

Configuration of DNS server

1. Log in as super user:

Command: sudo su -

2. Update repository-

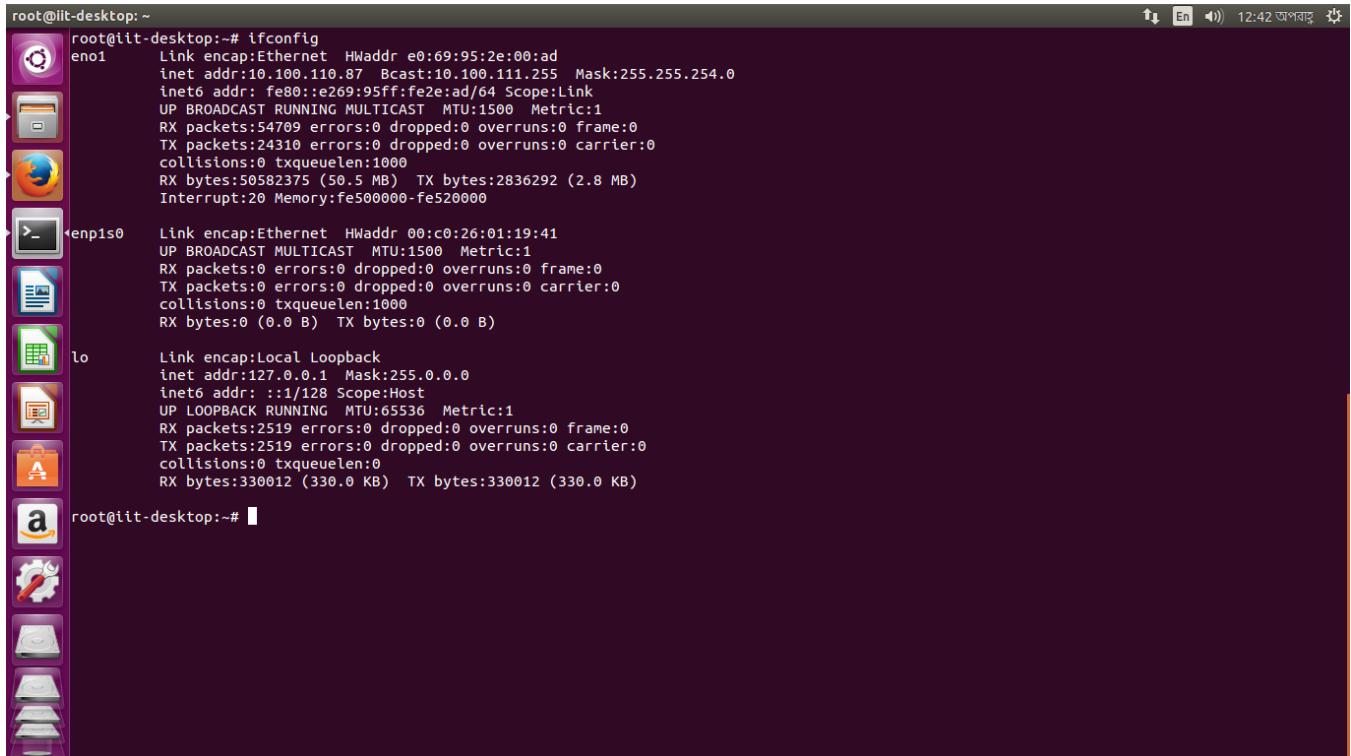
Command: apt-get update

3. Install bind9 –

Command: apt-get install bind9

4. Check your static ip if it is 10.100.108.1rr or not(rr is your last two digit of rule).

Command: ifconfig



```
root@iit-desktop:~# ifconfig
en0 Link encap:Ethernet HWaddr e0:69:95:2e:00:ad
      inet addr:10.100.110.87 Bcast:10.100.111.255 Mask:255.255.254.0
      inet6 addr: fe80::e269:95ff:fe2e:ad/64 Scope:Link
        UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
        RX packets:54709 errors:0 dropped:0 overruns:0 frame:0
        TX packets:24310 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:50582375 (50.5 MB) TX bytes:2836292 (2.8 MB)
        Interrupt:20 Memory:fe500000-fe520000

enp1s0 Link encap:Ethernet HWaddr 00:c0:26:01:19:41
      UP BROADCAST MULTICAST MTU:1500 Metric:1
      RX packets:0 errors:0 dropped:0 overruns:0 frame:0
      TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:1000
      RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)

lo Link encap:Local Loopback
      inet addr:127.0.0.1 Mask:255.0.0.0
      inet6 addr: ::1/128 Scope:Host
        UP LOOPBACK RUNNING MTU:65536 Metric:1
        RX packets:2519 errors:0 dropped:0 overruns:0 frame:0
        TX packets:2519 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:0
        RX bytes:330012 (330.0 KB) TX bytes:330012 (330.0 KB)

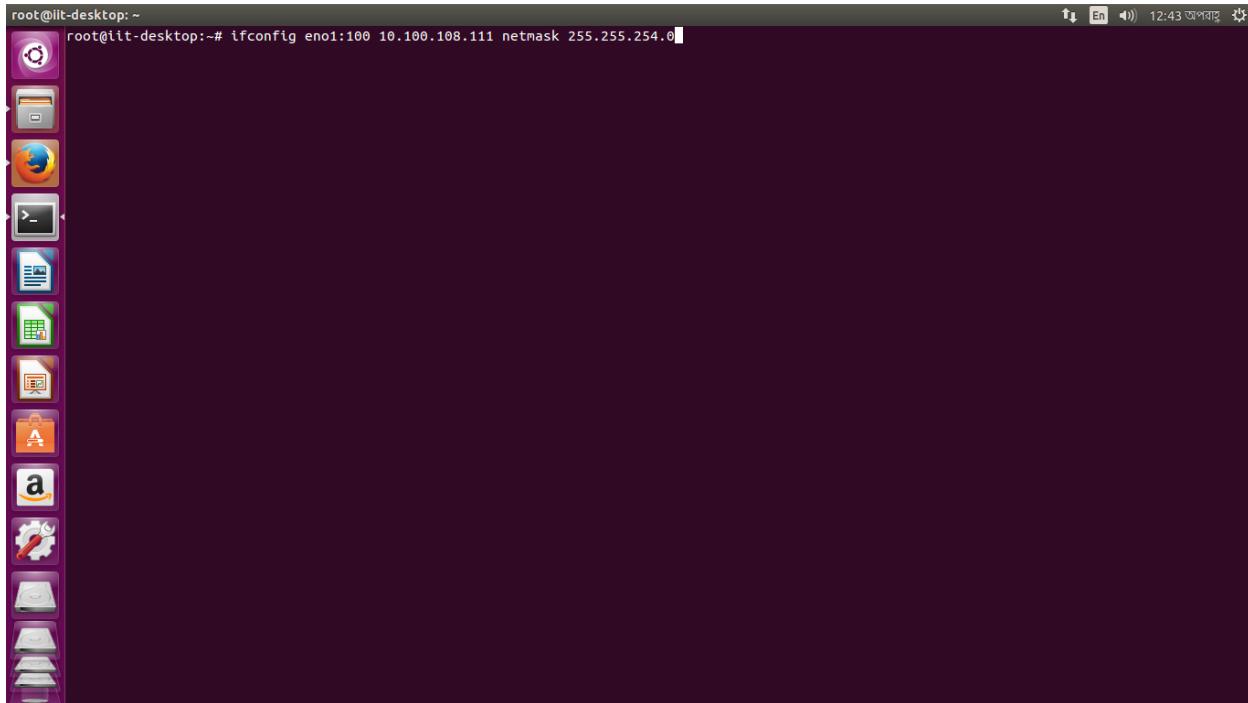
root@iit-desktop:~#
```

Here static ip is 10.100.110.87

If static ip is 10.100.108.1rr, no need of setting dynamic ip, So skip the step 5. Otherwise follow to set dynamic ip.

5. Setting dynamic ip:

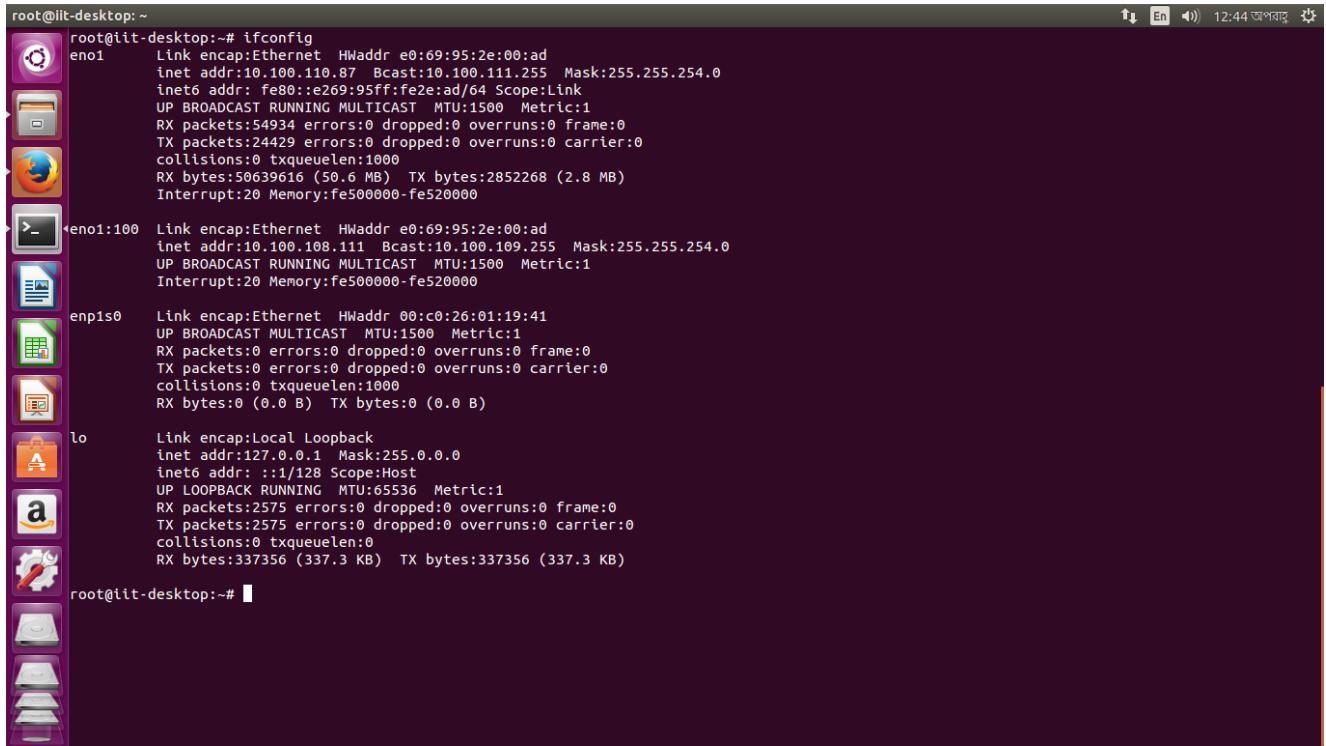
Command: ifconfig eth0/eno1:100 10.100.108.1rr netmask 255.255.254.0

