

***SUSE Linux Enterprise Server 15 SP1  
(x86-64) as guest os on Oracle KVM***



## Introduction

This document provides details for installing SUSE Linux Enterprise Server 15 SP1 as a guest os on Oracle KVM. Details are provided for Intel(x86-64) versions of both Oracle KVM and SUSE Linux Enterprise Server 15 SP1. If you encounter issues or have general questions, please post your query to [suse-oracle@listx.novell.com](mailto:suse-oracle@listx.novell.com).

Official Oracle product documentation is available at: <http://docs.oracle.com>.

## Hardware Requirements

Requirement	Minimum
CPU	64-bit dual-core CPU
Physical Memory	16 GB
NIC	1 network interface card (NIC) with bandwidth of at least 1 Gbps
Hard Disk space	100 GB local writable hard disk
Disk space in /tmp	1 GB
Swap space	1 GB

## Software Requirements

### SUSE

- SUSE Linux Enterprise Server 15 SP1 (x86-64)  
(<http://download.suse.de/install>)

### Oracle

- Oracle Linux 7 update 6(with Unbreakable Enterprise Kernel Release 5 Update 1 or later)  
(<https://edelivery.oracle.com>)
- Oracle Linux Virtualization Manager Release 4.2.8 package  
([https://yum.oracle.com/repo/OracleLinux/OL7/ovirt42/x86\\_64/ovirt-release42.rpm](https://yum.oracle.com/repo/OracleLinux/OL7/ovirt42/x86_64/ovirt-release42.rpm))

## Testing Machine Hardware Information

Dell Laptop Precision 5530  
CPU: 6 \* Intel(R) Core(TM) i7-8850H CPU @ 2.60GHz  
RAM: 32 GB  
NIC: 2  
Local HDD: 1TB + 512GB

# Setup

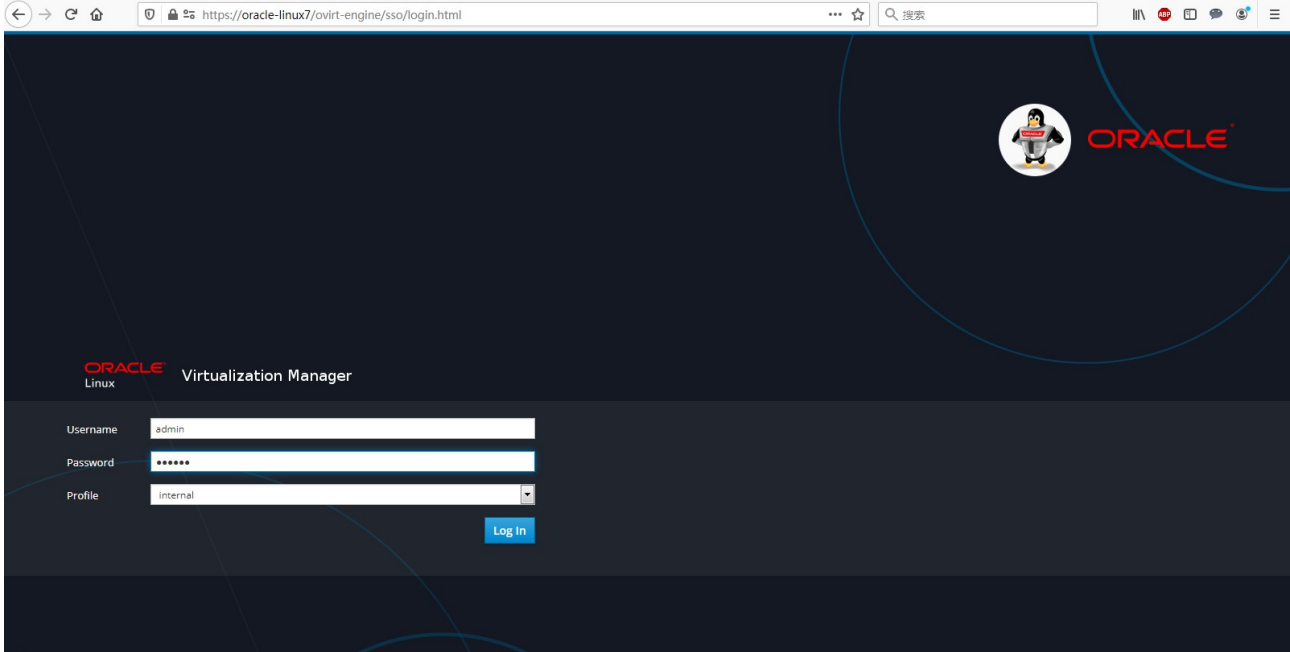
## 1. Installing Oracle Linux Virtualization Manager.

To install Oracle Linux Virtualization Manager, following the steps at:

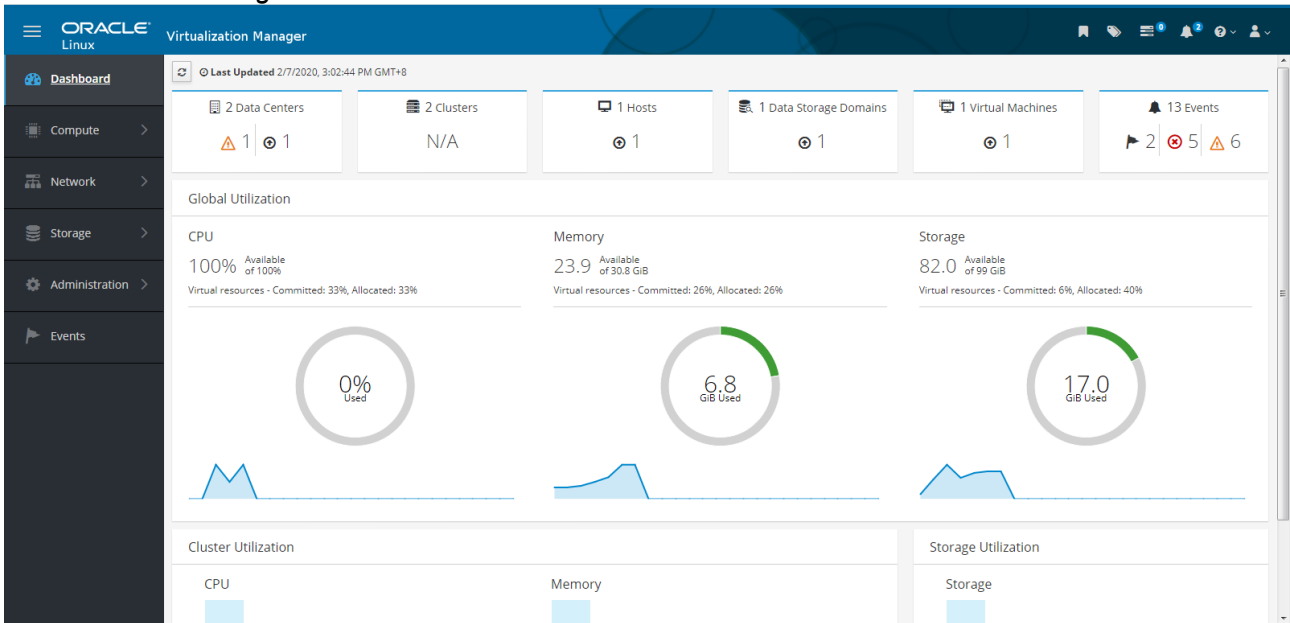
<https://docs.oracle.com/en/virtualization/oracle-linux-virtualization-manager/install/manager-install.html>.

## 2. Logging in to the Administration Portal.

**Screenshot:** Logging into the Administration Portal to verify that the configuration was successful.



**Screenshot:** Viewing Dashboard



### 3. Installing Oracle Linux KVM compute host.

To install Oracle Linux KVM compute host, following the steps at:

<https://docs.oracle.com/en/virtualization/oracle-linux-virtualization-manager/install/manager-install.html>.

### 4. Preparing Storage for a KVM Compute Host.

To configure a KVM compute host to use local storage/NFS/iSCSI/FCP, following the steps at:

<https://docs.oracle.com/en/virtualization/oracle-linux-virtualization-manager/getstart/storage-tasks.html>.

