

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 (~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 packages:

```
#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:

```
#locale-gen "en_US.UTF-8"
#locale-gen "pl_PL.UTF-8"
#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 mkdir /home/admin
#sudo cp -rT /etc/skel /home/admin
#sudo chown -R admin:admin /home/admin
#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.