A screenshot of an Ubuntu desktop environment. On the left, there's a vertical dock with various icons for applications like Dash, Home, File Explorer, and others. The main area is a terminal window with a dark background and light-colored text. The text shows a command being entered: "root@lit-desktop:~# ifconfig eno1:100 10.100.108.111 netmask 255.255.254.0". At the top of the terminal window, it says "root@lit-desktop:~". In the top right corner of the screen, there are system status icons for battery, signal strength, and time (12:43).

```
root@lit-desktop:~# ifconfig eno1:100 10.100.108.111 netmask 255.255.254.0
```

Check is it Ok or not:

Command: ifconfig



```
root@iit-desktop:~# ifconfig
eno1      Link encap:Ethernet HWaddr e0:69:95:2e:00:ad
          inet addr:10.100.110.87 Bcast:10.100.111.255 Mask:255.255.254.0
          inet6 addr: fe80::e269:95ff:fe2e:ad/64 Scope:Link
             UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
             RX packets:54934 errors:0 dropped:0 overruns:0 frame:0
             TX packets:24429 errors:0 dropped:0 overruns:0 carrier:0
             collisions:0 txqueuelen:1000
             RX bytes:50639616 (50.6 MB) TX bytes:2852268 (2.8 MB)
             Interrupt:20 Memory:fe500000-fe520000

eno1:100   Link encap:Ethernet HWaddr e0:69:95:2e:00:ad
          inet addr:10.100.108.111 Bcast:10.100.109.255 Mask:255.255.254.0
          inet6 addr: fe80::e269:95ff:fe2e:ad/64 Scope:Link
             UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
             Interrupt:20 Memory:fe500000-fe520000

enp1s0    Link encap:Ethernet HWaddr 00:c0:26:01:19:41
          inet addr:10.100.108.111 Bcast:10.100.109.255 Mask:255.255.254.0
          inet6 addr: fe80::c0c0:26ff:fe01:1941/64 Scope:Link
             UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
             RX packets:0 errors:0 dropped:0 overruns:0 frame:0
             TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
             collisions:0 txqueuelen:1000
             RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1 Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
             UP LOOPBACK RUNNING MTU:65536 Metric:1
             RX packets:2575 errors:0 dropped:0 overruns:0 frame:0
             TX packets:2575 errors:0 dropped:0 overruns:0 carrier:0
             collisions:0 txqueuelen:0
             RX bytes:337356 (337.3 KB) TX bytes:337356 (337.3 KB)

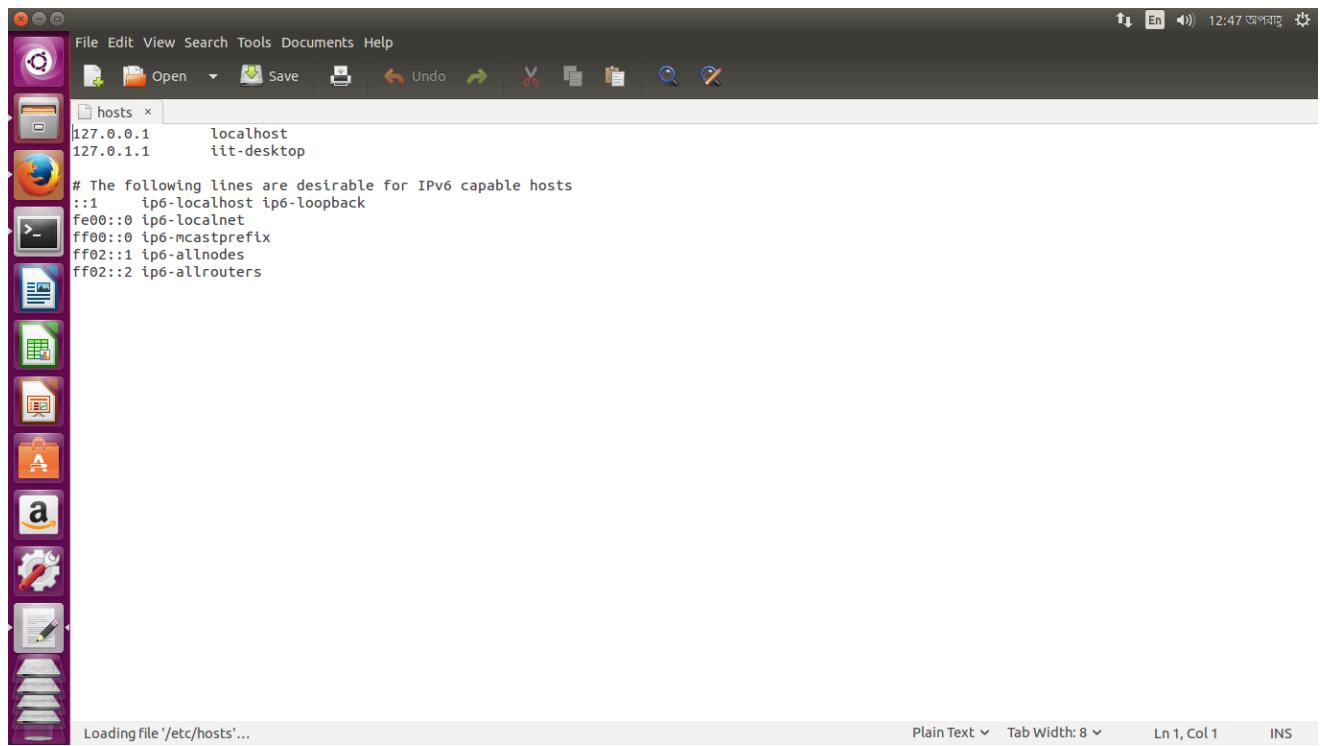
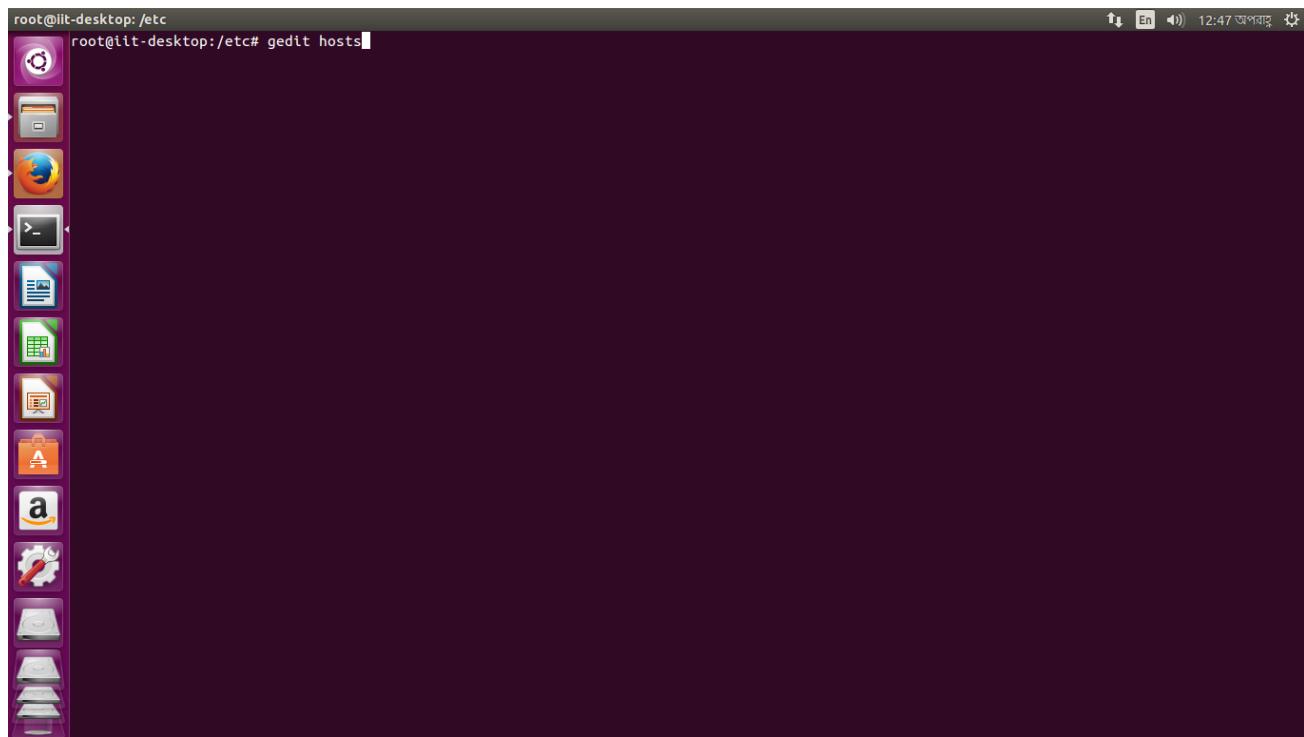
root@iit-desktop:~#
```

