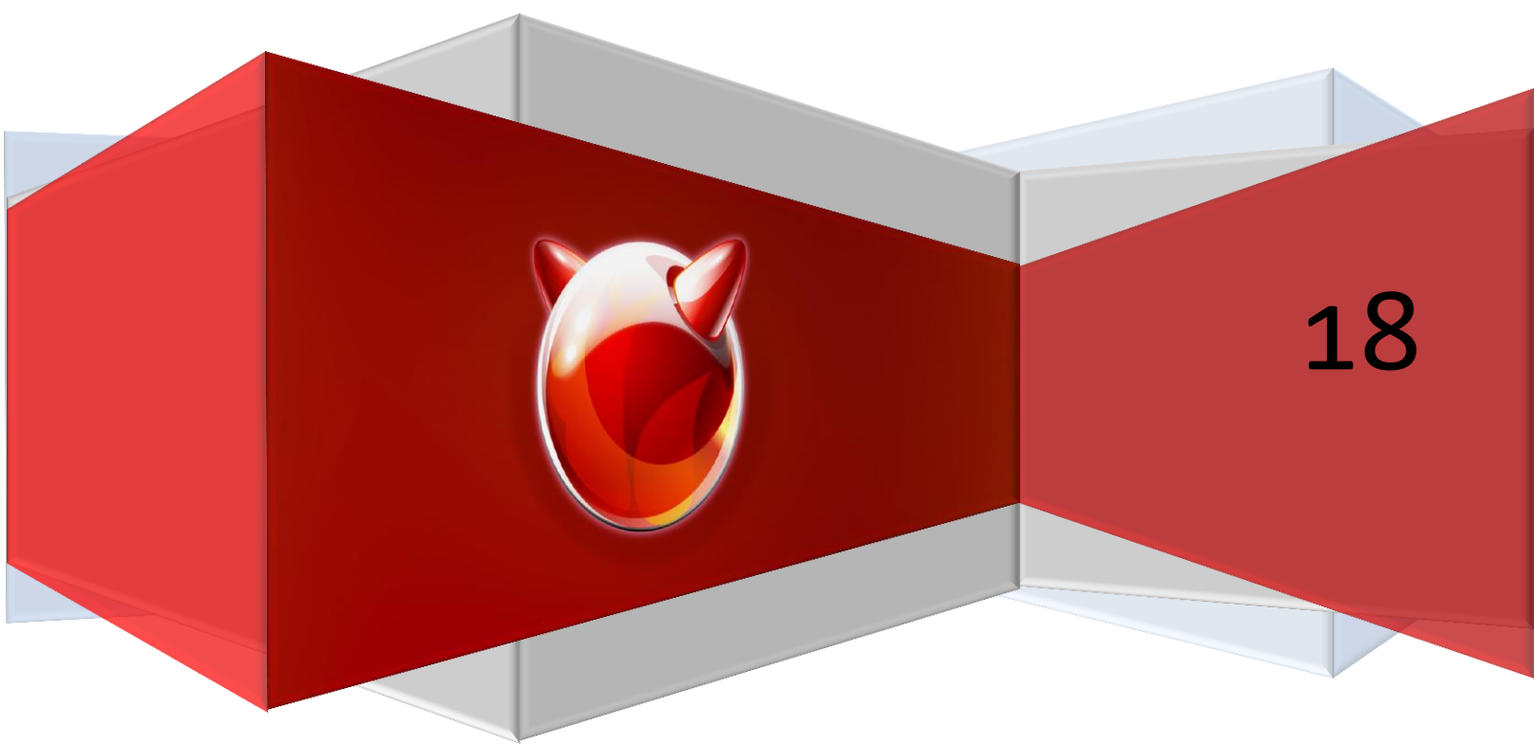
DISKOMINFO KOTA TANGERANG

FreeBSD 11.2 Documentations

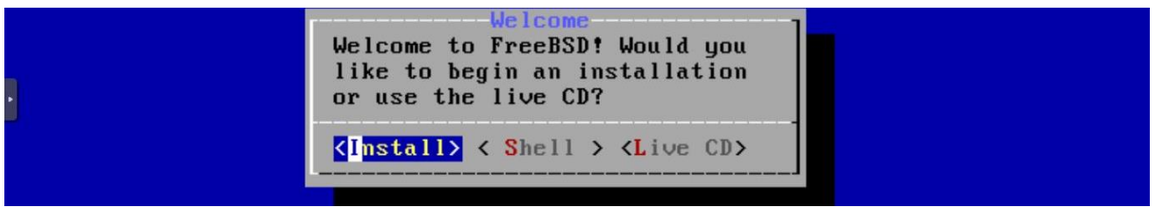
Installation, Webserver (FAMP), SSH, IP Address and Host Configuration, DNS Server

Muhammad Ridwan Na'im

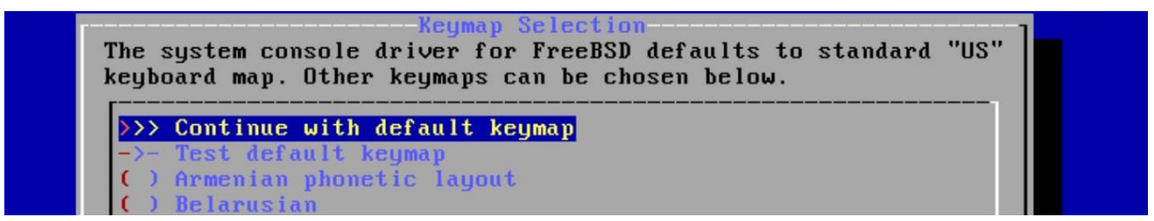


FREEBSD 11.2 INSTALLATION

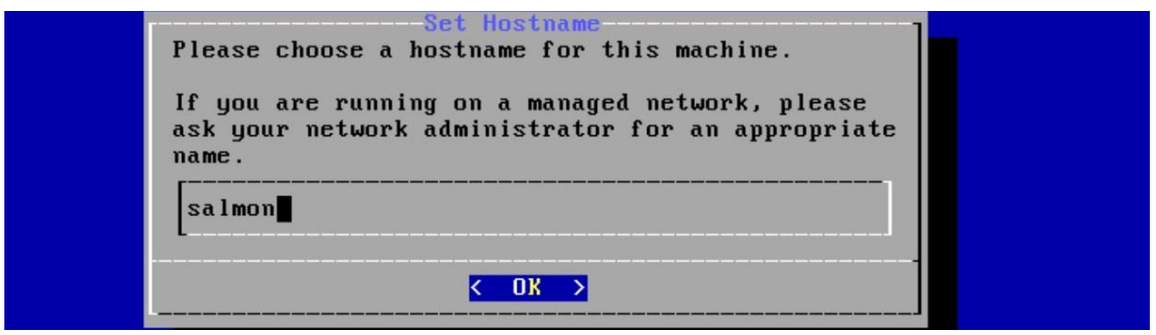
Choose 1 to Boot From FreeBSD installation source [Enter]



