

Betriebssysteme

Windows, macOS, Unix, Virtualisierung und Tools

Tom Gries | Berlin | Oktober 2023



Dokumenten URL:

<http://docs.tx7.de/TT-BS3>

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Lizenz:

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Version:

7.0.1 vom 26.10.2023





Ein Betriebssystem (BS) verwaltet die Hardware eines Computers und teilt die Ressourcen zu. Bekannte Betriebssysteme für PCs und mobile Endgeräte sind (in chronologischer Reihenfolge):

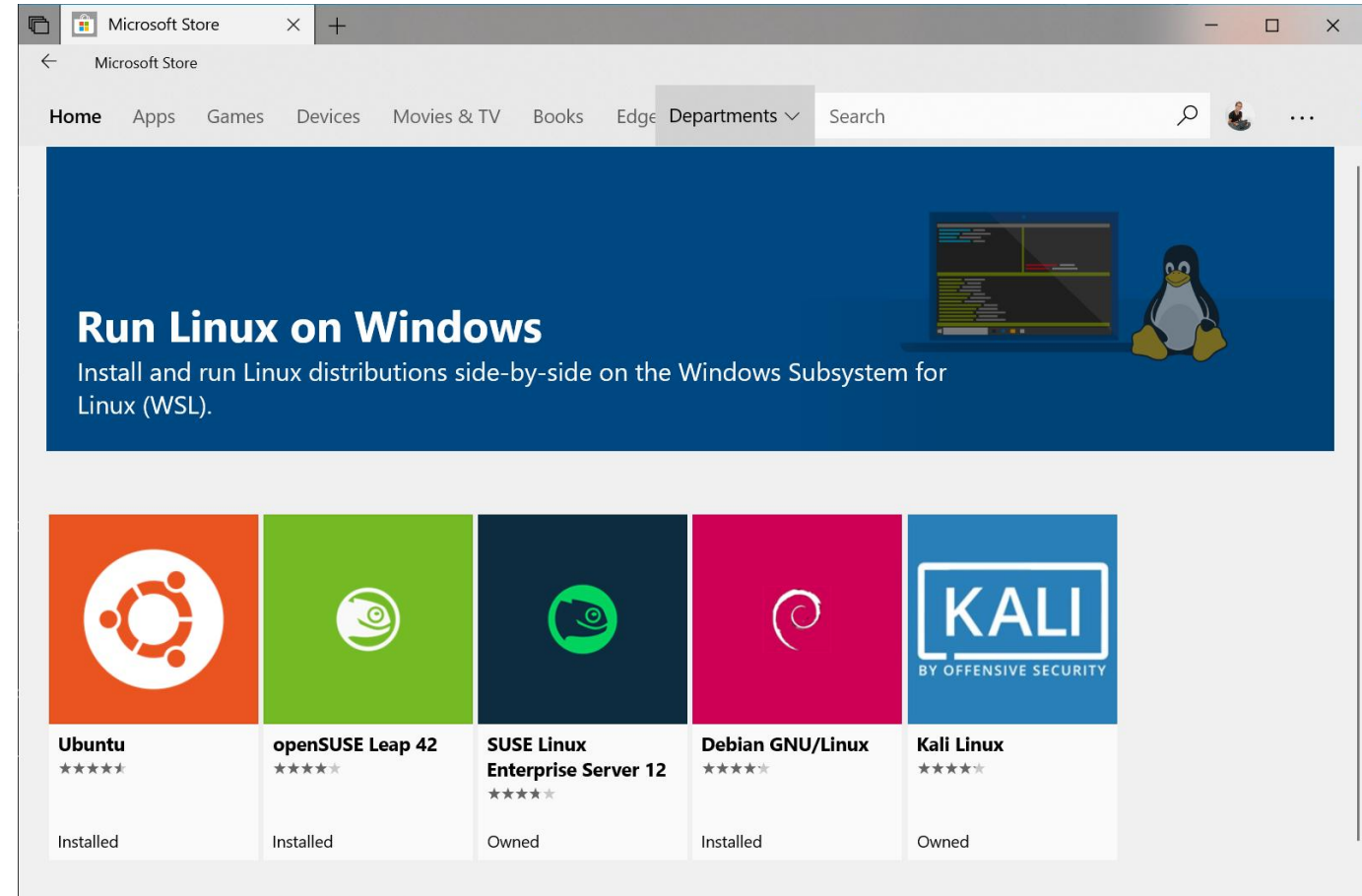
System	Jahr
UNIX	1971
DOS (Nachfolger von CP/M)	1974
Windows	1983
OS/2 Warp	1987
Linux	1991
MacOS	2001
iOS (vorher iPhone OS)	2007
Android	2008

System	2017		2018
Android	31,76 %	?	38,97 %
Windows	43,82 %	?	37,07 %
iOS	11,71 %	?	13,18 %
MacOS	5,09 %	?	5,24 %
Linux	0,94 %	?	0,76 %
Nicht identifizierte BS	3,64 %	?	2,72 %
Andere BS	3,03 %	?	2,06 %



Das **Windows Subsystem for Linux**, kurz WSL, ist eine Erweiterung von Windows 10, um Linux innerhalb von Windows auszuführen.

