

# Install and Configure NetBox IPAM on Ubuntu

This page was written by Manhal Mohamed, sdnog team, on 16 August 2024.

Ensure the following packages and dependencies are installed:

- Python 3.8 or higher
- PostgreSQL 12 or higher
- Redis
- Netbox 3.0 or higher
- Nginx
- Gunicorn

Create a non-root user with sudo access **netboxuser**

## Install and configure PostgreSQL

Install PostgreSQL:

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

Start the database server:

```
sudo systemctl start postgresql
```

Enable the database server to start automatically on reboot:

```
sudo systemctl enable postgresql
```

Change the default PostgreSQL password:

```
sudo passwd postgres
```

Switch to the postgres user:

```
su - postgres
```

Log in to PostgreSQL:

```
psql
```

Create the NetBox database:

```
CREATE DATABASE netbox;
```

Create the netbox user with a strong password (replace my\_strong\_password with a secure one):

```
CREATE USER netbox WITH ENCRYPTED PASSWORD 'my_strong_password';
```

Grant privileges to the netbox user on the netbox database:

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

Exit PostgreSQL:

```
\q
```

Return to your non-root sudo user account:

```
exit
```

## 2. Install Redis®

Redis® is an in-memory key-value store used by NetBox for caching and queuing.

Install Redis®:

```
sudo apt install -y redis-server
```

## 3. Install and configure NetBox

Install all required packages:

```
sudo apt install python3 python3-pip python3-venv python3-dev build-essential libxml2-dev  
libxslt1-dev libffi-dev libpq-dev libssl-dev zlib1g-dev git -y
```

Update pip to the latest version:

```
sudo pip3 install --upgrade pip
```

Create the installation directory and change to it:

```
sudo mkdir -p /opt/netbox/ && cd /opt/netbox/
```

Clone NetBox from the official Git repository:

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

Create a system user named netbox:

```
sudo adduser --system --group netbox
```

Grant the netbox user ownership of the media directory:

```
sudo chown --recursive netbox /opt/netbox/netbox/media/
```

Navigate to the configuration directory:

```
cd /opt/netbox/netbox/netbox/
```

Copy the example configuration file:

```
sudo cp configuration_example.py configuration.py
```

Create a symbolic link for the Python binary:

```
sudo ln -s /usr/bin/python3 /usr/bin/python
```

Generate a random SECRET\_KEY for the configuration:

```
sudo /opt/netbox/netbox/generate_secret_key.py
```

Copy the generated secret key and use it in the configuration file.

Edit the configuration file:

```
sudo nano /opt/netbox/netbox/netbox/configuration.py
```

Update the file with the following settings:

```
ALLOWED_HOSTS = ['*']

DATABASE = {
    'NAME': 'netbox',
    'USER': 'netbox',
    'PASSWORD': 'my_strong_password',
    'HOST': 'localhost',
    'PORT': '',
}

SECRET_KEY = '<generated_secret_key>'
```

Run the upgrade script:

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

 Enter the Python virtual environment:

```
source /opt/netbox/venv/bin/activate
```

 Navigate to the NetBox directory:

```
cd /opt/netbox/netbox
```

 Create a superuser account:

```
python3 manage.py createsuperuser
```

 Reboot the system:

```
sudo reboot
```

## 4. Configure Gunicorn

Copy the Gunicorn configuration file:

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

## 5. Configure Systemd

Copy the systemd service files:

```
sudo cp /opt/netbox/contrib/*.service /etc/systemd/system/
```

 Reload the systemd daemon:

```
sudo systemctl daemon-reload
```

 Start the NetBox services:

```
sudo systemctl start netbox netbox-rq
```

 Enable the services to start at boot:

```
sudo systemctl enable netbox netbox-rq
```

## 6. Configure Nginx Web Server

Install the Nginx web server:

```
sudo apt install -y nginx
```

 Copy the Nginx configuration file:

```
sudo cp /opt/netbox/contrib/nginx.conf /etc/nginx/sites-available/netbox
```

Edit the configuration file:

```
sudo nano /etc/nginx/sites-available/netbox
```

Replace the server name with your server's IP address:

```
server {
    listen 80;
    server_name 192.0.2.10; # Update this with your server's IP

    client_max_body_size 25m;

    location /static/ {
        alias /opt/netbox/netbox/static/;
    }

    location / {
        proxy_pass http://127.0.0.1:8001;
        proxy_set_header X-Forwarded-Host $http_host;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Forwarded-Proto $scheme;
    }
}
```

Delete the default Nginx configuration:

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

Create a symbolic link for the NetBox configuration:

```
sudo ln -s /etc/nginx/sites-available/netbox /etc/nginx/sites-enabled/netbox
```

Restart the Nginx service:

```
sudo systemctl restart nginx
```

access your url via the browser

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