Creating a Juniper Lab with EVE-NG - Part 1

What to expect?

Session 1: This webcast will cover the installation of EVE-NG v7, the features available, and some tips and tricks. The session will also cover the concept of EVE-NG, explain the setup basics (what to check first), and feature a installation process to show exactly how to set up the server as a foundation (Proxmox) for your labs.

Today

Session 2: This webcast will cover the fetching of the vJunOS-Devices (Router, Switch, Evo) for daily labbing. It will cover the installation of the images (nodes) and show how to use the images (nodes) to create simple labs. The session will also cover the currently available templates (vendors and devices) for EVE-NG, show you how templates work in EVE-NG and how values can be changed, and explain how to obtain the needed images and how to install them.

Aug 19

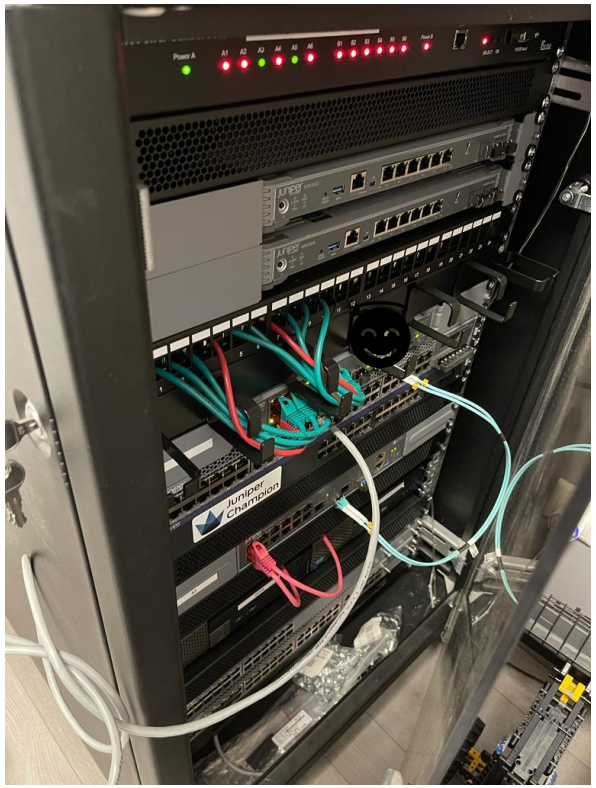
Session 3: This webcast will cover some advanced topics such as EVE-NG clustering, deploying virtual campus-fabrics for Mist, connect your Hardware via MIST-Edge to your virtual Lab, and how to connect EVE-NG to your multiple physical labs for advanced use cases. We'll also cover how to create and use custom templates for images that are not yet supported by the EVE-NG template system and cover some more advanced labs with huge resources.

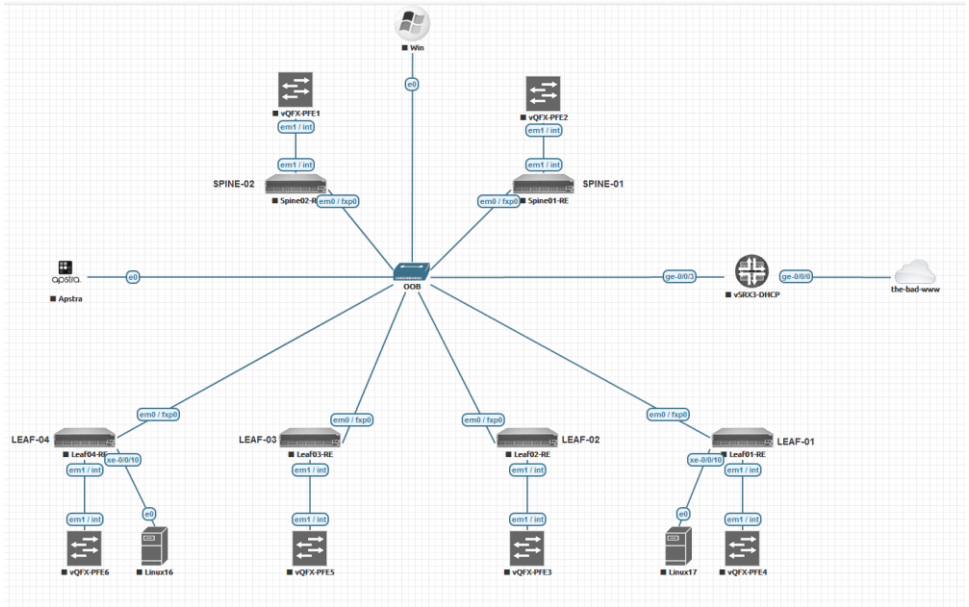
Sep 9

Why EVE-NG? | Why Virtual Labs?

Why EVE-NG | Why Virtual Labs

Save Power / Rackspace



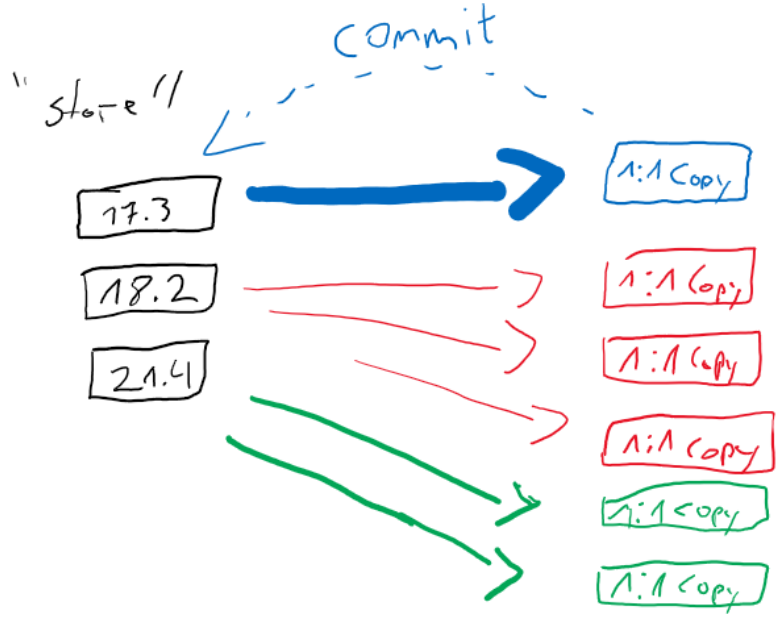


Why EVE-NG | Why Virtual Labs

- Quickly Lab / Test a new Design
- GREAT for Certification ☺ → Combine with vLabs and AATP
- Free Tier with the Community Edition
- Vendor-Neutral! No Focus on a particular Vendor – Great for Interop-Tests
- Extremely Flexible (Bare-Metal, VM | On-Prem | Colocation | Cloud)
- No Client needed

Design Considerations – Planning a Lab

- Number of nodes (CPU, RAM, HDD):
  For each node, eve uses the base-node and needs additional harddisk-space for the changes. RAM and CPU can become a problem if Labs get bigger.



Design Considerations – Planning a Lab

- Number of nodes (CPU, RAM, HDD):
  For each node, eve „copies“ the image and therefore needs harddisk ☺
- Number of images on EVE host | „Data Grave“ | Clean Policy
- Number of needed satellites – are any needed? Clustering needed?
  Pro needed? VM or Bare?

Flavors?

- Ubuntu installed on BMS

Hardware

Hypervisor (KVM) [EVE]

Juniper vDevices + Standard

- ESXi installed on BMS and EVE as VM inside ESXi

Hardware

Hypervisor (ESX)

Hypervisor (KVM nested) [EVE]

Juniper Standard

- Windows Client running VMwareWorkstation, running EVE (EVEception)

Hardware

OS (Windows)

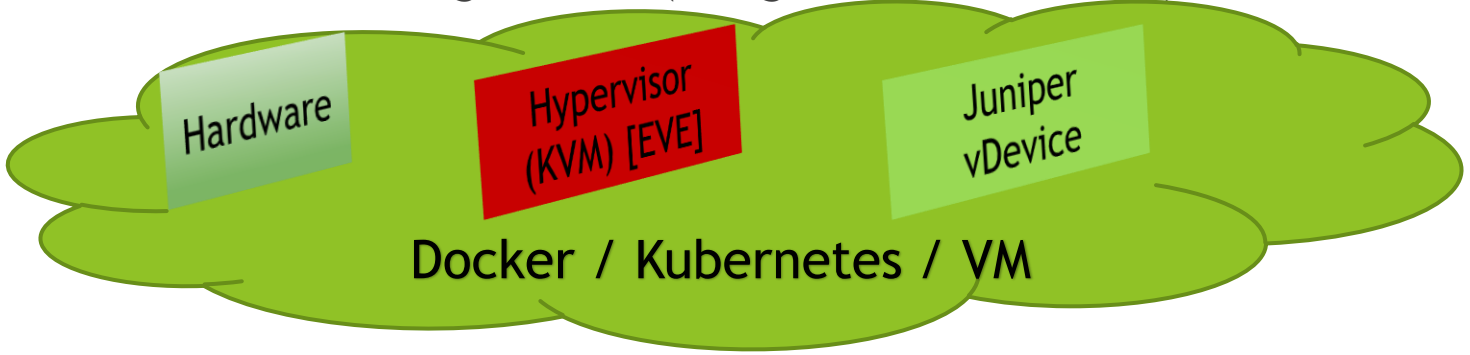
Hypervisor (Workstation)

Hypervisor (KVM nested) [EVE]

Juniper Standard?

