

Installation einer Virtual Machine mit Ubuntu-Server 18.04

Michael Dörr, Sa. 18.04.2020

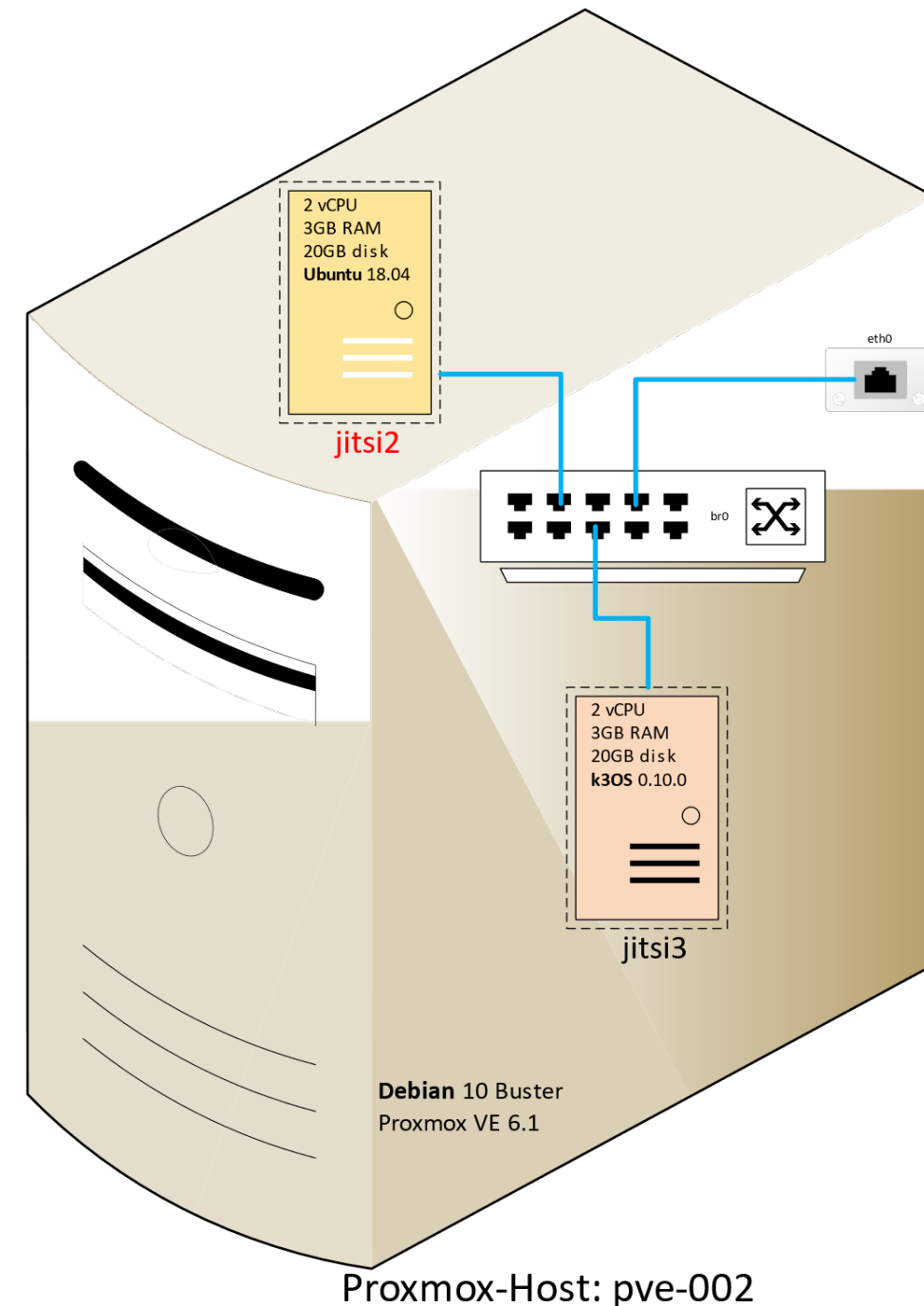
Agenda

1. Motivation
2. Installation Virtualisierungsplattform Proxmox VE 6.1
3. Installation VM mit Ubuntu-Server 18.04
4. Installation „Jitsi Meet“ als Container
5. Praktische Erfahrungen
6. Ausblick: Single-Node Kubernetes-Cluster

7. Demo

Installation VM: jitsi2

- Virtuelle Maschine im Proxmox VE anlegen:
 - 2 vCPU + 4 GB Memory
 - Standard-Video-Karte (oder vga)
 - 30 GB SCSI-Disk (für's root Laufwerk)
 - 1 CDROM (mit Ubuntu-ISO verknüpfen)
 - 1 Netzwerkkarte mit Verbindung zur Außenwelt über vSwitch
 - Option: QEMU Guest Agent aktivieren
- **Start** drücken
- **Console** öffnen



Browser tabs: Yubic, Yubic, GitHu, 223.p, medi, open, Yubik, pv X, Blog, open, Fedor, Apply, ipfire, blog.i, Proxr, Qemu

Address bar: <https://192.168.4.99:8006/#v1:0:=qemu%2F100:4:11:19::7::9>

Page Header: PROXMOX Virtual Environment 6.1-8

Navigation: Documentation, Create VM, Create CT, root@pam

Server View: Datacenter > pve-002 > 100 (jitsi2)

Virtual Machine 100 (jitsi2) on node 'pve-002'

Actions: Start, Shutdown, Console, More, Help

Summary

- Memory: 4.00 GiB
- Processors: 2 (1 sockets, 2 cores)
- BIOS: Default (SeaBIOS)
- Display: Default
- Machine: Default (i440fx)
- SCSI Controller: VirtIO SCSI
- CD/DVD Drive (ide2): local:iso/ubuntu-18.04.4-server-amd64.iso,media=cdrom
- Hard Disk (scsi0): local-lvm:vm-100-disk-0,size=30G
- Network Device (net0): virtio=62:21:89:5B:A9:47,bridge=vmbr0

Left sidebar menu: Console, Hardware, Cloud-Init, Options, Task History, Monitor, Backup, Replication, Snapshots, Firewall, Permissions

Footer: Tasks, Cluster log

Browser tabs: Yubic, Yubic, GitHu, 223.p, medi, open, Yubik, pv X, Blog, open, Fedor, Apply, ipfire, blog.i, Proxr, Qemu

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Page Title: pve-002 - Proxmox Virtual Environment - Mozilla Firefox

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Virtual Machine 100 (jitsi2) on node 'pve-002'

