System Installation Guide

Yeastar K2 IPPBX

Version: 2.3

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Contents

System Installation Guide

About this guide

This guide describes how to install Yeastar K2 IPPBX system in your own physical machine or virtual machine. In this guide, we also provide procedures of K2 system activation and expansion.

Audience

This guide is for the person who only buys Yeastar K2 IPPBX software, and wants to install the K2 IPPBX system in his/her own machine.

Hardware and System Requirements

This topic provides the hardware system requirements, the tested and supported Virtual Machine (VM) Platforms for installing Yeastar K2 IPPBX system.

Hardware Requirements

System performance depends on the following key factors:

- How many concurrent calls will the system handle
- Which codecs are used to make calls
- If call recording is used.

Based on the factors, your system hardware should meet the minimal requirements:

Table 1.

Hardware	200 Concurrent Calls	500 Concurrent Calls
Recommended Server	Dell EMC PowerEdge R240	
CPU	Intel(R) Xeon(R) CPU E-2124 • Cores: 4 • Threads: 4 • CPU Frequency: 3.4GHz	Intel(R) Xeon(R) CPU E-2144G • Cores: 4 • Threads: 8 • CPU Frequency: 3.6GHz
RAM	8 GB	8 GB
Hard Disk (Call Recording Disabled)	50 GB	50 GB
Hard Disk (Call Recording Enabled)	1 TB	1 TB

Supported Virtual machine (VM) Platforms

The tested and supported VM platforms:

- VMware 12.0 or later
- Hyper-v-6.3.9600.16384 or later
- KVM 2.5.0 or later
- ESXi 6.0 or later

Install K2 System on a Virtual Machine

Install Yeastar K2 System on VMware Workstation

This topic describes how to install Yeastar K2 IPPBX system on virtual machine.

Before You Begin

Make sure that your device meets the hardware requirements.

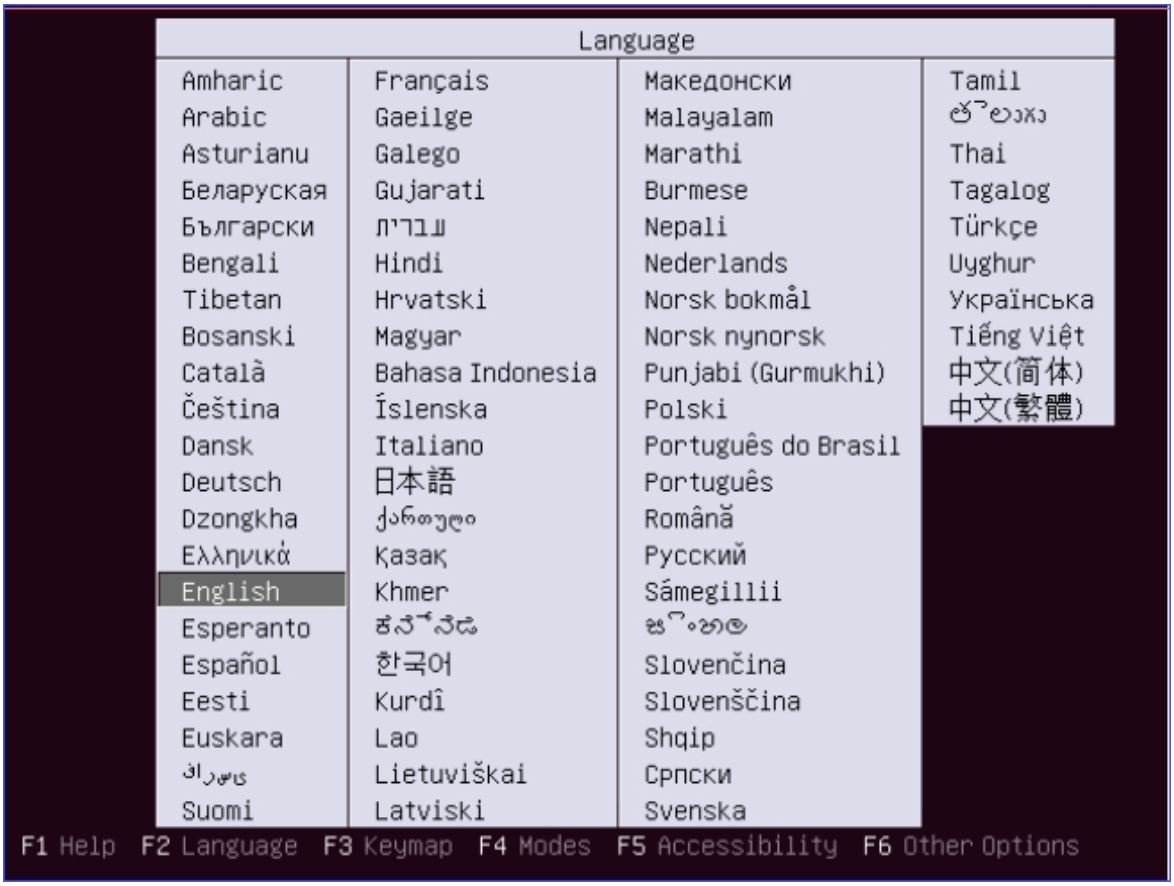
Procedure

After you import the K2 image file (iso format) to VMware Workstation, follow the instructions below to install Yeastar K2 system.

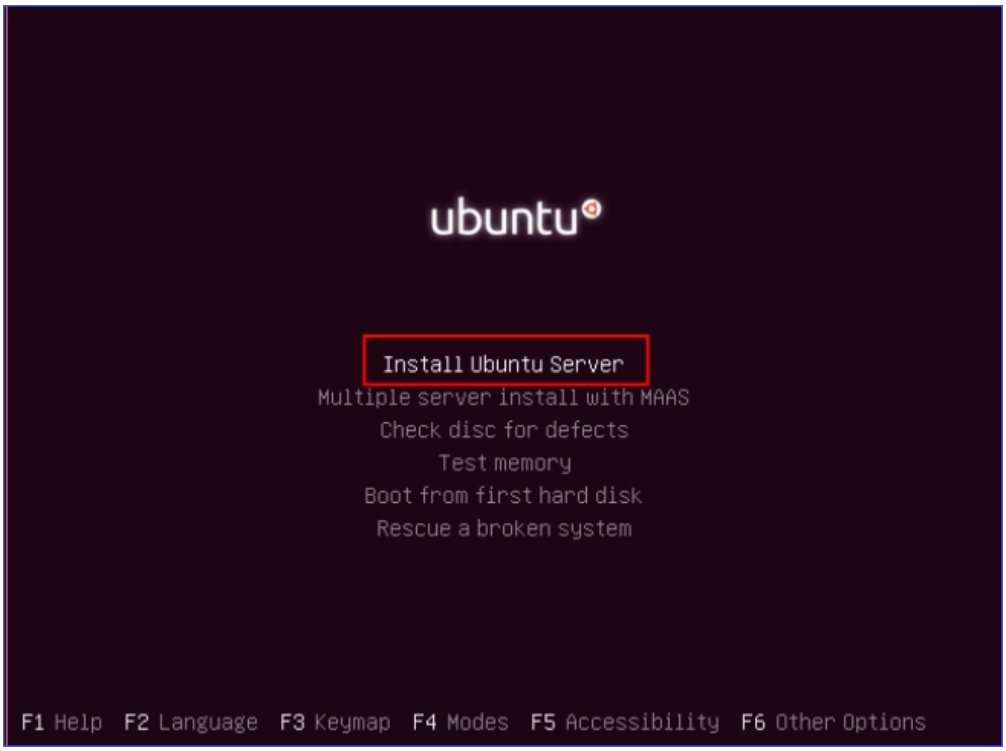
Step 1. Configure language and location

The installer will begin with a prompt to select a language for the installation wizard.

