Membangun Mail Server FreeBSD di VMWare



1. Dasar Teori

1.1. Mail Server

Mail Server adalah suatu entitas berupa komputer yang bertindak sebagai sebuah server (penyedia layanan) dalam jaringan komputer / internet, serta memiliki fungsi untuk melakukan penyimpanan (store) dan distribusi yang berupa pengiriman (send), penjaluran (route), dan penerimaan (receive) e-mail. Mail Server berjalan dengan beberapa protokol pada TCP/IP, yakni SMTP (port 25), POP3 (port 110), dan IMAP (port 143). Mail Server memiliki tiga komponen utama, yakni Mail Transfer Agent (MTA), Mail Delivery Agent (MDA), dan Mail User Agent (MUA). MTA bertugas mengatur pengiriman dan penerimaan e-mail, MDA bertugas mengatur pengiriman e-mail ke alamat yang sesuai pada jaringan lokal, sementara MUA bertugas untuk menjadi antarmuka yang menghubungkan user dengan Mail Server.

1.2. FreeBSD

FreeBSD merupakan salah satu sistem operasi turunan UNIX yang memiliki kelebihan dan karakteristik khusus untuk membangun web server maupun mail server.

FreeBSD memiliki beberapa kelebihan diantaranya:

- 1. Open Source.
- 2. Mendukung multiuser, multi-tasking, sistem file yang hierarki dan hak akses untuk setiap file dan direktori.
- 3. Bisa berjalan pada berbagai jenis hardware.
- 4. Sistem Operasi yang stabil dengan dokumentasi lengkap.
- 5. Banyak dukungan aplikasi, khususnya untuk server, jaringan, dan internet.
- 6. Instalasi dan manajemen aplikasi sangat mudah dan terdapat berbagai macam pilihan cara instalasi.
- 7. Shell yang handal untuk administrasi dan pemrograman berbasis shell untuk melakukan tugas tertentu.
- 8. FreeBSD memang ditujukan untuk membangun server seperti semboyannya "The Power to Serve".

Instalasi software pada FreeBSD dapat dilakukan melalui tiga cara, yaitu instalasi dari source code, package, dan ports. Ketiganya memiliki keunggulan dan kelemahan tersendiri, source code merupakan cara paling rumit namun membuka peluang untuk dilakukan modifikasi saat instalasi, package memberi kemudahan dalam instalasi namun tanpa kesempatan untuk melakukan modifikasi, sementara port memberikan keleluasaan instalasi source code dengan kemudahan instalasi package namun dengan syarat koneksi internet terpasang.

1.3. Shell

Shell merupakan sebuah program yang berfungsi agar pemakai dapat berinteraksi dengan sistem operasi UNIX. Shell akan berjalan ketika user telah berhasil login ke sistem. Shell akan menerima setiap perintah yang diberikan kemudian menjalankan perintah tersebut sesuai fungsinya. Dalam hal ini dapat dikatakan shell bertindak sebagai penerjemah perintah (command interpreter). Selain sebagai program yang berinteraksi dengan user, shell juga dapat menjalankan kumpulan perintah UNIX yang disimpan dalam sebuah file yang disebut shell script. Kemampuannya sebagai bahasa pemrograman inilah yang memudahkan user untuk melakukan berbagai pekerjaannya. Shell script merupakan suatu file yang berisi urutan-urutan perintah shell untuk melakukan operasi tertentu. Dengan adanya shell script urutan perintah. Dari sekian banyak shell yang ada, Bourne Shell (sh, bash) adalah yang paling banyak digunakan. Oleh karena itu, pembahasan shell script membahas pemrograman menggunakan Bourne Shell, terutama bash yang merupakan versi yang lebih baru. Bash kompatibel dengan sh dan ditambah dengan kemampuan atau karakteristik yang dimiliki Korn Shell (ksh) dan C Shell (csh).

2. Kebutuhan Hardware dan Software

Untuk kesempatan ini penulis akan menjelaskan bagaimana membangun sebuah Mail Server Postfix FreeBSD di atas platforn VMWare. Maka dari itu untuk spesifikasi hardware yang dibutuhkan mungkin agak lumayan cukup tinggi.

Kebutuhan teknis hardware sebagai berikut:

- 1. Komputer x86 dengan prosesor sekelas Pentium 4 atau lebih baik.
- 2. RAM 512 MB atau lebih baik
- 3. Free Space Hard Disk sebesar 8 GB
- 4. Koneksi internet (penulis menggunakan share connection)

Kebutuhan teknis software sebagai berikut:

- 1. Windows XP
- 2. VMWare Workstation 6.x
- 3. ISO FreeBSD 8.x (download di www.freebsd.org)

Kebutuhan non-teknis tambahan:

- 1. Kopi item kapal api secukupnya (jangan overdosis yah...)
- 2. Rokok yang sesuai dengan bibir anda (bukan obat nyamuk...)
- 3. MP3

3. Implementasi

Sepertinya sudah kebanyakan membaca teori dan lebih baik kita mulai saja persiapan untuk proses instalasinya, berikut langkah-langkah proses instalasinya:

3.1. Membuat Virtual Machine baru



Gambar 1.

Pilih tombol 'Next', di menu 'Virtual machine Configuration' pilih 'Custom' lalu tombol 'Next'

New Virtual Machine Wizard	×
Select the Appropriate Configuration How would you prefer to configure your new virtual machine?	
Virtual machine configuration	
C Typical	
Create a new virtual machine with the most common devices and configuration options.	
This Workstation 6.x virtual machine will not be compatible with ESX Server 3.x, Server 1.x, ACE 1.x, Workstation 5.x or older versions.	
Custom	
Choose this option if you need to create a virtual machine with additional devices or specific configuration options, or if you need to create a virtual machine with specific hardware compatibility requirements.	
< Back Next > Cancel	

Gambar 2.

Setelah tampil menu 'Virtual machine hardware compatibility' pilih 'Workstation 6' di menu pulldown dan pilih tombol 'Next',

New Virtual Machine Wizard	×
Choose the Virtual Machine Hardwar Which hardware features are needed for	e Compatibility or this virtual machine?
Virtual machine hardware compatibility	
Hardware compatibility:	Workstation 6
0	ESX Server Compatible
Lompatible Products:	
Fusion 1.x	2 processor limit
Workstation 6.x	10 Ethernet adapter limit
< B)	ack Next > Cancel

Gambar 3.

Di menu 'Guest operation system' pilih 'other', lalu pilih FreeBSD di pulldown menu 'Version', lalu pilih tombol 'Next' untuk proses selanjutnya.

New Virtual Machine Wizard	×
Select a Guest Operating System Which operating system will be installed on this virtual machine?	
Guest operating system Microsoft Windows Linux Novell NetWare Sun Solaris Other	
Version MS-DOS MS-DOS FreeBSD FreeBSD 64-bit Other Other Other 64-bit	
< Back Next >	Cancel

Gambar 4.

Di menu 'Virtual machine name' dan 'Location' isi sesuai dengan yang anda inginkan.

New Virtual Machine Wizard	2	×
Name the Virtual Machine What name would you like to use for this virtual machine?		
Virtual machine name FreeBSD		
D:\VMware\FreeBSD	Browse	
< Back Next >	Cancel]

Gambar 5.

Di menu 'Processors' pilih sesuai dengan konfigurasi hardware anda, kemudian pilih tombol 'Next' untuk proses selanjutnya.

New Virtual Machine Wizar	rd 🔀				
Processor Configuration Specify the number of virtual processors for this virtual machine.					
Processors					
Number of processors:	O One				
	⊙ Two				
	< Back Next > Cancel				

Gambar 6.

Di menu 'Memory' ubah nilai default menjadi 384 MB, lalu pilih tombol 'Next'.

New Virtual Machine Wizard		x
Memory for the Virtual Machine How much memory would you like to use	e for this virtual machine?	
Memory		_
Specify the amount of memory allocated to the must be a multiple of 4 MB.	is virtual machine. The memory size	
Memory for this virtual machine:		
J J	384 <u></u> ∰ MB	
4. Δ Δ	1776	
△ Guest OS recommended minimum:	32 MB	
A Recommended memory: 2	56 MB	
A Maximum recommended memory: 7	'88 MB	
 ▲ Recommended memory: 2 ▲ Maximum recommended memory: 7 	56 MB 88 MB	
< Ba	ck Next > Cancel	

Gambar 7.

Pilih tombol 'Next' sebanyak lima kali, kemudian pilih tombol 'Finish'.

🔁 FreeBSD1 - VMware Workstation			<u>- 🗆 ×</u>
File Edit View VM Team Windows Help			
- 			
🏠 Home 📑 Windows XP Professional 📑 Windo	ows Server 2003 Standard	🗗 FreeBSD 👘 FreeBSD1	×
FreeBSD1			-
State: Powered off			
Guest OS: FreeBSD			
Configuration file: D:\VMware\1\FreeBSD.vmx			
Version: Workstation 6.x virtual machine			
Commands	Devices		
Start this virtual machine	Memory	384 MB	
💼 Edit virtual machine settings	Hard Disk (IDE 0:0)	8.0 GB	
👸 Clone this virtual machine	CD-ROM (IDE 1:0)	Auto detect	
	Eloppy	Auto detect	
		Bridged	
		Present	
	Sound Adapter	Auto detect	
		2	
u .	- Trocessors	L	
NOLES			
Type here to enter notes for this virtual machine			
			-
			1

Gambar 8.

Ubah konfigurasi awal virtual machine anda dengan memilih 'Edit virtual machine settings' pilih Device CD-ROM dan di menu 'Connection' pilih tombol 'Browse' dan lokasi ISO FreeBSD 8.0 anda.

