

使用 Agama 手动安装 SUSE Linux Enterprise Server

内容

本文介绍如何使用 Agama 安装 SUSE Linux Enterprise Server。文中信息适用于在裸机和虚拟机上安装产品。

原因

阅读本文，了解使用 Agama 安装 SUSE Linux Enterprise Server 的流程。

工作量

读完本文大约需要 15 分钟。

目标

掌握使用 Agama 手动安装 SUSE Linux Enterprise Server 的方法。

要求

- 一台裸机服务器或一台虚拟机。如果要安装不包含任何桌面环境的服务器，SUSE 建议最低配置为 1 个 CPU、2 GB 内存和 32 GB 存储空间（该存储容量包括根分区中的 Btrfs 快照存储空间、交换空间以及软件包存储空间）。
- 待安装产品的有效注册代码。您可以在 SUSE Customer Center 中为该产品生成注册代码，并为所在组织激活相关订阅。



注意：可选注册

部分使用开发者密钥签名的映像允许您在安装前或安装过程中跳过注册步骤。此外，部分映像可能包含操作系统的所有可安装软件包，可作为离线软件包储存库使用。在这类情况下，您可能无需在安装前准备有效注册代码。但如果您需要使用官方在线储存库中的软件包，SUSE 建议您在 SUSE Customer Center 中为产品完成注册。

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1 Agama 简介

本章将简要概述 Agama，它是 SUSE Linux Enterprise Server 16.0 及后续版本的默认安装程序。

1.1 什么是 Agama？

Agama 是由 SUSE 开发的一款灵活且功能强大的开源安装程序。您可使用它在多种计算机体系结构上，手动或自动安装支持的 SUSE Linux Enterprise Server 版本。基于 Agama 的安装方式提供直观界面，可适配不同使用场景和工作负载的**即运行**映像。结合 Cockpit 和 Ansible，它在 SUSE Linux Enterprise Server 中替代了 YaST 的功能。

2 使用 Agama 安装 SUSE Linux Enterprise Server

本章介绍如何使用基于 Agama 的 ISO 映像文件安装 SUSE Linux Enterprise Server。

2.1 简介

下文将介绍基于 Agama 的 SUSE Linux Enterprise Server 手动安装步骤，相关信息适用于在裸机和虚拟机上的安装场景。

2.2 要求

- 受支持 SUSE Linux Enterprise Server 版本对应的基于 Agama 的 ISO 映像文件。您可以从 SUSE Customer Center 下载该映像，并通过验证其校验和确保文件完整性。



注意：产品的可用映像

基于 Agama 的安装映像适用于 SUSE Linux Enterprise Server 16.0 及后续版本。

2.3 使用 Agama 手动安装适用于 ppc64le 的 SUSE Linux Enterprise Server

要使用 Agama 手动安装 SUSE Linux Enterprise Server，请执行以下步骤：

过程 1：使用 AGAMA 手动安装 SUSE LINUX ENTERPRISE SERVER

1. 将 ISO 映像复制到 VIOS 服务器：

```
> scp SLES-Online-16.0-ppc64le-Beta2.install.iso padmin@VIOS_SERVER
```

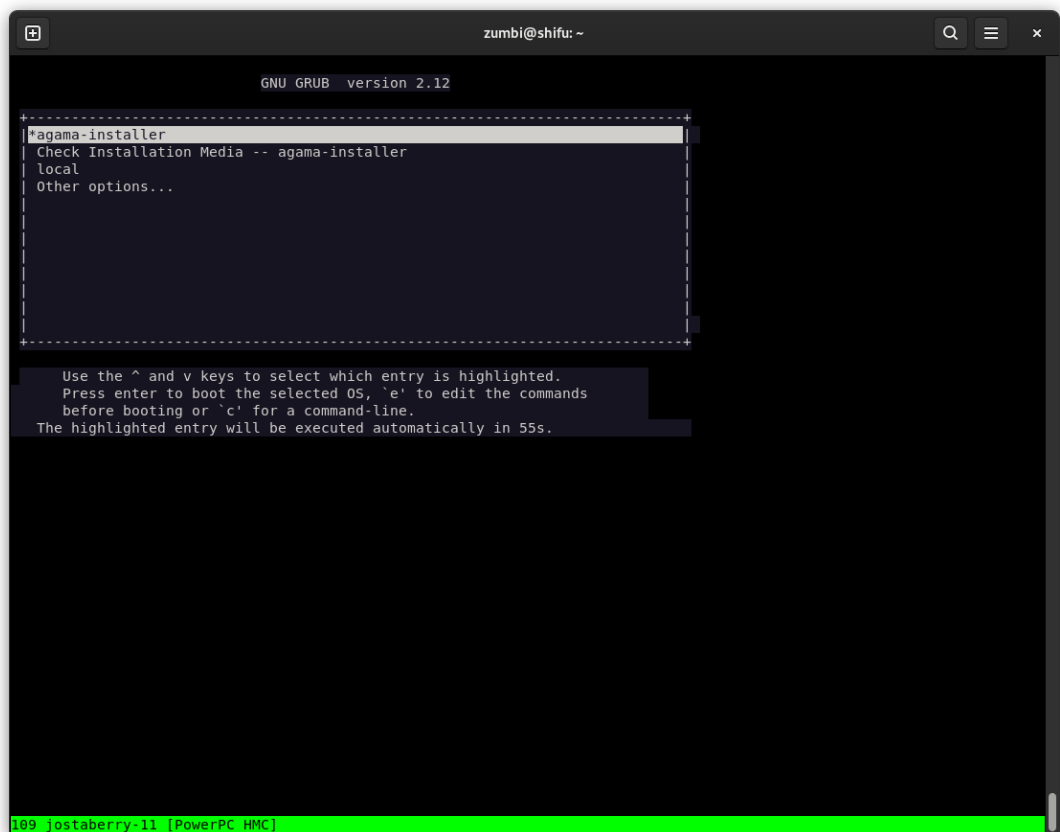
将 VIOS_SERVER 替换为您的 VIOS 服务器的主机名或 IP 地址。

