Installing Lenovo XClarity One Hub on ThinkEdge SE100 with Proxmox VE

Planning / Implementation

This paper describes how to install and configure Proxmox VE on Lenovo ThinkEdge SE100 and then how to install XClarity One Hub on Proxmox VE. We show step-by-step procedure to facilitate the adoption of such solution. Other than the specific Proxmox VE installation instructions for the ThinkEdge SE100, this procedure can also be applied for any other XClarity One Hub deployment on Proxmox VE.

Lenovo XClarity One and XClarity One Hub

Lenovo XClarity One is a versatile, unified management platform designed to simplify the administration of Lenovo servers. Available to be implemented as Hybrid cloud-based or on-premises local VM versions, this solution offers a consistent, user-friendly interface for monitoring, managing, and optimizing data center resources. With advanced automation capabilities, XClarity One centralizes and streamlines routine tasks, reduces operational complexity, and enhances system performance.

Whether deployed in the cloud or on-premises, XClarity One provides scalability, flexibility, and remote access, ensuring high availability and reliability for IT infrastructure. Ideal for businesses of all sizes, XClarity One delivers the tools and insights needed to drive operational efficiency and support business growth.

Lenovo XClarity One Portal is the main interface for the XClarity One solution, the XClarity One Portal can be in the Cloud or implemented On-Premise, the XClarity One Portal monitors and manages devices through one or more lightweight device managers called XClarity One Hubs.

The XClarity One Hubs are installed as lightweight Virtual Appliances on premise in data centers across multiple sites, where devices to be managed are located. The XClarity One Hubs act as secure bridges between your devices and the XClarity One Portal. The XClarity One hub reduces your security risk through using only a single secure connection between the XClarity One Portal and on-premises/private cloud-managed devices.

Lenovo ThinkEdge SE100

The Lenovo ThinkEdge SE100 is a purpose-built server that is 1/3 width and significantly shorter than a traditional server, making it ideal for deployment in tight spaces. It can be mounted on a wall, desktop or mounted in a rack. The SE100 server is AI optimized with increased processing power, storage and network closer to where data is generated. For customers that want to install servers outside data center looking for reduced latency by processing at the edge.

Its compact form factor makes it ideal for hosting an XClarity One Hub outside the production environment, allowing you to manage other servers without disrupting the XClarity One workflow when upgrades or reboots occur.

Figure 1. ThinkEdge SE100

For more information about the SE100, see the ThinkEdge SE100 Product Guide.

Lab configuration

The following table lists the configuration of the SE100 we used in our lab environment.

The GPU in this configuration is not useful for our purposes, and was disabled into the UEFI settings.

Table 1. Lab configuration

Part number	Description	Quantity
7DGRCTO1WW	Node : ThinkEdge SE100 - 3 Year Warranty	1
C31W	ThinkEdge SE100 Planar with Intel Ultra 7-255H ,16C, 28W, 2.0GHz	1
C39M	ThinkEdge 32GB TruDDR5 5600MHz (2Rx8) SODIMM	2
BXMG	ThinkSystem M.2 PM9A3 1.92TB Read Intensive NVMe PCIe 4.0 x4 NHS SSD	1
C0BC	ThinkSystem MicroSD 64GB Class 10 Flash Memory Card	1
BYF8	ThinkSystem M.2 ER3 480GB Read Intensive SATA 6Gb NHS SSD	1
C39N	ThinkSystem NVIDIA RTX A1000 8GB PCIe Gen4 Active GPU	1
C39R	ThinkEdge 140W 230V/115V External Power Supply	1
C8UC	Front I/O Panel	1
C30F	SE100 Expansion Kit for Active Cooling GPU	1

We used **Proxmox Virtual Environment 9.1** ISO for the installation:
https://enterprise.proxmox.com/iso/proxmox-ve_9.1-1.iso

Install Proxmox on ThinkEdge SE100

The installation of Proxmox Virtual Environment on ThinkEdge can be performed using the XClarity Controller as is possible on every ThinkSystem server.

The steps to install Proxmox VE are as follows:

1. Connect to the XClarity Controller of the SE100
2. Open the Remote Console
3. Mount the Proxmox ISO
4. Select the ISO in the first dropdown list and then select **Restart server immediately** from the second dropdown list, then click **Apply**.

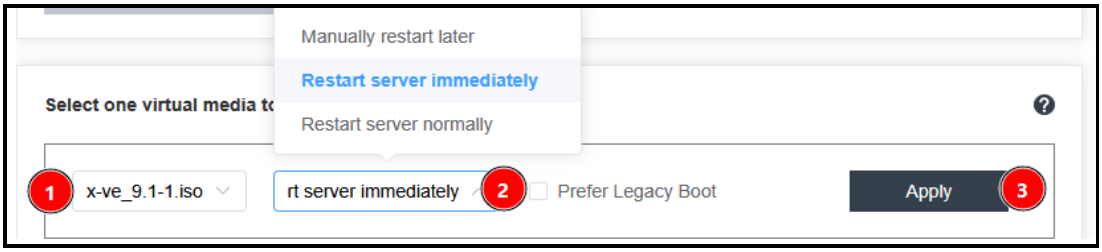


Figure 2. Sequence to start PVE installation

5. If you get a gray screen after selecting the Graphical Installation, you are probably landing in this error case (press CTRL+ALT+F2 to move to the error console):

Figure 3. Possible error during first installation phase

To avoid this error, you need to change boot options with the following instructions:

6. When the Proxmox Installation menu is displayed, press “e” to edit the first choice.

Figure 4. Initial PVE screen, select "e" to edit the entry

7. At the end of the linux row, append “nomodeset” after splash=silent, then press CTRL+X (or F10) to start the installation.

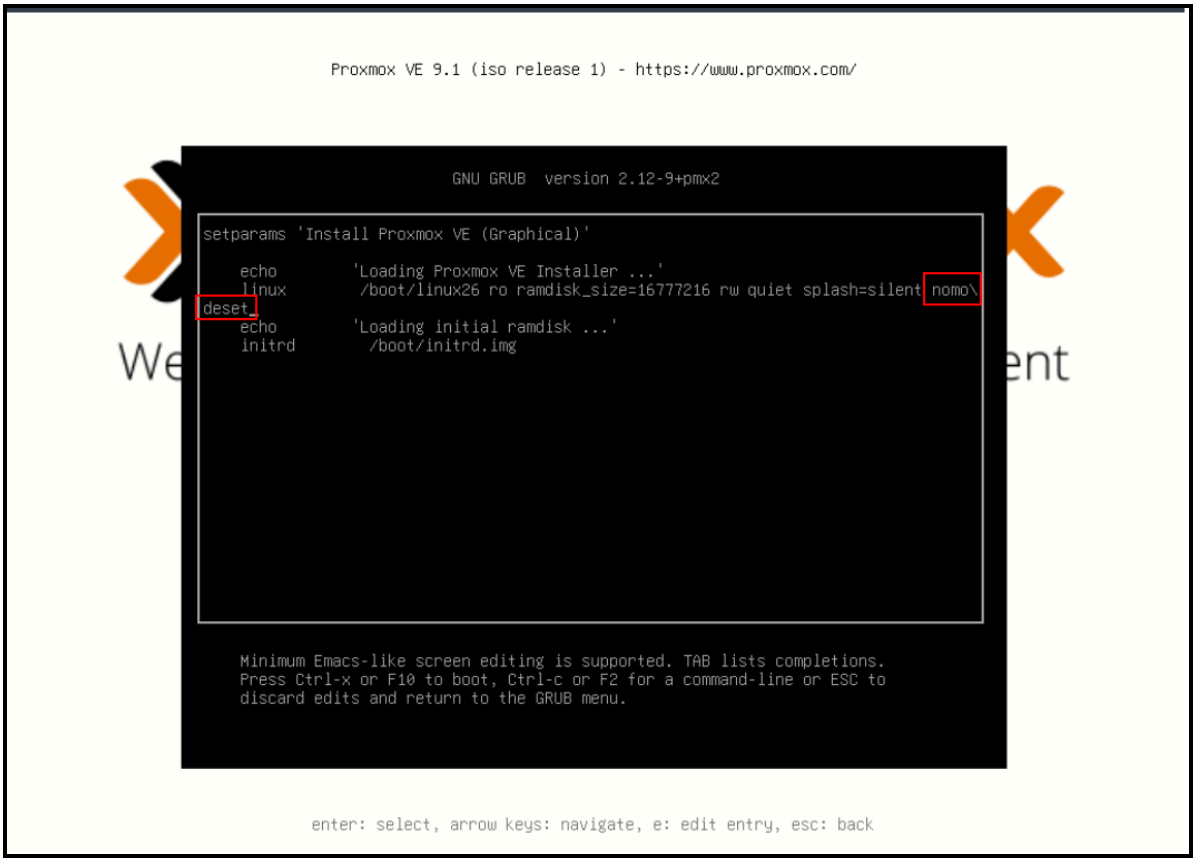


Figure 5. Change boot parameters adding "nomodeset" to linux line

The installation procedure should continue with no other issues.

8. The standard text installation will work if you don’t need the graphical one.

Figure 6. Final PVE screen after installation and reboot

Installing Lenovo XClarity One Hub on Proxmox

In the rest of this document, we describe how to install Lenovo XClarity One Hub on the previously installed Proxmox VE 9 environment.

The standard installation procedure is described in the official Lenovo XClarity One Hub at the following URL: https://pubs.lenovo.com/lxc1/hub-install

Create a local directory on the NVMe disk

Create a local directory on the available NVMe disk, and enable all supported content types for this storage to be able to use both as VM disk repository and as Import repository for the XClarity One Hub image.

1. In the Proxmox UI, select **Datacenter > the host > Disks > Directory**, then click **Create Directory**.
2. Choose the available disk, your preferred filesystem type, fill the “Name” field with a self-explaining name (e.g., local-nvme) and leave checked the checkmark **Add storage** (or select it in case it is unchecked).

