

FreeBSD

FreeBSD in 10 minutes



```
default:
set log Phase tun command # you can add more detailed
logging if you wish
set ifaddr 10.0.0.1/0 10.0.0.2/0
```

```
name_of_service_provider:
set device PPPoE:x11 #replace x11 with your interface!!!
set authname YOURLOGINNAME
set authkey YOURPASSWORD
set dial
set login
add default HISADDR
```

We assume that you want to have a connection to the internet every time the system is starting. For that you have to insert the following lines to `/etc/rc.conf` with your favourite editor (ee or vi are available in FreeBSD base):

```
ppp_enable="YES"
ppp_mode="ddial"
ppp_nat="YES"
ppp_profile="name_of_service_provider"
```

If you want to use the internet only from time to time then you need to enter the following command as root-user:

```
#ppp -ddial name_of_service_provider
```

Further questions are answered here:

http://www.freebsd.org/doc/en_US.ISO8859-1/books/handbook/pppoe.html

Further Information

<http://www.freebsd.org>

<http://www.freebsd.org/doc/en/books/handbook>

<http://lists.freebsd.org/mailman/listinfo>

<http://www.bsdforums.org>

Welcome to "sysinstall" the text based installation tool of FreeBSD. Select "*keymap – Select keyboard type*" and choose your preferred language and keyboard layout. After this select "*Standard – Begin a standard installation (recommended)*". Now you need to reserve disk space for FreeBSD. In this simple example we use one disk and the whole disk will be used. Select the disk, probably 'ad0'. This menu looks daunting. Just press 'A', then 'Q'. That's it, now forget about the menu. FreeBSD will use the whole disk.

In the next step select "*Standard – Install a standard MBR (no boot manager)*" because you don't need a boot manager with just one disk. After the slice has been created (you remember slices, don't you?) the BSD-partitions need to be created. There's no ultimate best solution. After a while you may come to find out you wish you had created your partitions differently. We'll gladly take the blame for you. Or just press 'A' to use the default settings and finalize with 'Q'. Congratulations!

If you don't use the default settings, press 'C' now and create your first partition. Delete the number that appears and enter '256M' instead. Choose 'FS - A file system' and enter '/' to make it the root partition. Congratulations! Press 'C', enter '512M' and choose 'Swap - A swap partition'. You know the drill. Now:

C, 512M, FS, /tmp

C, 2G, FS, /usr

C, now just press 'Enter' to use the rest of the available disk space, FS, /home

On the top of the screen you should now see 'Free: 0 blocks (0MB)'. Press 'Q' to quit the menu and congratulate yourself for completing this step.

Now you have to choose the parts of FreeBSD you want to install. Choose 'Custom' and mark following packages: base, man, src, ports, local, perl and X.org. Then scroll up to 'Exit'. Choose '1 CD/DVD Install from a FreeBSD CD/DVD'. So far FreeBSD has not written anything to your disk. Now press 'OK' to install FreeBSD.

Setting Up An Internet Connection

With FreeBSD connected to a DSL line you may connect using ppp over Ethernet (PPPoE). You don't even need to change your kernel for this. Please edit the file `/etc/ppp/ppp.conf` with an editor of your choice. Take a look at the example below and take care you don't miss any indentations, ppp certainly will miss them if they're not there.

Introduction

This flyer shall assist you with your first FreeBSD installation. It's not possible to handle all aspects, we will however deal with the most common issues you may encounter. If you just want to do a quick test then we recommend the FreeBSD Live-CD 'FreeSBIE', just like Knoppix you just boot FreeSBIE and take a spin. For people who want to use FreeBSD as a simple desktop system we recommend DesktopBSD or PC-BSD. In this flyer we handle the installation procedures for i386 and AMD64 systems only. If you want to install on a different platform, never mind, the procedure is practically the same. Before installing, we recommend you read this flyer to the end at least once.

