the boot menu. At the next reboot, you will be able to select the OS that you want to boot (either Linux or Windows).