### 5. Creating a New Virtual Machine through Oracle Linux Virtualization Manager.

#### Screenshot: VM General info

The screenshot shows the 'Edit Virtual Machine' interface with the 'General' tab selected. The configuration is as follows:

- Cluster:** SuSE\_Test-Local (Data Center: SuSE\_Test-Local)
- Template:** Blank | (0)
- Operating System:** SUSE Linux Enterprise Server 11+
- Instance Type:** Custom
- Optimized for:** Server
- Name:** SLES15-SP1
- Description:** SLES15-SP1 on Oracle KVM
- Comment:** (empty)
- VM ID:** 616a17fb-5c43-4e20-a64d-ddb4edfec421
- Options:** Stateless, Start in Pause Mode, Delete Protection (all unchecked)
- Instance Images:**
  - SLES15-SP1\_Disk1: (10 GB) existing (boot) [Edit] [-]
  - SLES15-SP1\_Disk2: (30 GB) existing [Edit] [+]
- Network:** Instantiate VM network interfaces by picking a vNIC profile.
  - nic1: ovirtmgmt/ovirtmgmt [dropdown] [+]

Screenshot: VM System info

**Edit Virtual Machine** [X]

**General**

**System** >

**Initial Run**

**Console**

**Host**

**High Availability**

**Resource Allocation**

**Boot Options**

**Random Generator**

**Custom Properties**

**Icon**

**Foreman/Satellite**

**Affinity Labels**

Cluster: SuSE\_Test-Local  
Data Center: SuSE\_Test-Local

Template: Blank | (0)

Operating System: SUSE Linux Enterprise Server 11+

Instance Type: Custom

Optimized for: Server

Memory Size: 8192 MB

Maximum memory: 8192 MB

Total Virtual CPUs: 2

Advanced Parameters

**General**

Hardware Clock Time Offset: (GMT+00:00) GMT Standard Time

Provide custom serial number policy

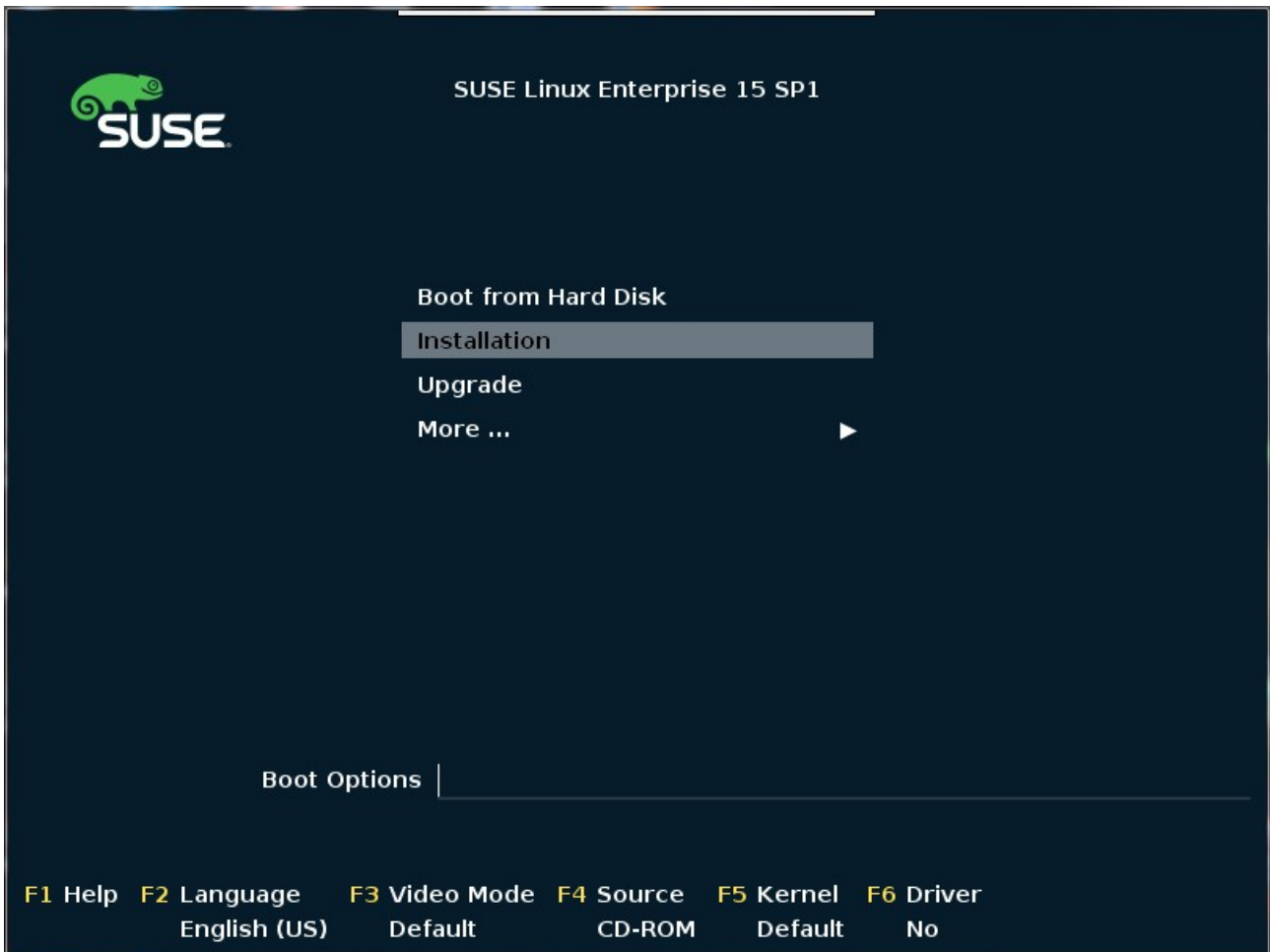
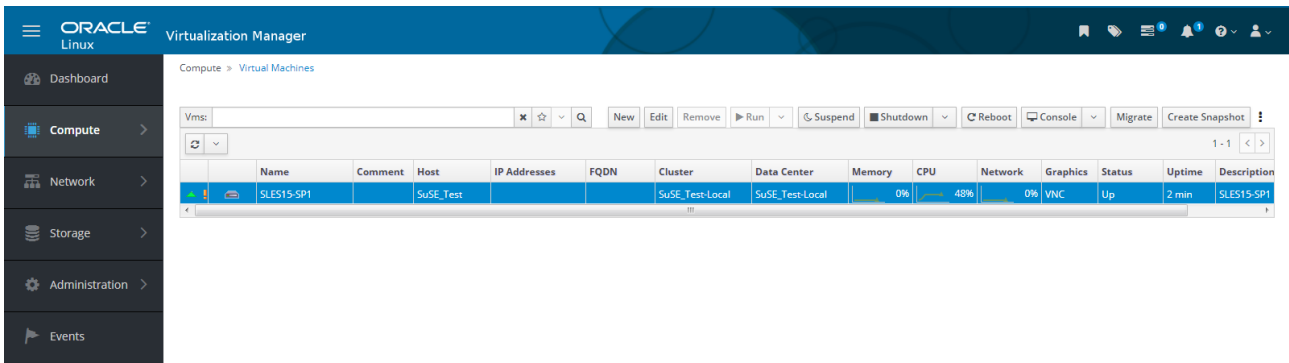
**Screenshot: VM Boot Options**

Edit Virtual Machine <span style="float: right;">✕</span>	
<b>General</b>	Cluster: SuSE_Test-Local
<b>System</b>	Data Center: SuSE_Test-Local
<b>Initial Run</b>	Template: Blank   (0)
<b>Console</b>	Operating System: SUSE Linux Enterprise Server 11+
<b>Host</b>	Instance Type: Custom
<b>High Availability</b>	Optimized for: Server
<b>Resource Allocation</b>	<b>Boot Sequence:</b>
<b>Boot Options</b> >	First Device: CD-ROM
<b>Random Generator</b>	Second Device: [None]
<b>Custom Properties</b>	<input checked="" type="checkbox"/> Attach CD: SLE-15-SP1-Installer-DVD-x86_64-GM
<b>Icon</b>	<input checked="" type="checkbox"/> Enable menu to select boot device
<b>Foreman/Satellite</b>	<b>Linux Boot Options:</b>
<b>Affinity Labels</b>	kernel path: <input type="text"/>
	initrd path: <input type="text"/>
	kernel parameters: <input type="text"/>

The **Attach CD** check box is selected with the appropriate ISO file chosen from the drop-down list. For this example scenario, **SLE-15-SP1-Installer-DVD-x86\_64-GM-DVD1.iso** is selected.

