



## SA-NA Junction



# FreeBSD Branches/Tags

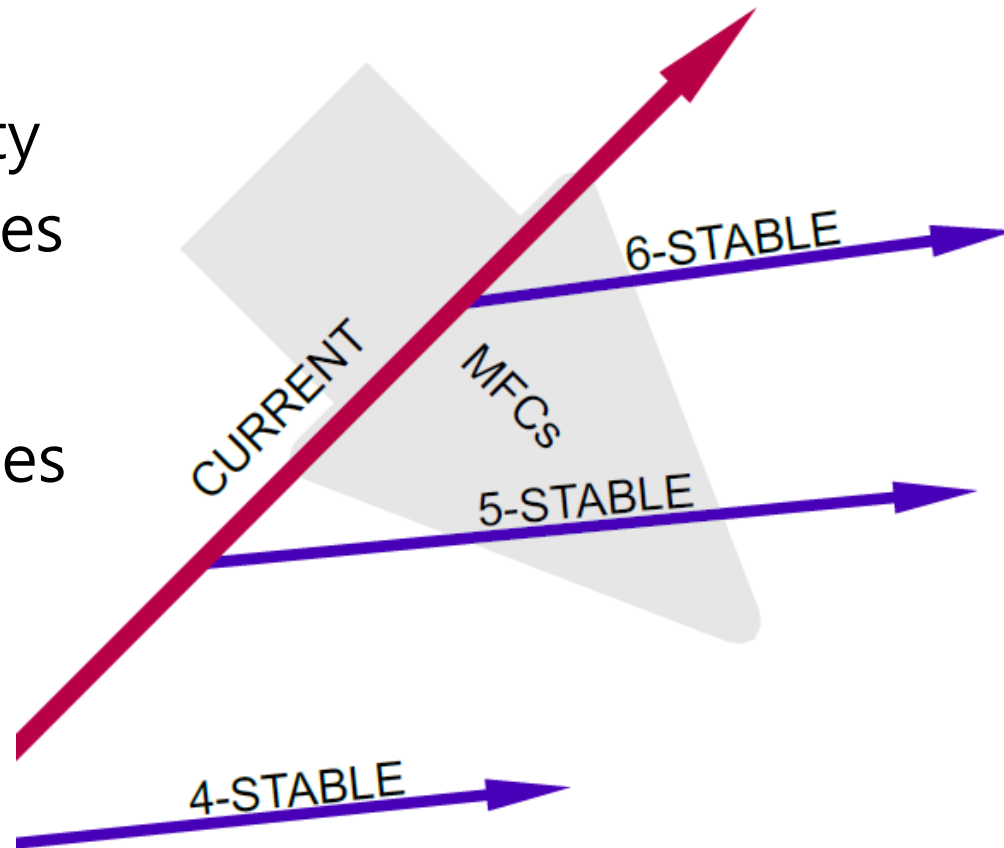
- Three parallel development branches:
  - -RELEASE
    - Latest Release version
      - 7.0 January 2009, 6.3 November 2008
    - <http://www.freebsd.org/releases/>
  - -STABLE: Tested new features and bug fixes
    - ABI-compatibility
    - MFC: Merge From Current
  - -CURRENT: Working space for FreeBSD developers
    - Current version
      - 8.0-CURRENT

# FreeBSD Version

- FreeBSD-A.B.C–Type
  - A: major version Number
  - B: minor version Number
  - C: slight patch version number
- Type: version type
  - -PRELEASE
  - -BETA
  - -RC (0, 1, 2...)
  - -RELEASE
  - -STABLE
  - -CURRENT
- Choosing the FreeBSD Version That Is Right For You:
  - <http://www.freebsd.org/doc/en/articles/version-guide/index.html>

# FreeBSD Development Branches

- Simultaneous parallel development
- Divergence based on feature maturity
- "MFC" merges changes from CURRENT to STABLE branches



# FreeBSD Release Cycle

- Most of the time open development
- Release cycle on STABLE branches
  - Code slush
  - Code freeze
  - Beta series, branching (-BETA)
  - Release candidate series (-RC)
  - Release (-RELEASE)
  - Errata/Security advisories
- Big "dot zero" release less frequently

# FreeBSD Release Engineering

- Release Engineering Information
  - <http://www.freebsd.org/releeng/>
- Upcoming Release Schedule
  - To be defined      FreeBSD 7.2
  - June 2009          FreeBSD 8.0
- Code-Freeze Status

Branch	Status	Contact	Notes
HEAD	Open	Committers	Active development branch for 8-CURRENT.
RELENG_7	Open	Committers	Development branch for 7-STABLE.
RELENG_7_1	Frozen	security-officer@FreeBSD.org	FreeBSD 7.1 supported errata fix branch.
RELENG_6_2	Frozen	security-officer@FreeBSD.org	FreeBSD 6.2 errata fix branch (not officially supported).
RELENG_5	Open	Committers	Maintenance branch for 5-STABLE (not officially supported).

# Documentation

- Handbook
  - <http://www.freebsd.org/doc/en/books/handbook/>
- Chinese resources
  - <http://freebsd.doc.twbbs.org>
  - <https://opendsvn.csie.org/trac/cgi/freebsd/doc>
- Wiki
  - <http://wiki.freebsd.org>

# Getting FreeBSD

- <http://www.freebsd.org/where.html>
- Taiwan Official Mirror Site
  - <ftp.tw.FreeBSD.org>
  - <ftp://FreeBSD.cs.nctu.edu.tw>
- FTP site layout
  - pub/
    - FreeBSD/
      - ISO-IMAGES-\*/
        - (linked to ISO-IMAGES under release/<arch>)
      - branches/
        - 7.0-stable/
      - releases/
        - amd64/
        - i386/
          - 7.1-RELEASE/
          - ISO-IMAGES/
            - 7.1/
              - 7.1-RELEASE-i386-DISC1.ISO





# Booting

```
ata0 master: QEMU HARDDISK ATA-7 Hard-Disk ( 64 GBytes)
ata1 master: QEMU DVD-ROM ATAPI-4 CD-Rom/DVD-Rom

Press F12 for boot menu.

Booting from CD-Rom...
509MB medium detected
CD Loader 1.2

Building the boot loader arguments
Looking up /BOOT/LOADER... Found
Relocating the loader and the BTX
Starting the BTX loader

BTX loader 1.00 BTX version is 1.01
Consoles: internal video/keyboard
BIOS CD is cd0
BIOS drive C: is disk0
BIOS 639kB/261056kB available memory

FreeBSD/i386 bootstrap loader, Revision 1.1
(root@logan.cse.buffalo.edu, Sun Feb 24 16:31:36 UTC 2008)
Loading /boot/defaults/loader.conf
/boot/kernel/kernel text=0x6fd45c -
```

# Booting...

- Just press Enter
- “loader prompt” : some custom/special settings  
Ex: loading modules, loader tunables



# Country Selection

Just use default or...



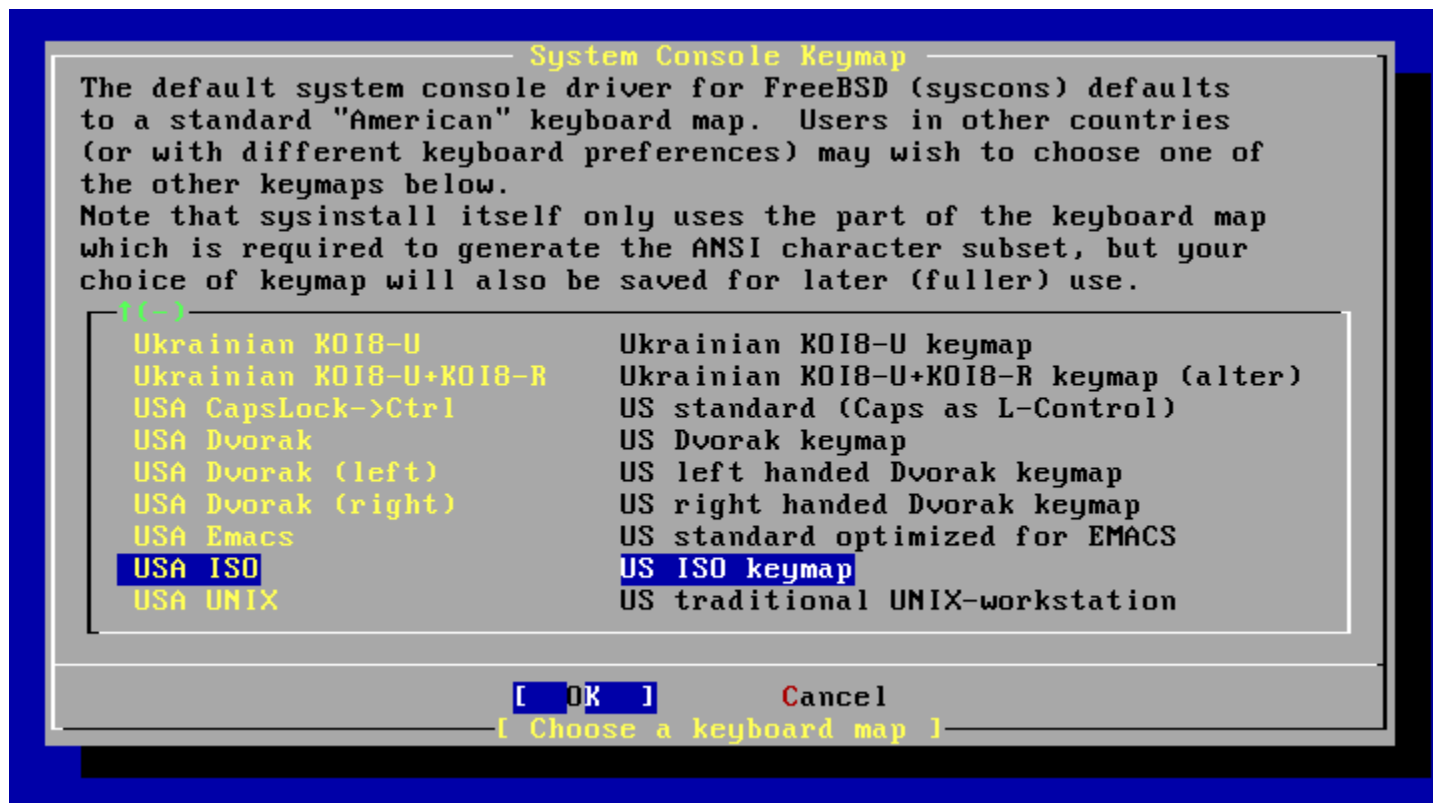
# Country - Taiwan

This is loving Taiwan!



