FreeBSD configuration

Installation and update system

```
pkg update
pkg upgrade
```

Stop buzzer

```
sysctl kern.vt.enable_bell=0
echo "kern.vt.enable_bell=0" >> /etc/sysctl.conf
```

Start firewall

```
sysrc firewall_enable="YES"
sysrc firewall_type="workstation"
```

Install graphic driver

```
pkg install drm-kmod
# usually drm-current-kmod
# or install stable version instead, e.g. drm-xxx-kmod
echo "kld_list="/boot/modules/i915kms.ko"" >> /etc/rc.conf
```

Install sudo and configure sudoers, or use doas as alternative

```
pkg install sudo
visudo
# add username under root and follow the syntax
or
pkg install doas
# edit doas.conf
```

Install X Window

```
pkg install xorg

# Test
startx
# It should start twm which is the default display manager
# Ctrl+Alt+F1 to go back to tty1 console
```

Install git

```
pkg install git
```

Install suckless dwm, dmenu, st

```
# dwm
git clone https://git.suckless.org/dwm
```

```
# dmenu
git clone https://git.suckless.org/dmenu

# st
git clone https://git.suckless.org/st

# Install depecdencies for st
pkg install pkgconf (for pkg-config)
pkg install ncurses (for tic, i.e. terminfo)

# Edit config.mk of each
X11INC = /usr/X11R6/include -> X11INC = /usr/local/include
X11LIB = /usr/X11R6/lib -> X11LIB = /usr/local/lib
FREETYPEINC = /usr/include/freetype2 -> FREETYPEINC = /usr/local/include/freetype2

# Customization one by one
cp config.def.h config.h
# Edit config.h

# Install one by one
make clean install
```

Edit .xinitrc

```
cp /usr/local/etc/X11/xinit/xinitrc ~/.xinitrc
echo "dwm" >> ~/.xinitrc
```

Load mouse module

```
echo "moused_enable=YES" >> /etc/rc.conf
service moused restart
```

Enable libinput

```
echo "kern.evdev.rcpt_mask=12" >> /etc/sysctl.conf
echo "hw.psm.synaptics_support='1'" >> /boot/loader.conf
```

Switch between hardware audio or headphone

```
# check output sources
cat /dev/sndstat
# 0 = internal; 1 = headphone; 2 = HDMI
sysctl hw.snd.default_unit=1
```

Switch off screen to save power

```
xset dpms force off
# enable blanking to really switch off screen
xset s blank
# can use 'xset q' to check configuration
```

Check CPU temperature

```
# load coretemp modulus
kldload coretemp
# if want to auto load during boot
```

```
echo "coretemp_load='YES'" >> /boot/loader.conf
# Check temperature
sysctl dev.cpu | grep temp
```

Check RAM usage

```
grep memory /var/run/dmesg.boot
```

More to learn...

- zfs
- jail

Configure TOR, obfs4proxy, privoxy

```
pkg install tor obfs4proxy-tor privoxy
sysrc privoxy_enable=YES
sysrc tor_enable=YES
service privoxy start
service tor start
# Enable random_id sysctl
echo "net.inet.ip.random_id=1" >> /etc/sysctl.conf
sysctl net.inet.ip.random_id=1
```

Configure TOR

```
vi /usr/local/etc/tor/torrc
# Add the following at the end
RunAsDaemon 1
BridgeRelay 1
ORPort 9050
ServerTransportPlugin obfs4 exec /usr/local/bin/obfs4proxy
ServerTransportListenAddr obfs4 127.0.0.1:8118
ExORPort auto
# Exclude risky nodes
ExcludeNodes  {cn},{hk},{mo},{kp},{ir},{sy},{pk},{cu},{vn},{ru},{by}
StrictNodes  1
Log notice file /var/log/tor/notices.log
```

Configure privoxy

```
# After starting privoxy, edit config file
vi /usr/local/etc/privoxy/config
# Command the following line and add to the end
listen-address 127.0.0.1:8118
# Forward all to tor network (port 9050)
forward-socks4a / 127.0.0.1:9050 .
# If only want to forward .onion to tor network
forward-socks4a .onion 127.0.0.1:9050 .
# Note the lower rule will overwrite upper rule
```

Disable firefox java scripts

```
about:config -> javascript.enabled=false
about:config -> network.proxy.socks_remote_dns=true
```

Checking

```
# Check proxy
http://p.p/
# Check tor connection
https://check.torproject.org
```

VirtualBox Host

```
# Install VirtualBox
pkg install virtualbox-ose
# Load VirtualBox kernel module
kldload vboxdrv
echo 'vboxdrv_load="YES"' >> /boot/loader.conf
# Enable bridged or host-only networking
echo 'vboxnet_enable="YES"' >> /etc/rc.conf
# Add user to vboxusers group
pw groupmod vboxusers -m username
# Change permission for bridged networking
chown root:vboxusers /dev/vboxnetctl
chmod 0660 /dev/vboxnetctl
# For permanent changing
echo "own    vboxnetctl root:vboxusers" >> /etc/devfs.conf
echo "perm   vboxnetctl 0660" >> /etc/devfs.conf
```

Add USB support

```
# Add user to operator group
pw groupmod operator -m username
# Edit /etc/devfs.rules
[system=10]
add path 'usb/*' mode 0660 group operator
# Load rules
echo 'devfs_system_ruleset="system"'
# Restart devfs
service devfs restart
```

VirtualBox Guest

```
# Install VirtualBox addition package
pkg install virtualbox-ose-additions
# Edit /etc/rc.conf
vboxguest_enable="YES"
vboxservice_enable="YES"
# If ntpd or ntpdate is used, disable host time synchronization
vboxservice_flags="--disable-timesync"
# To use the vboxmouse driver, adjust the mouse section in /etc/X11/xorg.conf
Section "InputDevice"
    Identifier "Mouse0"
    Driver "vboxmouse"
EndSection
# Copy 90-vboxguest.fdi from /usr/local/share/hal/fdi/policy/10osvendor/ to /usr/local/etc/hal/fdi/poli
```