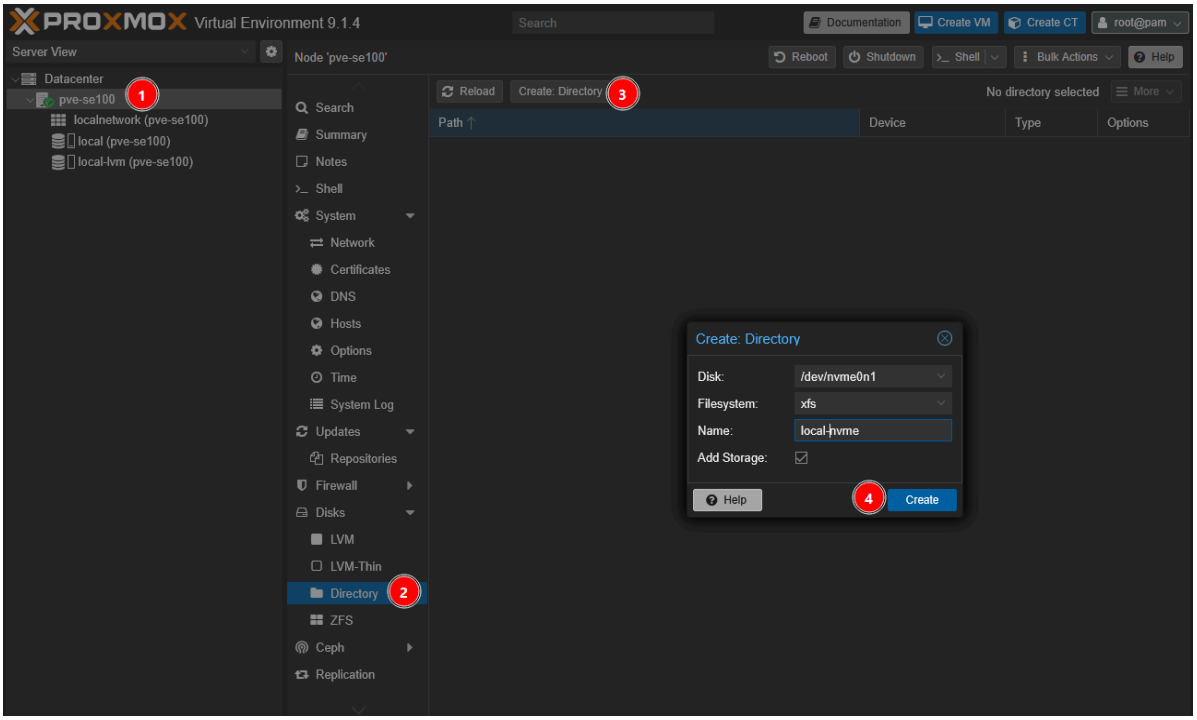


Figure 7. Local directory creation

3. From Datacenter menu, select Storage and then the just created directory.

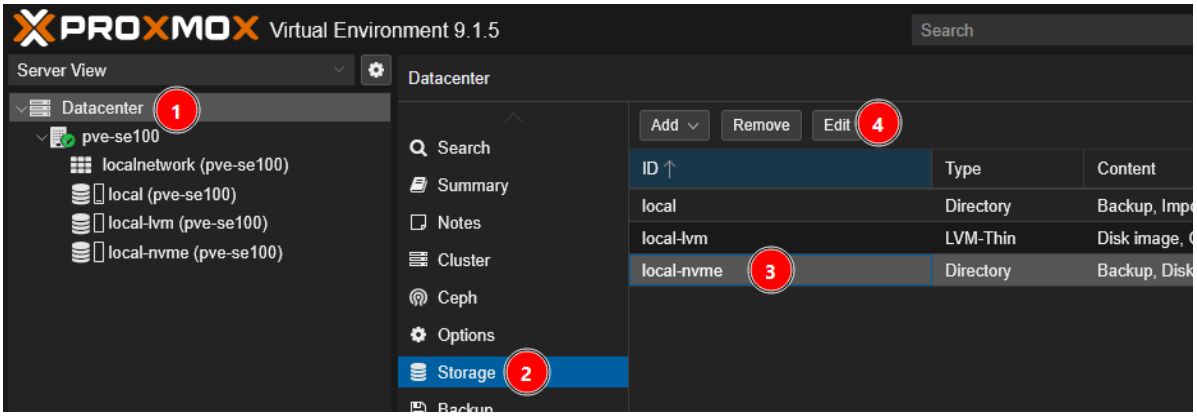


Figure 8. Edit local directory properties

4. Click Edit and enable the required content types.

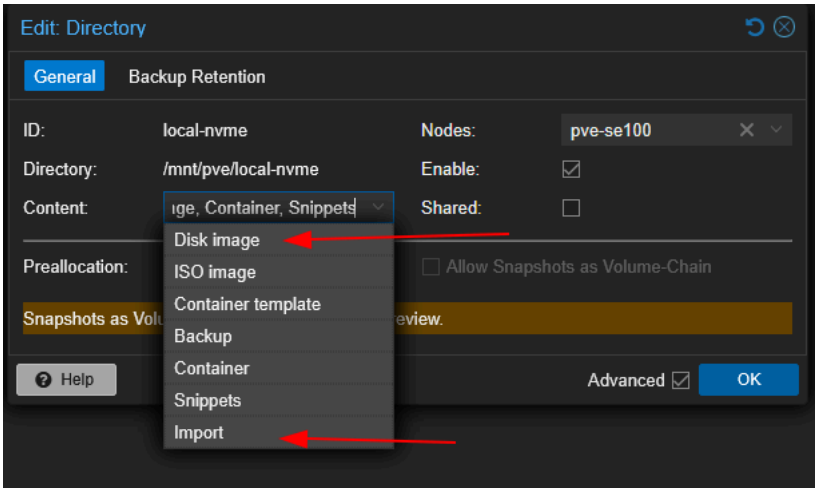


Figure 9. Enable content types

5. Ensure that (at least) “Disk image” and “Import” are enabled as content type, then click the **OK** button.

With this configuration we will be able to import the XClarity One Hub disk from GUI and import it to the VM.

Download the Lenovo XClarity One Hub disk

Follow these steps to download the XClarity One Hub disk from the GUI.

1. Select the local directory, click “Import” from the middle menu, then “Download from URL”.

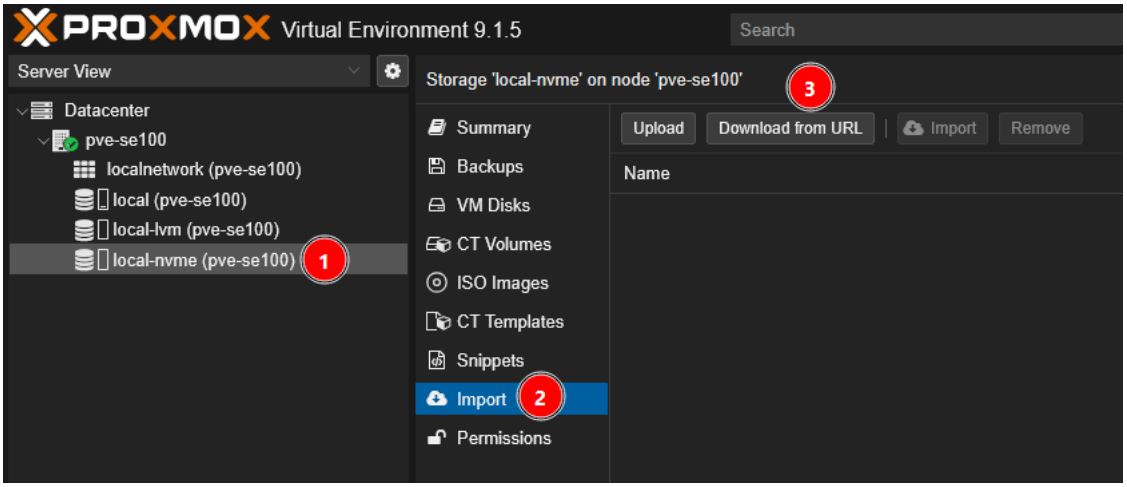
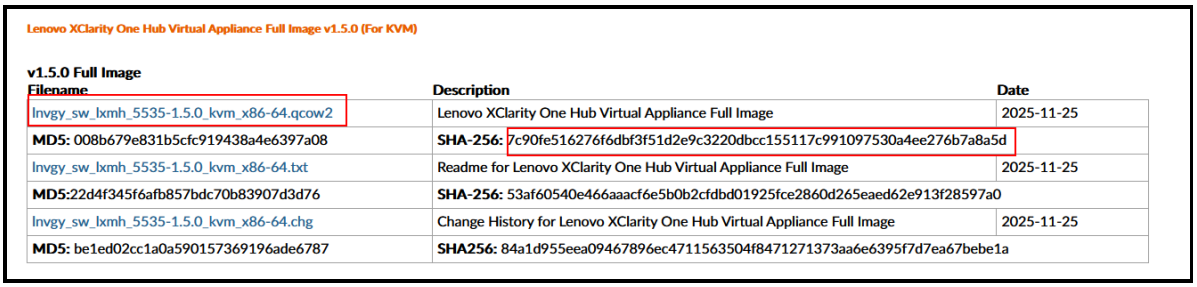


Figure 10. Download Lenovo XClarity One Hub full image

2. Go to https://support.lenovo.com/us/en/solutions/ht516467-lenovo-xclarity-management-hub-20
3. Choose the Full Image for KVM and copy the link



Lenovo XClarity One Hub Virtual Appliance Full Image v1.5.0 (For KVM)

v1.5.0 Full Image

Filename	Description	Date
lnvgy_sw_lxmh_5535-1.5.0_kvm_x86-64.qcow2	Lenovo XClarity One Hub Virtual Appliance Full Image	2025-11-25
MD5: 008b679e831b5cfc919438a4e6397a08	**SHA-256:** 7c90fe516276f6dbf3f51d2e9c3220dbcc155117c991097530a4ee276b7a8a5d	
lnvgy_sw_lxmh_5535-1.5.0_kvm_x86-64.txt	Readme for Lenovo XClarity One Hub Virtual Appliance Full Image	2025-11-25
MD5:22d4f345f6afb857bdc70b83907d3d76	**SHA-256:** 53af60540e466aaacf6e5b0b2cfdbd01925fce2860d265eaed62e913f28597a0	
lnvgy_sw_lxmh_5535-1.5.0_kvm_x86-64.chg	Change History for Lenovo XClarity One Hub Virtual Appliance Full Image	2025-11-25
MD5: be1ed02cc1a0a590157369196ade6787	**SHA256:** 84a1d955eea09467896ec4711563504f8471271373aa6e6395f7d7ea67bebe1a	

Figure 11. Full Image for KVM

4. Paste the link in the “URL” field, then choose the Hash algorithm and copy and paste the relative checksum, then click the **Query URL** button.