# Keymap

Use USA ISO keymap because we don't have our keyboard layout...



# Sysinstall Main Menu

Being experts!

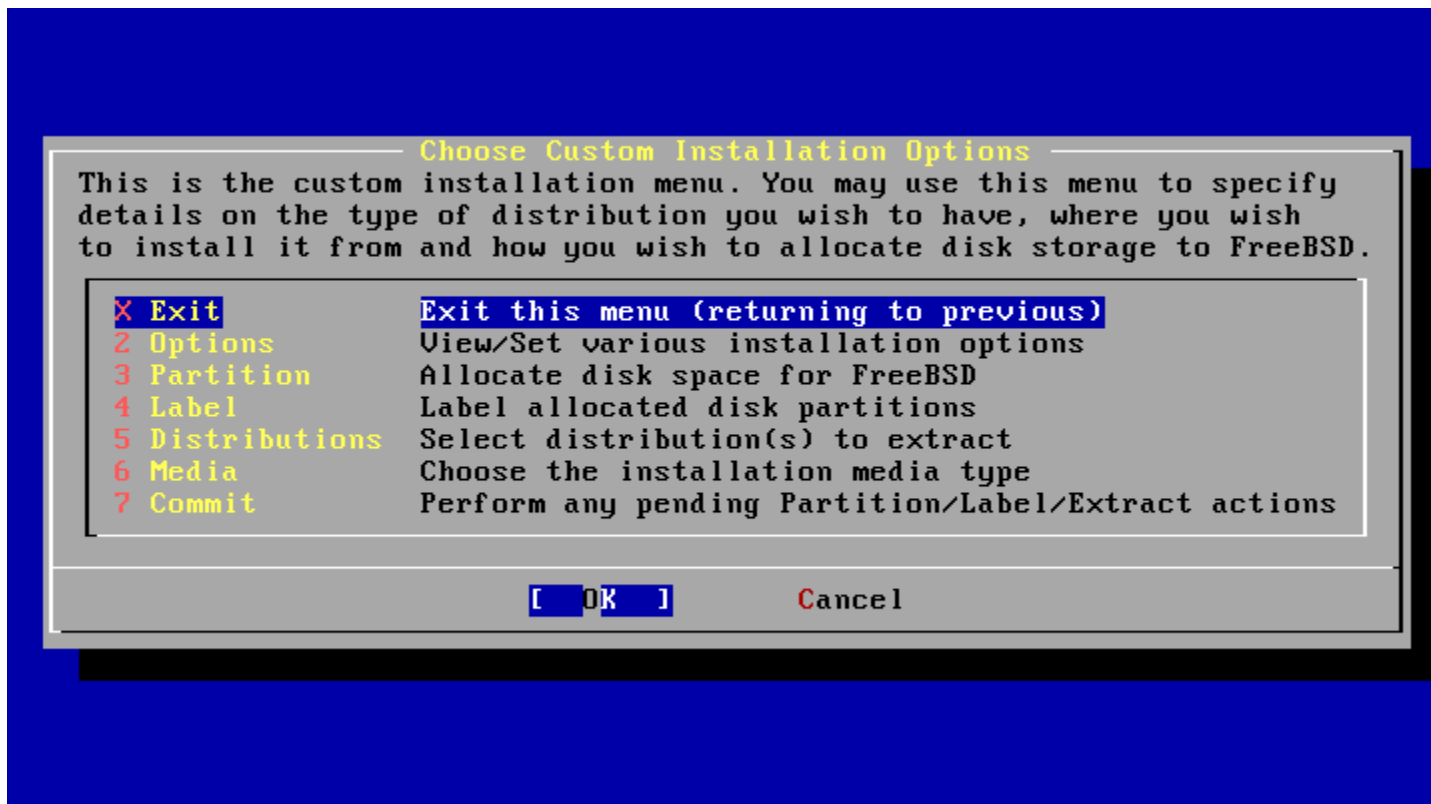
```
FreeBSD/i386 7.0-RELEASE - sysinstall Main Menu
Welcome to the FreeBSD installation and configuration tool. Please
select one of the options below by using the arrow keys or typing the
first character of the option name you're interested in. Invoke an
option with [SPACE] or [ENTER]. To exit, use [TAB] to move to Exit.

Usage      Quick start - How to use this menu system
Standard   Begin a standard installation (recommended)
Express     Begin a quick installation (for experts)
Custom    Begin a custom installation (for experts)
Configure  Do post-install configuration of FreeBSD
Doc         Installation instructions, README, etc.
Keymap      Select keyboard type
Options     View/Set various installation options
Fixit       Repair mode with CDROM/DVD/floppy or start shell
Upgrade     Upgrade an existing system
Load Config Load default install configuration
Index       Glossary of functions

[ Select ]  X Exit Install
```

# Custom Installation

- Installation variables
- Partition your disk
- Label your disk
- What to install
- How to install
- Do it!



# Options

- Sometimes you can change "Release Name "
- Leave default is enough
- Only change things when you know what you're doing

```
Options Editor
Name          Value          Name          Value
-----
NFS Secure    NO
NFS Slow      NO
NFS TCP       NO
NFS version 3 YES
Debugging     NO
No Warnings   NO
Yes to All    NO
DHCP          NO
IPv6          NO
Skip PCCARD   NO
FTP username  ftp
Editor        /usr/bin/ee
Tape Blocksize 20
Extract Detail high
Release Name  7.0-RELEASE

Install Root  /
Browser package links
Browser Exec  /usr/local/bin/links
Media Type    <not yet set>
Media Timeout 300
Package Temp  /var/tmp
Newfs Args    -b 16384 -f 2048
Fixit Console standard
Re-scan Devices <*>
Use Defaults  [RESET!]

Use SPACE to select/toggle an option, arrow keys to move,
? or F1 for more help.  When you're done, type Q to Quit.

NFS server talks only on a secure port
```



# Partition

- C = Create
- D = Delete
- W = Write
- Q = Finish

```
Disk name:      ad0                      FDISK Partition Editor
DISK Geometry: 8354 cyls/255 heads/63 sectors = 134207010 sectors (65530MB)
```

Offset	Size(ST)	End	Name	PType	Desc	Subtype	Flags
0	134217728	134217727	-	12	unused	0	

The following commands are supported (in upper or lower case):

A = Use Entire Disk	G = set Drive Geometry	C = Create Slice	F = 'DD' mode
D = Delete Slice	Z = Toggle Size Units	S = Set Bootable	i = Wizard m.
T = Change Type	U = Undo All Changes	Q = Finish	

Use F1 or ? to get more help, arrow keys to select.

# Partition

Size of the partition  
Default value: entire free space

```
Disk name:      ad0                      FDISK Partition Editor
DISK Geometry: 8354 cyls/255 heads/63 sectors = 134207010 sectors (65530MB)

Offset      Size(ST)      End      Name  PType      Desc  Subtype  Flags
-----
0  134217728  134217727  -    12    unused    0

The follow
```

**Value Required**

Please specify the size for new FreeBSD slice in blocks  
or append a trailing 'M' for megabytes (e.g. 20M).

134217728

[ OK ] Cancel

```
A = Use Entire Disk  G = set Drive Geometry  C = Create Slice  F = 'DD' mode
D = Delete Slice     Z = Toggle Size Units   S = Set Bootable  i = Wizard m.
T = Change Type      U = Undo All Changes    Q = Finish

Use F1 or ? to get more help, arrow keys to select.
```

# Partition

165 - FreeBSD's magic number

```
Disk name:      ad0                FDISK Partition Editor
DISK Geometry: 8354 cyls/255 heads/63 sectors = 134207010 sectors (65530MB)

Offset      Size(ST)      End      Name  PType      Desc  Subtype      Flags
-----
Value Required

Enter type of partition to create:

Pressing Enter will choose the default, a native FreeBSD
slice (type 165).  Other popular values are 6 for a
DOS FAT partition, 131 for a Linux ext2fs partition, or
130 for a Linux swap partition.

Note:  If you choose a non-FreeBSD partition type, it will not
be formatted or otherwise prepared, it will simply reserve space
for you to use another tool, such as DOS format, to later format
and actually use the partition.

A = Us
D = De
T = Ch

mode
rd m.

165

[ OK ]      Cancel

Use F1 or ? to get more help, arrow keys to select.
```

# Partition

Partition hard disk as only one partition

```
Disk name:      ad0                      FDISK Partition Editor
DISK Geometry: 8354 cyls/255 heads/63 sectors = 134207010 sectors (65530MB)

Offset          Size(ST)          End          Name  PType          Desc  Subtype  Flags
-----
           0             63           62          -     12          unused         0
    63    134206947    134207009    ad0s1     8         freebsd        165
134207010     10718    134217727          -     12          unused         0

The following commands are supported (in upper or lower case):

A = Use Entire Disk      G = set Drive Geometry    C = Create Slice      F = `DD' mode
D = Delete Slice        Z = Toggle Size Units     S = Set Bootable     i = Wizard m.
T = Change Type         U = Undo All Changes      Q = Finish
```

Use F1 or ? to get more help, arrow keys to select.