Device Names

Under FreeBSD every device of your computer has a name. On Windows(TM) it is mostly the manufacturer name e.g. "nVidia GeForce2 GTS/Pro 64MB". Under Linux the devices are addressed with names that consist of an abbreviation of the device class and a number. Examples for this are eth0 for the first ethernet network card or sd0 for the first SCSI hard drive. Devices under FreeBSD are named by the driver itself and a number. It is not the manufacturer name but the chipset name which is built in. There are some examples:



ad	ATA hard disks (PATA and SATA)
acd	ATAPI cd/DVD drive
da	SCSI mass storage (hard disks usb sticks)
cd	SCSI CD/DVD drive
rl	network card with Realtek chipset
em	network card with Intel Gigabit chipset
sk	network card with SysConnect chipset
nve	network card of nVidia nForce chipset
ath	WLAN card with Atheros chipset

The numbering starts always at zero and depends on the order which FreeBSD has detected during the startup process. The ATA hard drives are exception of this rule:

ad0	first ATA channel, master
ad1	first ATA channel, slave
ad3	second ATA channel, slave
ad7	fourth ATA channel, slave

SATA ports are treated like normal ATA ports. Even if you can connect only one device, your PC has four ports with one disk and no normal ATA channels. The names of them are ad0, ad2, ad4 and ad6.

Hardware support

The FreeBSD community publishes for every release a so called "hardware note". That is a list where all the supported hardware is listed. Here you can find it: <http://www.freebsd.org/releases> (then follow the link for your hardware).

In this lists you can look for the hardware which is built in your computer, if it works or not. The hardware support is better than its reputation! With commercial hardware there shouldn't be any problems.

Harddisk Layout

In other operating systems running on an i386 platform there are three different partition types:

- primary partitions
- extended partitions
- logical partitions

You may create a maximum of 4 primary partitions and a maximum of 1 extended partition containing logical partitions. Extended and logical partitions are considered a horrible kludge by the FreeBSD team. FreeBSD can access data in logical partitions, but can be installed only in primary partitions.

The roots of FreeBSD are older than this partitioning scheme. That's why FreeBSD has its own partitioning system called 'bsdlabel'. This supports 8 partitions of which 7 are available to the user. Since there are computer architectures without their own partitioning scheme, the BSD-scheme is being maintained. In the FreeBSD context DOS partitions are called slices and within the slices partitions are created with 'bsdlabel'. A possible layout may look as follows:

ad0s1	Slice 1: first primary DOS partition
ad0s2	Slice 1: second primary DOS partition
ad0s3	Slice 1: third primary DOS partition
ad0s4a	Slice 4: BSD partition a
ad0s4b	Slice 4: BSD partition b
ad0s4d	Slice 4: BSD partition d
ad0s4e	Slice 4: BSD partition e
ad0s4f	Slice 4: BSD partition f
ad0s4g	Slice 4: BSD partition g
ad0s4h	Slice 4: BSD partition h

As you can see "ad0s4c" is the reserved partition that is inaccessible for users. Under FreeBSD a hard disk with a primary DOS partition, an extended partition and two logical ones looks like the following example:

ad2s1	Slice 1: primary DOS partition
ad2s4	Slice 4: extended Dos partition without data
ad2s5	Slice 5: first logical DOS partition
ad2s6	Slice 6: second logical DOS partition

Directory Structure

FreeBSD, like all Unices or unixoid systems, has a so-called directory tree. If you are experienced with AIX, Solaris, Linux or Mac OS X you will be familiar with the system.

Windows users may know that Windows 2000 and Windows XP allow mounting a disk without assigning a drive letter. Below you will find a short guide with the most common mount points:

/	C:\
/etc/	"System Control"
/cdrom/	D:\ (optical drive)
/mnt/floppy/	A:\ (floppy drive)
/home/<user name>	"my own data"
/usr/local/	C:\programs

Things To Do Before Installing

1. Make a backup of all your data. Deleting your data is done quicker as you can imagine!
2. Make an inventory of your devices. Find out which disks are connected in which sequence. That way you won't install FreeBSD on the wrong disk and overwrite the data you backed up just before! Below you will find a short example of a mixed SATA and PATA setup
IBM, 80GB, 3 Partitions, 1st channel, Master => ad0
Seagate, 160GB, 1 Partition, 1st channel, Slave => ad1
CD-Drive, Plextor, 2nd channel, Master => acd0
Maxtor, 74GB, 1 Partition, 1st SATA channel=> ad4
3. Check for free primary partitions. FreeBSD does not have any tools for resizing partitions to get free space. You don't need much space but we recommend about 8 GB. The easiest way is if you have an old PC which you can use as FreeBSD-only machine. The following installation instructions depend on such a situation.

Installation

Turn on your computer and change the boot order in the BIOS so that can boot from CD/DVD. Insert the media and leave the BIOS. If you don't know how to do that then turn on your computer and insert the CD/DVD. Possible it boots from the media. If not then please take a look in the manual of your computer.

Ignore the FreeBSD boot menu and wait until the countdown is over. You can also ignore the text messages which roll to fast your eyes over the screen.

FreeBSD: The Power To Serve