WSL nutzt Virtualisierungstechniken der CPU.

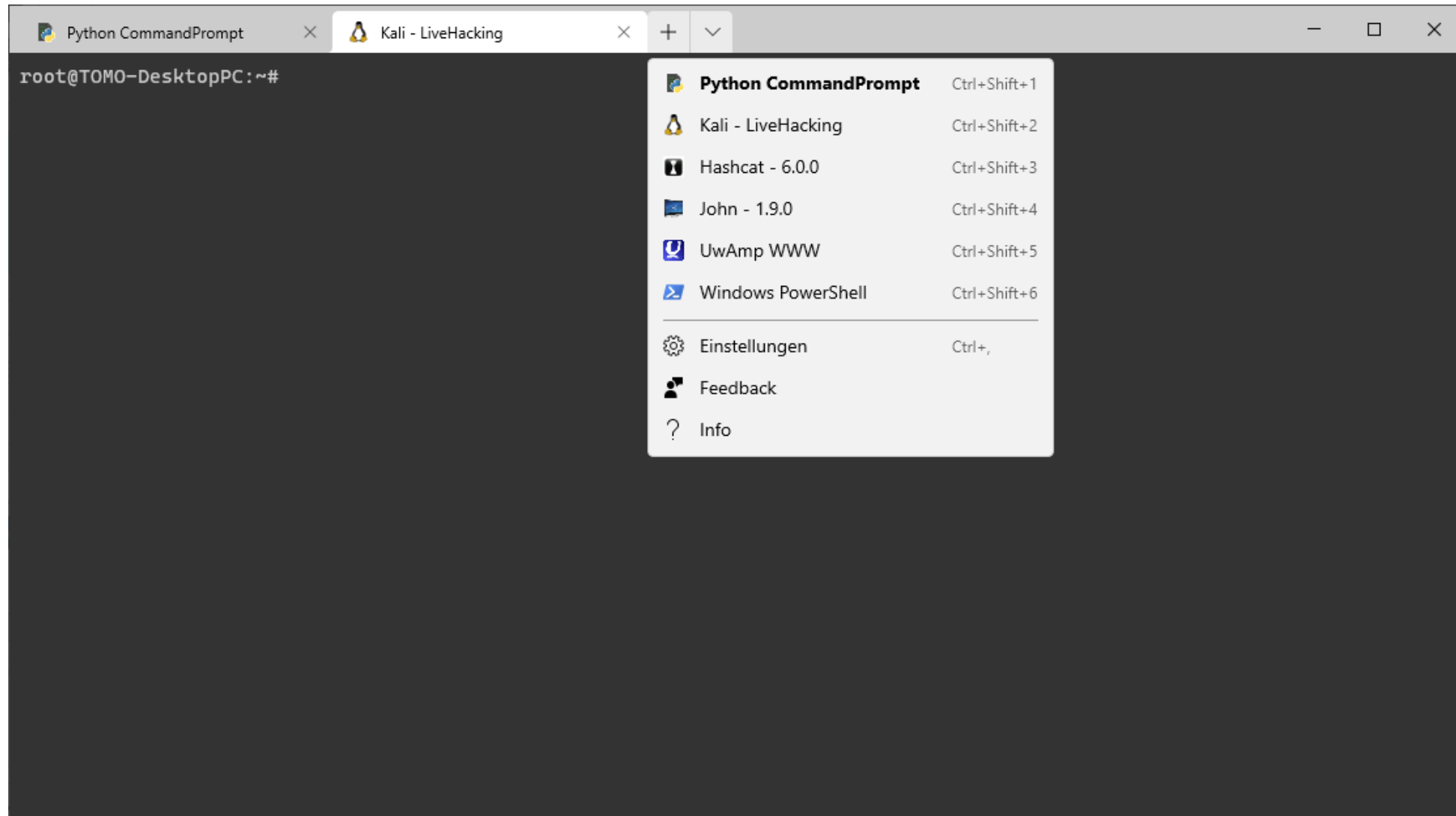




```
tomo@TOMO-DesktopPC: ~  
Installing, this may take a few minutes...  
Please create a default UNIX user account. The username does not need to match your Windows username.  
For more information visit: https://aka.ms/wslusers  
Enter new UNIX username: tomo  
New password:  
Retype new password:  
passwd: password updated successfully  
Installation successful!  
(Message from Kali developers)  
  
This is a minimal installation of Kali Linux, you likely  
want to install supplementary tools. Learn how:  
📖 https://www.kali.org/docs/troubleshooting/common-minimum-setup/  
  
(Run "touch ~/.hushlogin" to hide this message)  
(tomo@TOMO-DesktopPC)-[~]  
$ _
```



