

# Linux/Prepare

## Basic

### default EDITOR

```
sudo update-alternatives --list editor
sudo update-alternatives --config editor
```

### set umask

In file: ~/.profile

- umask 002 (default), RW for user, RW for group and R for others - create dirs as 775 and files as 664
- umask 022 (default for root), 755 and 644
- umask 077 only RW for user, not other access
- umask 007 RW for user, RW for group

**NOTE!:** Problem appears with non default user umask and sudo command usage. After sudo umask is still set to the user umask, which is correct. But can lead to some unpredicted behavior i.e. installing system-wide packages - new file will be created with incorrect umasks (user umask).

To prevent this:

[/etc/sudoers](#)

Defaults	umask_override
Defaults	umask=0022

### add i386 architecture

```
dpkg --add-architecture i386
apt-get update
apt-get install gpm tcpdump bmon tinc ppp pptpd mc links2 gparted hdparm
smartmontools smart-notifier valgrind openssh-server
apt-get install wireshark mtr
```

### NTP: allow time corrections bigger than 1h

1. Disable systemd time service: `systemctl disable --now systemd-timesyncd`
2. Install ntpdate and ntp
3. Edit /etc/default/ntp and add -g argument.

#### 4. Switch RTC to UTC time:

```
timedatectl set-local-rtc 0
ntpd -gxn
hwclock --systohc
```

## Disable PC speaker

```
echo "blacklist pcspkr" > /etc/modprobe.d/nobeep.conf
```

## resolv.conf

```
apt-get install resolvconf
```

Add own nameserver into **/etc/resolvconf/resolv.conf.d/base**

```
nameserver 8.8.8.8
```

and execute

```
sudo resolvconf -u
```

## Polish & locales

```
dpkg-reconfigure keyboard-configuration
apt-get install console-data
dpkg-reconfigure console-data
dpkg-reconfigure locales
```

add

- pl\_PL
- pl\_PL.UTF-8

In Debian, locales are handled in /etc/default/locale. File /etc/environment is deprecated.

```
grep pam_env.so /etc/pam.d/*
...
/etc/pam.d/login:session      required    pam_env.so readenv=1
/etc/pam.d/login:session      required    pam_env.so readenv=1
envfile=/etc/default/locale
...
```

Remember to set [paper\\_format](#)

## set cfq/deadline scheduler

[/etc/udev/rules.d/60-schedulers.rules](#)

```
ACTION=="add|change", KERNEL=="sd[a-z]", ATTR{queue/rotational}=="1",  
ATTR{queue/scheduler}="cfq"  
ACTION=="add|change", KERNEL=="sd[a-z]", ATTR{queue/rotational}=="0",  
ATTR{queue/scheduler}="deadline"
```

```
cat /sys/block/sd*/queue/scheduler
```

## single queue schedulers

There are 2 queues, one for read & one for write operations.

- **none** is just a First In First Out standard queue of I/O operations.
- **cfq** (Completely Fair Scheduling) is similar to the Round Robin algorithm and basically allots a fixed execution time for each I/O operation (they are implemented as a circular queue)
- **deadline** is like a priority queue with an aging concept. Basically it adds a deadline for each I/O operation & implements a priority queue

## block multi-queue schedulers

Supported in kernel  $\geq 4.12$ . It is disabled by default. To use multi-queue schedulers compile kernel with **CONFIG SCSI\_MQ\_DEFAULT=y** or pass parameter **scsi\_mod.use\_blk\_mq=1** in boot loader.

[Linux Multi-Queue Block IO Queueing Mechanism](#)

[/etc/udev/rules.d/60-schedulers.rules](#)

```
ACTION=="add|change", KERNEL=="sd[a-z]", ATTR{queue/rotational}=="1",  
ATTR{queue/scheduler}="bfq"  
ACTION=="add|change", KERNEL=="sd[a-z]", ATTR{queue/rotational}=="0",  
ATTR{queue/scheduler}="mq-deadline"
```

```
sudo udevadm control --reload  
sudo udevadm trigger  
cat /sys/block/sd*/queue/scheduler
```

## Disable console beep

To disable console annoying beep: \* System wide by removing PC Speaker module:

```
rmmod pcspkr
```

```
sudo echo "blacklist pcpkr" > /etc/modprobe.d/pcpkr-blacklist.conf
```

## Usefull software

```
sudo apt-get install wireshark cups
```

```
sudo usermod -G  
lp,lpadmin,dialout,sudo,audio,video,netdev,vboxusers,wireshark,kismet,i2c  
user_login
```

## parallel packers

```
sudo apt-get install pigz pbzip2 pxz lbzip2
```

To force using parallel packers system-wide:

```
ln -s /usr/bin/lbzip2 /usr/local/bin/bzip2  
ln -s /usr/bin/lbzip2 /usr/local/bin/bunzip2  
ln -s /usr/bin/lbzip2 /usr/local/bin/bzcat  
ln -s /usr/bin/pigz /usr/local/bin/gzip  
ln -s /usr/bin/pigz /usr/local/bin/gunzip  
ln -s /usr/bin/pigz /usr/local/bin/zcat  
ln -s /usr/bin/pxz /usr/local/bin/xz
```

or use bash aliases:

[.bashrc](#)

```
alias gzip='pigz'  
alias gunzip='unpigz'  
alias bzip2='pbzip2'  
alias bunzip2='pbunzip2'  
alias xz='pxz'
```

some benchmarks (i7-3770K), BTRFS FS +NoCOW attrib

command	user time	size	comments
pbzip2 -1	4m12	694M	
pbzip2 -5	4m59	683M	
pbzip2 -9	6m25	679M	default
pigz -0	0m32	3,5G	no compression
pigz -1	0m52	727M	
pigz -2	0m48	723M	
pigz -6	1m18	698M	default
pxz -0	3m30	660M	

command	user time	size	comments
pxz -3	5m00	636M	
pxz -6	11m19	571M	default

## etckeeper

```
apt-get install git
git config --global user.name "my name"
git config --global user.email myemail@address.pl
apt-get install git-cola etckeeper kdiff3
```

## mandb

Disable mandb updates after apt:

```
echo "set man-db/auto-update false" | debconf-communicate; dpkg-reconfigure man-db
```

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