Virtual Machine Setting	js	×
Hardware Options		
Device Hard Disk (IDE CD-ROM (IDE 1:0 Ethernet Sound Adapter Display Processors	Summary 384 MB 8.0 GB Using file D:\Image\Free Host-only Present Auto detect Auto detect 2	Device status Connected Connect at power on Outer of the state of t
	Add Remove	
		OK Cancel Help

Gambar 9.

Pilih Device Ethernet dan pada menu 'Network connection' ubah 'Bridged' menjadi 'Host-only'

Virtual Machine Settings Hardware Options	×
Device Summary Image: Memory 384 MB Image: Hard Disk (IDE 8.0 GB Image: CD-ROM (IDE 1:0) Using file D:\Image\Free Image: CD-ROM (IDE 1:0) Auto detect Image: CD-ROM (IDE 1:0) Auto detect	Device status Connected Connect at power on Network connection Bridged: Connected directly to the physical network NAT: Used to share the host's IP address Host-only: A private network shared with the host Custom: Specific virtual network VMnet0 (default Bridged)
Add Remo	ve
	OK Cancel Help

Gambar 10.

Pilih Device USB Controller dan pada menu 'Connection' hilangkan contreng di 'Automatically...'

Virtual Machine Setting	5		×
Hardware Options			
Device Memory Hard Disk (IDE CD-ROM (IDE 1:0) Ethernet USB Controller Sound Adapter Display Processors	Summary 384 MB 8.0 GB Using file D:\Image\Free Host-only Present Auto detect Auto detect 2	Connections Enable high-speed support for USB 2.0 devices Automatically connect new USB devices to this virtual machine when it has focus.	
	Add Remove]	
		OK Cancel Help	

Gambar 11.

3.2 Proses Instalasi FreeBSD

Pilih tombol '>' dan kita jalankan Virtual Machine FreeBSD, pilihan pertama proses instalasi memilih negara anda, tentu saja kita pilih 'Indonesia', kemudian pilih tombol 'OK'.



Gambar 12.

Pilih 'USA ISO' dan kemudian pilih tombol 'OK'.



Gambar 13.

Pilih 'Standart' kemudian pilih 'Select' untuk melanjutkan proses instalasi.

📴 FreeBSD - ¥Mware Workstatior		- 🗆 🗵
File Edit View VM Team	Windows Help	
🗖 🗉 🕟 🧐 🚺 🕼 🕻		
🚹 Home 📑 Windows XP Profes	sional 🛛 📲 Windows Server 2003 Standard 🖓 FreeBSD 🔐 FreeBSD	×
Welcome to the Fr select one of the first character o option with ISPA	SD/1386 B.B-RELEASE - sysinstall Main Menu reeBSD installation and configuration tool. Please e options below by using the arrow keys or typing the of the option name you're interested in. Invoke an CEI or [ENTER]. To exit, use [TAB] to move to Exit.	
Usage <mark>Standard</mark>	Quick start - How to use this menu system Begin a standard installation (recommended)	
Express	Begin a quick installation (for experts)	
Custom	Degin a custom installation (for experts)	
Doc	Installation instructions, README, etc.	
Кеумар	Select keyboard type	
Options	View/Set various installation options	
Fi×it	Repair mode with CDROM/DVD/floppy or start shell	
Upgrade	Upgrade an existing system	
Load Config	Load default install configuration	
Index	Glossary of functions	
	<mark>[S<mark>elect]</mark> X Exit Install</mark>	
🔥 VMware Tools is not installed in this o	juest. Choose "Install VMware Tools" from the VM menu. 😑 💽 🧱	🐠 🗈 //.

Gambar 14.

Pilih 'OK' untuk melanjutkan proses instalasinya.



Gambar 15.

Pilih 'Use Entire Disk' dengan menekan tombol huruf 'A' dan kemudian tekan huruf 'Q' untuk melanjutkan proses instalasinya.

📴 FreeBSD -	VMwa	re Workstation							×
File Edit	View	VM Team	Windows Help						
] 🗖 💴 🚺		🔯 🕼 🕻) 🗖 🖬 🖸	0 0					
🟠 Home 🚦	🔁 VVir	ndows XP Profes:	sional 📑 Windows	s Server 2003 S	tandard	📑 FreeBSD 📑	FreeBSD		×
Disk nam	e:	ad0	1	1- (02	4	FDIS	{ Partitio	n Editor	
DI2K G60	Metry	y: 17753	Cyls/15 head	IS/DJ Sec	tors =	10//0505 80	ectors (81	atwp)	
Offset		Size(ST)	End	Nаме	РТуре	Desc	Subtype	Flags	
	Й	63	62		12	unused	Й		
	63	16776522	16776584	ad0s1	8	freebsd	165		
167765	85	631	16777215		12	unused	0		
The foll	owing	g commands	s are support	ted (in u	pper or	· lower case	e):		
A = Use	Enti	re Disk	G = set Driv	ve Geomet	rv C	= Create SI	lice		
D = Dele	te S	lice	Z = Toggle S	Size Unit	s´ S	= Set Boota	able ¦=	Expert M	٩.
T = Chan	ge Ty	ype	U = Undo AI	l Changes	ų	= Finish			
Use F1 o	r ? '	to get moi	re help, arro	ow keys t	o selec	et.			
🔥 VMware To	ols is not	t installed in this g	juest. Choose "Install V	/Mware Tools" fr	om the VM m	ienu.		일 💀 🐠 🖄	1 //

Gambar 16.

Pilih 'Standard' dan kemudian pilih 'OK' untuk meneruskan proses instalasinya.

🔽 FreeBSD - VMware Workstation	<u>- 🗆 ×</u>
File Edit View VM Team Windows Help	
🟫 Home 🗿 Windows XP Professional 🗿 Windows Server 2003 Standard 🗗 FreeBSD 🔐 FreeBSD	×
Install Boot Manager for drive add? FreeBSD comes with a boot manager that allows you to easily select between FreeBSD and any other operating systems on your machine at boot time. If you have more than one drive and want to boot from the second one, the boot manager will also make it possible to do so (limitations in the PC BIOS usually prevent this otherwise). If you will only have FreeBSD on the machine the boot manager is not needed and it slows down the boot while offering you the choice of which operating system to boot. If you do not want a boot manager, or wish to replace an existing one, select "standard". If you would prefer your Master Boot Record remain untouched then select "None".	
NOTE: PC-DOS users will almost certainly require "None"!	
StandardInstall a standard MBR (no boot Manager)BootMgrInstall the FreeBSD Boot ManagerNoneLeave the Master Boot Record untouched	
[OK] Cancel [Press F1 to read about drive setup]	
🔥 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 😑 💽 📖 😡))))

Gambar 17.

Pilih 'OK' untuk melanjutkan proses instalasinya.

FreeBSD - VMware Workstation	IJ×
File Edit View VM Team Windows Help	
🟫 Home 🛯 🗿 Windows XP Professional 📑 Windows Server 2003 Standard 📑 FreeBSD 📑 FreeBSD	×
Now you need to create BSD partitions inside of the fdisk partition(s) just created. If you have a reasonable amount of disk space (1GB or more) and don't have any special requirements, simply use the (A)uto command to allocate space automatically. If you have more specific needs or just don't care for the layout chosen by (A)uto, press F1 for more information on manual layout. (100%)	_
[Press enter or space]	
🔥 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 📼 💽 🧱 🐠 🏾	5 //

Gambar 18.

Pilih 'Auto Defaults' dengan menekan huruf 'A' dan kemudian tekan huruf 'Q' untuk melanjutkan.

📴 FreeBSD - ¥	Mware Worksta	tion						<u>- 🗆 ×</u>
File Edit	View VM Tea	m Windows He	lp					
	6 🔯 🐼	10 🖬 🖬		e 💼				
A Home 5	Windows XP Pr	nfessional 5 V	Vindows Serv	/er 2003 Str	andard 5	FreeBSD	FreeBSD	×
		Freel	BSD Dis	klabel	Editor			
D/-110	D		10		0 11	-1 (OMD		
DISK: ad0	Par	tition name	e: adØs:	l Fre	e: 0 bloc	CKS (UMB	J	
Part	Mount	Size	Newfs	Part	Mour	nt	Size Newfs	
 ad0s1a	/	422MB	UFS2	Y				
adØs1b	ѕмар	493MB	SWAP					
adØs1d	/var	710MB	UFS2+S	Y				
adØs1e	∕tmp	377MB	UFS2+S	Y				
adØs1f	/usr	6188MB	UFS2+S	Y				
The follo C = Create	wing comma e D	nds are val = Delete	lid her M = M	e (uppe ount pt	er or lowe	er case)		
N = Newfs	Opts Q	= Finish	S = T(oggle [®] S	SoftUpdate	es Z=	Custom Newfs	
T = Toggle	e Newfs U	= Undo	A = A	uto Def	aults	R =	Delete+Merge	
Use F1 or	? to get	more help,	arrow]	keys to) select.			
NMware Tools	is not installed in t	his guest. Choose "	'Install VMwa	re Tools" fro	m the VM menu.		- 0, 📭	🐠 🛅 🅢

Gambar 19.

Pilih tab 'All' dengan menekan tombol 'spacebar' di keyboard anda, kemudian pilih tombol 'OK' untuk melanjutkan proses instalasinya.



Gambar 20.

Yang dikarenakan FreeBSD anda akan melakukan proses instalasi menggunakan fasilitas ports collection maka pilih tombol 'Yes' untuk meneruskan proses instalasinya.



Gambar 21.

Pilih tombol 'OK' untuk meneruskan proses instalasi dengan menekan tombol kursor kanan dan kemudian tekan tombol 'OK'.

