

Virtual Machine Setup with Oracle VirtualBox (Ubuntu & OpenSUSE)

Objective:

This task involves setting up a virtual environment using Oracle VirtualBox as the hypervisor. You will create two virtual machines:

1. Ubuntu 20.04 server with a minimal installation.
2. OpenSUSE 15 Leap with a minimal installation.

After creating the virtual machines, you will assign hostnames:

- ubuntu.example.com for the Ubuntu VM.
- opensuse.example.com for the OpenSUSE VM.

Constraints:

- Only use Oracle VirtualBox as a hypervisor.
- Download the minimal installation ISOs for Ubuntu 20.04 server and OpenSUSE 15 Leap.
- Ensure adequate system resources (RAM and storage) are allocated to each virtual machine for smooth operation.

Solution :-

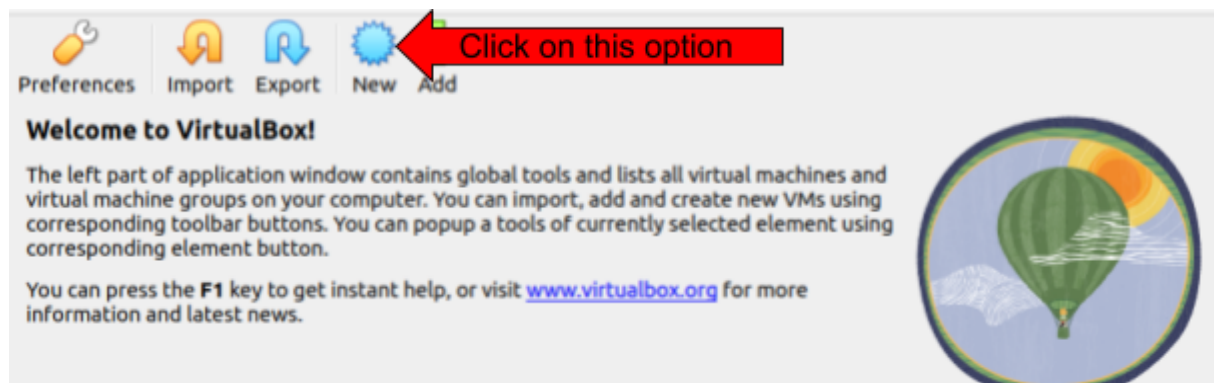
1] Ubuntu 20.04 server with a minimal installation :

Step 1:- ISO Image download via link.

- Copy the link given and paste it on any web browser address bar so that the ISO image of ubuntu 20.04 can automatically start downloading.

Link: [Ubuntu 20.04](#)

- After your ISO image gets downloaded, Open the Oracle VM VirtualBox Application and Click on option mark in the below option..



Step 2:- Virtual Machine Name and Operating System

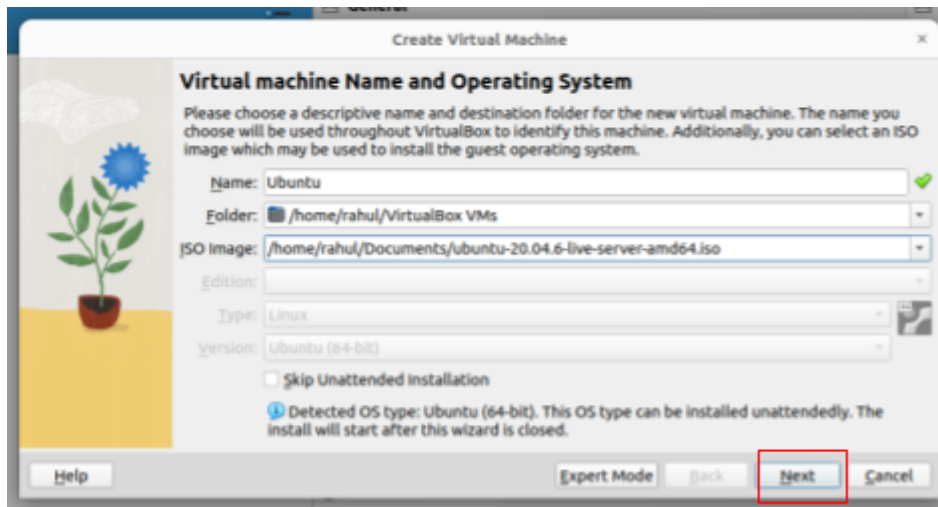
1] Name your VM: Choose a descriptive name for your virtual machine in the "Name" section.