eno1:100 means ok. In case of eth0 you should see eth0:100

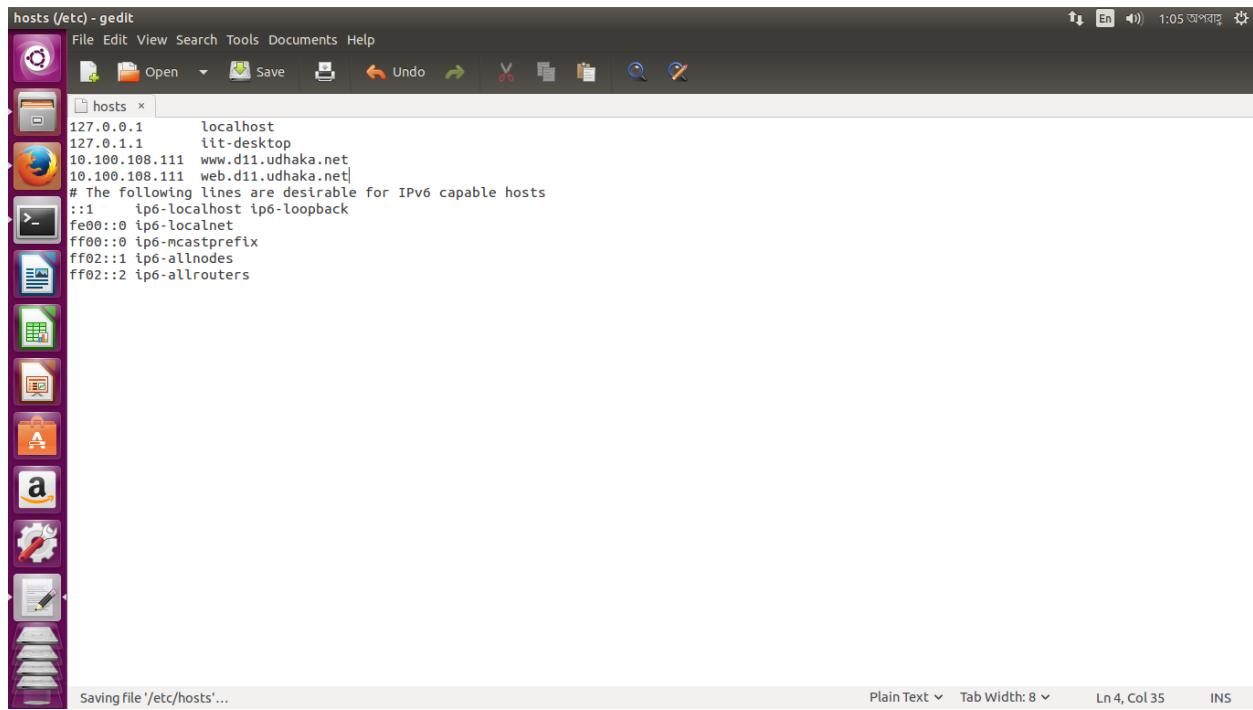
6. Setting hosts:

Command1: cd /etc

Command2: gedit hosts



Setting ip and host name in host file:



The screenshot shows the gedit text editor window with the title "hosts (/etc) - gedit". The menu bar includes File, Edit, View, Search, Tools, Documents, and Help. The toolbar contains icons for Open, Save, Undo, Redo, Cut, Copy, Paste, Find, and Replace. The left sidebar shows a tree view with "hosts" selected. The main text area displays the following content:

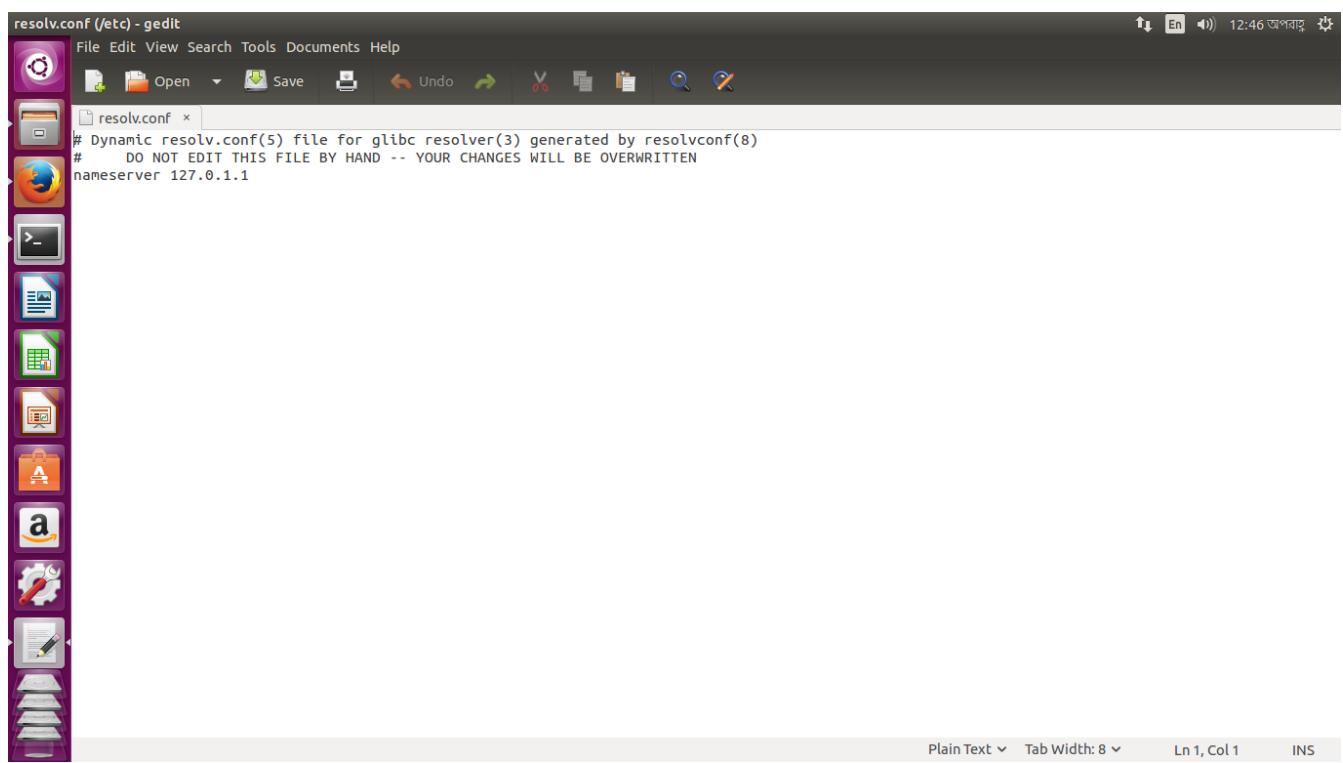
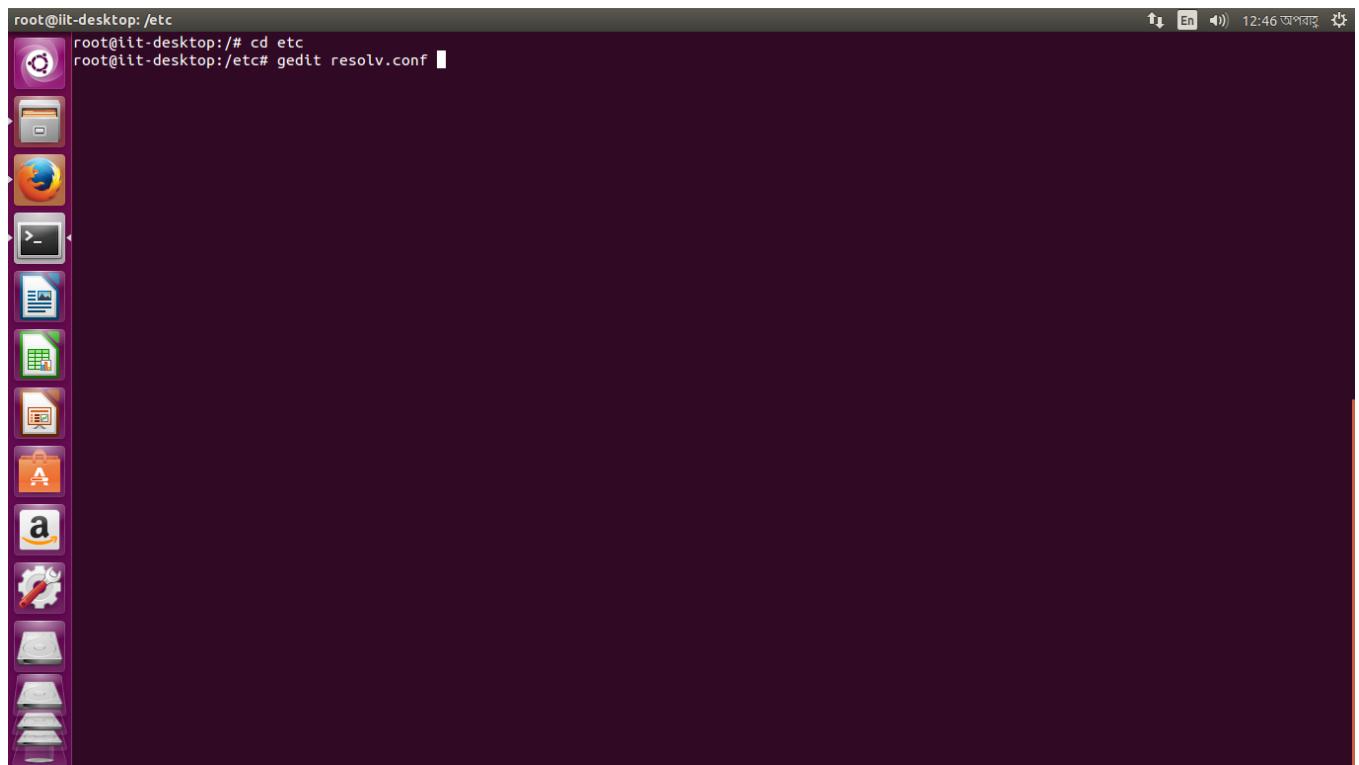
```
127.0.0.1      localhost
127.0.1.1      iit-desktop
10.100.108.111 www.d11.udhaka.net
10.100.108.111 web.d11.udhaka.net
# The following lines are desirable for IPv6 capable hosts
::1      ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
```