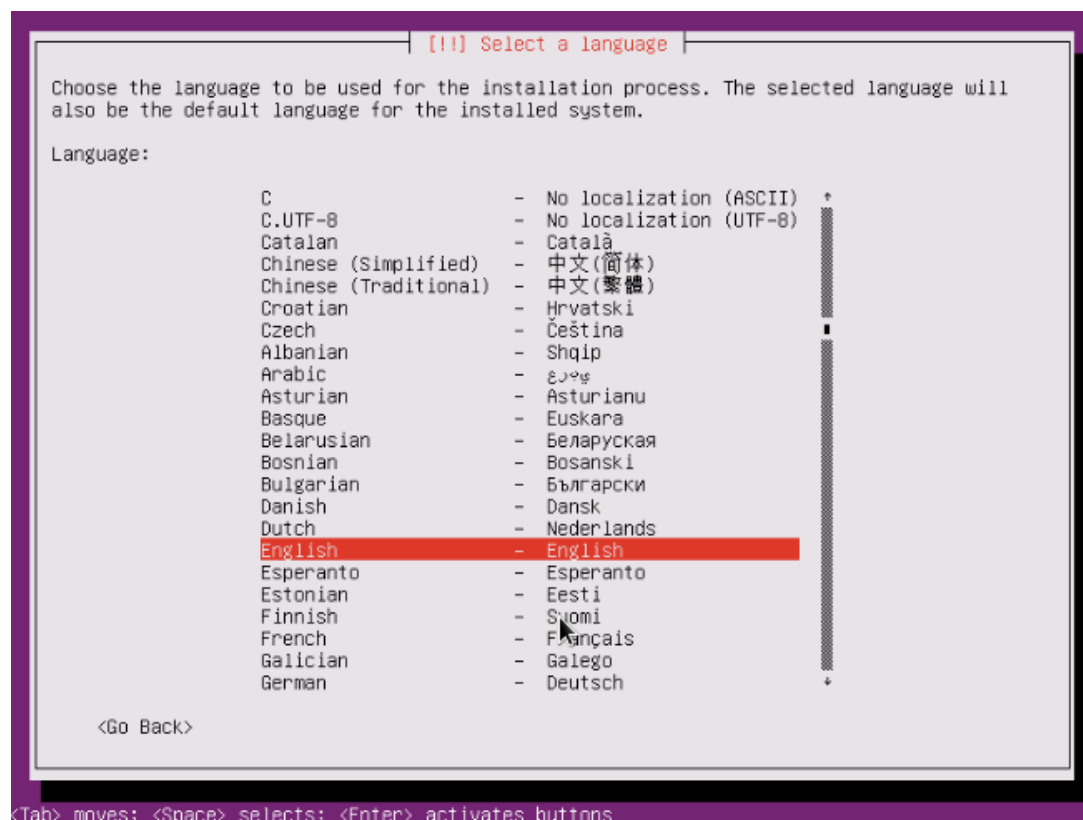
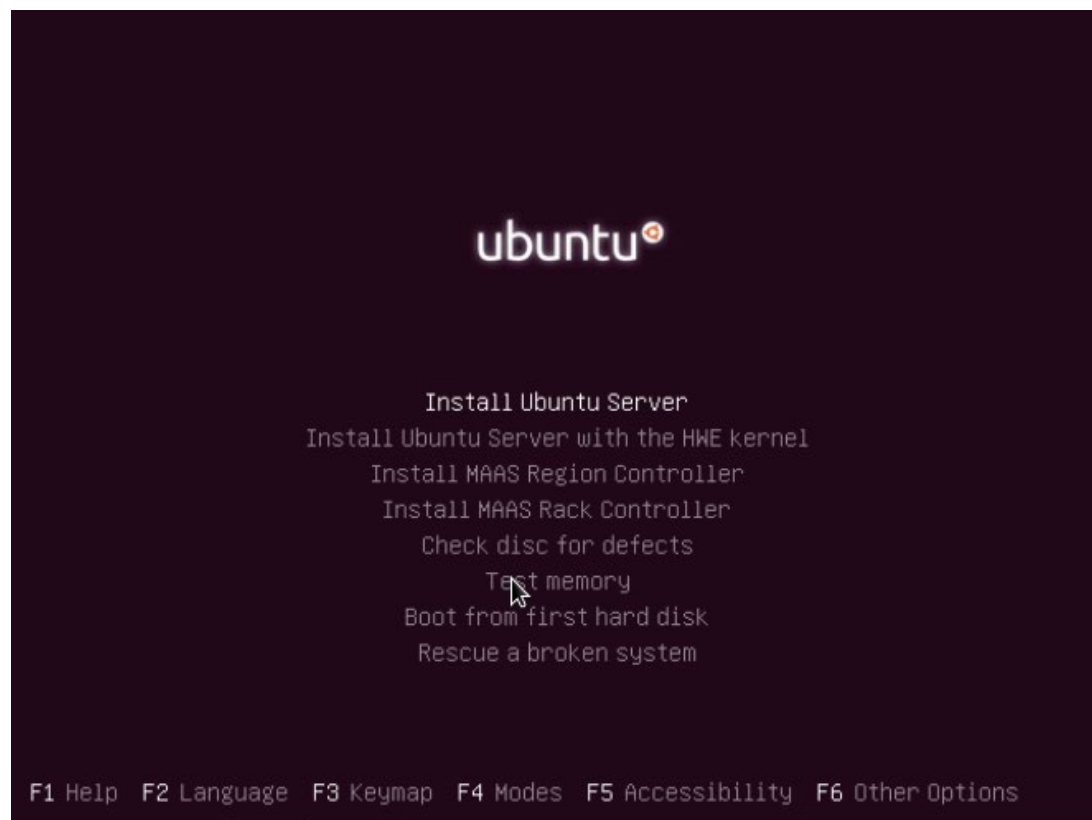
Actions: Start, Shutdown, Console, More, Help

Summary

Name	jitsi2
Start at boot	No
Start/Shutdown order	order=any
OS Type	Linux 5.x - 2.6 Kernel
Boot Order	Disk 'scsi0', CD-ROM, Network
Use tablet for pointer	Yes
Hotplug	Disk, Network, USB
ACPI support	Yes
KVM hardware virtualization	Yes
Freeze CPU at startup	No
Use local time for RTC	No
RTC start date	now
SMBIOS settings (type1)	uuid=3777b18d-ba8f-477f-b140-55738a141d2a
QEMU Guest Agent	Enabled
Protection	No
Spice Enhancements	none
VM State storage	Automatic

Tasks Cluster log

Ubuntu-Server 1/10



Ubuntu-Server 2/10

[!!] Select your location

The selected location will be used to set your time zone and also for example to help select the system locale. Normally this should be the country where you live.

Select the continent or region to which your location belongs.

Continent or region:

- Africa
- Antarctica
- Asia
- Atlantic Ocean
- Caribbean
- Central America
- Europe
- Indian Ocean
- North America
- Oceania
- South America
- other

<Go Back>

<Tab> moves; <Space> selects; <Enter> activates buttons

[!!] Select your location

The selected location will be used to set your time zone and also for example to help select the system locale. Normally this should be the country where you live.

Listed are locations for: Europe. Use the <Go Back> option to select a different continent or region if your location is not listed.

Country, territory or area:

- Albania
- Andorra
- Armenia
- Austria
- Azerbaijan
- Belarus
- Belgium
- Bosnia and Herzegovina
- Bulgaria
- Croatia
- Cyprus
- Czechia
- Denmark
- Estonia
- Faroe Islands
- Finland
- France
- Georgia
- Germany
- Gibraltar

<Go Back>

<Tab> moves; <Space> selects; <Enter> activates buttons

Ubuntu-Server 3/10

[!] Configure the keyboard

The layout of keyboards varies per country, with some countries having multiple common layouts. Please select the country of origin for the keyboard of this computer.

Country of origin for the keyboard:

- English (Australian)
- English (Cameroon)
- English (Ghana)
- English (Nigeria)
- English (South Africa)
- English (UK)
- English (US)
- Esperanto
- Estonian
- Faroese
- Filipino
- Finnish
- French
- French (Canada)
- French (Democratic Republic of the Congo)
- French (Guinea)
- French (Togo)
- Georgian
- German**
- German (Austria)
- Greek
- Hebrew
- Hungarian

<Go Back>

<Tab> moves; <Space> selects; <Enter> activates buttons

[!] Configure the keyboard

Please select the layout matching the keyboard for this machine.