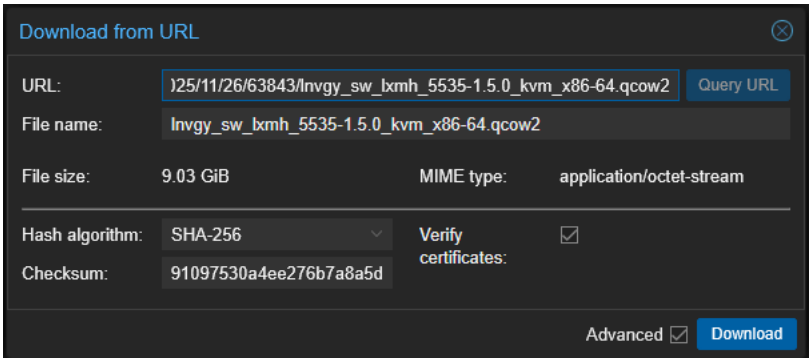


Figure 12. Download & verify

5. If no errors are displayed, click the **Download** button.

At the end, the file will be stored in the “Import” section (i.e., into /mnt/pve/local-nvme/import directory on the local disk).

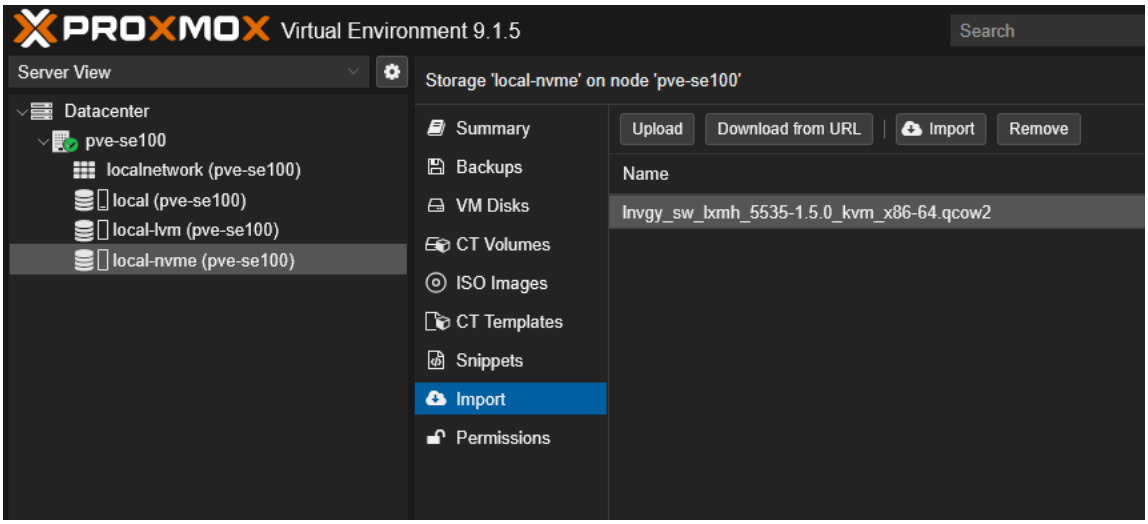


Figure 13. List saved images

```
root@pve-se100:/mnt/pve/local-nvme/import# ls -la
total 9471296
drwxr-xr-x 2 root root         55 Feb 12 18:10 .
drwxr-xr-x 8 root root         93 Feb 12 16:51 ..
-rw-r--r-- 1 root root 9698607104 Jan  7 16:59 lnvgy_sw_lxmh_5535-1.5.0_kvm_x86-64.qcow2
root@pve-se100:/mnt/pve/local-nvme/import#
```

Figure 14. Local directory content for downloaded images

Create the Virtual Machine

1. Select the server then press the “Create VM” button.

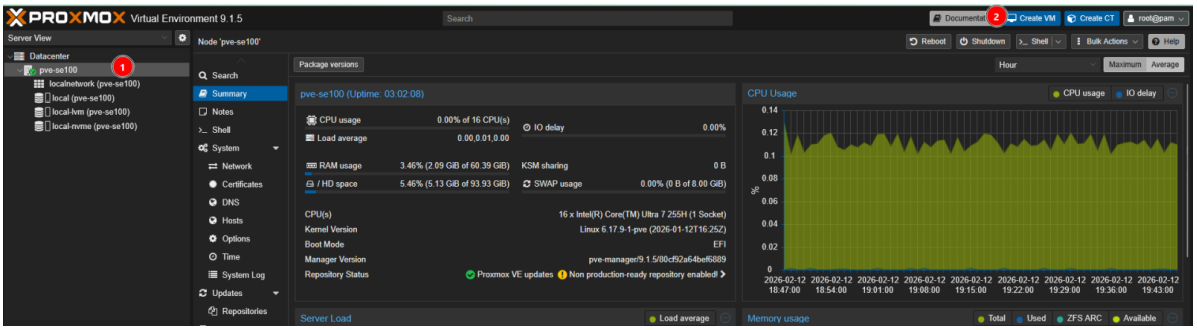


Figure 15. Create a new VM

2. Give the VM a name and enable Start at boot (so it restarts automatically after a power loss). Click **Next**.

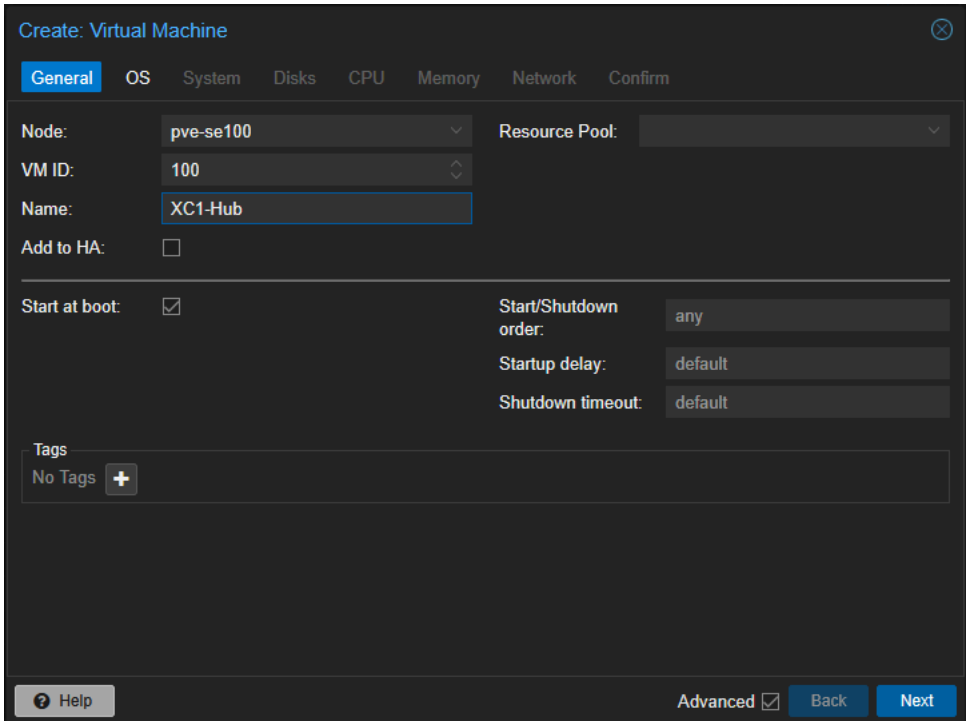


Figure 16. VM name

3. Select “Do not use any media” in the “OS” tab because we will import the full image disk later, then press the “Next” button.

