

drif-protocol

A breakthrough in self-hosted, sovereign solo mining.

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Introduction

This guide provides a step-by-step walkthrough to set up a fully self-hosted solo Bitcoin mining pool using CKPool and Bitcoin Core on PC, macOS, Linux, or Windows (WSL2). No third party pools, no custodial services—just your hardware, your node, and full sovereignty.

System Requirements

Miner Hardware: USB SHA-256 miner (e.g., Bitaxe Gamma, GekkoScience, FutureBit).

Host Machine: Linux, macOS, or Windows (WSL2).

Software: Bitcoin Core (fully synced), Docker & Docker Compose.

Network: Active Internet connection.

Wallet: A non-custodial Bitcoin address capable of receiving block rewards.

Step 1: Open Your Shell

Linux/macOS: Launch Terminal.

Windows: Open PowerShell or your WSL2 distribution.

Ensure you have sudo privileges.

Step 2: Install Docker & Docker Compose

On Linux (Ubuntu/Debian):

```
curl -fsSL https://get.docker.com -o get-docker.sh
sudo sh get-docker.sh
sudo apt update && sudo apt install -y docker-compose
```

On macOS:

```
/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
brew install --cask docker
brew install docker-compose
```

On Windows (WSL2): Install Docker Desktop with WSL2 integration.

Verify: docker version && docker-compose version

Step 3: Clone & Build CKPool

```
cd ~
git clone https://github.com/golden-guy/docker-ckpool.git ckpool
cd ckpool
sudo ./build_image.sh
```

Step 4: Configure ckpool.conf

Open in nano: nano conf/ckpool.conf

Replace with config below (update placeholders):

Configuration JSON

```
{
  "btcd": [{
    "url": "127.0.0.1:8332",
    "user": "YOUR_RPC_USER",
    "pass": "YOUR_RPC_PASS",
    "notify": true
  }],
  "btcaddress": "YOUR_NON_CUSTODIAL_BTC_ADDRESS",
  "btcsig": "/mined by drifora/",
  "serverurl": ["0.0.0.0:3333"],
  "startdiff": 64,
  "maxdiff": 524288,
  "zmqblock": "tcp://127.0.0.1:28332",
  "logdir": "logs"
}
```

Save & exit nano: CTRL+O, Enter, CTRL+X

Step 5: Configure Bitcoin Core for RPC

Edit ~/.bitcoin/bitcoin.conf and add:

```
- rpcuser=YOUR_RPC_USER
- rpcpassword=YOUR_RPC_PASS
```

- rpcallowip=127.0.0.1
- rpcbind=127.0.0.1
- server=1
- txindex=1
- zmqpubrawblock=tcp://127.0.0.1:28332

Save & exit: CTRL+O, Enter, CTRL+X.

Restart: sudo systemctl restart bitcoind (Linux/WSL) or brew services restart bitcoind (macOS).

Step 6: Launch CKPool

```
cd ~/ckpool
```

```
sudo docker-compose up -d
```

```
sudo docker-compose logs -f
```

Look for: Connected to bitcoind: 127.0.0.1:8332 and Mining solo to your BTC address

Step 7: Configure Your Miner

Pool URL: stratum+tcp://INPUT_PC_HOST_IP:3333

User: YOUR_NON_CUSTODIAL_BTC_ADDRESS

Worker: axe1, axe2, etc.

Password: x

Step 8: Verify Operation

Check logs for Accepted shares, Network diff set, Connection from miner.

Monitor hashrate (1–2 minutes).

Uncontrollables & Caveats

RPC Settings: Ensure txindex and ZMQ are correct.

Port Conflicts: Change serverurl if port 3333 is in use.

Firewall/AV: Allow Docker & port 3333.

System Load: Monitor CPU/disk I/O.

Network Stability: Ensure stable connection.

drif-protocol — A sovereign solo mining method by JEX (@onchain_soul), distributed via SoloSatoshi.