Homework #01 FreeBSD Installation Announce: 20080930 Due: 20081007

FreeBSD Branches/Tags

- Three parallel development branches:
 - > -RELEASE
 - Latest Release version:
 - 7.0 February 2008, 6.3 January 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
 - http://www.freebsd.org/releng/

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
 - RELEASE
 - STABLE
 - CURRENT

Choosing the FreeBSD Version That Is Right For You:

http://www.freebsd.org/doc/en/articles/version-guide/index.html

FreeBSD view of Disk (1)

- The meaning of <u>ad0s1e</u>
 - > Disk name
 - · IDE: ad
 - SCSI: da
 - Slice is equal to the <u>partition</u> of common use
 - Primary partition: s1 ~ s4
 - Extended partition: s5 ~ sn
 - > Label in each slice
 - a: root partition
 - b: swap
 - c: entire disk
 - d: entire partition
 - efgh: /usr, /home, ...



FreeBSD view of Disk (2)



Installing FreeBSD

- Steps
 - 1. Knowing your hardware
 - 2. Obtaining installation file
 - 3. Booting from CD
 - 4. sysinstall main menu
 - 5. Custom Installation Options
 - 1. Partition
 - 2. Label
 - 3. Distribution
 - 4. Media
 - 5. Commit
 - 6. Post Installation configurations

Installing FreeBSD – 1. knowing your hardware

OPU

- > 32bit or 64bit
- > Architecture: alpha, amd64, i386, ia64, pc98, powerpc, sparc64
- RAM
 - > Size
- HD
 - > Size, amount, SCSI or IDE
- VGA
 - > Brand, ram size
- Sound
 - > Brand
- Network Interface Card
 - > Brand
 - IP、Netmask、Default gateway、Hostname、DNS
- Other Special device

Installing FreeBSD – 2. Obtaining installation file

- FreeBSD installation CD
 - > ftp://freebsd.cs.nctu.edu.tw/pub/ISO-IMAGES-i386/7.0/7.0-RELEASE-i386bootonly.iso
 - > ftp://freebsd.cs.nctu.edu.tw/pub/ISO-IMAGES-i386/7.0/7.0-RELEASE-i386-disc1.iso
 - > Burn CD or USB!
- Unofficial snapshot
 - http://pub.allbsd.org/FreeBSD-snapshots/

Handbook!

Chapter 2 Installing FreeBSD

- http://www.freebsd.org/doc/en/books/han dbook/install.html
- Chinese resources
 - > http://freebsddoc.twbbs.org
 - > https://opensvn.csie.org/traccgi/freebsddoc

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

Welcome to FreeBSD! 1. Boot FreeBSD [default] 2. Boot FreeBSD with ACPI disabled 3. Boot FreeBSD in Safe Mode 4. Boot FreeBSD in single user mode 5. Boot FreeBSD with verbose logging 6. Escape to loader prompt 7. Reboot	
Select option, [Enter] for default	

or [Space] to pause timer 10

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...

Sys The default system console d to a standard "American" key (or with different keyboard the other keymaps below. Note that sysinstall itself which is required to generat choice of keymap will also b	tem Console Keymap river for FreeBSD (syscons) defaults board map. Users in other countries preferences) may wish to choose one of only uses the part of the keyboard map e the ANSI character subset, but your e saved for later (fuller) use.
Ukrainian KO18-U Ukrainian KO18-U+KO18-R USA CapsLock->Ctrl USA Dvorak USA Dvorak (left) USA Dvorak (right) USA Emacs USA ISO USA UNIX	Ukrainian KOI8-U keymap Ukrainian KOI8-U+KOI8-R keymap (alter) US standard (Caps as L-Control) US Dvorak keymap US left handed Dvorak keymap US right handed Dvorak keymap US standard optimized for EMACS US ISO keymap US traditional UNIX-workstation
[K] Cancel ose a keyboard map]

Sysinstall Main Menu

Being experts!