# Partition

S = Set bootable

```
Disk name:      ad0                      FDISK Partition Editor
DISK Geometry: 8354 cyls/255 heads/63 sectors = 134207010 sectors (65530MB)

Offset          Size(ST)          End          Name  PType          Desc  Subtype  Flags
-----
           0             63           62          -    12          unused         0
    63    134206947    134207009    ad0s1    8          freebsd        165    A
134207010      10718    134217727    -    12          unused         0

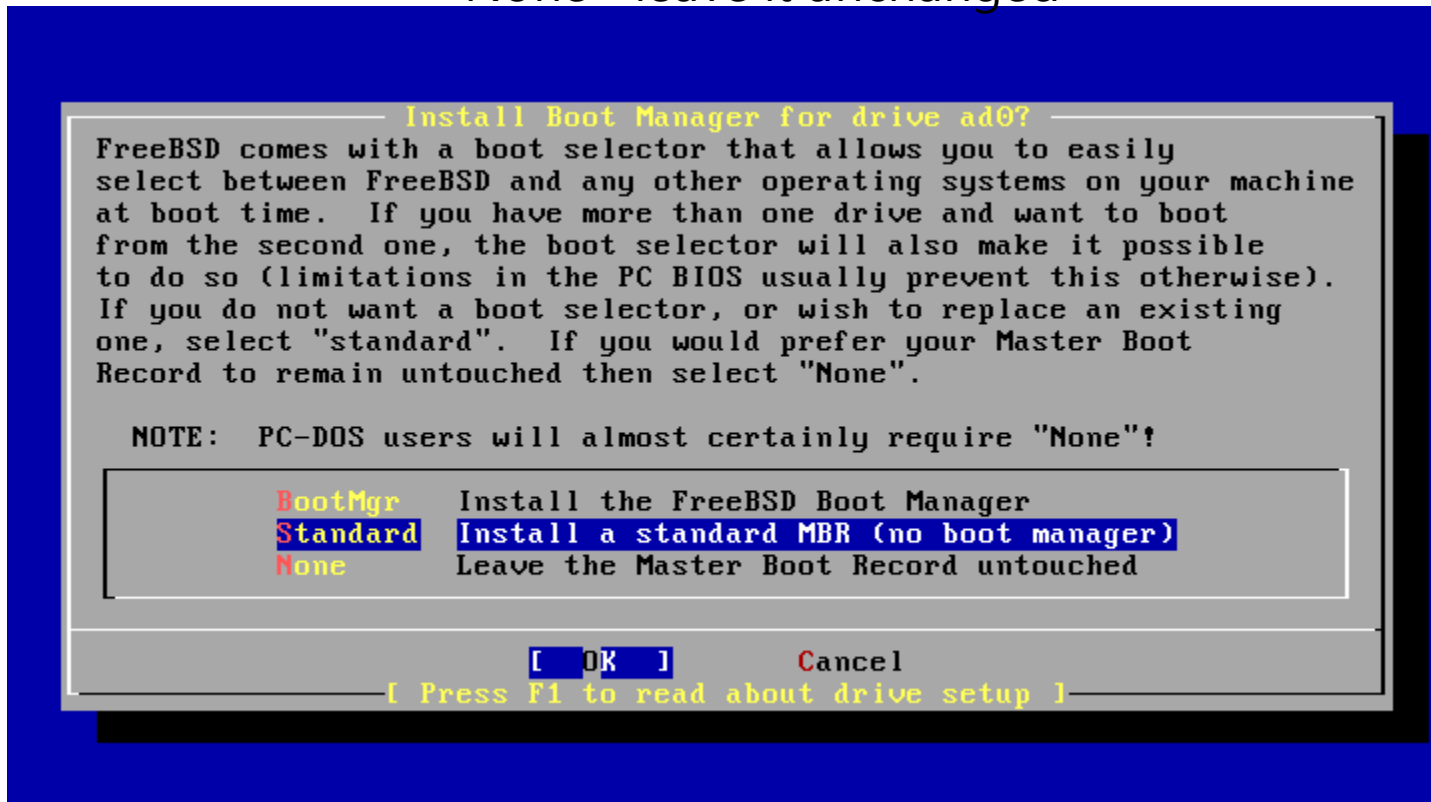
The following commands are supported (in upper or lower case):

A = Use Entire Disk      G = set Drive Geometry      C = Create Slice      F = 'DD' mode
D = Delete Slice        Z = Toggle Size Units      S = Set Bootable     i = Wizard m.
T = Change Type         U = Undo All Changes      Q = Finish
```

Use F1 or ? to get more help, arrow keys to select.

# Partition - Boot Manager

- BootMgr - install a simple boot manager to disk MBR
- Standard - write to disk MBR
- None - leave it unchanged



# Partition - More than 1 HDs

Be aware which disk is your right target!

```
----- Select Drive(s) -----  
Please select the drive, or drives, on which you wish to perform  
this operation.  If you are attempting to install a boot partition  
on a drive other than the first one or have multiple operating  
systems on your machine, you will have the option to install a boot  
manager later.  To select a drive, use the arrow keys to move to it  
and press [SPACE] or [ENTER].  To de-select it, press it again.  
  
Use [TAB] to get to the buttons and leave this menu.  
  
[ ] ad0  ad0  
[ ] ad1  ad1  
  
[ OK ]      Cancel  
----- [ Press F1 for important information regarding disk geometry! ] -----
```

# Label

- C = Create
- D = Delete
- Q = Finish

```
FreeBSD Disklabel Editor
Disk: ad0      Partition name: ad0s1      Free: 134206947 blocks (65530MB)
Part          Mount          Size Newfs      Part          Mount          Size Newfs
-----
The following commands are valid here (upper or lower case):
C = Create      D = Delete      M = Mount pt.
N = Newfs Opts  Q = Finish      S = Toggle SoftUpdates  Z = Custom Newfs
T = Toggle Newfs  U = Undo        A = Auto Defaults      R = Delete+Merge
Use F1 or ? to get more help, arrow keys to select.
█
```



# Label

- Allocation space for swap:
- Typically is 2x of your memory size.
- But this is not the absolute rule!

```
FreeBSD Disklabel Editor
Disk: ad0      Partition name: ad0s1      Free: 134206947 blocks (65530MB)
Part          Mount          Size Newfs      Part          Mount          Size Newfs
-----
Value Required
Please specify the partition size in blocks or append a trailing G for
gigabytes, M for megabytes, or C for cylinders.
134206947 blocks (65530MB) are free.
1G
[ OK ]      Cancel
The following commands are valid here (upper or lower case):
C = Create      D = Delete      M = Mount pt.
N = Newfs Opts  Q = Finish      S = Toggle SoftUpdates  Z = Custom Newfs
T = Toggle Newfs  U = Undo        A = Auto Defaults        R = Delete+Merge
Use F1 or ? to get more help, arrow keys to select.
```

# Label

- Set to be used for swap
- Swap spaces can be distributed on different disks
  - Good practice when you have more than one disk

```
FreeBSD Disklabel Editor
Disk: ad0      Partition name: ad0s1      Free: 134206947 blocks (65530MB)
Part          Mount          Size Newfs      Part          Mount          Size Newfs
-----
Please choose a partition type
If you want to use this partition for swap space, select Swap.
If you want to put a filesystem on it, choose FS.
FS      A file system
Swap    A swap partition.
[ DK ]      Cancel
The following commands are valid here (upper or lower case):
C = Create      D = Delete      M = Mount pt.
N = Newfs Opts  Q = Finish      S = Toggle SoftUpdates  Z = Custom Newfs
T = Toggle Newfs  U = Undo        A = Auto Defaults        R = Delete+Merge
Use F1 or ? to get more help, arrow keys to select.
```

# Label

Default is all that remained...

```
FreeBSD Disklabel Editor
Disk: ad0      Partition name: ad0s1      Free: 132109795 blocks (64506MB)
Part      Mount      Size Newfs      Part      Mount      Size Newfs
-----
ad0s1b    swap        1024MB SWAP

Value Required
Please specify the partition size in blocks or append a trailing G for
gigabytes, M for megabytes, or C for cylinders.
132109795 blocks (64506MB) are free.
132109795
[ OK ]      Cancel

The following commands are valid here (upper or lower case):
C = Create      D = Delete      M = Mount pt.
N = Newfs Opts  Q = Finish      S = Toggle SoftUpdates  Z = Custom Newfs
T = Toggle Newfs  U = Undo        A = Auto Defaults      R = Delete+Merge

Use F1 or ? to get more help, arrow keys to select.
```

# Label

File system type, for data storage

```
FreeBSD Disklabel Editor
Disk: ad0      Partition name: ad0s1      Free: 132109795 blocks (64506MB)
Part      Mount      Size Newfs      Part      Mount      Size Newfs
-----
ad0s1b    swap      1024MB SWAP
Please choose a partition type
If you want to use this partition for swap space, select Swap.
If you want to put a filesystem on it, choose FS.
FS      A file system
Swap    A swap partition.
[ OK ]      Cancel
The following commands are valid here (upper or lower case):
C = Create      D = Delete      M = Mount pt.
N = Newfs Opts  Q = Finish      S = Toggle SoftUpdates  Z = Custom Newfs
T = Toggle Newfs  U = Undo      A = Auto Defaults      R = Delete+Merge
Use F1 or ? to get more help, arrow keys to select.
```

# Label

Setting mount point  
For learning '/' is enough.  
(Not so good for practical using,  
unless all other things are on other  
machines)

```
FreeBSD Disklabel Editor
Disk: ad0 Partition name: ad0s1 Free: 132109795 blocks (64506MB)
Part Mount Size Newfs Part Mount Size Newfs
---- -
ad0s1b swap 1024MB SWAP

Value Required
Please specify a mount point for the partition

[ OK ] Cancel

The following commands are valid here (upper or lower case):
C = Create D = Delete M = Mount pt.
N = Newfs Opts Q = Finish S = Toggle SoftUpdates Z = Custom Newfs
T = Toggle Newfs U = Undo A = Auto Defaults R = Delete+Merge

Use F1 or ? to get more help, arrow keys to select.
```