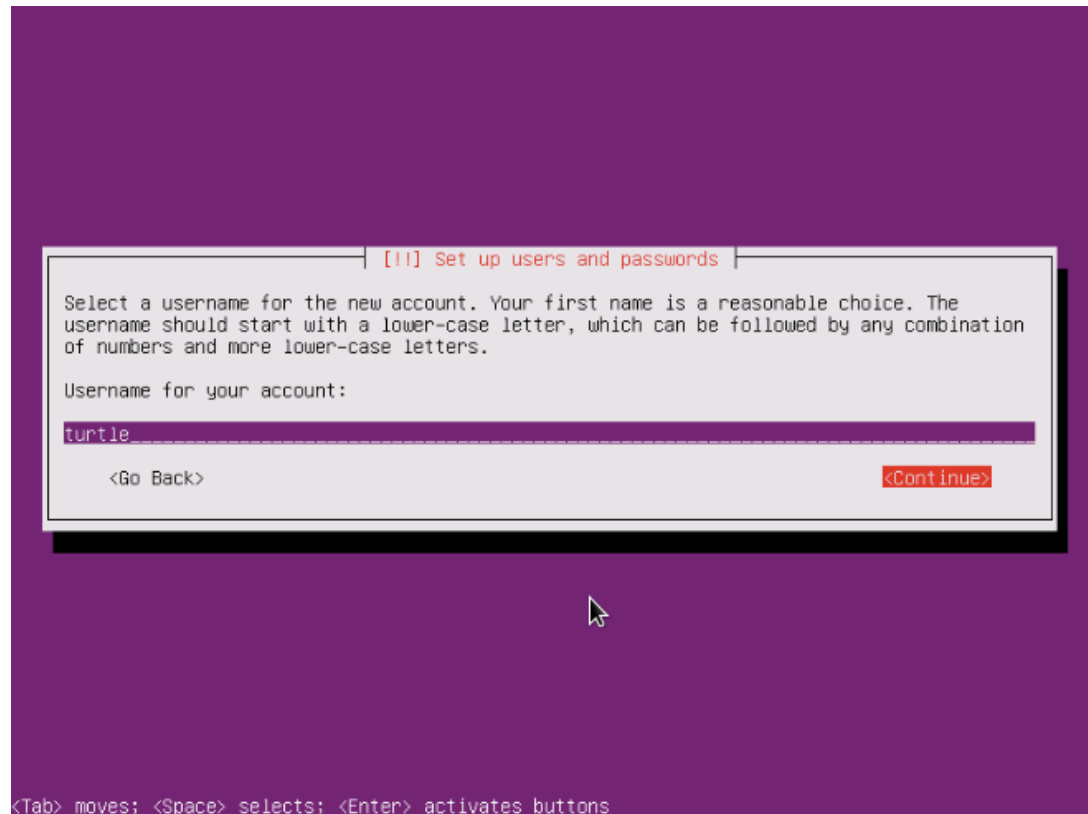
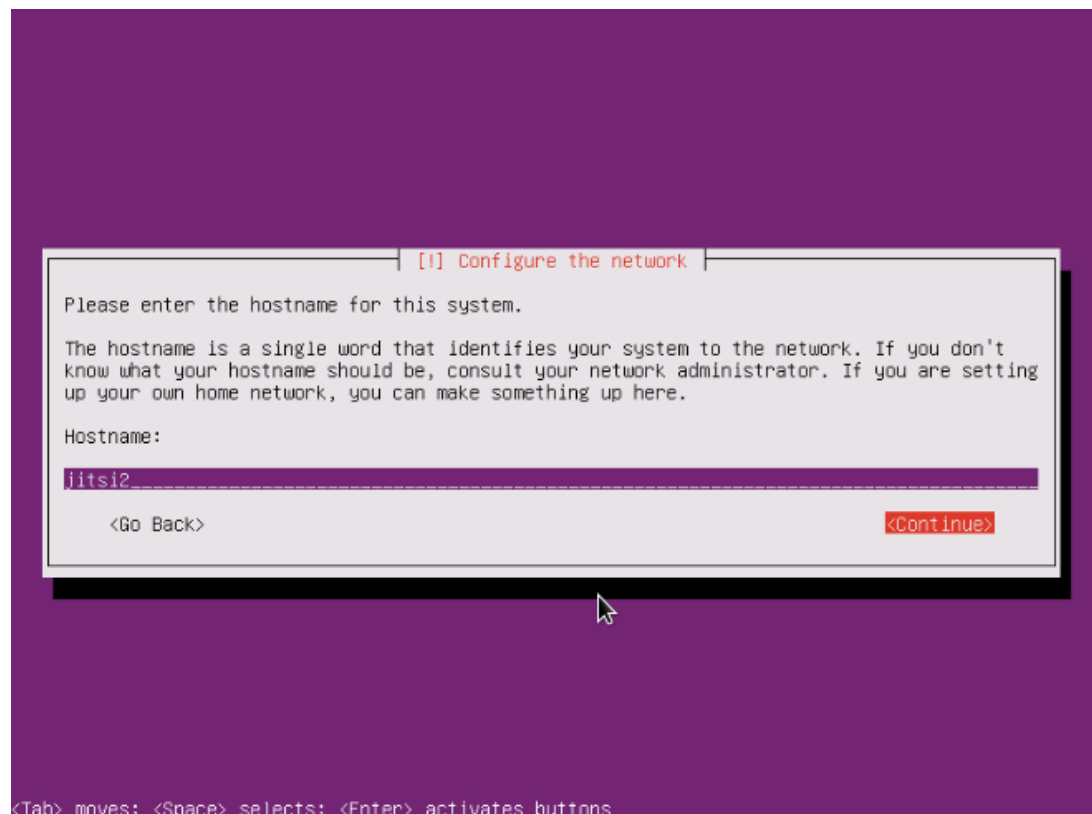
Keyboard layout:

- German**
- German - German (Dvorak)
- German - German (Macintosh)
- German - German (Macintosh, no dead keys)
- German - German (Neo 2)
- German - German (QWERTY)
- German - German (T3)
- German - German (dead acute)
- German - German (dead grave acute)
- German - German (dead tilde)
- German - German (no dead keys)
- German - German (with Sun dead keys)
- German - Lower Sorbian
- German - Lower Sorbian (QWERTZ)
- German - Romanian (Germany)
- German - Romanian (Germany, no dead keys)
- German - Russian (Germany, phonetic)
- German - Turkish (Germany)