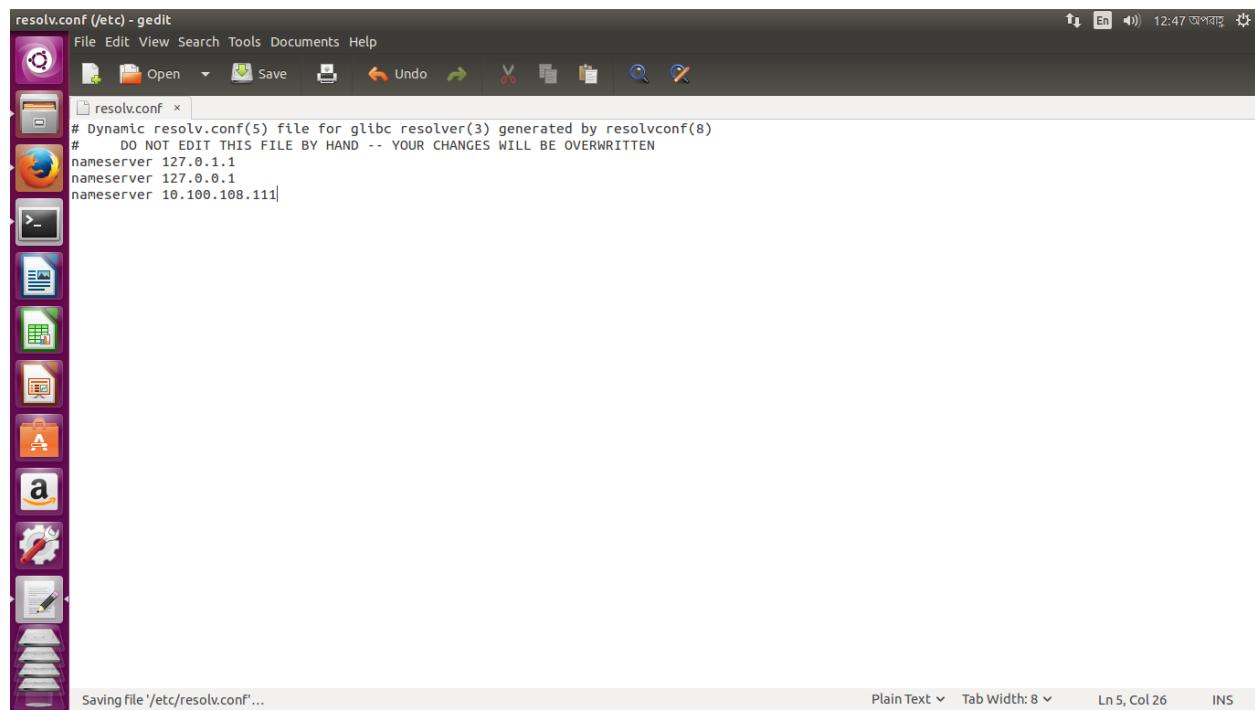
The status bar at the bottom indicates "Saving file '/etc/hosts'..." and shows "Plain Text" with "Tab Width: 8", "Ln 4, Col 35", and "INS".

Web.d11.udhaka.net is optional[for alias]

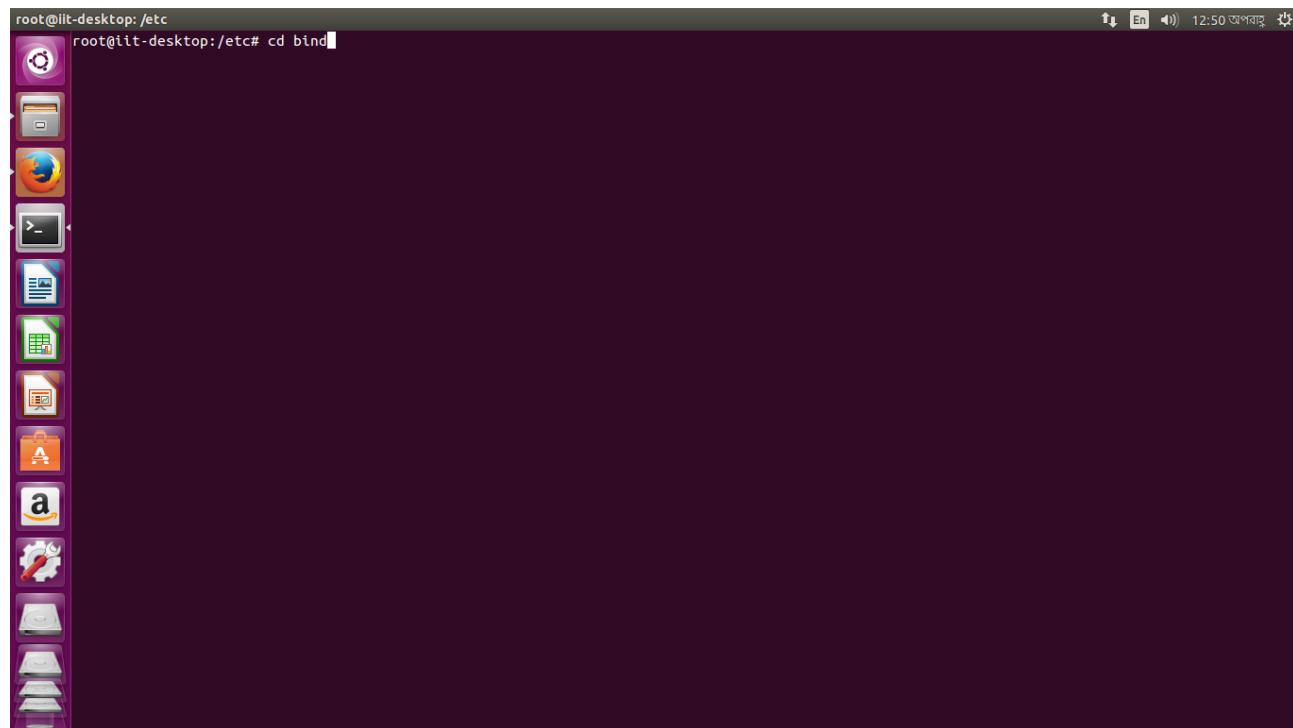
7. Editing resolv.conf file.

Steps are follows.