2] Set the folder location:

Windows: Look for the Oracle VM VirtualBox folder in "C:".

Linux: Find the folder in "/home/<username>/" (replace <username> with your actual username). This is where VirtualBox is typically installed on Linux.

3] Select the ISO image: Click the "ISO Image" option and browse to the location where you downloaded the operating system installation file (ISO image).



- After Completing this process, Click Next as marked in the above image to continue.

Step 3:-Unattended Guest OS Install Setup

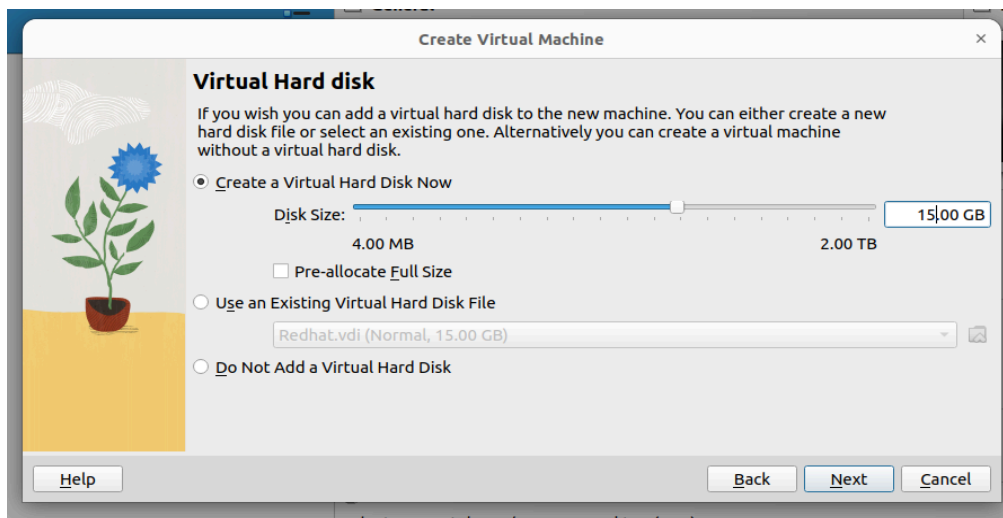
- After that you will see the interface of Unattended Guest OS Install Setup Without changing any default settings, Click on Next Option at bottom.

Step 4:- Hardware

- **Recommended:** [Minimum]
Base Memory - 1.5 to 2 GB
Processor - 1
- Click on **Next**.

Step 5:- Virtual Hard Disk

- **Recommended:** 15 to 20 GB



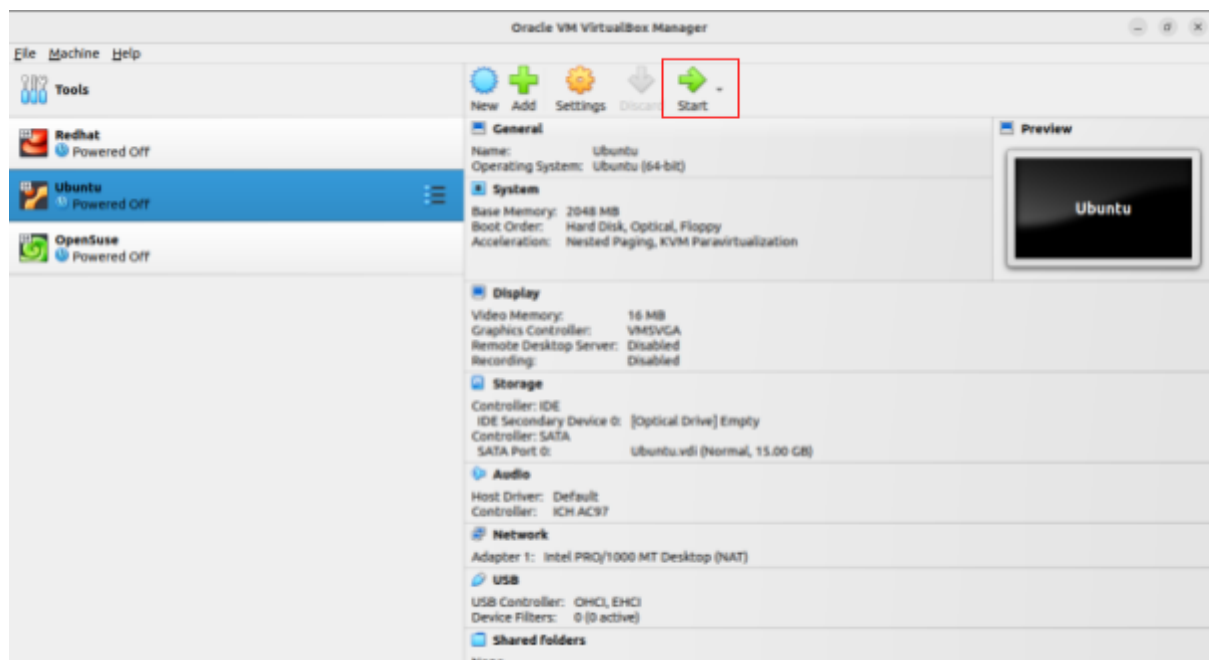
- Click **Next** , after selecting size.