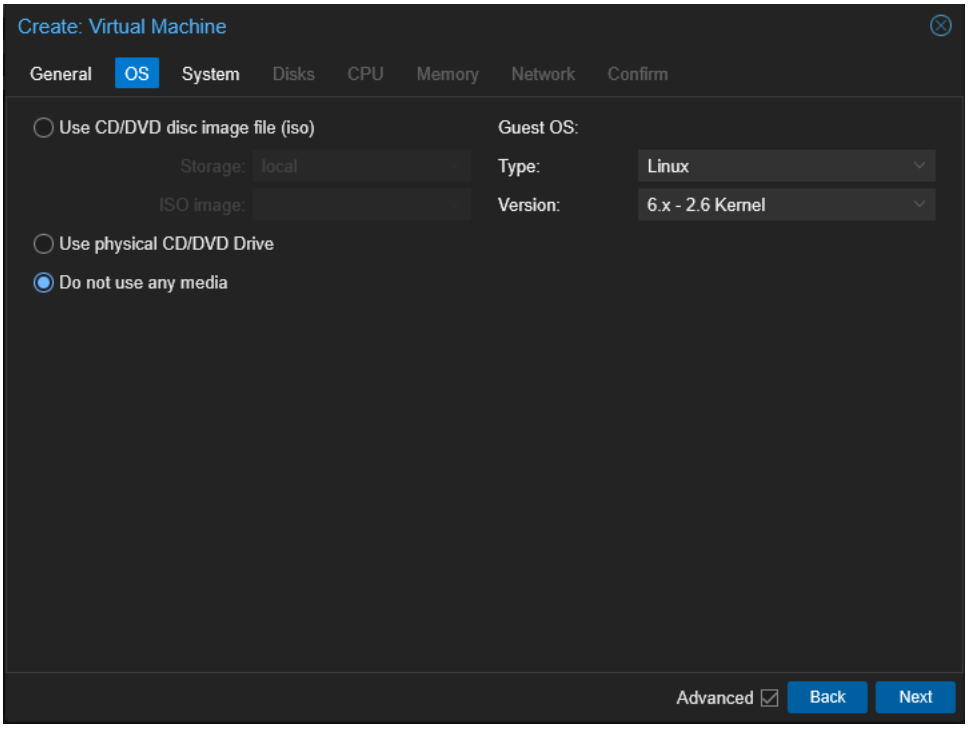


Figure 17. No need to choose external media to install the VM

4. In the System tab, enable Qemu Agent and click Next.

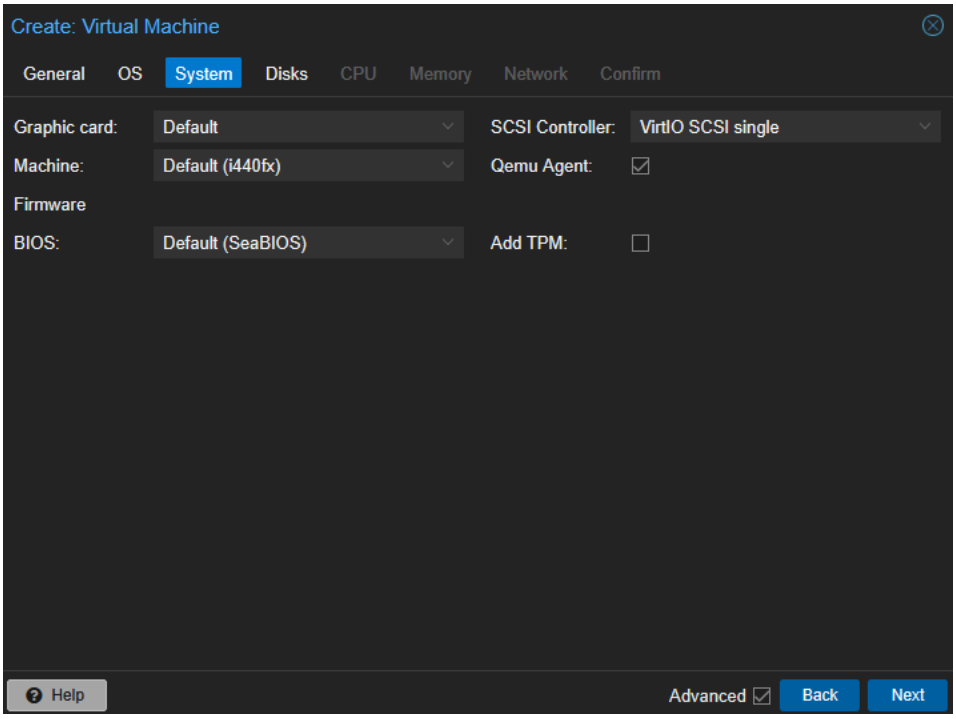


Figure 18. VM system parameters

5. In the “Disk” tab, remove the default disk and then click “Import”.

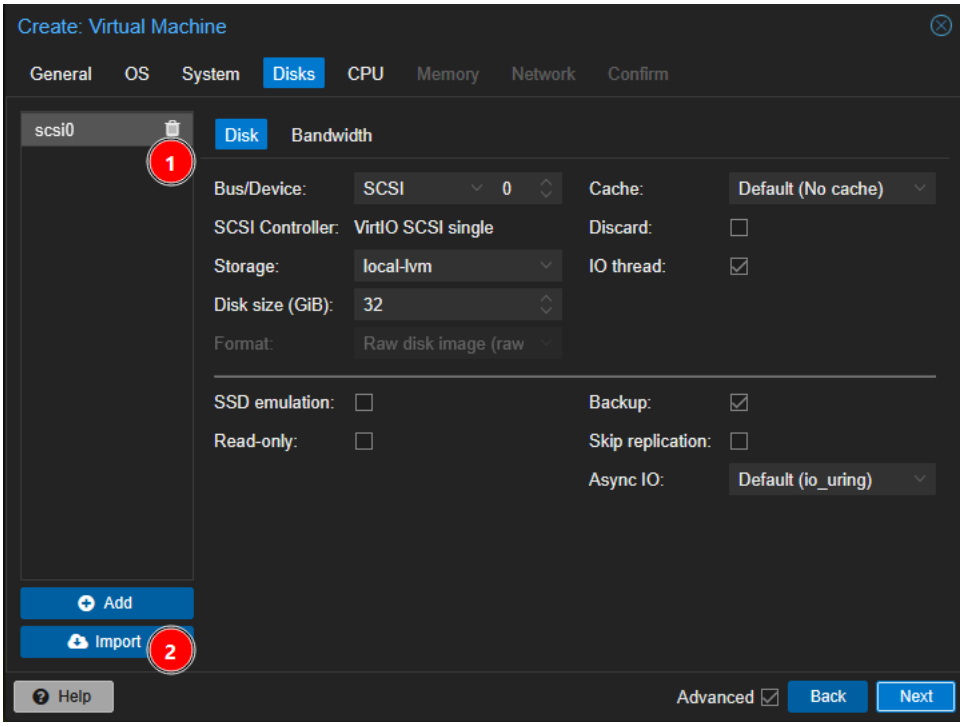


Figure 19. Delete default disk

6. Select the previously created “local-nvme” as “Import storage”, select the image file previously downloaded and choose the right target storage (in our case “local-nvme”), then press the “Next” button.