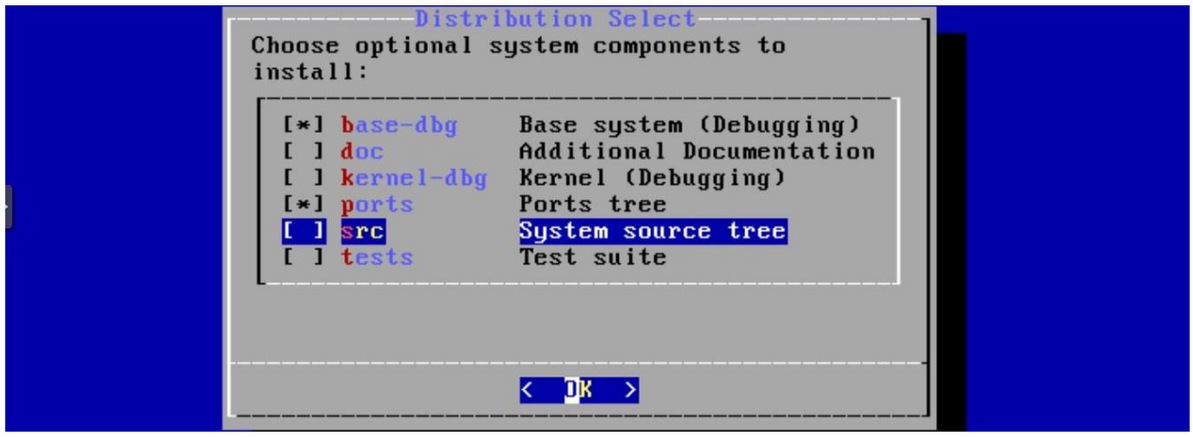
Choose Install [Enter]



Choose your Keyboard Layout (Press Enter for Default)

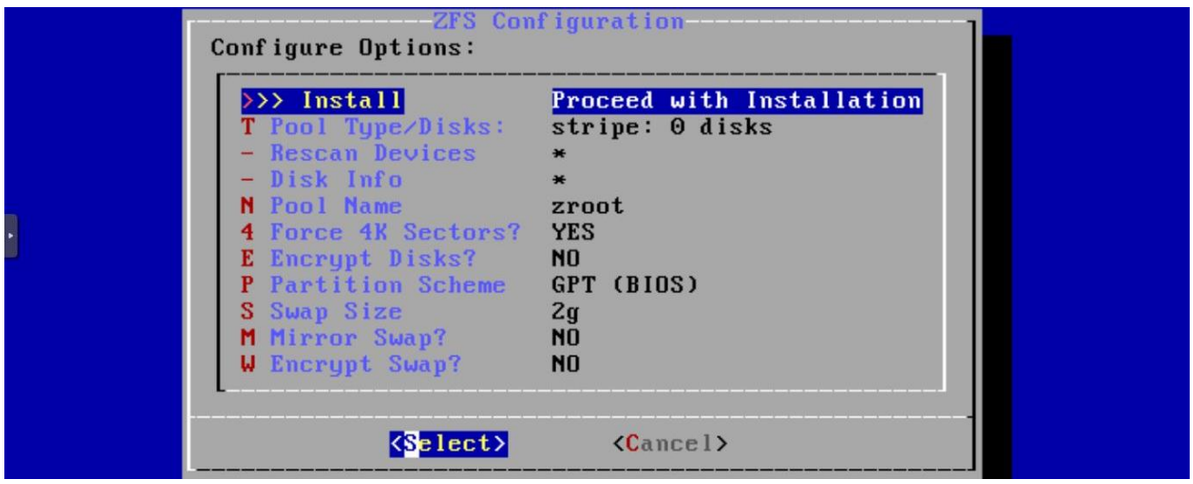


Set Your Hostname

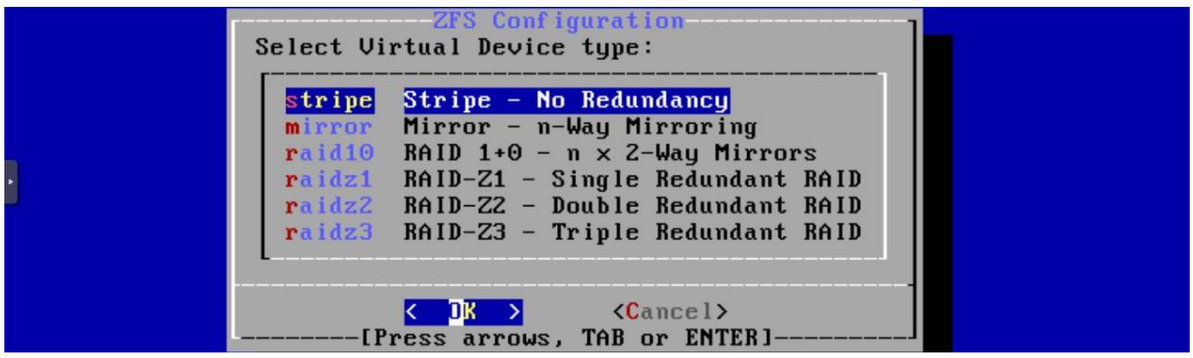


Select System Components to Install. Mark the ports, base-dbg, and doc (optional) with Space. Press Enter to Accept

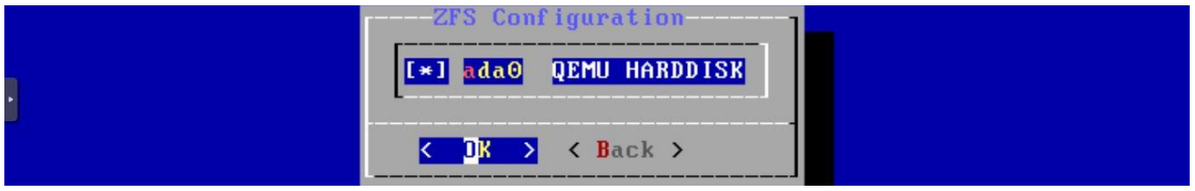
Partition Mode. For Beginners, select Auto (UFS) or Auto (ZFS). Press Enter.



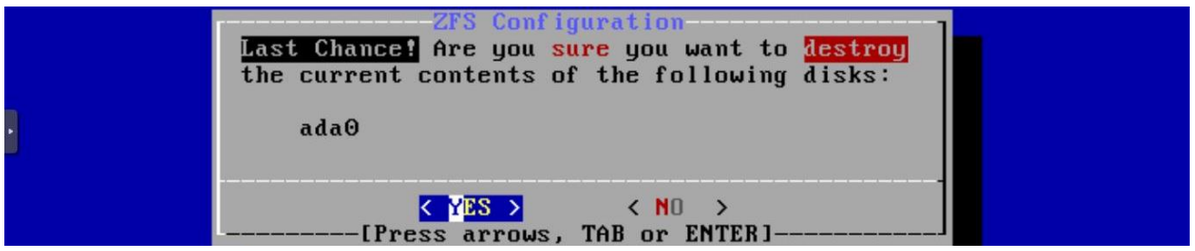
Installation Confirmation. Press Enter to Install FreeBSD on the selected disk.



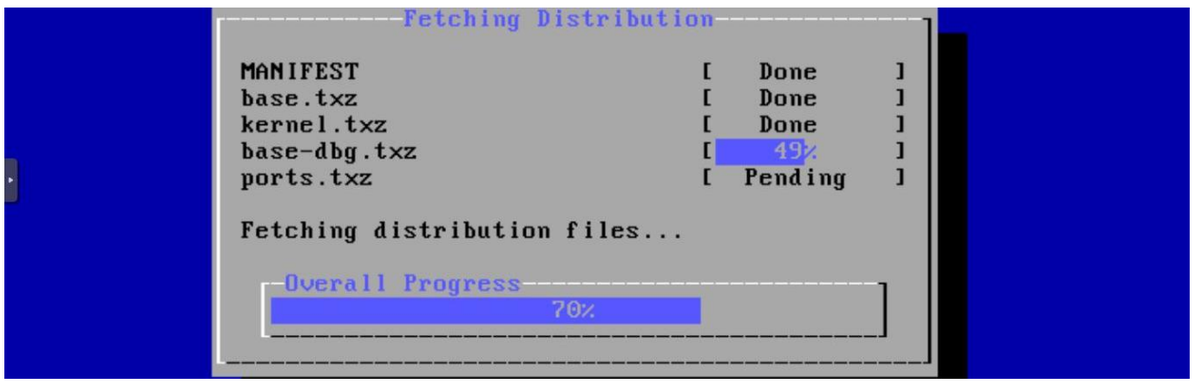
ZFS Configuration. Select stripe [Enter]



Press Space to Select Target Installation. Press Enter.