# Label

Then we have two labels for meet minimal requirement

```
FreeBSD Disklabel Editor

Disk: ad0      Partition name: ad0s1      Free: 0 blocks (0MB)

Part      Mount          Size Newfs   Part      Mount          Size Newfs
-----
ad0s1b    swap           1024MB SWAP
ad0s1a    /              64506MB UFS2   Y

The following commands are valid here (upper or lower case):
C = Create      D = Delete      M = Mount pt.
N = Newfs Opts  Q = Finish      S = Toggle SoftUpdates  Z = Custom Newfs
T = Toggle Newfs U = Undo      A = Auto Defaults      R = Delete+Merge

Use F1 or ? to get more help, arrow keys to select.
█
```

# Label

S = Toggle SoftUpdates (something like journaling)  
[http://en.wikipedia.org/wiki/Soft\\_updates](http://en.wikipedia.org/wiki/Soft_updates)  
<http://www.mckusick.com/softdep/>

```
FreeBSD Disklabel Editor

Disk: ad0      Partition name: ad0s1      Free: 0 blocks (0MB)

Part      Mount          Size Newfs   Part      Mount          Size Newfs
-----
ad0s1b    swap           1024MB SWAP
ad0s1a    /              64506MB UFS2+S Y

The following commands are valid here (upper or lower case):
C = Create      D = Delete      M = Mount pt.
N = Newfs Opts  Q = Finish      S = Toggle SoftUpdates  Z = Custom Newfs
T = Toggle Newfs U = Undo      A = Auto Defaults      R = Delete+Merge

Use F1 or ? to get more help, arrow keys to select.
█
```

# Distributions

**Choose Distributions**

As a convenience, we provide several "canned" distribution sets. These select what we consider to be the most reasonable defaults for the type of system in question. If you would prefer to pick and choose the list of distributions yourself, simply select "Custom". You can also pick a canned distribution set and then fine-tune it with the Custom item.

Choose an item by pressing [SPACE] or [ENTER]. When finished, choose the Exit item or move to the OK button with [TAB].

[ ]	4	Developer	Full sources, binaries and doc but no games
[ ]	5	X-Developer	Same as above + X Window System
[ ]	6	Kern-Developer	Full binaries and doc, kernel sources only
[ ]	7	X-Kern-Developer	Same as above + X Window System
[ ]	8	User	Average user - binaries and doc only
[ ]	9	X-User	Same as above + X Window System
[ ]	A	Minimal	The smallest configuration possible
> >	B	Custom	Specify your own distribution set

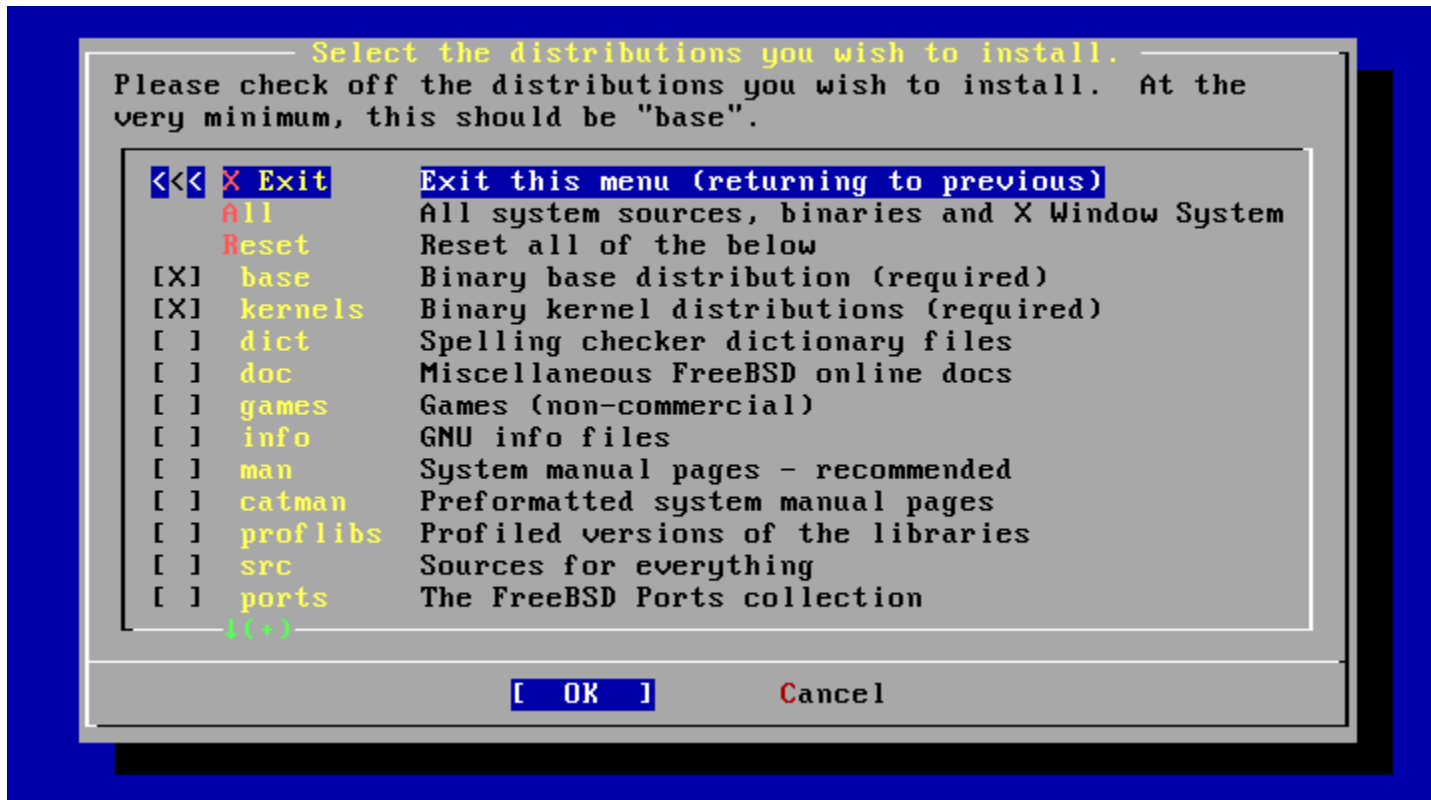
[ OK ]      Cancel

[ Press F1 for more information on these options. ]