Step 6:- Summary

- Click **Finish**, after verifying all details in Summary.

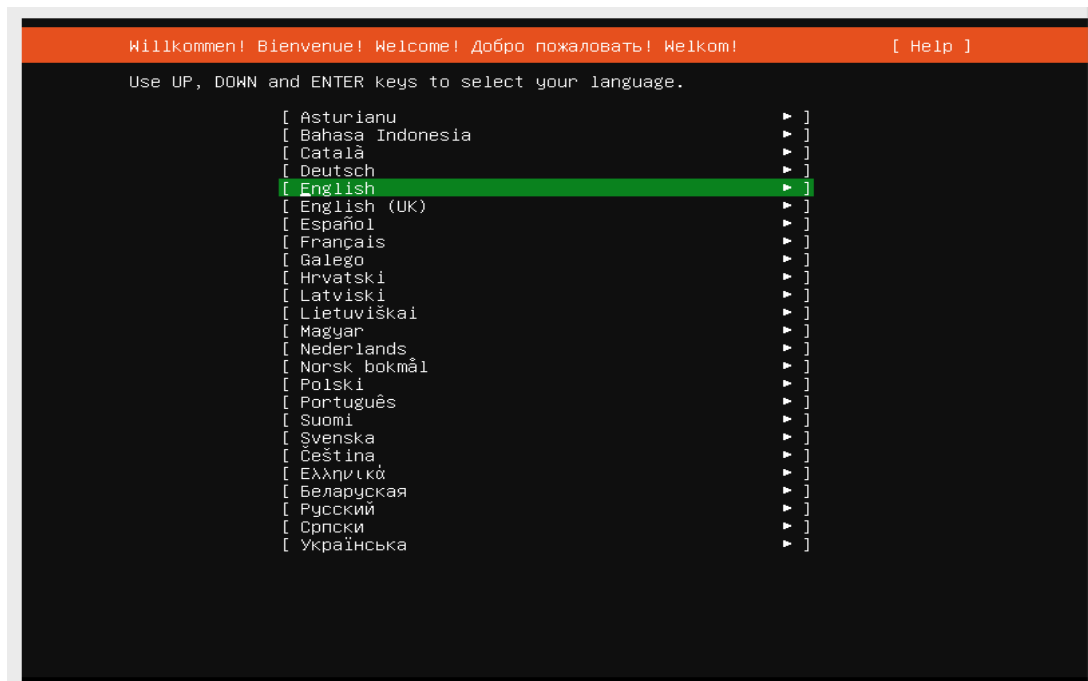
Step 7:-

- Select Ubuntu and Click on Start Option.



Step 8:- Select your language.