Flavors?

- EVE running on GCP (Google Cloud Platform)

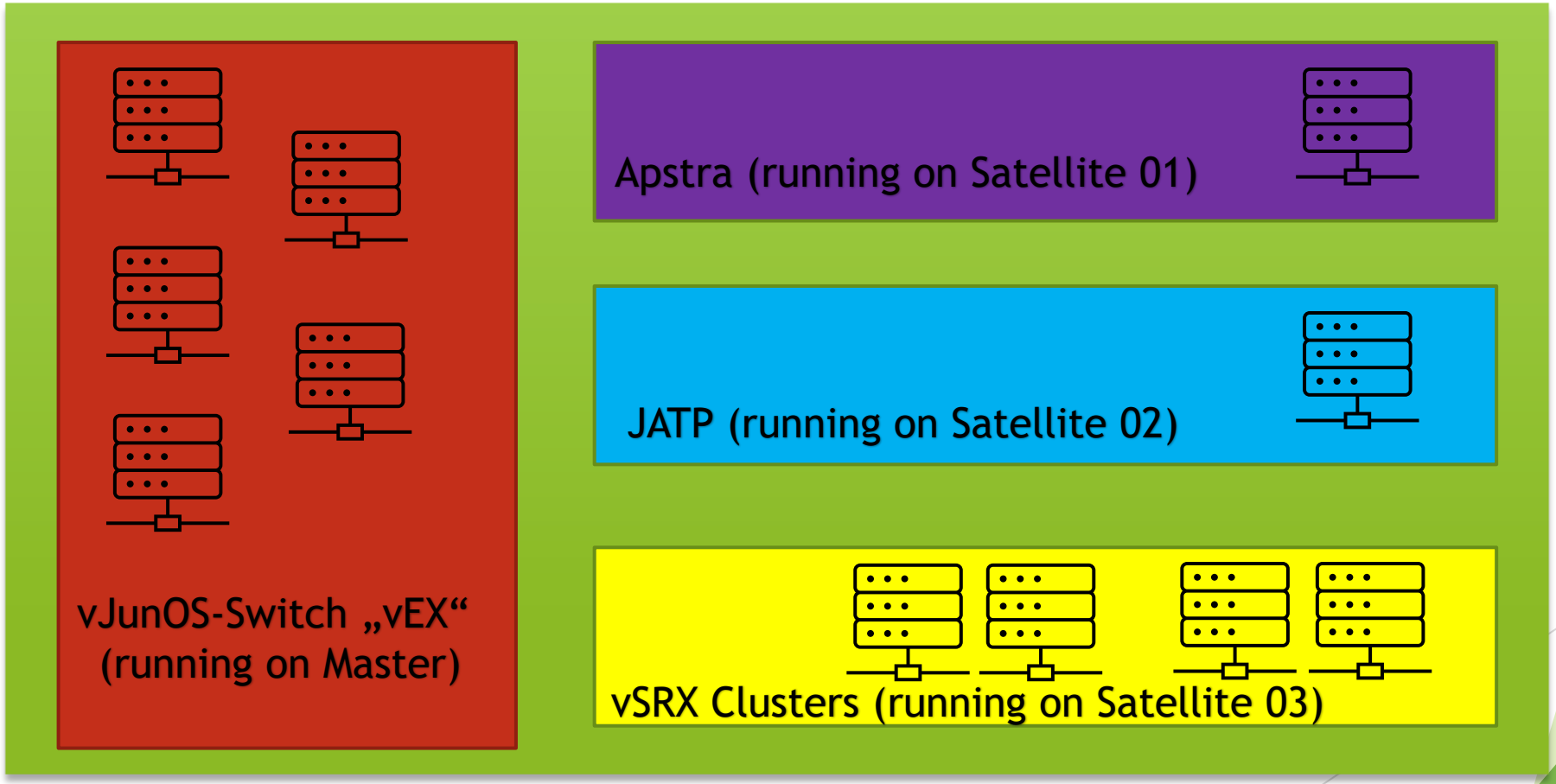


Flavors?

- EVE Hybrid (run multiple flavors of eve in a cluster)

- Allows for easy scaling the Lab (need more resources? Throw more servers in)
- Allows part of your huge nodes to run on different servers (Space, Apstra, JATP)

Example Topology



Design Considerations

- Number of nodes (CPU, RAM, HDD):
  For each node, eve „copies“ the image and therefore needs harddisk ☺
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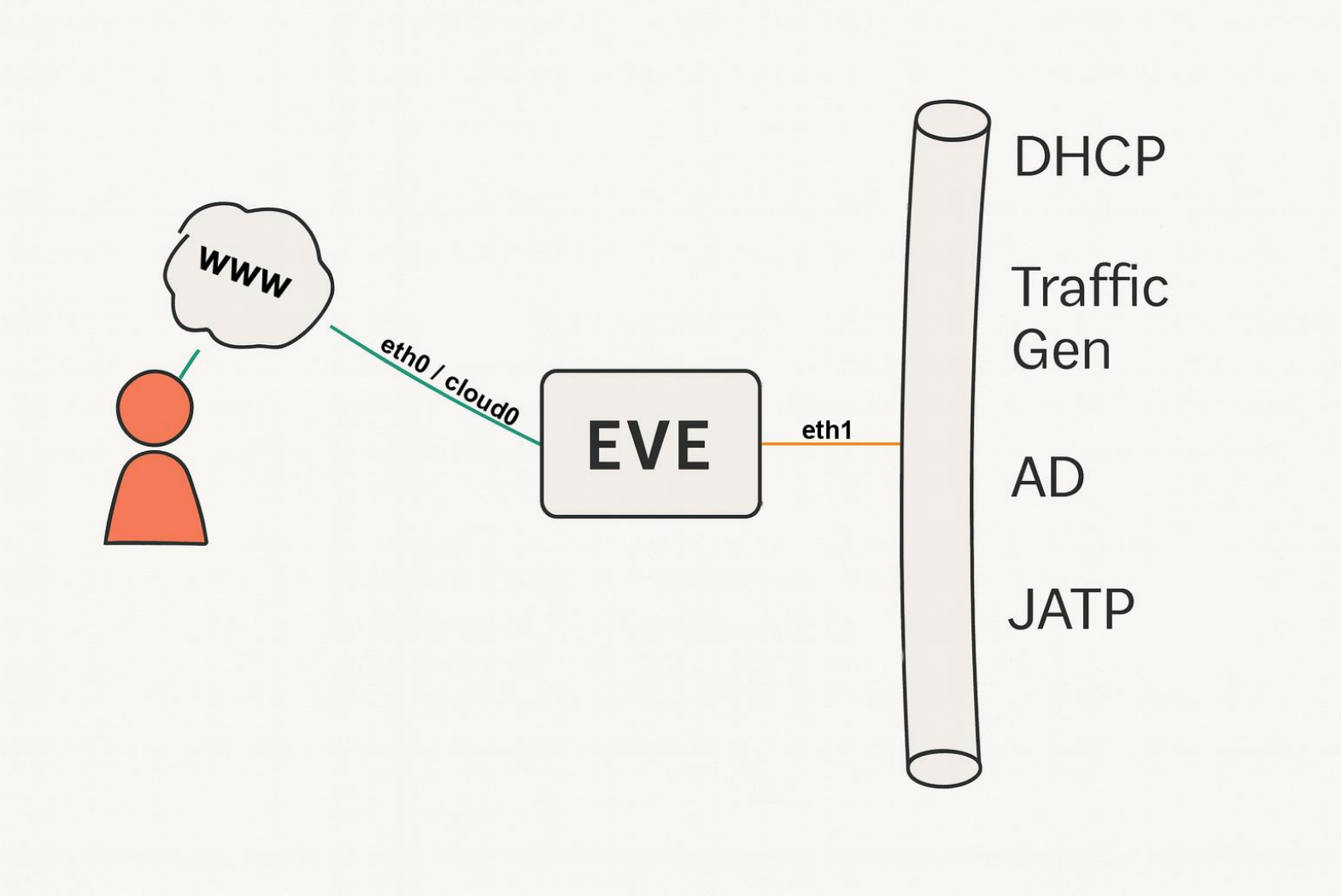
- Number of needed satellites – are any needed? Clustering needed?
  Pro needed?
- How to Access your EVE-NG Server? VPN in Front? IP-Whitelisting?
- How many concurrent Users needed?
- Hardware that needs to talk to EVE / Separate Management Network?
- Backup?