FreeBSD - VMware Workstation
File Edit View VM Team Windows Help
🟫 Home 🚦 Windows XP Professional 📲 Windows Server 2003 Standard 📲 FreeBSD 📑 FreeBSD 🗶 🗙
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].
<<< X ExitExit this menu (returning to previous) All system sources and binaries ResetResetReset selected distribution list to nothing[X] 4 NeveloperFull sources, binaries and doc but no games[X] 5 Kern-DeveloperFull binaries and doc, kernel sources only[X] 6 UserAverage user - binaries and doc only[] 1 A MinimalThe smallest configuration possible>> B CustomSpecify your own distribution set
Cancel I Press F1 for more information on these options. I
🔥 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 🕞 🕒 📖 🐠 🖺

Gambar 22.

Pilih 'CD/DVD' untuk memilih media source FreeBSD anda, dan kemudian pilih 'OK' untuk melanjutkan proses instalasinya.

📴 FreeBSD - VMware Workstation	<u>_ ×</u>
File Edit View VM Team Windows Help	
🟫 Home 🗿 Windows XP Professional 🗿 Windows Server 2003 Standard 🗿 FreeBSD 🔐 FreeBSD	×
Choose Installation Media	1
FreeBSD can be installed from a variety of different installation media ranging from floppies to an Interpet 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.	
L CR (DUD) [votal] from a FreePSD CD (DUD)	
2 TTP 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 evicting filesystem	
8 Flonnu Install from a flonnu disk set	
9 USB Install from a USB drive	
X Options Go to the Options screen	
[Press F1 for more information on the various media types]	
🚹 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu.	🔊 🗵 🕧
Gambar 23.	

Pilih tombol 'Yes' untuk memulai proses instalasi FreeBSD anda.

📴 FreeBSD	- YMware Workstation	×
File Edit	View VM Team Windows Help	
] 🗖 💴 🗌		
合 Home	🗿 Windows XP Professional 📲 Windows Server 2003 Standard 🗿 FreeBSD 🔐 FreeBSD 🔪	<
	Last Chance! Are you SURE you want continue the installation?	
	If you're running this on a disk with data you wish to save then WE STRONGLY ENCOURAGE YOU TO MAKE PROPER BACKUPS before proceeding!	
	We can take no responsibility for lost disk contents!	
	[Yes] No	
· ·		
/ // VMware To	ools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 😑 📴 🗐 👘 🍸	

Gambar 24.

Selanjutnya kita menunggu proses instalasinya sampai selesai, lebih baik mencoba beberapa teguk'an kopi item yang sudah anda siapkan...hm....nyam..nyam...(dalam proses instalasi ini anda diperbolehkan disambi membakar menyan yang sudah anda siapkan untuk menghilangkan rasa jenuh anda, yang dikarenakan proses instalasinya cukup lama looh, untuk yang tidak suka menyan anda bisa memutar mp3 favorit anda)

Slentingan sambil nunggu proses installasi.

Dikarenakan proses instalasi menggunakan VMWare sehingga kalian pasti bertanya-tanya gimana caranya mengkoneksikan VM anda dengan koneksi modem internet anda, sehingga VM anda dapat mengakses koneksi internet.

Caranya seperti ini:

- 1. Persiapkan media koneksi internet anda sehingga sudah bisa terkoneksi internet di PC/Laptop anda.
- 2. Buka menu 'Network Connection' di 'Control Panel' windows anda.
- 3. Di tampilan window tersebut pasti ada media koneksi dari modem anda yang tampil dalam bentuk icon modem.
- 4. Klik kanan di media modem anda, lalu pilih 'properties', lalu pilih 'Advanced'
- Di menu 'Internet Connection Sharing' centrang checklist 'Allow other network...' dan pada 'Home networking connection' pilih 'VMware Network Adapter VMnet1' kemudian pilih tombol 'OK'
- Disini Windows akan merubah default IP 'VMware Network Adapter VMnet1' anda menjadi 192.168.0.1/255.255.255.0 berarti di VM FreeBSD anda nantinya akan menggunakan IP 192.168.0.x/255.255.255.0 dengan Gateway dan DNS 192.168.0.1

Setelah proses instalasi selesai, kemudian pilih tombol 'Ok' untuk meneruskan proses selanjutnya.

FreeBSD - VMware Workstation	
File Edit View VM Team Windows Help	
🟫 Home 📑 Windows XP Professional 📑 Windows Server 2003 Standard 🍯 FreeBSD 📑 FreeBSD	×
Messare	
Congratulations! You now have FreeBSD installed on your system.	
We will now move on to the final configuration questions. For any option you do not wish to configure, simply select No.	
If you wish to re-enter this utility after the system is up, you May do so by typing: /usr/sbin/sysinstall.	
I Press enter or space 1	
🔥 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 📁 🕒 🧱 🕷	

Gambar 25.

Pilih tombol 'Yes' untuk mengkonfigurasi ethernet network device anda.



Gambar 26.

Pilih 'le0' yang menunjukan bahwa nama alias interface ethernet card anda adalah 'le0' dan kemudian pilih tombol 'OK' untuk proses selanjutnya.

File Edit View VM Team Windows Help Image: Standard Image: Standard
Home Standard SFreeBSD FreeBSD × Network interface information required If you are using PPP over a serial device, as opposed to a direct
Home 🗗 Windows XP Professional 📲 Windows Server 2003 Standard 📲 FreeBSD 🔐 FreeBSD 🗙
Network interface information required
Network interface information required
Network interface information required If you are using PPP over a serial device, as opposed to a direct
If you are using PPP over a serial device, as opposed to a direct
ethernet connection, then you may first need to dial your Internet Service Provider using the ppp utility we provide for that purpose. If you're using SLIP over a serial device then the expectation is that you have a HARDWIRED connection. You can also install over a parallel port using a special "laplink"
cable to another machine running FreeBSD.
LEO AMD AM7900 LANCE or AM79C9xx PCnet Ethernet adapter plip8 Parallel Port IP (PLIP) peer connection
[OK] Cancel [Press F1 to read network configuration manual]
VMuuseo Taole is pot installad in this quart - Chaose "Tostall VMuuseo Taole" from the VM monu

Gambar 27.

Pilih tombol 'No' yang dikarenakan konfigurasi IP tidak mengunakan versi 6 (Ipv6).



Gambar 28.

Pilih tombol 'No' yang dikarenakan tidak menggunakan service DHCP pada konfigurasi ini.

FreeBSD - YMware Workstation	
File Edit View VM Team Windows Help	
indows Server 2003 Standard 🗿 Windows XP Professional 📑 Windows Server 2003 Standard 🗿 FreeBSD 📑 FreeBSD	×
Network interface information required	. 1
If you are using PPP over a serial device, as opposed to a direc ethernet connection. then you may first need to dial your Intern	et
Service Provider using the ppp utility we provide for that purpo	se.
If you're using SLIP over a serial device then the expectation i that you have a HARDWIRED connection.	S
User Confirmation Requested	- 11
cabl	
Yes [No]	g
plip0 Parallel Port IP (PLIP) peer connection	
[OK] Cancel	
🔥 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu.	L 🖬 🐠 🖺 🎣

Gambar 29.

Isi kolom 'Host:' dengan nama virtual machine anda, 'Ipv4 Gateway:' dengan IP gateway penyedia internet anda, 'Domain:' dengan nama domain mail server anda, kemudian pilih tombol 'OK' untuk proses selanjutnya. (nama 'Host:' vm dan 'Domain:' mailserver.com bisa anda ubah sesuai keinginan anda)

📴 FreeBSD - ¥Mware Work	station		<u>_ ×</u>
File Edit View VM	Feam Windows Help		
	x 🗊 🎞 🖬 🖸 🕅		
🟫 Home 🛛 🗗 Windows XF	Professional 🛛 🗗 Windows Se	erver 2003 Standard 🏼 🐴 FreeBSD 🛛 🖶 FreeBSD	×
Host:		Network Configuration Domain:	
УМ. МА І	lserver.com	mailserver.com	
IPv4 G	ateway:	Name server:	
192.16	8.0.1		
	Configuration IPv4 Address:	n for Interface le0 Netmask: 255 255 255 8	
	Extra options to	ifconfig (usually empty):	
		CANCEL	
[Select this if	you are happy with	h these settings	
VMWare Tools is not installed	iin this guest. Choose "Install VMw	vare Tools" from the VM menu.	

Gambar 30.

Pilih tombol 'Yes' untuk mengaktifkan interface ethernet card anda.

FreeBSD - VMware Workstation	
File Edit View VM Team Windows Help	
🏫 Home 📱 Windows XP Professional 📲 Windows Server 2003 Standard 🗗 FreeBSD 🔐 FreeBSD	×
🔥 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 🗔 🕒 🜉 📢	1

Gambar 31.

Pilih tombol 'No' untuk melanjutkan proses instalasinya.



Gambar 32.

💽 FreeBSD - ¥Mware Workstation	
File Edit View VM Team Windows Help	
🏫 Home 🛛 🗿 Windows XP Professional 📑 Windows Server 2003 Standard 🍯 FreeBSD 📑 FreeBSD	×
User Confirmation Requested Do you want to configure inetd and the network services that it	provides?
	-
L Tes J NO	
🔥 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu.	

Gambar 33.

Pilih tombol 'Yes' untuk proses selanjutnya.



Gambar 34.