Betriebssysteme - Windows Terminal





Betriebssysteme - Putty

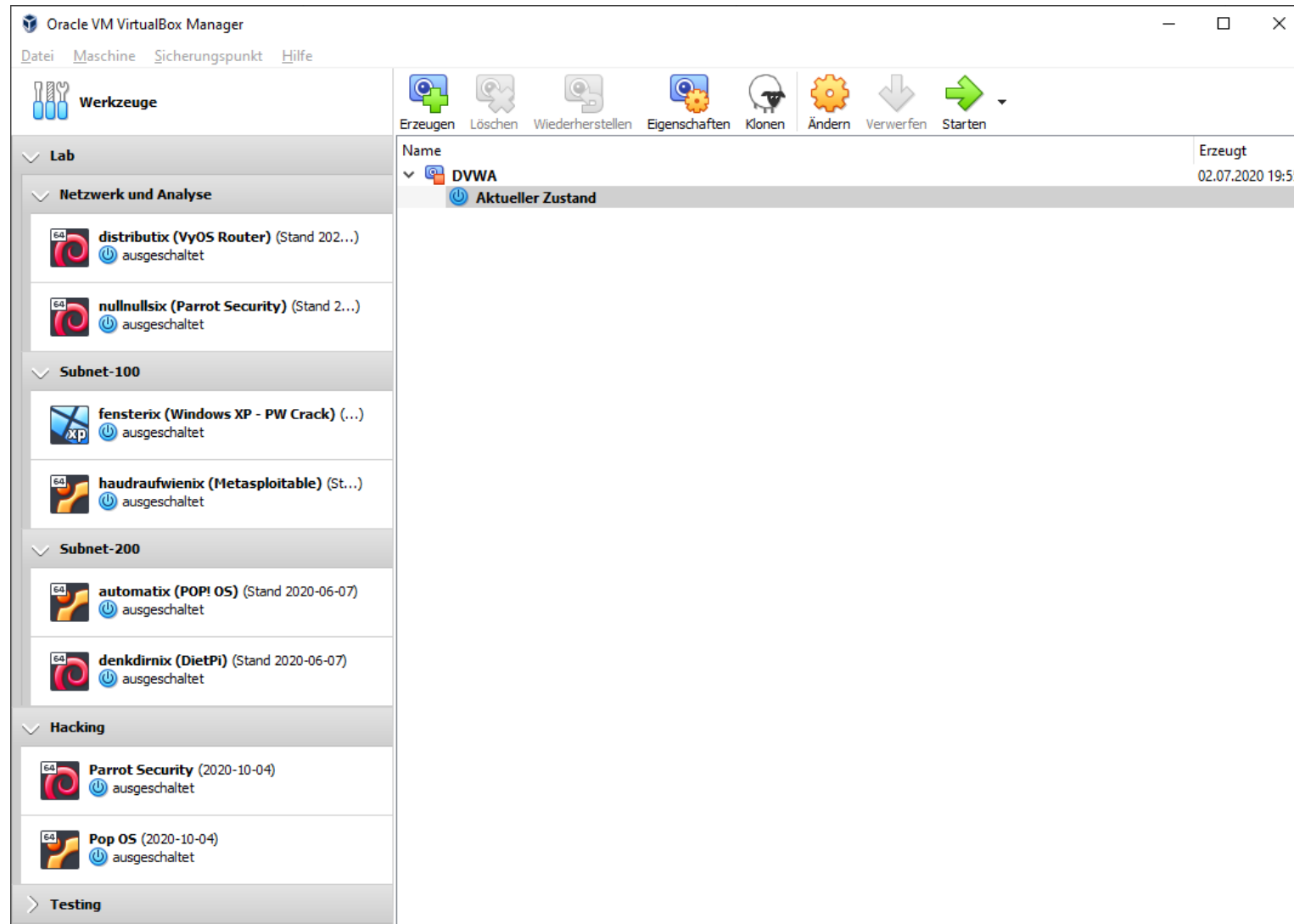
Putty - einer der meistverwendeten SSH Clients unter Windows. Putty ist kostenlos.

```
tomo@TOMO-DesktopPC: ~  
login as: tomo  
tomo@172.24.92.77's password:  
Linux TOMO-DesktopPC 4.19.104-microsoft-standard #1 SMP Wed Feb 19 06:37:35 UTC  
2020 x86_64  
  
The programs included with the Kali GNU/Linux system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent  
permitted by applicable law.  
tomo@TOMO-DesktopPC:~$
```