Separate Link for Management Network



Strike Plan for Today

- Download EVE-NG
- Mount iso
- Install Ubuntu / EVE-NG
- EVE-NG initial Setup

Our Scenario for the sessions

- Bare-Metal-Server „Master“ (HP)
  Cheap eBay Server with Proxmox

- Installed Proxmox 9 with a VM (200GB Harddisk, 8 vCPU, 64GB RAM)
- Access to virtual Console (to mount the iso-File)
- EVE-NG iso (Since v7 there is no more Community and Pro):
  → https://www.eve-ng.net/index.php/download/
- Minimum of 1 connected wired Port to access the EVE-NG repository

Fetch EVE-NG + images (nodes)

- https://www.eve-ng.net/

EVE-NG Professional/Learning Center Version 7.0.1-21

This is the Freemium edition. Full features require a paid license. To purchase a license, please visit our Buy Section

EVE-NG PRO installation Full ISO

DOWNLOAD SIZE: 10 GB (WITH DOCKERS PACKAGE):

- EVE-NG-PRO Full ISO – MEGA Mirror
- EVE-NG-PRO Full ISO – Direct

ISO	Algorithm	Checksum
	SHA1	56e1e75fade3e24a412b770730243a0343377711
	SHA256	e10495bb9e84879418b0e65a0bc853ad784536aeee645254d46edb6e002d771f

EVE-NG PRO Upgrade (.run) package

DOWNLOAD SIZE: 10 GB (WITH DOCKERS PACKAGE)

- EVE-NG-PRO Upgrade – Mega Mirror
- EVE-NG-PRO Upgrade – Direct

For fast download use Mega…
See instructions Here

UPG	Algorithm	Checksum
	SHA1	0d65a9763d80cce4e556355c1e358d2ba2e1109e
	SHA256	8ef412324820c2dbab8f32755920ab797b7c59923c7caf7721dbcc9899e62099

VMware Workstation:

Download Vmware Workstation (free)

Read here the End User License Agreement:

EULA

- https://www.juniper.net/us/en/dm/vjunos-labs.html
- https://customers.eve-ng.net/eve-pro-prod-bm-7.0.1-21-full.iso

EVE-NG v7 - Changelog

- Community and Pro no longer side by side – same Version for all Installations
- Freemium-Model: Free for the first 7 nodes, pay as you grow (usual pro license)
- Ubuntu 24.04, Linux 7.x Kernel
- Single binary (self updateable)
- Client-Pack now embedded
- Local Wireshark Capture through Client-Pack

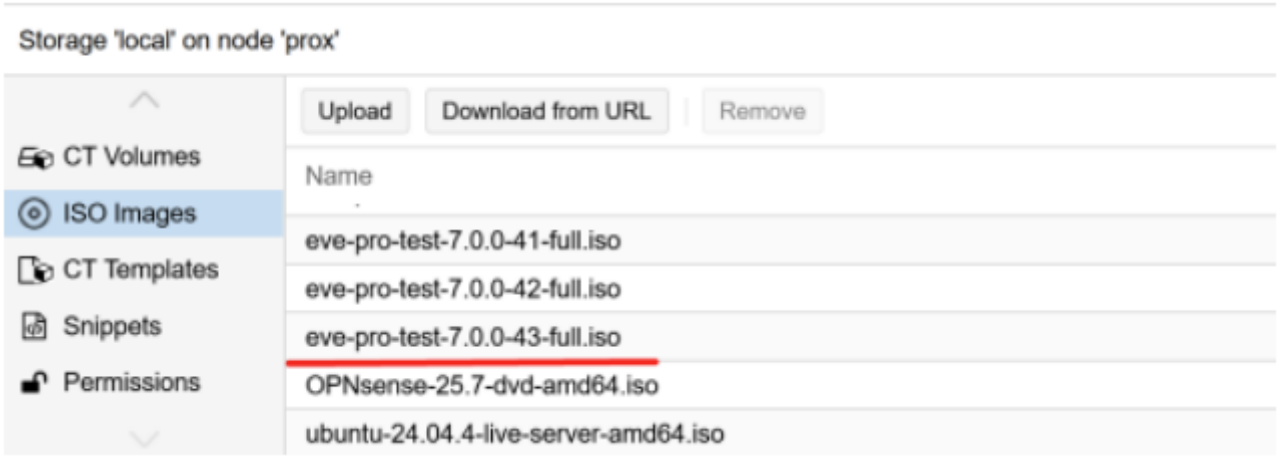
Install EVE-NG

- https://www.eve-ng.net/index.php/documentation/professional-cookbook/

- Mount the iso to your Server
- Install the iso
- Configure EVE-NG Management
- Enjoy ☺

And that‘s what we do now ☺

Install EVE-NG



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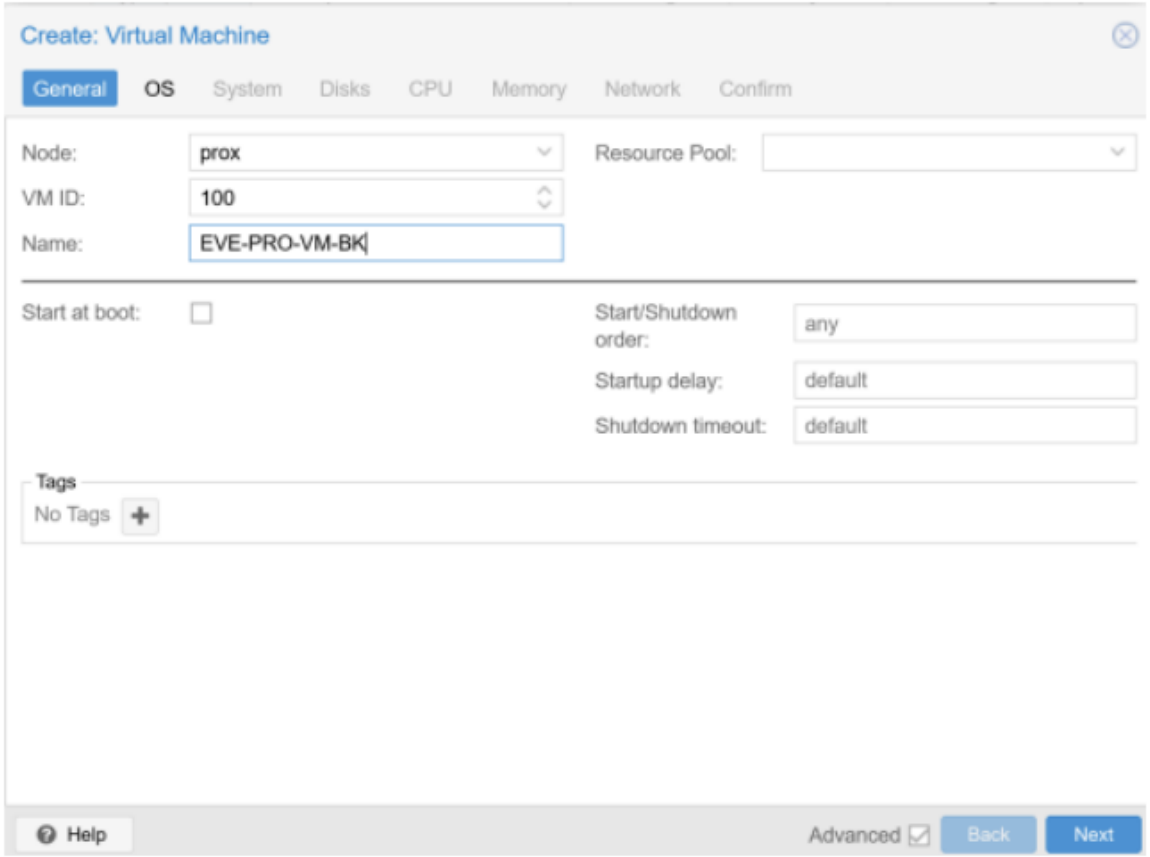