## 6. Installing the SuSE Linux Enterprise Server 15 SP1(x86-64) Guest OS

1). Run the VM, then open a console connect to the virtual machine.



(**Note:** The following error occurred while starting the virtual machine.

"Error message: The name org.fedoraproject.FirewallD1 was not provided by any .service files"

✘	Feb 7, 2020, 2:32:07 PM	Failed to run VM SLES15-SP1 (User: admin@internal-authz).	54	admin@inte
!	Feb 7, 2020, 2:32:07 PM	Failed to run VM SLES15-SP1 on Host SuSE_Test.	151	admin@inte
✘	Feb 7, 2020, 2:32:07 PM	VM SLES15-SP1 is down with error. Exit message: The name org.fedoraproject.FirewallD1 was not provided by any .service files.	119	

Workaround: Restart "libvirtd" service.

```
[root@oracle-linux7 ~]# systemctl status libvirtd
● libvirtd.service - Virtualization daemon
  Loaded: loaded (/usr/lib/systemd/system/libvirtd.service; enabled; vendor preset: enabled)
  Drop-In: /etc/systemd/system/libvirtd.service.d
           └─unlimited-core.conf
  Active: active (running) since Fri 2020-02-07 14:02:08 CST; 32min ago
  Docs: man:libvirtd(8)
        https://libvirt.org
  Main PID: 2951 (libvirtd)
  Tasks: 17 (limit: 32768)
  CGroup: /system.slice/libvirtd.service
          └─2951 /usr/sbin/libvirtd --listen

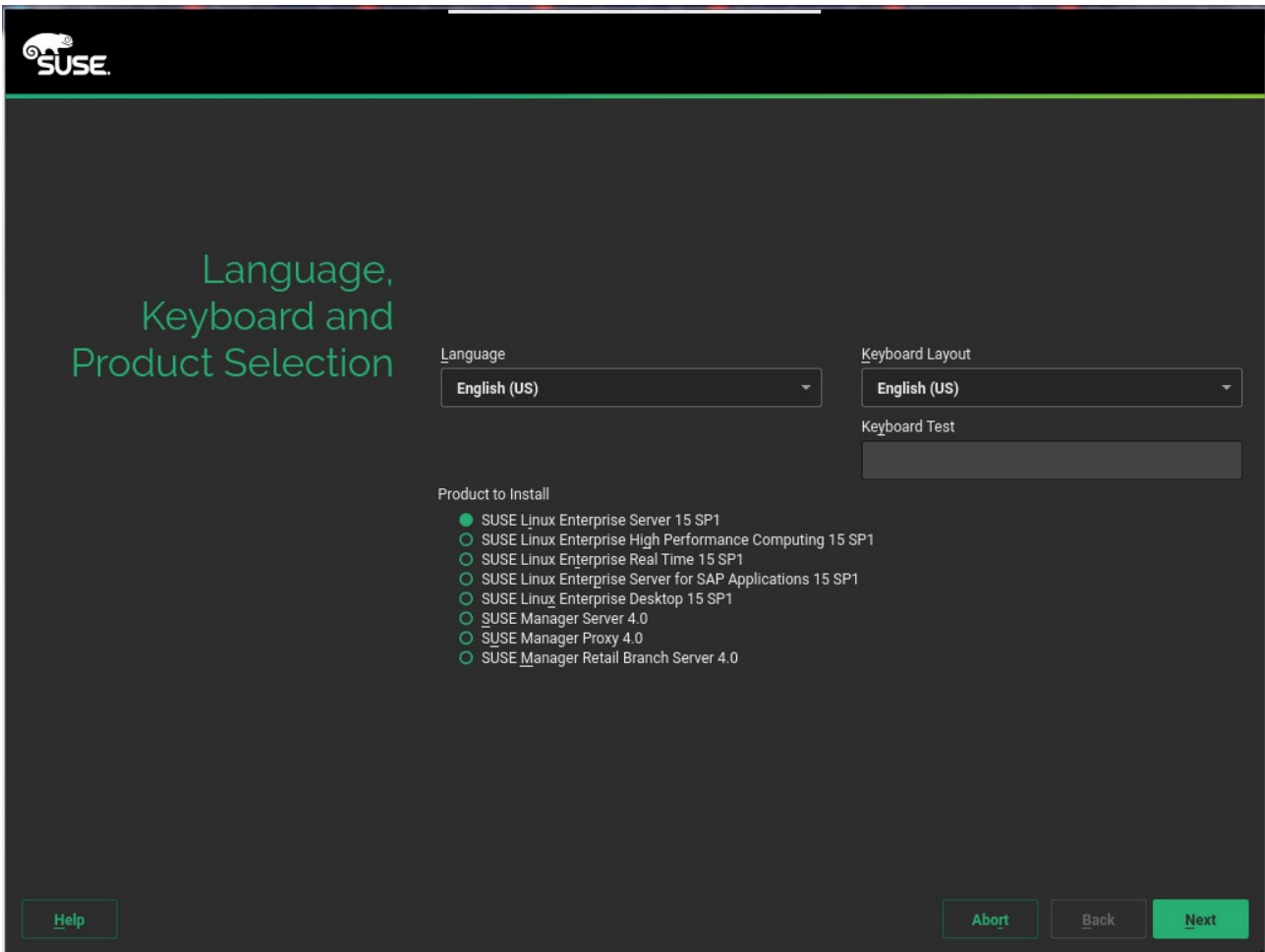
Feb 07 14:01:56 oracle-linux7 systemd[1]: Starting Virtualization daemon...
Feb 07 14:02:08 oracle-linux7 systemd[1]: Started Virtualization daemon.
Feb 07 14:32:07 oracle-linux7 libvirtd[2951]: libvirt version: 5.0.0, package: 16.el7 (Unknown, 2019-10-16-01:59:38, jenkins-10-147-72-125-08df36f4-a784-4f9f-aa95-553f9a793e6a)
Feb 07 14:32:07 oracle-linux7 libvirtd[2951]: hostname: oracle-linux7
Feb 07 14:32:07 oracle-linux7 libvirtd[2951]: The name org.fedoraproject.FirewallD1 was not provided by any .service files
[root@oracle-linux7 ~]# systemctl restart libvirtd
[root@oracle-linux7 ~]# systemctl status libvirtd
● libvirtd.service - Virtualization daemon
  Loaded: loaded (/usr/lib/systemd/system/libvirtd.service; enabled; vendor preset: enabled)
  Drop-In: /etc/systemd/system/libvirtd.service.d
           └─unlimited-core.conf
  Active: active (running) since Fri 2020-02-07 14:34:44 CST; 2s ago
  Docs: man:libvirtd(8)
        https://libvirt.org
  Main PID: 6265 (libvirtd)
  Tasks: 17 (limit: 32768)
  CGroup: /system.slice/libvirtd.service
          └─6265 /usr/sbin/libvirtd --listen

Feb 07 14:34:38 oracle-linux7 systemd[1]: Starting Virtualization daemon...
Feb 07 14:34:44 oracle-linux7 systemd[1]: Started Virtualization daemon.
[root@oracle-linux7 ~]#
```

