

## CUSTOM LINUX LIVECD TUTORIAL

1) making custom LiveCD booting and entirely running in RAM memory one could find quite fast and useful. This distro is configured for M-script ( MATLAB / Octave ) and C++ programming issues. It consist of removing packages; installing a pack of different programmes; deleting welcome Try/Install window; repository updates. Minimal requirements:

- any modern: motherboard, processor, power suply, pendrive and RAM memory
- PC's with lower amount of RAM than : 512MB should boot with other solution like Puppy LINUX, or BSD terminal OS ( it runs below 8MB of RAM ).

2) to start from scratch one needs LINUX running enviroment ( this tutorial is intended for Lubuntu, and was checked on LubuntuDesktop18.04\_64b ) and LINUX distribution ISO file ( ~1.6GB ) downloaded from:

<https://lubuntu.net/>

3) download and start customizing program Cubic on host OS:

```
#sudo apt-add-repository ppa:cubic-wizard/release
#sudo apt-get update
#sudo apt-get install cubic
#cubic
```

4) after choosing custom liveCD project folder and downloaded ISO file, Cubic starts a customized client OS console ( default running as root user #sudo su ) for further liveCD operating system changes. Firstly one should upgrade repo's – author uses those polish mirror repos listed below:

```
#nano /etc/apt/sources.list    #( comment content )
deb http://pl.archive.ubuntu.com/ubuntu/ xenial main restricted
deb http://pl.archive.ubuntu.com/ubuntu/ xenial-updates main restricted
deb http://pl.archive.ubuntu.com/ubuntu/ xenial universe
deb http://pl.archive.ubuntu.com/ubuntu/ xenial-updates universe
deb http://pl.archive.ubuntu.com/ubuntu/ xenial multiverse
deb http://pl.archive.ubuntu.com/ubuntu/ xenial-updates multiverse
deb http://pl.archive.ubuntu.com/ubuntu/ xenial-backports main restricted universe multiverse
deb http://security.ubuntu.com/ubuntu xenial-security main restricted
deb http://security.ubuntu.com/ubuntu xenial-security universe
deb http://security.ubuntu.com/ubuntu xenial-security multiverse
#add-apt-repository universe
#add-apt-repository main
#add-apt-repository restricted
#add-apt-repository multiverse
```

5) remove office, email, full system install packages ( ~770MB – only applicable to full Ubuntu ):

```
#apt-get remove libreoffice-*
#apt-get remove thunderbir*
#apt-get remove ubiquit*
```

6) update repos:

```
#apt-get update && apt-get upgrade && apt-get update && apt-get autoremove
```

7) install packages ( Qt, Octave, editors, git, VNC server+client, link aggregation, samba ~900MB):  
lightweight version:

```
#aptitude install htop iotop aptitude w3m gpm vim git konsole screen parallel p7zip-full mc
cppman vlc doxygen iperf ifenslave samba cifs-utils openssh-server traceroute exfat-fuse
exfat-utils odt2txt gcc tcc mbw odt2txt
```

additional:

```
#aptitude install libvncserver-dev tightvncserver xtightvncviewer xfce4 xfce4-goodies
octave octave-communications octave-communications-common octave-control octave-
image octave-signal
```

8) drag & drop needed files and directories to Cubic console

9) customize vim ( after „syntax on” ):

```
#nano /etc/vim/vimrc
set autoindent
set ts=4
set sw=4
set mouse=a
```

- ```
set number
```
- 10) customize grub:
- ```
#vim /etc/default/grub
#GRUB_HIDDEN_TIMEOUT_QUIET=true
GRUB_TIMEOUT=0
GRUB_CMDLINE_LINUX_DEFAULT="toram"
#update-grub
```
- 11) allow remote ssh login:
- ```
#sudo ufw allow 22
```
- 12) set polish language ( „pl\_PL.UTF-8” ) as default:
- ```
#apt-get install language-pack-pl-base language-pack-pl
#dpkg-reconfigure locales
```
- 14) change root password, and add some user:
- ```
#sudo passwd root
admin1
admin1

#su -
#sudo useradd admin
#sudo passwd admin
admin1
admin1

#sudo usermod -aG sudo admin
```
- 15) enable numeric lock on system boot up:
- ```
#sudo vim /etc/xdg/lubuntu/lxdm/lxdm.conf
#numlock=1
```
- 16) start a boot disc creator for pendrive and choose a customized ISO file, restart, change boot options in BIOS and voile:)
- 17) customized liveCD has ~1.8GB in size ( +0.2GB comparing to original Ubuntu Desktop )
- 18) one can add some further additional features to liveCD using customized ISO file as input to Cubic package.

Post Scriptum: output liveCD is limited to 4GiB of ISO file. Use common 64bit version of modern Debian-based LINUX distribution.