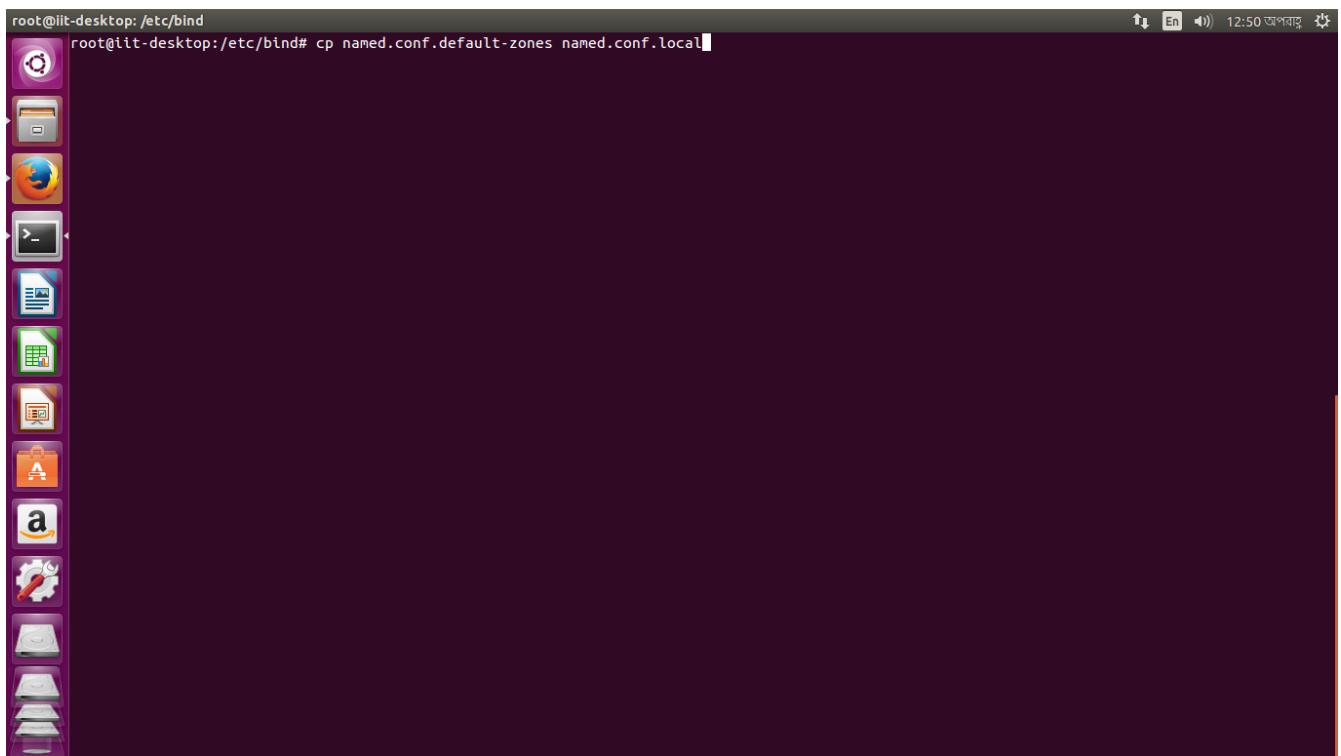




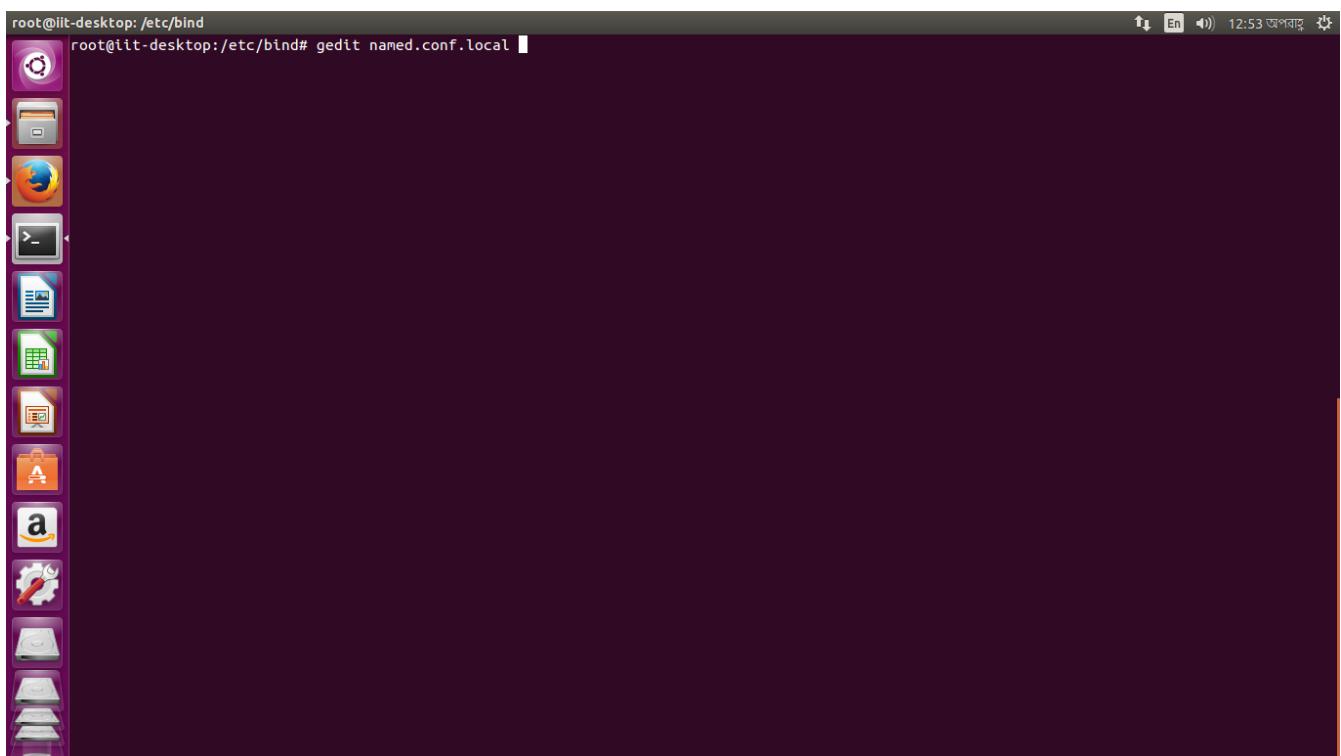
8. Creating Zone, name server configuration etc.



```
root@iit-desktop:/etc/bind
root@iit-desktop:/etc/bind# cp named.conf.default-zones named.conf.local
```

A screenshot of an Ubuntu desktop environment. On the left, there is a vertical dock of application icons. The terminal window is open at the top of the screen, showing a root prompt at 'root@iit-desktop:/etc/bind'. The command 'cp named.conf.default-zones named.conf.local' is typed into the terminal. The status bar at the top right shows system information like battery level, network, and time (12:50 অপরাহ্ন).

```
root@iit-desktop:/etc/bind
root@iit-desktop:/etc/bind# gedit named.conf.local
```

A screenshot of an Ubuntu desktop environment, identical to the one above but with a different terminal command. The terminal window at the top shows a root prompt at 'root@iit-desktop:/etc/bind'. The command 'gedit named.conf.local' is typed into the terminal. The status bar at the top right shows system information like battery level, network, and time (12:53 অপরাহ্ন).

The screenshot shows a desktop environment with a file editor window open. The window title is "named.conf.local". The code in the editor is:

```
// prime the server with knowledge of the root servers
zone "." {
    type hint;
    file "/etc/bind/db.root";
};

// be authoritative for the localhost forward and reverse zones, and for
// broadcast zones as per RFC 1912

zone "localhost" {
    type master;
    file "/etc/bind/db.local";
};

zone "127.in-addr.arpa" {
    type master;
    file "/etc/bind/db.127";
};

zone "0.in-addr.arpa" {
    type master;
    file "/etc/bind/db.0";
};

zone "255.in-addr.arpa" {
    type master;
    file "/etc/bind/db.255";
};
```

At the bottom of the editor, it says "Loading file '/etc/bind/named.conf.local'...". The status bar at the bottom right shows "C" with a dropdown arrow, "Tab Width: 8", "Ln 1, Col 1", and "INS".

The screenshot shows a desktop environment with a file editor window open. The window title is "named.conf.local (/etc/bind) - gedit". The code in the editor is:

```
// prime the server with knowledge of the root servers
zone "d11.udhaka.net" {
    type master;
    file "/etc/bind/db.d11.udhaka.net";
};
```

The status bar at the bottom right shows "C" with a dropdown arrow, "Tab Width: 8", "Ln 3, Col 20", and "INS".

```
root@iit-desktop:/etc/bind
root@iit-desktop:/etc/bind# cp db.local db.d11.udhaka.net
```

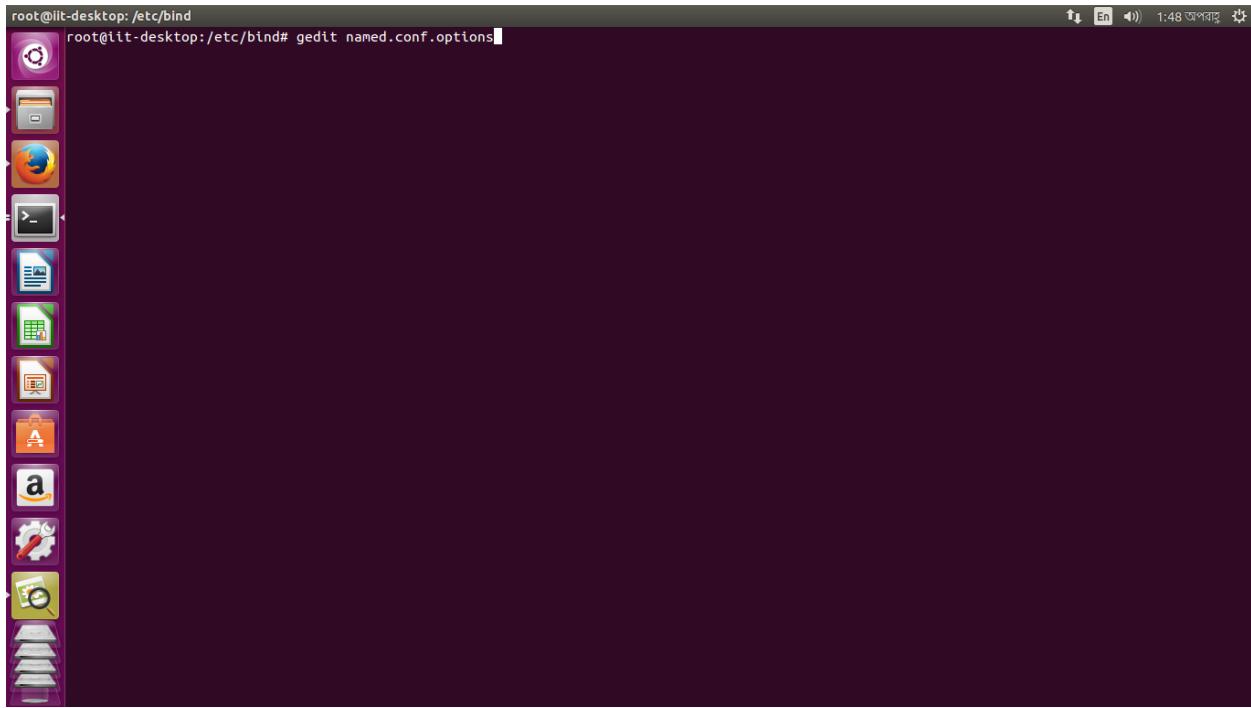
```
root@iit-desktop:/etc/bind
root@iit-desktop:/etc/bind# gedit db.d11.udhaka.net
```

```
; BIND data file for local loopback interface
;
$TTL    604800
@      IN  SOA   localhost. root.localhost. (
              2           ; Serial
              604800        ; Refresh
              86400         ; Retry
              2419200       ; Expire
              604800 )       ; Negative Cache TTL
;
@      IN  NS    localhost.
@      IN  A     127.0.0.1
@      IN  AAAA  ::1
```

Loading file '/etc/bind/db.d11.udhaka.net'... Plain Text Tab Width: 8 Ln 1, Col 1 INS

```
; BIND data file for local loopback interface
;
$TTL    300
@      IN  SOA   ns1.d11.udhaka.net. root.localhost. (
              3           ; Serial
              300          ; Refresh
              86400        ; Retry
              2419200       ; Expire
              604800 )       ; Negative Cache TTL
;
@      IN  NS    ns1
ns1    IN  A     10.100.108.111
www   IN  A     10.100.108.111
web   IN  A     10.100.108.111|
```

Plain Text Tab Width: 8 Ln 15, Col 39 INS



*named.conf.options (/etc/bind) - gedit

```
File Edit View Search Tools Documents Help
Open Save Undo Redo Cut Copy Paste Find Replace
*named.conf.options x
options {
    directory "/var/cache/bind";

    // If there is a firewall between you and nameservers you want
    // to talk to, you may need to fix the firewall to allow multiple
    // ports to talk. See http://www.kb.cert.org/vuls/id/800113

    // If your ISP provided one or more IP addresses for stable
    // nameservers, you probably want to use them as forwarders.
    // Uncomment the following block, and insert the addresses replacing
    // the all-0's placeholder.

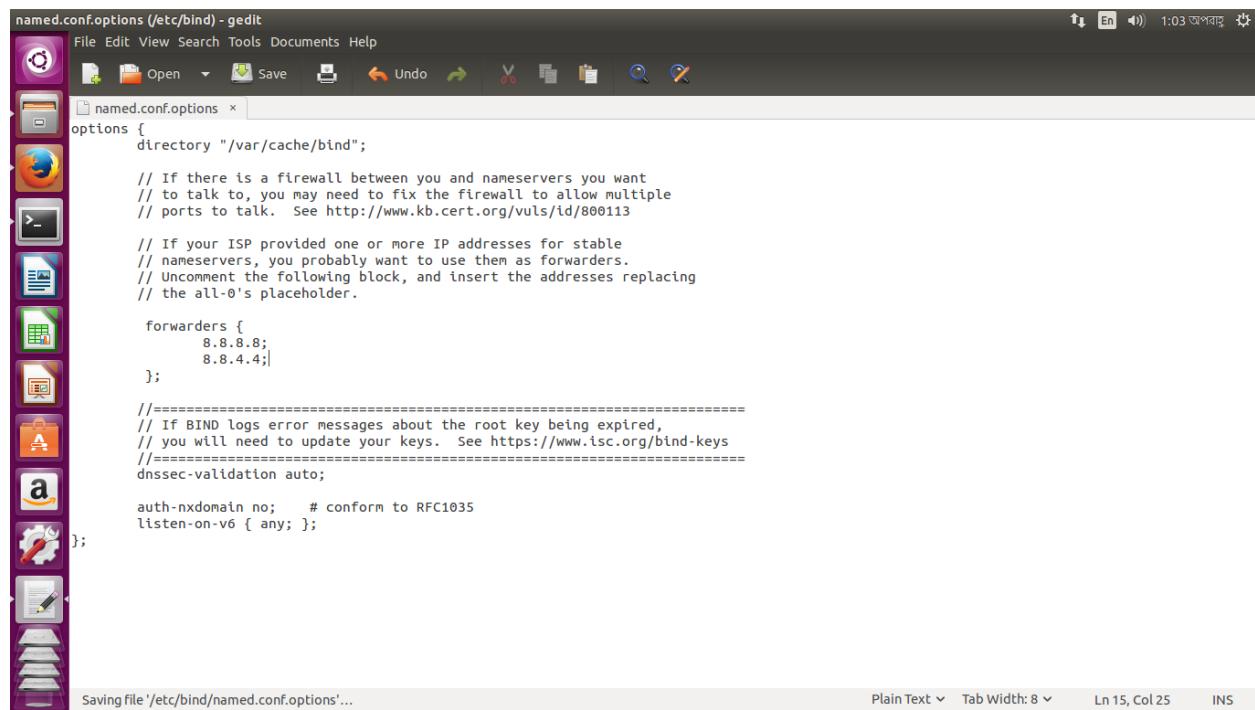
    forwarders {
        0.0.0.0;
    };

    //========================================================================
    // If BIND logs error messages about the root key being expired,
    // you will need to update your keys. See https://www.isc.org/bind-keys
    //========================================================================
    dnssec-validation auto;

    auth-nxdomain no;    # conform to RFC1035
    listen-on-v6 { any; };
};
```

