# What is NFS?

NFS (Network File System) is a distributed file system protocol that allows users to share directories and files over a network. It enables a client system to mount a remote filesystem as if it were local, facilitating file access and collaboration across multiple machines.

#### **How NFS Works**

- 1. **NFS Server**: Hosts the shared directories and files.
- 2. **NFS Client**: Mounts the shared directories and accesses them as if they were local.
- 3. **Protocol**: Uses the RPC (Remote Procedure Call) mechanism to request file operations from the server.
- 4. **Communication**: Typically runs over TCP/UDP on port 2049.

#### Installing and Configuring NFS on Ubuntu/Kali Linux

## Step 1: Install NFS Server on Ubuntu

Run the following command on the **NFS Server**:

bash

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sudo apt update && sudo apt install nfs-kernel-server -y

#### **Step 2: Create a Shared Directory**

Create a directory to share with clients:

bash

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sudo mkdir -p /mnt/nfs\_share

#### **Step 3: Set Permissions**

Grant access to all users:

bash

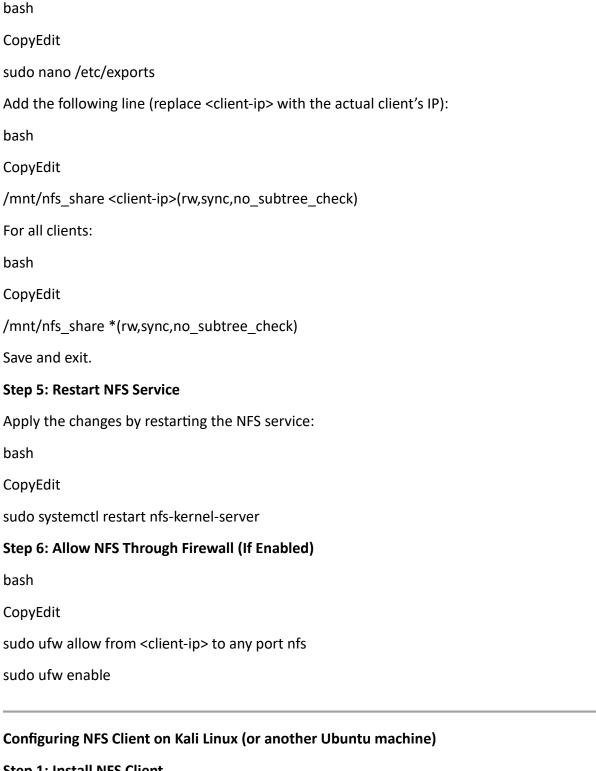
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sudo chown -R nobody:nogroup /mnt/nfs\_share

sudo chmod -R 777 /mnt/nfs\_share

## **Step 4: Configure NFS Exports**

Edit the NFS configuration file:



# Step 1: Install NFS Client

bash

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sudo apt update && sudo apt install nfs-common -y

## **Step 2: Create a Mount Point**

bash CopyEdit sudo mkdir -p /mnt/nfs client **Step 3: Mount the NFS Share** bash CopyEdit sudo mount <server-ip>:/mnt/nfs\_share /mnt/nfs\_client Replace <server-ip> with the actual IP of the NFS server. **Step 4: Verify Mounting** bash CopyEdit df -h Is -I /mnt/nfs\_client **Step 5: Permanent Mounting (Optional)** To automatically mount on boot, add the following line to /etc/fstab: ruby CopyEdit <server-ip>:/mnt/nfs\_share /mnt/nfs\_client nfs defaults 0 0 **Testing NFS** 1. On the **server**, create a file inside /mnt/nfs\_share: bash CopyEdit echo "Hello from NFS Server" | sudo tee /mnt/nfs\_share/test.txt 2. On the **client**, check if the file exists: bash CopyEdit cat /mnt/nfs\_client/test.txt

If the setup is correct, you should see "Hello from NFS Server".

# **Uninstall NFS (If Needed)**

## On the Server:

bash

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sudo apt remove --purge nfs-kernel-server -y
sudo rm -rf /mnt/nfs\_share

# On the Client:

bash

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sudo umount /mnt/nfs\_client

sudo apt remove --purge nfs-common -y

This setup allows you to seamlessly share files between Ubuntu and Kali Linux using NFS. 🚀