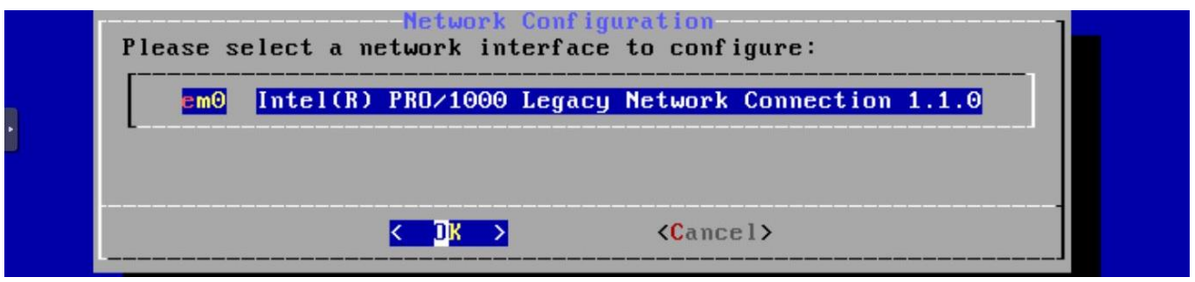


Disk Formatting and Installation Confirmation. Select yes [Enter]

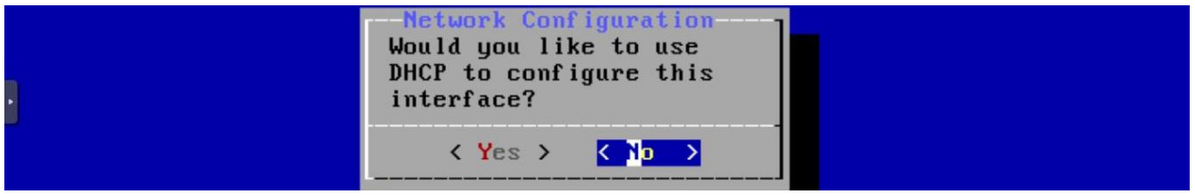


Installation Progress. Please Wait for Several Minutes

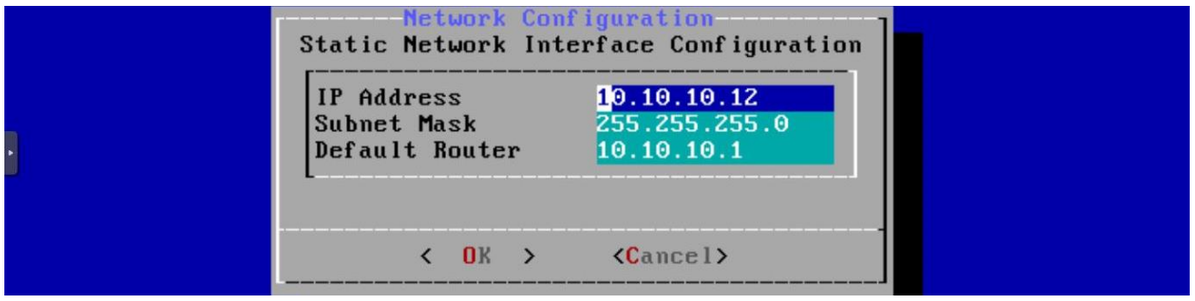
Create Password for root User.



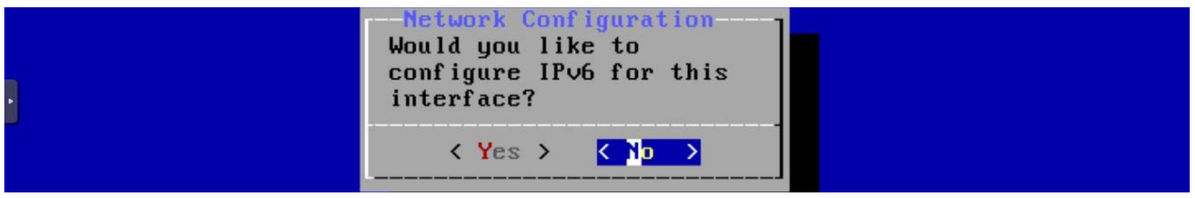
Select Network Interfaces [Enter]



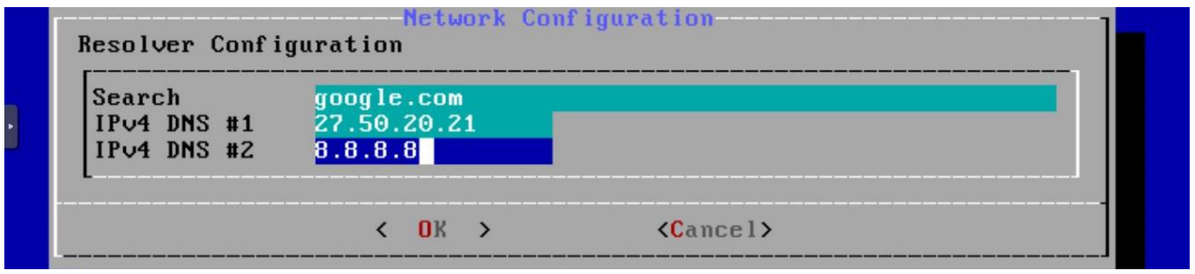
IP Address Configuraition. Choose no if you want to configure static address. Choose yes to request IP from DHCP Server. In this case, I choose no to configure static address.



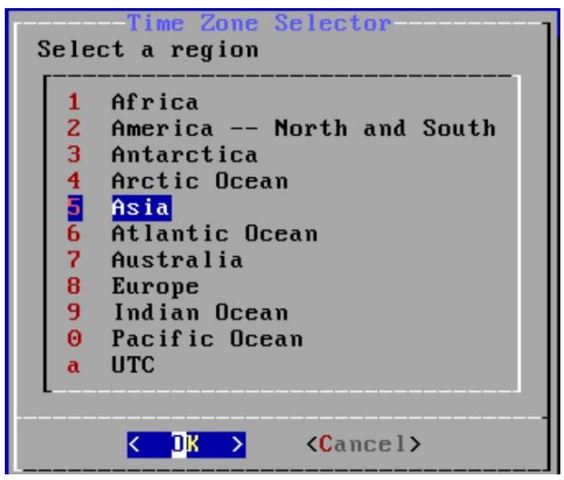
Configure your IP address

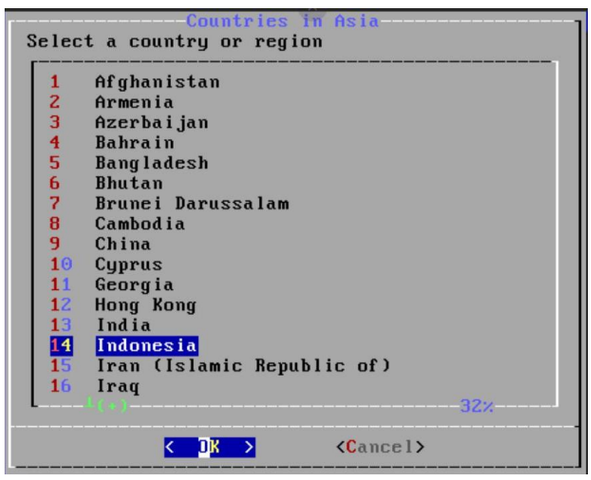


If you want to configure Ipv6 Address, choose yes. If you don't need it, choose no.