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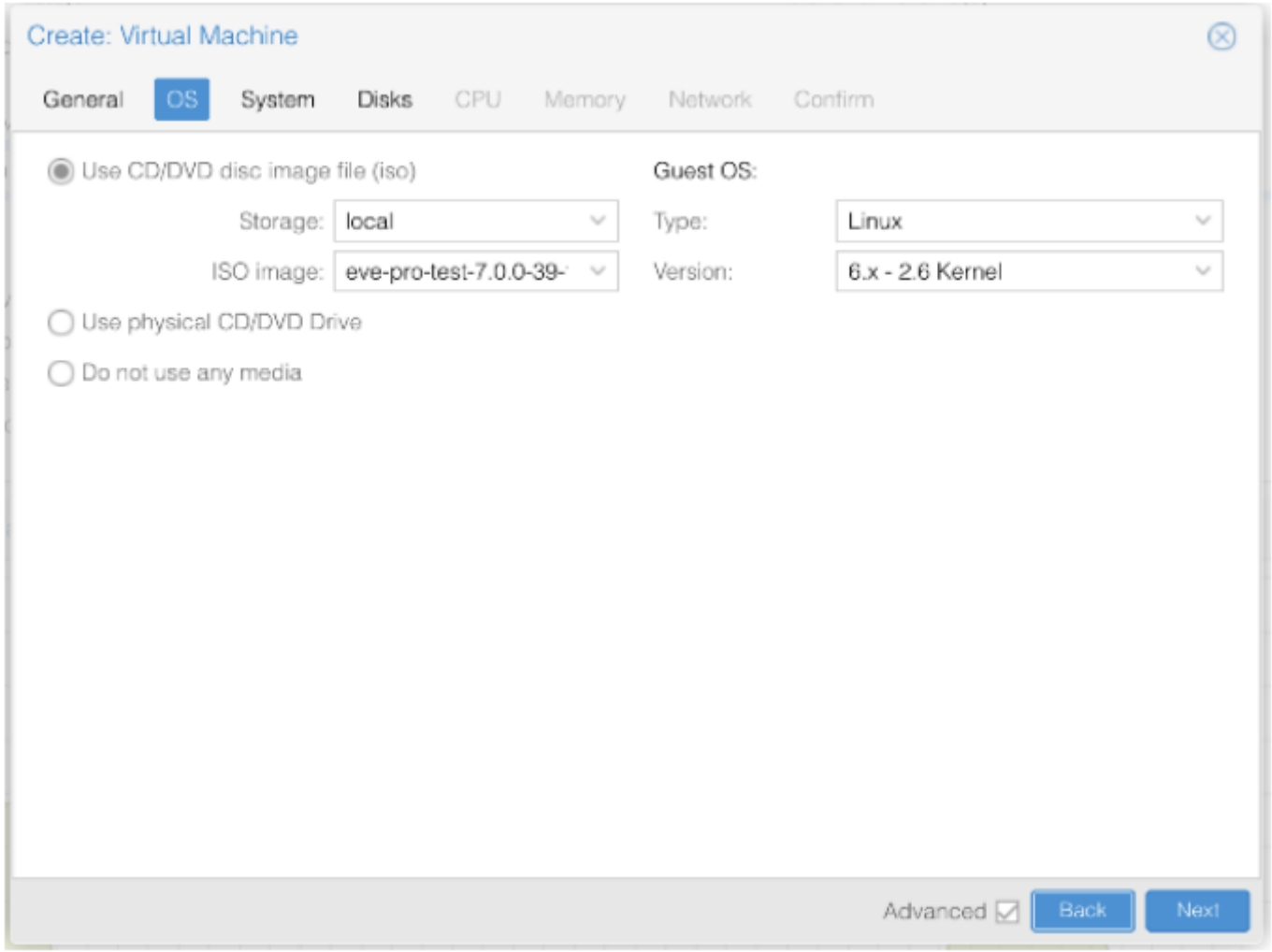

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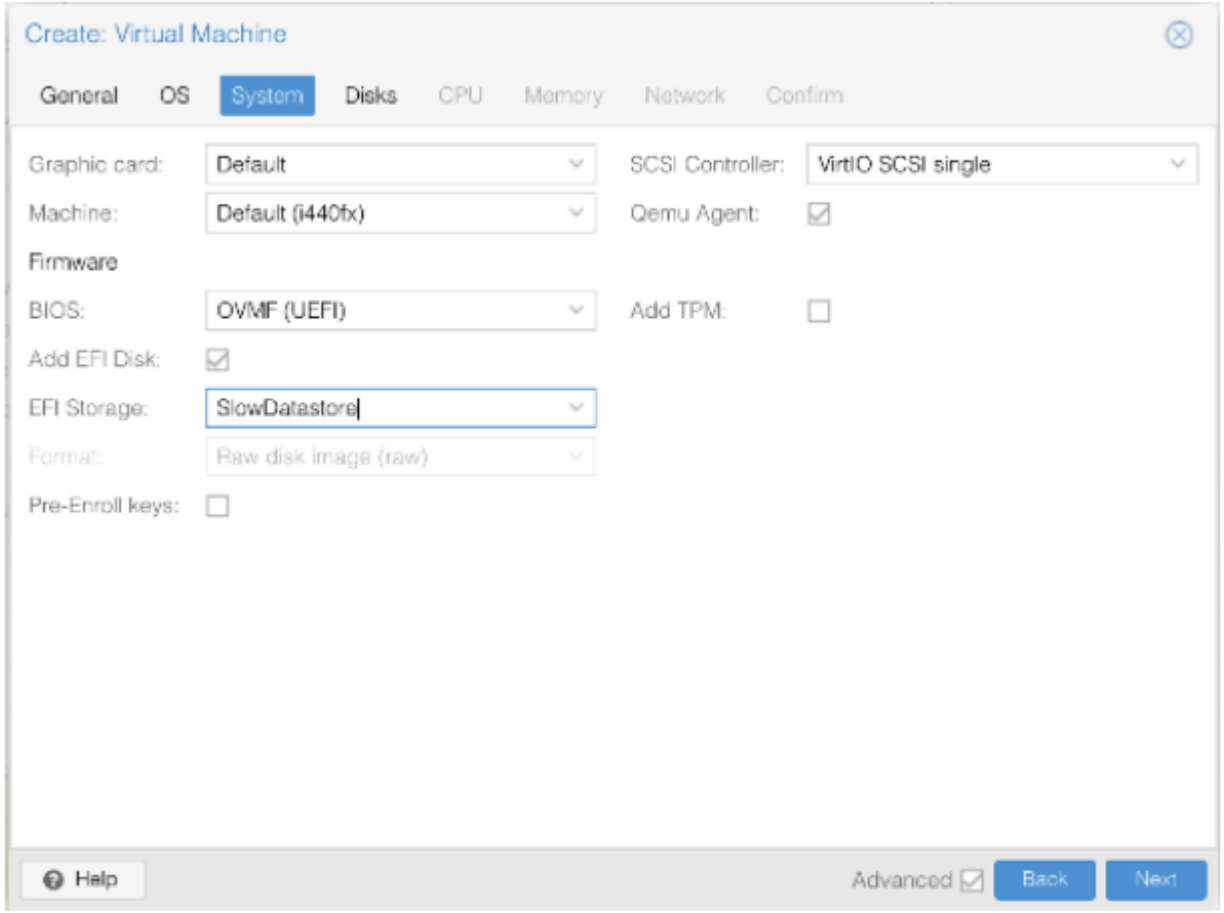

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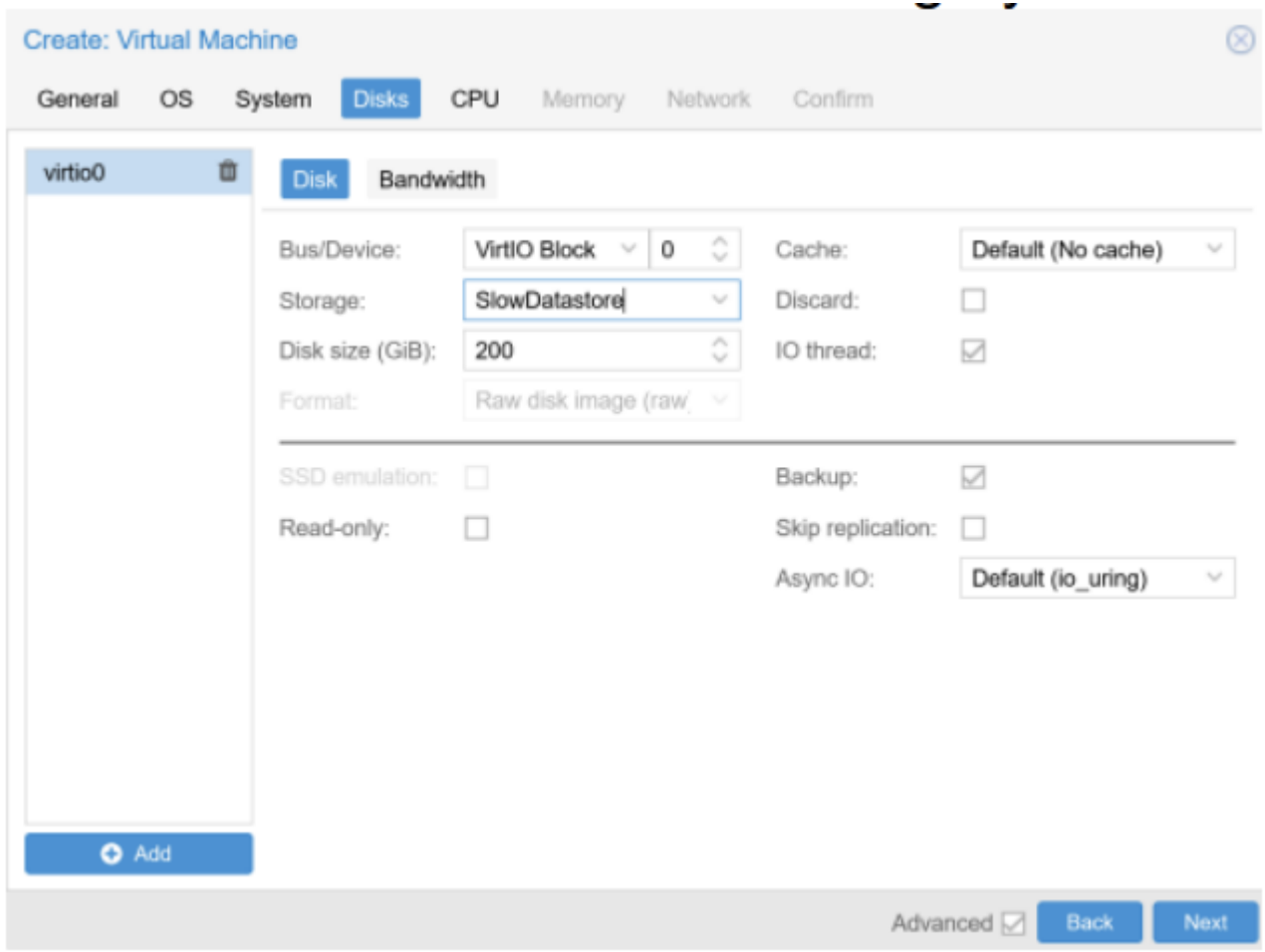