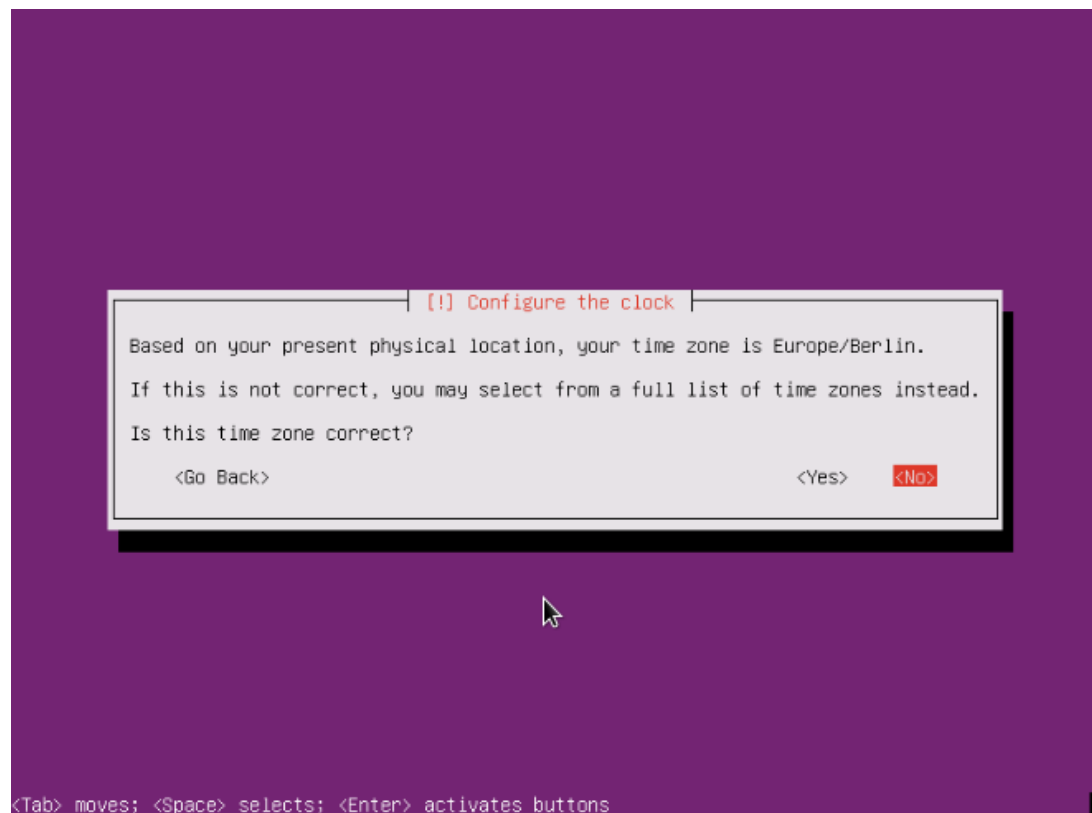
<Go Back>

<Tab> moves; <Space> selects; <Enter> activates buttons

Ubuntu-Server 4/10



Ubuntu-Server 5/10

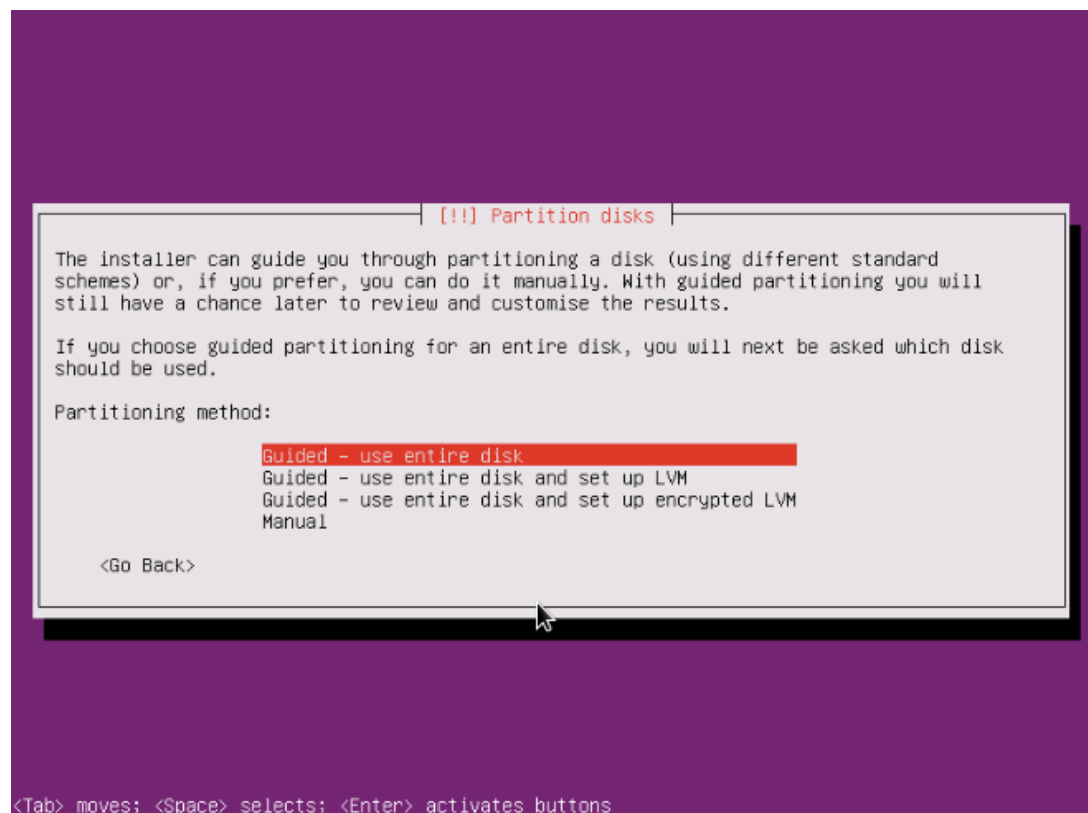


[!] Configure the clock

Based on your present physical location, your time zone is Europe/Berlin.
If this is not correct, you may select from a full list of time zones instead.
Is this time zone correct?

<Go Back> <Yes> <No>

<Tab> moves; <Space> selects; <Enter> activates buttons



[!] Partition disks

The installer can guide you through partitioning a disk (using different standard schemes) or, if you prefer, you can do it manually. With guided partitioning you will still have a chance later to review and customise the results.

If you choose guided partitioning for an entire disk, you will next be asked which disk should be used.

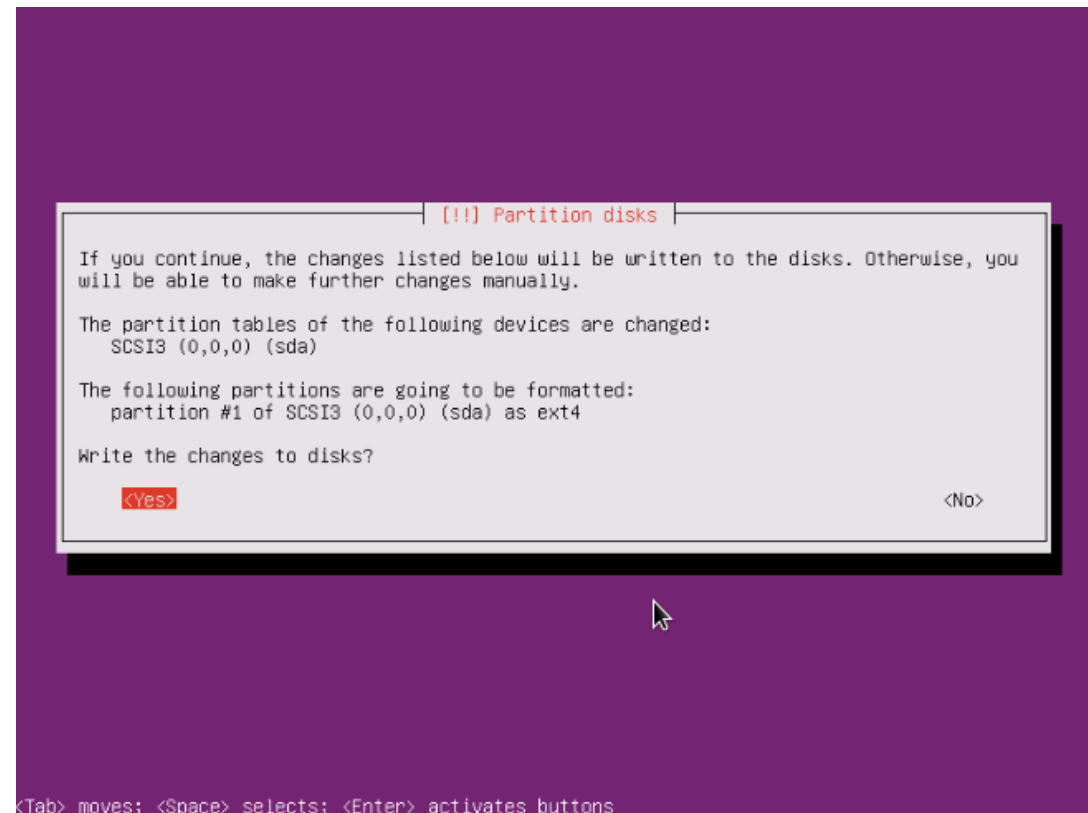
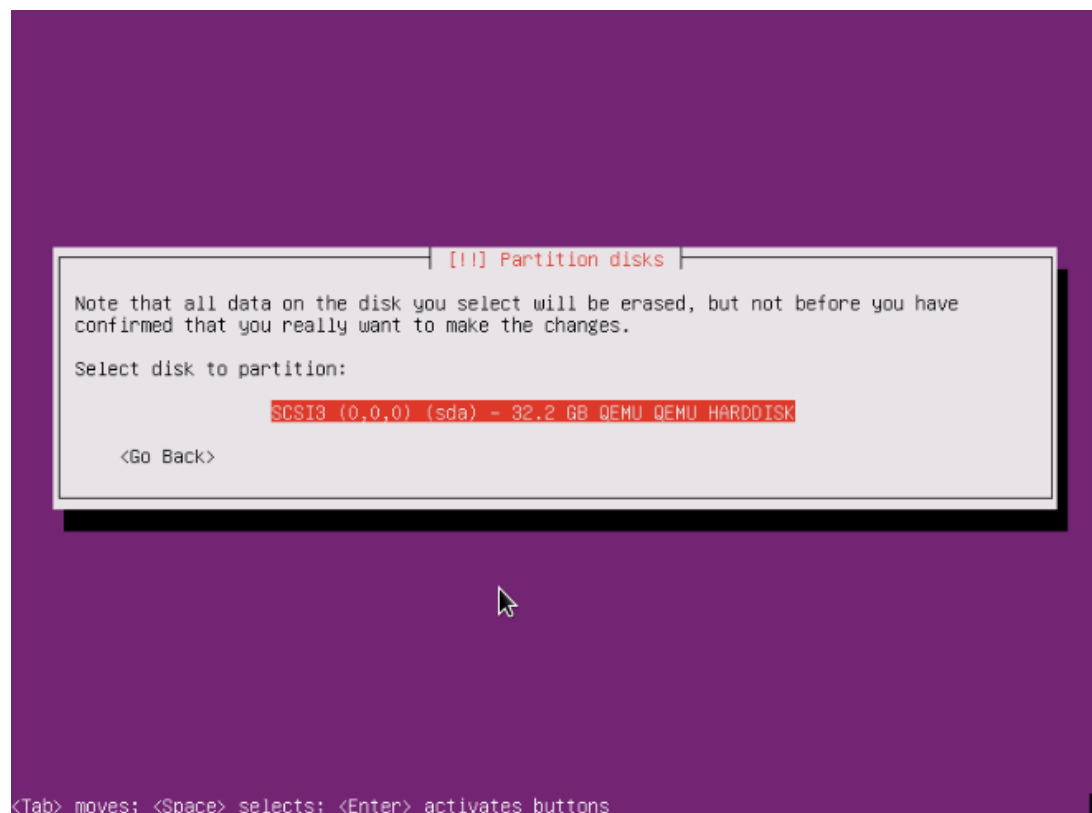
Partitioning method:

- Guided - use entire disk
- Guided - use entire disk and set up LVM
- Guided - use entire disk and set up encrypted LVM
- Manual

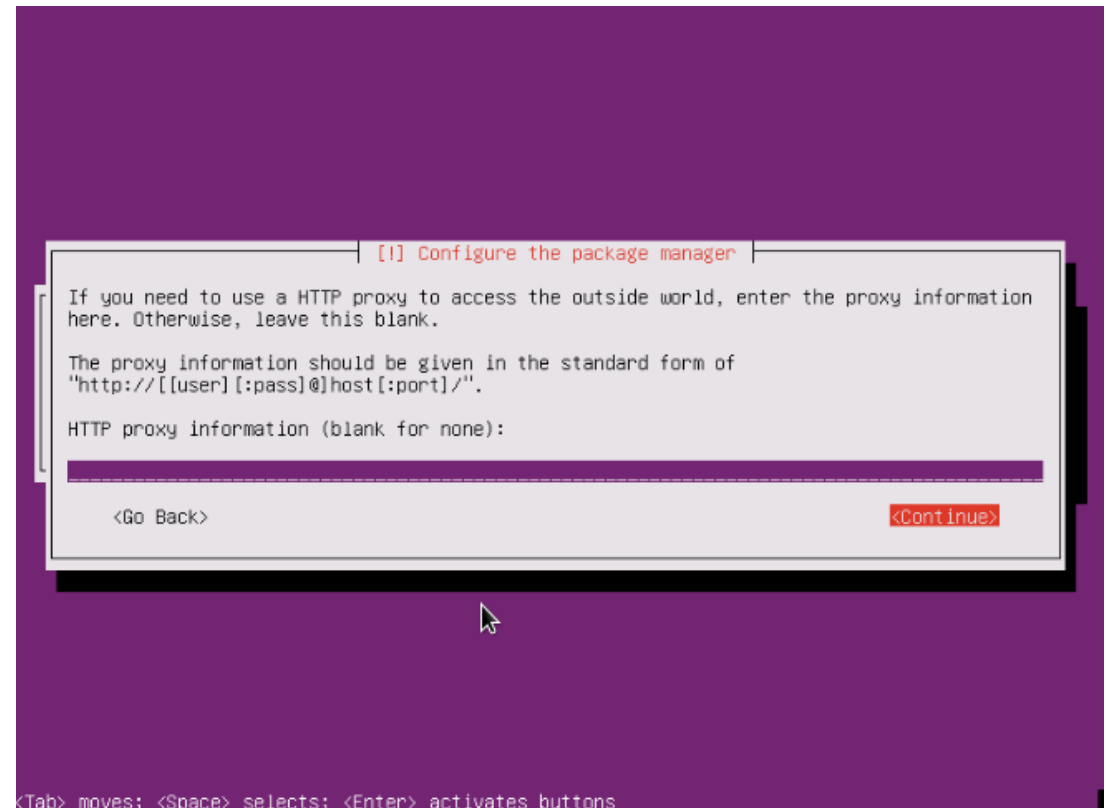
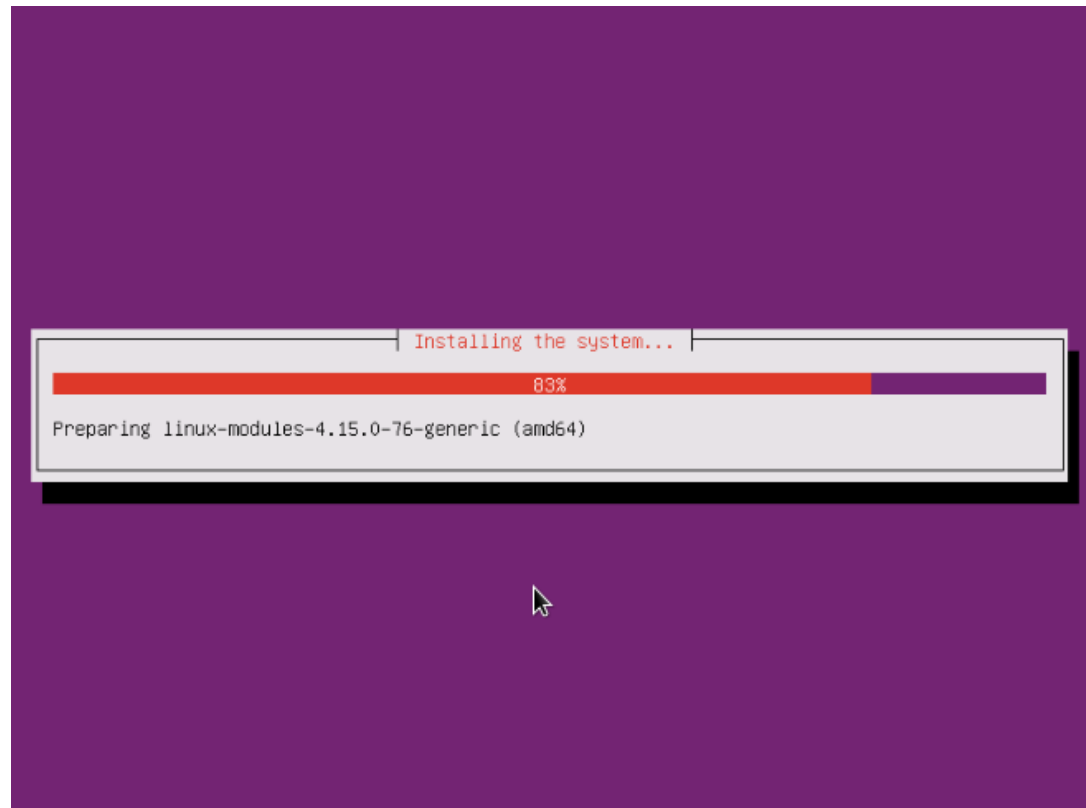
<Go Back>