FreeBSD - VMware Workstation	<u>_ D ×</u>
File Edit View VM Team Windows Help	
🟫 Home 🗿 Windows XP Professional 🚭 Windows Server 2003 Standard 🚳 FreeBSD 🔐 FreeBSD	×
User Confirmation Requested inetd(8) relies on its configuration file, /etc/inetd.conf, to def which of its Internet services will be available. The default Fre inetd.conf(5) leaves all services disabled by default, so they mus specifically enabled in the configuration file before they will function, even once inetd(8) is enabled. Note that services for IPv6 must be separately enabled from IPv4 services. Select [Yes] now to invoke an editor on /etc/inetd.conf, or [No] to use the current settings.	termine seBSD st be
Yes <mark>[No]</mark>	
🔥 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 📃	Q. 🖪 📢 🛅 🛛

Gambar 35.

Pilih tombol 'No' untuk poses selanjutnya.



Gambar 36.

📴 FreeBSD - ¥	Mware Workstation	<u>- 0 ×</u>
File Edit	View VM Team Windows Help	
🗖 🛯 💽		
🟫 Home 📑	Windows XP Professional 🛛 🗿 Windows Server 2003 Standard 🛛 🗗 FreeBSD 🔐 FreeBSD	×
	Do you want to have anonymous FTP access to this machine?	
	Yes No 1	
NMware Tools	is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 😑 🖳 🕮 🛛	D) 🖺 //.

Gambar 37.

Pilih tombol 'No' untuk proses selanjutnya.

📴 FreeBSD - VM	Iware Workstation	_ 🗆 🗙
File Edit Vi	iew VM Team Windows Help	
] 🔲 🛛 💽 🤅		
🔓 Home 📑	Windows XP Professional 🛛 🖓 Windows Server 2003 Standard 🏻 🖓 FreeBSD 🔐 FreeBSD	×
	User Confirmation Requested	
	Do you want to configure this machine as an NFS server?	
	Yes [No]	
🔥 VMware Tools is	s not installed in this guest. Choose "Install VMware Tools" from the VM menu.))) 🛅 //,

Gambar 38.

🔁 FreeBSD - VM	Iware Workstation	- U ×
File Edit Vie	ew VM Team Windows Help	
🗖 🛛 下 🤅		
🚹 Home 📑	Windows XP Professional 🛛 🗿 Windows Server 2003 Standard 🏾 🗗 FreeBSD 🔐 FreeBSD	×
	- User Confirmation Requested	
	Yos No. 1	
🔥 VMware Tools is	s not installed in this guest. Choose "Install VMware Tools" from the VM menu. 📼 💽 🛃 🧱	🐠 🛅 🎵

Gambar 39.

Pilih tombol 'No' untuk proses selanjutnya.

FreeBSD - VMware Workstation	<u> </u>
File Edit View VM Team Windows Help	
🟫 Home 🚦 Windows XP Professional 🚦 Windows Server 2003 Standard 🚦 FreeBSD 📑 FreeBSD	×
User Confirmation Requested	
Hould you like to customize your system console settings?	
Yes L No J	
🔥 VMware Tools is not installed in this quest. Choose "Install VMware Tools" from the VM menu.	N 🐚 🕢

Gambar 40.

FreeBSD - VMware Workstation	
File Edit View VM Team Windows Help	
🏠 Home 🛛 🗗 Windows XP Professional 📑 Windows Server 2003 Standard 🗗 FreeBSD 🔐 FreeBSD	×
- User Confirmation Requested	
L Yes J No	
🔥 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 📁 💽 🛃 🥅 🐗	1.

Gambar 41.

Pilih tombol 'No' untuk proses selanjutnya.

🔁 Fre	eBSD - VMware Workstation	
File	Edit View VM Team Windows Help	
合 Ho	ome 📑 Windows XP Professional 🍯 Windows Server 2003 Standard 🔓 FreeBSD <mark> FreeBSD</mark>	×
	Is this machine's CMOS clock set to UTC? If it is set to local time,	
	or you don't know, please choose NU here!	
	Yes [No]	
J NW	ware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 🔲 🕒 🛃 🦉 🕠	1

Gambar 41.

Pada menu 'Select a region', pilih 'Asia' lalu tekan tombol 'OK' untuk proses selanjutnya.

FreeBSD - VMware Workstation	<u> </u>
File Edit View VM Team Windows Help	
🚹 Home 👔 Windows XP Professional 🗿 Windows Server 2003 Standard 🗿 FreeBSD 🔐 FreeBSD	×
Time Zone Selector Select a region 1 Africa 2 America North and South 3 Antarctica 4 Arctic Ocean 5 Asia 6 Atlantic Ocean 7 Australia 8 Europe 9 Indian Ocean 8 Pacific Ocean 9 Pacific Ocean	
🔥 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 📁 😫 🛃 📟 🐠 💆	1.

Gambar 42.

Pilih negara 'Indonesia' kemudian tekan tombol 'OK' untuk proses selanjutnya.



Gambar 43.

Pilih 'Java & Sumatra' kemudian pilih tombol 'OK' untuk proses selanjutnya.

FreeBSD - VMware Workstation	<u>- 0 ×</u>
File Edit View VM Team Windows Help	
🟫 Home 📑 Windows XP Professional 📑 Windows Server 2003 Standard 📑 FreeBSD 📑 FreeBSD	×
Countries in Asia Select a country or region 1 Afghanistan 2 Armenia 3 Azerbaijan Indonesia Time Zones Select a zone which observes the same time as your locality. 1 Java & Sumatra 2 Hest & central Borneo 3 east & south Borneo, Celebes, Bali, Nusa Tengarra, west Timor 4 Irian Jaya & the Moluccas]
Cance 1	
x x 15 Iran, Islawic Republic of x x 16 Iraq	

Gambar 44.

Pilih tombol 'Yes' untuk proses selanjutnya.

FreeBSD - VMware Workstation	
File Edit View VM Team Windows Help	
🟫 Home 🗿 Windows XP Professional 🗗 Windows Server 2003 Standard 🗗 FreeBSD 📅 FreeBSD	×
Countries in Asia Select a country or region 1 Afghanistan 2 Armenia 3 Azerbaijan Indonesia Time Zones Select a zone which observes the same time as your locality.]
Confirmation	
L Yes J No	
- aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa	
X X 15 Iran, Islamic Republic of X X 16 Iraq -1 (+) COK 1 Cancel	
🕂 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu.	

Gambar 45.

Dikarenakan di FreeBSD tidak diperlukan 'mouse' untuk kontrol navigasi maka pilih 'No' untuk proses selanjutnya.

📴 FreeBSD - ¥Mwa	e Workstation				_O×
File Edit View	VM Team Windows Help				
] 🗖 💵 💽 🧐	🙆 🕼 🚺 🗐 🖬 🖬) 🖾 🖻			
合 Home 📑 Win	dows XP Professional 📄 🐴 Winde	ows Server 2003 Standard	🚰 FreeBSD	🖶 FreeBSD	×
		Confirmation Requ	ested — al or bus		
	bues this system i		ai, oi bas	- House.	
	۲ ۲	res <mark>l No</mark>			
🔥 VMware Tools is not	installed in this guest. Choose "Inst	all VMware Tools" from the VM	menu.		2 🛃 💷 🐠 🖭 🏼

Gambar 46.

Pilih tombol 'Yes' untuk proses selanjutnya.

FreeBSD - VMware Workstation	
File Edit View VM Team Windows Help	
🟫 Home 🗿 Windows XP Professional 🗿 Windows Server 2003 Standard 🗿 FreeBSD 🔐 FreeBSD	×
User Confirmation Requested	
The FreeBSD package collection is a collection of thousands of ready-to-ru applications, from text editors to games to WEB servers and more. Would y like to browse the collection now?	n ou
L Yes J No	
🔥 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 📼 🕒 🛃 📟 🕠	💄 //.

Gambar 47.

Pada menu 'Package Selection' pilih menu 'editors' kemudian tekan 'Enter' untuk masuk ke submenu 'editors'



Gambar 48.

Pilih semua menu checkbox yang tersedia, kemudian pilih tombol 'OK' untuk proses selanjutnya.

FreeBSD - YMware Workstation	×
File Edit View VM Team Windows Help	
🛉 Home 🛛 🗗 Windows XP Professional 📑 Windows Server 2003 Standard 🗗 FreeBSD 📑 FreeBSD	×
editors	
Editors.	
[X] dasher-4.18.1_1.2 [/usr/ports/accessibility/dasher]	
[X] eMacs-22.3_1,1 [/usr/ports/editors/eMacs] [X] gedit-2.26.3 1 [/usr/ports/editors/gedit]	
[X] pico-alpine-2.88_1 [/usr/ports/editors/pico-alpine]	
Cancel	
dded vim-lite-7.2.239 to selection list	
y VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 📼 💽 🛃 📟 🐠 🖭	11.

Gambar 49.

Pilih tombol 'Install' untuk melakukan proses instalasi.

FreeBSD - VMware Workstation	×
File Edit View VM Team Windows Help	
A Home 📑 Windows XP Professional 📑 Windows Server 2003 Standard 🍯 FreeBSD 🖶 FreeBSD	×
To mark a package, move to it and press SPACE. If the package is	
already marked, it will be unmarked or deleted (if installed).	
To search for a package by name, press ESC. To select a category,	
press RETURN. NOTE: The All category selection creates a very large	
submenu: II you select It, please be patient while it comes up.	
audio Audio utilities - most require a supported sound card.	
COMMS COMMunications utilities.	
database software	
deskutils Uarious Deskton utilities	
devel Software development utilities and libraries.	
dus Domain Name Service tools.	
docs Meta-ports for FreeBSD documentation.	
editors Editors.	
emulators Utilities for emulating other operating systems.	
ftp FTP client and server utilities.	
games Various and sundry amusements.	
OK [Install]	
🔥 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 📼 🕒 🛃 📟 🐠 🏌	j //

Gambar 50.