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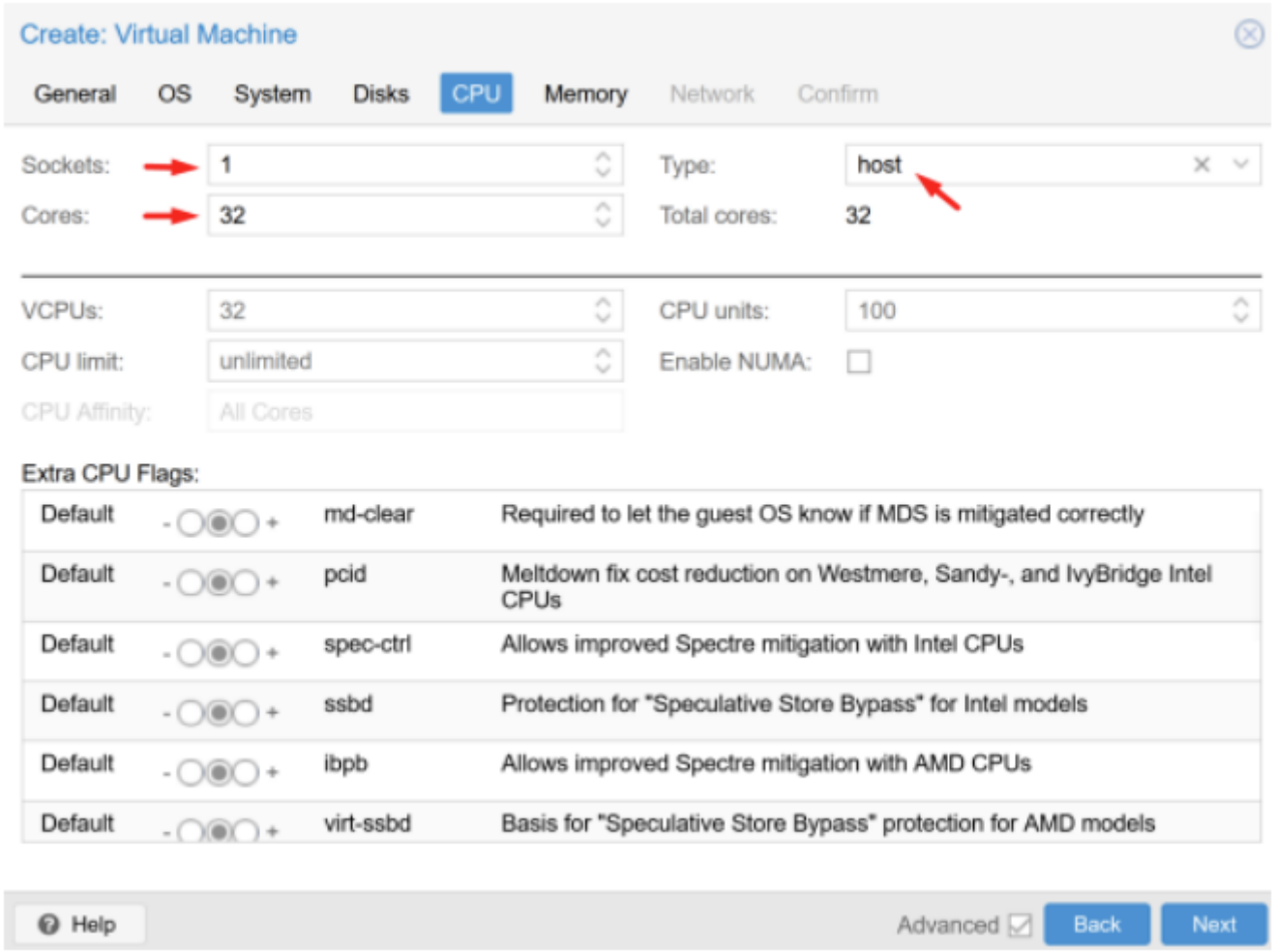

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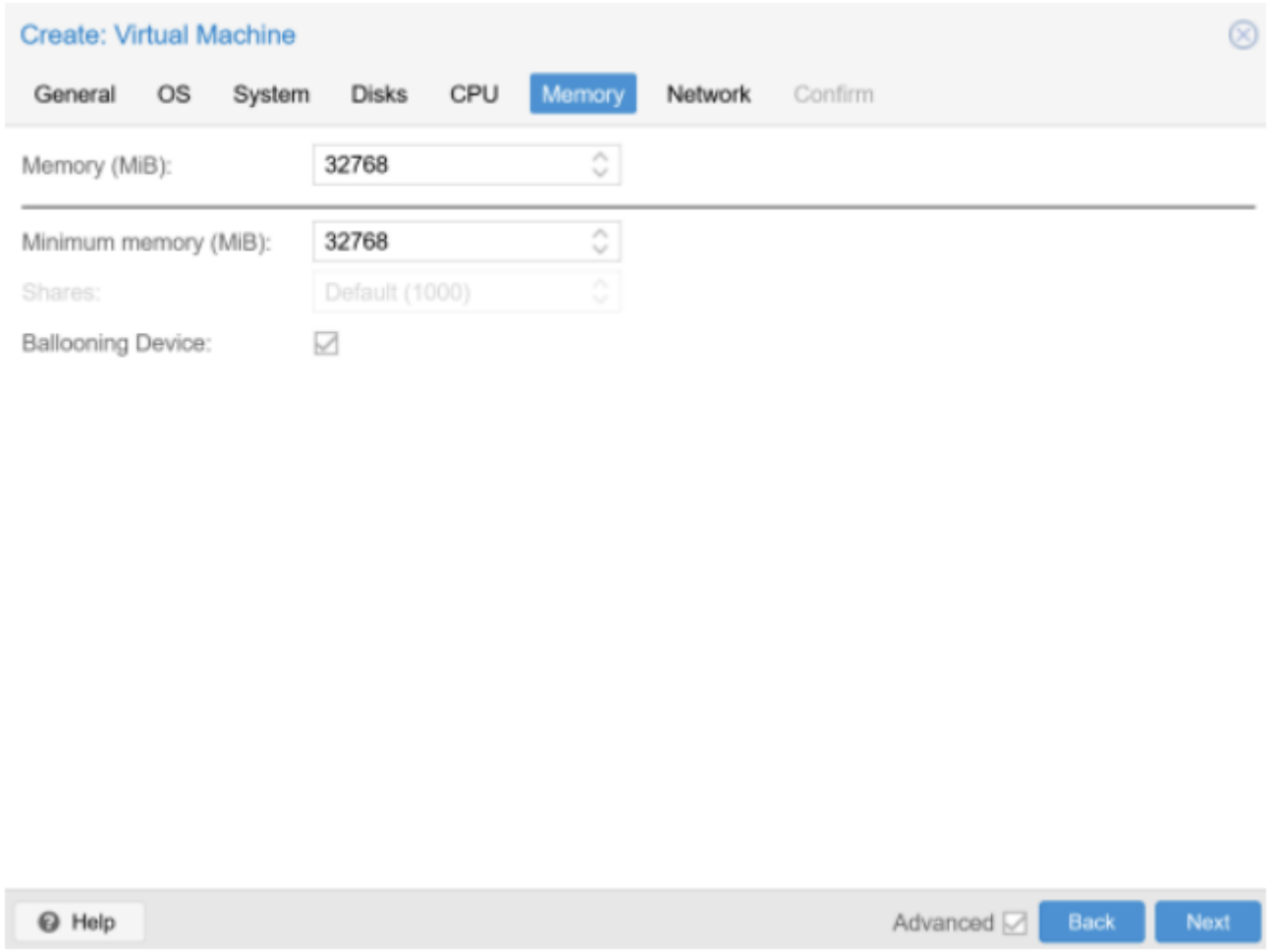