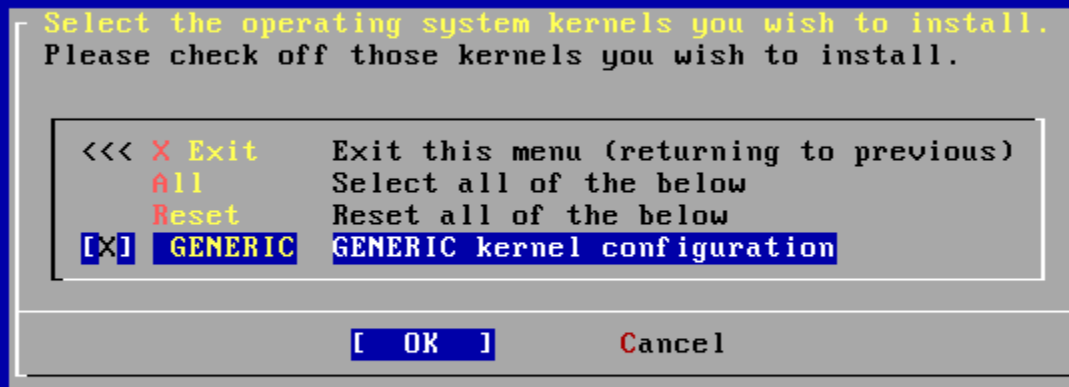
# Distributions

Minimum: **base** and **kernel**  
Also be good: **src** and **ports**

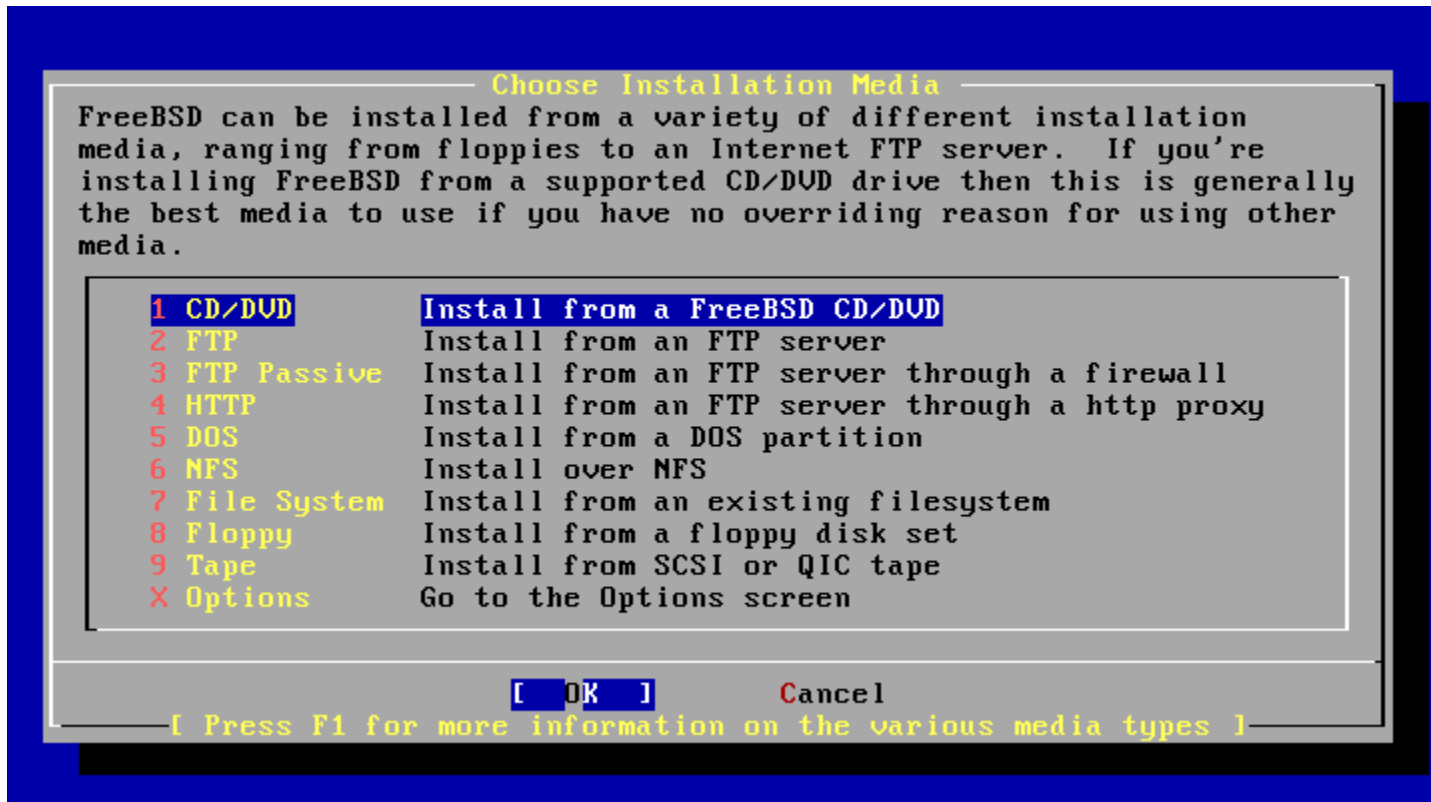


# Distributions - kernel

- SMP

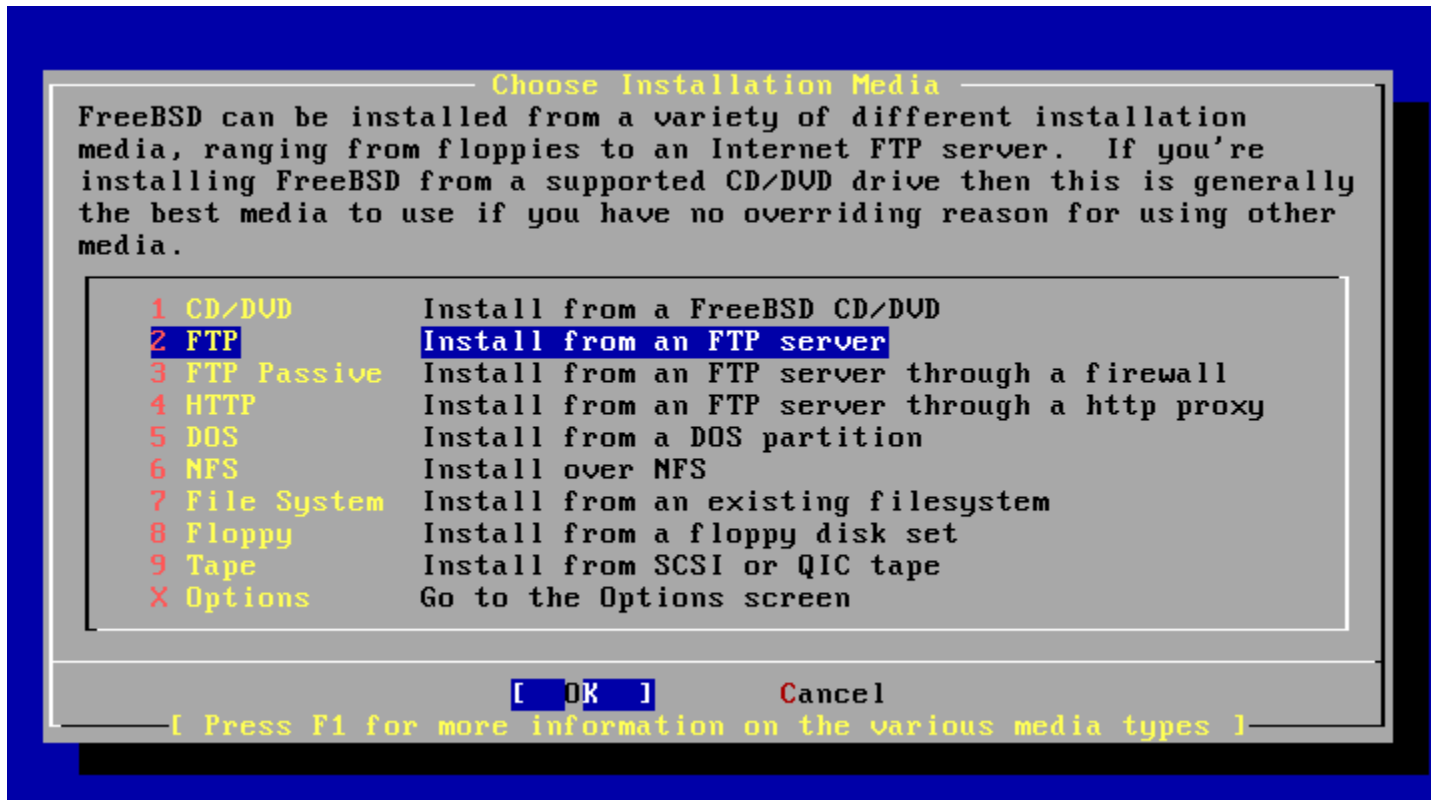


# Media - CD/DVD



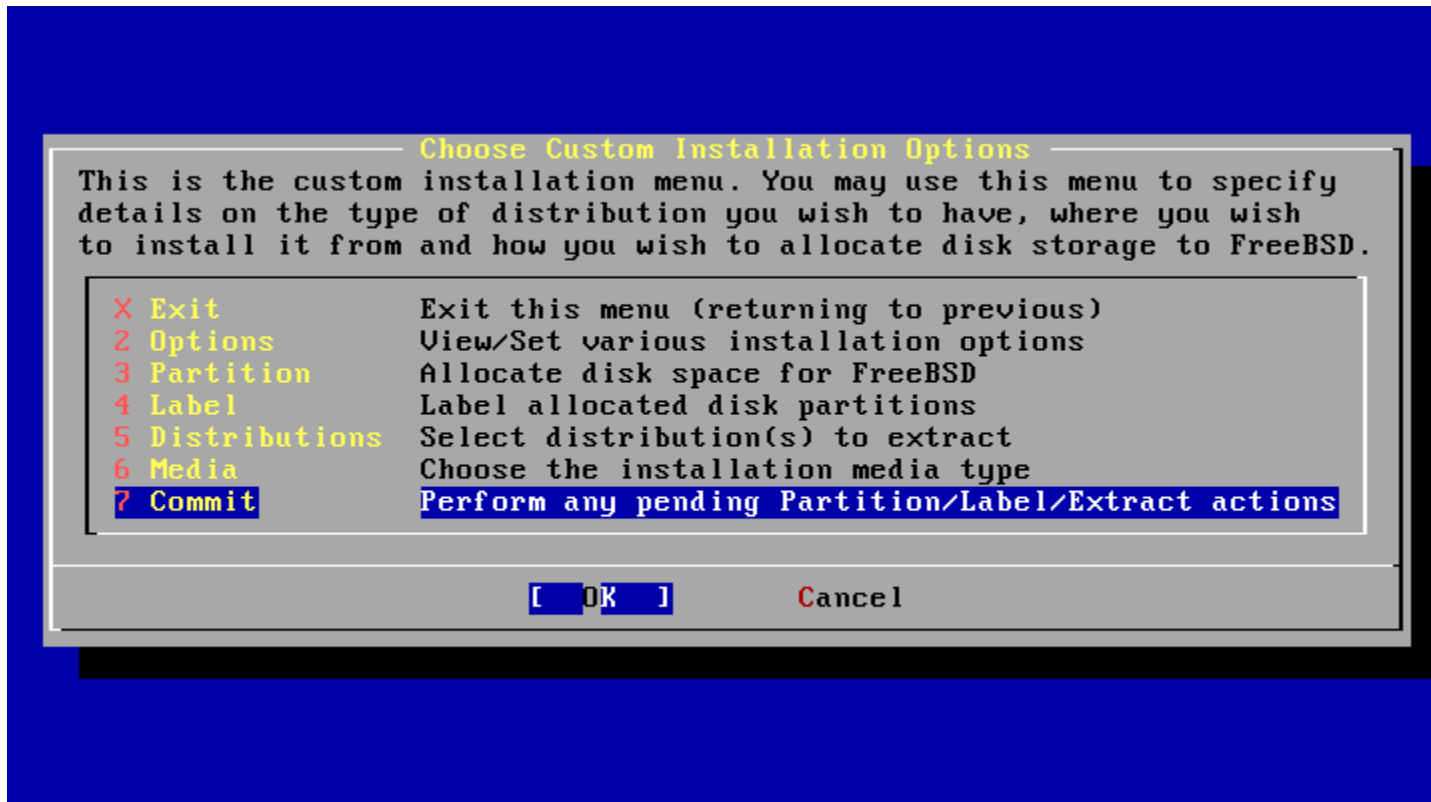
# Media - FTP

- Passive Mode:  
Server opens the port and let client to connect to.  
(recommended)



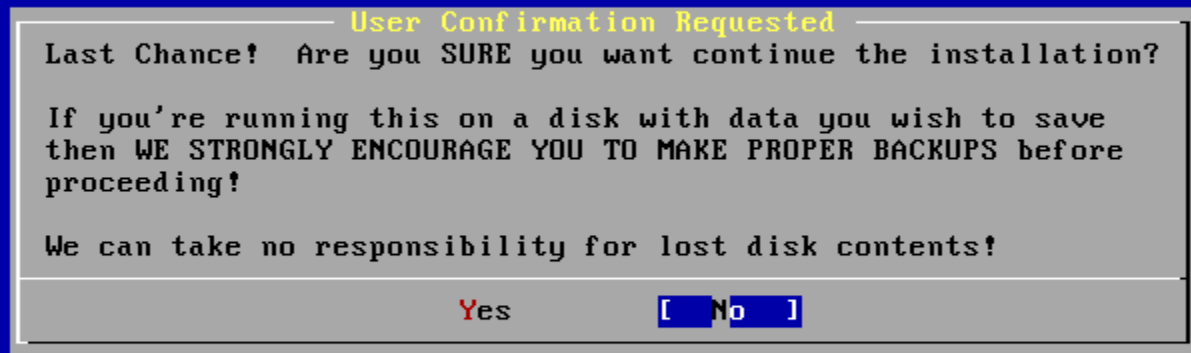
# Commit

Just do it!