Plain Text ▾ Tab Width: 8 ▾ Ln 14, Col 18 ▾ INS

named.conf.options (/etc/bind) - gedit



```
File Edit View Search Tools Documents Help
File Edit View Search Tools Documents Help
named.conf.options x
options {
    directory "/var/cache/bind";

    // If there is a firewall between you and nameservers you want
    // to talk to, you may need to fix the firewall to allow multiple
    // ports to talk. See http://www.kb.cert.org/vuls/id/800113

    // If your ISP provided one or more IP addresses for stable
    // nameservers, you probably want to use them as forwarders.
    // Uncomment the following block, and insert the addresses replacing
    // the all-0's placeholder.

    forwarders {
        8.8.8.8;
        8.8.4.4;
    };

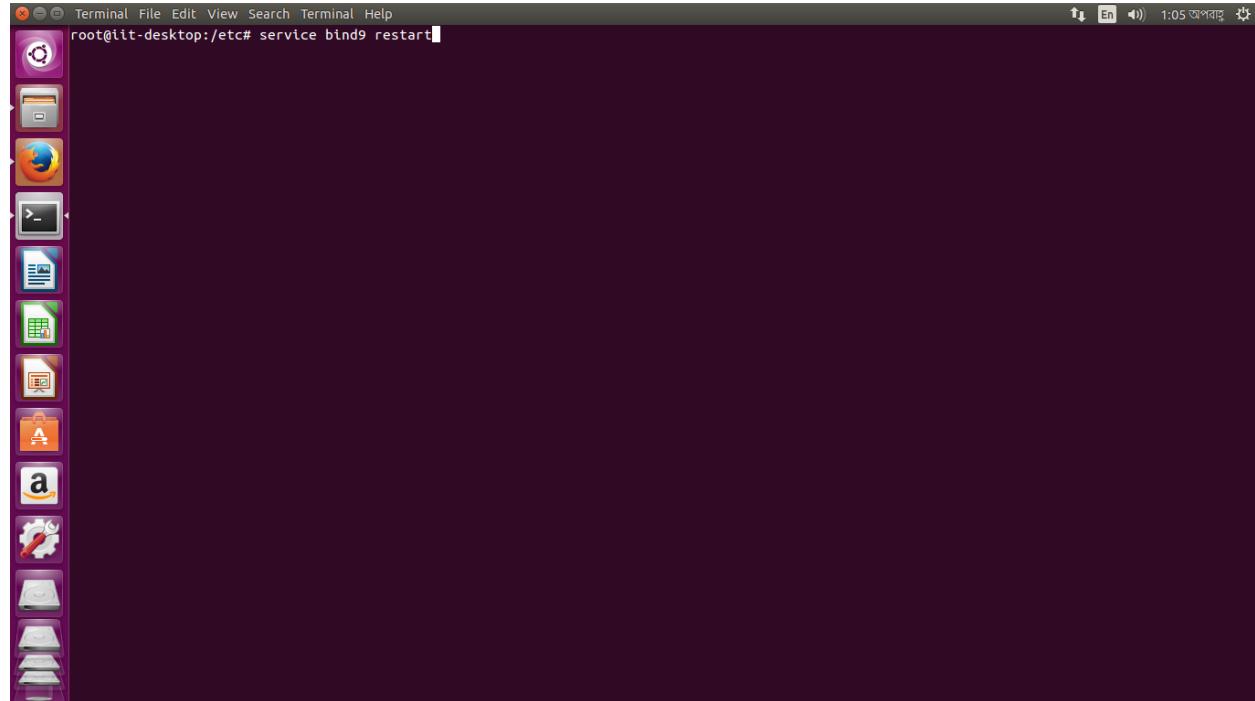
    //========================================================================
    // If BIND logs error messages about the root key being expired,
    // you will need to update your keys. See https://www.tsc.org/bind-keys
    //========================================================================
    dnssec-validation auto;

    auth-nxdomain no;    # conform to RFC1035
    listen-on-v6 { any; };
};

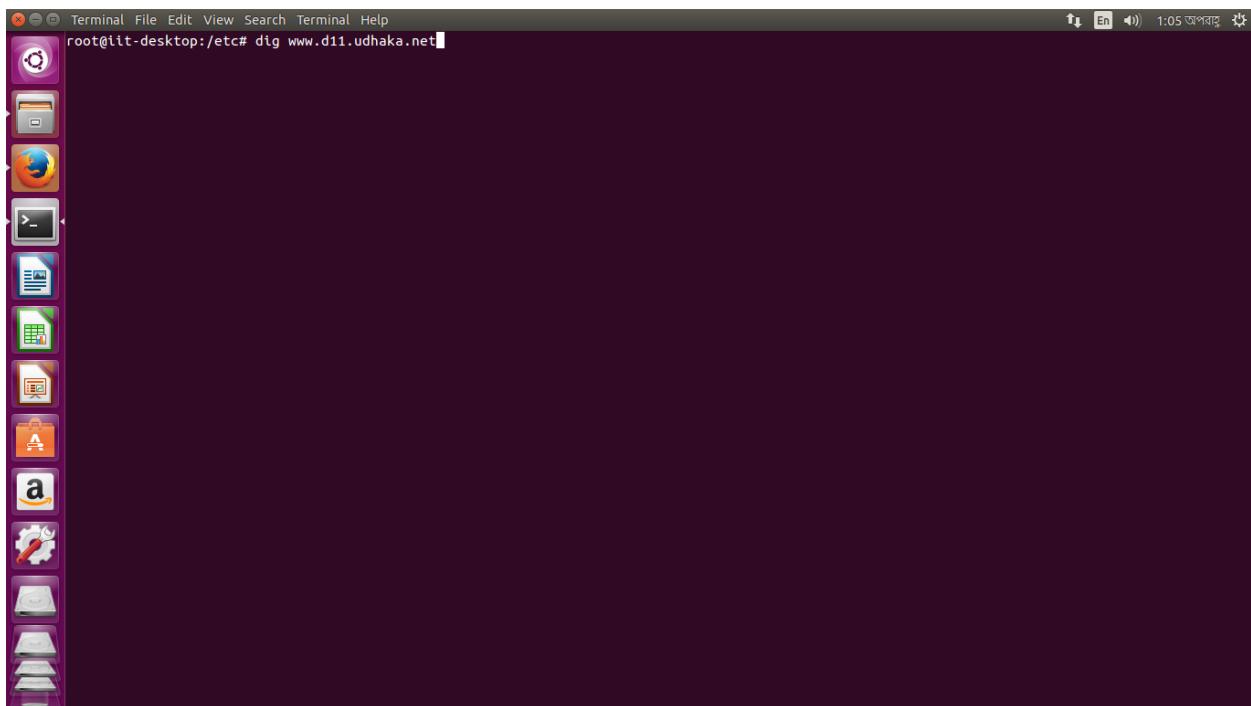
Saving file '/etc/bind/named.conf.options'...
```

Plain Text ▾ Tab Width: 8 ▾ Ln 15, Col 25 INS

Terminal File Edit View Search Terminal Help



```
root@lit-desktop:/etc# service bind9 restart
```



```
root@iit-desktop:/etc# dig www.d11.udhaka.net
; <>> DiG 9.9.5-11ubuntu1-Ubuntu <>> www.d11.udhaka.net
;; global options: +cmd
;; Got answer:
;; ->HEADER<- opcode: QUERY, status: NOERROR, id: 28338
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 1, ADDITIONAL: 2
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
<www.d11.udhaka.net.      IN      A>
;; ANSWER SECTION:
www.d11.udhaka.net.    300    IN      A      10.100.108.111
;; AUTHORITY SECTION:
d11.udhaka.net.        300    IN      NS      ns1.d11.udhaka.net.
;; ADDITIONAL SECTION:
ns1.d11.udhaka.net.    300    IN      A      10.100.108.111
;; Query time: 0 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: Mon Nov 13 13:05:57 BDT 2017
;; MSG SIZE  rcvd: 97
root@iit-desktop:/etc#
```