2. 在 VIOS 服务器上创建虚拟光学设备，并将 ISO 映像加载到该虚拟设备中：

```
(VIOS)$mkvopt -name sles16-offline -file SLES-Online-16.0-ppc64le-  
Beta2.install.iso -ro  
(VIOS)$loadopt -f -release -disk sles16-offline -vtd vcdXY
```

将 vcdXY 替换为连接到您要引导的 LPAR 的虚拟设备单元。

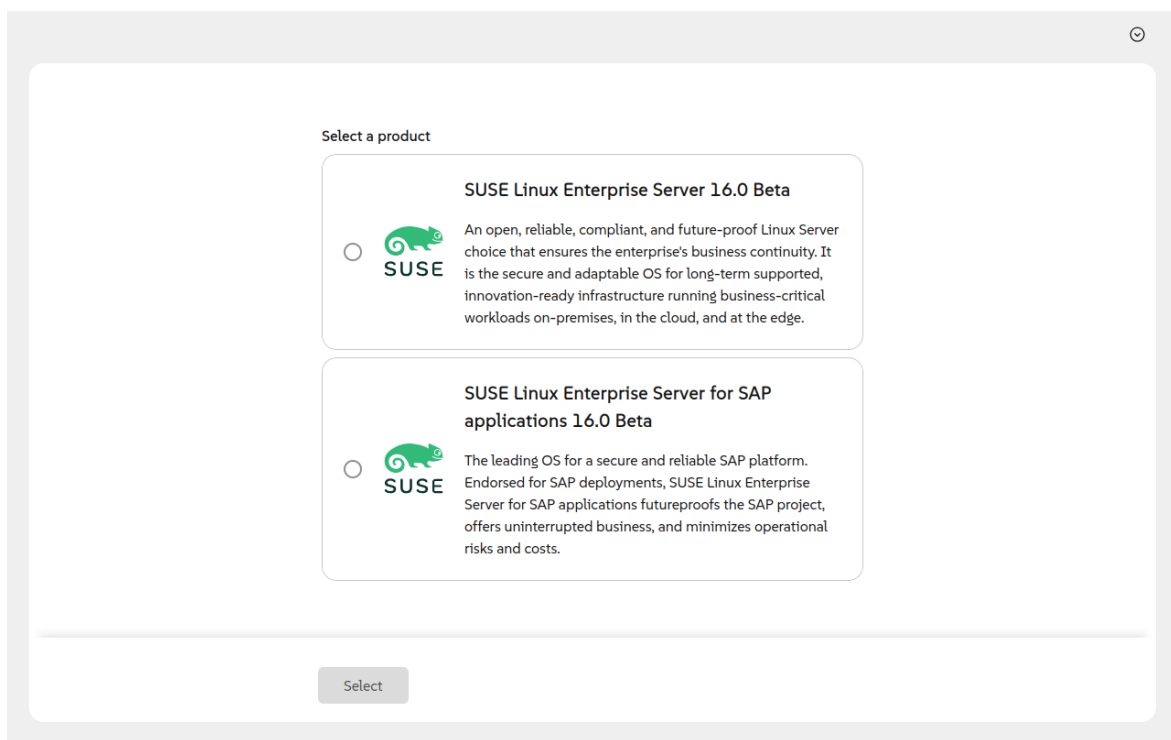
3. 从已连接的虚拟设备引导系统。单击选择引导选项 > 选择安装/引导设备 > CD/DVD > 列出所有设备，然后选择您在步骤 2 中创建的虚拟光学设备。随后选择正常引导模式，并确认您的选择。
4. 登录控制台以获取 root 口令和 IP 地址。
 - a. 选择 agama-installer 并按 **Enter** 键引导系统。