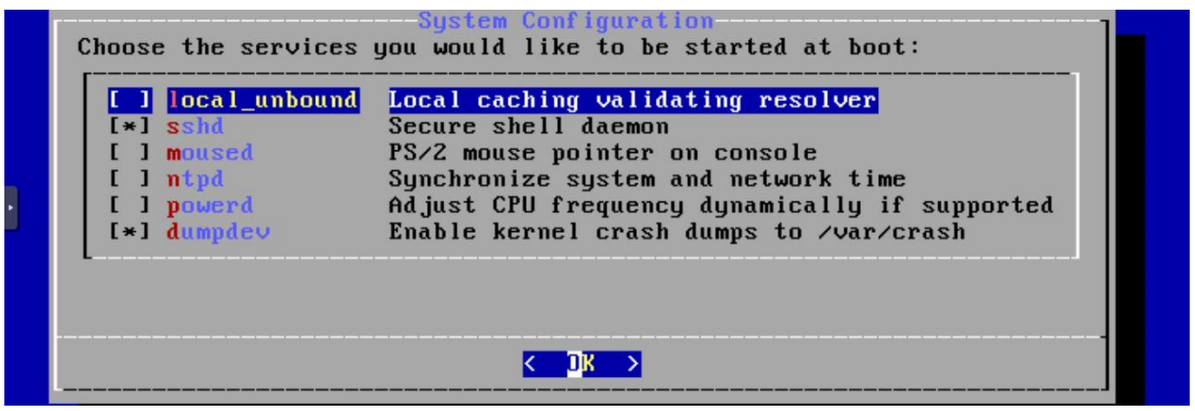
Configure Your DNS Server to Connect with Internet.



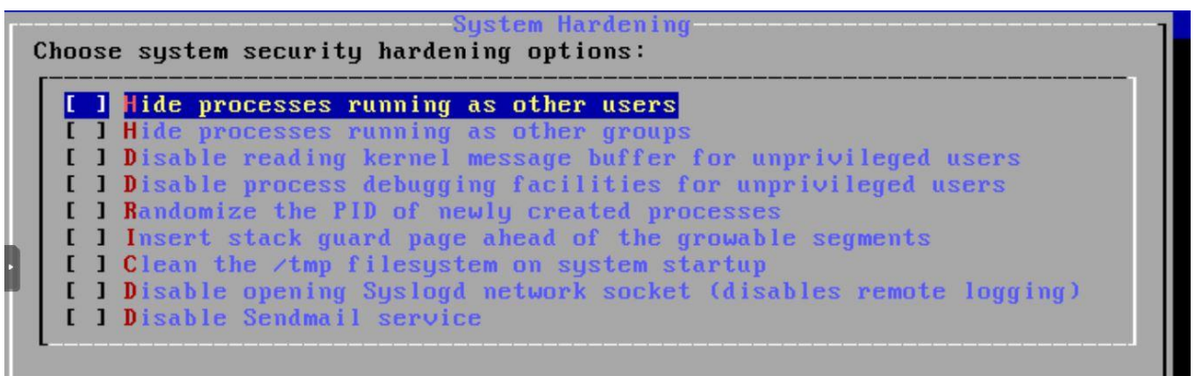


Set your Timezone.

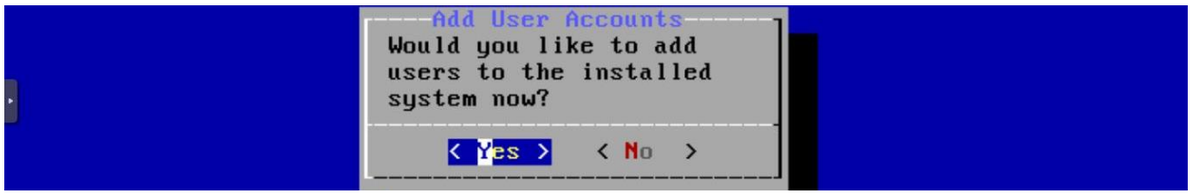
Set Your Time and Date.



Choose startup services. Mark choosen services with space. Press Enter to accept.



System Hardening Options for System Security (optional). Press Enter to skip this Step.

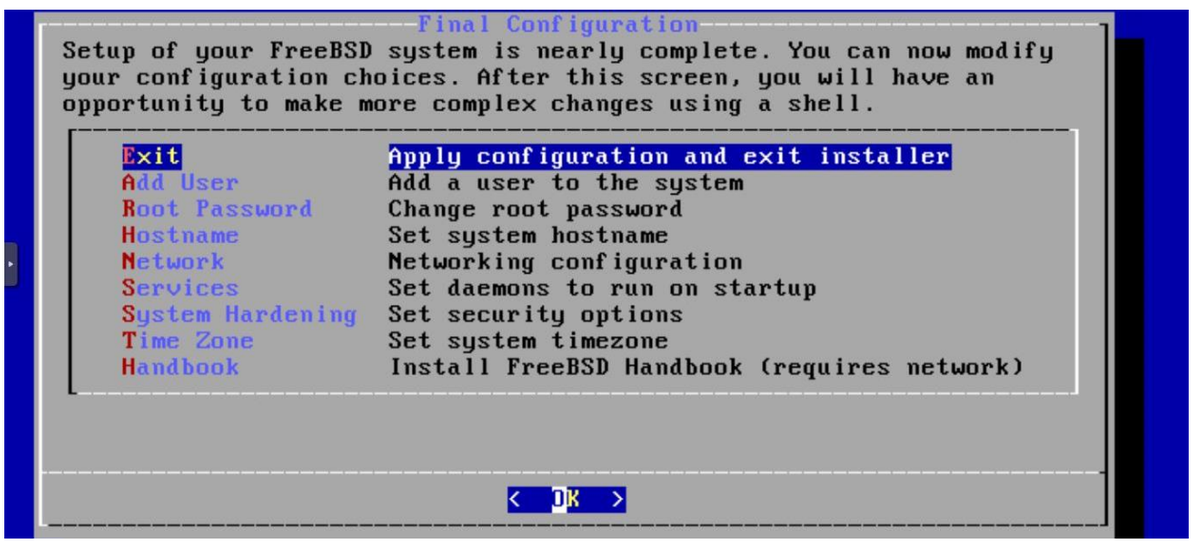


Choose yes to add new user. Choose no to skip this step.

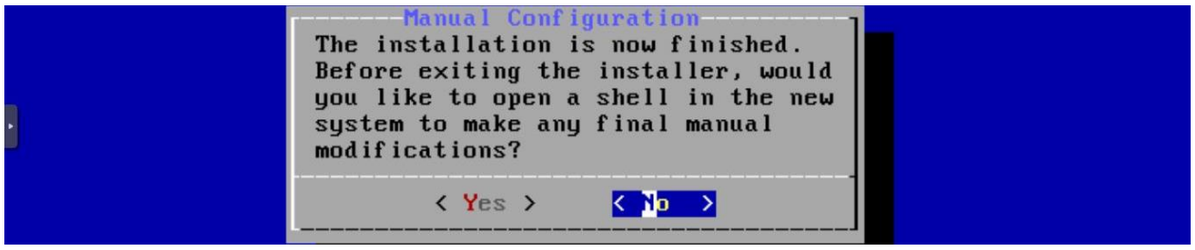
```
Username: infokomsalmon
Full name: salmon
Uid [1001]:
Login group [infokomsalmon]: wheel
Login group is wheel. Invite infokomsalmon into other groups? []: wheel
Login class [default]:
Shell (sh csh tcsh nologin) [sh]:
Home directory [/home/infokomsalmon]:
Home directory permissions (Leave empty for default):
Use password-based authentication? [yes]: yes
Use an empty password? (yes/no) [no]: no
Use a random password? (yes/no) [no]: no
Enter password:
Enter password again:
Passwords did not match!
Use an empty password? (yes/no) [no]:
Use a random password? (yes/no) [no]:
Enter password:
Enter password again:
Lock out the account after creation? [no]: no
```

```
Username   : infokomsalmon
Password   : *****
Full Name  : salmon
Uid        : 1001
Class      :
Groups     : wheel wheel
Home       : /home/infokomsalmon
Home Mode  :
Shell      : /bin/sh
Locked     : no
OK? (yes/no): yes
```

