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

OPPORT OF STATE OF S

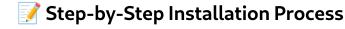
Before starting, ensure you have:

Acce	ss to H	letzner l	Rescue	System	າ (you	should	see (root@rescu	e ~	#)
	6611	1 10 1	/ 105		DC 4 C					

☐ Your SSH public key (ed25519 or RSA format)

■ Backup of any important data (if applicable)

■ Stable internet connection during installation



Step 1: Launch the Installation Tool

bash

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 AAAAC3NzaC1lZDI1NTE5AAAAIE1zWgKk7... 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:

```
# 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**: <u>https://docs.hetzner.com/robot</u>
- **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.