Custom Installation

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

Choose Custom Installation Options This is the custom installation menu. You may use this menu to specify details on the type of distribution you wish to have, where you wish to install it from and how you wish to allocate disk storage to FreeBSD. Exit this menu (returning to previous) X Exit View/Set various installation options Options Allocate disk space for FreeBSD Label allocated disk partitions Select distribution(s) to extract Distributions Choose the installation media type Perform any pending Partition/Label/Extract actions Cancel

Options

• Sometimes you can change "Release Name"

Name	Value 	Name	Value
MFS Secure	NO	Install Root	/
NFS Slow	NO	Browser package	links
IFS TCP	NO	Browser Exec	/usr/local/bin/links
MFS version 3	YES	Media Type	<not set="" yet=""></not>
)ebugg ing	NO	Media Timeout	300
lo Warnings	NO	Package Temp	/var/tmp
les to All	NO	Newfs Args	-b 16384 -f 2048
HCP	NO	Fixit Console	standard
IPv6	NO	Re-scan Devices	< * >
Skip PCCARD	NO	Use Defaults	[RESET!]
TP username	ftp		
Editor	/usr/bin/ee		
Cape Blocksize	20		
Extract Detail	high		
Release Name	7.0-RELEASE		
lse SPACE to sel	ect/toggle an option, ar	row keys to move	<u>ن</u>
? or F1 for more	help. When you're done	e, type Q to Quit	
	<u> </u>		

NFS server talks only on a secure port

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

Offset Size(ST) End Name PType Desc Sub 0 134217728 134217727 - 12 unused	type Flags O
0 134217728 134217727 – 12 unused	Θ
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	l = Wizard m.
T = Change Type U = Undo All Changes Q = Finish	
Use F1 or ? to get more help, arrow keys to select.	

Size of the partition Default value: entire free space

Disk name: DISK Geomet	ad0 ry: 8354 c	:yls/255 heads	∕63 sec	tors = :	FDISK 134207010 se	Partitio ectors (6	n Editor 5530MB)
Offset	Size(ST)	End	Name	РТуре	Desc	Subtype	Flags
Θ	134217728	134217727	-	12	unused	0	
	Please spe or append 134217728	Ual cify the size a trailing `M	ue Requ for ne ' for m	ired w FreeB egabyte:	SD slice in s (e.g. 20M)	blocks).	
The follow		с ок	1	Cancel			
A = Use Ent D = Delete T = Change	ire Disk Slice Type	G = set Drive Z = Toggle Si U = Undo All	Geomet ze Unit Changes	ry C s S Q	= Create Sli = Set Bootal = Finish	ice F = ble i =	`DD' mode Wizard m.
Use F1 or ?	to get mor	∙e help, arrow	keys t	o selec	t.		

165 - FreeBSD's magic number

Disk na DISK Ge	ame: <mark>ad0</mark> cometry: 8354 cyls	/255 heads.	∕63 sec	tors = 13	<mark>FDISK</mark> 4207010 s	Partition ectors (65	Editor 530MB)
Offset	Size(ST)	End —— Ua	Name lue Req	PType uired ——	Desc	Subtype	Flags
The fo	Enter type of par Pressing Enter wi slice (type 165). DOS FAT partition 130 for a Linux s Note: If you cho be formatted or o for you to use an and actually use	tition to Other po , 131 for wap partit ose a non- therwise p other tool the partit	create: the def pular v a Linux ion. FreeBSD repared , such ion.	ault, a n alues are ext2fs p partitio , it will as DOS fo	ative Fre 6 for a artition, n type, i simply r rmat, to	eBSD or t will not eserve spa later form	ce at
н = US D = De T = Ch	165						rd m.
1 011		с ок	1	<mark>C</mark> ance l			
Use F1	or ? to get more h	elp, arrow	keys t	o select.			