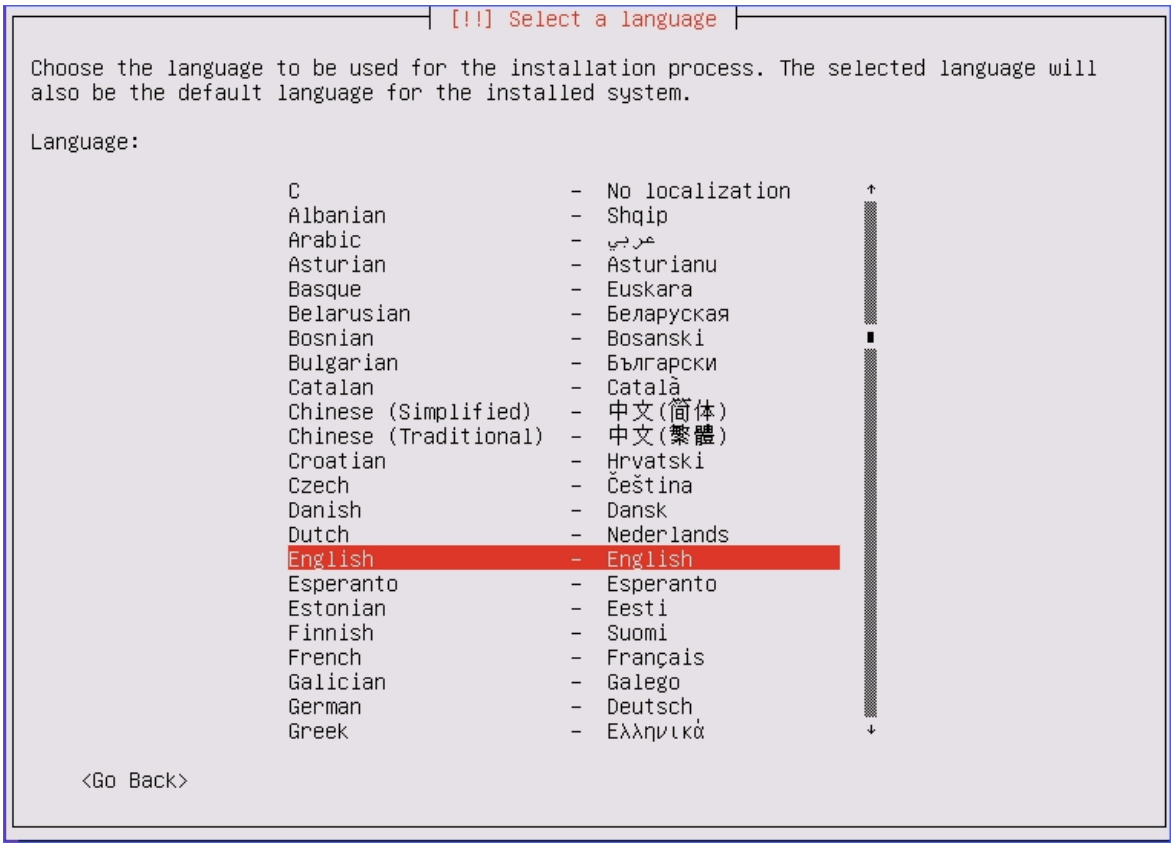
1. Select a language for the installation wizard.



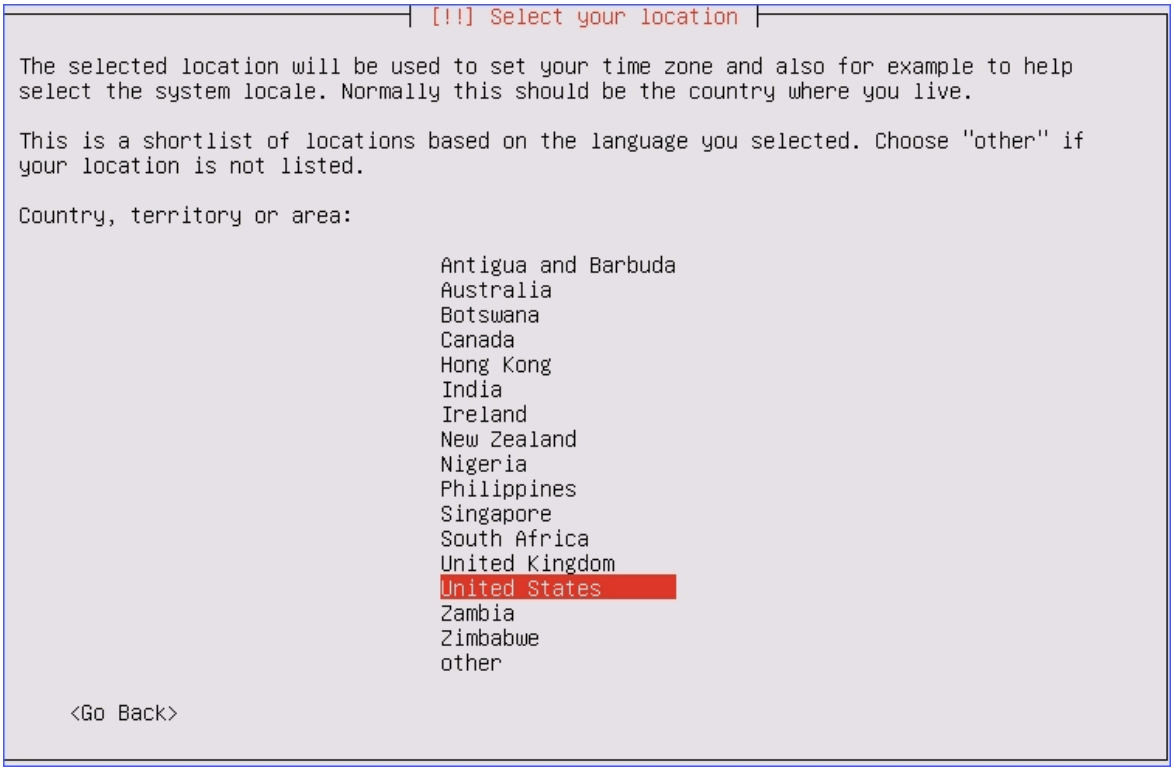
2. Select **Install Ubuntu Server**.



3. Select a language to be used for the installation process and installed system.

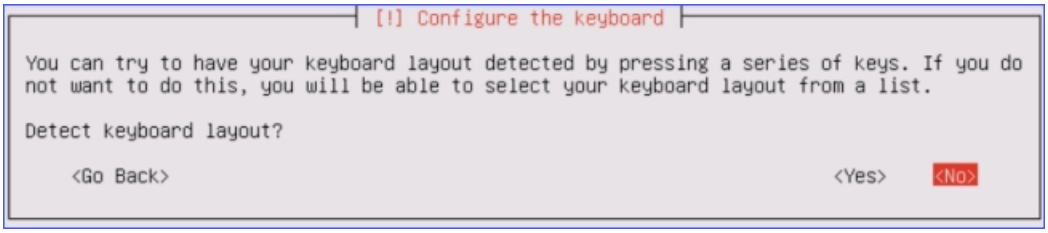


4. Select your location based on the language you selected.



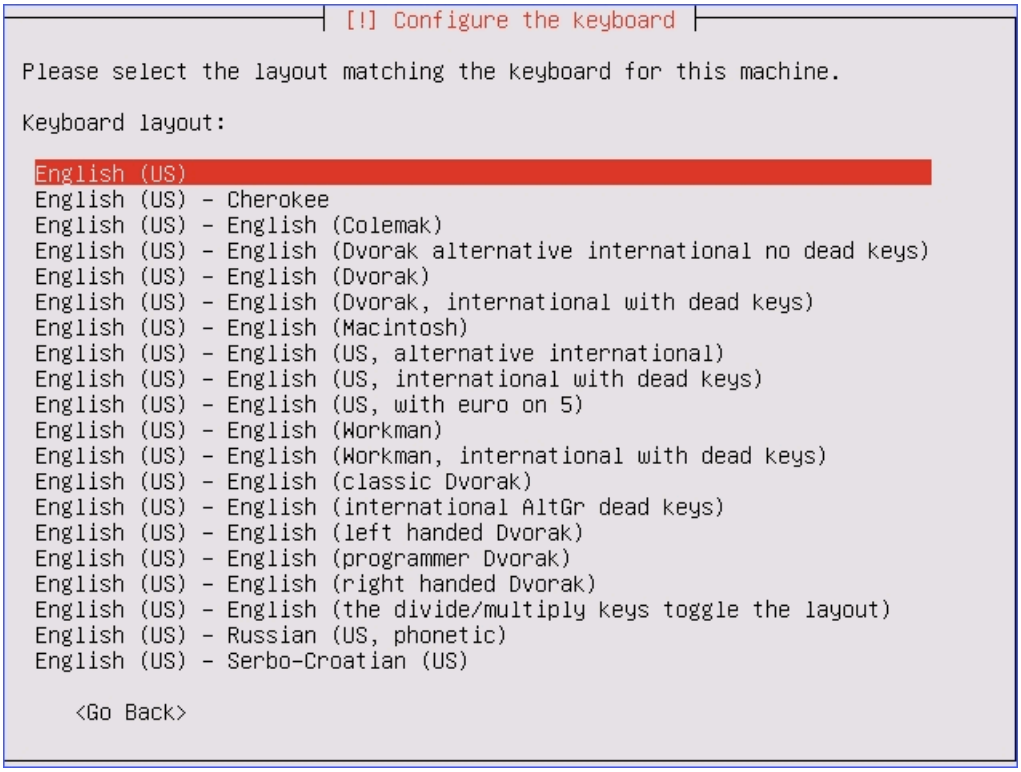
Step 2. Configure the keyboard

1. Select **NO**, not to do keyboard layout detection.



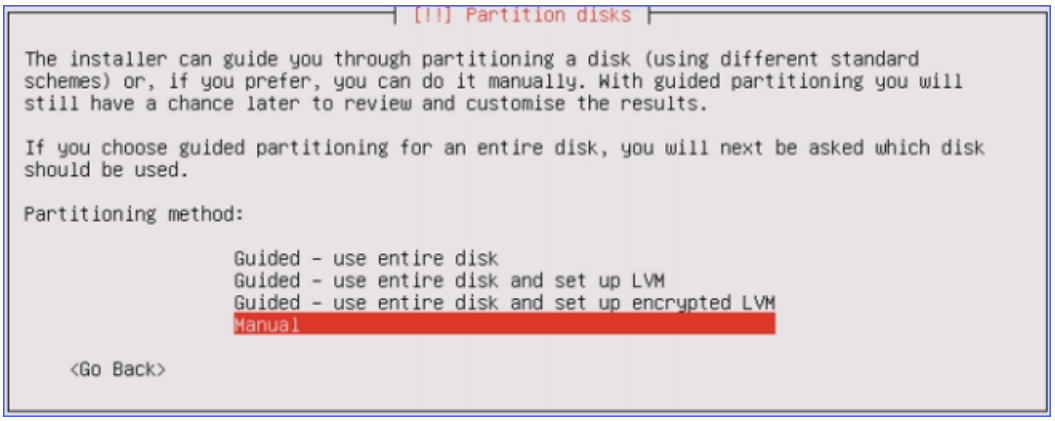
2. Select a country of origin for the keyboard of this computer.