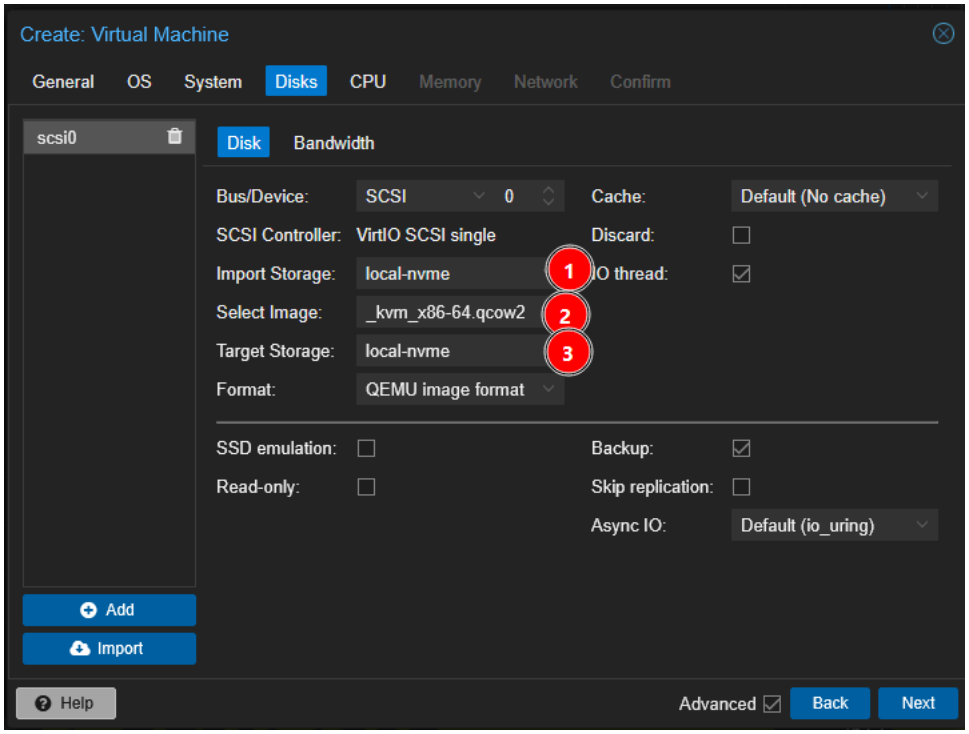


Figure 20. Import disk

7. In the CPU tab, allocate at least two cores (four cores are recommended) and set CPU type to host. Click Next.

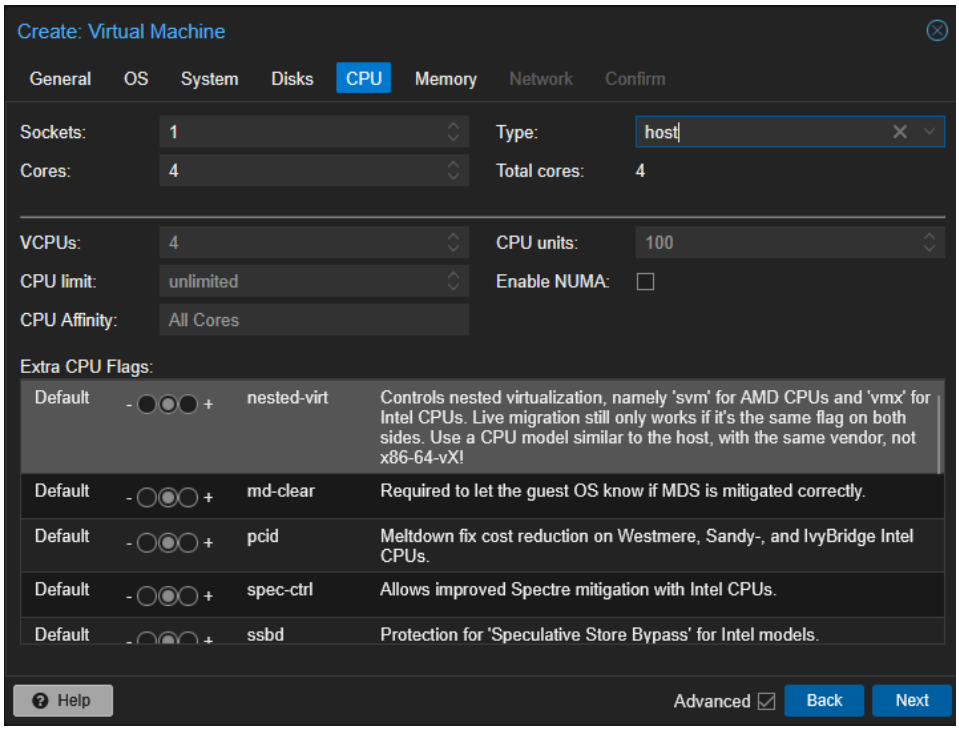


Figure 21. CPU selection

8. In the Memory tab, allocate at least 8 GB (8192 MiB). Click Next.

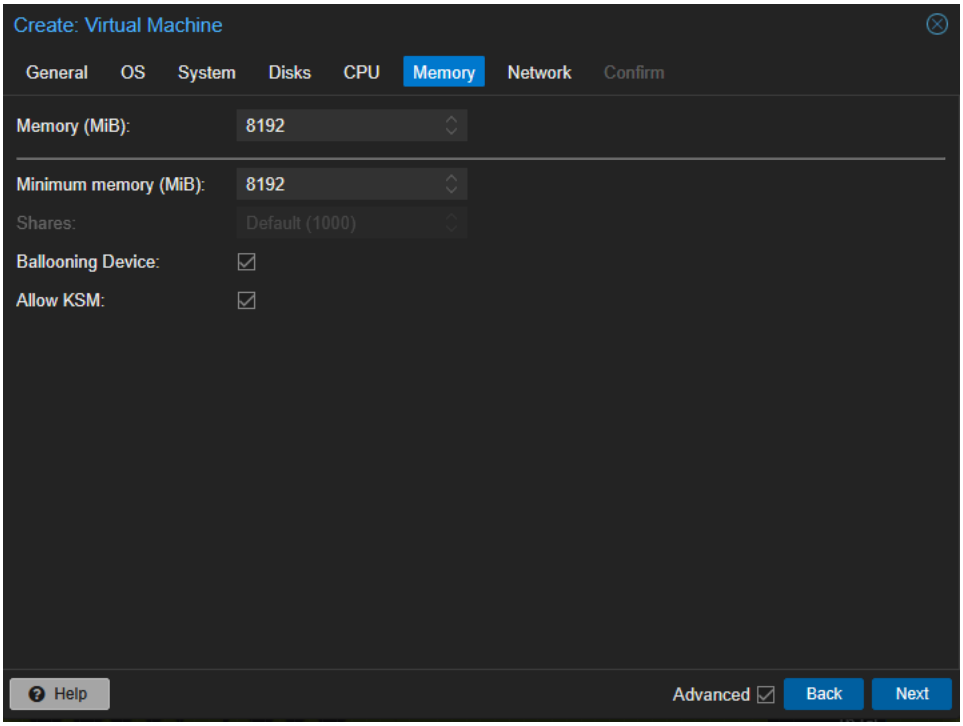


Figure 22. Memory parameter

9. Choose the right network parameters for your environment, then press the “Next” button.

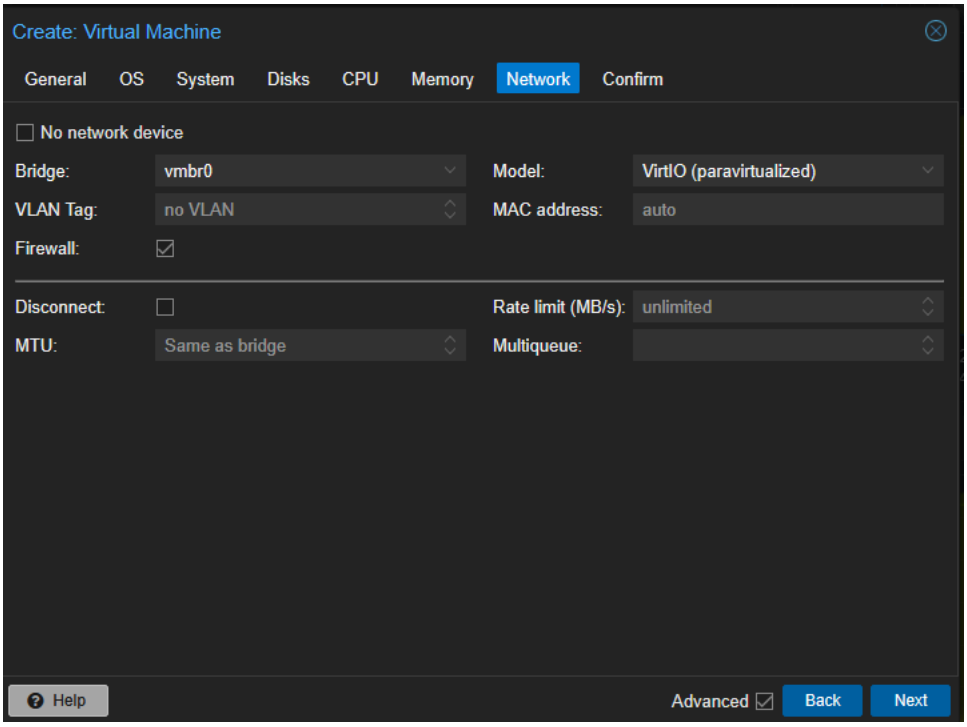


Figure 23. Network parameter

10. Review the information provided and press “Finish” button if all values are OK.

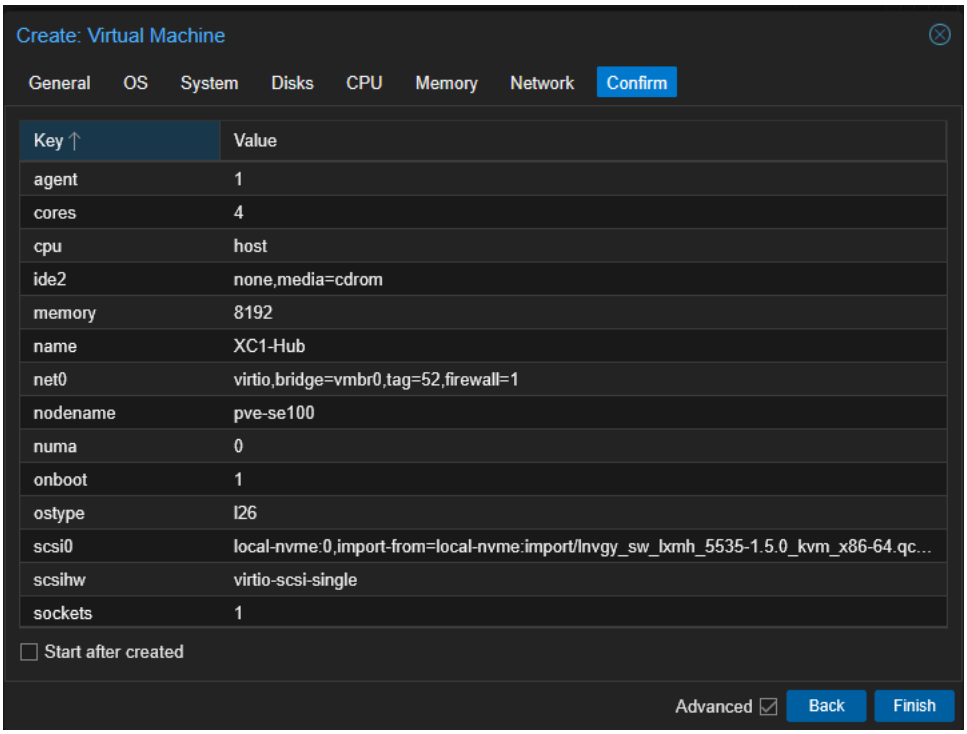


Figure 24. Review provided values

Start the VM

Once the creation process is completed, we will start and configure the VM:

1. Select the VM and press the Start” button (or press the “Console” button and then start it from the “Start Now” button inside the window)
2. Wait for the following menu to appear:

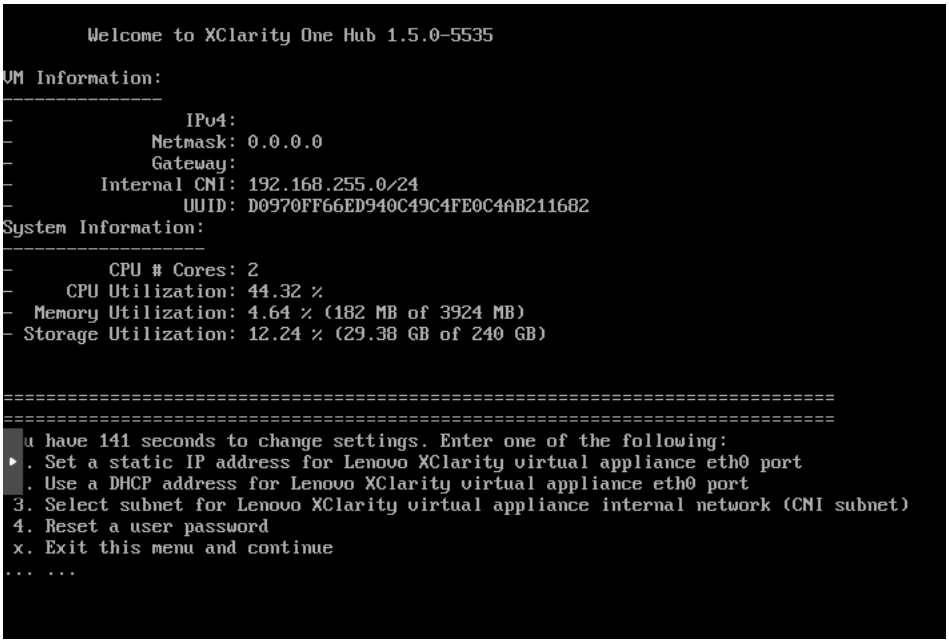


Figure 25. Initial menu

3. Choose 1 to set a static IP or 2 for DHCP, then press X to exit.
4. Wait some minutes then open a web browser and point to the IP address shown in the console (e.g., https://192.168.54.4 in our case).
5. Accept the self-signed certificate warning (you can replace it later with a trusted cert) and wait for the initialization phase to finish.