Partition hard disk as only one partition

Disk DISK	name: Geomet	ad0 ry: 8354 (cyls/255 heads	s∕63 sect	tors =	<mark>FDISK</mark> 134207010 s	Partition ectors (65	Editor 530MB)
Offso	et	Size(ST)	End	Name	РТуре	Desc	Subtype	Flags
	Θ	63	62		12	unused	Θ	
	63	134206947	134207009	ad0s1	8	freebsd	165	
1342	207010	10718	134217727	-	12	unused	0	
THE 1	.011001	ny commana:	s are support	a (in uj	iher or	IUWEP Case).	
A = I D =] T = (Jse Ent Delete Change	ire Disk Slice Type	G = set Drive Z = Toggle Si U = Undo All	e Geometr ize Units Changes	ry C s S Q	= Create Sl = Set Boota = Finish	ice F = ble I =	`DD' mode Wizard m.
Use 1	f1 or ?	to get mo:	re help, arrou	, keys to	o selec	t.		

S = Set bootable

Disk DISK	name: Geomet	ad0 ry: 8354 (cyls/255 heads	s/63 sect	tors =	FD ISK 134207010 s	Partition ectors (65	Editor 530MB)
Offse	et	Size(ST)	End	Name	РТуре	Desc	Subtype	Flags
	0 63	63 134206947	62 134207009	ad0s1	12 8	unused freebsd	0 165	A
134	207010	10718	134217727		12	unused	Θ	
The f	followi	ng command:	s are supporte	ed (in uj	pper or	lower case):	
A = U D = J T = 0	Jse Ent Delete Change	ire Disk Slice Type	G = set Drive Z = Toggle S U = Undo All	e Geometi ize Units Changes	ry C s S Q	= Create Sl = Set Boota = Finish	ice F = ble i =	'DD' mode Wizard m.
Use 1	f1 or ?	to get mo	re help, arrou	w keys to	o selec	t.		

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!

lea his n a yst	select urively) se select the drive, or drives, on which you wish to perform operation. If you are attempting to install a boot partition drive other than the first one or have multiple operating ems on your machine, you will have the option to install a boot
nana und Jse	ger later. To select a drive, use the arrow keys to move to it press [SPACE] or [ENTER]. To de-select it, press it again. [TAB] to get to the buttons and leave this menu.
_	[] ad0 ad0 [] ad1 ad1
	[OK] Cancel

C = Create
D = Delete
Q = Finish

				Freel	BSD Dis	klabel Ed	itor		
Disk	: ad0		Partitio	n name	e: adOs	1 Free:	134206947	blocks	(65530MB)
Part		Mount		Size	Newfs	Part	Mount		Size Newf
The :	follow	Jing co	mmands a	re val	lid her	e (upper o	or lower c	ase):	
N = 1	Newfs	Opts	Q = Fi	nish	S = T	oggle Soft	tUpdates	Z = Cus	stom Newfs
Γ =	Toggle	e Newfs	: U = Un	do	A = A	uto Defau	lts	R = De	lete+Merge
Use :	F1 or	?tog	et more	help,	arrow	keys to so	elect.		

Allocation space for swap: typically is 2x~2.5x of your memory size. But this is not the absolute rule!

		FreeBSI) Diskla	bel Edito	r	
Disk	c: ad0 Par	tition name:	ad0s1	Free: 13	4206947 b)	locks (65530MB)
Part	t Mount	Size Ne	ewfs P	art	Mount	Size Newfs
	Please specify gigabytes, M f 134206947 bloc	the partitic or megabytes, ks (65530MB)	or C f are fre	in blocks or cylind e.	or append lers.	l a trailing G for
	16					
	16		OK 1	Canc	el.	
The C = N = T =	1G following comma Create D Newfs Opts Q Toggle Newfs U	L nds are valid = Delete M = Finish S = Undo A	<mark>OK]</mark> here (1 = Moun = Togg = Auto	Canc upper or t pt. le SoftUp Defaults	el lower case dates Z R	e): = Custom Newfs = Delete+Merge

Setting which label is used for swap Swap spaces can be distributed on different disks

