Linux Project

Ntsapi & Benoit

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Server

Requirements:

One server (no GUI) running the following services:

a. *DHCP (one scope serving the local internal network) isc-dhcp-server*
b. *DNS (resolve internal resources, a redirector is used for external resources) bind*
c. *HTTP + mariadb (internal website running GLPI)*
d. ***Required***
    i. *Weekly backup the configuration files for each service into one single compressed archive*
    ii. *The server is remotely manageable (SSH)*
e. ***Optional***
    Backups are placed on a partition located on separate disk, this partition must be mounted for the backup, then unmounted

Server:

We will use Linux in non-GUI for this server

DHCP:

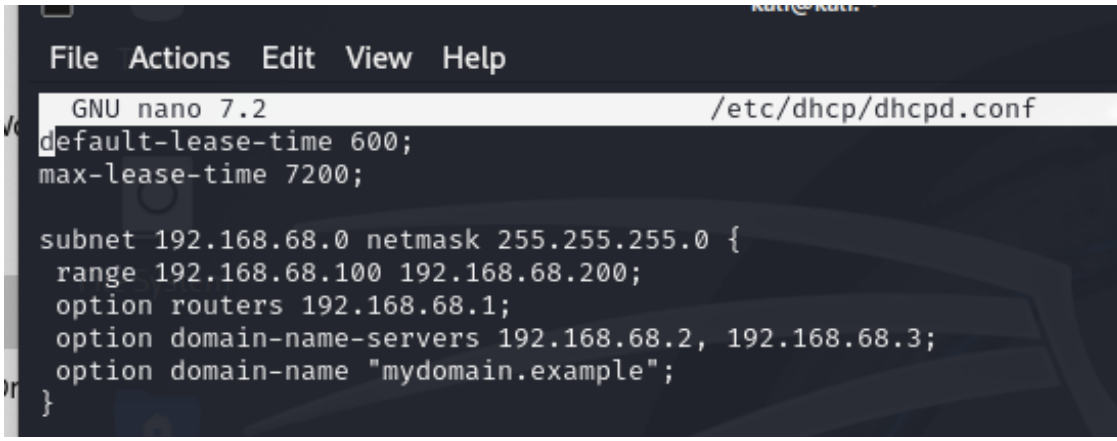
How to unstill:

- *In terminal:*
    - *sudo apt update*
    - *sudo apt install isc-dhcp-server*

How to configure:

- *make copy of original configuration file:*
  - *sudo cp /etc/dhcp/dhcpd.conf /etc/dhcp/dhcpd.conf.bak*

- *editing original configuration file (dhcpd.conf):*
  - *sudo nano /etc/dhcp/dhcpd.conf :*



DNS

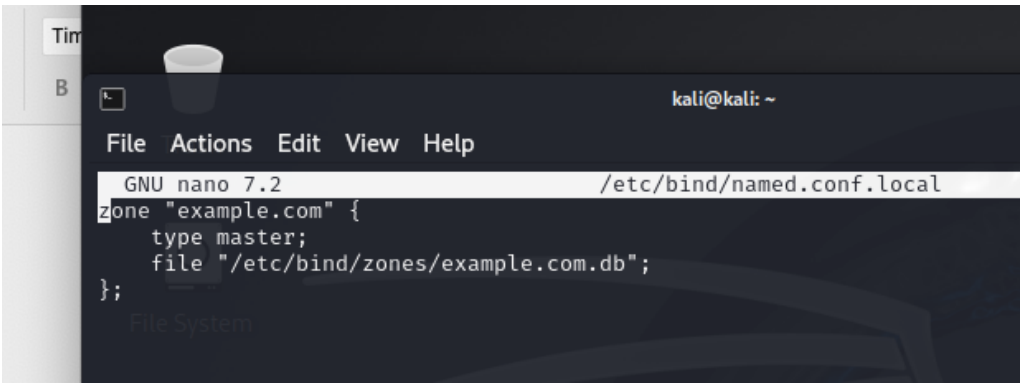
How to unstill:

Install Bind9

- *sudo apt install bind9*
- *sudo systemctl start bind9*
- *sudo systemctl status bind9*

Configure DNS server/bind9

- *sudo nano /etc/bind/named.conf.local*
  - *insert:*



- *sudo nano /etc/bind/zones/example.com.db*

- *sudo systemctl restart bind9*

HTTP + Mariadb (internal website running GLPI)

Install HTTP server: Apache2

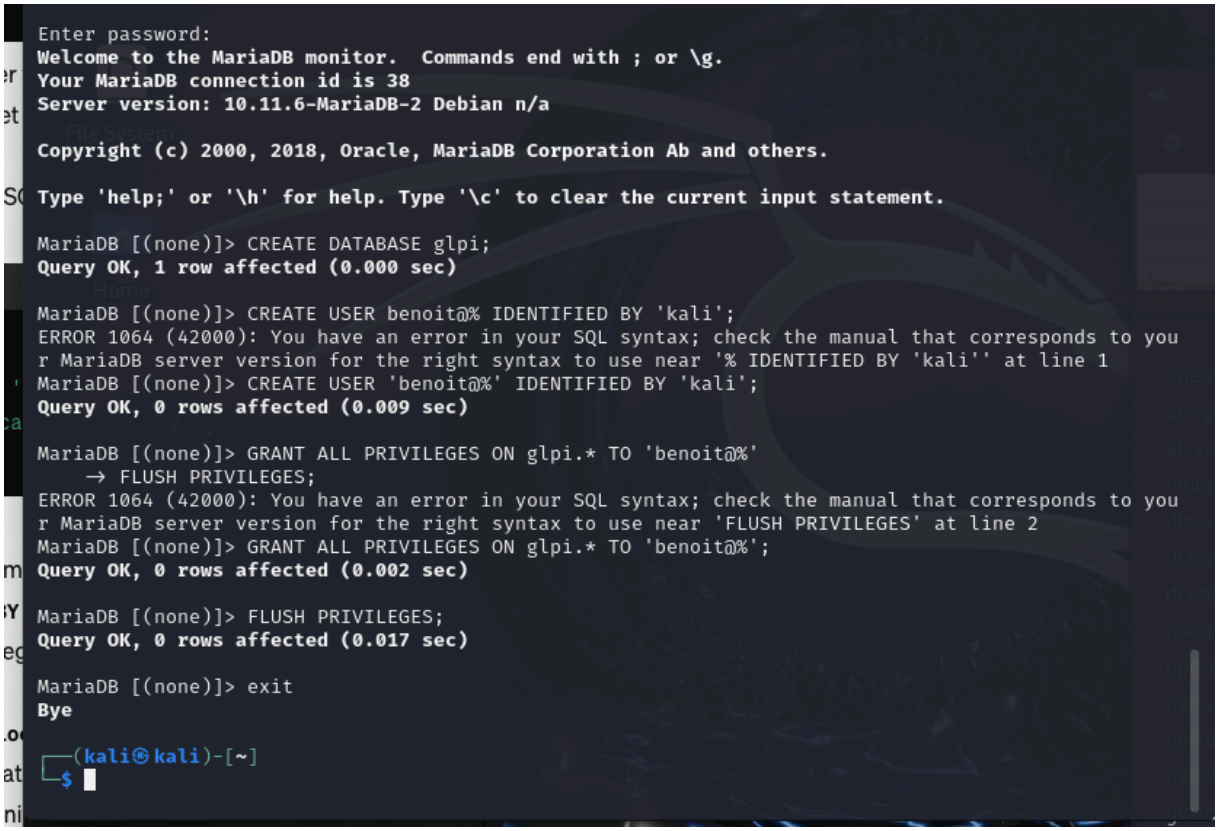
Install Apache2

Start Apache2

MariaDB Installation

Install MariaDB

Configure MariaDB:



Download and install GLPI:

- *sudo mkdir /temp/*

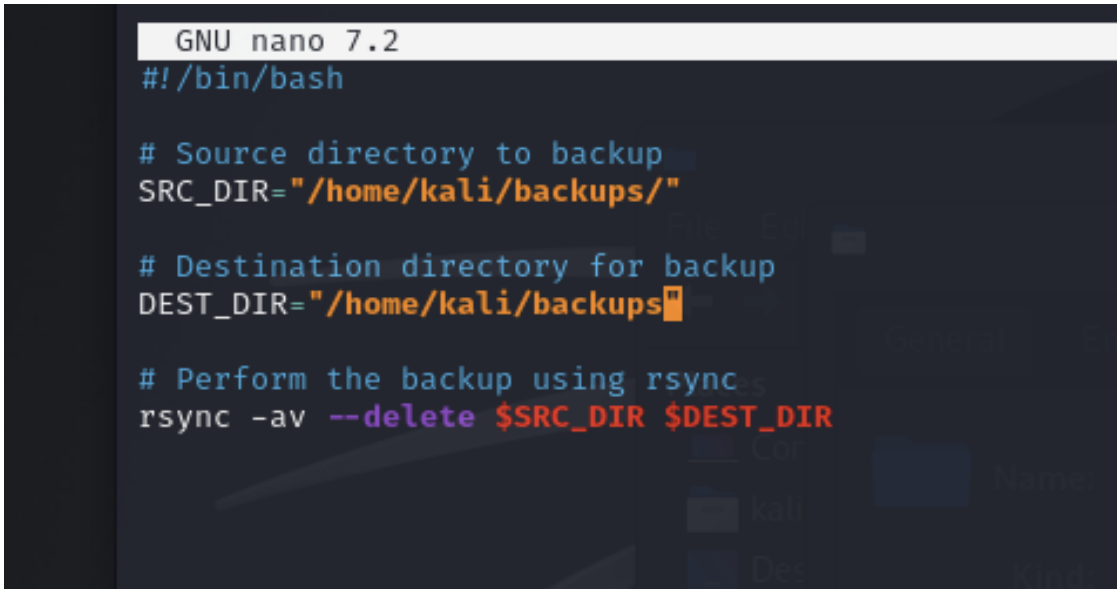
- *wget -O glpi.tar.gz https://github.com/glpi-project/glpi/releases/download/9.5.5/glpi-9.5.5.tgz*
- *tar -xzf glpi.tar.gz*
- *sudo mv glpi /var/www/html/*
- *sudo chown -R www-data:www-data /var/www/html/glpi*

- *Complete configuration of GLPI by going to http://12.0.0.1/glpi*
- .....