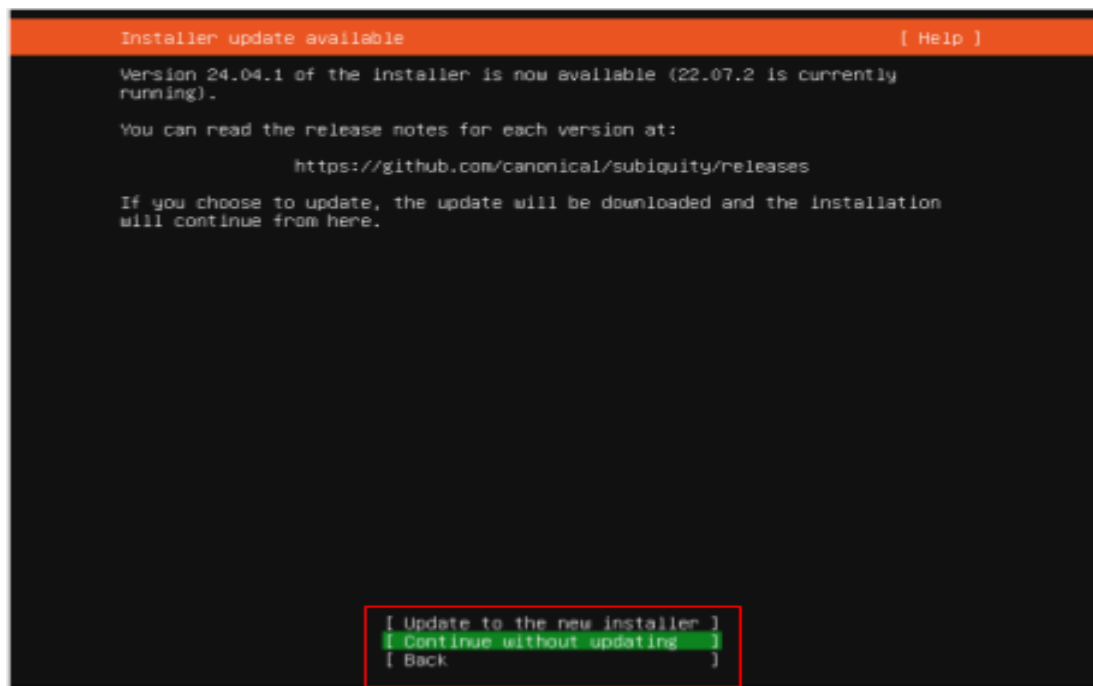
- Select **English** or as your preferable.



- Press **Enter** to Select Your Language.

Step 9:- Installer update available

- Select the option “**Continue without updating**”.
- Use Tab on the keyboard to switch the option.



- Press **Enter** to Select the option.

Step 10:-

- Don't change the default setting and Select "**done**" Option in the following interfaces.
- **Network connection.**
- **Configure Ubuntu archive mirror**
- **Guided storage configuration.**
- **Storage configuration.**
- After selecting the option in the Storage configuration. There will be one alert dialogue box of "**Confirm destructive action**".
- Select the "**continue**" option in that dialogue box.

Step 11:- Profile Setup

- Enter your details and password.
- Select **Done**.

Profile setup [Help]

Enter the username and password you will use to log in to the system. You can configure SSH access on the next screen but a password is still needed for sudo.

Your name: Rahul Sachin Sharma

Your server's name: rahulserver
The name it uses when it talks to other computers.