		FreeBSD Dis	sklabel Ed	itor	
Disk: a	ado Par	tition name: ad0	s1 Free:	134206947 b	locks (65530MB)
Part	Mount	Size Newfs	Part	Mount	Size Newfs
	If you wan If you wan	Please choose this part of to use this part of to put a filesy FS A Swap A	ose a part rtition fo ystem on i file syste swap part	ition type – r swap space t, choose FS em ition.	, select Swap.
		<mark>C </mark> OK) C	ancel	
The fol C = Cre N = New T = Tog	llowing comma cate D wfs Opts Q ggle Newfs U	nds are valid her = Delete M = 1 = Finish S = 7 = Undo A = 6	re (upper Mount pt. Toggle Sof Auto Defau	or lower cas tUpdates Z lts R	e): = Custom Newfs = Delete+Merge
Use F1	or ? to get	more help, arrow	keys to s	elect.	

Default is all that remained...

		ļ	FreeBSD Dis	klabel Ed	itor	
Disk: ad	0 P	artition	name: adOs	1 Free:	132109795	blocks (64506MB)
Part	Mount	5	Size Newfs	Part	Mount	Size Newfs
adOs1b	swap	102	24MB SWAP			
g i g 132	abytes, M 109795 bl	for mega ocks (64	abytes, or 506MB) are	C for cyl free.	inders.	
13	2109795					
13	2109795		с ок] C.	ancel	
The foll C = Crea N = Newf T = Togg	2109795 owing com te s Opts le Newfs	mands are D = Dele Q = Fin U = Unde	[OK e valid her ete M = M ish S = T o A = A] Co e (upper ount pt. oggle Sof uto Defau	ancel or lower ca tUpdates lts	ase): Z = Custom Newfs R = Delete+Merge

File system type, for data storage

		FreeBS	SD Disk	label Ed	itor		
Disk: a	d0 Pai	tition name	ad0s1 :	Free:	132109795	blocks	(64506MB)
Part	Mount	Size I	lew fs	Part	Mount		Size Newfs
adOs1b	swap If you wan If you wan	1024MB S Please it to use the it to put a f	SWAP e choos is part filesys	e a part ition for tem on it	ition type swap spa t, choose	ce, sele FS.	ect Swap.
		FS Swi	<mark>Af</mark> ap As	<mark>ile syst</mark> wap part	em ition.		
			OK 1	Ci	ncel		
The fol C = Cre N = New T = Tog	lowing comma ate l fs Opts (gle Newfs (unds are val:) = Delete] = Finish J = Undo	id here M = Mo S = To A = Au	(upper) unt pt. ggle Sof to Defau	or lower c tUpdates lts	ase): Z = Cus R = Dei	stom Newfs lete+Merge
Use F1	or ? to get	more help, a	arrow k	eys to se	elect.		

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

ion name: ad0s1 Size Newfs 	Free: 132109795 Part Mount	blocks (64506MB) Size Neuf
Size Newfs	Part Mount	Size Neuf
		SIZC IICWI
1024MB SWAP		
11-1	- D	
e specify a mou	e Required nt point for the pa	artition
<mark>[OK]</mark>	Cance l	
are valid here Delete M = Mo Finish S = To Jndo A = Au P heln, arrow k	(upper or lower ca unt pt. ggle SoftUpdates to Defaults eus to select	ase): Z = Custom Newfs R = Delete+Merge
6	Ualu e specify a mou [OK] are valid here Delete M = Mo Finish S = To Undo A = Au e help, arrow k	Value Required e specify a mount point for the pa [OK] Cancel are valid here (upper or lower ca Delete M = Mount pt. Finish S = Toggle SoftUpdates Undo A = Auto Defaults e help, arrow keys to select.