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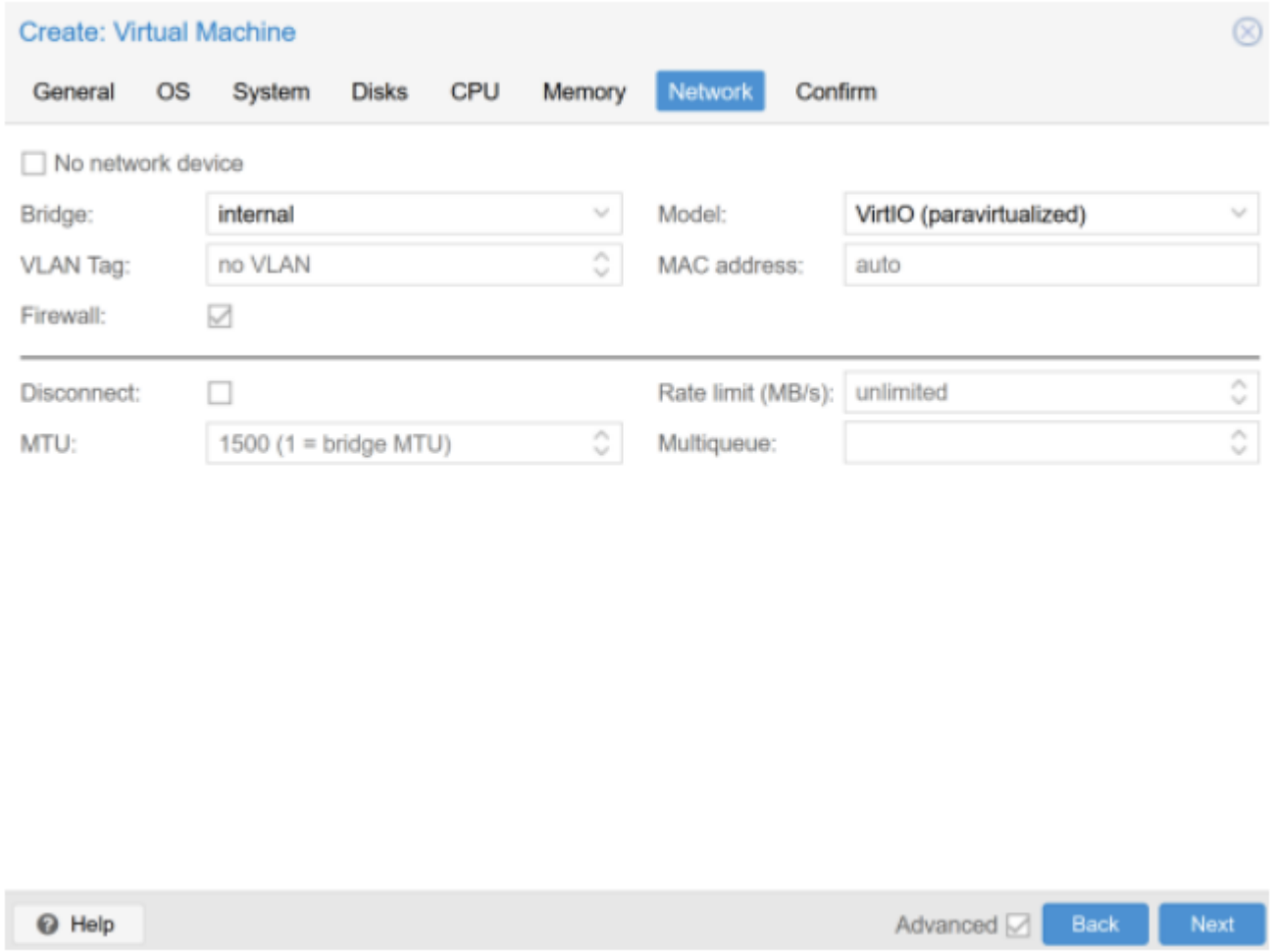

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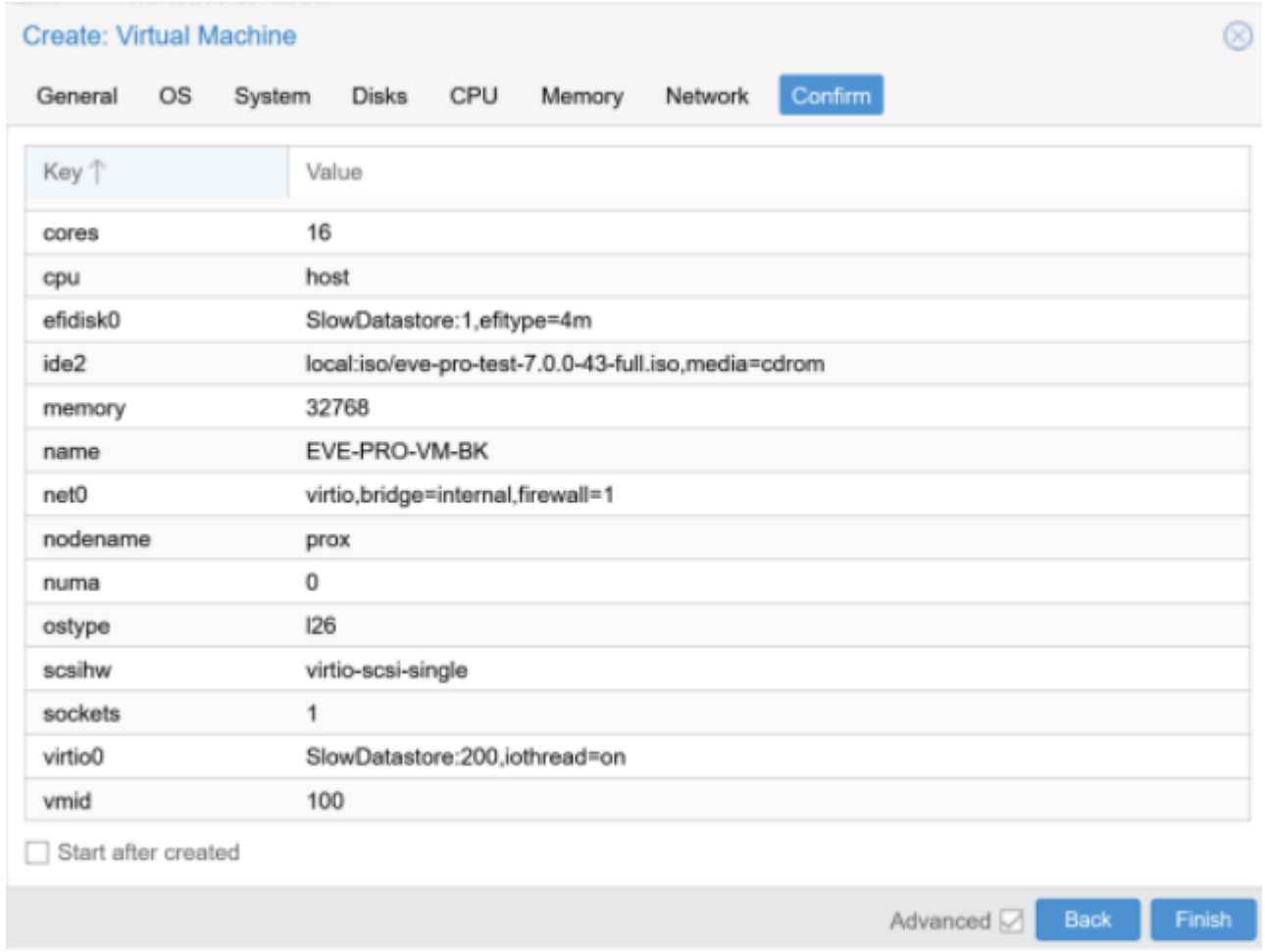
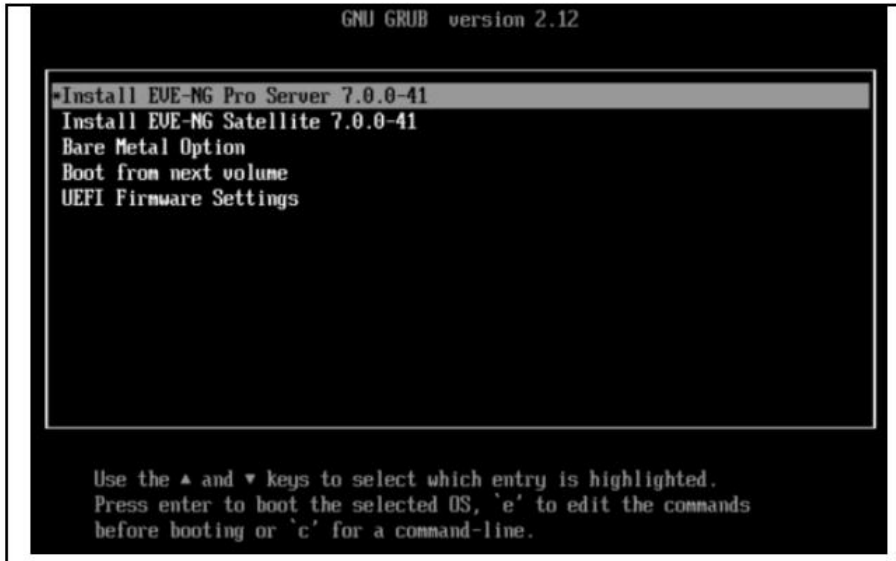
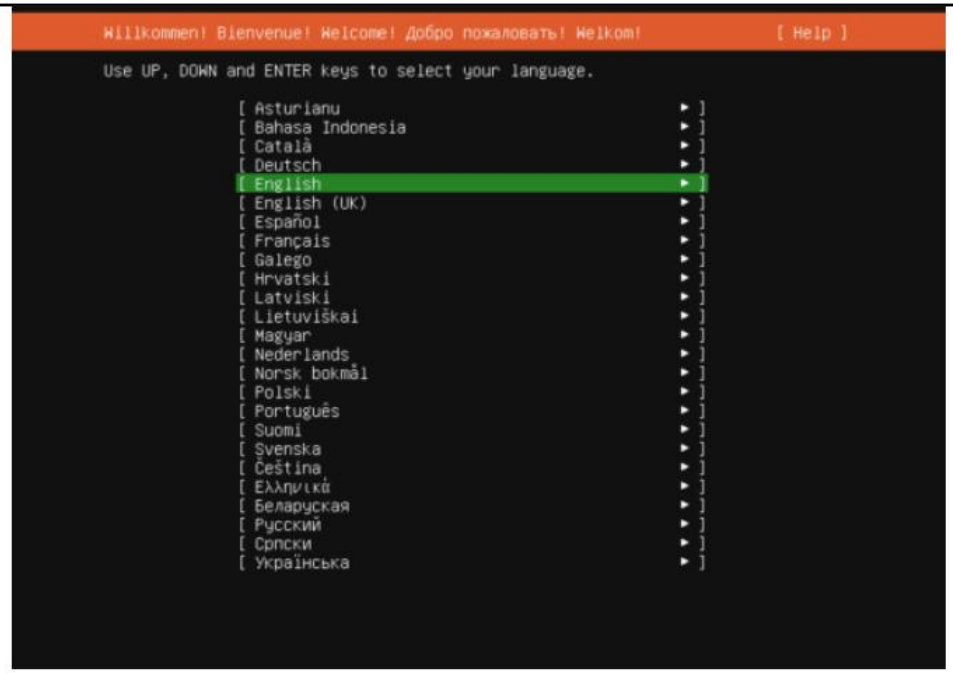