3. Select the layout matching the keyboard for your machine.

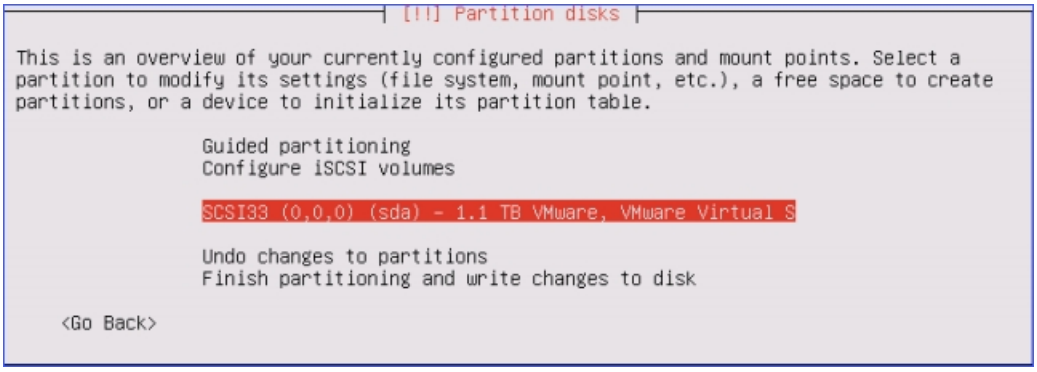


Step 3. Plan and create partition disk

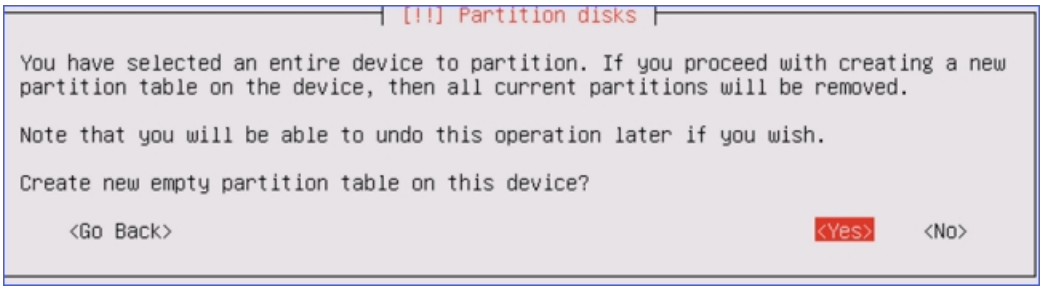
1. Select **Manual** partitioning method.



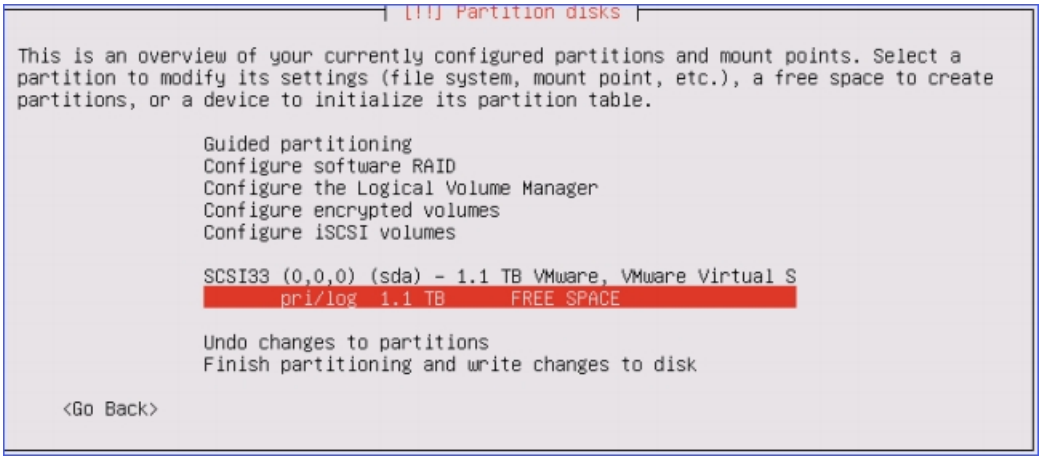
2. Delete all the existed partition disk.
3. Select the partition of the virtual machine.



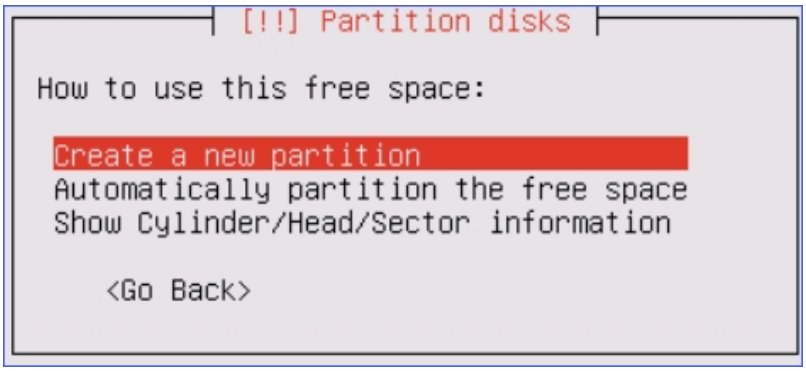
4. Select **Yes** to create new empty partition table on this device.



5. Create partition 1: root directory for system files
    a. Select the **FREE SPACE** to create partition 1.

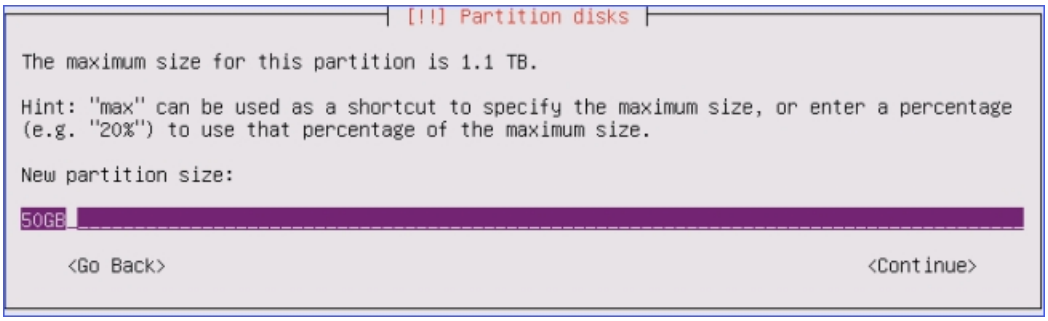


b. Select **Create a new partition**.



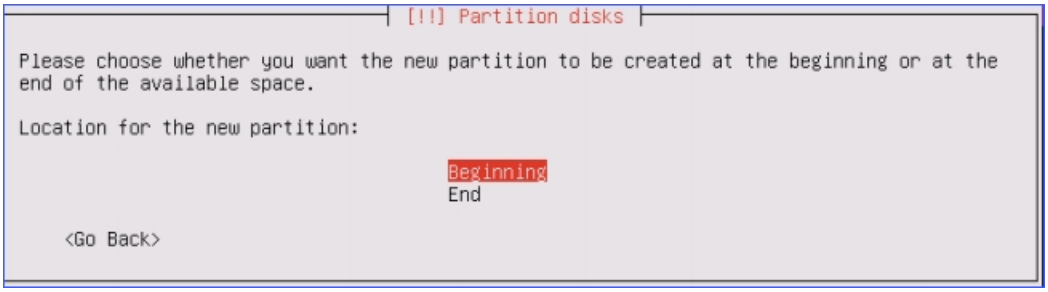
c. Set the partition size.

Partition size recommend: 50GB.

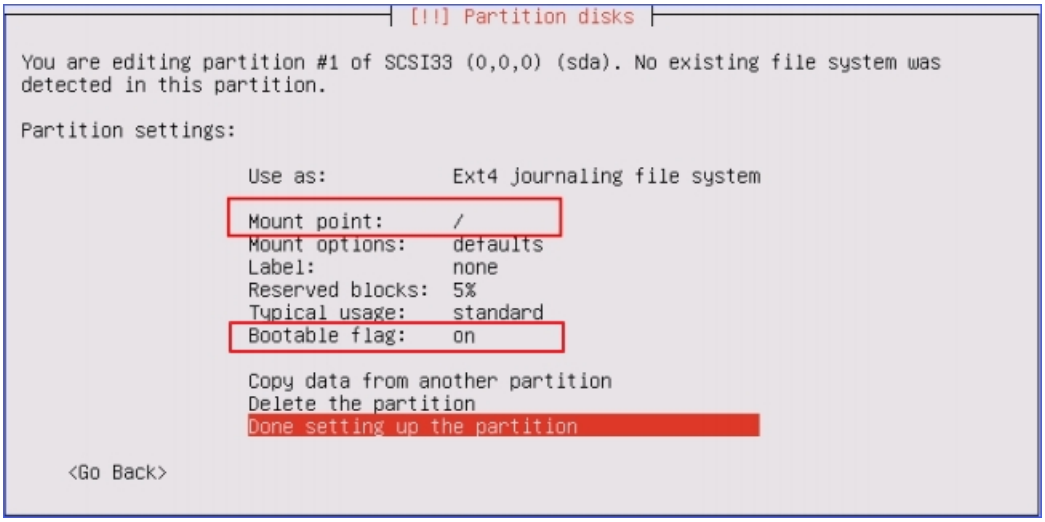


d. Choose the partition type as **Primary**.