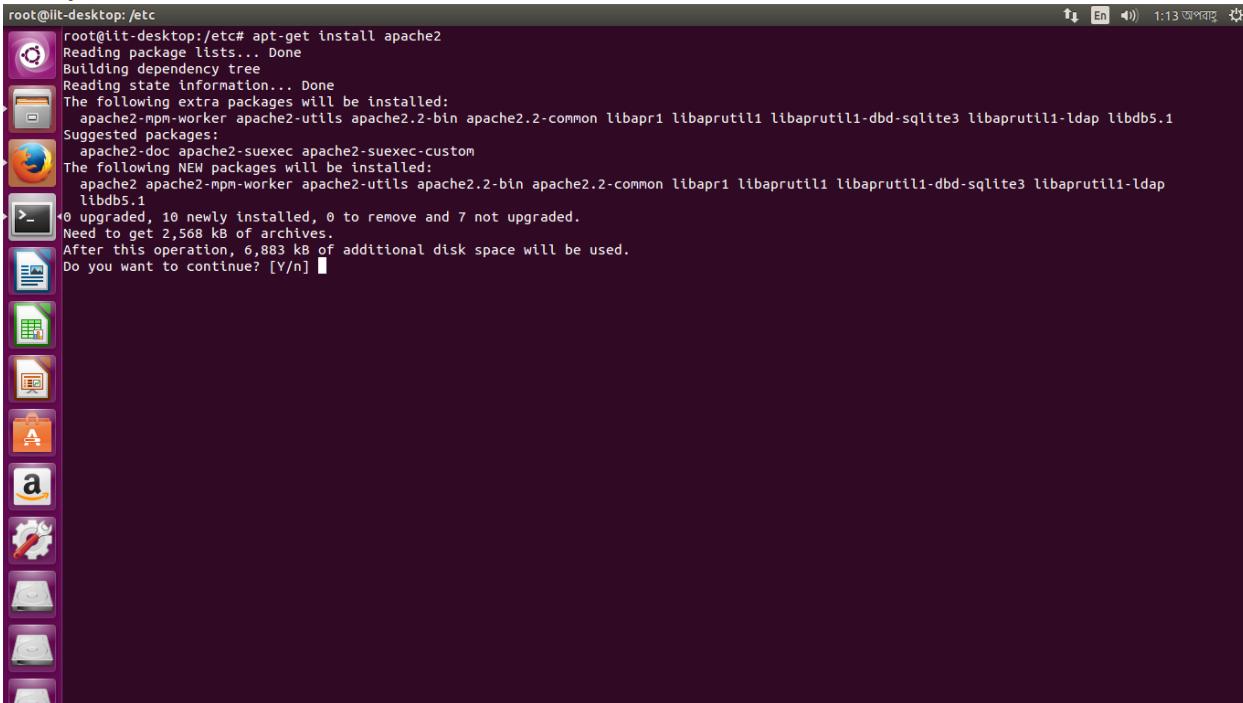
```
Terminal File Edit View Search Terminal Help
root@lit-desktop:/etc# ping www.d11.udhaka.net
PING www.d11.udhaka.net (10.100.108.111) 56(84) bytes of data.
64 bytes from www.d11.udhaka.net (10.100.108.111): icmp_seq=1 ttl=64 time=0.026 ms
64 bytes from www.d11.udhaka.net (10.100.108.111): icmp_seq=2 ttl=64 time=0.033 ms
64 bytes from www.d11.udhaka.net (10.100.108.111): icmp_seq=3 ttl=64 time=0.039 ms
64 bytes from www.d11.udhaka.net (10.100.108.111): icmp_seq=4 ttl=64 time=0.041 ms
64 bytes from www.d11.udhaka.net (10.100.108.111): icmp_seq=5 ttl=64 time=0.031 ms
```

```
Terminal File Edit View Search Terminal Help
root@lit-desktop:/etc# ping ns1.d11.udhaka.net
PING ns1.d11.udhaka.net (10.100.108.111) 56(84) bytes of data.
64 bytes from www.d11.udhaka.net (10.100.108.111): icmp_seq=1 ttl=64 time=0.022 ms
64 bytes from www.d11.udhaka.net (10.100.108.111): icmp_seq=2 ttl=64 time=0.036 ms
64 bytes from www.d11.udhaka.net (10.100.108.111): icmp_seq=3 ttl=64 time=0.036 ms
64 bytes from www.d11.udhaka.net (10.100.108.111): icmp_seq=4 ttl=64 time=0.039 ms
```

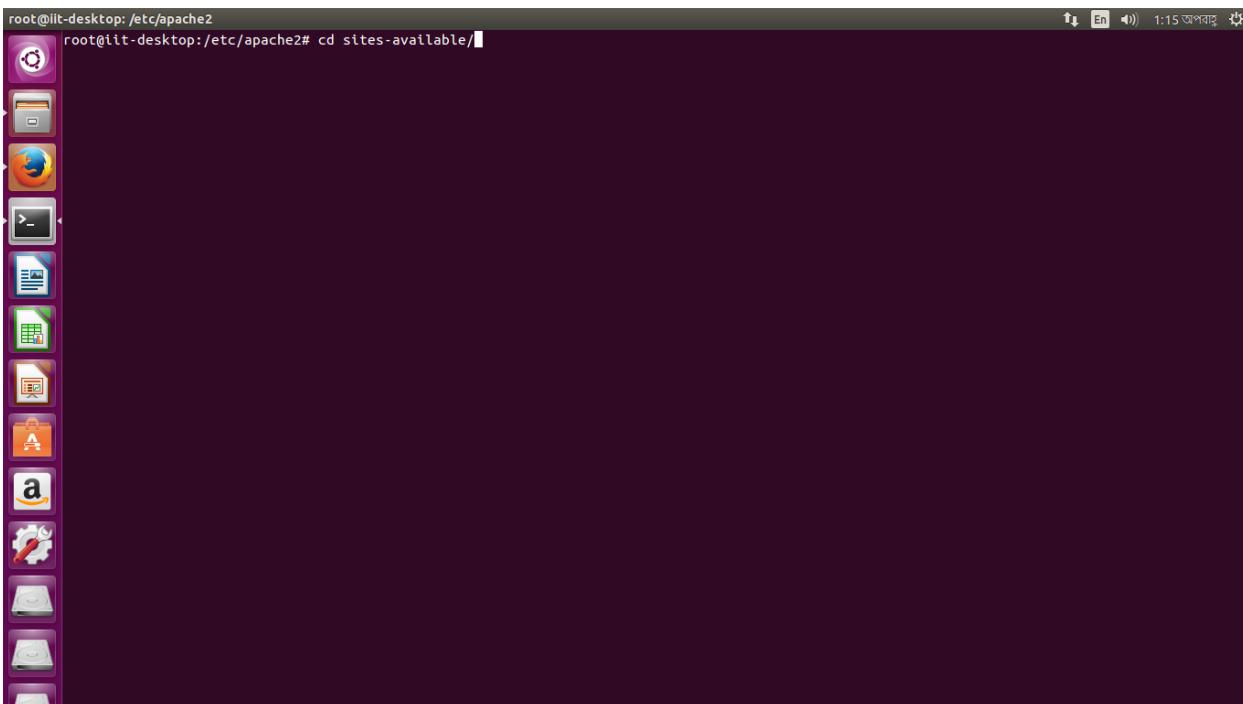
Therefore all is ok.

Configuring apache server and creating virtual host

Steps are follows:



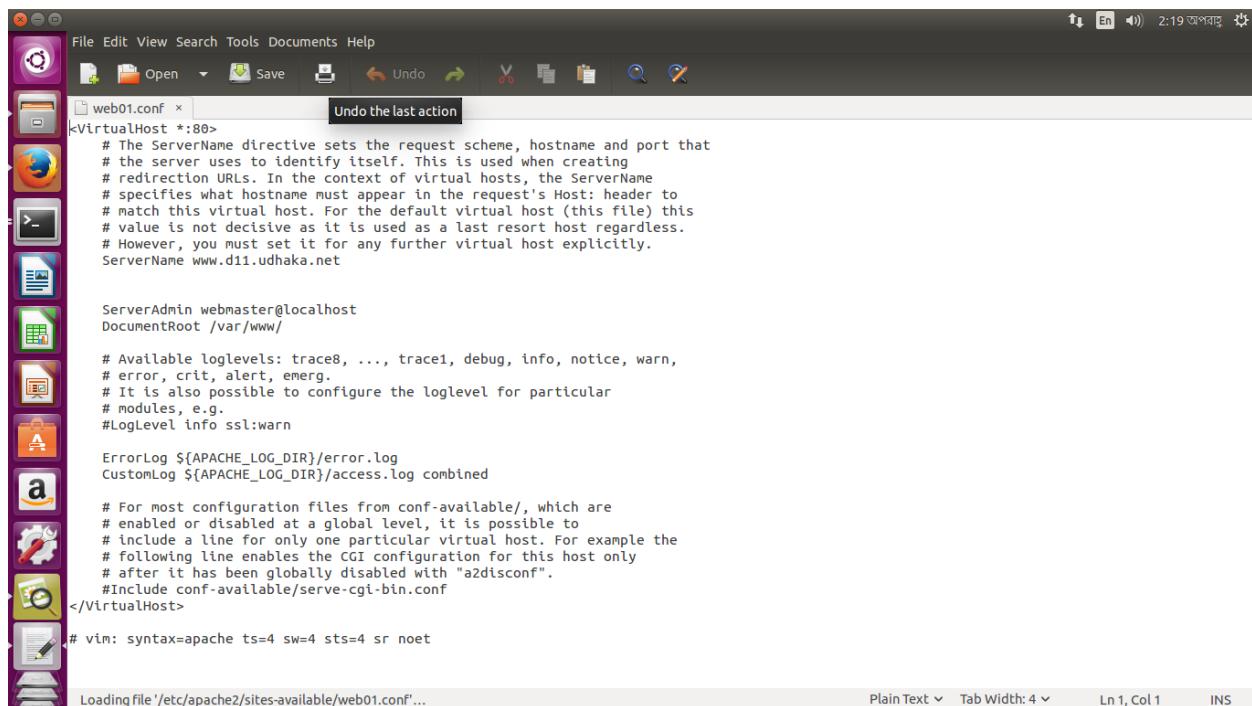
```
root@iit-desktop:/etc# apt-get install apache2
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following extra packages will be installed:
apache2-mpm-worker apache2-utils apache2.2-bin apache2.2-common libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap libdb5.1
Suggested packages:
apache2-doc apache2-suexec apache2-suexec-custom
The following NEW packages will be installed:
apache2 apache2-mpm-worker apache2-utils apache2.2-bin apache2.2-common libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap
libdb5.1
0 upgraded, 10 newly installed, 0 to remove and 7 not upgraded.
Need to get 2,568 kB of archives.
After this operation, 6,883 kB of additional disk space will be used.
Do you want to continue? [Y/n] ■
```



```
root@iit-desktop:/etc/apache2#
root@iit-desktop:/etc/apache2# cd sites-available/■
```

```
root@ilt-desktop:/etc/apache2/sites-available
root@ilt-desktop:/etc/apache2/sites-available# cp 000-default.conf web01.conf
```

```
root@lit-desktop:/etc/apache2/sites-available
root@lit-desktop:/etc/apache2/sites-available# gedit web01.conf
```