Install EVE-NG

„Power On“ your VM

Install EVE-NG





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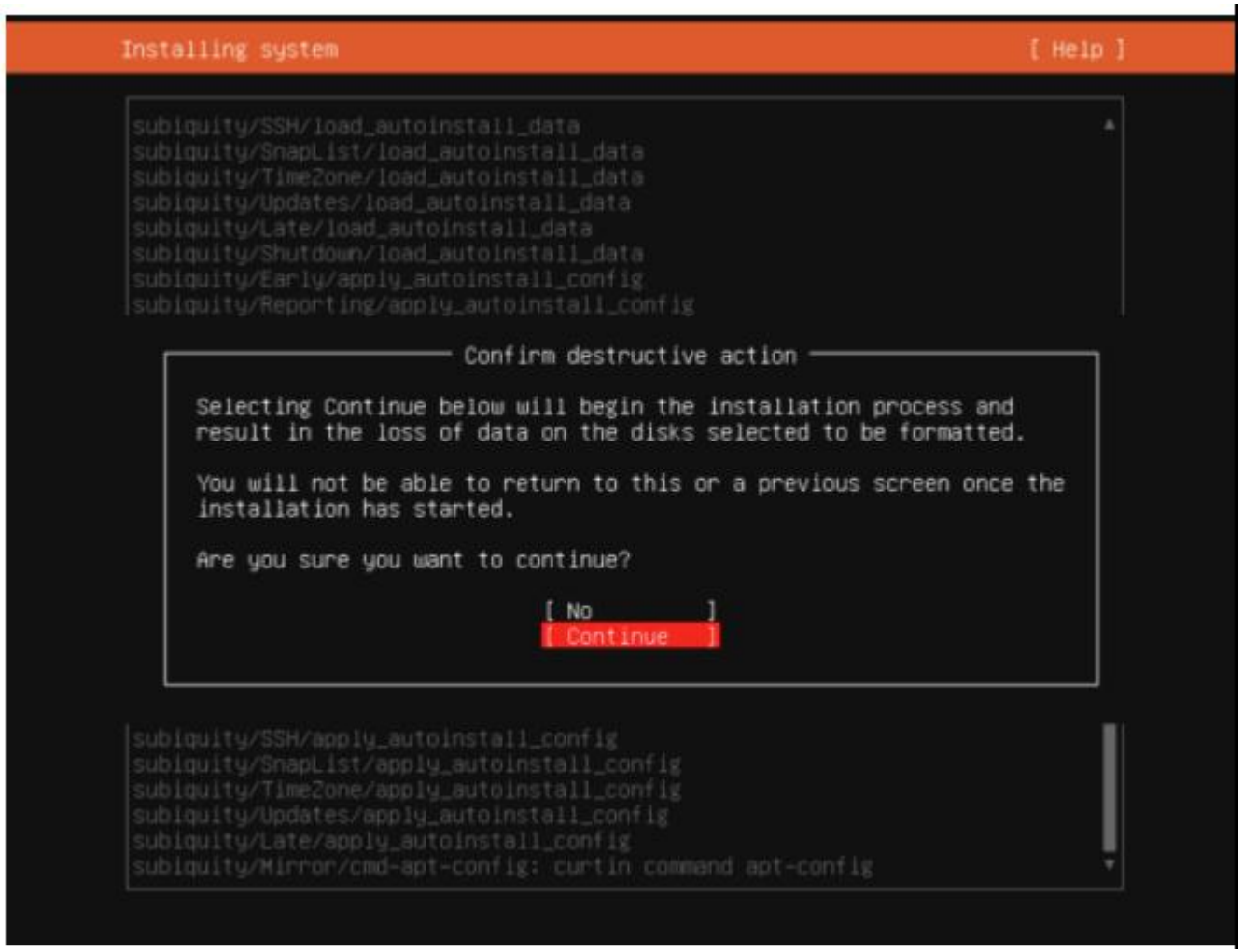
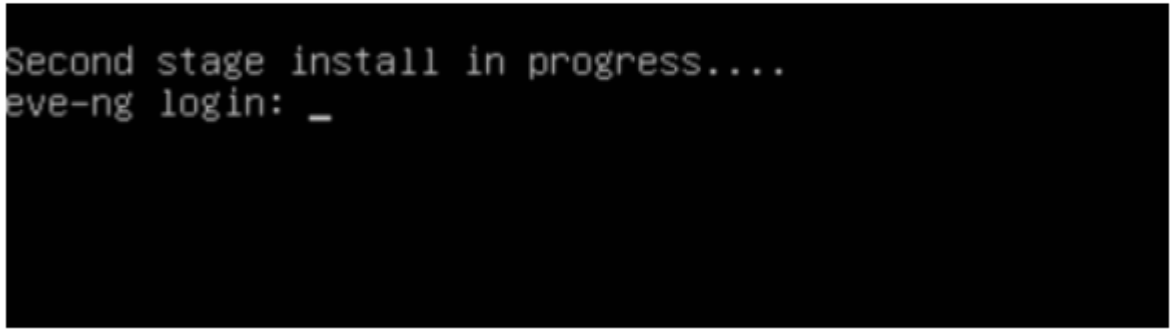


Install EVE-NG

Now wait! For your VM to finish Phase 1 and Start Phase 2 automatically

Install EVE-NG

Do NOT login in this stage!



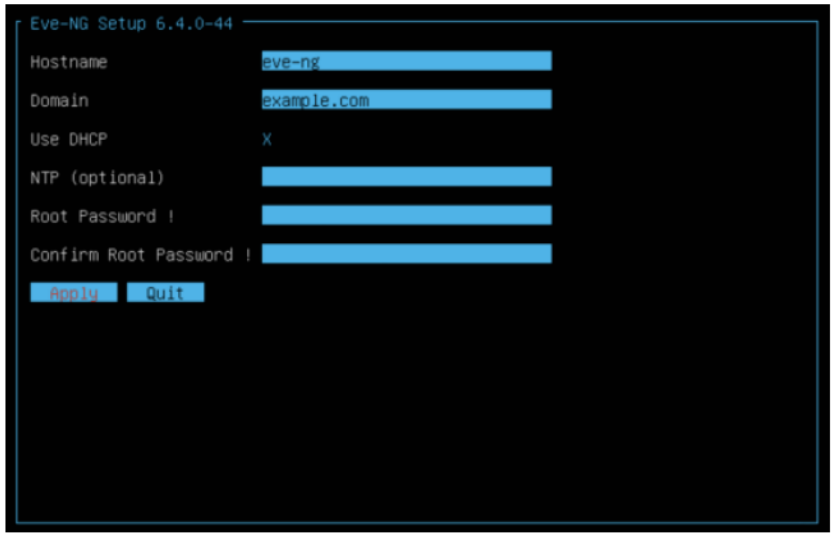
Install EVE-NG

Install EVE-NG

After Phase 2 the Server reboots Now! You can login ☺

Install EVE-NG

Step 1: Log into the EVE CLI using the default login **root/eve** After login, your EVE-NG machine will direct you to the IP setup wizard.



