Hetzner Dedicated Server OS Installation Guide

📋 Overview

This guide walks you through installing Ubuntu 22.04 LTS on your Hetzner dedicated server using the Hetzner Rescue System. The process will completely wipe your disks and install a fresh, production-ready operating system.

🖥️ Server Specifications

- **CPU**: AMD Ryzen 5 3600 6-Core Processor (12 cores)
- **Memory**: 128 GB ECC RAM
- **Storage**: 2x 512 GB NVMe SSDs (953 GiB total capacity)
- **Network**: Gigabit Ethernet
- **IP Address**: 142.132.210.239
- **IPv6**: 2a01:4f8:262:4f82::2/64

⚠️ Important Warnings

- **ALL DATA WILL BE LOST**: This process completely wipes your disks
- **Backup First**: Ensure any important data is backed up elsewhere
- **SSH Key Required**: Have your SSH public key ready for secure access
- **Network Access**: You'll temporarily lose access during installation

🎯 Prerequisites

Before starting, ensure you have:

- [ ] Access to Hetzner Rescue System (you should see `root@rescue ~ #`)
- [ ] Your SSH public key (ed25519 or RSA format)
- [ ] Backup of any important data (if applicable)
- [ ] Stable internet connection during installation

📝 Step-by-Step Installation Process

Step 1: Launch the Installation Tool

```
bash

installimage
```

You'll see a menu with available operating systems. Select:

```
[1] Ubuntu 22.04 LTS minimal
```

Step 2: Configure Installation Settings

The installer will open a configuration file in nano editor. Replace the default content with this production-ready configuration:

bash

```
# Disk Configuration
DRIVE1 /dev/nvme0n1

# System Settings
HOSTNAME kube-master
IMAGE Ubuntu-2204-jammy-amd64-base.tar.gz

# Partition Layout (Simple & Clean)
PART /boot ext4 512M
PART /     ext4 all

# RAID Configuration (Disabled for single disk)
SWRAID 0
SWRAIDLEVEL 1
BOOTLOADER grub

# Localization
TIMEZONE UTC
LANGUAGE en_US.UTF-8
KEYTABLE us

# Security Configuration
SSHKEY "ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIE1zWqKk7... YOUR_PUBLIC_KEY_HERE"
CRYPTED_PASSWORD_DISABLE yes

# Optional: Uncomment if you need a fallback password
# ROOTPW your_hashed_password_here
```

Important: Replace `YOUR_PUBLIC_KEY_HERE` with your actual SSH public key.

Step 3: Save Configuration

1. Press `Ctrl + X` to exit nano
2. Press `Y` to confirm saving changes
3. Press `Enter` to save with the default filename

Step 4: Confirm Installation

The system will:

- Show you a summary of changes
- Ask for final confirmation
- **Warning**: This will permanently erase all data on the disk

Type `yes` to proceed with installation.

Step 5: Wait for Installation

The installation process will:

- Partition and format the disk
- Install Ubuntu 22.04 LTS
- Apply your configuration
- Install bootloader
- Automatically reboot the server

Duration: Typically 5-15 minutes depending on network speed.

Step 6: Reconnect to Your Server

After the server reboots, connect via SSH:

```bash
ssh root@142.132.210.239
```

You should now be in your fresh Ubuntu 22.04 system!

✅ Post-Installation Verification

Run these commands to verify your installation:

bash

```
# Check system information
hostnamectl

# Verify disk layout
lsblk

# Check memory
free -h

# Verify network
ip addr show

# Check SSH configuration
ss -tlpn | grep :22

# Update system packages
apt update && apt full-upgrade -y
```

🔧 Configuration Explained

Disk Layout

- **Single Disk Setup**: Uses only `/dev/nvme0n1` (512 GB)
- **Boot Partition**: 512 MB for kernel and bootloader files
- **Root Partition**: Remaining space for the entire system
- **No Swap**: Not needed with 128 GB RAM (Kubernetes best practice)

Security Features

- **SSH Key Only**: Password authentication disabled
- **Root Access**: Secured with your SSH key
- **Clean Install**: No unnecessary packages or services

Network Configuration

- **Static IP**: 142.132.210.239
- **IPv6 Support**: 2a01:4f8:262:4f82::2/64
- **Hostname**: kube-master (can be changed later)

🚀 Optional Enhancements

RAID 1 Setup (High Availability)

If you want to use both NVMe drives in RAID 1 for redundancy:

```bash
# Modify these lines in the config:
DRIVE1 /dev/nvme0n1
DRIVE2 /dev/nvme1n1
SWRAID 1
SWRAIDLEVEL 1
```

LVM Setup (Flexible Storage)

For advanced storage management, you can enable LVM partitioning.

Additional Security

Post-installation hardening options:

- Firewall configuration (ufw)
- Fail2ban for SSH protection
- Automatic security updates
- Non-root user creation

🆘 Troubleshooting

Common Issues

Cannot connect via SSH after reboot:

- Wait 2-3 minutes for full boot
- Verify your SSH key is correct
- Check if server is responding: `ping 142.132.210.239`

Installation fails:

- Ensure rescue system is active
- Check disk names: `lsblk`
- Verify network connectivity

SSH key not working:

- Ensure key format is correct (starts with ssh-ed25519 or ssh-rsa)
- Check for typos in the configuration
- Try accessing via Hetzner console

Getting Help

- **Hetzner Docs**: https://docs.hetzner.com/robot
- **Rescue System**: https://docs.hetzner.com/robot/dedicated-server/troubleshooting/hetzner-rescue-system
- **Installimage**: https://docs.hetzner.com/robot/dedicated-server/operating-systems/installimage

📚 Next Steps

After successful installation, you might want to:

1. **System Hardening**: Configure firewall, fail2ban, and security updates
2. **User Management**: Create non-root users with sudo access
3. **Application Setup**: Install Docker, Kubernetes, or your specific applications
4. **Monitoring**: Set up system monitoring and log management
5. **Backup Strategy**: Configure automated backups

Note: This guide assumes you're comfortable with command-line operations and understand the risks of wiping server data. If you're unsure about any step, consider consulting with a system administrator or Hetzner support.