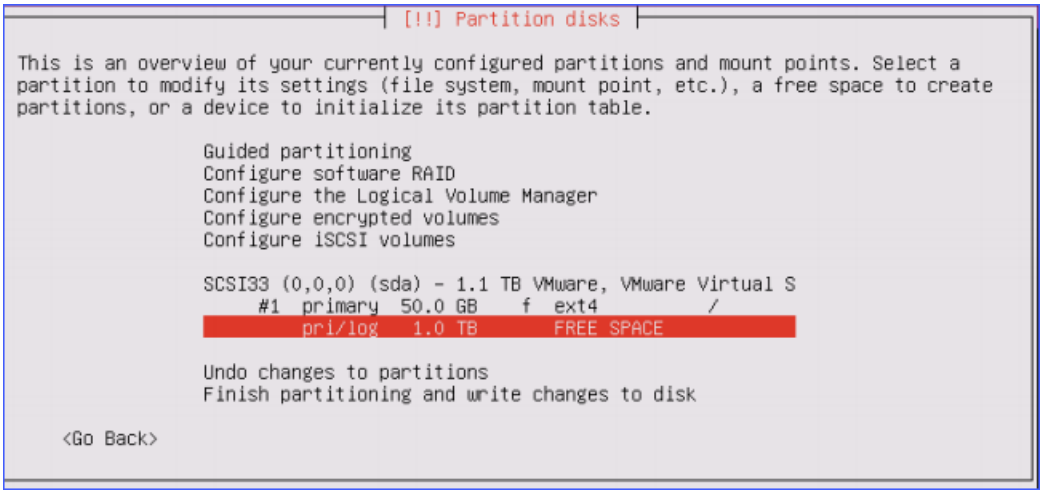
e. Select location for the partition as **Beginning**.



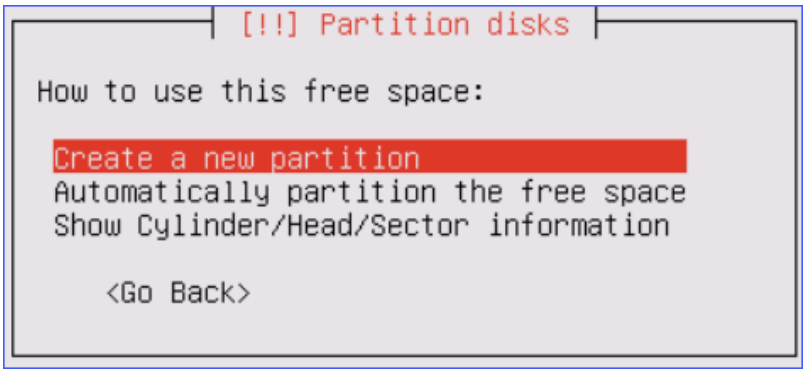
f. Set **Use as** and **Mount point** for the partition 1, then select **Done settings up the partition**.
   - **Use as**: Ext4 journaling file system
   - **Mount point**: /
   - **Bootable flag**: on



6. Create partition 2: home directory for data and recordings.
   a. Select the **FREE SPACE** to create partition 2.



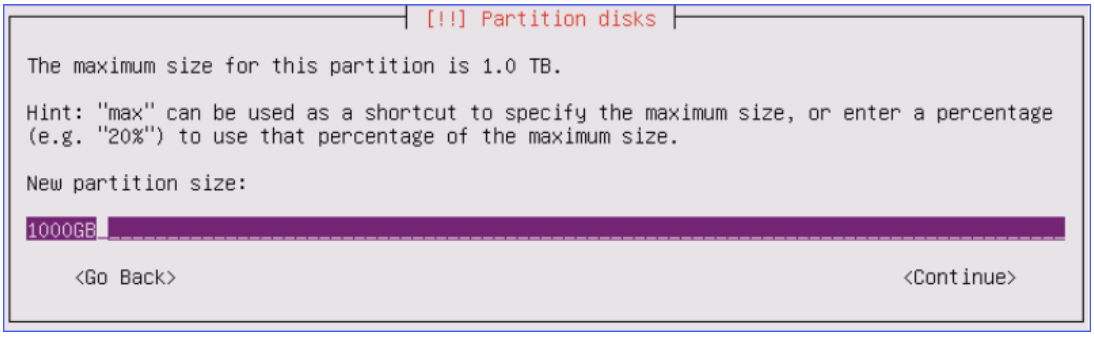
b. Select **Create a new partition**.



c. Set the partition size.

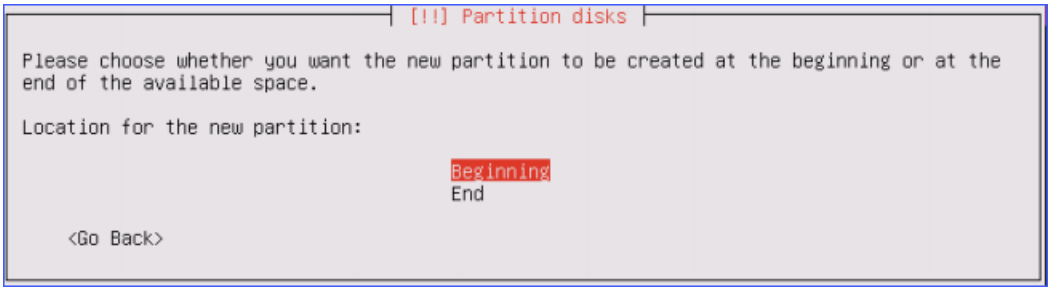
Note:

- 1000-minute recordings require about 1GB space.
- We recommend that you set a larger space for the partition to have more space to store your recordings and other data.

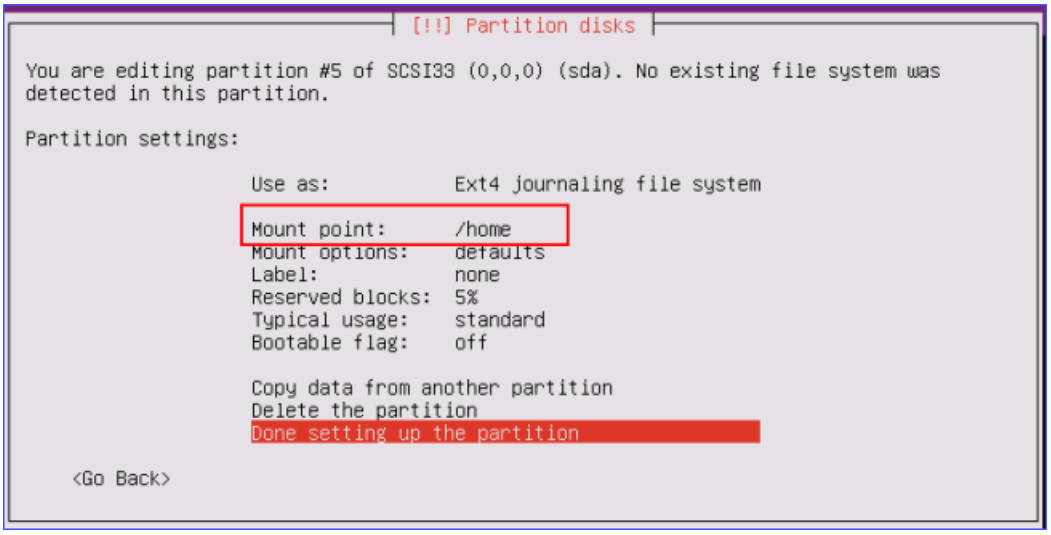


d. Choose the partition type as **Logical**.