File Edit View Search Tools Documents Help

Open Save Undo Redo Cut Copy Paste Find Replace

undo the last action

```
<VirtualHost *:80>
    # The ServerName directive sets the request scheme, hostname and port that
    # the server uses to identify itself. This is used when creating
    # redirection URLs. In the context of virtual hosts, the ServerName
    # specifies what hostname must appear in the request's Host: header to
    # match this virtual host. For the default virtual host (this file) this
    # value is not decisive as it is used as a last resort host regardless.
    # However, you must set it for any further virtual host explicitly.
    ServerName www.d11.udhaka.net

    ServerAdmin webmaster@localhost
    DocumentRoot /var/www/

    # Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
    # error, crit, alert, emerg.
    # It is also possible to configure the loglevel for particular
    # modules, e.g.
    #LogLevel info ssl:warn

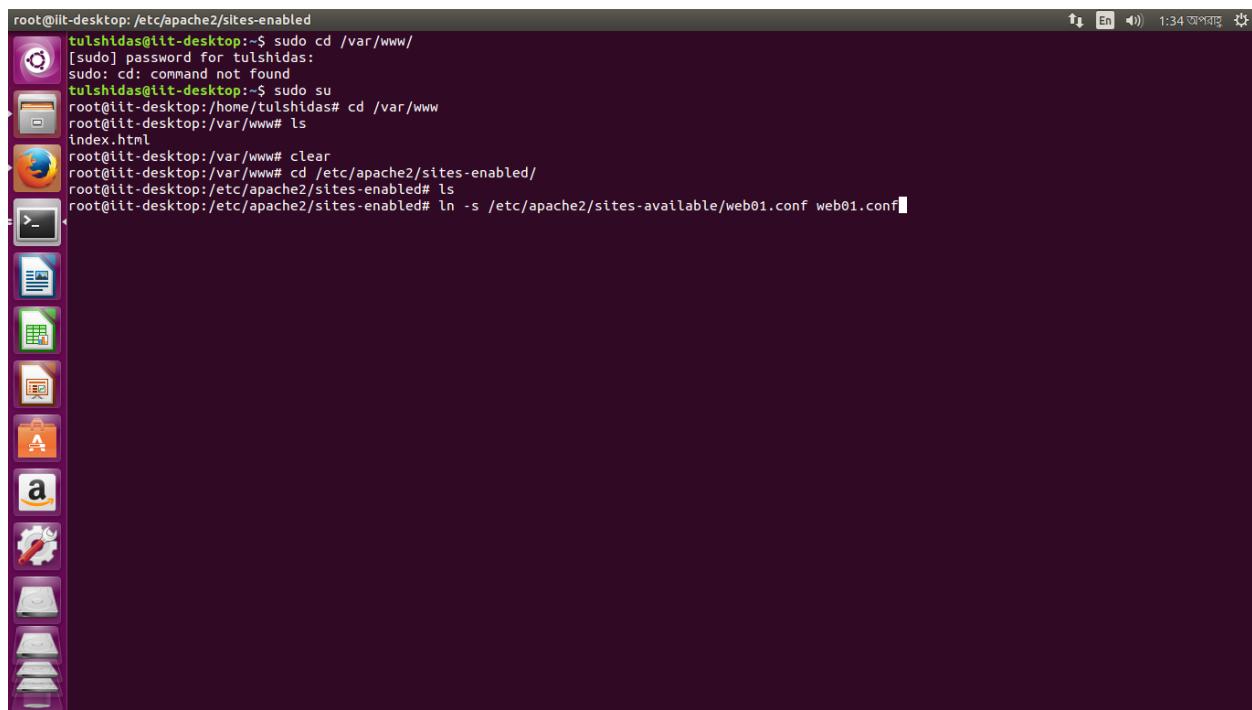
    ErrorLog ${APACHE_LOG_DIR}/error.log
    CustomLog ${APACHE_LOG_DIR}/access.log combined

    # For most configuration files from conf-available/, which are
    # enabled or disabled at a global level, it is possible to
    # include a line for only one particular virtual host. For example the
    # following line enables the CGI configuration for this host only
    # after it has been globally disabled with "a2disconf".
    #Include conf-available/serve-cgi-bin.conf
</VirtualHost>

# vim: syntax=apache ts=4 sw=4 sts=4 sr noet
```

Loading file '/etc/apache2/sites-available/web01.conf' ...

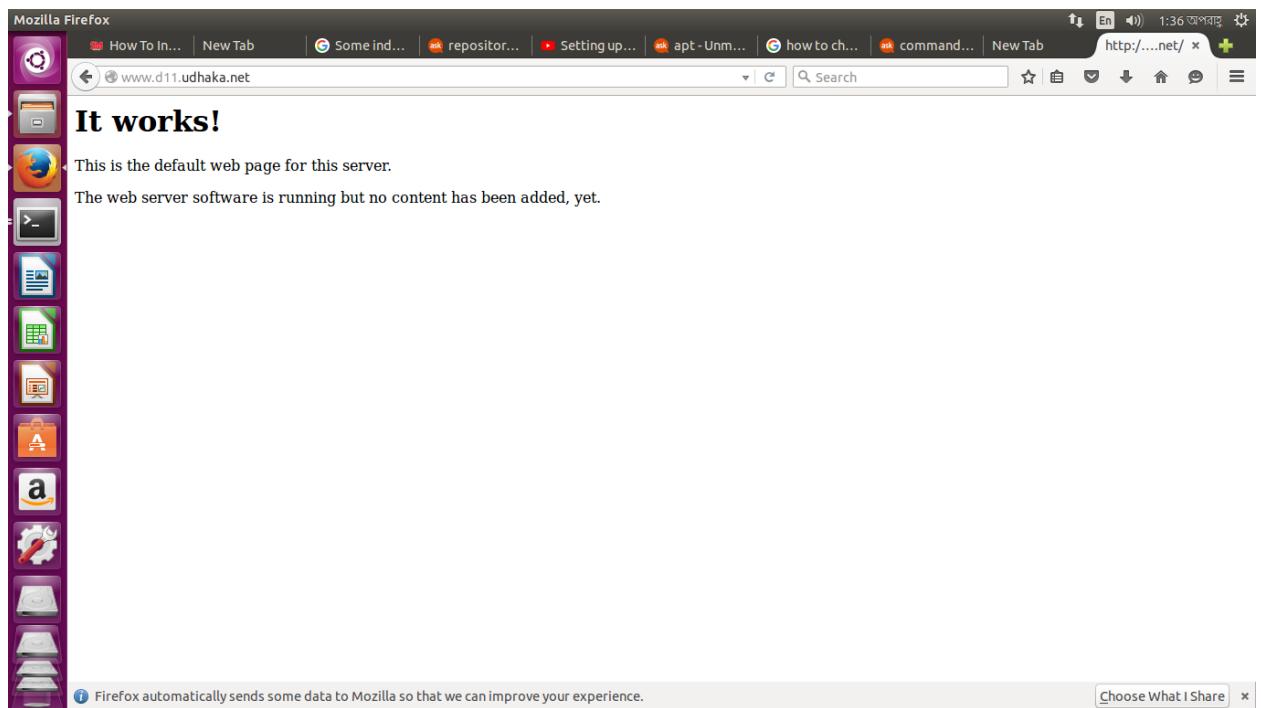
Plain Text Tab Width: 4 Ln 1, Col 1 INS



```
root@lit-desktop:/etc/apache2/sites-enabled
tulshidas@lit-desktop:~$ sudo cd /var/www/
[sudo] password for tulshidas:
sudo: cd: command not found
tulshidas@lit-desktop:~$ sudo su
root@lit-desktop:/home/tulshidas# cd /var/www
root@lit-desktop:/var/www# ls
index.html
root@lit-desktop:/var/www# clear
root@lit-desktop:/var/www# cd /etc/apache2/sites-enabled/
root@lit-desktop:/etc/apache2/sites-enabled# ls
root@lit-desktop:/etc/apache2/sites-enabled# ln -s /etc/apache2/sites-available/web01.conf web01.conf
```

```
root@lit-desktop:/etc/apache2/sites-enabled
tulshidas@lit-desktop:~$ sudo cd /var/www/
[sudo] password for tulshidas:
sudo: cd: command not found
tulshidas@lit-desktop:~$ sudo su
root@lit-desktop:/home/tulshidas# cd /var/www
root@lit-desktop:/var/www# ls
index.html
root@lit-desktop:/var/www# clear
root@lit-desktop:/var/www# cd /etc/apache2/sites-enabled/
root@lit-desktop:/etc/apache2/sites-enabled# ls
root@lit-desktop:/etc/apache2/sites-enabled# ln -s /etc/apache2/sites-available/web01.conf web01.conf
000-default web01.conf
root@lit-desktop:/etc/apache2/sites-enabled#
```

```
Terminal File Edit View Search Terminal Help
tulshidas@lit-desktop:~$ sudo cd /var/www/
[sudo] password for tulshidas:
sudo: cd: command not found
tulshidas@lit-desktop:~$ sudo su
root@lit-desktop:/home/tulshidas# cd /var/www
root@lit-desktop:/var/www# ls
index.html
root@lit-desktop:/var/www# clear
root@lit-desktop:/var/www# cd /etc/apache2/sites-enabled/
root@lit-desktop:/etc/apache2/sites-enabled# ls
root@lit-desktop:/etc/apache2/sites-enabled# ln -s /etc/apache2/sites-available/web01.conf web01.conf
000-default web01.conf
root@lit-desktop:/etc/apache2/sites-enabled# service apache2 restart
```



As index.html file is not created, it shows this content.

Now create index.html file in your given directory. Here /var/www .Restart apache2 and bind9.

That's all.

Gratitude to:

Mahir Mahbub Srijon vaia