Pilih tombol 'OK' untuk proses selanjutnya.



Gambar 51.

Proses Instalasi membutuhkan waktu yang cukup lama, seruput lagi aja si item'nya..... :P



Gambar 52.

Pilih tombol 'OK' untuk proses selanjutnya. (emang gak ada pilihan lainnya ?)



Gambar 53.

Masukkan password user 'root' anda, disarankan untuk pemula isi dengan '1234'

FreeBSD - VMware Workstation	<u>-0×</u>
File Edit View VM Team Windows Help	
🟫 Home 🛛 🚡 Windows XP Professional 📑 Windows Server 2003 Standard 📑 FreeBSD 📑 FreeBSD	×
New Password:	
🔥 VMware Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 📼	🕒 🛃 📾 🐠 🖭 🏒

Gambar 53.

Proses terakhir dari instalasi dengan memilih tombol 'Exit Install' dan reboot system dan lihat apa yang terjadi......

🔁 Free	eBSD - YMware Workstation	<u>- 🗆 ×</u>
File	Edit View VM Team Windows Help	
1		
合 Hor	me 👔 Windows XP Professional 🗗 Windows Server 2003 Standard 🗗 FreeBSD 🖶 FreeBSD	×
	Income to the FreeBSD installation and configuration tool. Please	1
	select one of the ontions below by using the arrow keys or tuning 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)	
	Begin a custom installation (for experts)	
	Lonigure Do post-install conliguration of FreeBSD	
	Doc Installation Instructions, REHDME, etc.	
	Reyman Select Reyboard type	
	Pittons View/set Various installation options	
	Instance Instance with Chrome boy Huppy of Start Shell	
	Logical Configuration Logical default install configuration	
	Index Closeru of functions	
	The diosary of functions	
	Select [X Exit Install]	
L		
🔥 VMw.	are Tools is not installed in this guest. Choose "Install VMware Tools" from the VM menu. 📁 📴 💽 🌆	🐠 🔝 🏒
		- , - , m

Gambar 54.

SELAMAT !!! and a telah berhasil membangun sebuah server FreeBSD Pertamax anda !!!



Gambar 55.

Langkah selanjutnya login dengan menggunakan user 'root' dan password yang anda buat pada Gambar 53. contoh: (Login: root Password: 1234)



Gambar 56.

3.3. Konfigurasi FreeBSD

3.3.1. Sunting isi file named.db

Menambahkan ip local resolver dan juga ip dns server di /etc/named/named.conf :

listen-on { 127.0.0.1; 192.168.0.10; }; forwarders { 192.168.0.1; 208.67.222.222; };

Untuk dns server penulis menyarankan menggunakan ip open dns (208.67.222.222; 208.67.220.220) yang dikarenakan apabila ada perubahan di koneksi internet maka tidak perlu lagi merubah ip dns servernya.

Untuk menyunting file /etc/named/named.conf dengan perintah:

vm#ee /etc/named/named.conf

Untuk keluar dan menyimpan di menu teks editor (penulis menggunakan vm#ee) tekan tombol 'CTRI+[' untuk ke main menu, kemudian pilih huruf 'a' untuk keluar dari menu editor dan pilih huruf 'a' kembali untuk menyimpannya.



3.3.2. Buat baru dan Sunting file resolv.conf

vm#ee /etc/resolv.conf

domain mailserver.com nameserver 127.0.0.1 nameserver 192.168.0.10 nameserver 208.67.222.222

Kemudian keluar dan simpan file resolv.conf

Setelah masuk ke prompt shell, reboot FreeBSD anda dengan perintah:

vm#reboot

Test koneksi internet anda apakah sudah terkoneksi dengan benar:

vm#ping google.co.id

Apabila hasilnya 'cannot resolve google.co.id: Host name lookup failure' berarti anda belum berhasil terkoneksi dengan jaringan internet, maka anda harus memperbaiki permasalahan koneksi internet ini sebelum melanjutkan ke proses yang lebih lanjut lagi :(dan jika message reply from... time=... ms, maka FreeBSD anda sudah terkoneksi ke jaringan internet dengan benar :), untuk berhenti dari proses ping tekan tombol 'CTRL+C'.

3.3.3. Sunting isi file motd (welcome message)

vm#ee /etc/motd

Sunting isi pesan awal sesuai dengan yang anda inginkan. (pada saat login awal ke FreeBSD) Setelah selesai menyunting isi file motd coba reboot dan login kembali.



Gambar 58.

3.4. Setup Mail Transfer Agent (MTA)

3.4.1. MySQL

MySQL adalah sebuah aplikasi database yang sangat cepat dan mudah digunakan. Untuk linformasi ebih lanjut mengenai MySQL anda dapat melihat di http://www.mysql.com/

Pada segment ini penulis menggunakan MySQL-Server Versi: 5.0.86 Instalasi MySQL lewat ports:

vm#cd /usr/ports/databases/mysql50-server vm#make all install clean

Proses instalasi cukup memakan waktu.....seruput dulu aja si item...bakar menyan juga boleh...

Setelah proses instalasi yang cukup lama selesai, tambahkan mysql ke dalam system startup:

vm#echo 'mysql_enable="YES"' >> /etc/rc.conf

Jalankan MySQL:

vm#/usr/local/etc/rc.d/mysql-server start

Amankan user account root MySQL dan hapus user yang tidak perlu:

vm#mysql -u root mysql
>UPDATE user SET Password=PASSWORD('mysql_root_password') WHERE User='root';
>DELETE FROM user WHERE User='';
>FLUSH PRIVILEGES;
>quit;

Ganti **mysql_root_password** dengan password anda sendiri. Pada proses ini anda telah berhasil mengganti password root mysql dengan password yang anda inginkan dan juga menghilangkan user yang tidak diperlukan.

Salin my.cnf untuk MySQL:

vm#cp /usr/local/share/mysql/my-medium.cnf /var/db/mysql/my.cnf

Sunting isi file /var/db/mysql/my.cnf : (Perhatikan teks yang berwarna merah berarti ada perubahan)

> ... [mysqld] port = 3306 socket = /tmp/mysql.sock skip-locking key_buffer = 16M max_allowed_packet = 10M

```
table cache = 64
sort buffer size = 512K
# Uncomment the following if you are using InnoDB tables
innodb data home dir = /var/db/mysql/
innodb data file path = ibdata1:10M:autoextend
innodb_log_group_home_dir = /var/db/mysql/
innodb_log_arch_dir = /var/db/mysql/
# You can set .._buffer_pool_size up to 50 - 80 %
# of RAM but beware of setting memory usage too high
innodb buffer pool size = 16M
innodb_additional_mem_pool_size = 2M
# Set .._log_file_size to 25 % of buffer pool size
innodb_log_file_size = 5M
innodb log buffer size = 8M
innodb flush log at trx commit = 1
innodb_lock_wait_timeout = 50
...
```

Restart MySQL:

vm#/usr/local/etc/rc.d/mysql-server restart



3.4.2. Dovecot

Dovecot adalah aplikasi Server POP3/IMAP yang sangat cepat dan mudah di konfigurasinya. Untuk informasi lebih lanjut mengenai Dovecot anda dapat melihat di <u>http://www.dovecot.org/</u>

Pada segment ini penulis menggunakan Dovecot Versi: 1.2.4_1 Instalasi Dovecot lewat ports:

vm#cd /usr/ports/mail/dovecot vm#make all install clean

(Pastikan "SSL", "IPV6", "POP3" dan "MYSQL" dipilih pada menu instalasinya)

Menambahkan isi file /etc/rc.conf sehingga Dovecot dijalankan pada saat proses booting awal:

#echo 'dovecot_enable="YES"' >> /etc/rc.conf

Salin konfigurasi file Dovecot:

#cp /usr/local/share/examples/dovecot/dovecot.conf /usr/local/etc/dovecot.conf #cp /usr/local/share/examples/dovecot/dovecot-sql.conf /usr/local/etc/dovecot-sql.conf

Buat direktori baru dan sertifikasi SSL/TLS untuk dovecot:

#mkdir -p /etc/ssl/dovecot
#cd /etc/ssl/dovecot
#openssl req -new -x509 -nodes -out cert.pem -keyout key.pem -days 365

Sunting isi file /usr/local/etc/dovecot.conf : (Perhatikan teks yang berwarna merah berarti ada perubahan)

```
protocols = imap imaps pop3 pop3s
disable plaintext auth = no
ssl = yes
ssl_cert_file = /etc/ssl/dovecot/cert.pem
ssl_key_file = /etc/ssl/dovecot/key.pem
login_greeting = Suketet Mail Server Ready.
mail location = maildir:/usr/local/virtual/%d/%n
first valid uid = 125
last_valid_uid = 125
first_valid_gid = 125
last_valid_gid = 125
protocol imap {
 mail_plugins = quota imap_quota
}
protocol pop3 {
 mail_plugins = quota
}
protocol Ida {
 postmaster_address = postmaster@mailserver.com
}
auth default {
 mechanisms = plain login
 # passdb pam {
 # args = session=yes dovecot
 # }
 passdb sql {
  args = /usr/local/etc/dovecot-sql.conf
 }
 # userdb passwd {
 # args = blocking=yes
 # }
 userdb sql {
  args = /usr/local/etc/dovecot-sql.conf
 }
 socket listen {
  #master {
    # Master socket provides access to userdb information. It's typically
    # used .....
    #path = /var/run/dovecot/auth-master
    #mode = 0600
    # Default user/group is the one who started dovecot-auth (root)
    #user =
    #group =
  #}
  client {
    path = /var/spool/postfix/private/auth
   mode = 0660
   user = postfix
    group = postfix
  }
 }
}
```

Sunting isi file /usr/local/etc/dovecot-sql.conf : (Perhatikan teks yang berwarna merah berarti ada perubahan)



ganti **postfix_mysql_password** dengan password anda sendiri. Agar di-ingat untuk perubahan password pada **postfix_mysql_password** yang nantinya akan digunakan pada perubahan konfigurasi yang lainnya.