The image shows the PuTTY Configuration dialog box. On the left, a tree view shows categories: Session (selected), Logging, Terminal (Keyboard, Bell, Features), Window (Appearance, Behaviour, Translation, Selection, Colours), and Connection (Data, Proxy, Telnet, Rlogin, SSH, Serial). The right pane is titled 'Basic options for your PuTTY session'. It contains fields for 'Host Name (or IP address)' and 'Port' (set to 22). Below these are radio buttons for 'Connection type': Raw, Telnet, Rlogin, SSH (selected), and Serial. A section 'Load, save or delete a stored session' includes a 'Saved Sessions' list with entries: Default Settings, Kali Linux in VirtualBox, Raspi Initial (FritzBox), Raspi Initial (Link Lokal), TOMO-NAS, TOMO-PI-1-Bplus-01, and TOMO-PI-1-Bplus-02. To the right of this list are 'Load', 'Save', and 'Delete' buttons. At the bottom of the right pane are radio buttons for 'Close window on exit': Always, Never, and Only on clean exit (selected). At the very bottom of the dialog are 'About', 'Help', 'Open', and 'Cancel' buttons.



Betriebssysteme - VirtualBox





Betriebssysteme - Proxmox

PROXMOX Virtual Environment 6.0-4

Search

Documentation

Create VM

Create CT

root@pam

Server View

Datacenter (democluster)

pve6-demo1

ceph (pve6-demo1)

cephfs (pve6-demo1)

local (pve6-demo1)

local-lvm (pve6-demo1)

pve6-demo2

100 (Buster)

ceph (pve6-demo2)

cephfs (pve6-demo2)

local (pve6-demo2)

local-lvm (pve6-demo2)

pve6-demo3

101 (debianct)

ceph (pve6-demo3)

cephfs (pve6-demo3)

local (pve6-demo3)

local-lvm (pve6-demo3)

production

testlab

Datacenter

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Summary

Cluster

Ceph

Options

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Backup

Replication

Permissions

Users

Groups

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Authentication

HA

Firewall

Support

Health

Status

Nodes

Ceph

Cluster: democluster, Quorate: Yes

HEALTH_OK

Resources

CPU

Memory

Storage

1% of 18 CPU(s)

21% 4.92 GiB of 23.36 GiB

11% 17.66 GiB of 153.91 GiB

Subscriptions

Community

Your subscription status is valid.

