## **Install via Prebuilt Binary (Recommended)**

### 🖥️ **Linux / macOS**

# 1. Download the latest release

wget https://dist.ipfs.tech/kubo/v0.31.0/kubo\_v0.31.0\_linux-amd64.tar.gz

# 2. Extract

tar -xvzf kubo\_v0.31.0\_linux-amd64.tar.gz

# 3. Move to system path

cd kubo

sudo bash install.sh

# 4. Verify installation

ipfs --version

## **Initialize IPFS Node**

After installation, run:

ipfs init

This creates your IPFS repository in ~/.ipfs (Linux/macOS) or %USERPROFILE%\.ipfs (Windows).

Then start the node:

ipfs daemon

✅ You should see logs like:

Daemon is ready

Web UI: http://127.0.0.1:5001/webui

Gateway (readonly): http://127.0.0.1:8080

## **Example of Storing and Accessing IPFS Reports**

### 🔸 Step 1 – Upload to IPFS

Use Pinata, Infura, or web3.storage.

Example using Pinata API or IPFS CLI:

ipfs add lab\_report\_QC\_Batch001.pdf

Output:

added QmWfXo3hA9pP2kTsXJtHqXYq2c4dE6L7x9yQm9eZPZk5 lab\_report\_QC\_Batch001.pdf

Here, the CID = QmWfXo3hA9pP2kTsXJtHqXYq2c4dE6L7x9yQm9eZPZk5

### 🔸 Step 2 – Call addQualityCheck() on Remix

Use:

documentHash = "QmWfXo3hA9pP2kTsXJtHqXYq2c4dE6L7x9yQm9eZPZk5"

ipfsGatewayURL = "https://ipfs.io/ipfs/QmWfXo3hA9pP2kTsXJtHqXYq2c4dE6L7x9yQm9eZPZk5"

### 🔸 Step 3 – Verify in UI or via Script

Anyone can open:

https://ipfs.io/ipfs/QmWfXo3hA9pP2kTsXJtHqXYq2c4dE6L7x9yQm9eZPZk5

and access the official lab report.