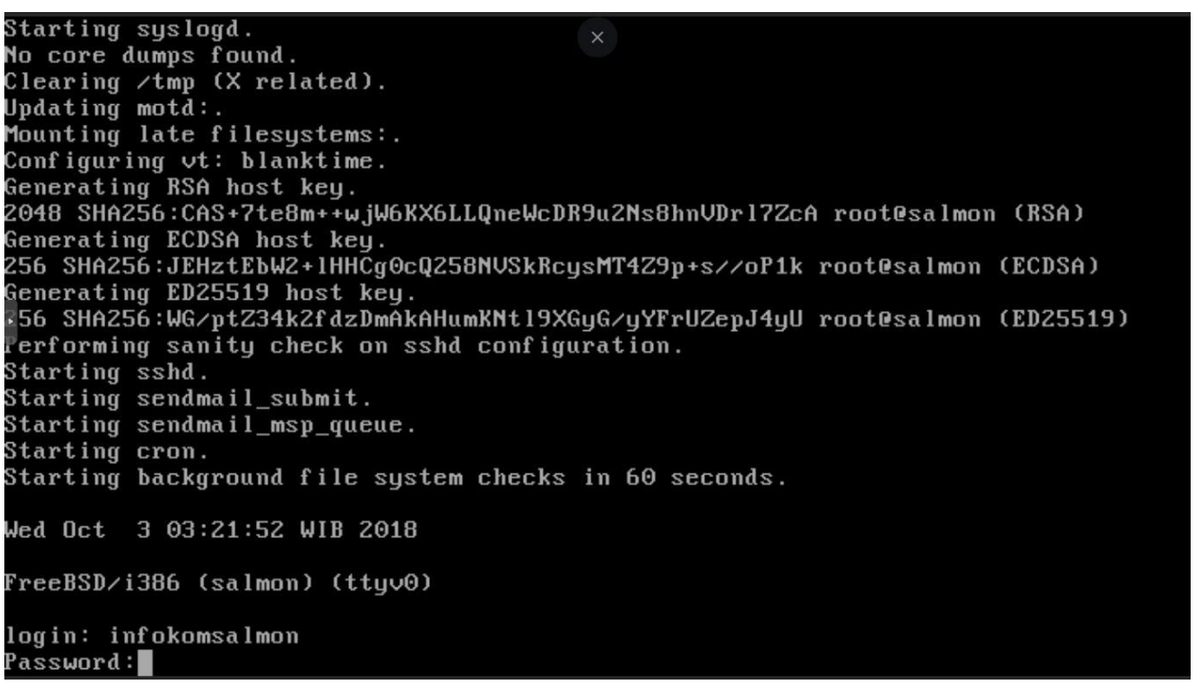
Adding New User (Example)



Final Configuration. Choose exit to finishing Installation or Select another steps where do you want to modify configuration.



If you want to make any manual modification, choose yes. If you want to finishing FreeBSD Installation, choose no and Server will be reboot.

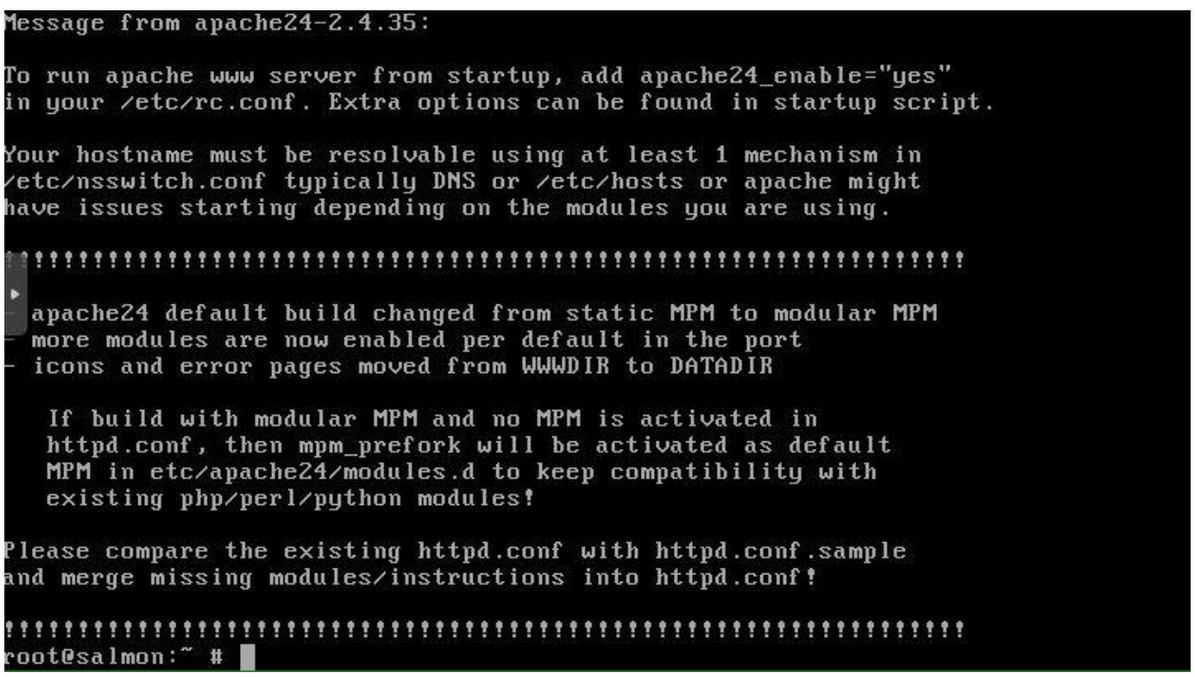


Installation Finished. You can login with root user (root) or other user which you add.

WEBSERVER CONFIGURATION

Login as root

```
#pkg install apache24
```

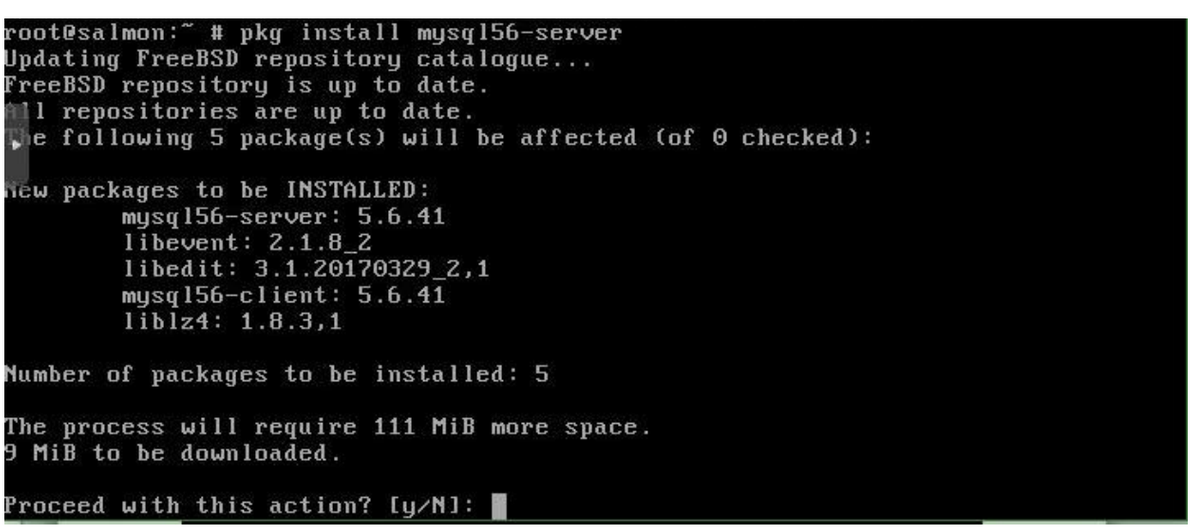


Apache24 Installation Success

```
#sysrc apache24_enable=yes
```
//Enable Startup

```
#service apache24 start
```
//Start Apache Webserver

```
#pkg install mysql56-server
```