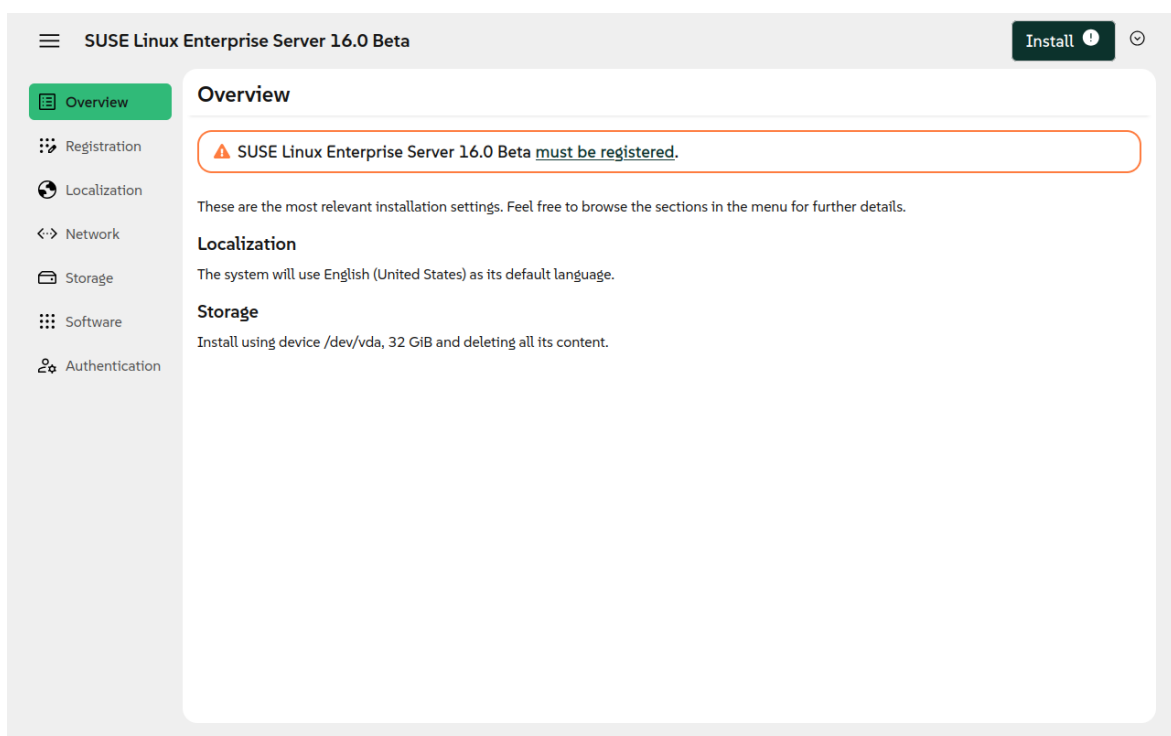
b. 引导完成后，系统会显示 IP 地址和 root 口令。

```
zumbi@shifu: ~  
[ OK ] Finished Permit User Sessions.  
[ OK ] Started Agama Installer Service.  
Starting Agama's D-Bus bus monitor...  
Starting Agama Web Server...  
[ OK ] Started Agama's D-Bus bus monitor.  
Starting Generate issue file for Agama SSL certificate...  
[ OK ] Started Agama Web Server.  
[ OK ] Started Agama automatic profile runner.  
Starting Postpone login prompt aft...L fingerprint issue is generated...  
[ OK ] Finished Generate issue file for Agama SSL certificate.  
[ OK ] Finished Postpone login prompt aft...SSL fingerprint issue is generated.  
[ OK ] Started Getty on tty1.  
[ OK ] Started Serial Getty on hvc0.  
[ OK ] Reached target Login Prompts.  
[ OK ] Reached target Multi-User System.  
[ OK ] Reached target Graphical Interface.  
Starting X11 session...  
Starting Service enabling compressing RAM with zRam...  
[ 39.519984][ T4578] zram: Added device: zram0  
[ 39.523811][ T4571] zram0: detected capacity change from 0 to 133694080  
[ OK ] Created slice User Slice of UID 0.  
Starting User Runtime Directory /run/user/0...  
[ OK ] Finished User Runtime Directory /run/user/0.  
Starting User Manager for UID 0...  
[ 39.609973][ T4588] Adding 66846976k swap on /dev/zram0. Priority:100 extents:1 across:66846976k SS  
[ OK ] Finished Service enabling compressing RAM with zRam.  
[ OK ] Started User Manager for UID 0.  
[ OK ] Started Session 1 of User root.  
[ OK ] Started X11 session.  
  
Welcome to Agama installer version 11+105! (hvc0)  
  
SSH host key fingerprints:  
SHA256:nUjAtYbVkiw6E9yC+gRKNHA0bUnueLZJ8iI3Ghmy8k (ECDSA)  
SHA256:qGExR9jnnCMh7WM0EV8dUjDu26HiDID2Mk/5b0cL4g (ED25519)  
SHA256:zoEcwrsfa5gxHwhIiKomlm664JWtW3kMT0iWKZKrb0K (RSA)  
  
Connect to the Agama installer using these URLs:  
https://agama.local  
https://10.161.27.65  
https://192.168.0.42  
  
Password for root user: eMyYKMHr  
jostaberry-11 login:  
109 jostaberry-11 [PowerPC HMC]
```

5. 打开 Web 浏览器，在地址栏输入控制台中显示的 URL。输入 root 口令，继续安装流程。
6. 选择 SUSE Linux Enterprise Server 16.0 进行安装，并接受许可协议以继续。



7. 系统会显示包含核心安装设置的概览界面。您可以通过左侧菜单选择对应类别调整设置，也可以直接继续安装。





提示：安装程序语言和键盘

单击右上角的箭头菜单并选择安装程序选项，可更改安装程序使用的语言和键盘布局。只有本地安装支持更改语言。如果通过 Web 浏览器进行远程安装，请在浏览器设置中配置首选内容语言，然后重新加载安装程序。