Pick a username: rahul

Choose a password: *****

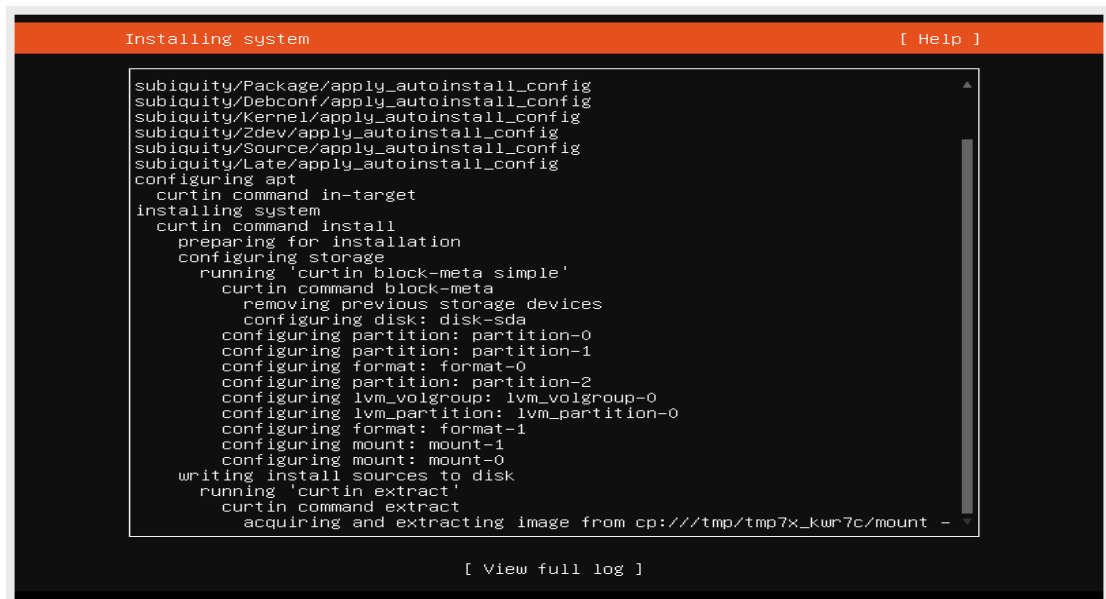
Confirm your password: *****

[Done]

Step 12:-

- Don't change the default setting and Press **done**. In the following interface.
- **SSH Setup.**
- **Featured Server Snaps.**

Step 13:- Installing system



The screenshot shows a terminal window titled "Installing system" with a "[Help]" button in the top right corner. The terminal displays the following output:

```
subiquity/Package/apply_autoinstall_config
subiquity/Debconf/apply_autoinstall_config
subiquity/Kernel/apply_autoinstall_config
subiquity/Zdev/apply_autoinstall_config
subiquity/Source/apply_autoinstall_config
subiquity/Late/apply_autoinstall_config
configuring apt
  curtin command in-target
installing system
  curtin command install
    preparing for installation
      configuring storage
        running 'curtin block-meta simple'
          curtin command block-meta
            removing previous storage devices
            configuring disk: disk-sda
            configuring partition: partition-0
            configuring partition: partition-1
            configuring format: format-0
            configuring partition: partition-2
            configuring lvm_volgroup: lvm_volgroup-0
            configuring lvm_partition: lvm_partition-0
            configuring format: format-1
            configuring mount: mount-1
            configuring mount: mount-0
        writing install sources to disk
        running 'curtin extract'
          curtin command extract
            acquiring and extracting image from cp:///tmp/tmp7x_kwr7c/mount -
```

[View full log]

- Select **Reboot now**, After the Installation is Completed.

Step 14:- Login with servername and password.

Step 15:- Change the Hostname.

- Use Command "**hostnamectl set-hostname ubuntu.example.com**"
- Enter password for authentication.

```
rahul@ubuntuserver:~$ hostnamectl set-hostname ubuntu.example.com
==== AUTHENTICATING FOR org.freedesktop.hostname1.set-static-hostname ====
Authentication is required to set the statically configured local host name, as well as the pretty host name.
Authenticating as: Rahul (rahul)
Password:
==== AUTHENTICATION COMPLETE ====
rahul@ubuntuserver:~$ hostname
ubuntu.example.com
rahul@ubuntuserver:~$ _
```

2] OpenSUSE 15 Leap with a minimal installation:

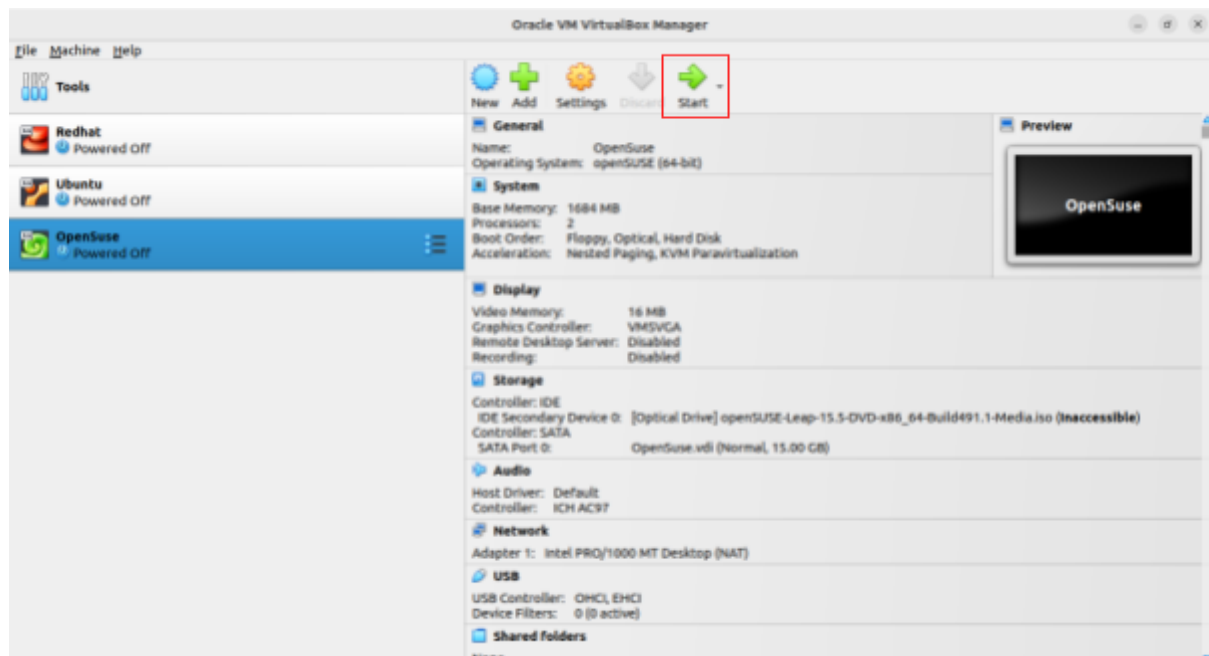
Step 1:- Download ISO image via link

- Copy the link given and paste it on any web browser address bar so that the ISO image of opensuse 15 leap can automatically start downloading.
- Link: [OpenSuse 15 Leap](#)

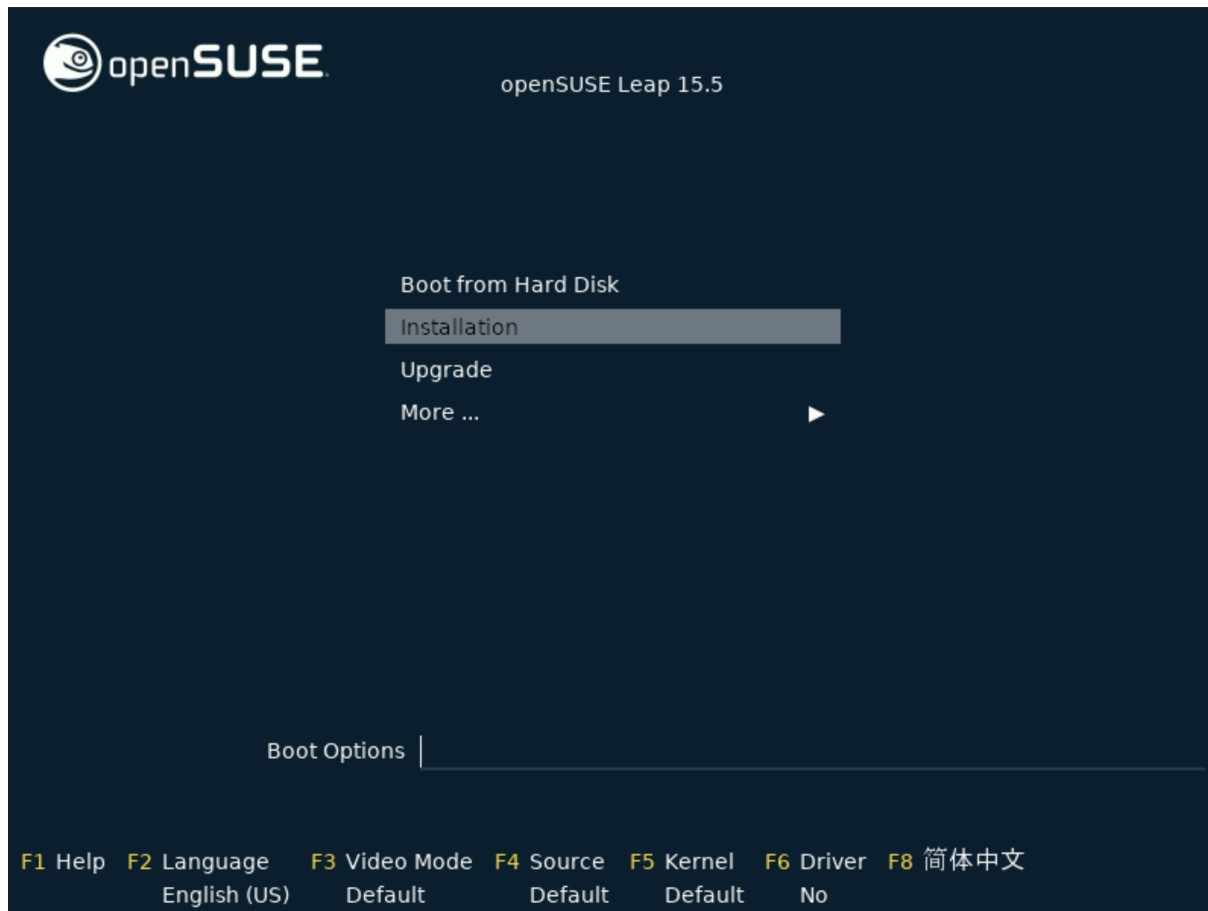
Step 2:- Repeat the steps of ubuntu installation up to step 6.