# Last Chance!

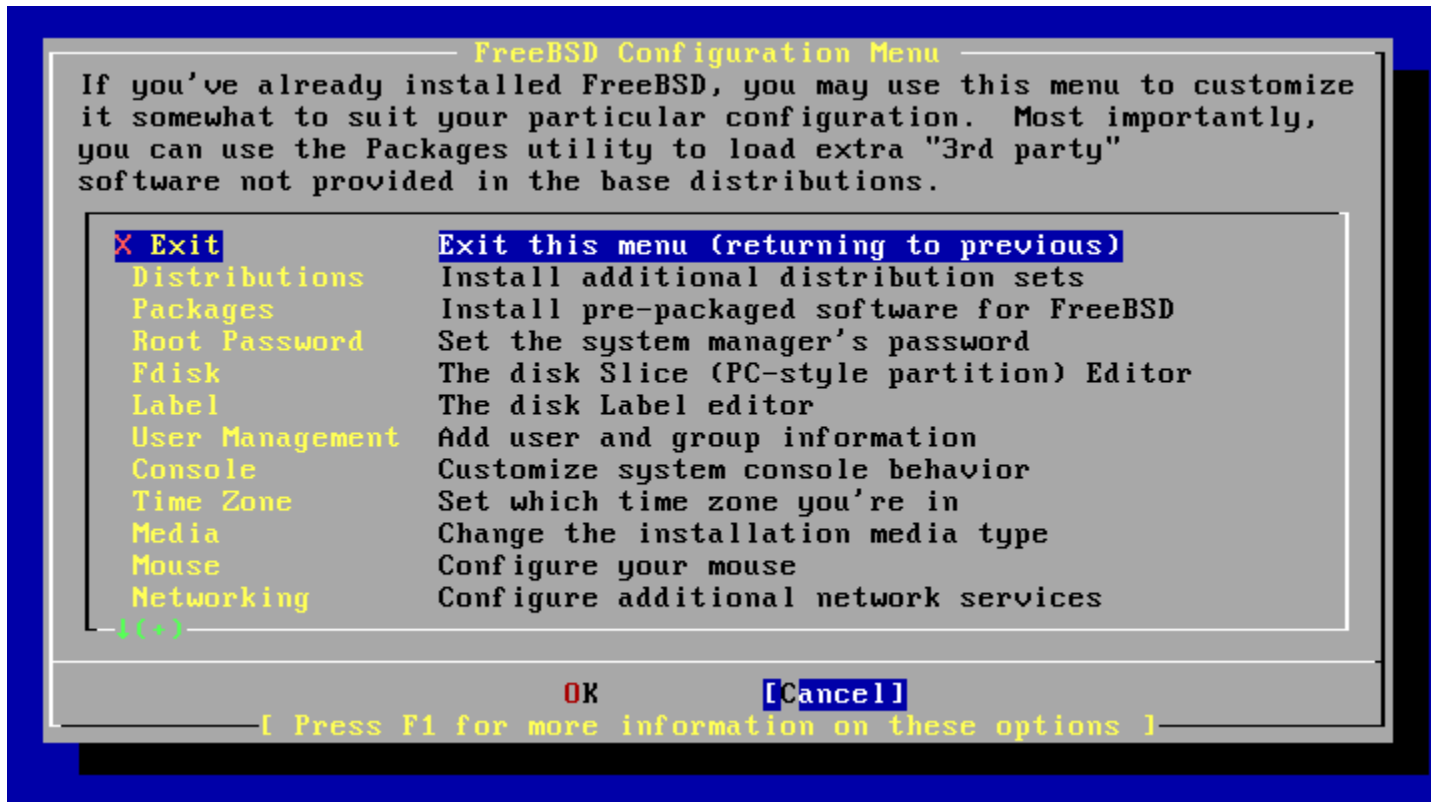
We can take no responsibility for lost disk contents!  
Don't forget backup!





# Configuration

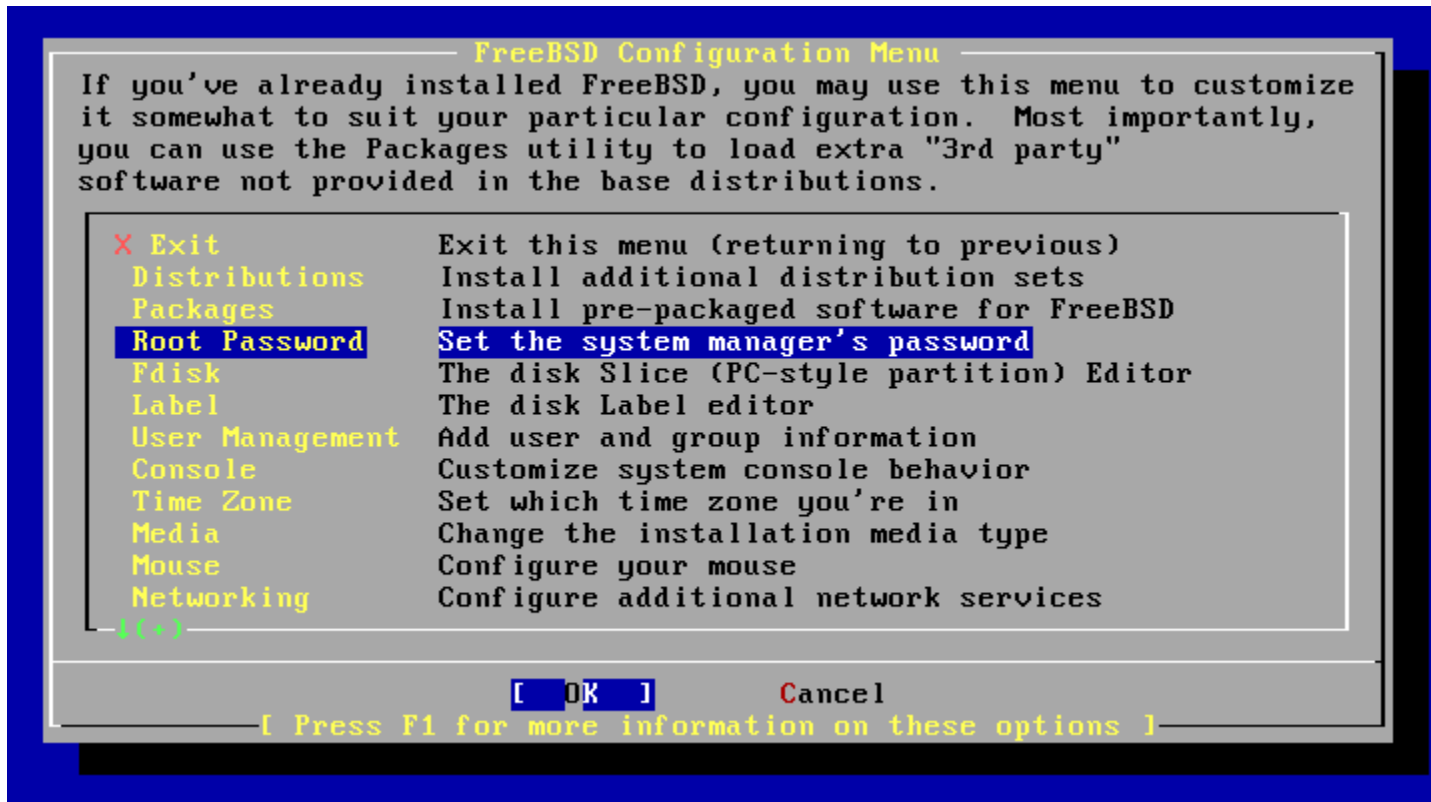
- Root Password
- User Management
- Time Zone
- Networking





# Root Password

Or your computer will be cracked barely by hitting one [Enter]




# User Management

Create a user different than root for remote login

```
----- User and group management -----  
The submenus here allow to manipulate user groups and  
login accounts.  
  
X Exit  Exit this menu (returning to previous)  
User   Add a new user to the system.  
Group  Add a new user group to the system.  
  
[ OK ]      Cancel  
----- [ Configure your user groups and users ] -----
```

# User Management

- For administration user, "staff" is a good group.
- If you want to become root, be sure you are in "wheel" group.



The screenshot shows a window titled "User and Group Management" with a sub-dialog titled "Add a new user". The form contains the following fields:

Login ID:	UID:	Group:	Password:
lwhsu	1001	staff	****
Full name: Li-Wen Hsu		Member groups: wheel	
Home directory: /home/lwhsu	Login shell: /bin/tcsh		

At the bottom of the dialog are two buttons: "OK" and "CANCEL".