3.4.3. Postfix

Postfix adalah sebuah MTA yang paling digemari administrator server mail yang dikarenakan sangat mudah menggunakannya dan sudah terbukti untuk kestabilitasnya. Untuk informasi lebih lanjut mengenai Postfix anda dapat melihat di http://www.postfix.org/

Pada segment ini penulis menggunakan Postfix Versi: 2.6.5,1 Instalasi Postfix lewat ports:

> vm#cd /usr/ports/mail/postfix vm#make all install clean

(Pastikan "DOVECOT", "TLS", "BDB", "MySQL" dan "VDA" dipilih pada menu instalasinya)

Pada saat proses instalasi berjalan, akan ada pertanyaan seperti dibawah ini:

You need user "postfix" added to group "mail". Would you like me to add it [y]? Tekan huruf "y" dan akan meneruskan proses instalasinya.

Would you like to activate Postfix in /etc/mail/mailer.conf [n]? Tekan huruf "y" dan akan meneruskan proses instalasinya.

Matikan proses Sendmail:

vm#/etc/rc.d/sendmail forcestop

Sunting isi file /etc/rc.conf untuk menonaktifkan Sendmail dan menjalankan Postfix pada saat proses booting awal:

sendmail_enable="NO"
sendmail_submit_enable="NO"
sendmail_outbound_enable="NO"
sendmail_msp_queue_enable="NO"
postfix_enable="YES"

Buat baru dan sunting isi file /etc/periodic.conf :

daily_clean_hoststat_enable="NO" daily_status_mail_rejects_enable="NO" daily_status_include_submit_mailq="NO" daily_submit_queuerun="NO"

Buat direktori baru dan sertifikasi SMTP SSL untuk postfix:

vm#mkdir -p /etc/ssl/postfix vm#cd /etc/ssl/postfix vm#openssl req -new -x509 -nodes -out smtpd.pem -keyout smtpd.pem -days 3650 vm#chmod 640 /etc/ssl/postfix/smtpd.pem vm#chgrp -R postfix /etc/ssl/postfix

Sunting isi file /usr/local/etc/postfix/main.cf : (Perhatikan teks yang berwarna merah berarti ada perubahan atau penambahan)

SOFT BOUNCE # # The soft bounce parameter provides a limited safety net for # testing. When soft bounce is enabled, mail will remain gueued that # would otherwise bounce. This parameter disables locally-generated # bounces, and prevents the SMTP server from rejecting mail permanently # (by changing 5xx replies into 4xx replies). However, soft_bounce # is no cure for address rewriting mistakes or mail routing mistakes. # soft bounce = no # SASL Config # broken sasl auth clients = yes smtpd sender restrictions = permit sasl authenticated, permit mynetworks smtpd_recipient_restrictions = permit_mynetworks, permit sasl authenticated, reject non fqdn hostname, reject_non_fqdn_sender, reject_non_fqdn_recipient, reject_unauth_destination, reject_unauth_pipelining, reject invalid hostname, reject_rbl_client list.dsbl.org, reject_rbl_client bl.spamcop.net, reject_rbl_client sbl-xbl.spamhaus.org smtpd sasl auth enable = yes smtpd sasl authenticated header = yes smtpd_sasl_local_domain = \$myhostname smtpd sasl security options = noanonymous smtpd_sasl_type = dovecot smtpd_sasl_path = private/auth

```
# TLS Config
#
smtp_use_tls = yes
smtpd_use_tls = yes
smtp tls note starttls offer = yes
smtpd tls key file = /etc/ssl/postfix/smtpd.pem
smtpd_tls_cert_file = /etc/ssl/postfix/smtpd.pem
smtpd_tls_CAfile = /etc/ssl/postfix/smtpd.pem
smtpd_tls_loglevel = 0
smtpd tls received header = yes
smtpd_tls_session_cache_timeout = 3600s
tls_random_source = dev:/dev/urandom
# MySOL Configuration
#
virtual alias maps = proxy:mysgl:/usr/local/etc/postfix/mysgl virtual alias maps.cf
virtual_gid_maps = static:125
virtual_mailbox_base = /usr/local/virtual
virtual mailbox domains =
  proxy:mysql:/usr/local/etc/postfix/mysql virtual domains maps.cf
virtual mailbox limit = 51200000
virtual_mailbox_maps = proxy:mysql:/usr/local/etc/postfix/mysql_virtual_mailbox_maps.cf
virtual_minimum_uid = 125
virtual transport = virtual
virtual uid maps = static:125
# Additional for quota support
#
virtual create maildirsize = yes
virtual mailbox extended = yes
virtual mailbox limit maps =
 proxy:mysql:/usr/local/etc/postfix/mysql_virtual_mailbox_limit_maps.cf
proxy_read_maps = $local_recipient_maps $mydestination $virtual_alias_maps
 $virtual alias domains $virtual mailbox maps $virtual mailbox domains
 $relay_recipient_maps $relay_domains $canonical_maps $sender_canonical_maps
 $recipient_canonical_maps $relocated_maps $transport_maps $mynetworks
 $virtual_mailbox_limit_maps
virtual mailbox limit override = yes
virtual_maildir_limit_message = Sorry, this user has overdrawn their diskspace quota.
 Please try again later.
virtual_overquota_bounce = yes
. . .
myhostname = vm.mailserver.com
mydomain = mailserver.com
mydestination = localhost.$mydomain, localhost
relay_domains = proxy:mysql:/usr/local/etc/postfix/mysql_relay_domains_maps.cf
. . .
```

Sunting isi file /usr/local/etc/postfix/master.cf : (Perhatikan teks yang berwarna merah berarti ada perubahan)

...

```
smtps inet n - n - - smtpd
-o smtpd_tls_wrappermode=yes
-o smtpd_sasl_auth_enable=yes
-o smtpd_client_restrictions=permit_sasl_authenticated,reject
...
```

untuk **postifx_sql_password** diharuskan sama dengan password yang sebelumnya anda buat.

Buat baru dan sunting isi file /usr/local/etc/postfix/mysql_virtual_alias_maps.cf :

```
user = postfix
password = postfix_sql_password
hosts = localhost
dbname = postfix
query = SELECT goto FROM alias WHERE address='%s' AND active = '1'
```

Buat baru dan sunting isi file /usr/local/etc/postfix/mysql_virtual_domains_maps.cf :

user = postfix password = **postfix_sql_password** hosts = localhost dbname = postfix query = SELECT domain FROM domain WHERE domain='%s' and backupmx = '0' and active = '1'

Buat baru dan sunting isi file /usr/local/etc/postfix/mysql_virtual_mailbox_maps.cf :

```
user = postfix
password = postfix_sql_password
hosts = localhost
dbname = postfix
query = SELECT maildir FROM mailbox WHERE username='%s' AND active = '1'
```

Buat baru dan sunting isi file /usr/local/etc/postfix/mysql_virtual_mailbox_limit_maps.cf :

user = postfix password = **postfix_sql_password** hosts = localhost dbname = postfix query = SELECT quota FROM mailbox WHERE username='%s'

Buat baru dan sunting isi file /usr/local/etc/postfix/mysql_relay_domains_maps.cf :

```
user = postfix
password = postfix_sql_password
hosts = localhost
dbname = postfix
query = SELECT domain FROM domain WHERE domain='%s' and backupmx = '1'
```

Amankan file Postfix MySQL :

vm#chmod 640 /usr/local/etc/postfix/mysql_*
vm#chgrp postfix /usr/local/etc/postfix/mysql_*

Sunting isi file /etc/aliases : (Ganti default root email dengan alamat email system anda)

root: admin@mailserver.com

Buat file aliases.db dengan perintah:

vm#/usr/bin/newaliases

Buat direktori virtual mail:

vm#mkdir /usr/local/virtual vm#chown -R postfix:postfix /usr/local/virtual vm#chmod -R 700 /usr/local/virtual



3.4.4. Apache

Apache adalah sebuah aplikasi web server yang sudah terbukti ketangguhannya. Untuk informasi lebih lanjut mengenai Apache anda dapat melihat di http://www.apache.org/

Pada segment ini penulis menggunakan Apache Versi: 2.2.13 Instalasi Apache lewat ports:

> vm#cd /usr/ports/www/apache22 vm#make all install clean

(Pilihan installasi dengan menu default)

Sunting isi file /usr/local/etc/apache22/httpd.conf : (Perhatikan teks yang berwarna merah berarti ada perubahan)

ServerAdmin webmaster@mailserver.com

ServerName www.mailserver.com:80

Various default settings Include etc/apache22/extra/httpd-default.conf

Secure (SSL/TLS) connections
Include etc/apache22/extra/httpd-ssl.conf
...