- As we have followed the process in the ubuntu installation from Step 2 to Step 6. Follow the same process.
- NOTE:- In step 2 of ubuntu installation, select the iso image of opensuse for installing opensuse vm.

Step 3:- Start the Virtual Machine.



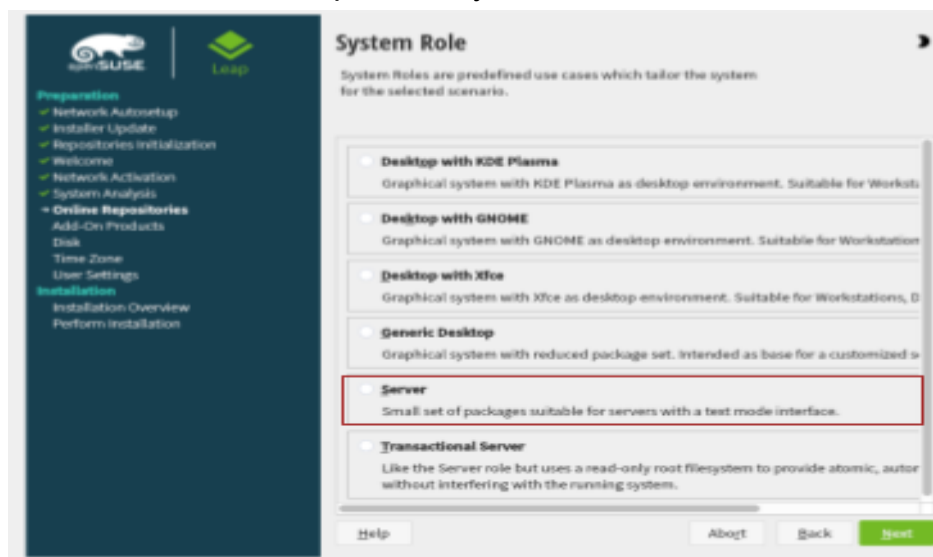
Step 4:- Installation of Opensuse VM.



- Select **Installation**.

Step 5:- System Role.

- Select **Next** Option Until System Role.
- Select **Server** option in System Role. Click on **Next**.