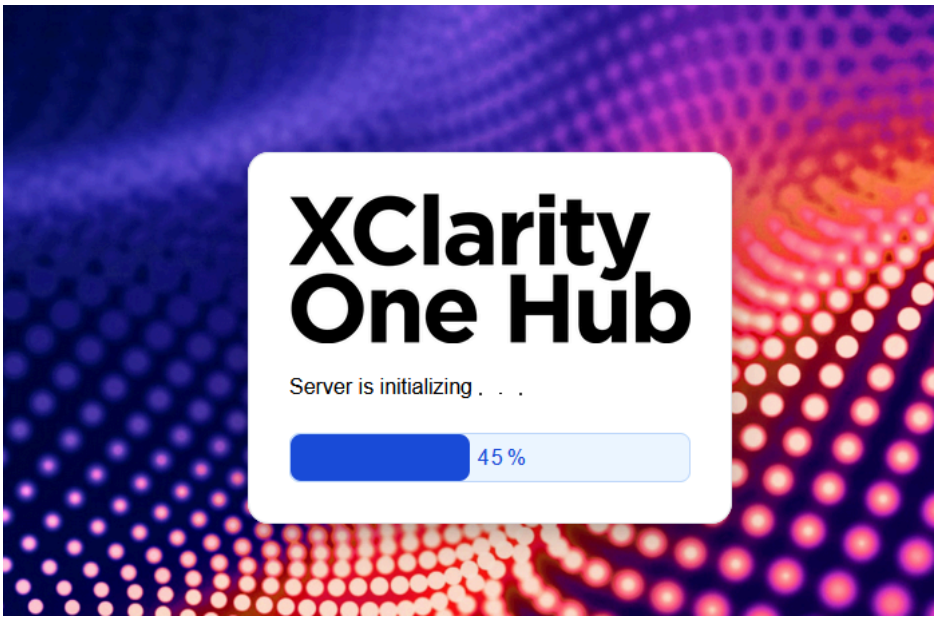


Figure 26. Loading program

6. Creating a new user

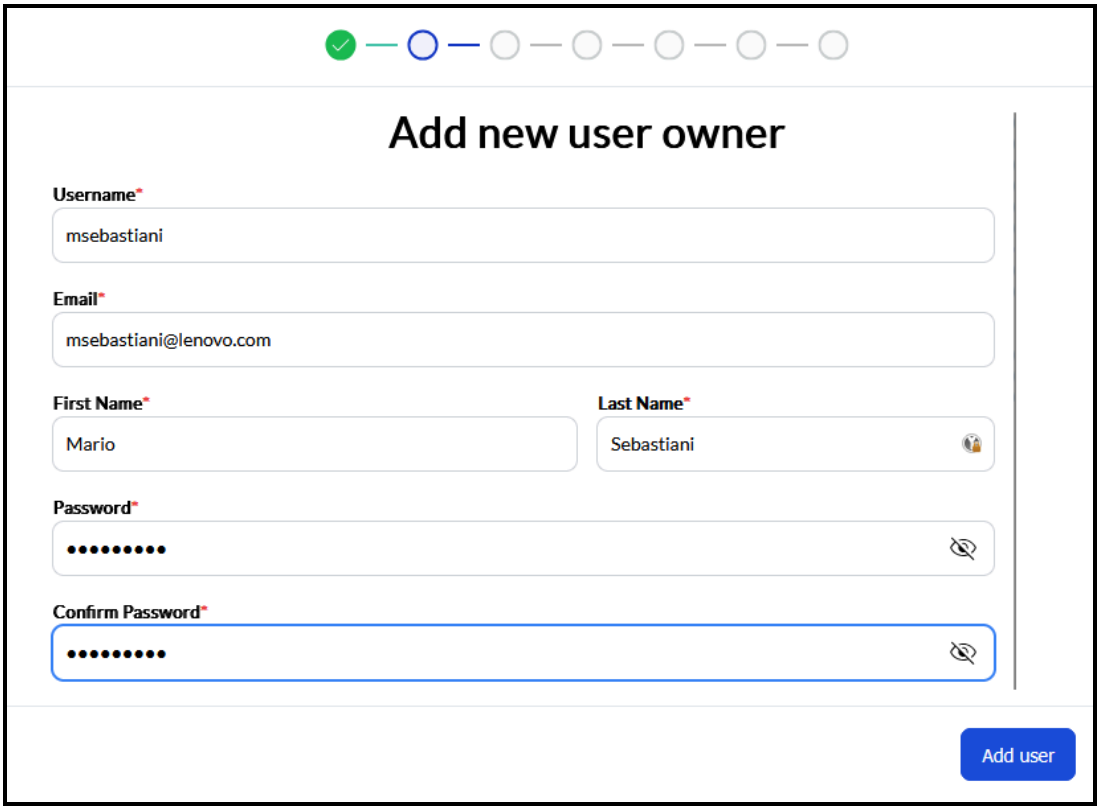


Figure 27. Create new user

7. Accept the License terms and conditions.

8. Add a Service Support Recovery Password (store it securely)

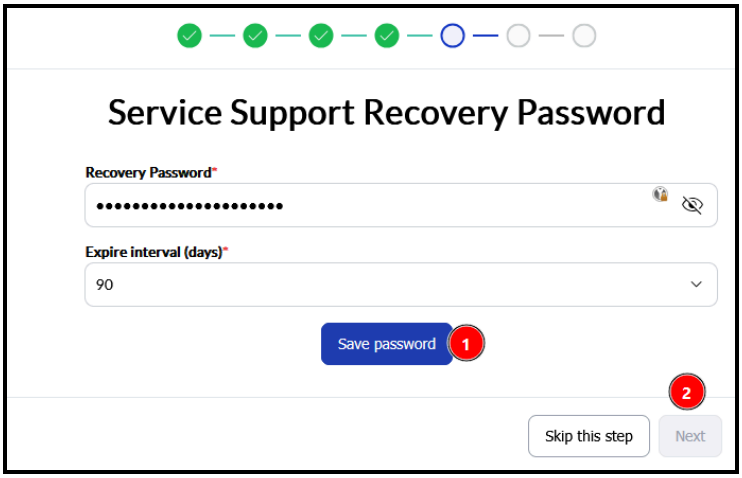


Figure 28. Service Support recovery password

9. Set your time zone and preferred NTP server, then click Apply changes.

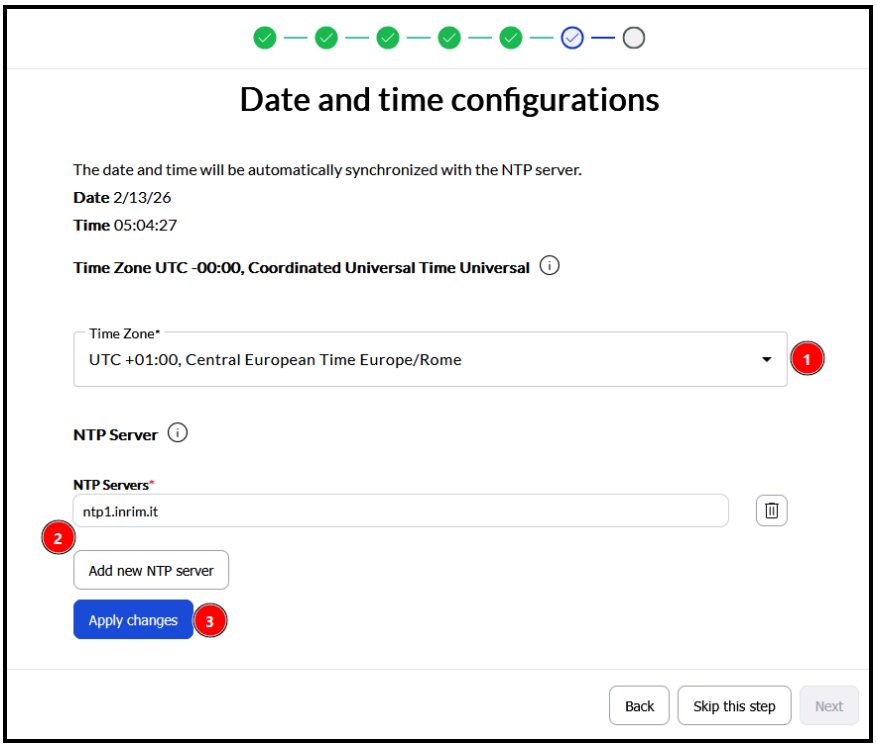


Figure 29. Date and time parameters

10. Configure IPv4 & DNS (if needed)

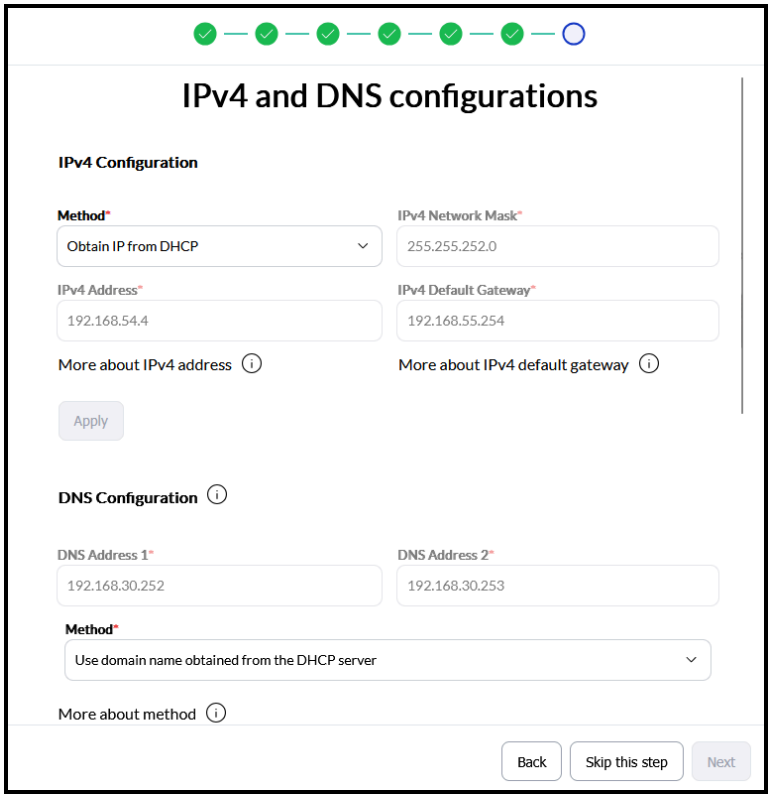


Figure 30. IPv4 and DNS configuration

Register the Hub with XClarityOne (Cloud or On-Premise)