Buat sertifikasi SSL untuk Apache:

vm#mkdir -p /etc/ssl/apache vm#cd /etc/ssl/apache vm#openssl genrsa -des3 -out server.key 1024 vm#openssl req -new -key server.key -out server.csr vm#openssl x509 -req -days 365 -in server.csr -signkey server.key -out server.crt vm#chmod 0400 /etc/ssl/apache/server.key vm#chmod 0400 /etc/ssl/apache/server.crt

Hilangkan passphrase SSL:

vm#cd /etc/ssl/apache
vm#cp server.key server.key.orig
vm#openssl rsa -in server.key.orig -out server.key

Proteksi file yang digunakan Apache:

vm#chmod 400 /etc/ssl/apache/*

Sunting isi file /usr/local/etc/apache22/extra/httpd-default.conf : (Perhatikan teks yang berwarna merah berarti ada perubahan)

ServerTokens Prod ServerSignature Off HostnameLookups Off

Sunting isi file /usr/local/etc/apache22/extra/httpd-ssl.conf : (Perhatikan teks yang berwarna merah berarti ada perubahan)

ServerName www.mailserver.com:443 ServerAdmin webmaster@mailserver.com SSLCertificateFile "/etc/ssl/apache/server.crt" SSLCertificateKeyFile "/etc/ssl/apache/server.key"

Tambahkan Apache ke dalam system startup dan jalankan:

vm#echo 'apache22_enable="YES"' >> /etc/rc.conf

vm#/usr/local/etc/rc.d/apache22 start



Test dulu yah:

Testing di browser Windows anda: "http://mailserver.com/" atau "http://192.168.0.10/"

Testing SSL/TLS koneksi: "https://mailserver.com/" atau "https://192.168.0.10/"

Jika di kedua alamat tersebut menampilkan tulisan "It Works!" maka SELAMAT!!! anda berhasil melakukan proses instalasi Apache dengan benar. :)

Jika anda belum berhasil, ulangi kembali proses instalasinya. :(

Pastikan membuka file log anda untuk melihat apabila ada kesalahan "/var/log/httpd-*"

3.4.5. PHP

PHP adalah sebuah bahasa pemrograman berbasis aplikasi web. Untuk informasi lebih lanjut mengenai PHP anda dapat melihat di http://www.php.net

Pada segment ini penulis menggunakan PHP Versi: 5.2.11 Instalasi PHP lewat ports:

> vm#cd /usr/ports/lang/php5 vm#make all install clean

(Pastikan "APACHE" dipilih pada menu instalasi)

Instalasi PHP extentions:

vm#cd /usr/ports/lang/php5-extensions vm#make all install clean

(Pastikan "BCMATH", "GETTEXT", "IMAP", "MCRYPT", "MYSQL", "MYSQLI", "SESSION", "SOCKETS", and "WDDX" dipilih pada menu instalasi)

Menyiapkan file /usr/local/etc/php.ini :

vm#cp /usr/local/etc/php.ini-recommended /usr/local/etc/php.ini

Sunting isi file /usr/local/etc/php.ini : (Perhatikan teks yang berwarna merah berarti ada perubahan)

```
; Paths and Directories ;
; UNIX: "/path1:/path2"
include_path = "."
;
```

Sunting isi file /usr/local/etc/apache22/httpd.conf : (Perhatikan teks yang berwarna merah berarti ada perubahan)

</fmodule dir_module>
 DirectoryIndex index.html index.php index.php5
<//ifModule>
...
</ir>
</fmodule mime_module>
 TypesConfig etc/apache22/mime.types
 AddType application/x-compress .Z
 AddType application/x-gzip .gz .tgz
 AddType application/x-httpd-php .php
 AddType application/x-httpd-php-source .phps
<//ifModule>



Instalasi php5-mbstring converter Versi: 5.2.11 Instalasi php5-mbstring lewat ports:

> vm#cd /usr/ports/converters/php5-mbstring/ vm#make all install clean

3.4.6. Postfixadmin

Postfixadmin adalah sebuah aplikasi yang digunakan untuk mengatur konfigurasi email domain dan user-usernya. Untuk informasi lebih lanjut mengenai Postfixadmin anda dapat melihat di http://sourceforge.net/projects/postfixadmin/

Pada segment ini penulis menggunakan Postfixadmin Versi: 5.2.11 Instalasi Postfixadmin lewat ports:

> vm#cd /usr/ports/mail/postfixadmin vm#make all install clean

(Pastikan "MYSQLI" dipilih di menu instalasi)

Buat dulu database PostfixAdmin:

vm#mysql -u root -p (masukkan MySQL root password anda)

>CREATE DATABASE postfix; >CREATE USER 'postfix'@'localhost' IDENTIFIED BY 'postfix_sql_password'; >GRANT ALL PRIVILEGES ON `postfix` . * TO 'postfix'@'localhost'; >FLUSH PRIVILEGES; >quit;

Pada segment ini, penulis sering mengalami kegagalan yang hanya dikarenakan salah dalam penulisan huruf, perhatikan `postfix` tanda ` berada di posisi sebelah kiri tombol angka '1'. Untuk konfigurasi selanjutnya agar lebih diperhatikan lagi dalam penulisan Huruf besar dan kecil, yang dikarenakan pada konfigurasi FreeBSD berlaku case sensitive.

Proteksi file yang digunakan Postfixadmin:

```
vm#cd /usr/local/www/postfixadmin
vm#find . -type f -exec chmod 640 {} \;
vm#find . -type d -exec chmod 750 {} \;
```

Sunting isi file /usr/local/www/postfixadmin/config.inc.php : (Perhatikan teks yang berwarna merah berarti ada perubahan)

```
$CONF['configured'] = true;
$CONF['postfix_admin_url'] = 'https://www.mailserver.com/postfixadmin/';
$CONF['database type'] = 'mysqli';
$CONF['database host'] = 'localhost';
$CONF['database user'] = 'postfix';
$CONF['database_password'] = 'postfix_sql_password';
$CONF['database_name'] = 'postfix';
$CONF['database prefix'] = '';
$CONF['admin email'] = 'postmaster@mailserver.com';
$CONF['default aliases'] = array (
     'abuse' => 'abuse@mailserver.com',
     'hostmaster' => 'hostmaster@mailserver.com',
     'postmaster' => 'postmaster@mailserver.com',
     'webmaster' => 'webmaster@mailserver.com'
);
$CONF['generate_password'] = 'NO';
$CONF['page_size'] = '20';
$CONF['domain path'] = 'YES';
$CONF['domain in mailbox'] = 'NO';
$CONF['aliases'] = '50';
$CONF['mailboxes'] = '50';
CONF['maxquota'] = '1024';
$CONF['quota'] = 'YES';
$CONF['quota multiplier'] = '1048576';
$CONF['transport'] = 'NO';
$CONF['vacation'] = 'YES';
$CONF['vacation_domain'] = 'autoreply.mailserver.com';
$CONF['alias control admin'] = 'YES';
$CONF['special alias control'] = 'YES';
$CONF['show header text'] = 'YES';
$CONF['header_text'] = ':: Postfix Admin ::';
$CONF['show footer text'] = 'YES';
$CONF['footer text'] = 'Return to mailserver.com';
$CONF['user footer link'] = 'http://www.mailserver.com/';
$CONF['welcome text'] = <<<EOM</pre>
Hello,
```

Welcome to your new email account!

For questions or comments regarding your mail account, please feel free to send an email to support@mailserver.com.

Thank you for using Suketet Mail Server and enjoy your new email account!

Regards, Suketet Mail Server Staff support@mailserver.com EOM; ?> \$CONF['emailcheck_resolve_domain']='NO';

Buat user dan group untuk account Vacation:

#pw groupadd vacation
#pw useradd vacation -c Virtual\ Vacation -d /nonexistent -g vacation -s /sbin/nologin

Buat dan amankan direktori vacation:

#mkdir /var/spool/vacation #cp /usr/local/www/postfixadmin/VIRTUAL_VACATION/vacation.pl /var/spool/vacation/ #chown -R vacation:vacation /var/spool/vacation/ #chmod 700 /var/spool/vacation/ #chmod 750 /var/spool/vacation/vacation.pl #touch /var/log/vacation.log /var/log/vacation-debug.log #chown vacation:vacation /var/log/vacation*

Sunting isi script /var/spool/vacation/vacation.pl : (Perhatikan teks yang berwarna merah berarti ada perubahan)

```
my $db_type = 'mysql';
my $db_host = 'localhost';
my $db_user = 'postfix';
my $db_pass = 'postfix_sql_password';
my $db_name = 'postfix';
my $smtp_server = 'localhost';
my $logfile = "/var/log/vacation.log";
my $debugfile = "/var/log/vacation-debug.log";
my $syslog = 1;
...
```

Sunting isi script /usr/local/etc/postfix/master.cf untuk proses filterisasi vacation: (Tambahkan dibagian paling bawah)

vacation unix - n n - - pipe flags=DRhu user=vacation argv=/var/spool/vacation/vacation.pl Sunting isi file /usr/local/etc/postfix/main.cf untuk proses transport vacation: (Perhatikan teks yang berwarna merah berarti ada perubahan)

TRANSPORT MAP
#
See the discussion in the ADDRESS_REWRITING_README document.
transport_maps = hash:/usr/local/etc/postfix/transport
vacation_destination_recipient_limit = 1
...

Buat baru dan sunting isi file /usr/local/etc/postfix/transport :

autoreply.mailserver.com vacation:

Restart FreeBSD dulu yah:

vm#reboot

Buat map transport database untuk Postfix:

vm#postmap /usr/local/etc/postfix/transport

Buat dan sunting isi file /usr/local/etc/apache22/Includes/postfixadmin.conf :

Alias /postfixadmin/ "/usr/local/www/postfixadmin/" <Directory "/usr/local/www/postfixadmin/"> Options Indexes AllowOverride AuthConfig Order allow,deny Allow from all </Directory>

Reload konfigurasi Apache:

vm#apachectl configtest vm#apachectl graceful

Jalankan semua startup scripts:

vm#/usr/local/etc/rc.d/mysql-server start vm#/usr/local/etc/rc.d/dovecot start vm#/usr/local/etc/rc.d/postfix start

Periksa kembali file log anda "/var/log/maillog" dan "/var/log/message" untuk memastikan tidak ada kesalahan.