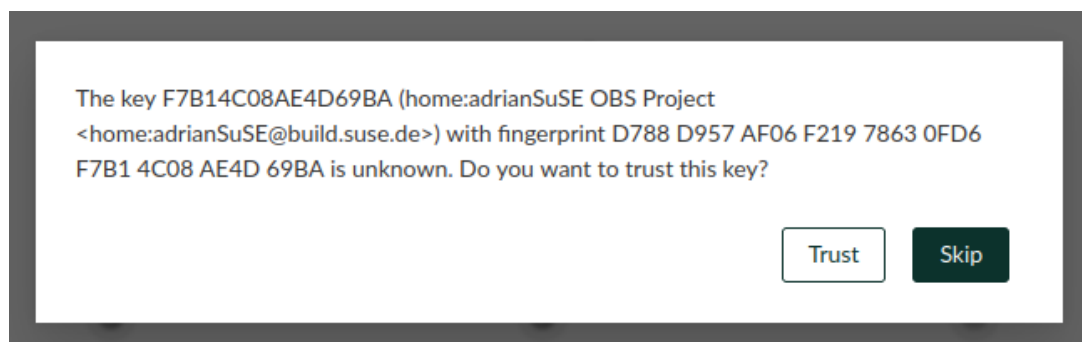
8. 注册产品。输入注册代码，也可选择输入有效的电子邮件地址。

The screenshot shows the 'Registration' page of the SUSE Linux Enterprise Server 16.0 Beta installer. The page has a sidebar with navigation links: Overview, Registration (highlighted), Localization, Network, Storage, Software, and Authentication. The main content area is titled 'Registration' and contains a warning message: 'SUSE Linux Enterprise Server 16.0 Beta must be registered.' Below this, there is a form with the following fields: 'Registration code' (with a toggle for visibility) and 'Email (optional)'. A 'Register' button is located at the bottom of the form.