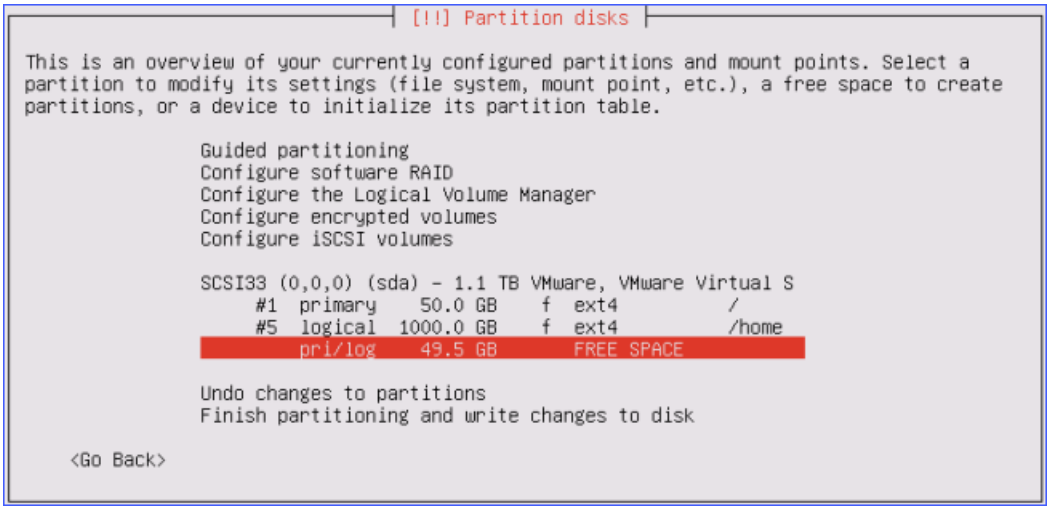
e. Select location for the partition as **Beginning**.



f. Set **Use as** and **Mount point** for the partition 2, then select **Done settings up the partition**.
   - Use as: Ext4 journaling file system
   - Mount point: /home



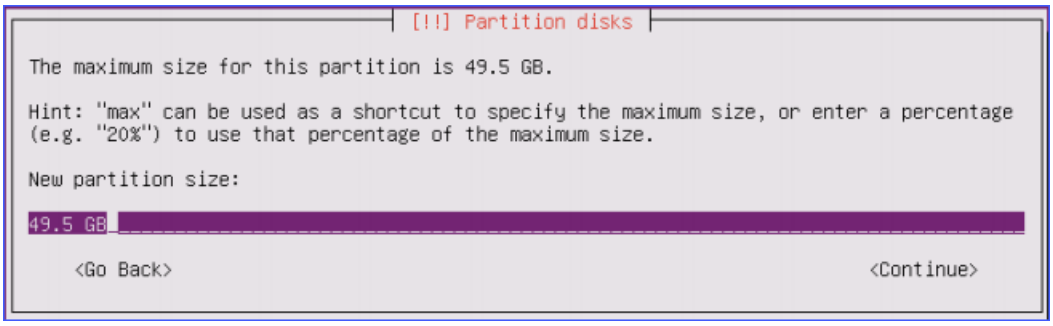
7. Create partition 3: swap area for storing data when system hibernates.
   a. Select the **FREE SPACE** to create a new partition.



b. Select **Create a new partition**.

c. Set the partition size.

Partition size recommend: 10G.

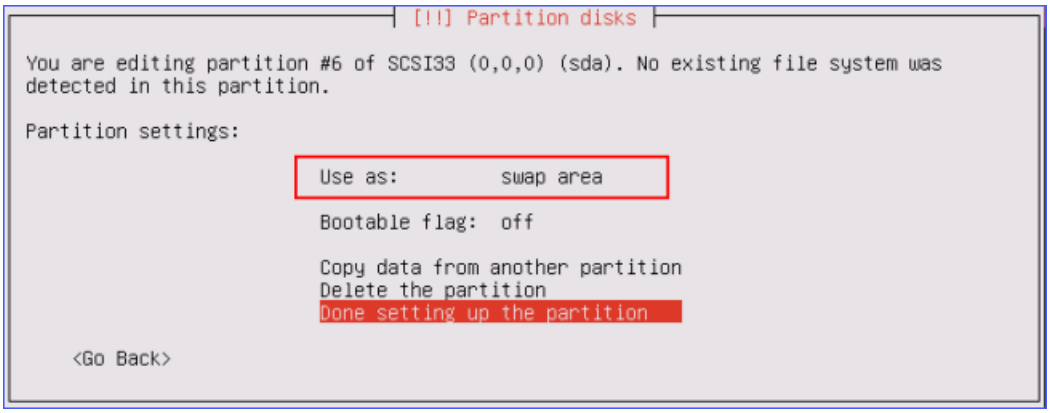


d. Choose the partition type as **Logical**.

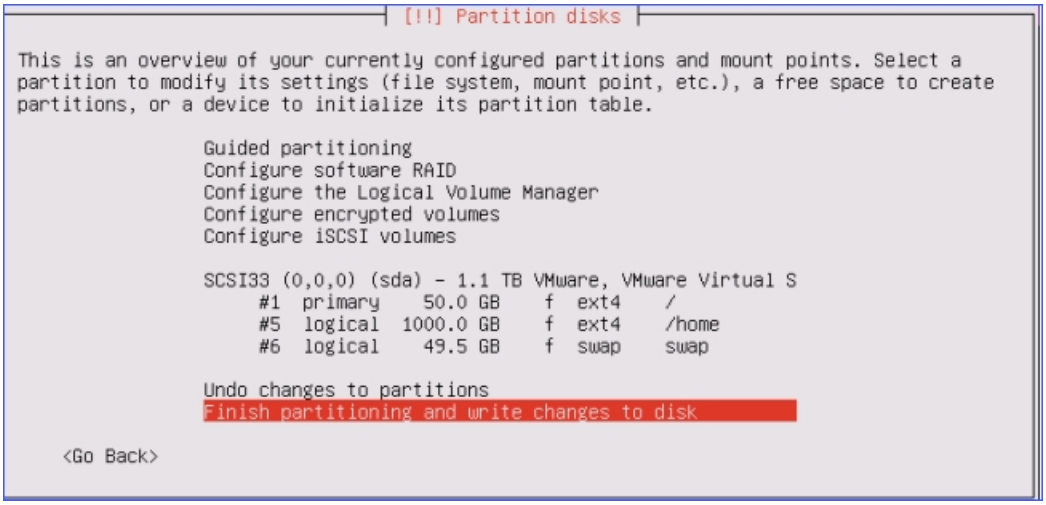
e. Select location for the partition as **Beginning**.

f. Set **Use as** for the partition 3, then select **Done settings up the partition**.

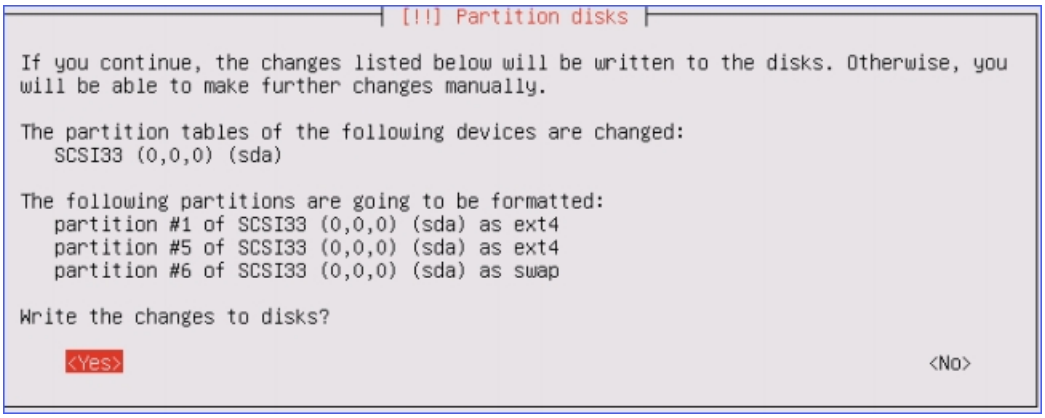
- Use as: swap area



8. Select **Finish partitioning and write changes to disk**.



9. Select **Yes**, write the changes to disks.

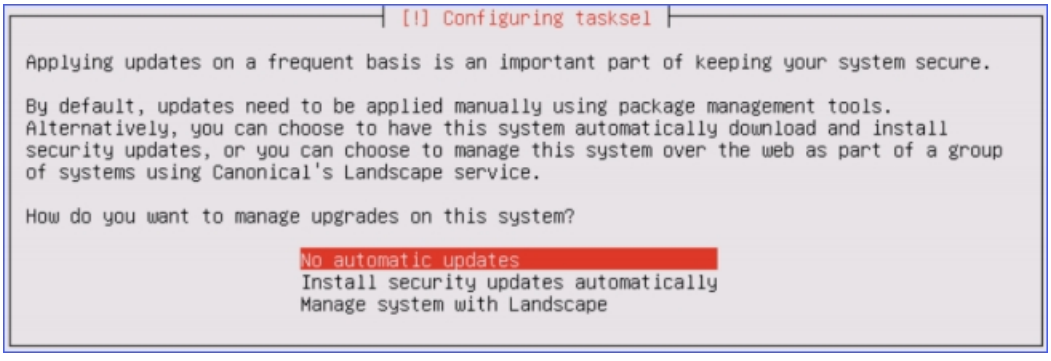


Step 4. Install the IPPBX System

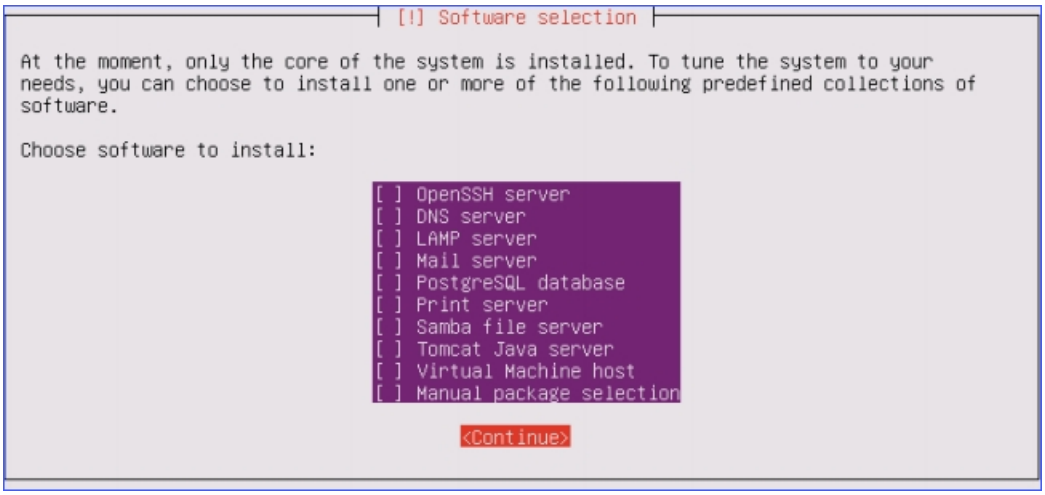
After finishing partitioning and write changes to disk, the virtual machine starts to install the system. Wait for a few minutes for the installation.

