Part 5 - Install Netbox

Installing the Netbox Server

In this section, there are steps for installing NetBox. For more detail about installing Netbox refer to the documentation - https://docs.netbox.dev/en/stable/

The steps to complete this section are:

- Update software
- Install required software
- Add custom repositories
- Download and configure PostgreSQL
- Create a Database
- Install and test Redis Server
- Configure and install NetBox service
- Configure Apache (web server)
- Connect to Web GUI
- Explore the NetBox service

  To install the required files open a terminal window and ssh to the server that will be used to install Netbox.

  ```
  ssh apnic@192.168.30.10
  ```

  NOTE: Type `yes` if asked about wanting to continue connecting

  Password = `training`

  Confirm the version of Ubuntu.

  ```
  lsb_release -a
  ```

  NetBox requires Python version 3.8 and PostgreSQL version 11 and above. However Ubuntu 18.04 installs versions prior to these releases, whilst Ubuntu 20.04 installs the correct versions.

Update the software and install required software.

```
sudo apt-get update && sudo apt-get -y dist-upgrade
```

Password = `training`

Don't forget to use `sudo` at the start of the commands if not running as root user.

Install required software

```
sudo apt-get install -y git gcc redis python3-setuptools graphviz python3 \
python3-pip python3-venv python3-dev build-essential \
libxml2-dev libxslt1-dev libffi-dev libpq-dev libssl-dev zlib1g-dev
```

Confirm Python version.

```
python3 -V
```

Install PostgreSQL. Netbox requires version 11 PostgreSQL, which is not available in the default Ubuntu software repository fro Ubuntu 18.04.

```
sudo apt-get install -y postgresql libpq-dev
```

Create a database.

Connect with the newly set-up database, log into the postgres account and open a postgress prompt using the command:

```
sudo -u postgres psql
```

Create a new database

```
CREATE DATABASE netbox;
```

Create a new user.

```
CREATE USER netbox WITH PASSWORD 'training';
```

Grant the new user the correct permissions

```
GRANT ALL PRIVILEGES ON DATABASE netbox TO netbox;
```

Exit postgreSQL

```
\q
```

Install the Redis Server

```
sudo apt install -y redis-server
sudo systemctl start redis-server
sudo systemctl enable redis-server
sudo systemctl status redis-server
```

Check the service responds

```
redis-cli ping
```

Clone the Ntebox git repository

```
cd /opt
sudo git clone -b master https://github.com/netbox-community/netbox.git
```

Create the netbox user and group

```
sudo adduser --system --group netbox
sudo chown --recursive netbox /opt/netbox/netbox/media/
```

Configure and install NetBox service.

Create a copy of the sample configuration file

```
cd /opt/netbox/netbox/netbox/
sudo cp configuration_example.py configuration.py
```

Update the **allowed hosts** and **current database** settings

```
grep -in -A 11  "^allowed_hosts" configuration.py
sudo sed -i "11s/\[\]/\['192.168.30.254','192.168.30.10','127.0.0.1'\]/" configuration.py
sudo sed -i "17s/''/'netbox'/" configuration.py
sudo sed -i "18s/''/'training'/" configuration.py
```

View the **allowed hosts** and **current database** settings

```
grep -in -A 11  "^allowed_hosts" configuration.py
```

Generate the secret key and add to the configuration file

```
sudo sed -i "66s/''/'$(python3 /opt/netbox/netbox/generate_secret_key.py)'/" configuration.py
sudo sed -i "66s/''/\&/" configuration.py
grep -n "^SECRET_KEY" configuration.py
```

Install Netbox

```
sudo /opt/netbox/upgrade.sh
```

Create the Netbox user account. As NetBox doesnt create its user, we have to do it manually. Enter the python environment and use **apnic** as the user and **training** as the password.

```
source /opt/netbox/venv/bin/activate
python3 ../manage.py createsuperuser --username apnic --email group30@apnictraining.net
```

To exit the virtual environment type `deactivate` .

Setup the Gunicorn. For more detail refer to https://gunicorn.org

```
sudo cp /opt/netbox/contrib/gunicorn.py /opt/netbox/gunicorn.py
```

Update the listening address from 127.0.0.1 to 0.0.0.0

```
sudo sed -i 's/127.0.0.1/0.0.0.0/' /opt/netbox/gunicorn.py
```

Configure NetBox to start after a system reboot.

Copy the systemd files to the system directory

```
sudo cp -v /opt/netbox/contrib/*.service /etc/systemd/system/
sudo systemctl daemon-reload
```

Restart and check the NetBox services

```
sudo systemctl start netbox
sudo systemctl start netbox-rq
sudo systemctl enable netbox
sudo systemctl enable netbox-rq
sudo systemctl status netbox
```

Note: Press **q** to quit the status output

Configure the HTTP service

```
sudo apt install -y apache2
```

To avoid the complexity we will use the default configuration file. But make sure you modify the ServerName portion, and put # before the SSL configuration lines and change the default port from 443 to 80 , as we are not using HTTPS in this LAB.

```
sudo cp /opt/netbox/contrib/apache.conf /etc/apache2/sites-available/netbox.conf
sudo sed -i 's/443/80/' /etc/apache2/sites-available/netbox.conf
sudo sed -i 's/netbox.example.com/192.168.30.10/' /etc/apache2/sites-available/netbox.conf
sudo sed -i 's/SSL/\#SSL/g' /etc/apache2/sites-available/netbox.conf
cat /etc/apache2/sites-available/netbox.conf
```

Enable the netbox site, and restart the apache service.

```
sudo a2enmod ssl proxy proxy_http headers
sudo a2ensite netbox
sudo systemctl restart apache2
```

Using a browser try to open `http://192.168.30.10`

You have reached the end of this lab.