<Tab> moves; <Space> selects; <Enter> activates buttons

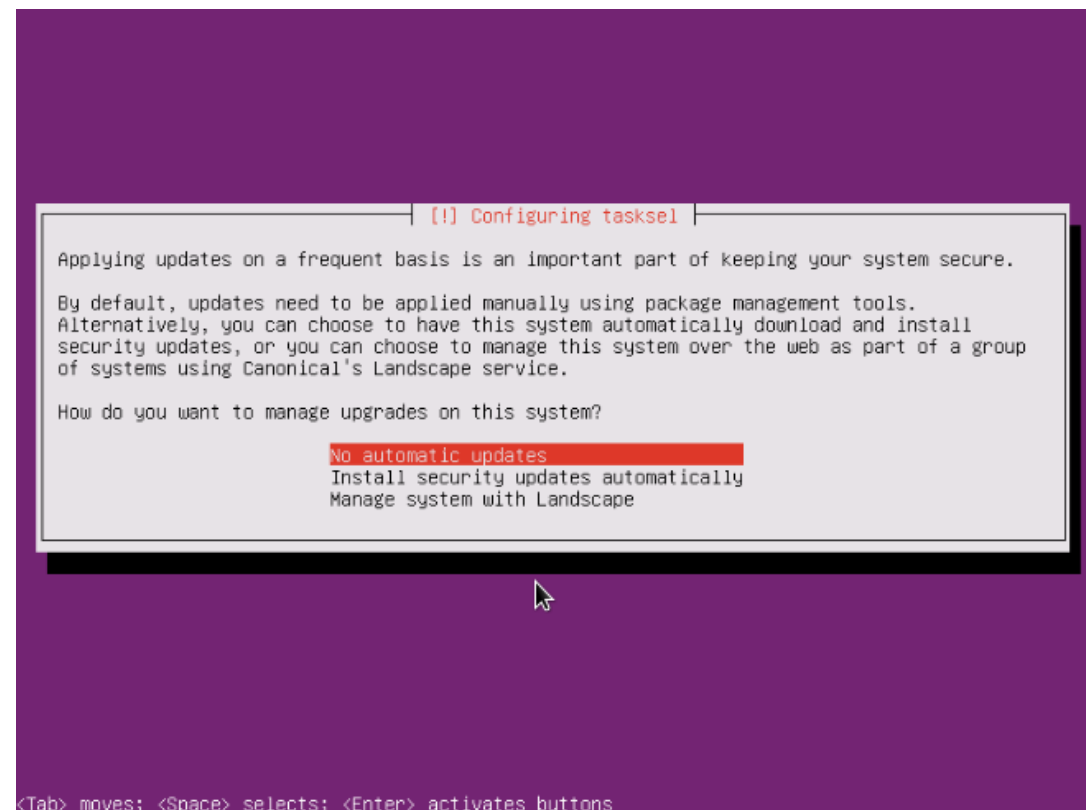
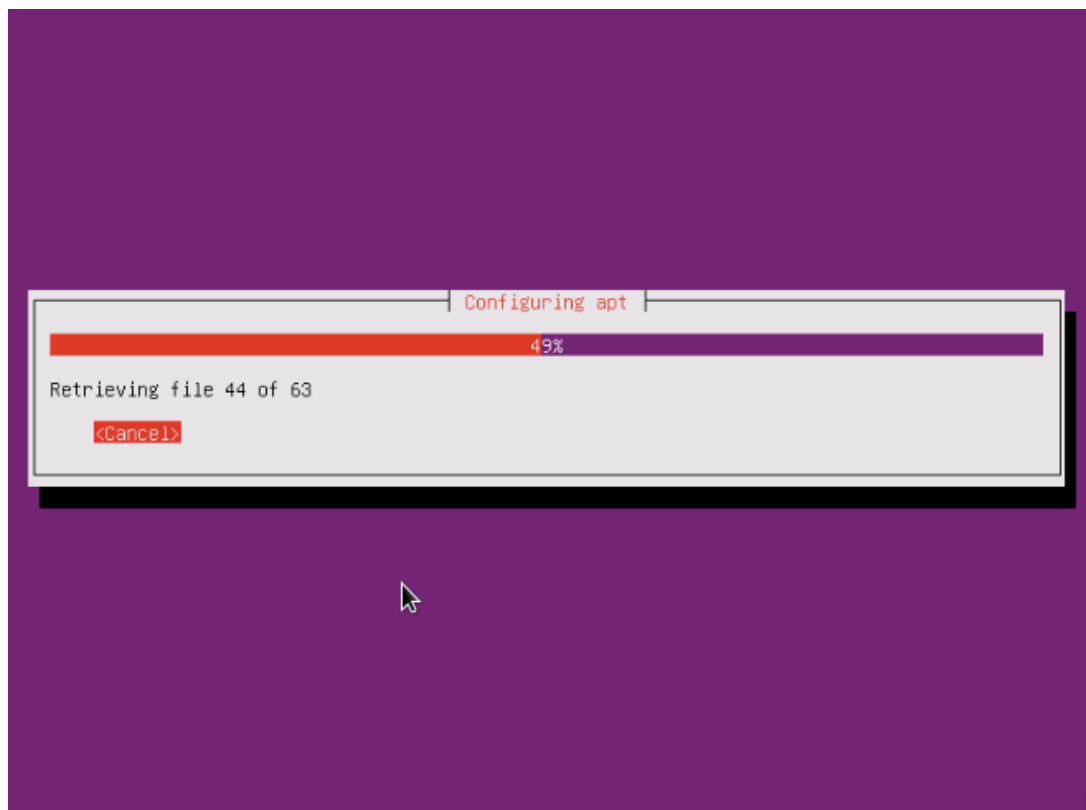
Ubuntu-Server 6/10