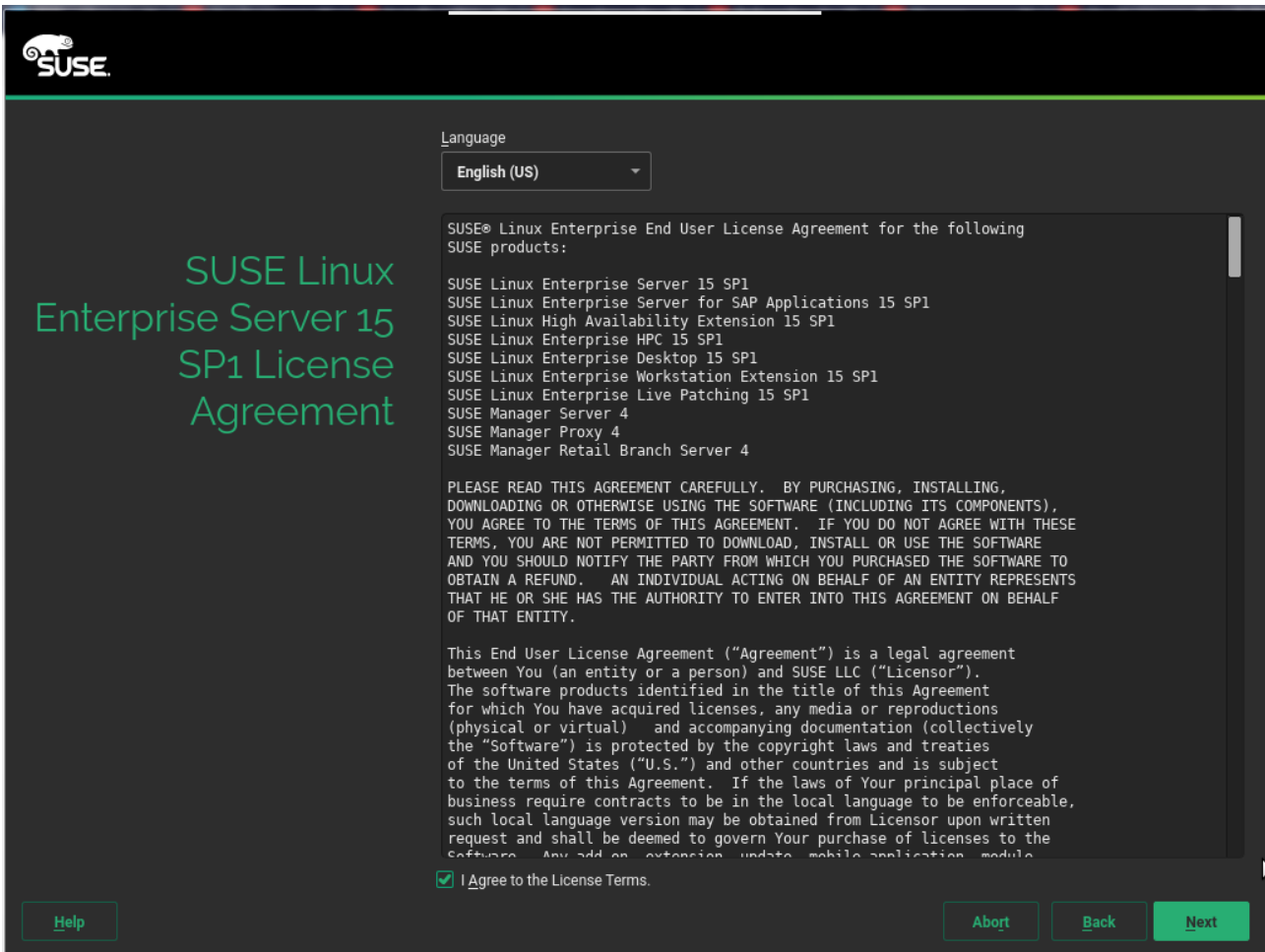
)



2). Installation steps – Language,Keyboard and Product Selection.



3) SUSE Linux Enterprise Server 15 SP1 License Agreement.



4). Registration.

**SUSE**

Network Configuration...

# Registration

**SUSE Linux Enterprise Server 15 SP1**

Please select your preferred method of registration.