Guests

Virtual Machines

LXC Container

Running 1

Stopped 0

Running 1

Stopped 0

Nodes

Name

ID

Online

Support

Server Address

CPU usage

Memory usage

Uptime

pve6-demo1 1

pve6-demo2 2

pve6-demo3 3

Community

192.168.6.80

192.168.6.81

192.168.6.82

1%

1%

1%

18%

26%

19%

00:06:36

00:06:35

00:06:30

Tasks

Cluster log

Start Time

End Time

Node

User name

Description

Status

Jul 16 11:31:59

Jul 16 11:32:02

pve6-demo1

root@pam

Shell

OK

Jul 16 11:31:18

Jul 16 11:31:19

pve6-demo2

root@pam

VM 100 - Start

OK

Jul 16 11:29:15

Jul 16 11:30:00

pve6-demo3

root@pam

CT 101 - Start

OK

Jul 16 11:27:21

Jul 16 11:27:23

pve6-demo3

root@pam

Start all VMs and Containers

OK

Jul 16 11:27:15

Jul 16 11:27:17

pve6-demo2

root@pam

Start all VMs and Containers

OK

Jul 16 11:27:12

Jul 16 11:27:16

pve6-demo1

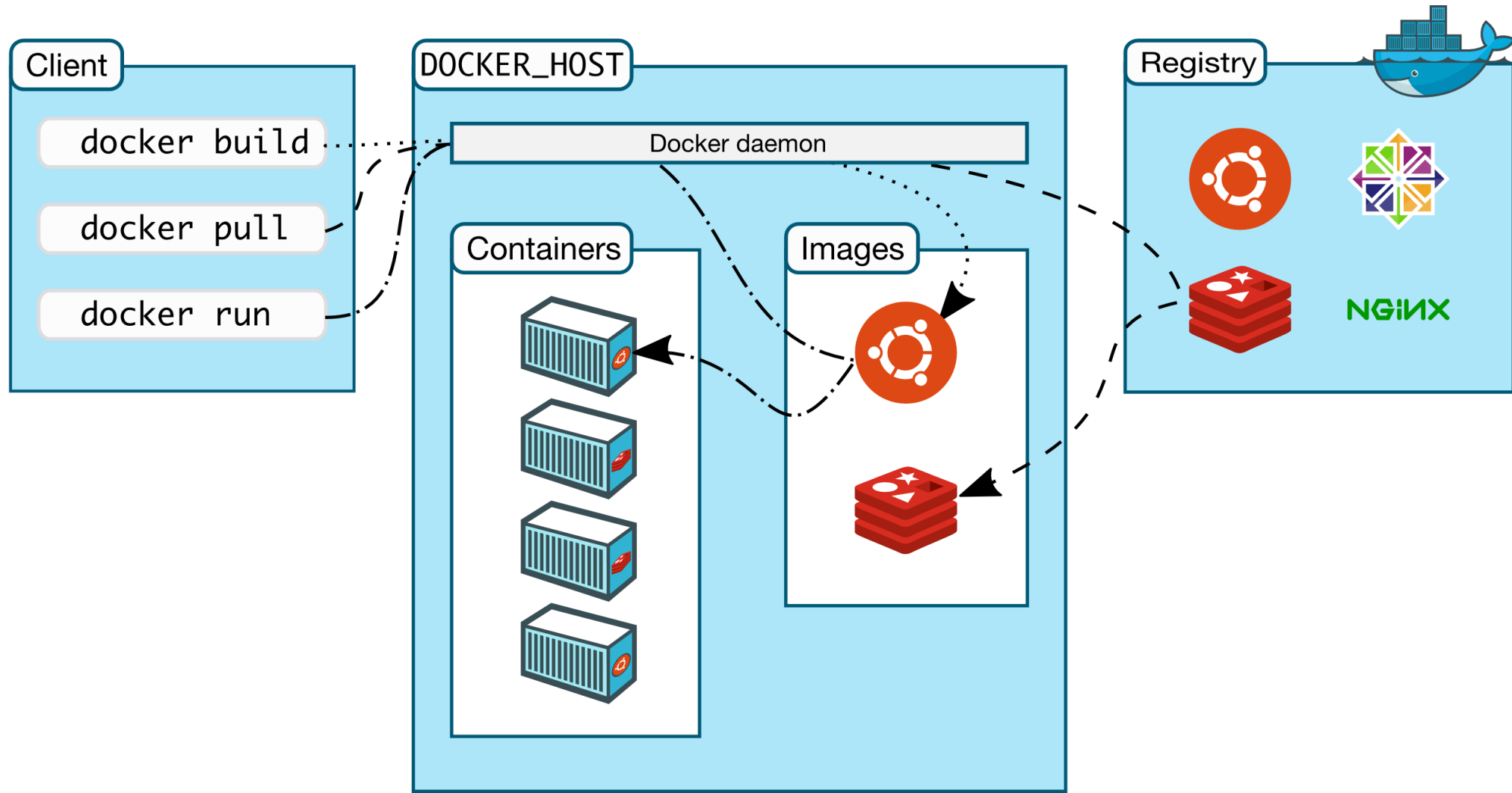
root@pam

Start all VMs and Containers

OK



Betriebssysteme - Docker





Betriebssysteme - Portainer

portainer.io

Home

KASM

Dashboard

App Templates

Stacks

Containers

Images

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SETTINGS

Users

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Settings

A new version is available

portainer.io 2.11.0

Container list

Containers

Containers

Columns Settings

Start Stop Kill Restart Pause Resume Remove Add container

Search...

Name	State	Quick actions	Stack	Image	Created	IP Address	Published Ports	Ownership
portainer	running		-	portainer/portainer-ce:2.11.0	2021-12-10 21:31:45	172.17.0.3	8000:8000 9000:9000 9443:9443	administrators
portainer_agent	running		-	portainer/agent	2021-12-08 10:15:12	172.17.0.2	9001:9001	administrators