Then we have two labels for meet minimal requirement

		Free	BSD Dis	klabel Edi	itor	
Disk:	adO	Partition name	e: adOs	1 Free:	0 blocks (OMB)
Part	Mount	Size	Newfs	Part	Mount	Size Newfs
ad0s1b ad0s1a	 swap /	1024MB 64506MB	SWAP UFS2	 Y		
The fo C = Cr N = Ne	llowing co eate wfs Opts	ommands are va D = Delete Q = Finish	lid her M = M S = T	e (upper d ount pt. oggle Soft	or lower ca tUpdates	se): Z = Custom Newfs
T = To	ggle Newfs	s U = Undo	A = A	uto Defaul	lts	R = Delete+Merge
Use F1	or?to	jet more help,	arrow	keys to se	elect.	

S = Toggle SoftUpdates (something like journaling) http://en.wikipedia.org/wiki/Soft_updates http://www.mckusick.com/softdep/

		Freel	3SD Diskl	label Edito	or		
Disk: ad(0 Pa	rtition name	e: ad0s1	Free: 0	blocks (OMB)	
Part	Mount	Size	Newfs	Part	Mount	Size	Newfs
adOs1b adOs1a	 swap /	1024MB 64506MB	SWAP UFS2+S	 {			
The follo C = Creat	owing comm te	ands are val D = Delete	lid here M = Mou	(upper or int pt.	lower ca	se):	
N = Newf: T = Togg	s Opts le Newfs	Q = Finish U = Undo	S = Tog A = Aut	gle SoftUj o Default:	pdates s	Z = Custom R = Delete+	Newfs Merge
Use F1 o	r ? to get	more help,	arrow ke	eys to sele	ect.		

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 [] 5 X-Developer	Full sources, binaries and doc but no games Same as above + X Window Sustem
[] 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 J Cancel

Press F1 for more information on these options.

Distributions

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

Distributions - kernel

• SMP

Select the oper	eating system kernels you wish to instal
Please check of	'f those kernels you wish to install.
<<< X Exit	Exit this menu (returning to previous)
All	Select all of the below
Reset	Reset all of the below
[X] GENERIC	GENERIC kernel configuration
	[OK] Cancel

Media - CD/DVD

hoose Installation Medi

FreeBSD can be installed from a variety of different installation media, ranging from floppies to an Internet FTP server. If you're installing FreeBSD from a supported CD/DVD drive then this is generally the best media to use if you have no overriding reason for using other media.

1 CD/DUD	Install from a FreeBSD CD/DVD
Z FTP	Install from an FTP server
3 FTP Passive	Install from an FTP server through a firewall
4 HTTP	Install from an FTP server through a http proxy
5 DOS	Install from a DOS partition
6 NFS	Install over NFS
7 File System	Install from an existing filesystem
8 Floppy	Install from a floppy disk set
9 Tape	Install from SCSI or QIC tape
X Options	Go to the Options screen
-	
5 Dun - D4 0-	L UK J Cancel

Media - FTP

• Passive Mode:

Server opens the port and let client to connect to. (recommended)

Choose Installation Media

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1 CDZDUD	Install from a FreeBSD CD/DUD
2 FTP	Install from an FTP server
3 FTP Passive	Install from an FTP server through a firewall
4 HTTP	Install from an FTP server through a http proxy
5 DOS	Install from a DOS partition
6 NFS	Install over NFS
7 File System	Install from an existing filesystem
8 Floppy	Install from a floppy disk set
9 Tape	Install from SCSI or QIC tape
X Options	Go to the Options screen
	-
	Cancel

ress F1 for more information on the various media tunes

Commit

Just do it!

Last Chance!

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

Last Chance!	User Confirmat Are you SURE you	tion Requested want continue the installati	.on?
If you're ru then WE STRO proceeding!	nning this on a dis NGLY ENCOURAGE YOU	sk with data you wish to save TO MAKE PROPER BACKUPS befor	e e
We can take	no responsibility f	for lost disk contents!	
	Yes	E No 1	

Installing...