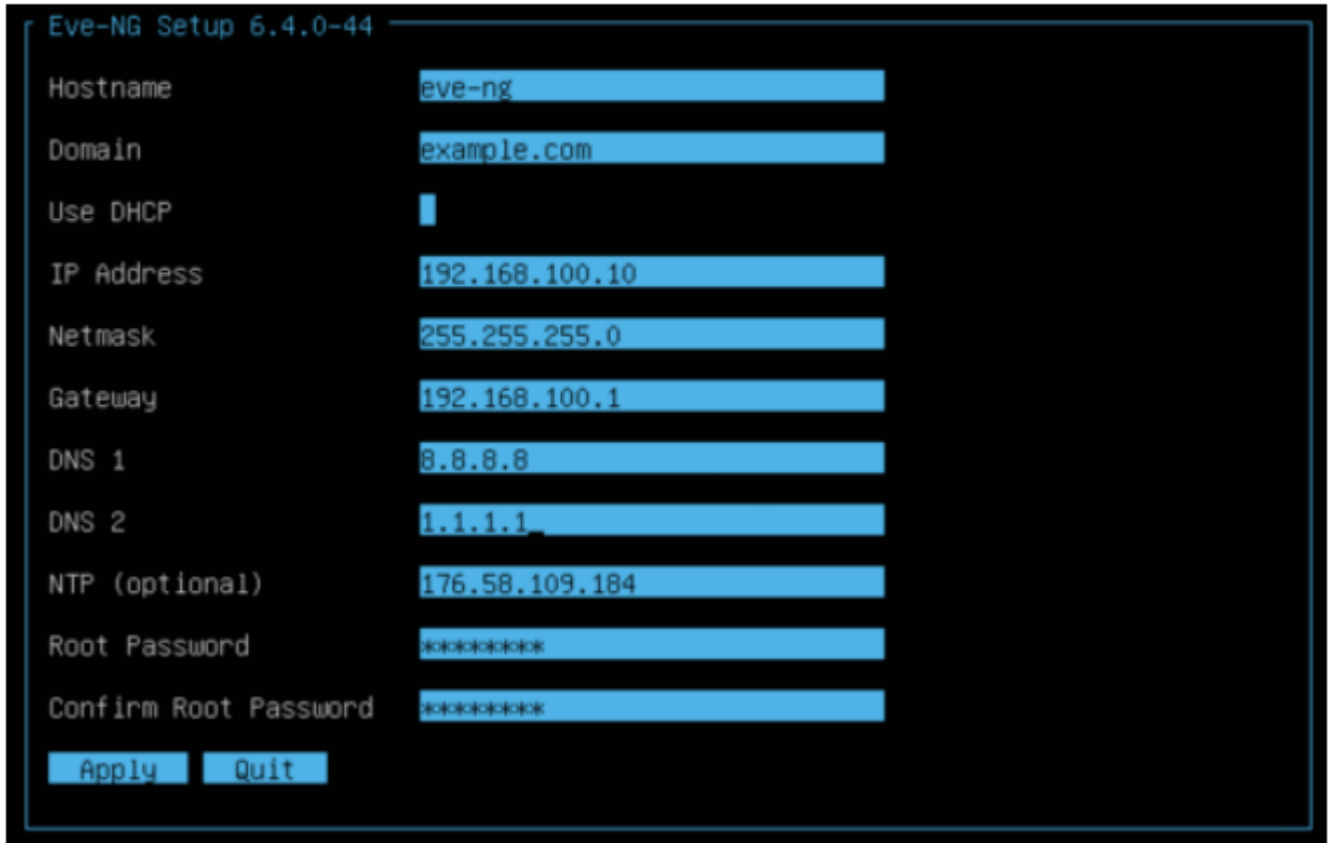
Step 2: Use tab key to select necessary options.

Hostname: Set the name for your EVE-NG machine. Default is: eve-ng

Domain: Set your desired domain name. Default is: example.com

Install EVE-NG

Example: Static IP settings:



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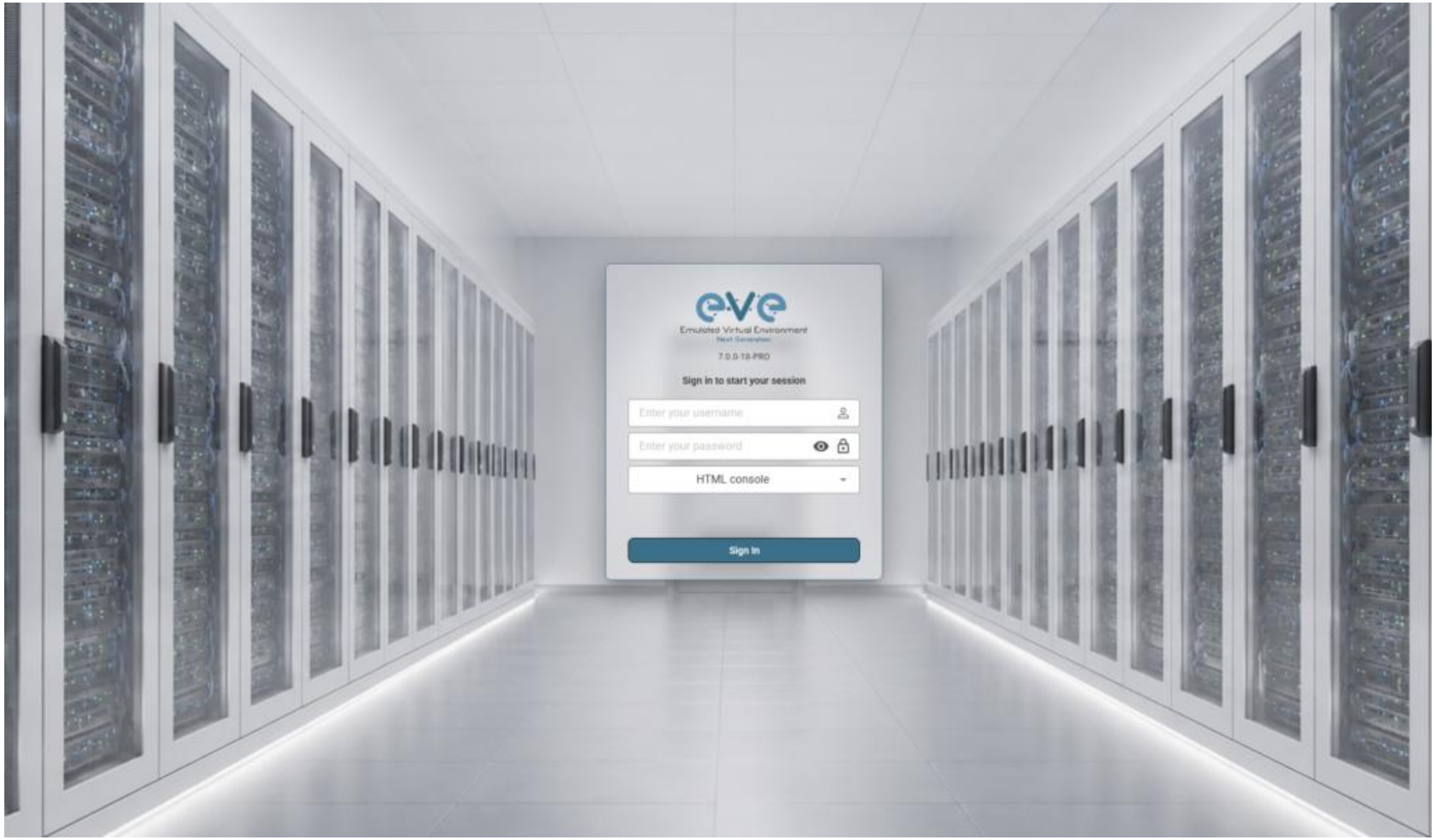

Done

Q&A

Christian Scholz (@Netzwerkonkel)

„That German guy who explains Networking“

Teamlead CC-NIA
[Axians Networks & Solutions]

JNPR Ambassador
JNCIE-SEC #374 | JNCIE-ENT #947
All-A-S-P

Blog: www.netzwerkonkel.eu
Mail: chs@ip4.de