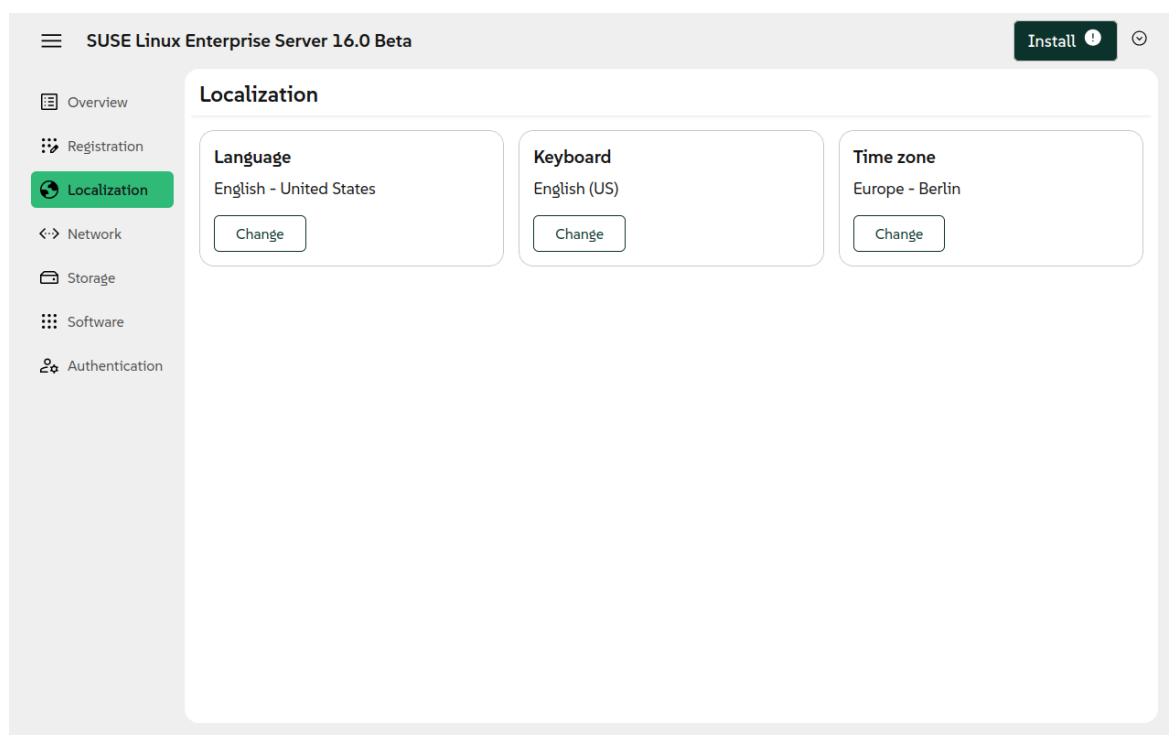
注意：使用开发者密钥签名的映像可选择跳过注册

使用开发者密钥签名的映像可能允许您在安装前跳过注册步骤。如果您使用的产品映像支持无注册安装，可能会弹出类似以下的窗口：

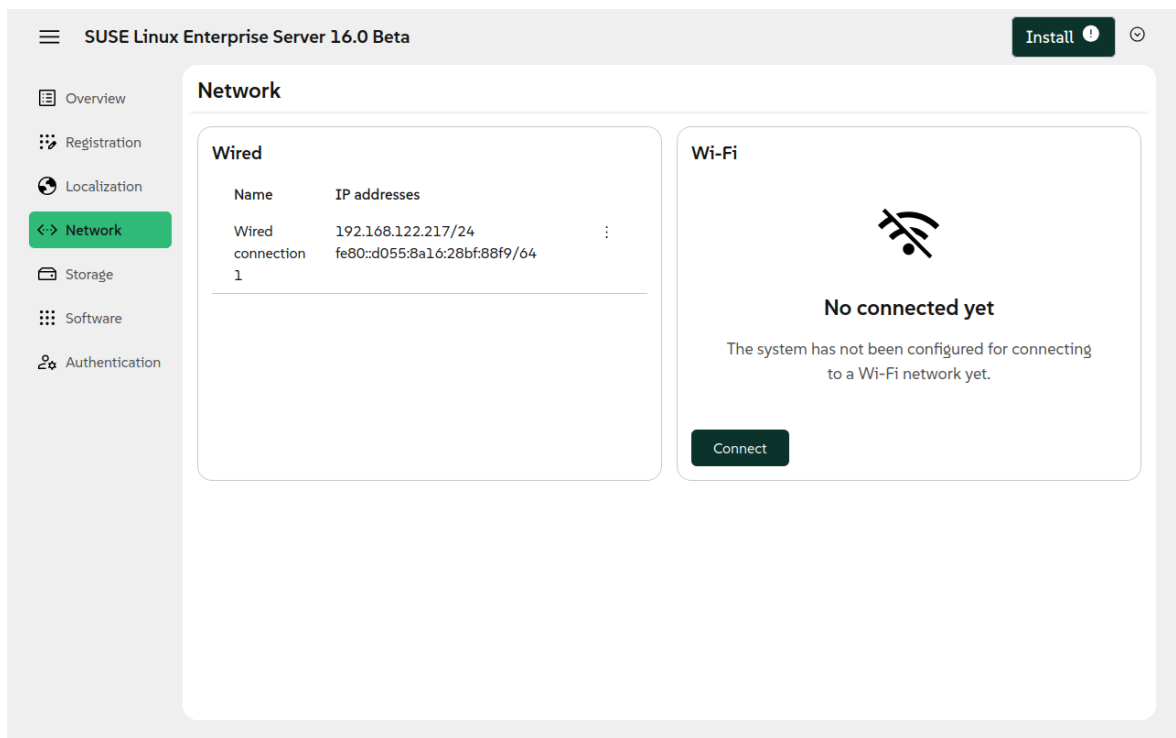


要进行无注册安装，请在弹出窗口中选择信任。

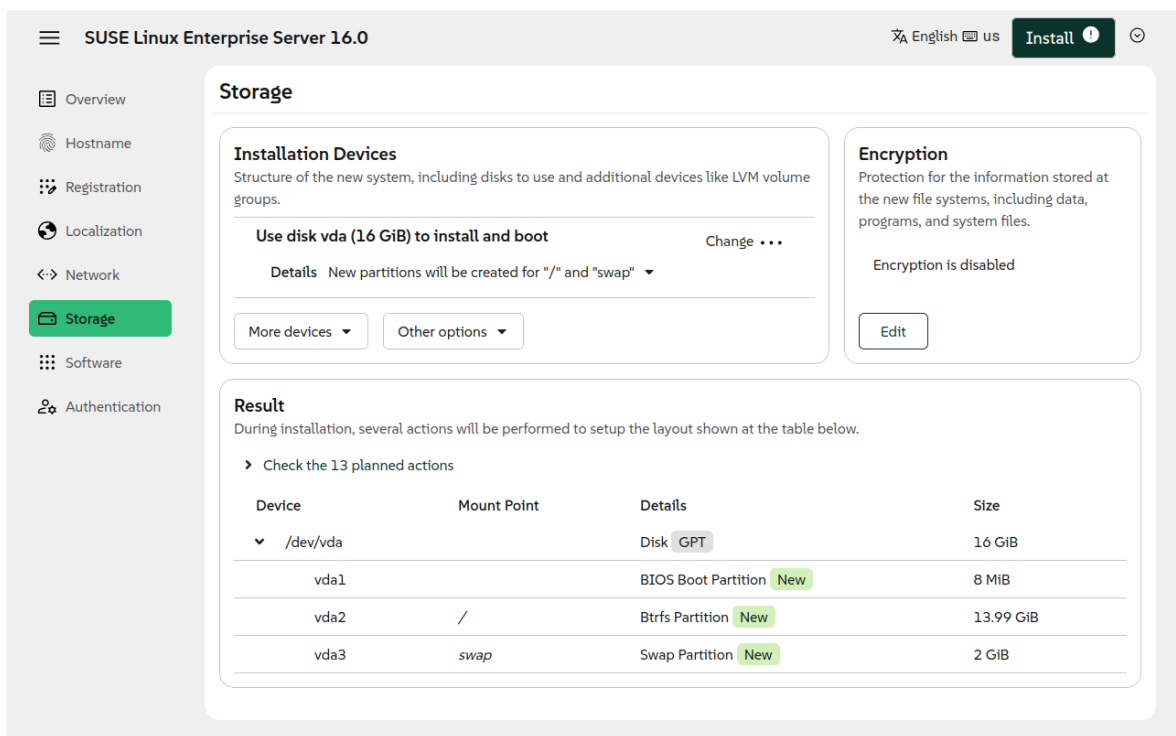
9. （可选）调整本地化设置，如语言、键盘布局和时区。



10. （可选）配置网络设置。要编辑现有网络连接，请单击相应的三点图标。



11. 选择用于安装的存储设备。



目前支持在单个磁盘或 LVM 上进行安装。要更换磁盘或使用 LVM，请在安装设备部分，单击对应设备名称旁的更多选项按钮。

要检测 iSCSI 磁盘，请选择 iSCSI 启动器，然后单击发现 iSCSI 目标。

默认情况下，文件系统会作为新分区分配到所选设备上。您可以在安装设备部分的所有内容都将被删除下拉列表中修改此行为。系统提供以下磁盘空间策略：