Items per page 10 1 2

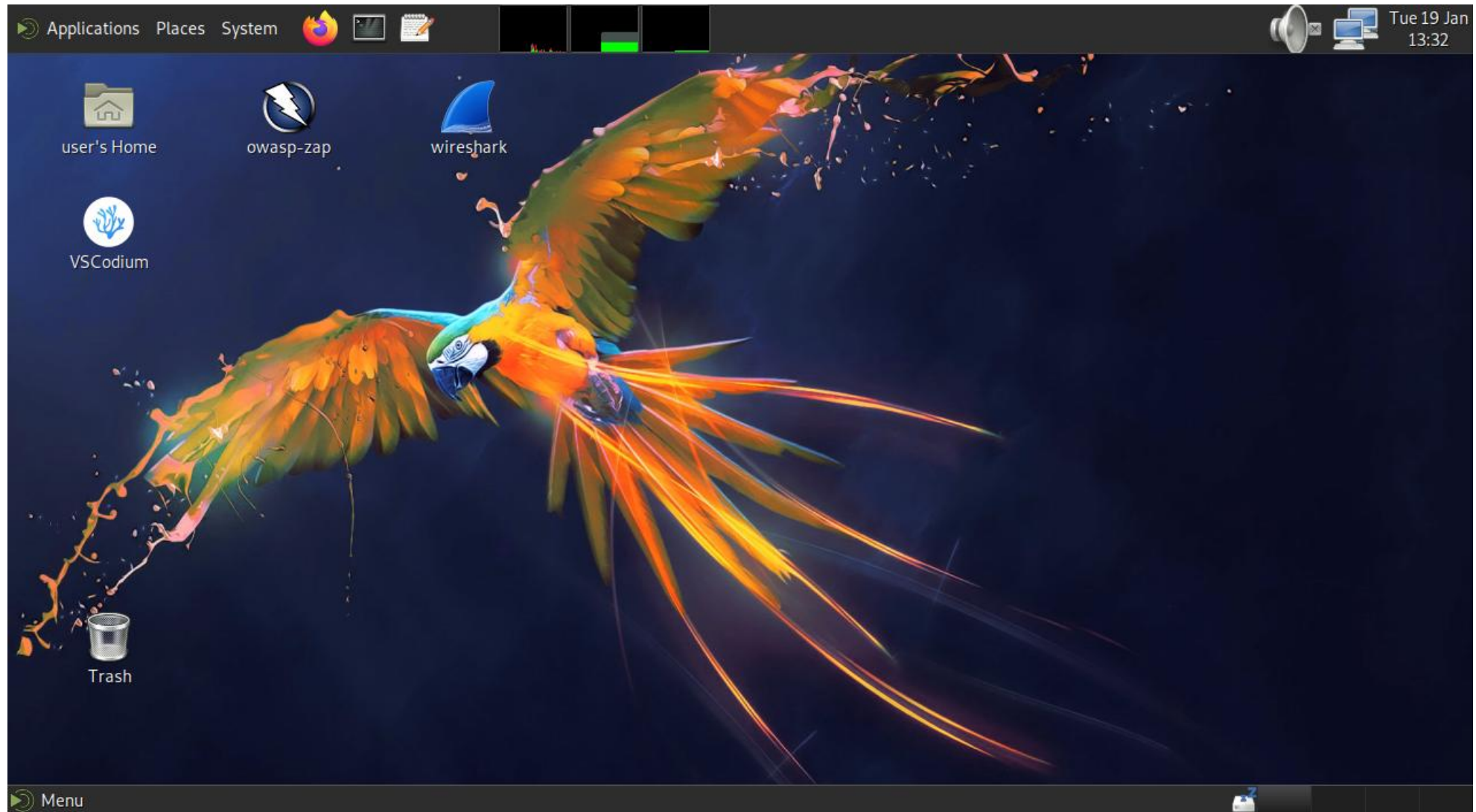


Betriebssysteme - Kali-Linux



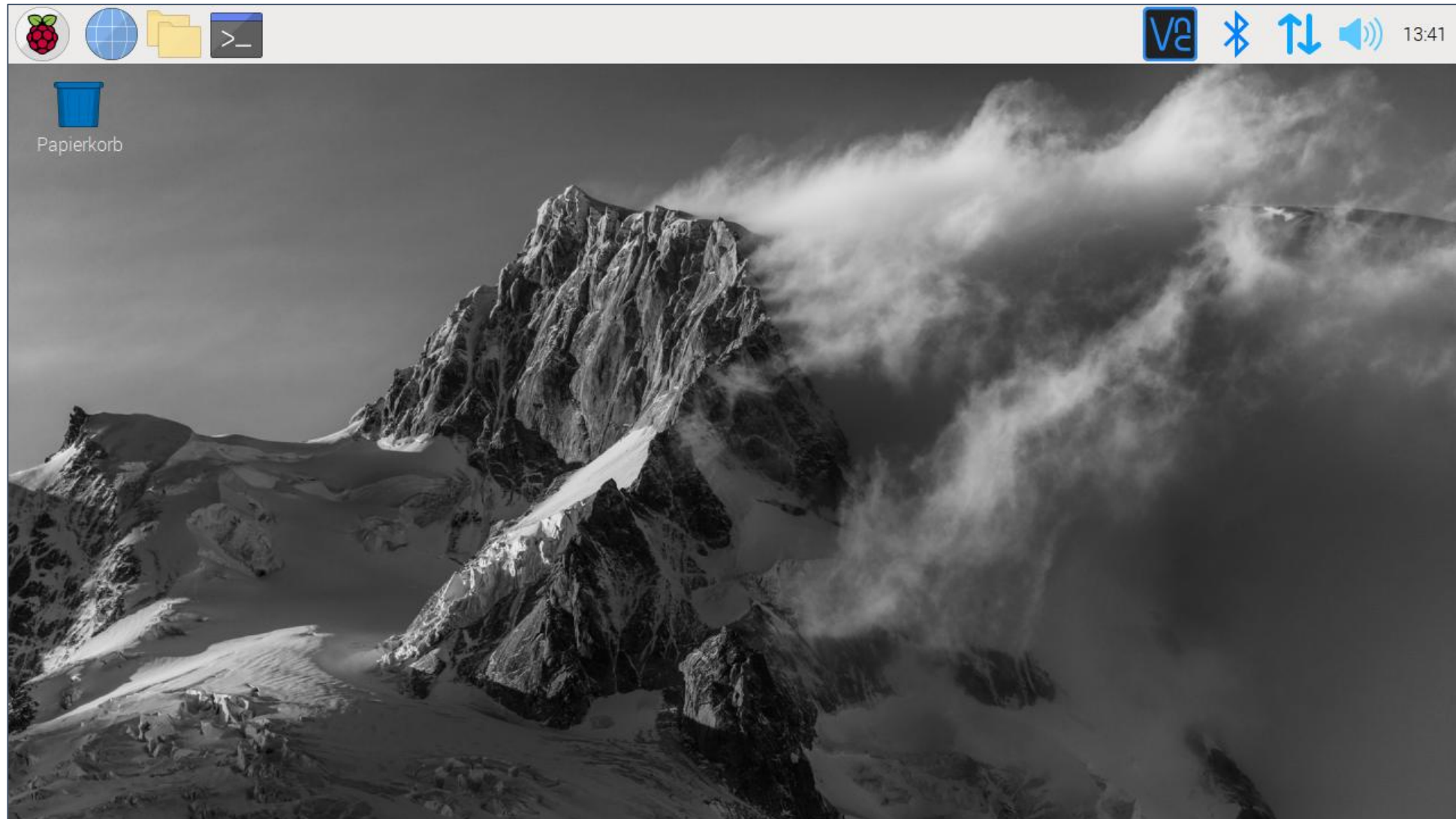