[ The user's login shell (leave blank for default) ]

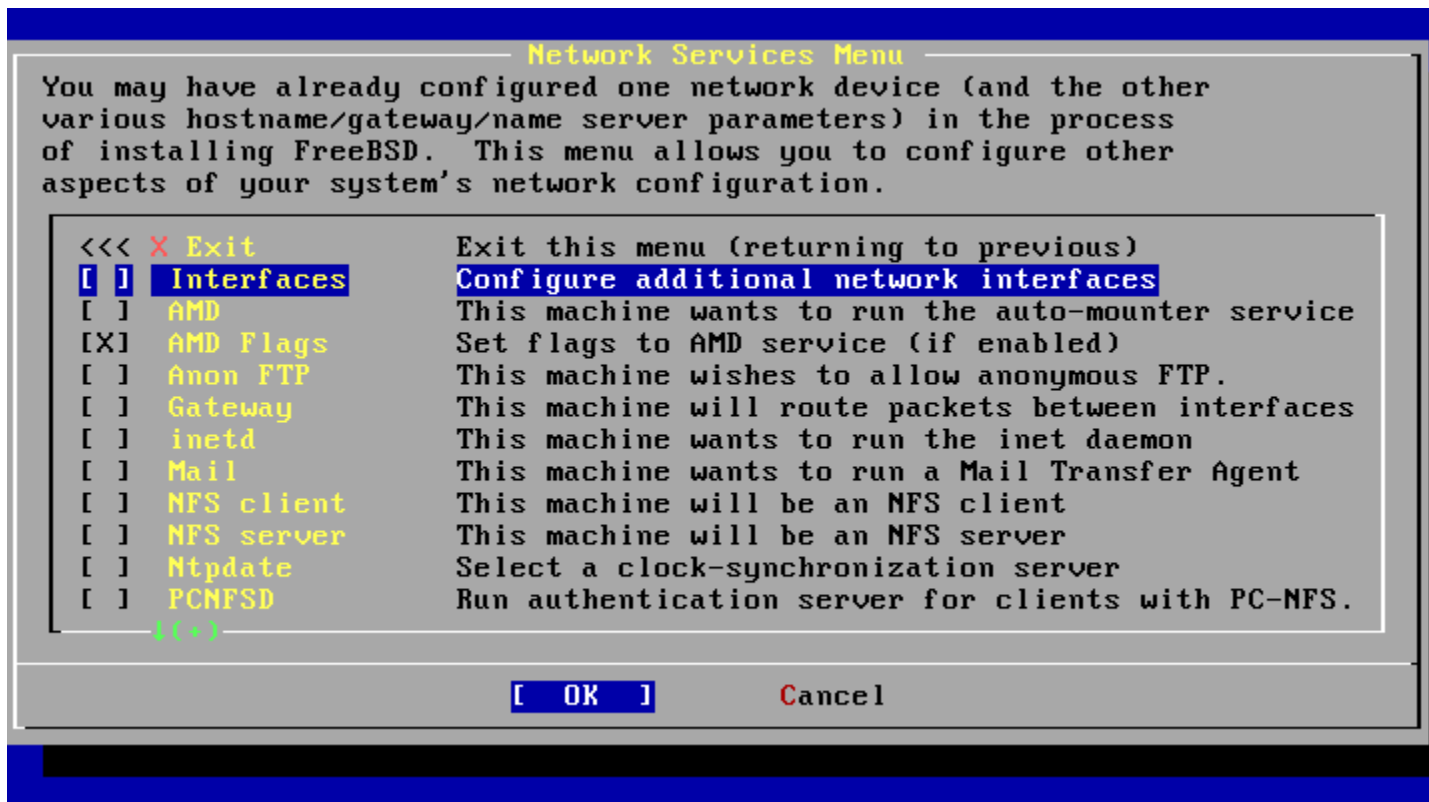
# Time Zone

- Asia -> Taiwan
- Is BIOS time UTC? **No**
- CST? **Yes**



# Network Services

- Interface
- sshd



# Network Services - Interface

- DHCP?
- IPv6?

Network Configuration

Host:

Domain:

IPv4 Gateway:

Name server:

Configuration for Interface re0

IPv4 Address:

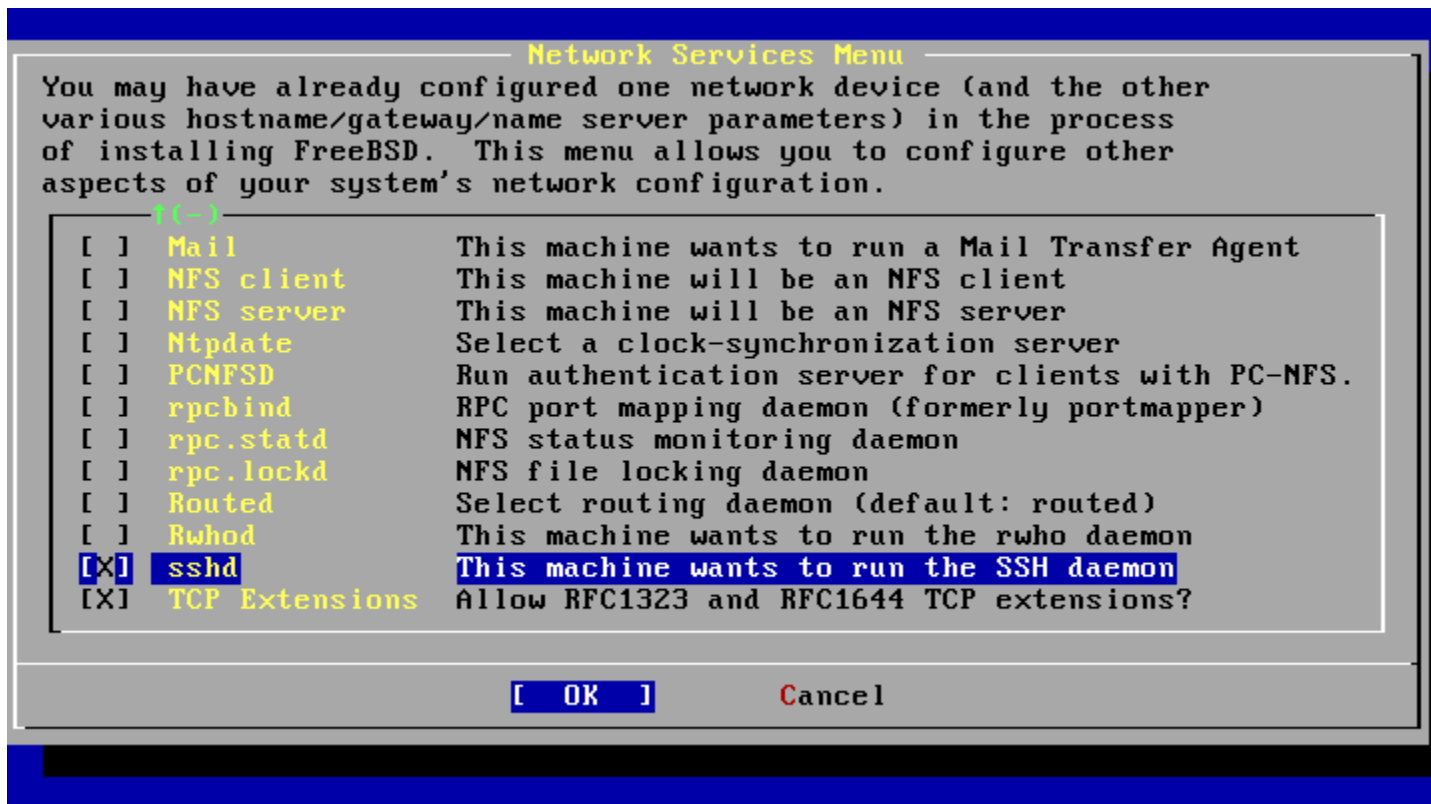
Netmask:

Extra options to ifconfig (usually empty):

[ Select this if you are happy with these settings ]