Register System via scc.suse.com

E-mail Address

Registration Code

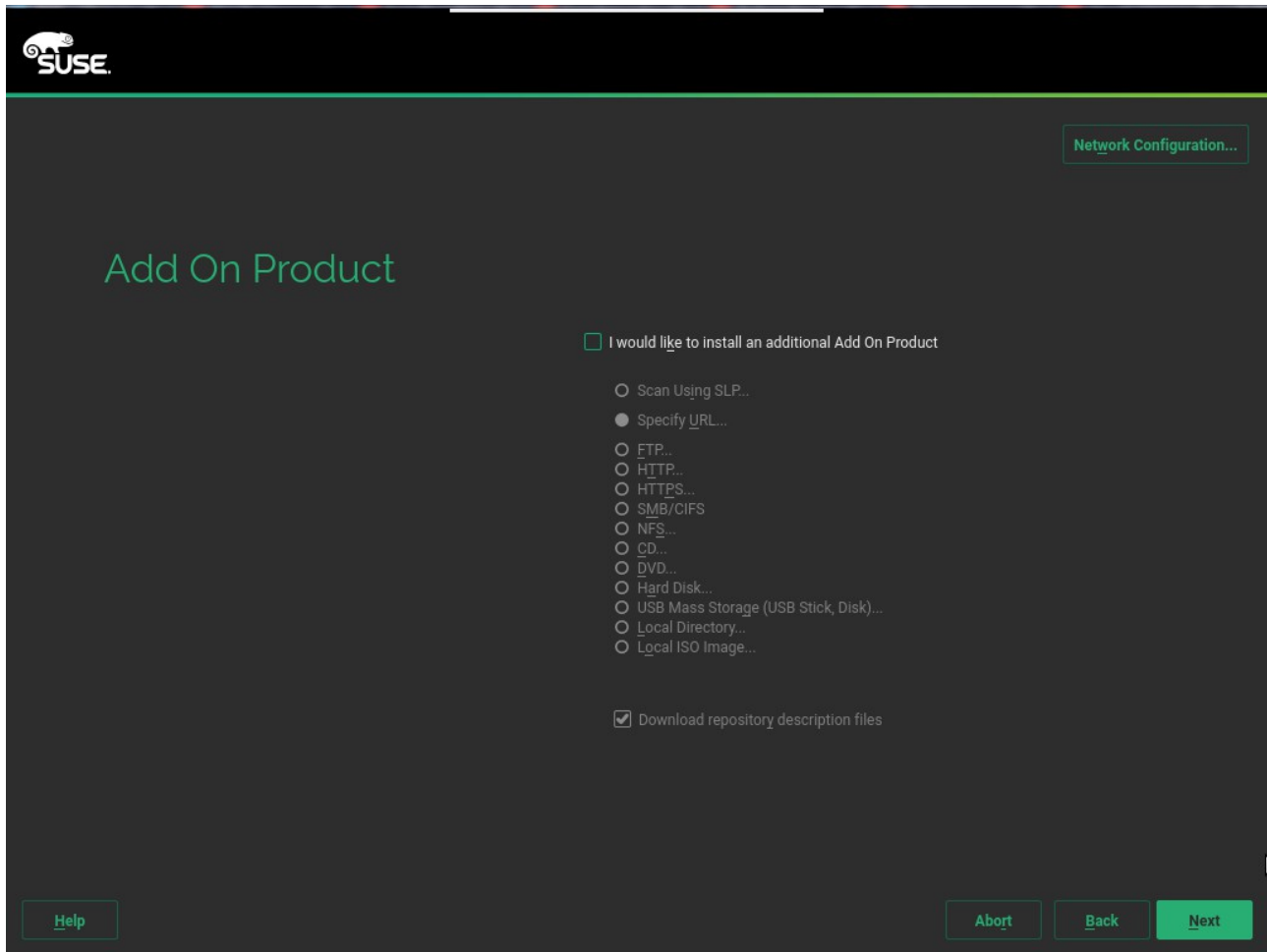
Register System via local SMT Server

Local Registration Server URL

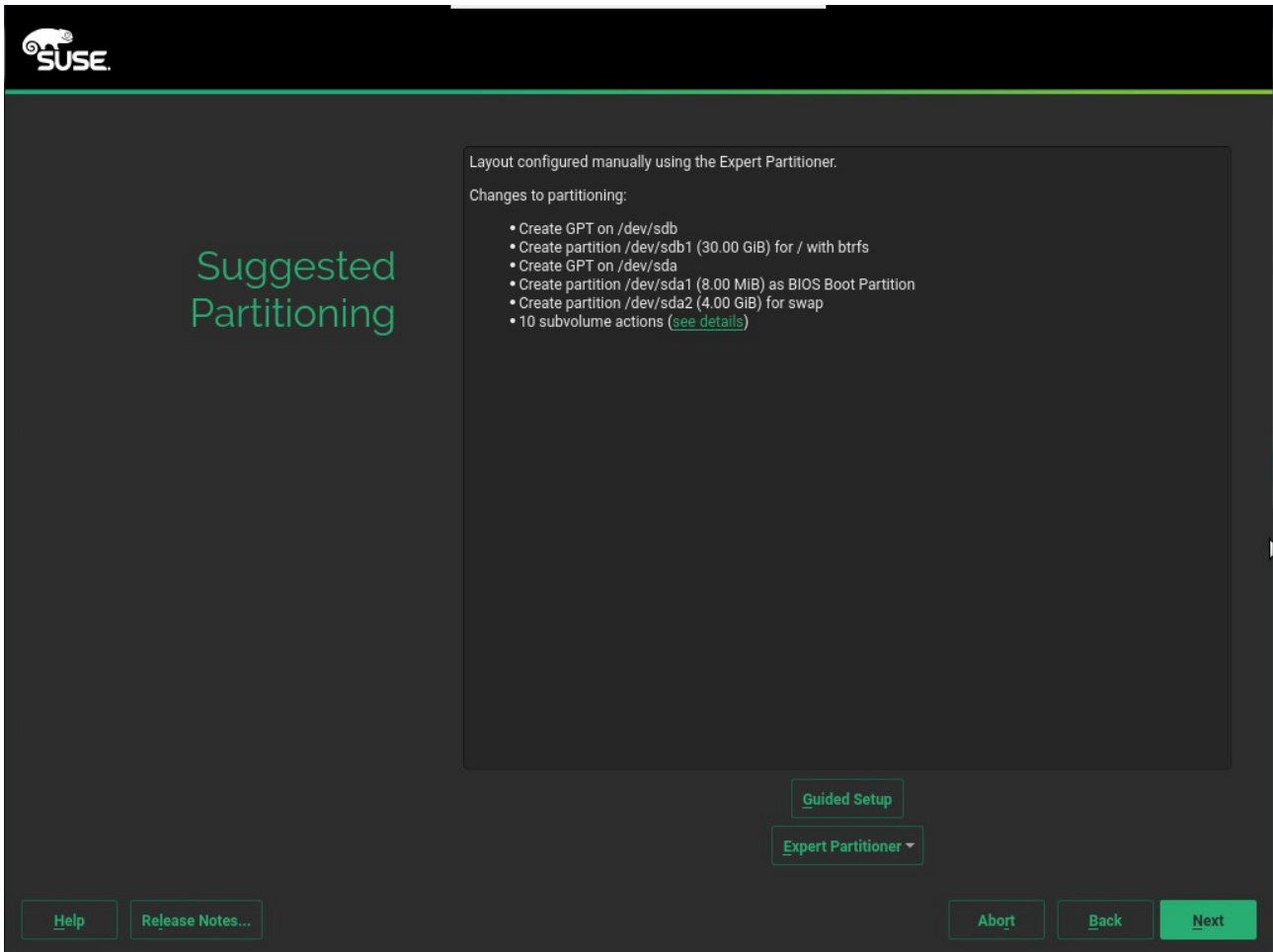
Skip Registration

Help Abort Back Next

5). Add On Product.



6). Suggested Partitioning.



7). Clock and Time Zone.



8). Local User

**SUSE**

## Local User

Create New User

User's Full Name  
novell

Username  
novell

Password  
●●●●●●

Confirm Password  
●●●●●●

Use this password for system administrator  
 Automatic Login

Skip User Creation

[Help](#) [Release Notes...](#) [Abort](#) [Back](#) [Next](#)

9). Installation Settings.

**SUSE**

# Installation Settings

Click a headline to make changes.

### Software

- Product: SUSE Linux Enterprise Server 15 SP1
- Patterns:
  - Minimal Base System
- Size of Packages to Install: 1.1 GiB

### Booting

- Boot Loader Type: GRUB2
- Enable Trusted Boot: no
- Status Location: /dev/sdb1 (/boot)
- Change Location:
  - Do not install bootcode into MBR ([install](#))
  - Install boot code into a partition with /boot ([do not install](#))
- Order of Hard Disks: /dev/sdb, /dev/sda

### Security

- CPU Mitigations: [Auto](#)
- Firewall will be disabled ([enable](#))
- SSH service will be enabled ([disable](#))

### Network Configuration

- Configured with DHCP: eth0
- Hostname: Set by DHCP

### Kdump

- Kdump status: enabled
- Value(s) of crashkernel option: 165M,high 72M,low
- Dump format: lzo
- Target of dumps: /var/crash
- Number of dumps: 5