Required specification

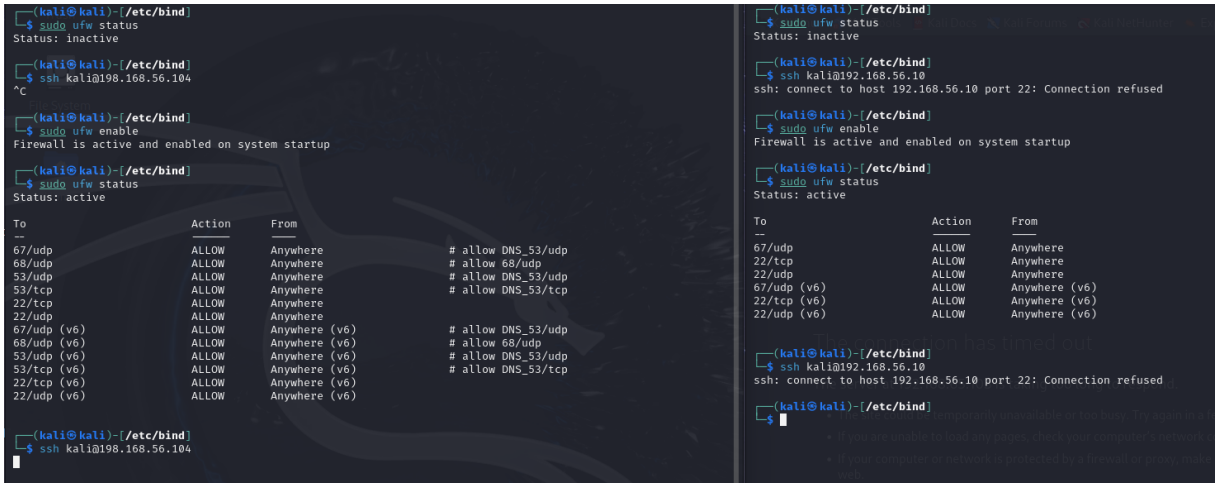
Weekly backup

- *sudo apt install rsync*
- *create backup script:*
  - *nano backup.sh*
  - *add following:*



  - make script executable
  - scheduale the backup with Cron:
    - crontab -e
    - add: 0 0 * * 0 /path/to/backup.sh (to run every Sunday)
  - test backup manually by:
    - ./backup.sh

SSH


┌──(kali㉿kali)-[/etc/bind]
└─$ sudo ufw status
Status: inactive
┌──(kali㉿kali)-[/etc/bind]
└─$ ssh kali@198.168.56.104
^C
┌──(kali㉿kali)-[/etc/bind]
└─$ sudo ufw enable
Firewall is active and enabled on system startup
┌──(kali㉿kali)-[/etc/bind]
└─$ sudo ufw status
Status: active
To Action From
-- ------ ----
67/udp ALLOW Anywhere # allow DNS_53/udp
68/udp ALLOW Anywhere # allow 68/udp
53/udp ALLOW Anywhere # allow DNS_53/udp
53/tcp ALLOW Anywhere # allow DNS_53/tcp
22/tcp ALLOW Anywhere
22/udp ALLOW Anywhere
67/udp (v6) ALLOW Anywhere (v6) # allow DNS_53/udp
68/udp (v6) ALLOW Anywhere (v6) # allow 68/udp
53/udp (v6) ALLOW Anywhere (v6) # allow DNS_53/udp
53/tcp (v6) ALLOW Anywhere (v6) # allow DNS_53/tcp
22/tcp (v6) ALLOW Anywhere (v6)
22/udp (v6) ALLOW Anywhere (v6)
┌──(kali㉿kali)-[/etc/bind]
└─$ ssh kali@198.168.56.104
┌──(kali㉿kali)-[/etc/bind]
└─$ sudo ufw status
Status: inactive
┌──(kali㉿kali)-[/etc/bind]
└─$ ssh kali@192.168.56.10
ssh: connect to host 192.168.56.10 port 22: Connection refused
┌──(kali㉿kali)-[/etc/bind]
└─$ sudo ufw enable
Firewall is active and enabled on system startup
┌──(kali㉿kali)-[/etc/bind]
└─$ sudo ufw status
Status: active
To Action From
-- ------ ----
67/udp ALLOW Anywhere
22/tcp ALLOW Anywhere
22/udp ALLOW Anywhere
67/udp (v6) ALLOW Anywhere (v6)
22/tcp (v6) ALLOW Anywhere (v6)
22/udp (v6) ALLOW Anywhere (v6)
┌──(kali㉿kali)-[/etc/bind]
└─$ ssh kali@192.168.56.10
ssh: connect to host 192.168.56.10 port 22: Connection refused
┌──(kali㉿kali)-[/etc/bind]
└─$

Workstation:

Requirements

One workstation running a desktop environment and the following apps:

- *LibreOffice*
- *Gimp*
- *A web-browser*
- *Required*
    a. *This workstation uses automatic addressing*
    b. *The /home folder is located on a separate partition, same disk*
- *Optional*
    a. *Propose and implement a solution to remotely help a user*