Betriebssysteme - Parrot Security



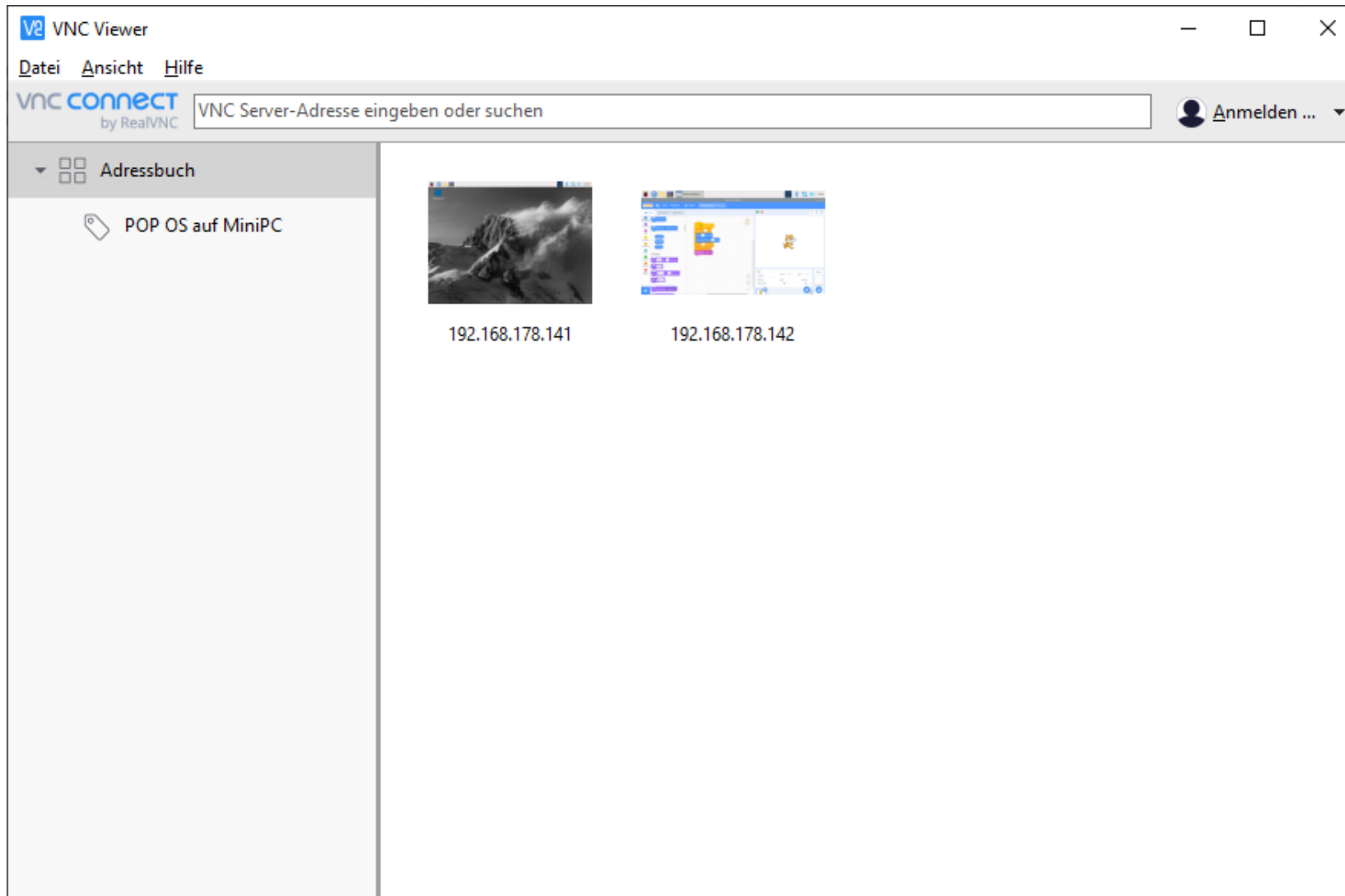