Configuration

- Root Password
- User Management
- Time Zone
- Networking

- FreeBSD Configuration Menu -

If you've already installed FreeBSD, you may use this menu to customize it somewhat to suit your particular configuration. Most importantly, you can use the Packages utility to load extra "3rd party" software not provided in the base distributions.

Exit this menu (returning to previous)
Install additional distribution sets
Install pre-packaged software for FreeBSD
Set the system manager's password
The disk Slice (PC-style partition) Editor
The disk Label editor
Add user and group information
Customize system console behavior
Set which time zone you're in
Change the installation media type
Configure your mouse
Configure additional network services

OK

I Press F1 for more information on these options

[Cancel]

Root Password

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

FreeBSD Configuration Menu If you've already installed FreeBSD, you may use this menu to customize it somewhat to suit your particular configuration. Most importantly, you can use the Packages utility to load extra "3rd party" software not provided in the base distributions				
software not provid	led in the base distributions.			
V DutA	Evit this your (noturning to providuo)			
Distributions	Install additional distribution sets			
Packages	Install and received software for FreeBSD			
Poot Procuord	Sot the suster manager's machined			
Rubt rassword	The dick Slice (BC stule partition) Editor			
	The disk block of the partition faither			
	The alsk Label ealtur			
User management	Had user and group information			
	Customize system console behavior			
Time Zone	Set which time zone you're in			
Media	Change the installation media type			
Mouse	Configure your mouse			
Networking	Configure additional network services			
	L UK J Cancel			
L[Press P	'1 for more information on these options 1			

User Management

Create a user different than root for remote login

login acco	ounts.	: ana
X Exit User Group	Exit this menu (returning to previous) Add a new user to the system. Add a new user group to the system.	
[Cc	[OK] Cancel onfigure 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.

	User a Add a new	und Group I user	Management]	
Login ID: lwhsu	UID:	Group:	Password:	
Full name:			Member groups:	
Li-Wen Hsu Home directoru:	Loc	(in shell:	wheel	
∕home/lwhsu	/bi	in/tcsh		
OK]	CANCI	EL	

Time Zone

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

Network Services

- Interface
- sshd

– Network Services Menu –

You may have already configured one network device (and the other various hostname/gateway/name server parameters) in the process of installing FreeBSD. This menu allows you to configure other aspects of your system's network configuration.

<<< X Exit	Exit this menu (returning to previous)
[] Interfaces	Configure additional network interfaces
[] AMD	This machine wants to run the auto-mounter service
[X] AMD Flags	Set flags to AMD service (if enabled)
[] Anon FTP	This machine wishes to allow anonymous FTP.
[] Gateway	This machine will route packets between interfaces
[] inetd	This machine wants to run the inet daemon
[] Mail	This machine wants to run a Mail Transfer Agent
[] NFS client	This machine will be an NFS client
[] NFS server	This machine will be an NFS server
[] Ntpdate	Select a clock-synchronization server
E] PCNFSD	Run authentication server for clients with PC-NFS.
L[(+)	
	[OK] Cancel

Network Services - Interface

• DHCP? • IPv6?

Host '		Network Configuration	1
FreeBS	D.lwhsu.org	lwhsu.org	
IP∨4 Ga	ateway:	Name server:	
140.11	3.123.254	140.113.1.1	
_	Configuration IPv4 Address:	for Interface re0 Netmask:	
	140.113.123.133	255.255.255.0	
	Extra options to i	ifconfig (usually empty):	
	[OK]	CANCEL	
L			

Select this if you are happy with these settings

Network Services - sshd

Open a way for remote login

Network Services Menu				
The may have already configured one network device (and the other				
various nostname/yatew	This ways allows way to configure other			
of installing freeboy.	Inis menu allows you to configure other			
aspects of your system	's network configuration.			
L J Mail	This machine wants to run a Mail Transfer Agent			
L J NFS client	This machine will be an NFS client			
I I NFS server	This machine will be an NFS server			
[] Ntpdate	Select a clock-synchronization server			
E] PCNFSD	Run authentication server for clients with PC-NFS.			
[] rpcbind	RPC port mapping daemon (formerly portmapper)			
[] rpc.statd	NFS status monitoring daemon			
[] rpc.lockd	NFS file locking daemon			
[] Routed	Select routing daemon (default: routed)			
[] Rwhod	This machine wants to run the rwho daemon			
[X] sshd	This machine wants to run the SSH daemon			
[X] TCP Extensions	Allow RFC1323 and RFC1644 TCP extensions?			
	[OK] Cancel			

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. You would not want restart whole process again...