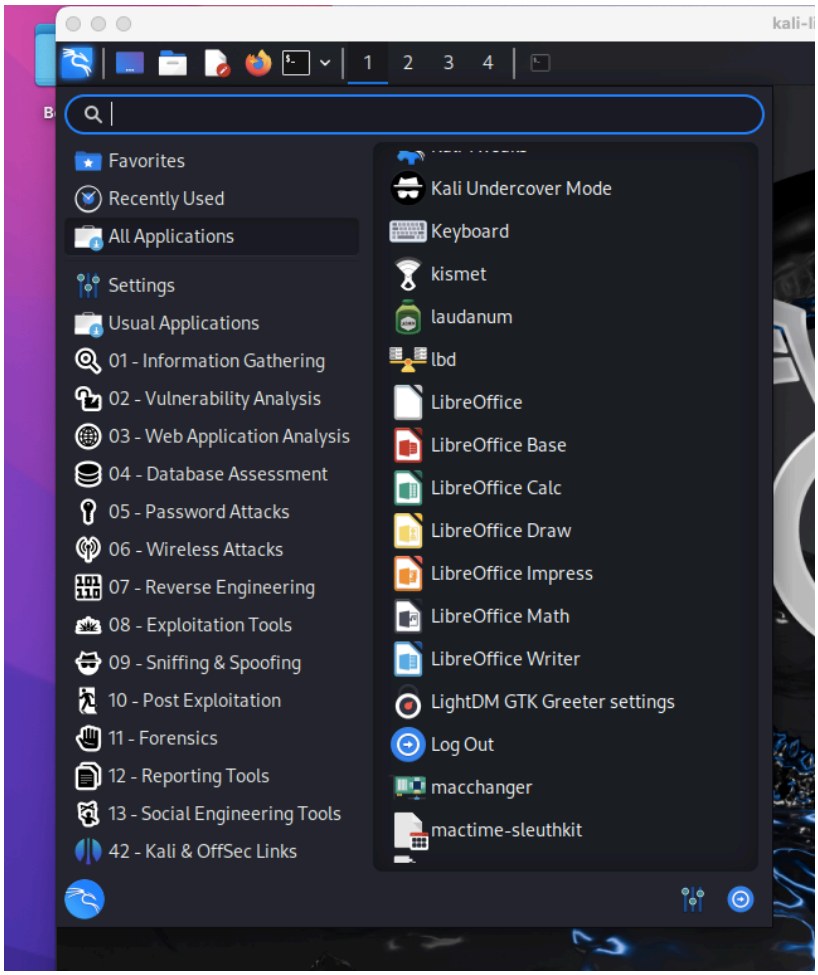
Applications to install:

LibreOffice:

LibreOffice is a free office suite that is similar to MS Office

How to install:

- *In terminal:*
    - *sudo apt update*
    - *sudo apt install libreoffice*
- *LibreOffice is installed and can be executed*
    - *Via terminal: type "libreoffice"*
    - *Via applications menu:*



GIMP

GIMP is a free open-source graphics editor that can be used for photo/image-editing and image composition. GIMP is comparable to Adobe Photoshop.

How to install:

- *In terminal:*
  - *sudo apt update (if necessary)*
  - *sudo apt install gimp*
  - *GIMP is installed and can be executed*
    - *Via terminal: type "libreoffice"*
    - *Via applications menu*

Web-browser (e.g. Firefox)