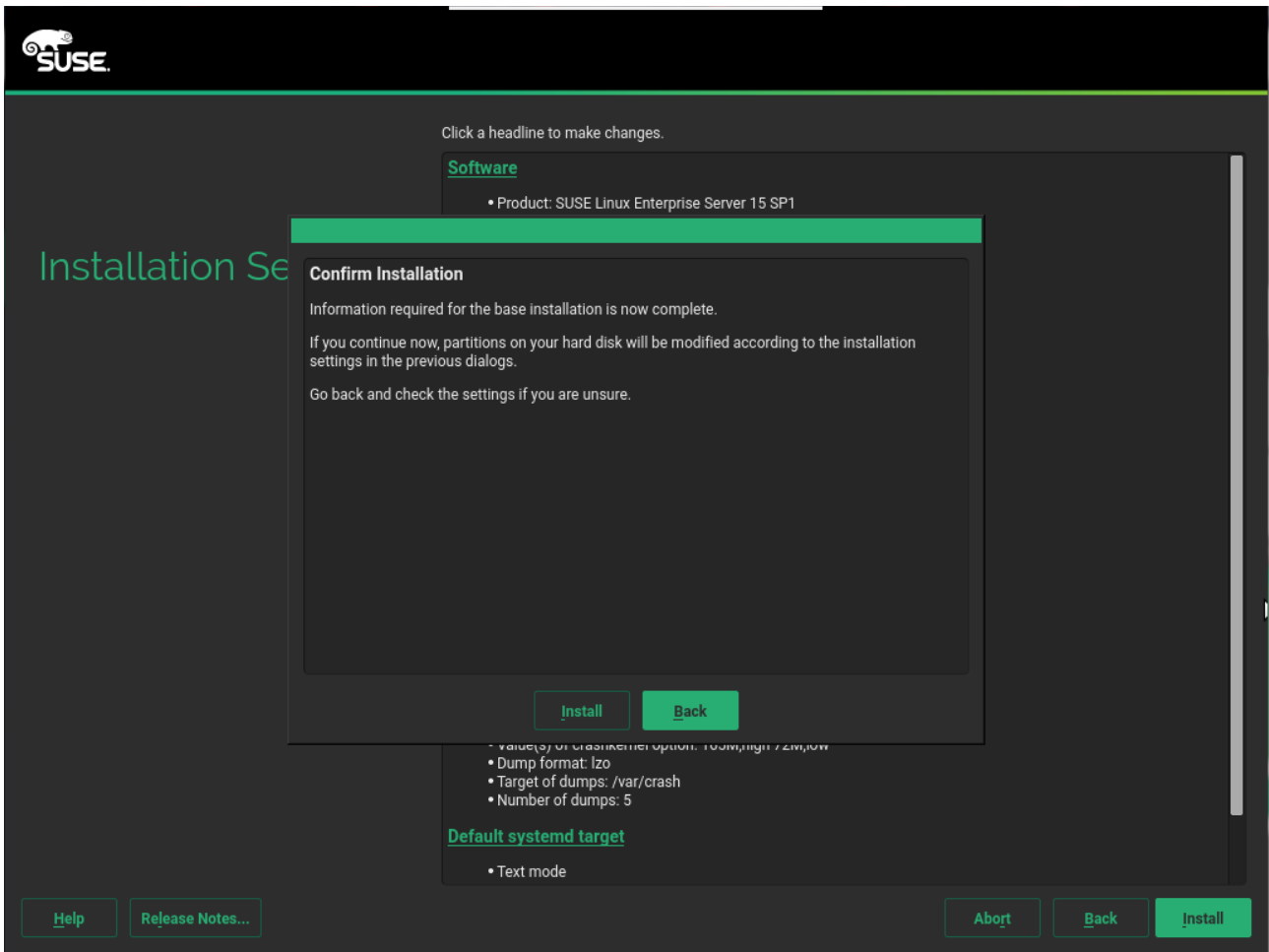
### Default systemd target

- Text mode

[Help](#) [Release Notes...](#) [Abort](#) [Back](#) [Install](#)



10). Confirm Installation.



11). Performing Installation.

**SUSE**

**Performing Installation**

**Details** | **SLES15-SP1 Release Notes**

Media	Remaining	Packages	Time
<b>Total</b>	<b>1,110 GiB</b>	<b>292</b>	
SLES15-SP1-15.1-0			
Medium 1	1,110 GiB	292	

**Actions performed:**

- Installing boost-license1\_66\_0-1.66.0-3.10.noarch.rpm (installed size 1.3 KiB)
- Installing branding-SLE-15-12.48.noarch.rpm (installed size 1.6 KiB)
- Installing btrfsprogs-udev-rules-4.19.1-6.8.noarch.rpm (installed size 387 B)
- Installing busybox-static-1.26.2-2.20.x86\_64.rpm (installed size 2.04 MiB)
- Installing cracklib-dict-full-2.8.12-1.22.x86\_64.rpm (installed size 10.46 MiB)
- Installing file-magic-5.32-7.5.1.noarch.rpm (installed size 5.64 MiB)
- Installing kbd-legacy-2.0.4-8.3.1.noarch.rpm (installed size 517 KiB)
- Installing libnl-config-3.3.0-1.29.noarch.rpm (installed size 2.6 KiB)
- Installing libtirpc-netconfig-1.0.2-3.8.1.x86\_64.rpm (installed size 2.2 KiB)
- Installing publicsuffix-20180312-1.15.noarch.rpm (installed size 259.5 KiB)

Installing publicsuffix-20180312-1.15.noarch.rpm (installed size 259.5 KiB)

100%

Installing Packages... (Remaining: 1,110 GiB, 292 packages)

21%

[Help](#) [Abort](#) [Back](#) [Next](#)

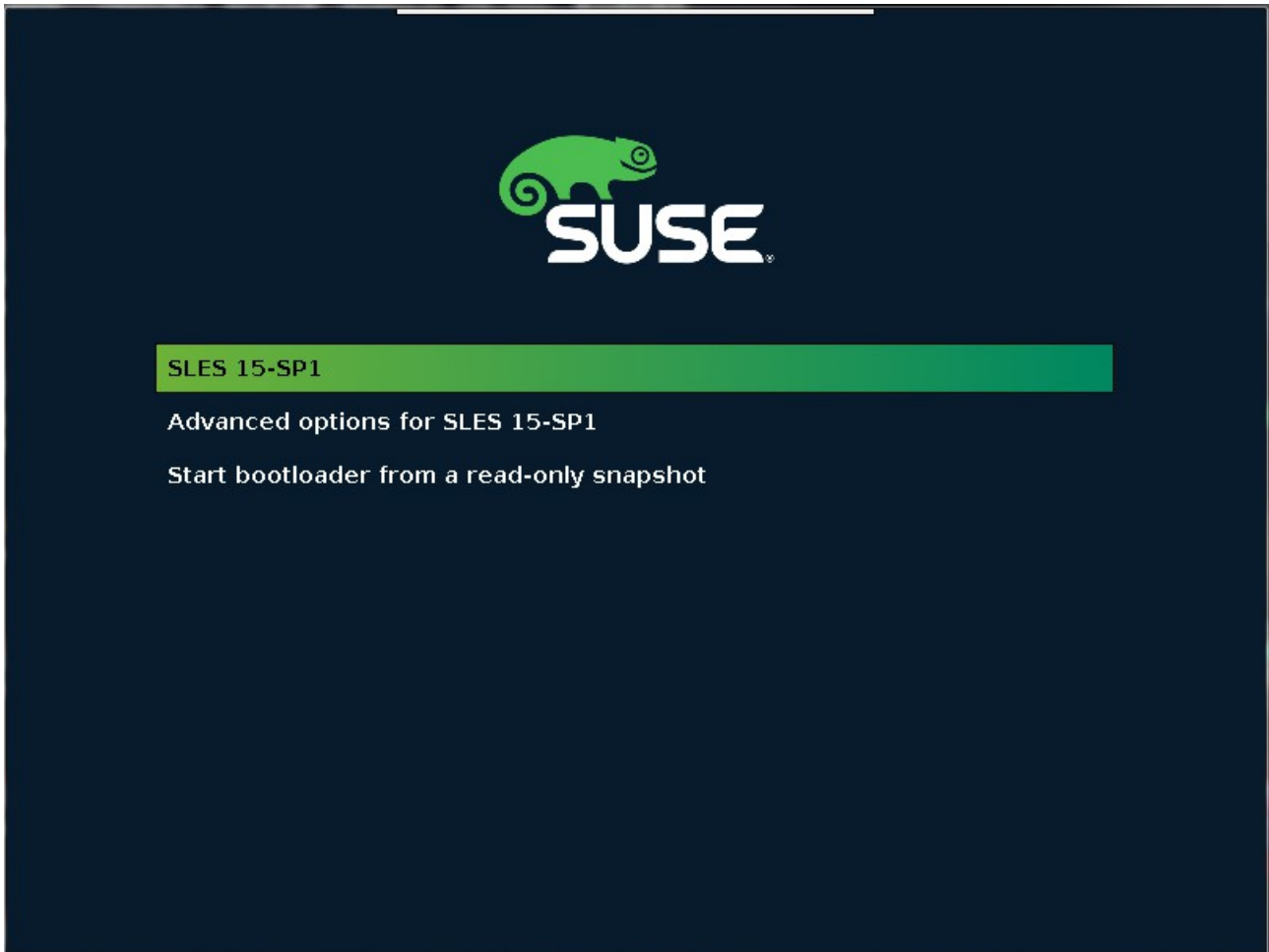
Wait for the installation to finish.

12). After finish installing the SUSE Linux Enterprise Server 15 SP1 guest OS, return to the **Virtual Machines** pane, highlight the row for this virtual machine, and click **Edit**. The **Edit Virtual Machines** dialog box opens. Click the **Boot Options** tab on the sidebar of the dialog box to specify the boot sequence for the virtual device and then change **CD-ROM** to **Hard Disk** from the **First Device** drop-down list. The **Attach CD** check box is also selected, chosen **SLE-15-SP1-Packages-x86\_64-GM-DVD1.iso** from the drop-down list.