Press Y and Enter to Install

`#sysrc mysql _enable=yes` //Enable Startup

`#service mysql-server start` //Start MySQL Server

`#mysql_secure_installation` //Configure Password for MySQL root user.

```
Enter current password for root (enter for none):
OK, successfully used password, moving on...

Setting the root password ensures that nobody can log into the MySQL
root user without the proper authorisation.

Set root password? [Y/n] y
New password:
Re-enter new password:
Password updated successfully!
Reloading privilege tables..
 ... Success!


By default, a MySQL installation has an anonymous user, allowing anyone
to log into MySQL without having to have a user account created for
them.  This is intended only for testing, and to make the installation
go a bit smoother.  You should remove them before moving into a
production environment.

Remove anonymous users? [Y/n] Y
```

1. Enter Current Password (Press Enter for none): [Enter]
2. Set root password? [Y/n] : y [Enter] *//Set your MySQL root password*
3. Remove anonymous users? [Y/n]: y [Enter]
4. Disallow root login remotely ? [Y/n]: y [Enter]
5. Remote test database and access to it? [Y/n]: y [Enter]
6. Reload privileges tables now? [Y/n]: y [Enter]

`#pkg install mod_php56 php56-mysql php56-mysqli php56-gd php56-extensions`

```
        php56-xmlwriter: 5.6.38
        php56-xmlreader: 5.6.38
        php56-dom: 5.6.38
        php56-xml: 5.6.38
        php56-simplexml: 5.6.38
        php56-ctype: 5.6.38
        php56-posix: 5.6.38
        php56-hash: 5.6.38
        php56-filter: 5.6.38
        php56-tokenizer: 5.6.38
        php56-json: 5.6.38
        php56-sqlite3: 5.6.38
        sqlite3: 3.25.1
        php56-pdo_sqlite: 5.6.38
        php56-pdo: 5.6.38
        php56-iconv: 5.6.38
        libiconv: 1.14_11
        php56-phar: 5.6.38

Number of packages to be installed: 25

The process will require 31 MiB more space.
5 MiB to be downloaded.

Proceed with this action? [y/N]:
```

Press Y and Enter to Install

```
# cp /usr/local/etc/php.ini-production /usr/local/etc/php.ini
```

```
#rehash
```

```
# ee /usr/local/etc/apache24/httpd.conf
```

```
  GNU nano 3.1          /usr/local/etc/apache24/httpd.conf

ServerName noc.tangerangkota.local:80

#
# Deny access to the entirety of your server's filesystem. You must
# explicitly permit access to web content directories in other
# <Directory> blocks below.
#
```

Line 226 : Set Your ServerName, remove the (#). Example: noc.tangerangkota.local

```
#
# DirectoryIndex: sets the file that Apache will serve if a directory
# is requested.
#
<IfModule dir_module>
    DirectoryIndex index.html index.php
</IfModule>

#
# The following lines prevent .htaccess and .htpasswd files from being
# viewed by Web clients.
```

Line 284 : Add index.php

```
    # Filters allow you to process content before it is sent to the client.
    #
    # To parse .shtml files for server-side includes (SSI):
    # (You will also need to add "Includes" to the "Options" directive.)
    #
    #AddType text/html .shtml
    #AddOutputFilter INCLUDES .shtml
    AddType application/x-httpd-php .php
    AddType application/x-httpd-php-source .phps
</IfModule>
```

Line 444 : Add this script to httpd.conf (Before </IfModule>) for PHP Support

```
AddType application/x-httpd-php .php
```

```
AddType application/x-httpd-php-source .phps
```

```
LoadModule alias_module libexec/apache24/mod_alias.so
LoadModule rewrite_module libexec/apache24/mod_rewrite.so
LoadModule php5_module        libexec/apache24/libphp5.so
```

Line 180 : Remove the (#) to activate rewrite module.

```
#service apache24 restart
```

```
root@salmon:~ # service apache24 restart
Performing sanity check on apache24 configuration:
Syntax OK
Stopping apache24.
Waiting for PIDS: 1792.
Performing sanity check on apache24 configuration:
Syntax OK
Starting apache24.
root@salmon:~ #
```

```
#ee /usr/local/www/apache24/data/info.php
```

```
 GNU nano 3.1          /usr/local/www/apache24/data/info.php          Modified

<?php phpinfo(); ?>
```

To check php's work correctly. Create file with script above.

To verify that Apache has been installed correctly we will check the IP address of FreeBSD from browser.

Check PHP Configuration from browser. [yourip or domain]/your_php_info_file.php.

Example: 10.10.10.12/info.php

SSH CONFIGURATION

```
#ee /etc/ssh/sshd_config
```

```
# Note that some of FreeBSD's defaults differ from OpenBSD's, and
# FreeBSD has a few additional options.

Port 1212
#AddressFamily any
#ListenAddress 0.0.0.0
#ListenAddress ::
```

For Security Reason, change your ssh's default port to not used port. Remove the (#) and change port. Example: 1212. (Line 17)

```
#LoginGraceTime 2m
PermitRootLogin no
#StrictModes yes
MaxAuthTries 6
#MaxSessions 10
```

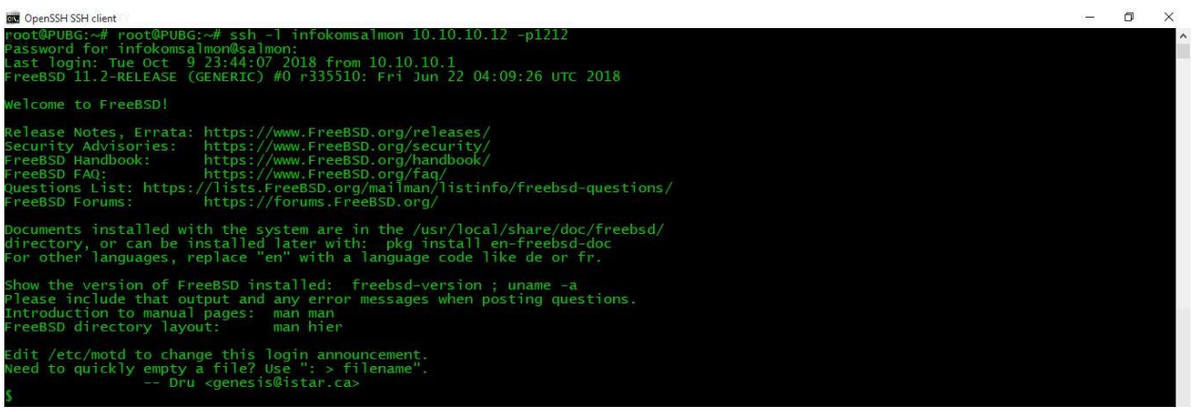
And also disable permit root login with remove the sign (#). (Line 37)