1. Select **No automatic updates**.

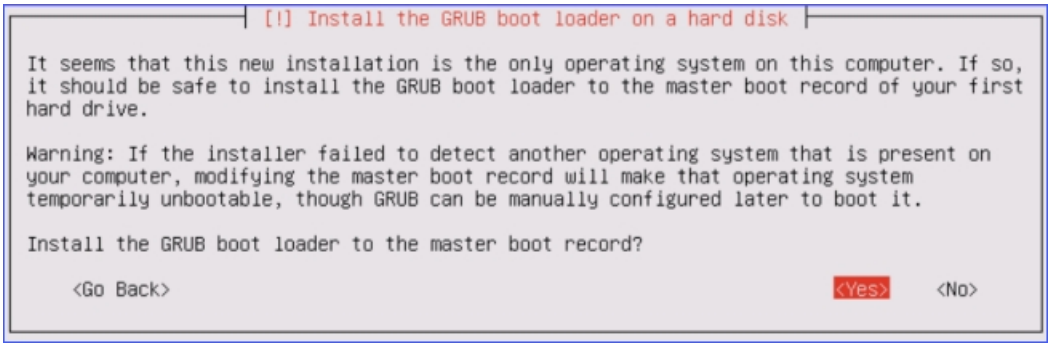
   Important: Do not select other options.



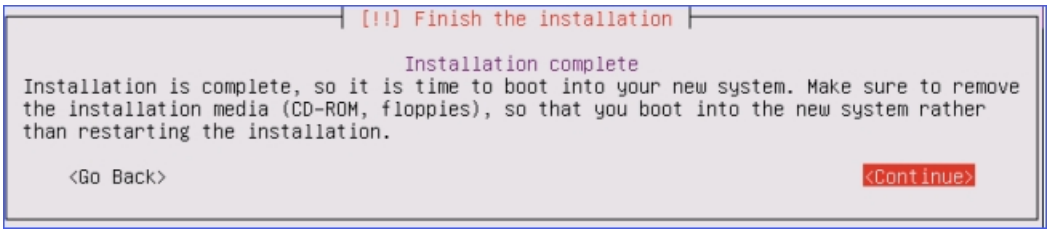
2. Press **Tab** to select **Continue** to skip this step.



3. Select **Yes** to install the GPUB boot loader.



4. Select **Continue** to boot into your system.



When the following screen displays, the IPPBX system is successfully installed.

Install Yeastar K2 System on Hyper-V

Hyper-V lets you run multiple operating systems as virtual machines on Windows. This topic describes how to install Yeastar K2 IPPBX system on Hyper-V.

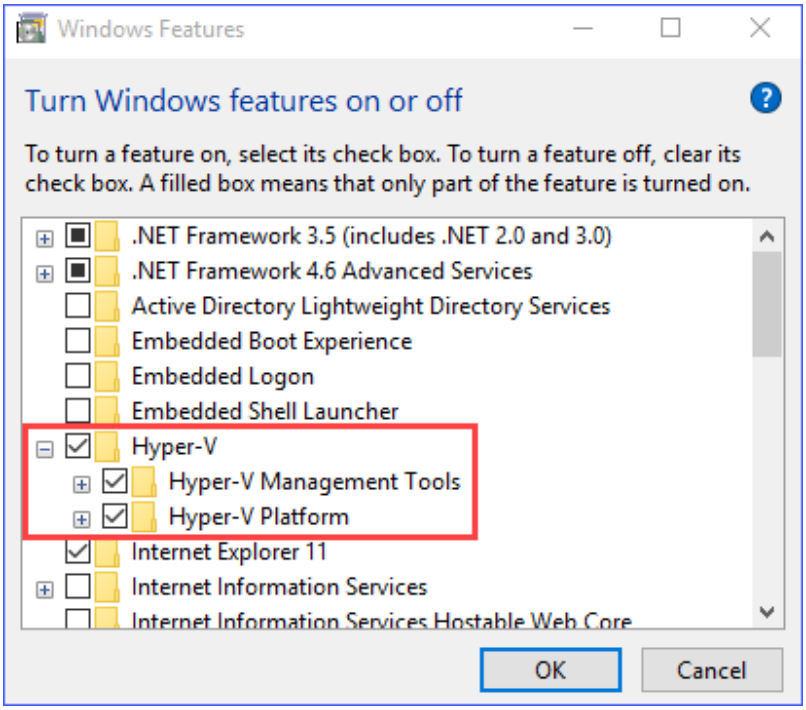
Before You Begin

Hyper-V is built into Windows as an optional feature. To use a Hyper-V, make sure both the operating system and the hardware meet the requirements.

- Windows 10 Enterprise, Pro, or Education.
- 64-bit Processor with Second Level Address Translation (SLAT).
- CPU support for VM Monitor Mode Extension (VT-c on Intel CPUs).
- Minimum of 4 GB memory.

Step 1. Enable the Hyper-V on your PC

1. Right click on the Windows button and select **Apps and Features**.
2. Select **Programs and Features** on the right under related settings.
3. Select **Turn Windows Features on or off**.
4. Select **Hyper-V** and click **OK**.

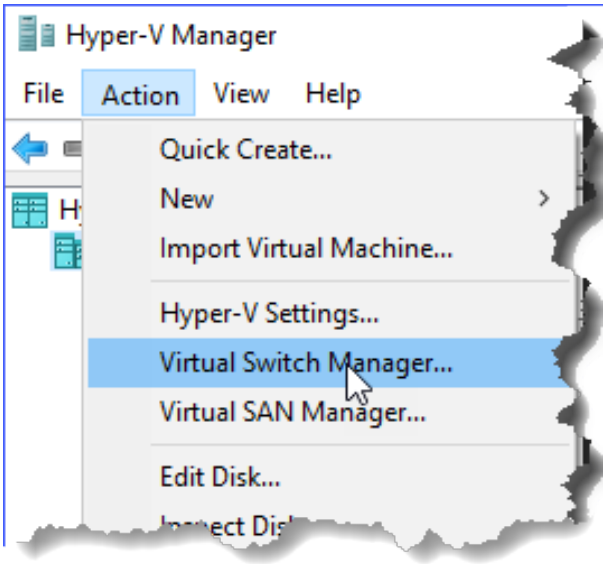


When the installation has completed you are prompted to restart your computer.

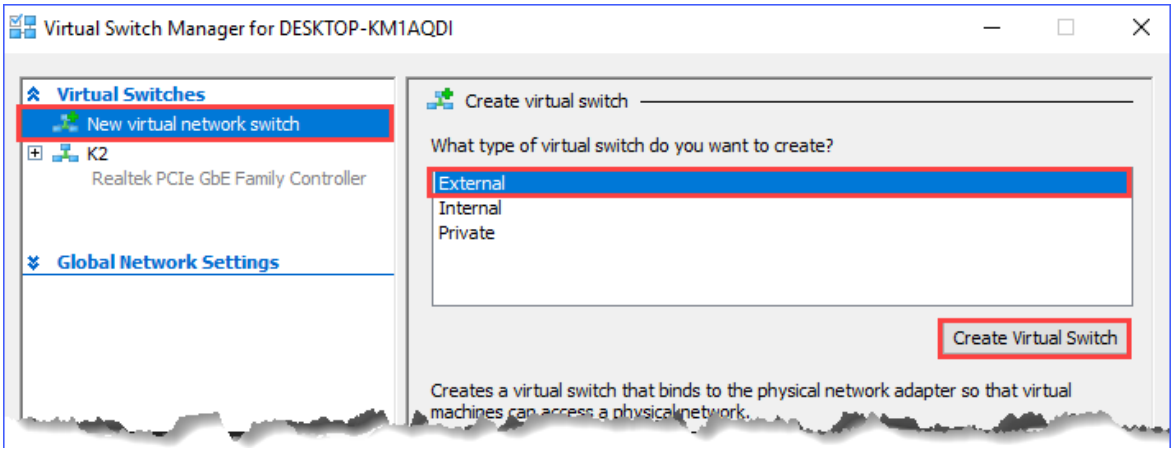
Step 2. Create a virtual network

Create an external switch to share your computer's network with the virtual machines running on it.

1. Open Hyper-V Manager from the start menu.
2. Click **Action > Virtual Switch Manager...** bring up the **Virtual Switch Manager** window.