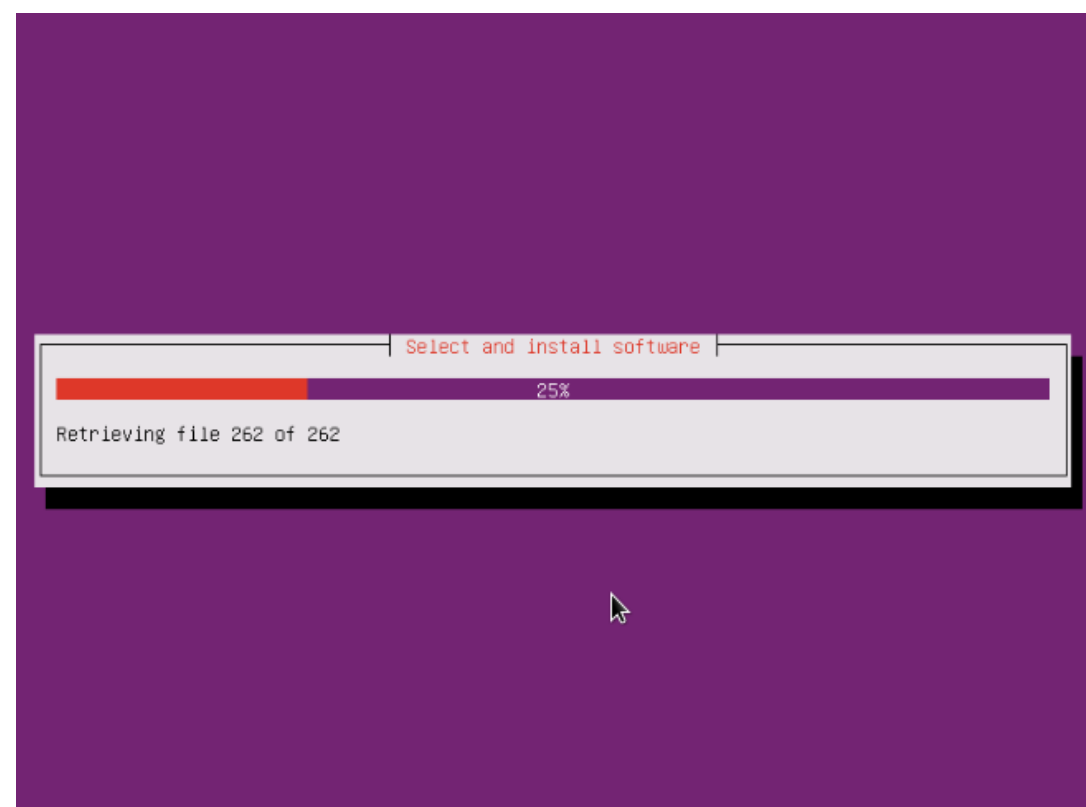
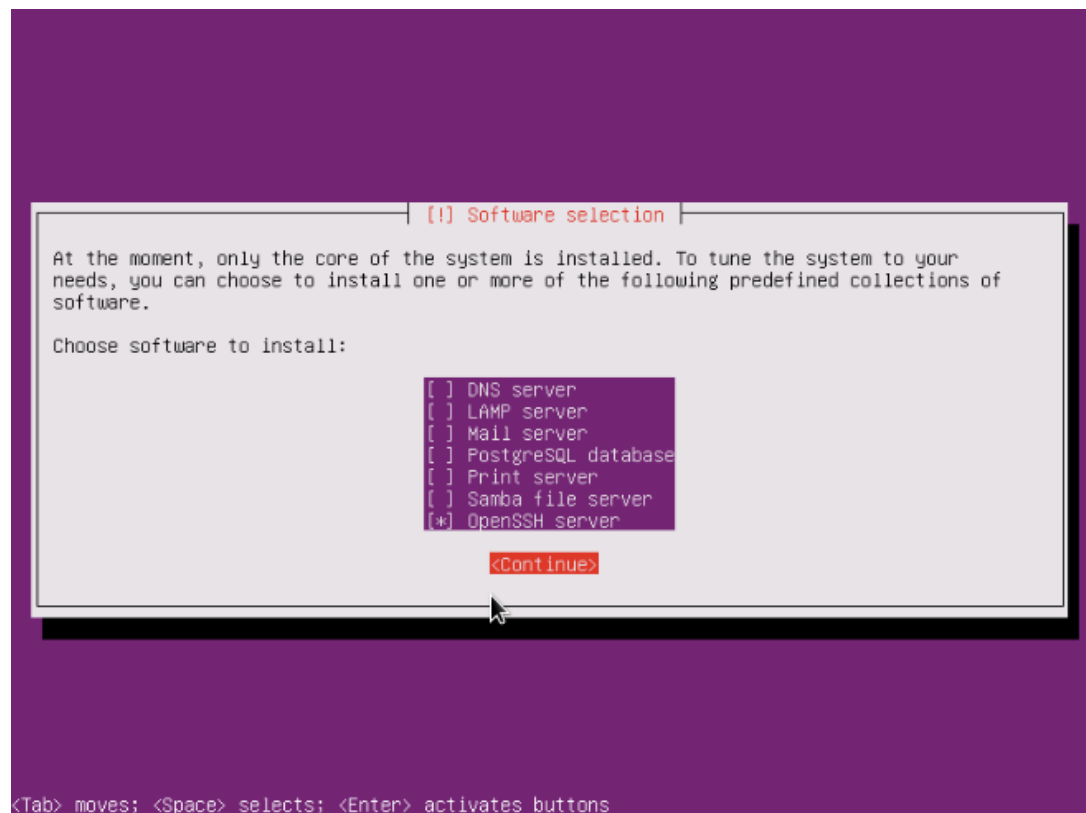
Ubuntu-Server 7/10



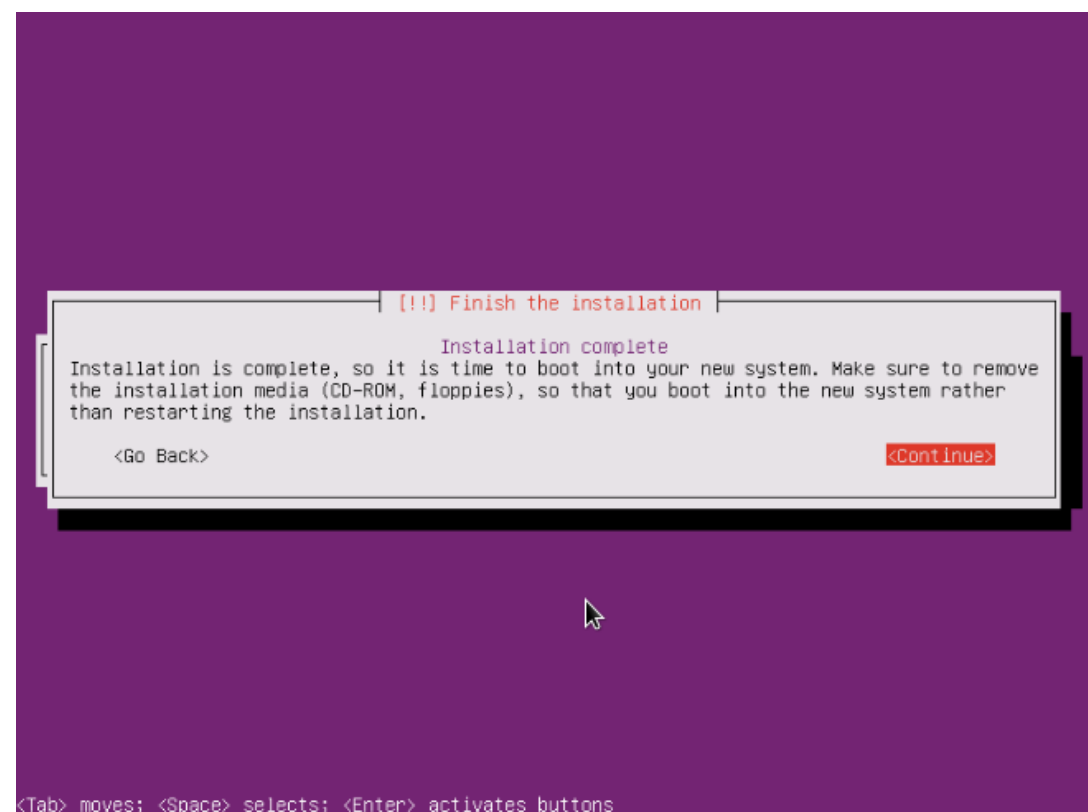
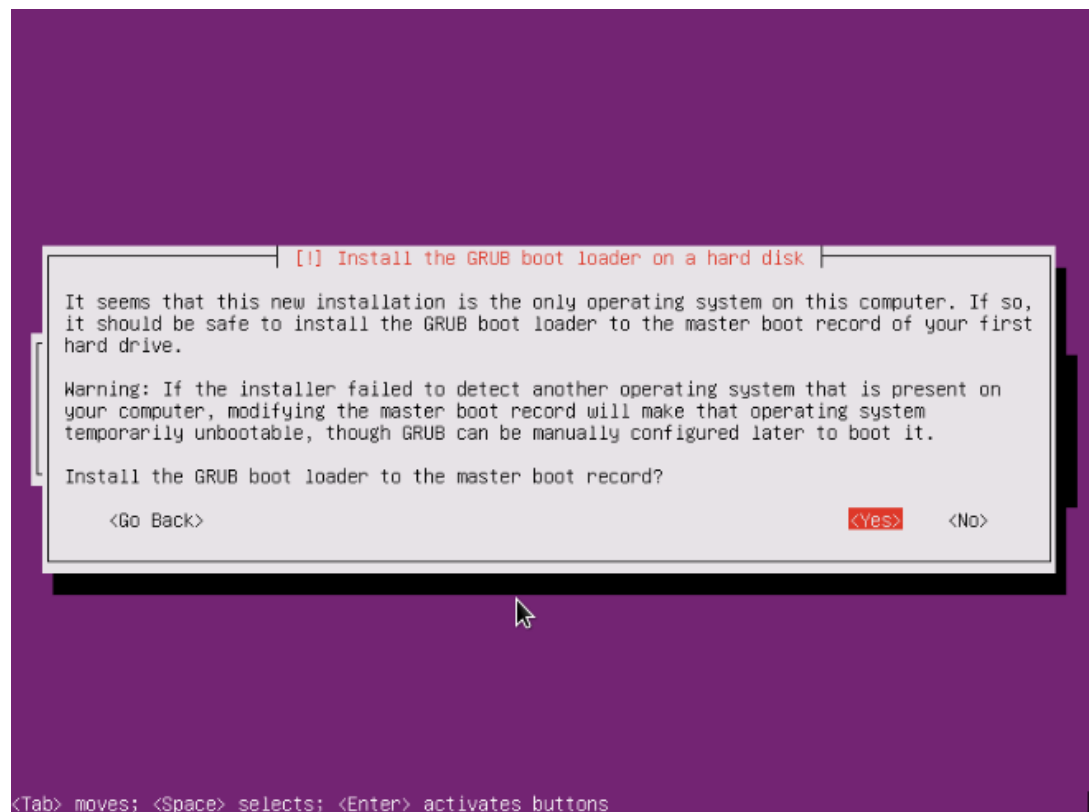
Ubuntu-Server 8/10