If you not create other user at installation step, you must create other user for login into the server. Because root user is not permitted to login. In this case, I was created other user, so i don't need to create another user again.

```
#service sshd restart
```

Now, try to remote your server.

```
#ssh -l infokomsalmon 10.10.10.12 -p1212 //Example
```



To change user to root, run this command and enter your root's password

```
#su -
```

VIRTUAL HOST CONFIGURATION

#ee /usr/local/etc/apache24/Include/vhost.conf

```
<VirtualHost *:80>
        ServerName www.tangerangkota.local
        ServerAdmin noc.kominfo@tangerangkota.go.id
        DocumentRoot /usr/local/www/apache24/data/vhost/
        <Directory /usr/local/www/apache24/data/vhost>
                AllowOverride All
                Options -MultiViews
                Require all granted
        </Directory>
</VirtualHost>

#Disable Trace Method
RewriteEngine on
RewriteCond %{REQUEST_METHOD} ^(TRACE|TRACK)
RewriteCond %{THE_REQUEST} !HTTP/1.1$
RewriteRule .* - [F]

#Disable ClickJacking XFRAME
Header always append X-Frame-Options SAMEORIGIN

#Hidden the Apache Version
ServerTokens Prod
ServerSignature Off

#Disable Etag File
FileETag None

#Blocking XSS
Header set X-XSS-Protection "1; mode=block"

#Set Time Out
Timeout 60

Header set X-Content-Type-Options nosniff

#Disable TRACE METHOD
TraceEnable off
```

Add The Script Above to vhost.conf

```
#mkdir /usr/local/www/apache24/data/vhost/
```

```
#ee /usr/local/www/apache24/data/vhost/index.php
```


```
#service apache24 restart
```

Visit http://your_server_ip to check vhost configuration

CHANGE OR CONFIGURE IP ADDRESS AND HOSTNAME

`#ee /etc/rc.conf`

For static IP Address

```
hostname="salmon.tangerangkota.local" //Your Hostname
ifconfig_em0="inet 10.10.10.12 netmask 255.255.255.0" //Your IP Address
defaultrouter="10.10.10.1" //Your Internet Gateway
sshd_enable="YES"
# Set dumpdev to "AUTO" to enable crash dumps, "NO" to disable
dumpdev="AUTO"
zfs_enable="YES"
apache24_enable="yes"
mysql_enable="yes"
```

For dhcp IP Address

```
hostname="salmon.tangerangkota.local" //Your Hostname
ifconfig_em0="DHCP” //Set Value to DHCP
sshd_enable="YES"
# Set dumpdev to "AUTO" to enable crash dumps, "NO" to disable
dumpdev="AUTO"
zfs_enable="YES"
apache24_enable="yes"
mysql_enable="yes"
```

`#/etc/rc.d/netif restart`

```
#ee /etc/hosts
```

```
# $FreeBSD: releng/11.2/etc/hosts 109997 2003-01-28 21:29:23Z dbaker $
#
# Host Database
#
# This file should contain the addresses and aliases for local hosts
that
# share this file.  Replace 'my.domain' below with the domainname of
your
# machine.
#
# In the presence of the domain name service or NIS, this file may
# not be consulted at all; see /etc/nsswitch.conf for the resolution
order.
#
#
::1                     localhost localhost.my.domain
127.0.0.1               localhost localhost.my.domain
10.10.10.12             salmon.tangerangkota.local //Add Your Hostname Here
#
# Imaginary network.
#10.0.0.2               myname.my.domain myname
#10.0.0.3               myfriend.my.domain myfriend
#
# According to RFC 1918, you can use the following IP networks for
# private nets which will never be connected to the Internet:
#
#       10.0.0.0        -   10.255.255.255
#       172.16.0.0      -   172.31.255.255
#       192.168.0.0     -   192.168.255.255
#
# In case you want to be able to connect to the Internet, you need
# real official assigned numbers.  Do not try to invent your own network
# numbers but instead get one from your network provider (if any) or
# from your regional registry (ARIN, APNIC, LACNIC, RIPE NCC, or
AfriNIC.)
#
```

To check your hostname configuration, run this command

```
#hostname -a //To Check Hostname Alias
```

```
#hostname -f //To Check Hostname and Domain
```

```
#hostname -s //To Check Hostname Only
```

CONFIGURE DNS SERVER

```
#portsnap fetch update
```

```
#portsnap extract
```

```
#cd /usr/ports/dns/bind99
```

```
#make install clean
```

```
#ee /usr/local/etc/namedb/named.conf
```

```
// If named is being used only as a local resolver, this is a safe default.
// For named to be accessible to the network, comment this option, specify
// the proper IP address, or delete this option.
//      listen-on       { 127.0.0.1; };
```

Line 22: Add double slash

```
        forwarders {
                10.10.10.12;
                8.8.8.8;
        };
```

Line 38 : Remove comment (/*...*/) and set your dns public IP here.

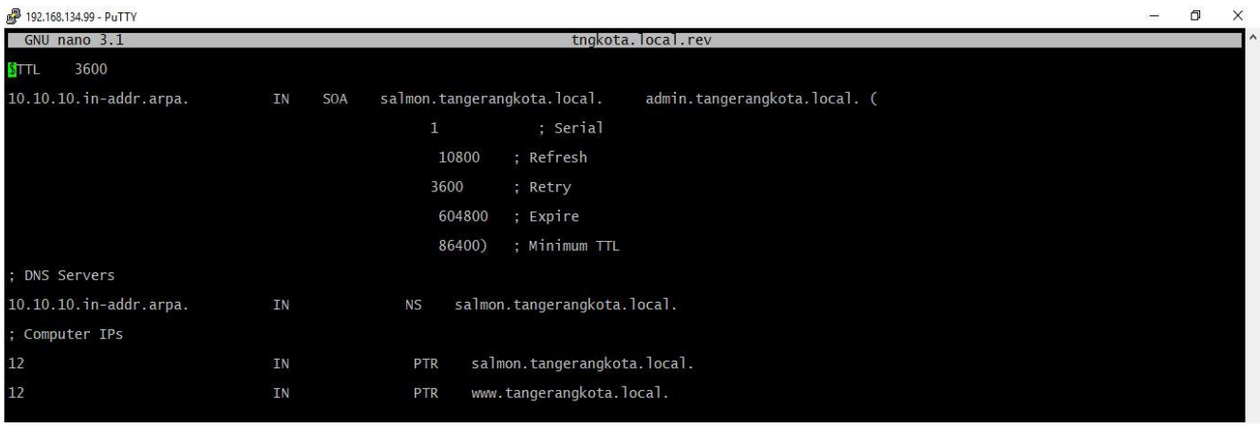
```
zone tangerangkota.local {
        type master;
        file "/usr/local/etc/namedb/master/tngkota.local";
        };

zone 10.10.10.in-addr.arpa {
        type master;
        file "/usr/local/etc/namedb/master/tngkota.local.rev";
        };
```

End of Line : Add this script for forward and reverse zone.

```
#ee /usr/local/etc/namedb/master/tngkota.local
```

```
192.168.134.99 - PuTTY
  GNU nano 3.1                                    tngkota.local
$TTL    3600
tangerangkota.local.                    IN    SOA     salmon.tangerangkota.local.   admin.tangerangkota.local. (
                                                      1             ; Serial
                                                      10800   ; Refresh
                                                      3600      ; Retry
                                                      604800  ; Expire
                                                      86400 )  ;Minimum TTL
; DNS Servers
tangerangkota.local.                        IN            NS   salmon.tangerangkota.local.
; Computer names and records
salmon.tangerangkota.local.                 IN            A    10.10.10.12
; Aliases
www                                         IN            CNAME    salmon.tangerangkota.local.
; Mail MX Records
tangerangkota.local.                        IN            MX     10   salmon.tangerangkota.local.
```

#ee /usr/local/etc/namedb/master/tngkota.local.rv



#ee /etc/resolv.conf

```
search google.com
search tangerangkota.local
nameserver 10.10.10.12
nameserver 8.8.8.8
```

Add this script.