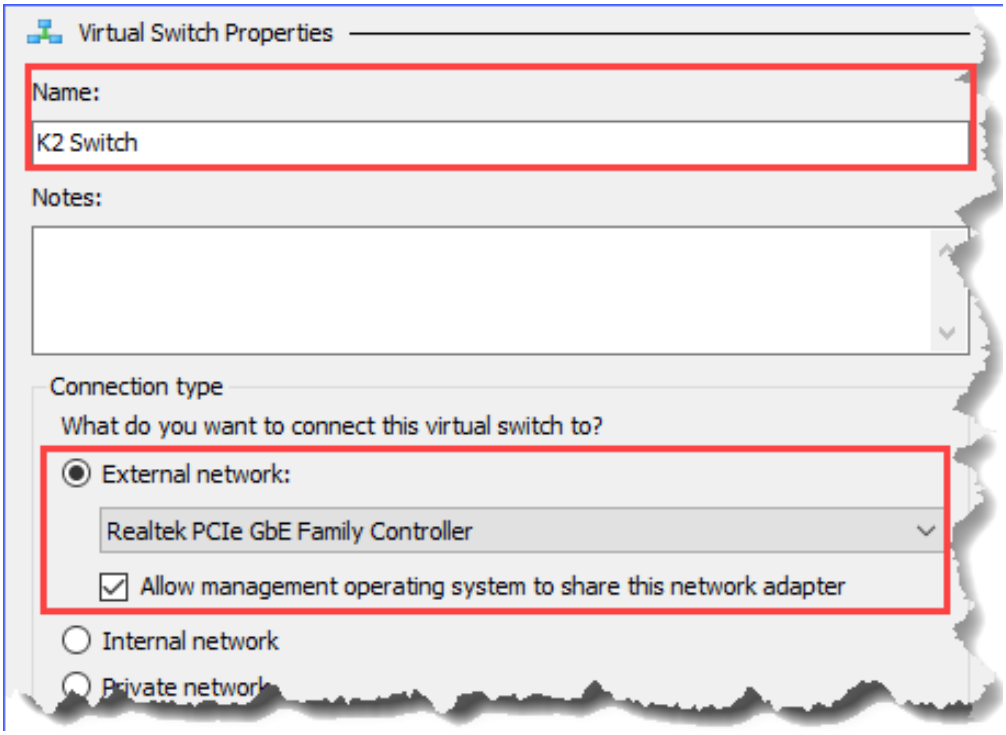


3. Under the **Virtual Switches** section, select **New virtual network switch**.
4. Under 'What type of virtual switch do you want to create?', select **External**, and then click **Create Virtual Switch**.



5. Give the new switch a name such as **K2 Switch**.
6. Under **Connection Type**, check **External Network**.
7. Select the physical network card to be paired with the new virtual switch.

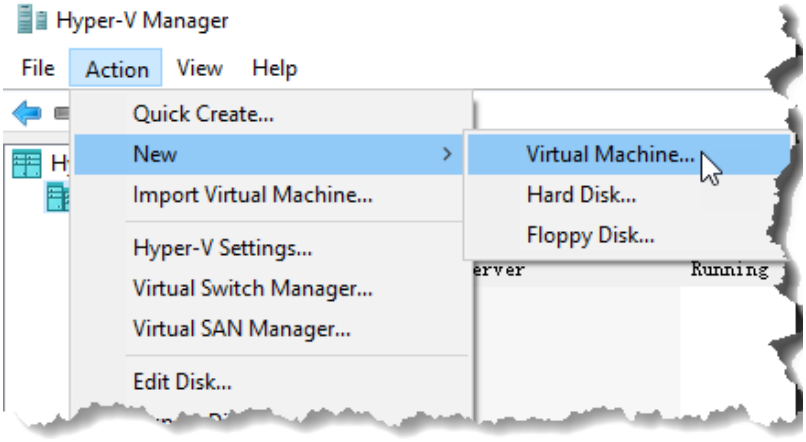
   This is the network card that is physically connected to the network.



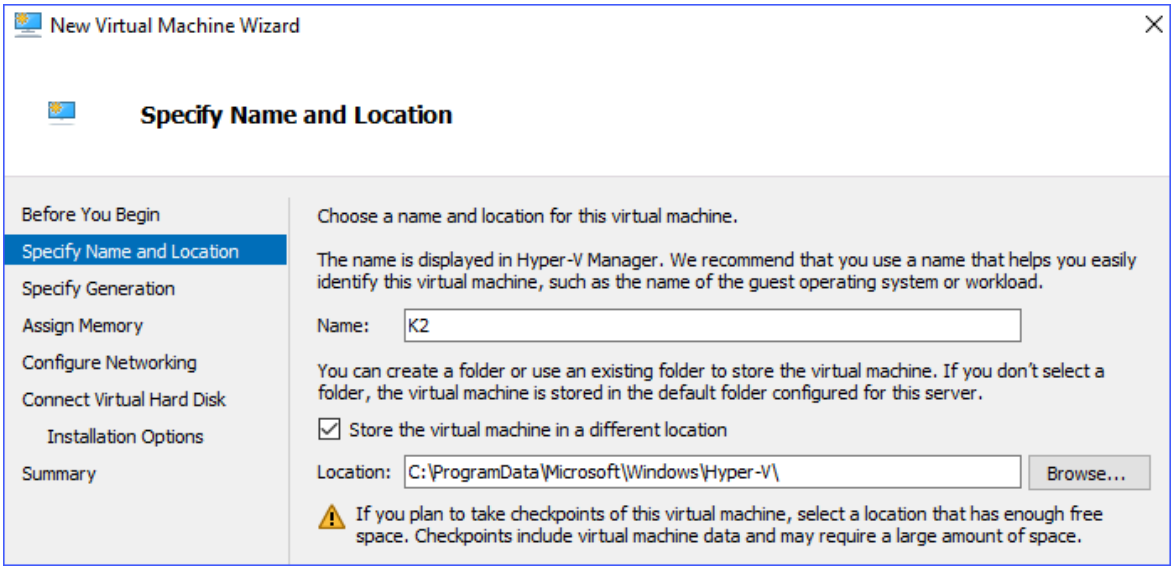
8. Click **Apply** and **Yes** to create the virtual switch.
9. Select **OK** to close the **Virtual Switch Manager** window.

Step 3. Create a virtual machine with Hyper-V

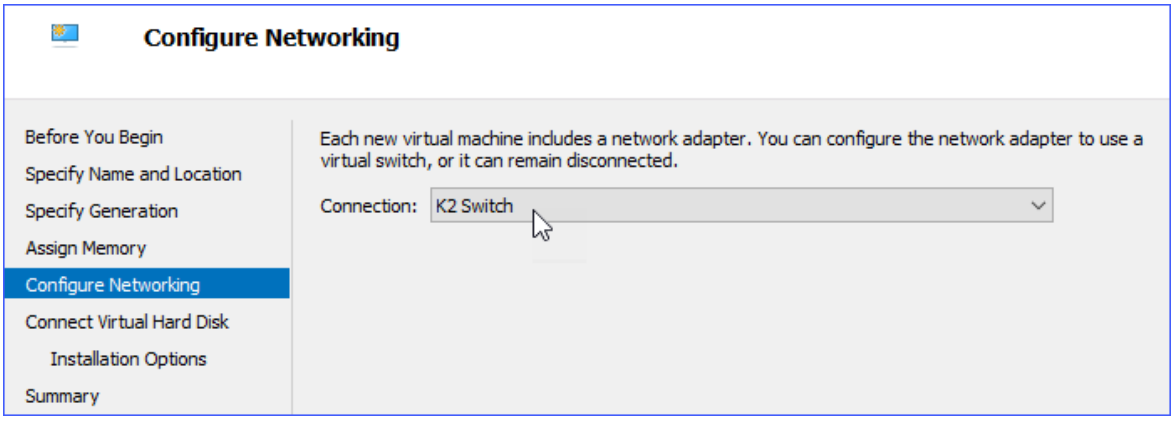
1. In Hyper-V Manager, click **Action > New > Virtual Machine** to bring up the **New Virtual Machine Wizard**.



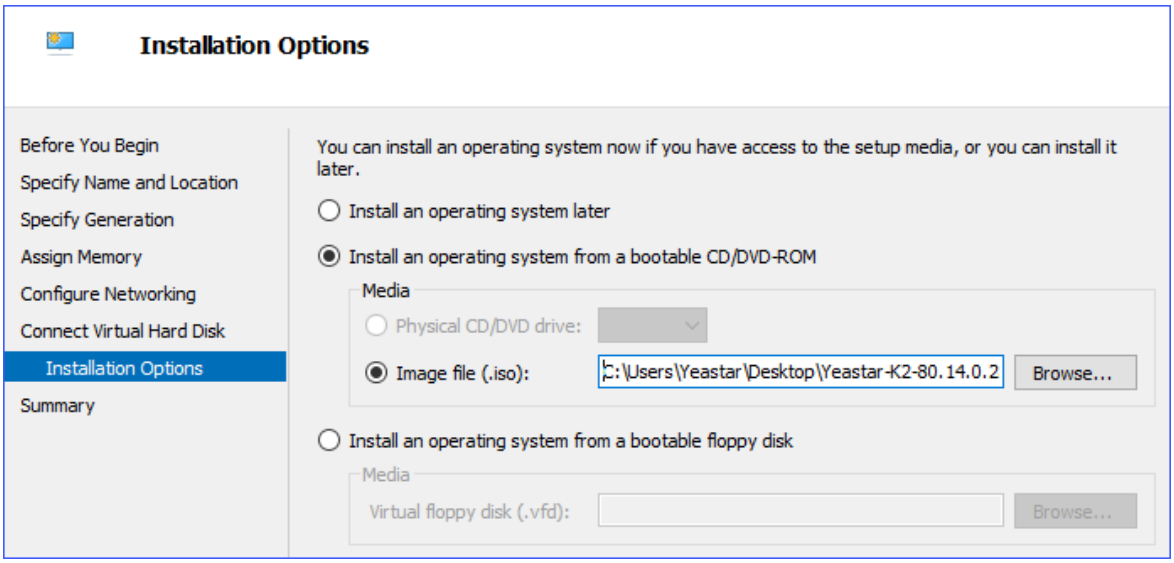
2. Review the **Before You Begin** content and click **Next**.
3. Specify the virtual machine a name, choose a location to store virtual machine, and click **Next**.