Follow these steps to register the hub:

1. Access the XClarity One Hub
2. In the “Connection” section, click the **Connect to a portal** button.

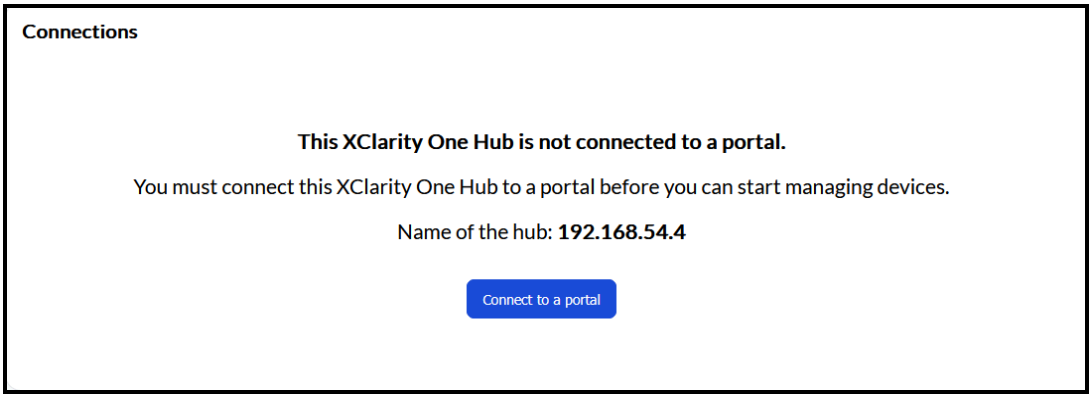


Figure 31. Connecting the hub to a portal

3. Copy the Registration Key to the clipboard.
4. Access the XClarity One Portal
5. From the “Organization management” section, click the **Add hub** button.

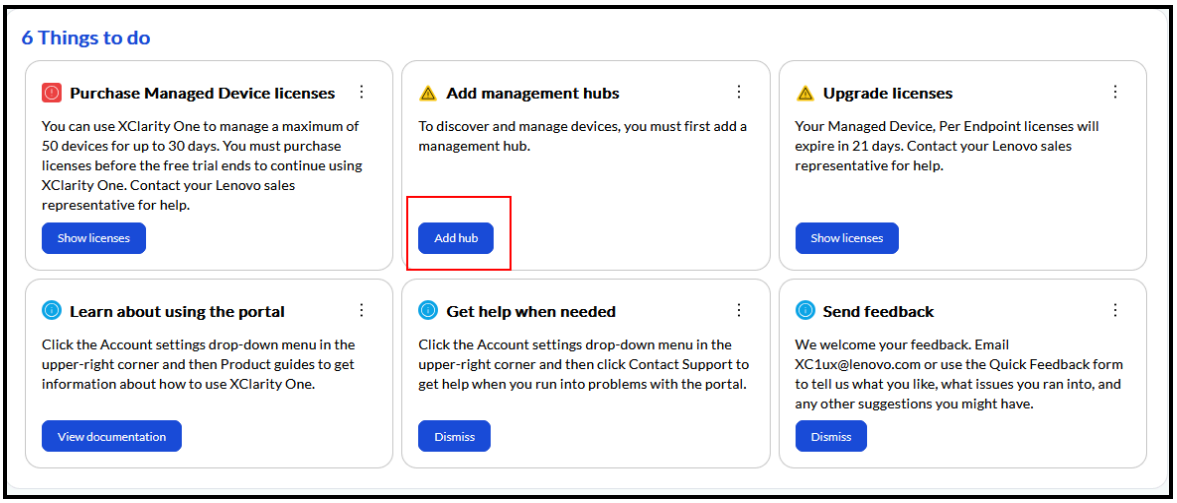


Figure 32. Add new hub

6. Fill the form with a name for the hub, the country and paste the registration key previously copied, then click **Next**.