FreeBSD Configuration Menu If you've already installed FreeBSD, you may use this menu to customize it somewhat to suit your particular configuration. Most importantly, you can use the Packages utility to load extra "3rd party" software not provided in the base distributions.				
User Management Add user and group information Console Customize system console behavior Ti User Confirmation Requested Me Are you sure you wish to exit? The system will reboot (be sure to remove any floppies/CDs/DVDs from the drives). Ne Se Yes No				
TTYs Configure system ttys.				
Uptions View/Set various installation options				
Load KLD Load a KLD from a floppy				
Cancel Cok J Cancel Cress F1 for more information on these options J				

Finally, reboot and enjoy!

Other Installers Finstall

http://sourceforge.net/projects/finstall/

0		FreeBSD Installer	↑ _ ×	
8	Choose drive to install FreeBSD into The first step to installing FreeBSD on your computer is choosing storage space your hard drive. In the following table you'll need to select a hard drive to contai FreeBSD.			
60	Device	Description	Size	
	ad0	<vmware 00000001="" drive="" hard="" ide="" virtual=""> at ata0-master UDMA33</vmware>	8192 MB	
()	da0	<vmware, 1.0="" s="" virtual="" vmware=""> Fixed Direct Access SCSI-2 device</vmware,>	1024 MB	
4.	da1	<vmware, 1.0="" s="" virtual="" vmware=""> Fixed Direct Access SCSI-2 device</vmware,>	1024 MB	
fre	da2	<vmware, 1.0="" s="" virtual="" vmware=""> Fixed Direct Access SCSI-2 device</vmware,>	1024 MB	
	1	lp	1 Next	

Exercise 1 – Keeping update - build world and kernel

CVS Tags

Branch Tags

- > HEAD (.) (-CURRENT)
- > RELENG_7 (-STABLE)
- > RELENG_7_0 (-RELEASE)

RELENG_7_0_BP

- Release Tags
 - > RELENG_7_0_0_RELEASE

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

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_0 *default delete use-rel-suffix csup <supfile>

csup(1)

Make configuration file

/etc/make.conf: SUP_UPDATE= yes SUP= /usr/bin/csup SUPFLAGS= -12 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

- od /usr/src
- make update
- mergemaster -p (Pre-buildworld mode)
- make buildworld
- make kernel (buildkernel, installkernel) (reboot and boot in single user mode)
- make installworld
- Implementation end of the second state of t
- (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

Parallel

- make -jN
 - > N: how many parallel process
 - > Not useable in ports

make(1)

Reboot & Check

Reboot and enjoy it
 # reboot
 Check

> # uname -a

Handbook!

- Chapter 8 Configuring the FreeBSD Kernel
 - http://www.freebsd.org/doc/en/books/han dbook/kernelconfig.html
- 23.4 Rebuilding "world"
 - http://www.freebsd.org/doc/en/books/han dbook/makeworld.html

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!

8.7 If Something Goes Wrong

> http://www.freebsd.org/doc/en/books/h andbook/kernelconfig-trouble.html

Exercise 2 – Make FreeBSD more useable - Install 3rd party software

Install software

- Use the Source!
 - > Tar ball
 - > tar xzvf certain-source.tar.gz
 - > ./configure
 - > make; make install

Install software

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

Try to use ports

- Try to install some software, such as:
 - > vim
 - > mutt
 - > wget
 - > w3m
 - > Perl, Python Ruby