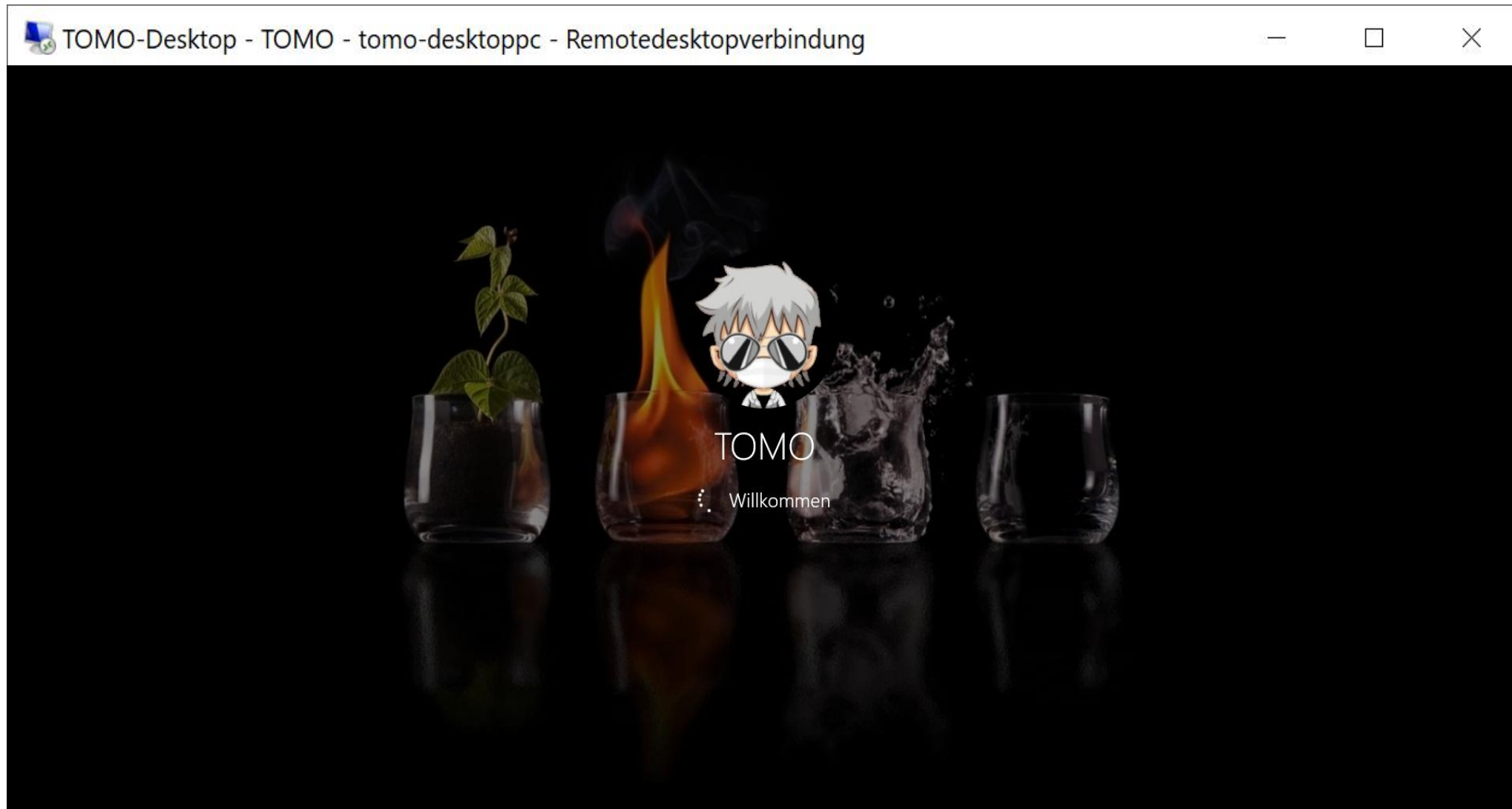
Betriebssysteme - Raspberry Pi OS





Betriebssysteme - VNC Viewer





Anmerkungen oder Fragen?