7. Copy to the clipboard the registration key from the portal, then click **Next**.

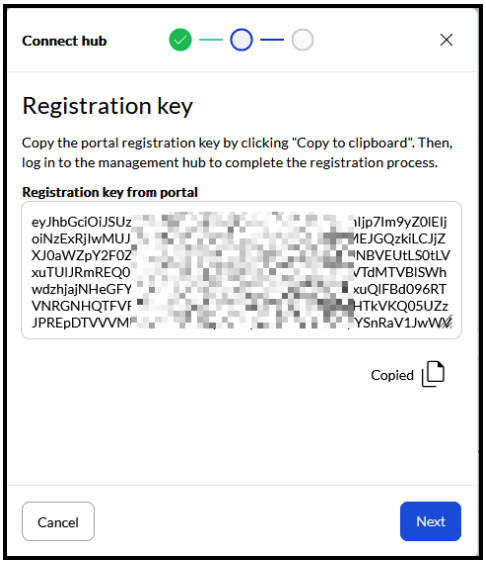


Figure 33. Hub registration key

8. Go back to the Hub web interface and paste the portal registration key, then click the **Connect** button.

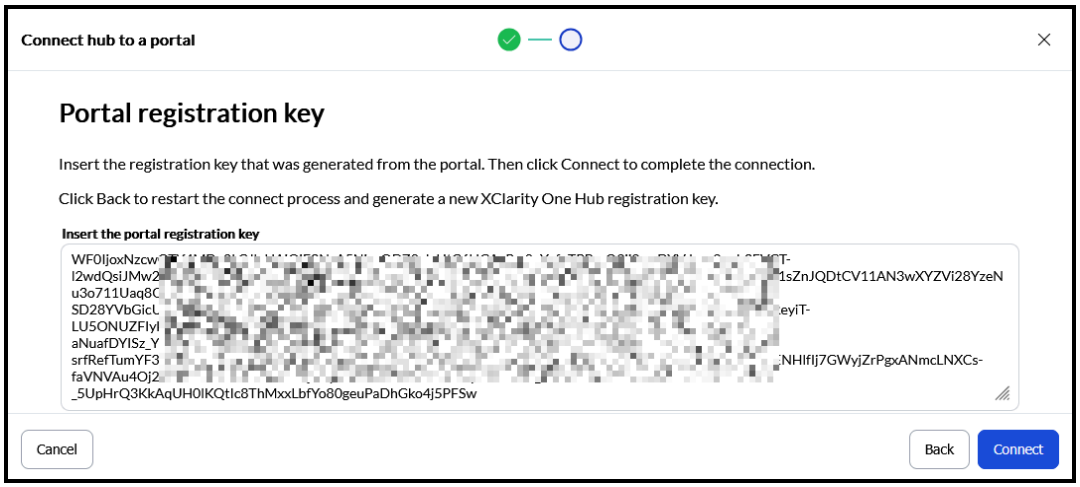


Figure 34. Portal registration key

9. Verify that all green checks are present.

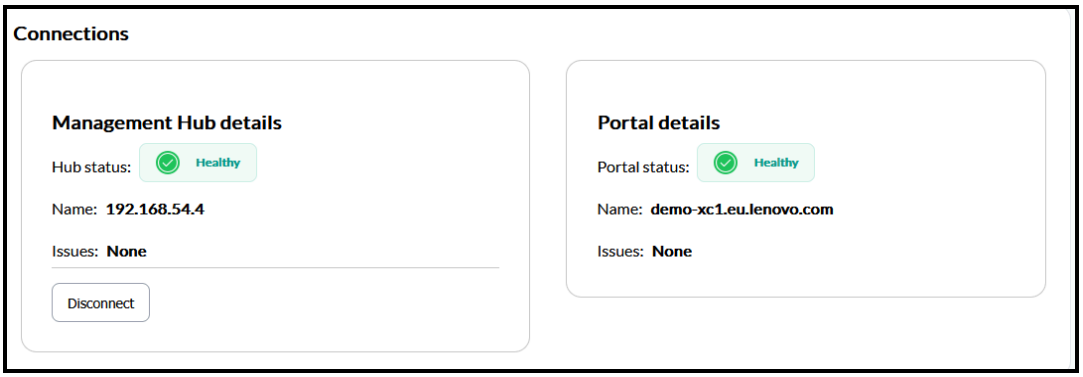


Figure 35. Hub successfully connected

10. Verify on XClarity One portal the presence of the just added hub.

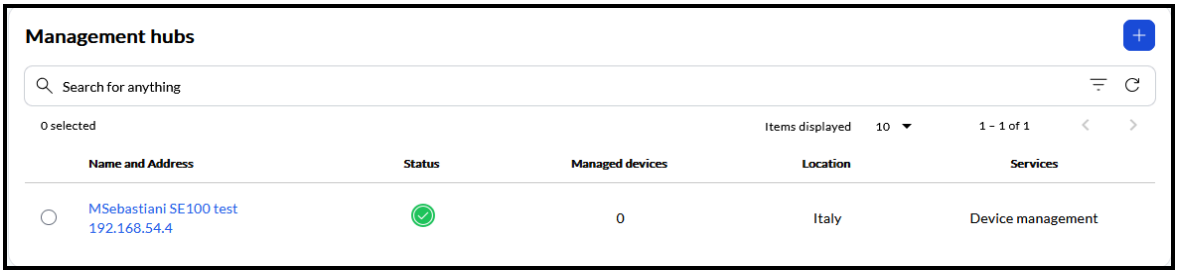


Figure 36. Hub listed in the management hub section

11. Add to the hub your devices to manage.

Figure 37. Manage server from the Hub

12. At the end, the server will be listed in the Managed devices section.

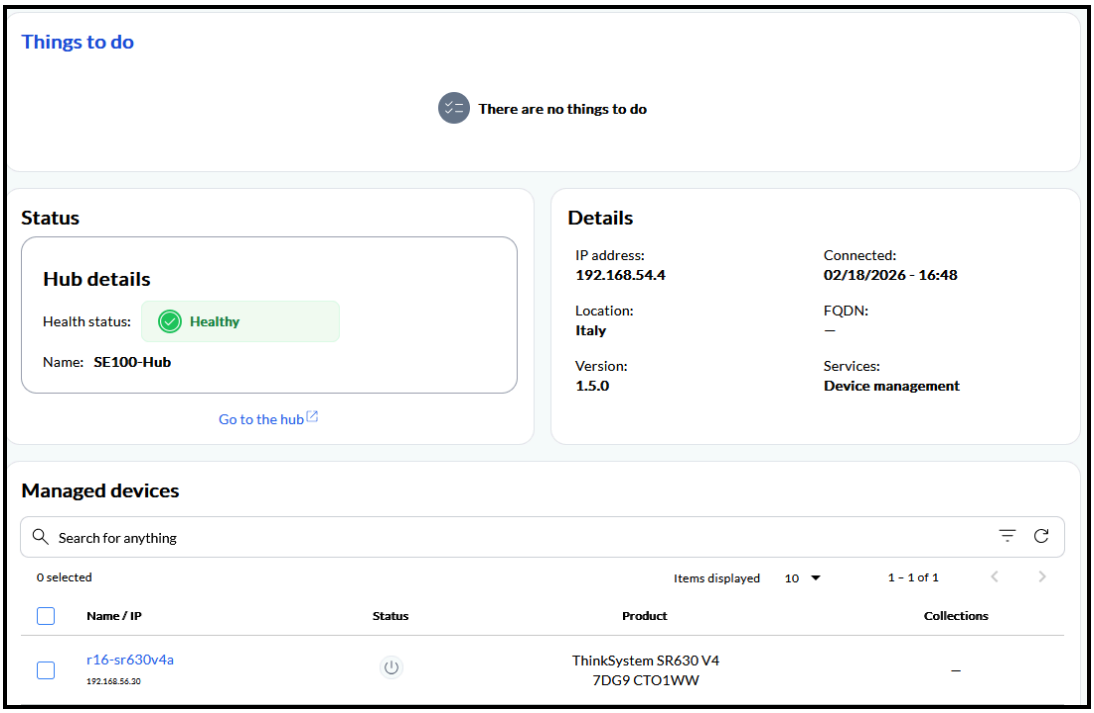


Figure 38. XClarity One Hub view from the XClarity One portal

13. You can take a look at the server status, metrics and details.

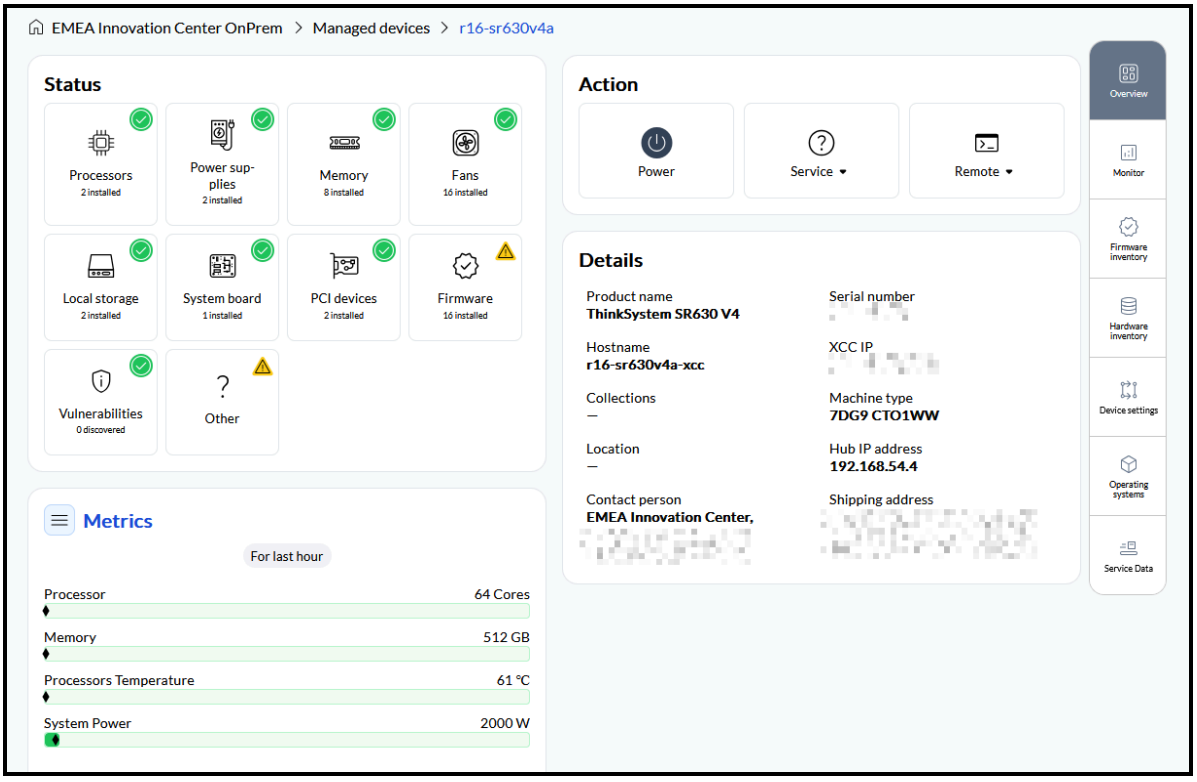


Figure 39. Global server status

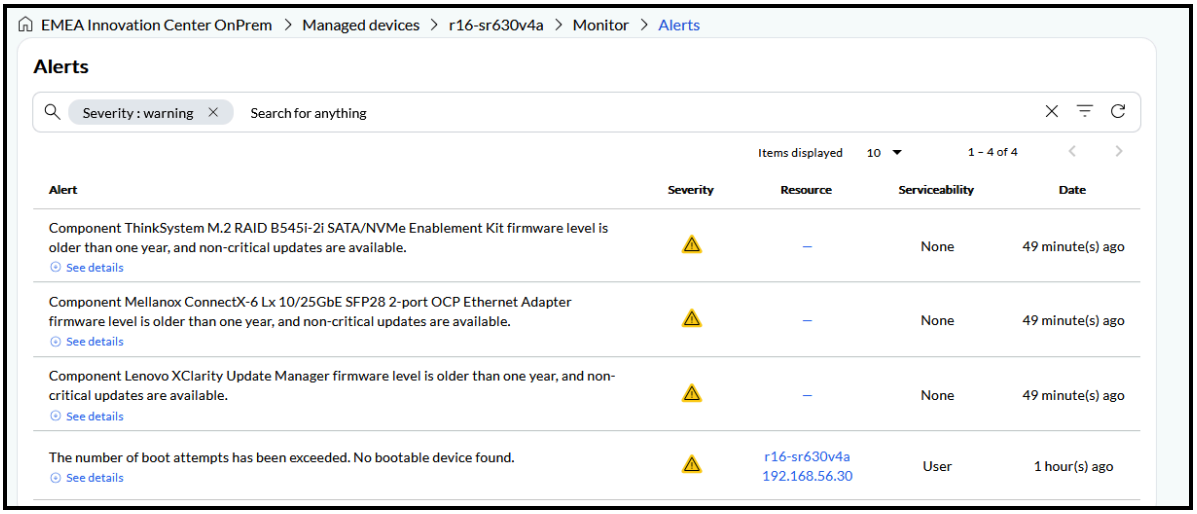


Figure 40. Server alerts

Authors

Mario Sebastiani is part of the Lenovo ISG Technical Sales team in Italy, where he focuses on HPC/AI and SMB businesses. He's a Linux enthusiast with over 30 years of IT experience, most of which was spent on IBM delivery services and developing solution architectures, with a focus on security in recent years. Mario joined Lenovo in 2022 and has recently been deepening his knowledge of AI solutions.

Gianfranco Bauco is part of the Lenovo ISG Technical Sales team in Italy and focuses primarily on relationship management with customers. He has 30 years of IT experience, starting with IBM and continuing with Lenovo after the System x acquisition. Currently, he is focusing particularly on AI-optimized solutions. Gianfranco's professional journey includes several manufacturing roles, as well as EMEA L3 Technical Support. He then transitioned to a technical role for the x86 business.

Related product families

Product families related to this document are the following:

- Lenovo XClarity
- ThinkEdge SE100 Server

Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area. Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service. Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Lenovo (United States), Inc.
8001 Development Drive
Morrisville, NC 27560
U.S.A.
Attention: Lenovo Director of Licensing

LENOVO PROVIDES THIS PUBLICATION ”AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. Lenovo may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

The products described in this document are not intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. The information contained in this document does not affect or change Lenovo product specifications or warranties. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Lenovo or third parties. All information contained in this document was obtained in specific environments and is presented as an illustration. The result obtained in other operating environments may vary. Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk. Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

This document, LP2377, was created or updated on February 20, 2026.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:
  https://lenovopress.lenovo.com/LP2377
- Send your comments in an e-mail to:
  comments@lenovopress.com

This document is available online at https://lenovopress.lenovo.com/LP2377.

Trademarks

Lenovo and the Lenovo logo are trademarks or registered trademarks of Lenovo in the United States, other countries, or both. A current list of Lenovo trademarks is available on the Web at https://www.lenovo.com/us/en/legal/copytrade/.

The following terms are trademarks of Lenovo in the United States, other countries, or both:
Lenovo®
ThinkEdge®
ThinkSystem®
XClarity®

The following terms are trademarks of other companies:

Intel®, the Intel logo is a trademark of Intel Corporation or its subsidiaries.

Other company, product, or service names may be trademarks or service marks of others.