Ubuntu-Server 9/10



Ubuntu-Server 10/10



Fertig !

```
Ubuntu 18.04.4 LTS jitsi2 tty1
jitsi2 login: turtle
Password:
Welcome to Ubuntu 18.04.4 LTS (GNU/Linux 4.15.0-76-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Sat Apr 11 17:40:35 CEST 2020

System load:  1.05          Processes:           94
Usage of /:   10.8% of 29.40GB  Users logged in:    0
Memory usage: 3%           IP address for ens18: 192.168.4.193
Swap usage:   0%

52 packages can be updated.
37 updates are security updates.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

turtle@jitsi2:~$ _
```

```
turtle@jitsi2:~$ lsblk
NAME MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda   8:0    0   30G  0 disk
└─sda1 8:1    0   30G  0 part /
sr0   11:0   1   921M  0 rom

turtle@jitsi2:~$ blkid
/dev/sr0: UUID="2020-02-03-18-33-07-00" LABEL="Ubuntu-Server 18.04.4 LTS amd64" TYPE="iso9660" PTUID="0dba6213" PTTYPE="dos"
/dev/sda1: UUID="1f94c78b-c286-45b3-893e-6e17bdc6f1c1" TYPE="ext4" PARTUUID="c3bebe32-01"

turtle@jitsi2:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            1.9G   0  1.9G   0% /dev
tmpfs           395M  628K  394M   1% /run
/dev/sda1       30G   3.2G   25G  12% /
tmpfs           2.0G   0  2.0G   0% /dev/shm
tmpfs           5.0M   0  5.0M   0% /run/lock
tmpfs           2.0G   0  2.0G   0% /sys/fs/cgroup
tmpfs           395M   0  395M   0% /run/user/1000

turtle@jitsi2:~$ _
```


Nacharbeiten Ubuntu-Server

- Allgemeine Standards nach einer OS-Installation:
- Aktuelle Patches nachinstallieren
 - `apt update`
 - `apt upgrade`
- QEMU Guest Agent zur Integration in Proxmox VE
 - `apt install qemu-guest-agent`
- Statische IP-Adresse konfigurieren
 - **Nicht** mehr in Datei `/etc/networks/interfaces`
 - Sondern im Directory `/etc/netplan`
- Reboot

```
root@jitsi2:~# apt search qemu-guest
Sorting... Done
Full Text Search... Done
qemu-guest-agent/bionic-updates,bionic-security 1:2.11+dfsg-1ubuntu7.23 amd64
  Guest-side qemu-system agent

root@jitsi2:~# apt install qemu-guest-agent
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  qemu-guest-agent
0 upgraded, 1 newly installed, 0 to remove and 3 not upgraded.
Need to get 232 kB of archives.
After this operation, 939 kB of additional disk space will be used.
Get:1 http://de.archive.ubuntu.com/ubuntu bionic-updates/universe amd64 qemu-guest-agent amd64 1:2.11+dfsg-1ubuntu7.23 [232 kB]
Fetched 232 kB in 0s (1,187 kB/s)
Selecting previously unselected package qemu-guest-agent.
(Reading database ... 67056 files and directories currently installed.)
Preparing to unpack .../qemu-guest-agent_1:2.11+dfsg-1ubuntu7.23_amd64.deb ...
Unpacking qemu-guest-agent (1:2.11+dfsg-1ubuntu7.23) ...
Setting up qemu-guest-agent (1:2.11+dfsg-1ubuntu7.23) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
```

```
root@jitsi1:/etc/network# cd ../netplan
root@jitsi1:/etc/netplan# ls -l
total 4
-rw-r--r-- 1 root root 587 Mar 25 17:18 50-cloud-init.yaml
root@jitsi1:/etc/netplan# cat 50-cloud-init.yaml
# This file is generated from information provided by the datasource. Changes
# to it will not persist across an instance reboot. To disable cloud-init's
# network configuration capabilities, write a file
# /etc/cloud/cloud.cfg.d/99-disable-network-config.cfg with the following:
# network: {config: disabled}
network:
  ethernets:
    ens18:
      addresses:
        - 172.23.42.88/16
      gateway4: 172.23.74.30
      nameservers:
        addresses:
          - 172.23.74.30
        search:
          - dmz.msdc
  version: 2
root@jitsi1:/etc/netplan# █
```

Server View

- Datacenter
 - pve-002
 - 100 (jitsi2)
 - local (pve-002)
 - local-vm (pve-002)

- Console
- Hardware
- Cloud-Init
- Options
- Task History
- Monitor
- Backup
- Replication
- Snapshots
- Firewall
 - Options
- Alias
- IPSet
- Log
- Permissions

Virtual Machine 100 (jitsi2) on node 'pve-002'

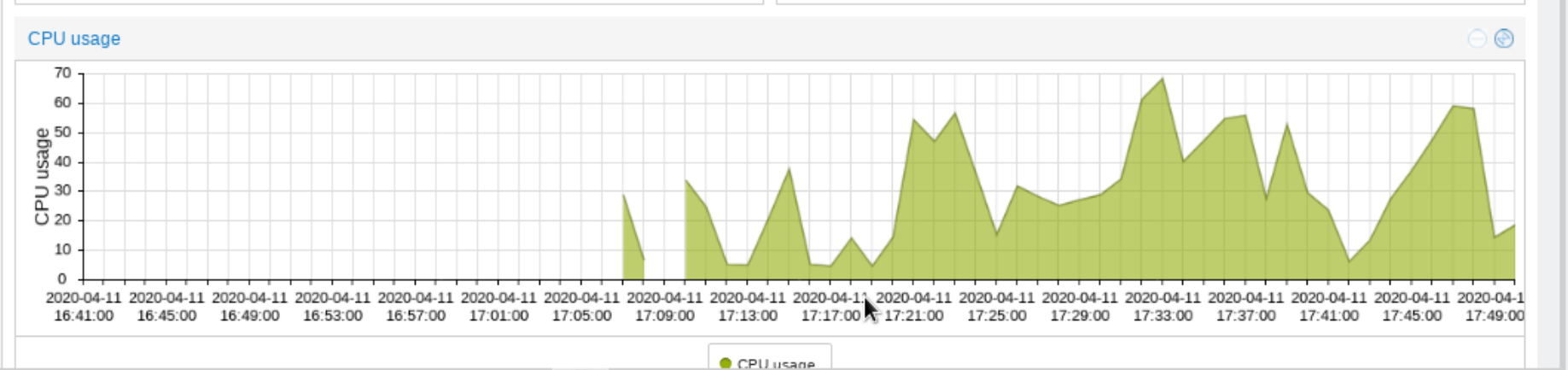
Summary

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jitsi2 (Uptime: 00:41:07)

Status	running
HA State	none
Node	pve-002
CPU usage	4.26% of 2 CPU(s)
Memory usage	33.15% (1.33 GiB of 4.00 GiB)
Bootdisk size	30.00 GiB
IPs	192.168.4.193 fe80::6021:89ff:fe5b:a947

Notes



- Server View
- Datacenter
 - pve-002
 - 100 (jitsi2)
 - local (pve-002)
 - local-lvm (pve-002)
- Summary
- Console
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Virtual Machine 100 (jitsi2) on node 'pve-002' Start Shutdown Console More Help