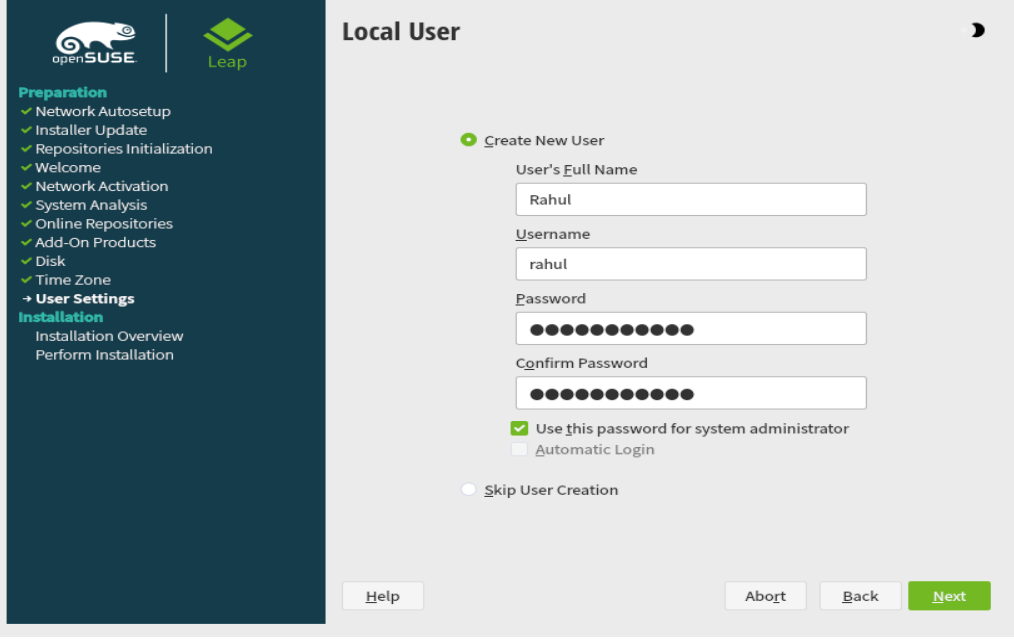


Step 6:- Clock and Time Zone

- Select **Next** on Suggested Partitioning.
- Select Region **Asia** and Time Zone **Kolkata**. Click on **Next**.

Step 7:- Local User

- Enter the User Detail and Password.



The screenshot shows the 'Local User' window in the openSUSE Leap installer. On the left is a sidebar with a progress list: Preparation (Network Autsetup, Installer Update, Repositories Initialization, Welcome, Network Activation, System Analysis, Online Repositories, Add-On Products, Disk, Time Zone), User Settings (highlighted), and Installation (Installation Overview, Perform Installation). The main area is titled 'Local User' and contains a 'Create New User' section. It has input fields for 'User's Full Name' (filled with 'Rahul'), 'Username' (filled with 'rahul'), 'Password' (masked with dots), and 'Confirm Password' (masked with dots). Below these are checkboxes for 'Use this password for system administrator' (checked) and 'Automatic Login' (unchecked). A 'Skip User Creation' radio button is at the bottom. At the bottom right are 'Help', 'Abort', 'Back', and 'Next' buttons.

- Click on **Next**.

Step 8:- Installation Setting

- Verify the details. Click on **Install** to start the Installation.

Step 9:- Login with username and password.

```
[ 9.0559481] T2911 [drm:vmw_host_printf [vmwgfx]] *ERROR* Failed to send host log message.

Welcome to openSUSE Leap 15.5 - Kernel 5.14.21-150500.53-default (tty1).

eth0: 10.0.2.15 fe80::a00:27ff:fe8b:2b41

localhost login: rahul
Password:
```

Step 9:- Set the Hostname.

- Enter these command in the shell,
"hostnamectl set-hostname opensuse.example.com"
- Give Password Authentication.
- Alternatively you can also used
"sudo hostnamectl set-hostname opensuse.example.com" to avoid authentication.

```
[  9.055948][ T291] [drm:vmw_host_printf [vmwgfx]] *ERROR* Failed to send host log message.

Welcome to openSUSE Leap 15.5 - Kernel 5.14.21-150500.53-default (tty1).

eth0: 10.0.2.15 fe80::a00:27ff:fe8b:2b41

localhost login: rahul
Password:
No mail.
Last login: Fri Jun  7 19:16:40 on tty1
Have a lot of fun...
rahul@localhost:~> hostnamectl set-hostname opensuse.example.com
==== AUTHENTICATING FOR org.freedesktop.hostname1.set-static-hostname ====
Authentication is required to set the statically configured local hostname, as well as the pretty hostname.
Authenticating as: root
Password:
==== AUTHENTICATION COMPLETE ====
==== AUTHENTICATING FOR org.freedesktop.hostname1.set-hostname ====
Authentication is required to set the local hostname.
Authenticating as: root
Password:
==== AUTHENTICATION COMPLETE ====
rahul@localhost:~> hostname
opensuse.example.com
rahul@localhost:~> _
```

**Congratulation You Have Completed Installation of
Ubuntu and OpenSuse Virtual Machine.
Now You Are Good To Go!.....**