磁盘空间策略

删除现有内容

去除所有分区，磁盘上的所有数据都将被清除。

缩小现有分区

保留数据，但会根据需要缩小现有分区。

使用可用空间

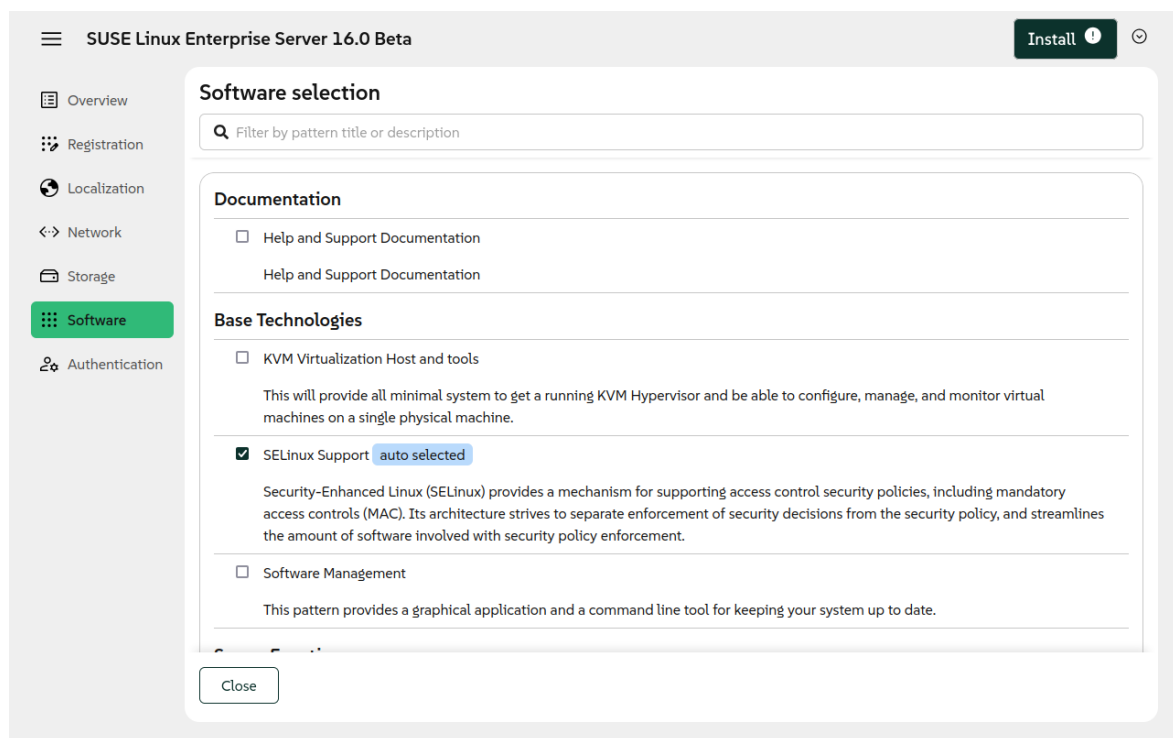
保留数据，仅使用未分配给任何分区的空闲空间。

自定义

手动选择对每个分区的处理方式。

要编辑单个分区，请单击分区和文件系统部分旁的 > 图标展开设置。此外，您还可以配置 Btrfs 快照、引导选项，并启用全盘加密 (FDE)。

12. （可选）添加需额外安装的软件，如 KVM 超级管理程序或 Cockpit 系统管理服务。



13. 配置身份验证设置。

！ 重要：root 默认没有 SSH 权限

root 的 SSH 权限默认处于禁用状态。因此，强烈建议创建一个系统用户。第一个系统用户会自动获得 sudo 权限，也可用于访问 Cockpit。

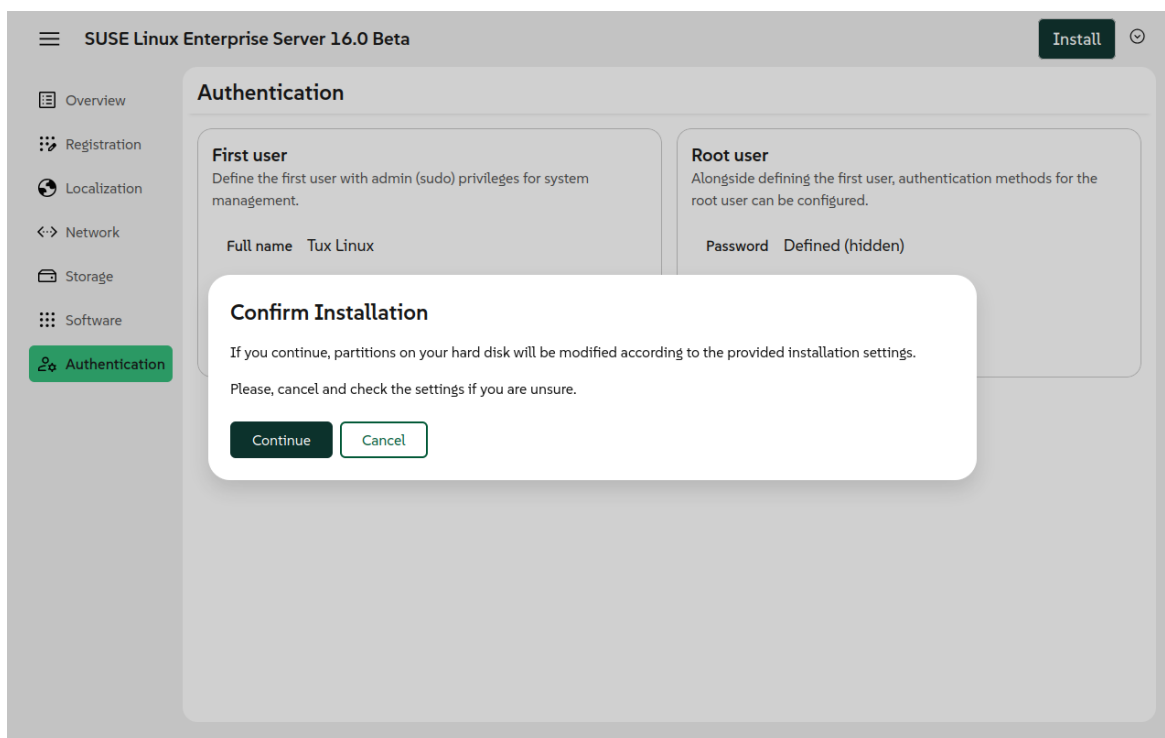
- a. 创建非 root 用户。单击现在设定用户，输入用户名、口令等详细信息。