Edit Virtual Machine
✕

<b>General</b>	Cluster	SuSE_Test-Local <span style="float: right;">▼</span>
<b>System</b>		<i>Data Center: SuSE_Test-Local</i>
<b>Initial Run</b>	Template	Blank   (0) <span style="float: right;">▼</span>
<b>Console</b>	Operating System	SUSE Linux Enterprise Server 11+ <span style="float: right;">▼</span>
<b>Host</b>	Instance Type <span style="margin-left: 10px;">↔</span>	Custom <span style="float: right;">▼</span>
<b>High Availability</b>	Optimized for	Server <span style="float: right;">▼</span>
<b>Resource Allocation</b>	<b>Boot Sequence:</b>	
<b>Boot Options</b> <span style="float: right;">&gt;</span>	First Device	Hard Disk <span style="float: right;">▼</span>
<b>Random Generator</b>	Second Device	CD-ROM <span style="float: right;">▼</span>
<b>Custom Properties</b>	<input checked="" type="checkbox"/> Attach CD	SLE-15-SP1-Packages-x86_64-GM-DVI <span style="float: right;">▼</span> <span style="float: right; color: #00aaff;">↻</span>
<b>Icon</b>	<input checked="" type="checkbox"/> Enable menu to select boot device	
<b>Foreman/Satellite</b>	<b>Linux Boot Options:</b>	
<b>Affinity Labels</b>	kernel path	<input style="width: 100%;" type="text"/>
	initrd path	<input style="width: 100%;" type="text"/>
	kernel parameters	<input style="width: 100%;" type="text"/>

13). Run the virtual machine and start SLES15 SP1 guest OS.



14). After logging into the system, install the required packages.

```

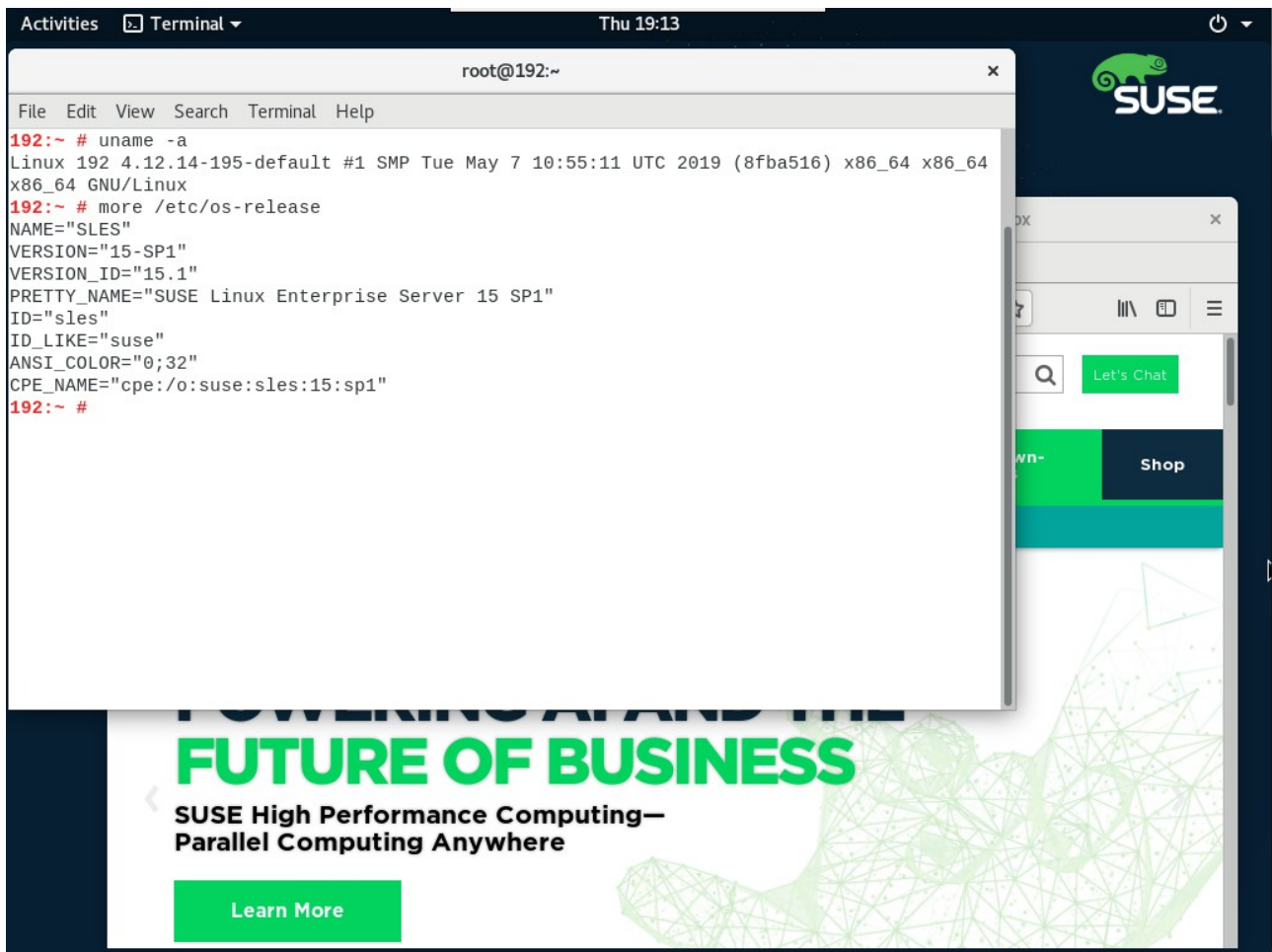
Welcome to SUSE Linux Enterprise Server 15 SP1 (x86_64) - Kernel 4.12.14-195-default (tty1).
eth0: 192.168.1.7 2408:8207:c53:3f40:2451:d366:45f9:bd84

192 login: root
Password:
Last login: Thu Feb  6 18:03:27 on tty1
192:~ # _
    
```