# Network Services - sshd

- Open a way for remote login



# Done!

```
FreeBSD/i386 7.0-RELEASE - sysinstall Main Menu
Welcome to the FreeBSD installation and configuration tool. Please
select one of the options below by using the arrow keys or typing the
first character of the option name you're interested in. Invoke an
option with [SPACE] or [ENTER]. To exit, use [TAB] to move to Exit.

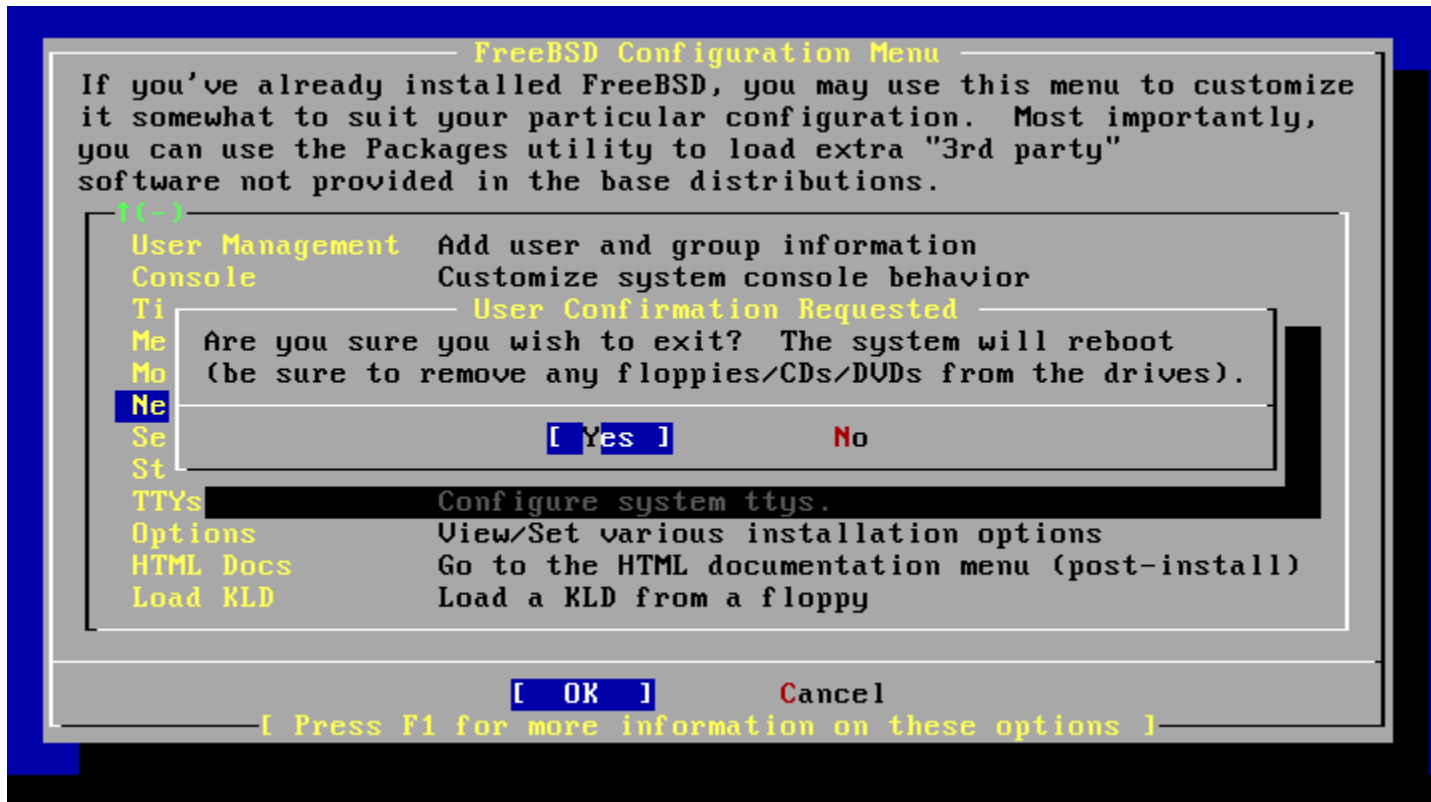
Usage      Quick start - How to use this menu system
Standard   Begin a standard installation (recommended)
Express     Begin a quick installation (for experts)
Custom     Begin a custom installation (for experts)
Configure  Do post-install configuration of FreeBSD
Doc         Installation instructions, README, etc.
Keymap      Select keyboard type
Options     View/Set various installation options
Fixit       Repair mode with CDROM/DVD/floppy or start shell
Upgrade     Upgrade an existing system
Load Config Load default install configuration
Index       Glossary of functions

Select      [X] Exit Install
```



# Last Step...

Be sure to remove booting media.



Finally, reboot and enjoy!



Keeping Updating  
-build world and kernel

# CVS Tags

- Branch Tags
  - HEAD (.) (-CURRENT)
  - RELENG\_7 (-STABLE)
  - RELENG\_7\_1 (-RELEASE)
    - RELENG\_7\_1\_BP
- Release Tags
  - RELENG\_7\_1\_0\_RELEASE

# CVSup Configuration File

- /usr/share/examples/cvsup/

- standard-supfile

\*default host=cvsup.tw.FreeBSD.org

\*default base=/var/db

\*default prefix=/usr

\*default release=cvs tag=RELENG\_7\_1

\*default delete use-rel-suffix

- csup <supfile>

csup(1)

# Make configuration file

/etc/make.conf:

```
SUP_UPDATE=      yes
SUP=             /usr/bin/csup
SUPFLAGS=       -L 2
SUPFILE=        /usr/local/etc/src-supfile
#PORTSSUPFILE=  /usr/local/etc/ports-supfile
KERNCONF=       SABSD
CPUTYPE=        core2
```

[/usr/share/examples/etc/make.conf](#)

[/usr/share/mk/bsd.cpu.mk](#)

# Make configuration file (advanced)

NO\_CLEANDIR=yes

NO\_CLEAN=yes

NO\_KERNELCLEAN= yes

#NO\_MODULES= yes

#MODULES\_WITH\_WORLD= true

NO\_PORTSUPDATE= yes

Use these options carefully!

`/usr/src/Makefile.inc1`

# Steps

- (Read /usr/src/UPDATING)
- cd /usr/src
- make update
- mergemaster -p (Pre-buildworld mode)
- make (-jN) buildworld
- make (-jN) kernel (buildkernel, installkernel)
- (reboot and boot in single user mode)
- make installworld
- mergemaster (or mergemaster -Ui)
- (make check-old, make delete-old)
- Reboot

*/usr/src/Makefile, mergemaster(8)*

# Kernel configuration file

- Kernel configure file
  - `cd /usr/src/sys/{i386,amd64}/conf/`
- "LINT"
  - `make LINT`
- Make your own kernel configuration file
  - `cp GENERIC "YOUR-KERNEL-NAME"`
- Edit your configuration file
- Edit `/etc/make.conf`



# Reboot & Check

- Reboot and enjoy it
  - # reboot
- Check
  - # uname -a

# If Something Goes Wrong

- Boot from old kernel
  - "6. Escape to loader prompt"
  - Boot /boot/kernel.old/kernel
  - cd /boot
  - cp -R kernel.old kernel.ok
  - rm -fr kernel
  - mv kernel.old krenel

# Handbook!

- Chapter 8 Configuring the FreeBSD Kernel
  - <http://www.freebsd.org/doc/en/books/handbook/kernelconfig.html>
- 23.4 Rebuilding "world"
  - <http://www.freebsd.org/doc/en/books/handbook/makeworld.html>
- 8.7 If Something Goes Wrong
  - <http://www.freebsd.org/doc/en/books/handbook/kernelconfig-trouble.html>



Make FreeBSD more useable  
-Install 3rd party software

# FreeBSD ports/package

## ○ Package

- Pre-built ports
- pkg\_add, pkg\_delete, pkg\_deinstall, pkg\_info, pkg\_version

## ○ Ports

- cd /usr/ports, make search, make install clean
- ports/ports-mgmt/portupgrade
  - portinstall, portupgrade, portversion
  - /usr/local/etc/pkgtools.conf
- Ports/ports-mgmt/portmaster

# CVSup Configuration File

- /usr/share/examples/cvsup/
  - ports-supfile

\*default host=cvsup.tw.FreeBSD.org

\*default base=/var/db

\*default prefix=/usr

\*default release=cvs tag=.

\*default delete use-rel-suffix

# Updating Ports Tree

- Update your ports tree every time you want to install/upgrading software
- Read `/usr/ports/UPDATING`
- CVSup
- `csup <ports-supfile>`
- `cd /usr/ports && \`  
`make update && \`  
`make fetchindex`

# portsnap

- /etc/portsnap.conf
  - portsnap.freebsd.org -> portsnap.tw.freebsd.org
- first time
  - portsnap fetch extract
- update
  - portsnap fetch update
- portsnap(8)



# Ports system

- Find your application
  - `cd /usr/ports`
  - `make search name=program name`
  - `make search key=string`
- change to the directory for the port you want to install
- Type "make install clean" to install your application
  - `make`
  - `make install`
  - `make clean`
- `/usr/ports/Mk/bsd.port.mk`
  - "Default targets and their behaviors"

# Package System

- pkg\_add(1)
  - pkg\_add pkg\_name
    - # pkg\_add lsof-4.56.4.tgz
  - pkg\_add -r pkg\_name
    - If you don't have a source of local packages
    - If you are using FreeBSD-CURRENT or FreeBSD-STABLE, pkg\_add will download the latest version of your application
    - If you are using FreeBSD-RELEASE, it will grab the version of the package that was built with your release
    - **PACKAGESITE** environment variable

# Managing Packages

- o pkg\_info(1)

```
x:~ -lwshsu- pkg_info
adns-1.4          Easy to use, asynchronous-capable DNS client library and ut
amap-5.2          Application mapper
apache-2.2.6_1    Version 2.2 of Apache web server with prefork MPM.
apr-gdbm-db42-1.2.7_1 The Apache Group's Portability Library
autoconf-2.61_2   Automatically configure source code on many Un*x platforms
```

- o pkg\_version(1)

```
x:~ -lwshsu- pkg_version -IvL =
adns-1.4          <  needs updating (index has 1.4_1)
apache-2.2.6_1    <  needs updating (index has 2.2.9)
apr-gdbm-db42-1.2.7_1 <  needs updating (index has 1.3.3.1.3.4)
autoconf-2.61_2   <  needs updating (index has 2.62)
```

- o pkg\_delete(1)

```
# pkg_delete xchat-1.7.1
```



# More port utilities

- All under "ports-mgmt" catalog
- Search ports
  - Psearch
- Delete unnecessary ports
  - pkg\_cutleaves
  - pkg\_rmleaves
- Upgrading
  - portsupgrade
  - Portmaster
- Security
  - portaudit



# Miscellaneous



# \_\_FreeBSD\_version values

- o /usr/src/sys/sys/param.h

```
/*
 * __FreeBSD_version numbers are documented in the Porter's Handbook.
 * If you bump the version for any reason, you should update the documentation
 * there.
 * Currently this lives here:
 *
 *     doc/en_US.ISO8859-1/books/porters-handbook/book.sgml
 *
 * scheme is: <major><two digit minor>Rxx
 *             'R' is 0 if release branch or x.0-CURRENT before RELENG_*_0
 *             is created, otherwise 1.
 */
#undef __FreeBSD_version
#define __FreeBSD_version 701100          /* Master, propagated to newvers */
```

- o [http://www.freebsd.org/doc/en\\_US.ISO8859-1/books/porters-handbook/freebsd-versions.html](http://www.freebsd.org/doc/en_US.ISO8859-1/books/porters-handbook/freebsd-versions.html)

# Maintenance

- Root Mails
  - Daily run output
  - Security run output
    - packages with security vulnerabilities
  - Monthly run output
- Read mailing-lists
  - -stable
  - -ports
  - -cvs
  - -svn