The screenshot shows the 'Create user' form in the SUSE Linux Enterprise Server 16.0 Beta installer. The left sidebar contains navigation links: Overview, Registration, Localization, Network, Storage, Software, and Authentication (highlighted in green). The main form area has the following fields: 'Full name' (text input), 'Username' (text input), 'Password' (text input with a toggle icon), and 'Password confirmation' (text input with a toggle icon). At the bottom of the form are 'Accept' and 'Cancel' buttons. The top right of the window shows the title 'SUSE Linux Enterprise Server 16.0 Beta' and an 'Install' button with a help icon.

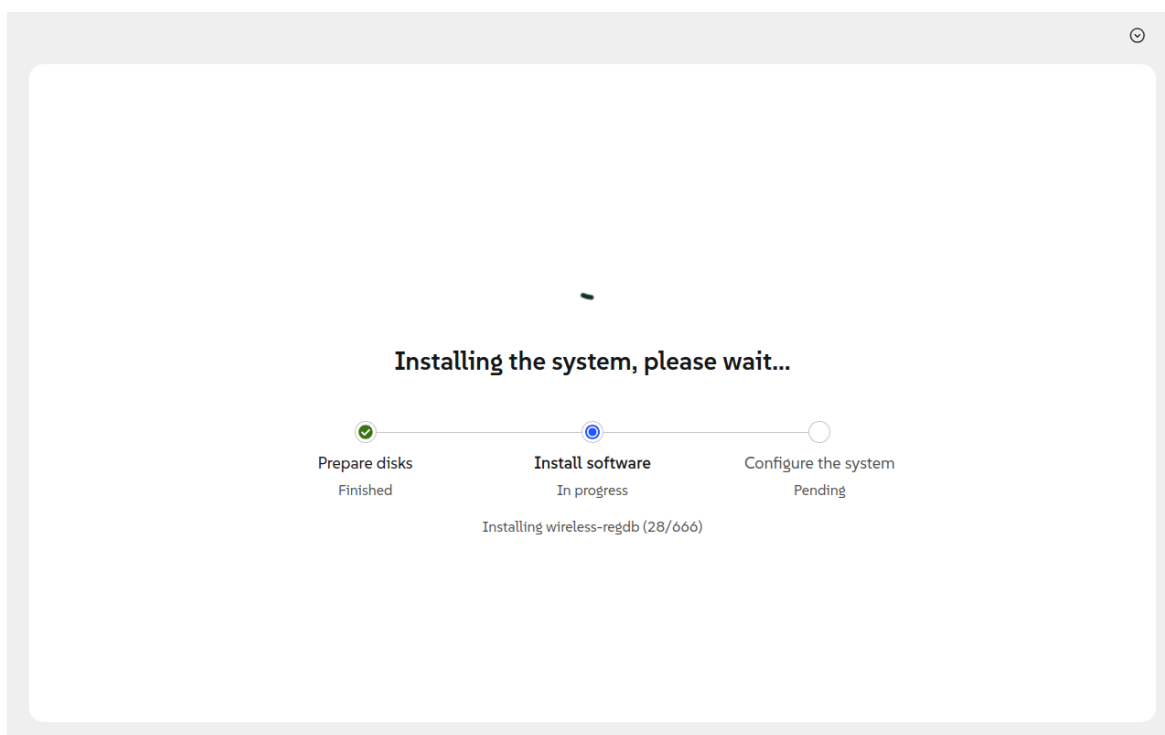
- b. 配置 root 的身份验证方式。可以使用安全口令、SSH 公钥，或同时使用两种方式。

The screenshot shows the 'Root authentication methods' form in the SUSE Linux Enterprise Server 16.0 Beta installer. The left sidebar is the same as the previous screenshot, with 'Authentication' highlighted. The main form area has two radio button options: 'Use password' (selected) and 'Use public SSH Key'. At the bottom of the form are 'Accept' and 'Cancel' buttons. The top right of the window shows the title 'SUSE Linux Enterprise Server 16.0 Beta' and an 'Install' button with a help icon.