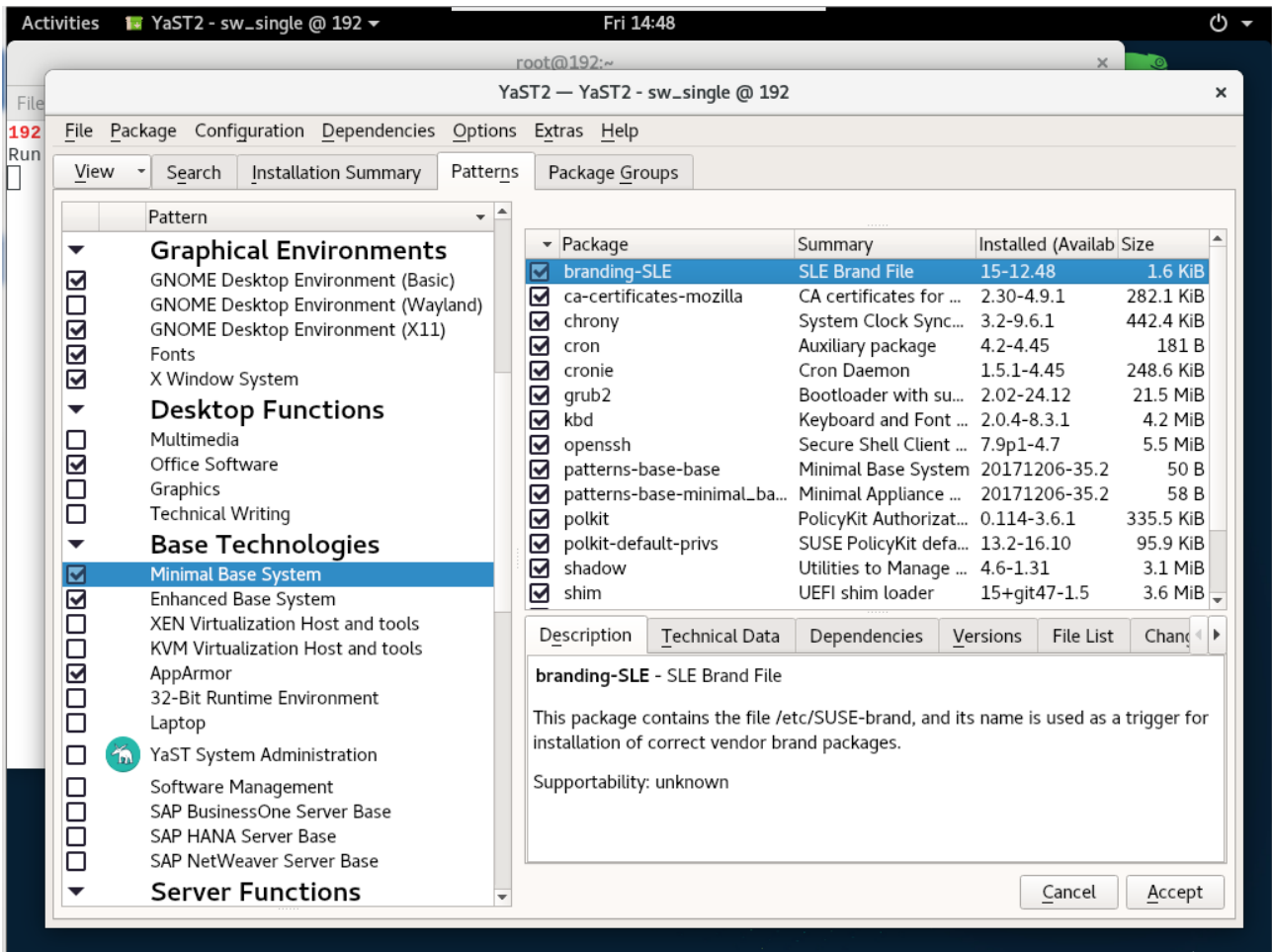
```

Loading repository data...
Reading installed packages...
S | Name | Summary | Type
-----|-----|-----|-----
| 32bit | 32-Bit Runtime Environment | pattern
| Amazon_Web_Services | Amazon Web Services - All | pattern
| Amazon_Web_Services_Instance_Init | Amazon Web Services - Instance Initialization | pattern
| Amazon_Web_Services_Instance_Tools | Amazon Web Services - Instance Tools | pattern
| Amazon_Web_Services_Tools | Amazon Web Services - Tools | pattern
| Google_Cloud_Platform | Google Cloud Platform - All | pattern
| Google_Cloud_Platform_Instance_Init | Google Cloud Platform - Instance Initialization | pattern
| Google_Cloud_Platform_Instance_Tools | Google Cloud Platform - Instance Tools | pattern
| Google_Cloud_Platform_Tools | Google Cloud Platform - Tools | pattern
| Microsoft_Azure | Microsoft Azure - All | pattern
| Microsoft_Azure_Instance_Init | Microsoft Azure - Instance Initialization | pattern
| Microsoft_Azure_Instance_Tools | Microsoft Azure - Instance Tools | pattern
| Microsoft_Azure_Tools | Microsoft Azure - Tools | pattern
| OpenStack | OpenStack - All | pattern
| OpenStack_Instance_Init | OpenStack - Instance Initialization | pattern
| OpenStack_Instance_Tools | OpenStack - Instance Tools | pattern
| OpenStack_Tools | OpenStack - Tools | pattern
i | apparmor | AppArmor | pattern
i+ | base | Minimal Base System | pattern
| books | Documentation | pattern
| devel_basis | Base Development | pattern
| devel_kernel | Linux Kernel Development | pattern
| devel_yast | YaST Development | pattern
| dhcp_dns_server | DHCP and DNS Server | pattern
| directory_server | Directory Server (LDAP) | pattern
| documentation | Help and Support Documentation | pattern
i | enhanced_base | Enhanced Base System | pattern
| file_server | File Server | pattern
| fips | FIPS 140-2 specific packages | pattern
i | fonts | Fonts | pattern
| gateway_server | Internet Gateway | pattern
| gnome | GNOME Desktop Environment (Wayland) | pattern
i+ | gnome_basic | GNOME Desktop Environment (Basic) | pattern
i+ | gnome_x11 | GNOME Desktop Environment (X11) | pattern
| ha_geo | GEO Clustering for High Availability | pattern
| ha_sles | High Availability | pattern
| hpc_compute_node | HPC Basic Compute Node | pattern
| hpc_development_node | HPC Development Packages | pattern
| hpc_libraries | HPC modularized Libraries | pattern
| hpc_workload_server | HPC Workload Manager | pattern
| imaging | Graphics | pattern
| kvm_server | KVM Host Server | pattern
--More--
    
```

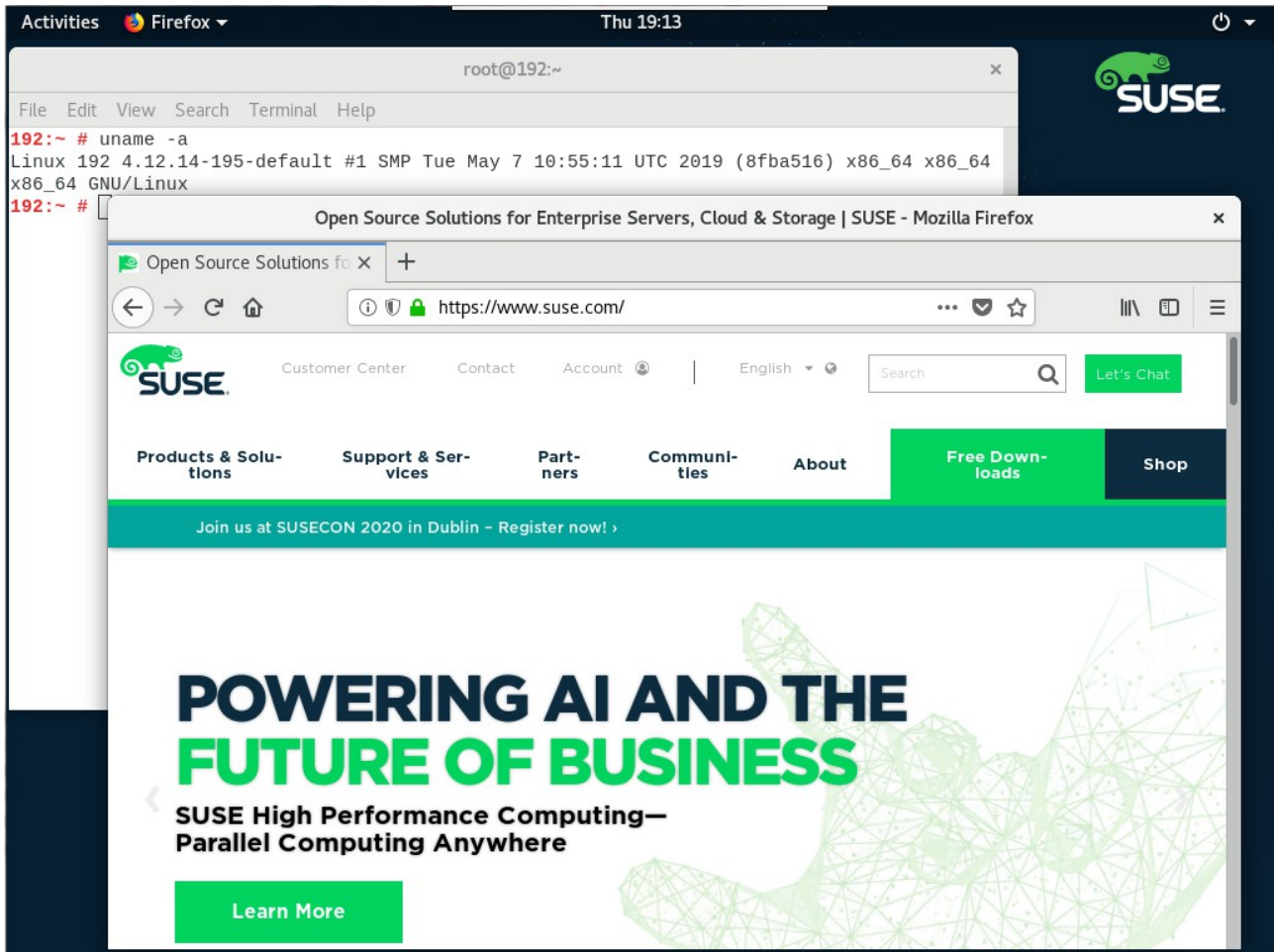
15). Start the GUI, then check the OS release information and kernel version.



16). In Yast2, the Software Installed as shown below.



17). Open a browser and visit an external website.



*Thank you !  
SUSE ISV Engineering Team  
Feb 7th, 2020  
<https://www.suse.com>*