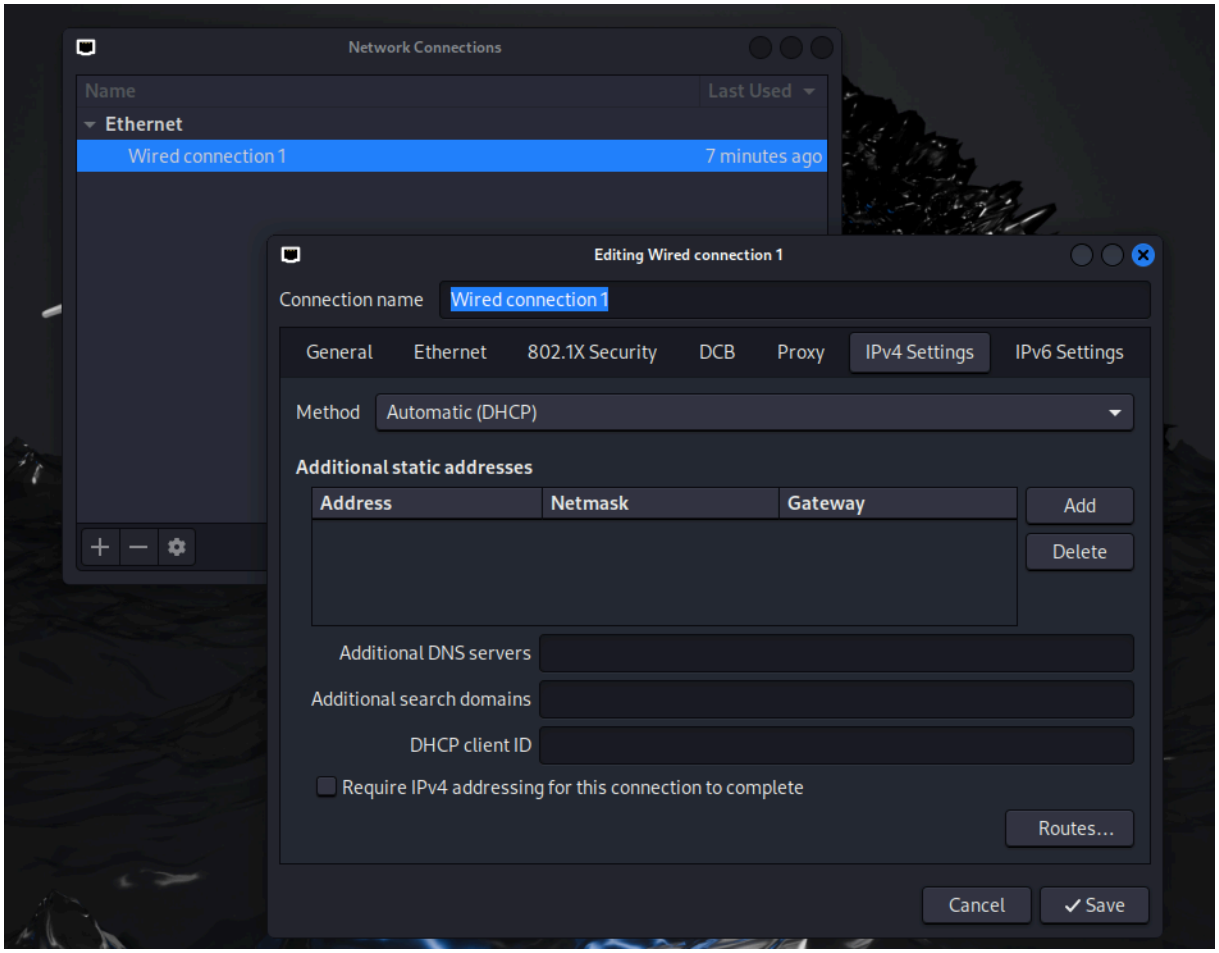
Web-browser Firefox is preinstalled in Kali, so no further installation is required

Required configuration

Automatic Addressing

By default, the network settings are set to DHCP, what means that the workstation will receive it's IP address automatically from the DHCP server.

If, for some reason, this is not set as default, changes can be made in the network settings menu:



Partition

- *Use fdisk*
- *Make sure to do this during installation of machine.*
- *Big risk of data loss*
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