#sysrc named_enable="YES"

#/etc/rc.d/named start

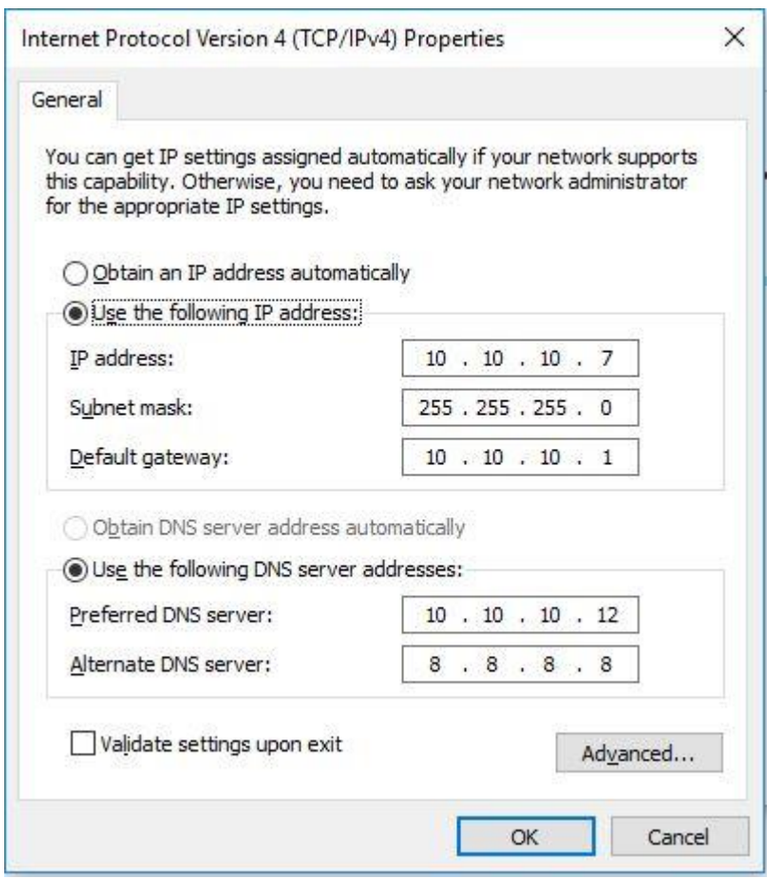
#dig www.tangerangkota.local //Check Forward DNS

```
; <<>> DiG 9.9.12 <<>> www.tangerangkota.local
;; global options: +cmd
;; Got answer:
;; WARNING: .local is reserved for Multicast DNS
;; You are currently testing what happens when an mDNS query is leaked to DNS
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 64104
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;www.tangerangkota.local.       IN      A

;; ANSWER SECTION:
www.tangerangkota.local. 3600   IN      CNAME   salmon.tangerangkota.local.
salmon.tangerangkota.local. 3600 IN     A       10.10.10.12

;; AUTHORITY SECTION:
tangerangkota.local.    3600    IN      NS      salmon.tangerangkota.local.

;; Query time: 0 msec
;; SERVER: 10.10.10.12#53(10.10.10.12)
;; WHEN: Sat Oct 13 10:59:49 WIB 2018
;; MSG SIZE  rcvd: 103
```

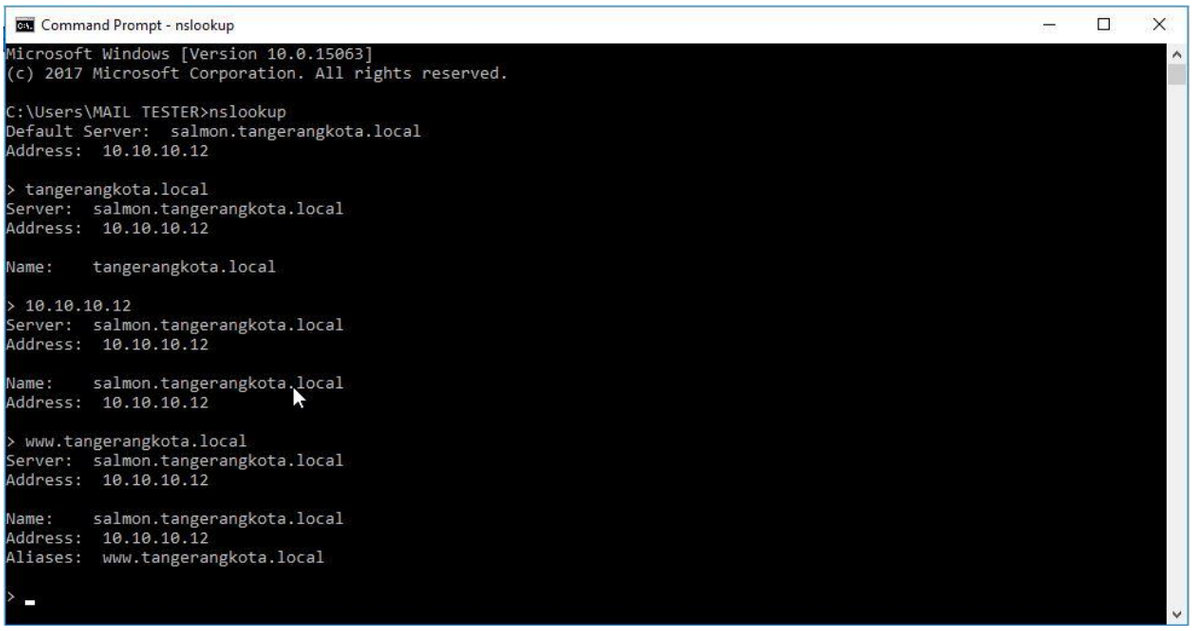
`#dig -x 10.10.10.12 //Check Reverse DNS`

```
; <<>> DiG 9.9.12 <<>> -x 10.10.10.12
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 39913
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 1, ADDITIONAL: 2

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;12.10.10.10.in-addr.arpa.      IN      PTR

;; ANSWER SECTION:
12.10.10.10.in-addr.arpa. 3600  IN      PTR     www.tangerangkota.local.
12.10.10.10.in-addr.arpa. 3600  IN      PTR     salmon.tangerangkota.local.

;; AUTHORITY SECTION:
10.10.10.in-addr.arpa.  3600    IN      NS      salmon.tangerangkota.local.

;; ADDITIONAL SECTION:
salmon.tangerangkota.local. 3600 IN     A       10.10.10.12

;; Query time: 0 msec
;; SERVER: 10.10.10.12#53(10.10.10.12)
;; WHEN: Sat Oct 13 11:36:03 WIB 2018
;; MSG SIZE  rcvd: 141
```

Now, you can check and visit your webserver with your domain from client. Set your DNS client to your DNS Server's IP. In this documentation, DNS's IP is 10.10.10.12.



Run nslookup command in your client's terminal. If configuration is correct you'll get this result.



If client can't resolv your DNS Server, run ipconfig /flushdns command on windows terminal or you can add your DNS IP on /etc/resolv.conf if your client's using linux.

Visit your domain from browser.