14. 单击安装并确认开始安装。



15. 等待系统安装过程完成。安装过程大约需要 30 分钟才能完成。

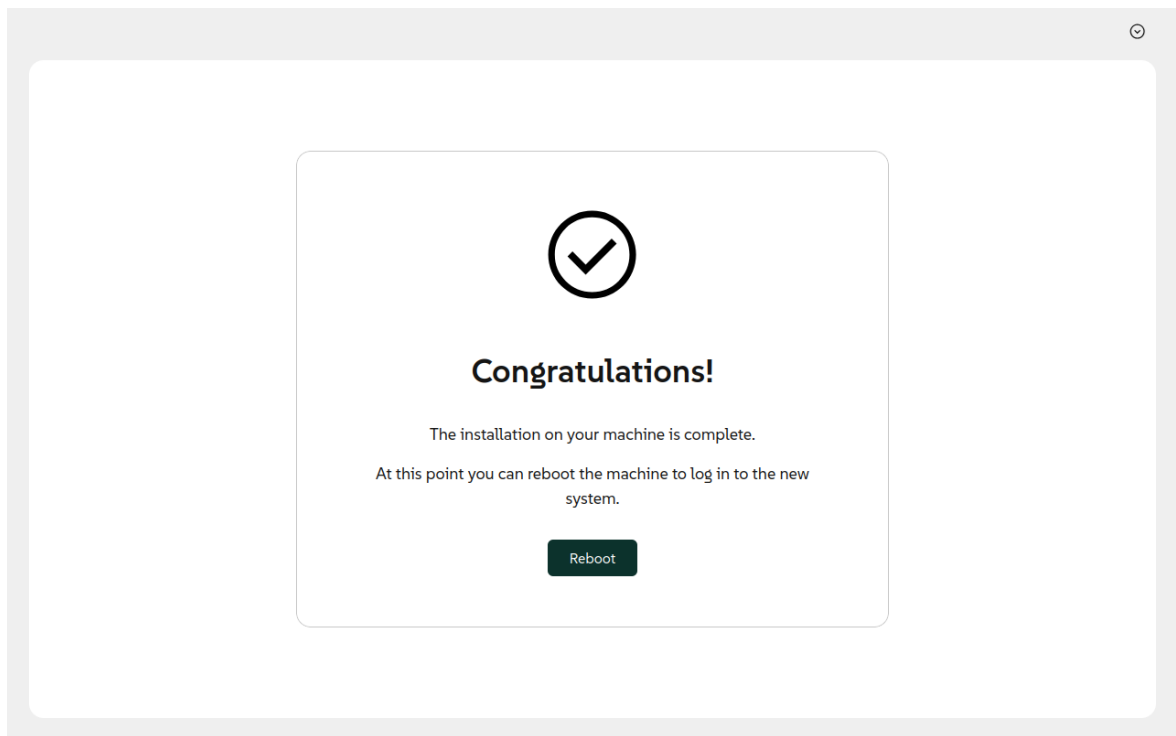




提示：安装日志

您可以使用窗口右上角的箭头菜单查看日志和系统消息。

16. 安装完成后，选择重引导。



2.4 总结

在成功完成配置检查、产品注册、安装和重引导后，确认您可以登录并使用系统。

过程 2：安装后验证系统

1. 以 root 用户身份登录系统。

```
Welcome to SUSE Linux Enterprise Server 16.0 Alpha3 (x86_64) - Kernel 6.4.0-sifo.1.8-default (tty1).

SSH host key: SHA256:bUpdqEfAYuo1gbMY0s70qIdMEHHC/eKikm7cL3kwCMA (RSA)
SSH host key: SHA256:L5PQdXeaN9edpLw0z29LWxCNKc26EWWtNFopxMgn3U (ECDSA)
SSH host key: SHA256:CKA9BUCHu5.jKhECTUSyBGQRyDQQMRegIfUIOR/nDsXY (ED25519)
enp1s0: 192.168.122.40 fe80::a486:c31a:e64:6c0c

Hint: Num Lock on

localhost login: root
Password: _
```

2. 要验证系统是否按预期正常运行，请运行一些基本命令。

```
Welcome to SUSE Linux Enterprise Server 16.0 Alpha3 (x86_64) - Kernel 6.4.0-sifo.1.8-default (tty1).

SSH host key: SHA256:bUpdqEfAYuo1gbMY0s70qIdMEHHC/eKikm7cL3kwCMA (RSA)
SSH host key: SHA256:L5PQdXeaN9edpLw0z29LWxCNKc26EWWtNFopxMgn3U (ECDSA)
SSH host key: SHA256:CKA9BUCHu5.jKhECTUSyBGQRyDQQMRegIfUIOR/nDsXY (ED25519)
enp1s0: 192.168.122.40 fe80::a486:c31a:e64:6c0c

Hint: Num Lock on

localhost login: root
Password:
Have a lot of fun...
localhost:~ # whoami
root
localhost:~ # pwd
/root
localhost:~ #
```

3 更多信息

如需相关主题的信息，请参考以下资源：

- Agama 开源项目文档：<https://agama-project.github.io/docs> 
- IBM POWER 平台 Linux 安装快速入门指南：<https://www.ibm.com/docs/en/linux-on-systems?topic=servers-quick-start-guides-installing-linux> 
- IBM 关于使用虚拟 DVD (vDVD) 在 PowerVM LPAR 上安装 Linux 的操作指南：<https://www.ibm.com/docs/en/linux-on-systems?topic=aim-installing-linux-powervm-lpar-by-using-virtual-dvd-vdvd> 

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