# Setting Up Nginx Server for Local Access

## Step 1: Set Up Your Local Server

1. \*\*Choose a Server:\*\*

- Use a local machine, a VM, or a Raspberry Pi.

- Ensure the server is connected to your local network.

2. \*\*Access Your Server:\*\*

- Connect to your server via SSH or directly if it’s a local machine.

```sh  
 ssh username@192.13.4.5  
 ```

## Step 2: Update and Install Nginx

1. \*\*Update Package List:\*\*

- On Ubuntu/Debian:

```sh  
 sudo apt update  
 sudo apt upgrade  
 ```

- On CentOS:

```sh  
 sudo yum update  
 ```

2. \*\*Install Nginx:\*\*

- On Ubuntu/Debian:

```sh  
 sudo apt install nginx  
 ```

- On CentOS:

```sh  
 sudo yum install nginx  
 ```

3. \*\*Start Nginx:\*\*

```sh  
 sudo systemctl start nginx  
 ```

4. \*\*Enable Nginx to Start on Boot:\*\*

```sh  
 sudo systemctl enable nginx  
 ```

## Step 3: Configure Nginx for Local Access

1. \*\*Create a Directory for Your Website:\*\*

```sh  
 sudo mkdir -p /var/www/tindog  
 sudo chown -R $USER:$USER /var/www/tindog  
 sudo chmod -R 755 /var/www/tindog  
 ```

2. \*\*Create a Sample HTML File:\*\*

```sh  
 nano /var/www/tindog/index.html  
 ```

Add your HTML content:

```html  
 <!DOCTYPE html>  
 <html>  
 <head>  
 <title>Welcome to Tindog!</title>  
 </head>  
 <body>  
 <h1>Success! Your Nginx server is working at 192.13.4.5!</h1>  
 </body>  
 </html>  
 ```

3. \*\*Create an Nginx Configuration File:\*\*

- On Ubuntu/Debian:

```sh  
 sudo nano /etc/nginx/sites-available/tindog  
 ```

- On CentOS:

```sh  
 sudo nano /etc/nginx/conf.d/tindog.conf  
 ```

Add the following configuration (replace your\_server\_ip with your actual IP address):

```nginx  
 server {  
 listen 80;  
 server\_name 192.13.4.5;  
  
 root /var/www/tindog;  
 index index.html;  
  
 location / {  
 try\_files $uri $uri/ =404;  
 }  
 }  
 ```

4. \*\*Create the Symbolic Link (if on Ubuntu/Debian):\*\*

```sh  
 sudo ln -s /etc/nginx/sites-available/tindog /etc/nginx/sites-enabled/  
 ```

5. \*\*Verify the Symbolic Link:\*\*

```sh  
 ls -l /etc/nginx/sites-enabled/  
 ```

You should see:

```sh  
 tindog -> /etc/nginx/sites-available/tindog  
 ```

6. \*\*Test the Nginx Configuration:\*\*

```sh  
 sudo nginx -t  
 ```

If successful, you should see:

```sh  
 nginx: the configuration file /etc/nginx/nginx.conf syntax is ok  
 nginx: configuration file /etc/nginx/nginx.conf test is successful  
 ```

7. \*\*Reload Nginx:\*\*

```sh  
 sudo systemctl reload nginx  
 ```

## Step 4: Access Your Website Locally

1. \*\*Find Your Server's Local IP Address:\*\*

- Use ifconfig or ip a to find the local IP address of your server.

```sh  
 ifconfig  
 # or  
 ip a  
 ```

2. \*\*Open Your Browser:\*\*

- Go to http://192.13.4.5 to access your website locally.

## Steps to Go Online in the Future

1. \*\*Get a Domain Name:\*\*

- Register a domain name through a domain registrar like Namecheap, GoDaddy, or a free domain provider like Freenom.

2. \*\*Set Up DNS Records:\*\*

- Login to your domain registrar’s control panel.

- Create an A record that points your domain to your server’s public IP address.

- Create a CNAME record for the www subdomain (optional).

3. \*\*Update Nginx Configuration for Your Domain:\*\*

- Update your Nginx configuration to include your domain name.

- Edit the Nginx configuration file.

```sh  
 sudo nano /etc/nginx/sites-available/tindog  
 ```

Update the server\_name directive:

```nginx  
 server {  
 listen 80;  
 server\_name your\_domain www.your\_domain;  
  
 root /var/www/tindog;  
 index index.html;  
  
 location / {  
 try\_files $uri $uri/ =404;  
 }  
 }  
 ```

4. \*\*Obtain and Install SSL Certificate (Optional but Recommended):\*\*

- Use Certbot to obtain a free SSL certificate from Let’s Encrypt.

```sh  
 sudo certbot --nginx -d your\_domain -d www.your\_domain  
 ```

5. \*\*Auto-Renew SSL Certificate:\*\*

- Set up a cron job to auto-renew the certificate.

```sh  
 sudo crontab -e  
 ```

Add the following line:

```sh  
 0 0 \* \* \* /usr/bin/certbot renew --quiet  
 ```