Testing dan setting Postfixadmin:

- Buka http://www.mailserver.com/postfixadmin/setup.php atau http://192.168.0.10/postfixadmin/setup.php
- Apabila tampilan di browser "Postfix Admin Setup Checker" dan Everything seems fine... SELAMAT!!! anda telah berhasil menginstal postfixadmin dengan benar.
- Langkah selanjutnya anda akan diminta untuk membuat account superadmin.
- Setelah anda berhasil membuat account superadmin, anda harus mengapus atau merubah nama file /usr/local/www/postfixadmin/setup.php dengan perintah:

vm#rm /usr/local/www/postfixadmin/setup.php

- Buka http://www.mailserver.com/postfixadmin/ atau http://192.168.0.10/postfixadmin/
- Masukkan login superadmin anda yah.... disini anda boleh lihat-lihat dulu isi navigasi bar ada apa saja.
- Langkah selanjutnya coba buat domain mailserver.com di menu 'Domain List'.
- coba buat account email baru di menu 'Virtual List' 'Add mailbox'.
- Terus....coba aja langsung di mail client anda (outlook express).

Tester telnet localhost port 25

vm#telnet localhost 25 Trying 127.0.0.1... Connected to localhost.domain.tld. Escape character is `^]'. 220 vm.mailserver.com ESMTP Postfix EHLO mailserver.com 250-vm.mailserver.com 250-PIPELINING 250-SIZE 10240000 250-VRFY 250-ETRN 250-STARTTLS 250-AUTH LOGIN PLAIN 250-AUTH=LOGIN PLAIN 250-ENHANCEDSTATUSCODES 250-8BITMIME 250 DSN **STARTTLS** 220 2.0.0 Ready to start TLS quit quit

Tester telnet localhost port 110

vm#telnet localhost 110 Connected to localhost. Escape character is `^]'. +OK Suketet Mail Server Ready. user test@mailserver.com (gunakan account email yang sudah anda buat sebelumnya) +OK pass 123456 (masukkan password user test@mailserver.com) +OK Logged in. list +OK 1 messages: 1 844 . quit +OK Logging out

Connection closed by foreign host.



:: Postfix Admin ::

3.4.7. Spamassassin

Spamassassin adalah sebuah aplikasi yang sangat berguna untuk mendeteksi berbagai macam spam. Untuk informasi lebih lanjut mengenai Spamassassin anda dapat melihat di http://spamassassin.apache.org/

Pada segment ini penulis menggunakan Spamassassin Versi: 3.2.5 Instalasi Spamassassin lewat ports:

vm#cd /usr/ports/mail/p5-Mail-SpamAssassin vm#make all install clean

(Pastikan "SPAMC" tidak dipilih dan "GNUPG", "MYSQL", and "RAZOR" ada dalam pilihan.)

Membuat user "vscan":

vm#pw groupadd vscan vm#pw useradd -n vscan -c Amavisd\ User -d /var/amavisd -g vscan -m vm#passwd vscan (Enter password dua kali) Buat baru dan sunting file /usr/local/etc/mail/spamassassin/local.cf :



use_bayes 1 bayes_store_module Mail::SpamAssassin::BayesStore::MySQL bayes_sql_dsn DBI:mysql:maia bayes_sql_username vscan bayes_sql_password **vscan_password** auto_whitelist_factory Mail::SpamAssassin::SQLBasedAddrList user_awl_dsn DBI:mysql:maia user_awl_sql_username vscan user_awl_sql_password **vscan_password** bayes_auto_expire 0 internal_networks 192.168.0.0/24 trusted_networks 192.168.0.0/24

Untuk alamat "192.168.0.0/24" dapat anda ganti sesuai ip internatl/external yang digunakan.

Buat konfigurasi RAZOR:

vm#su - vscan \$razor-admin -discover \$razor-admin -create \$razor-admin -register -l -user=admin@mailserver.com -pass=1234 \$exit

3.4.8. FuzzyOCR

FuzzyOCR adalah aplikasi yang dapat mendeteksi spam di dalam gambar. Untuk informasi lebih lanjut mengenai FuziOCR anda dapat melihat di http://fuzzyocr.own-hero.net/

Pada segment ini penulis menggunakan FuzzyOCR Versi: 3.6.0 Instalasi FuzzyOCR lewat ports:

vm#cd /usr/ports/mail/p5-FuzzyOcr-devel vm#make all install clean

Salin file-file FuzzOCR kedalam direktori konfigurasi Spamassassin:

vm#cp /usr/local/share/examples/FuzzyOcr/FuzzyOcr.* /usr/local/etc/mail/spamassassin



3.4.9. ClamAV

ClamAV adalah utilitas pemindaian virus yang dapat dihandalkan dan tentu saja gratis. Untuk informasi lebih lanjut mengenai ClamAV anda dapat melihat di http://www.clamav.net/

Pada segment ini penulis menggunakan ClamAV Versi: 0.95.2 Instalasi ClamAV lewat ports:

> vm#cd /usr/ports/security/clamav vm#make all install clean CLAMAVUSER=vscan CLAMAVGROUP=vscan

(Pilihan installasi dengan menu default)

Tambahkan konfigurasi di file /etc/make.conf :

vm#echo 'CLAMAVUSER=vscan' >> /etc/make.conf vm#echo 'CLAMAVGROUP=vscan' >> /etc/make.conf



Buat konfigurasi ClamAV agar dijalankan pada saat boot awal:

vm#echo 'clamav_freshclam_enable="YES"' >> /etc/rc.conf vm#echo 'clamav_clamd_enable="YES"' >> /etc/rc.conf

Jalankan FreshClam dan ClamAV daemon:

vm#/usr/local/etc/rc.d/clamav-clamd start vm#/usr/local/etc/rc.d/clamav-freshclam start

3.4.10. PEAR

PEAR singkatan dari "PHP Extension and Application Repository". Untuk informasi lebih lanjut mengenai PEAR anda dapat melihat di http://pear.php.net/

Pada segment ini penulis menggunakan PEAR Versi: 1.9.0 Instalasi PEAR lewat ports:

> vm#cd /usr/ports/devel/pear vm#make all install clean

Sunting isi file /usr/local/etc/php.ini : (Perhatikan teks yang berwarna merah berarti ada perubahan)

```
...
;; Paths and Directories ;
;; UNIX: "/path1:/path2"
include_path = ".:/usr/local/share/pear"
;
```



3.4.11. SquirrelMail

SquirrelMail adalah sebuah aplikasi webmail yang sangat mudah untuk menggunakannya. Untuk informasi lebih lanjut mengenai SquirrelMail anda dapat melihat di http://www.squirrelmail.org/

Pada segment ini penulis menggunakan SquirrelMail Versi: 1.4.20-RC2 Instalasi SquirrelMail lewat ports:

vm#cd /usr/ports/mail/squirrelmail vm#make all install clean

Konfigurasi SquirrelMail:

#cd /usr/local/www/squirrelmail
#./configure

SquirrelMail Options:

- 1. Pilih opsi "2. Server Settings".
- 2. Pilih opsi "1. Domain" sunting menjadi nama domain anda (contoh: mailserver.com).
- 3. Pilih opsi "A. Update IMAP Settings" kemudian "5. IMAP Port" dan ubah menjadi "993".
- 4. Pilih opsi "7. Secure IMAP (TLS)" dan ubah menjadi "true" dengan menekan "y".
- 5. Pilih opsi "8. Server software" kemudian tulis "dovecot" kemudian tekan "ENTER".
- 6. Tekan "s" kemudian tekan tombol "ENTER" untuk menyimpannya.
- 7. Tekan "q" kemudian tekan tombol "ENTER" untuk keluar.

Buat baru dan sunting isi file /usr/local/etc/apache22/Includes/squirrelmail.conf :

Alias /squirrelmail/ "/usr/local/www/squirrelmail/" <Directory "/usr/local/www/squirrelmail"> AllowOverride None Options None Order allow,deny Allow from all </Directory>

Sunting isi file /usr/local/etc/php.ini : (Perhatikan teks yang berwarna merah berarti ada perubahan)

> ;be sure not to use short tags. short_open_tag = On

Jalankan kembali konfigurasi Apache:



#apachectl graceful

Test:

SquirrelMail seharusnya sudah berjalan dengan benar, tinggal di coba webmail anda:

buka "https://192.168.0.10/squirrelmail/src/configtest.php" untuk memastikan kembali sudah tidak ada kesalahan lagi. Jika memang sudah tidak ada kesalahan lagi, ..."CANGGIH"... kemudian klik "login now" di posisi kiri bawah.

Mohon dicoba dulu yah untuk proses tarik kirim email....

Untuk ke menu login Postfixadmin:

http://192.168.0.10/postfixadmin/ https://192.168.0.10/postfixadmin/

Untuk ke menu login SquirrelMail:

https://192.168.0.10/squirrelmail/ http://192.168.0.10/squirrelmail/

Sesudah anda coba proses tarik kirim email tidak ada masalah..... berarti anda telah berhasil membangun **Mail Server Postfix FreeBSD** anda yang PERTAMAX!!! gan.....cendolnya yah gan....



.: PAMIT GAN' :.

Refrensi penulis:

- Mr. Google
- http://www.indofreebsd.or.id/
- Absolute BSD The ultimate Guide to FreeBSD oleh: Michael Lucas
- FreeBSD-Postfix-MySQL-SpamAssassin-Maia-Virtual Setup oleh: PHO
- Secure email servers from scratch with FreeBSD oleh: Yousef Ourabi
- Tutorial Instalasi FreeBSD Oleh: Riza Nuari
- E-Book FreeBSD oleh: Ahmad Munasir Raf'ie Pratama

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