4. Select a generation for the machine and click **Next**.
5. Select **2048** MB for the **Startup Memory**, check **Use Dynamic Memory for this virtual machine**, and then click **Next**.
6. On the **Configure Networking**, select the created virtual switch for the virtual machine, and then click **Next**.

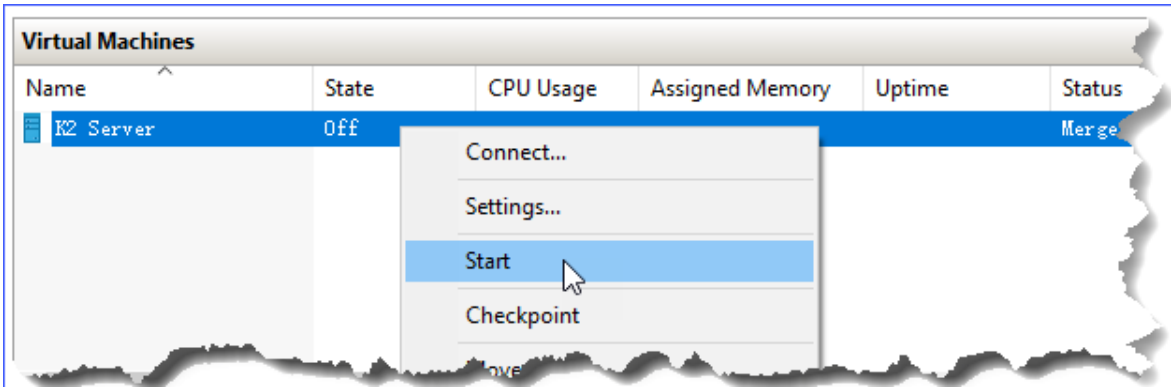


7. Give the virtual hard drive a name, select a location, specify a size, and then click **Next**.
8. On the **Installation Options**, select **Install an operating system from a bootable image file**, select K2 `.iso` file, and then click **Finish**.

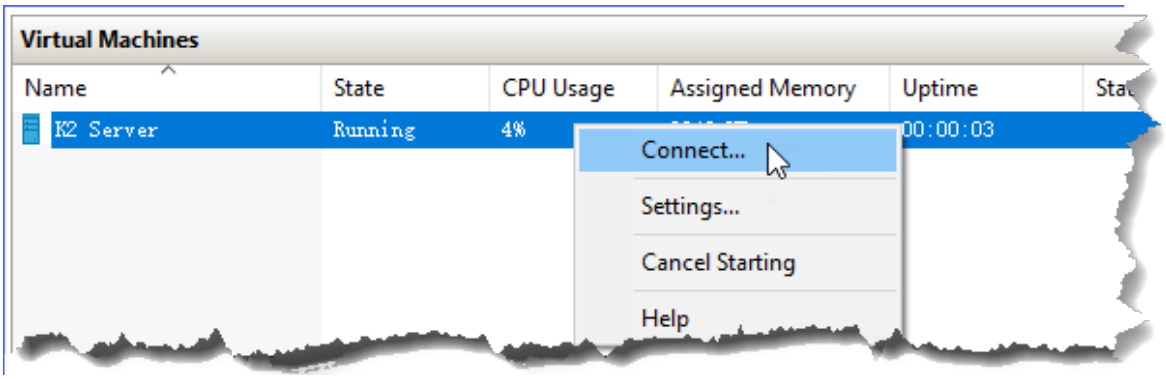


Step 4. Install Yeastar K2 System on virtual machine

1. Start the created virtual machine.



2. Connect the created virtual machine.



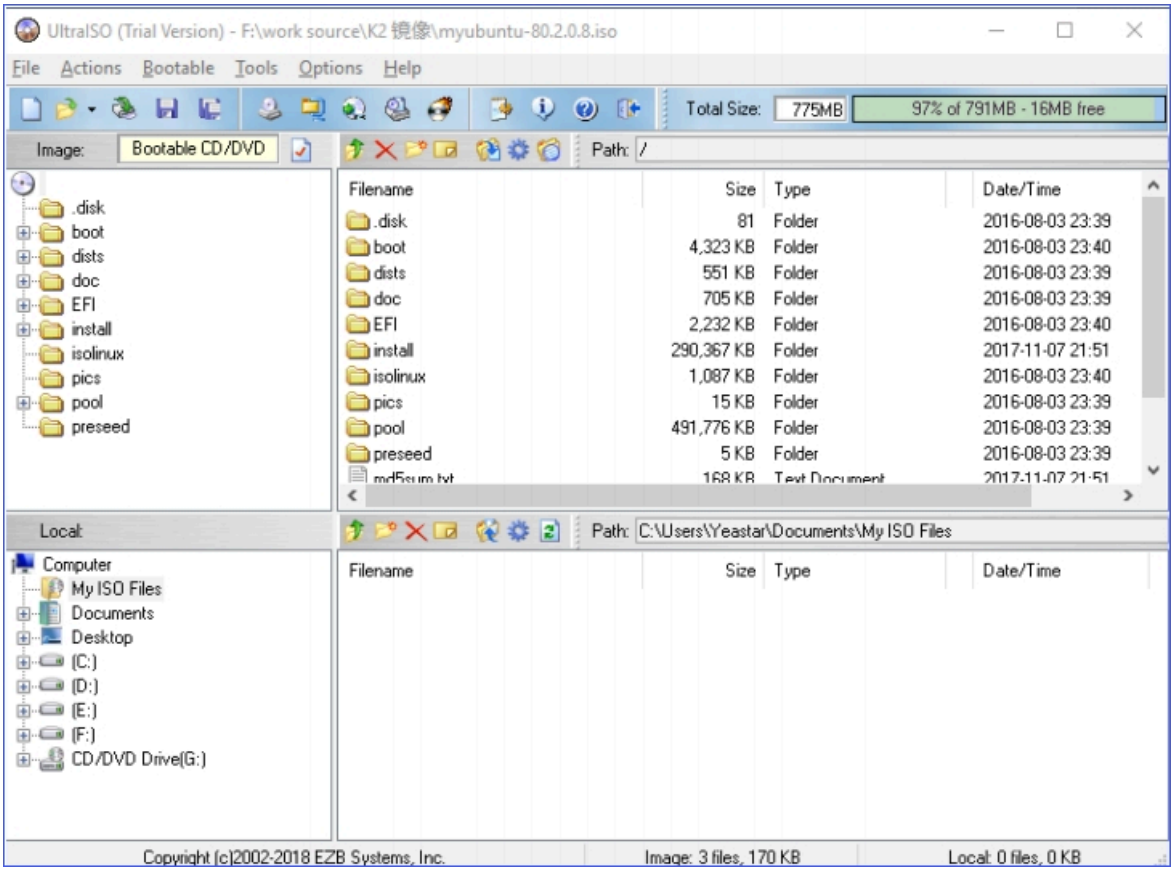
3. Install K2 system on the virtual machine.

Install K2 System on a Physical Machine

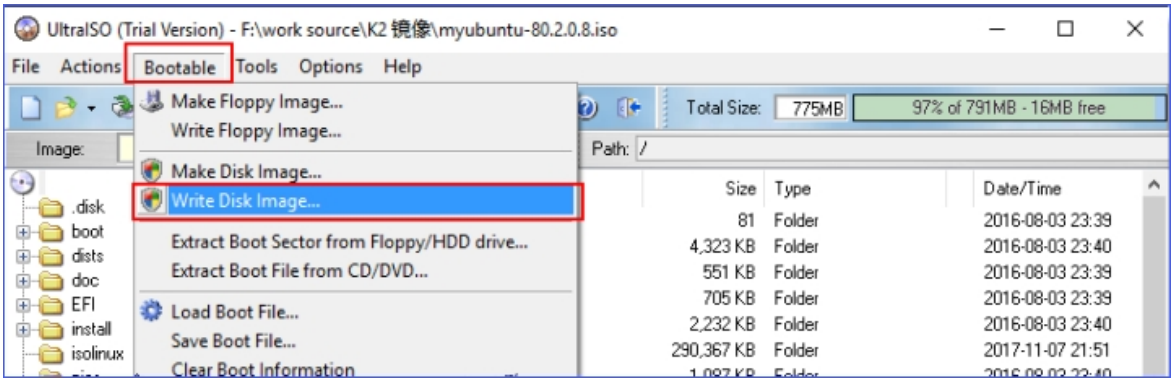
Write Yeastar K2 Image in a USB

If you choose to install Yeastar K2 IPPBX system on a physical machine, you need to write K2 image in the USB in advance. The instructions below introduce how to write K2 image in a USB via UltraISO.

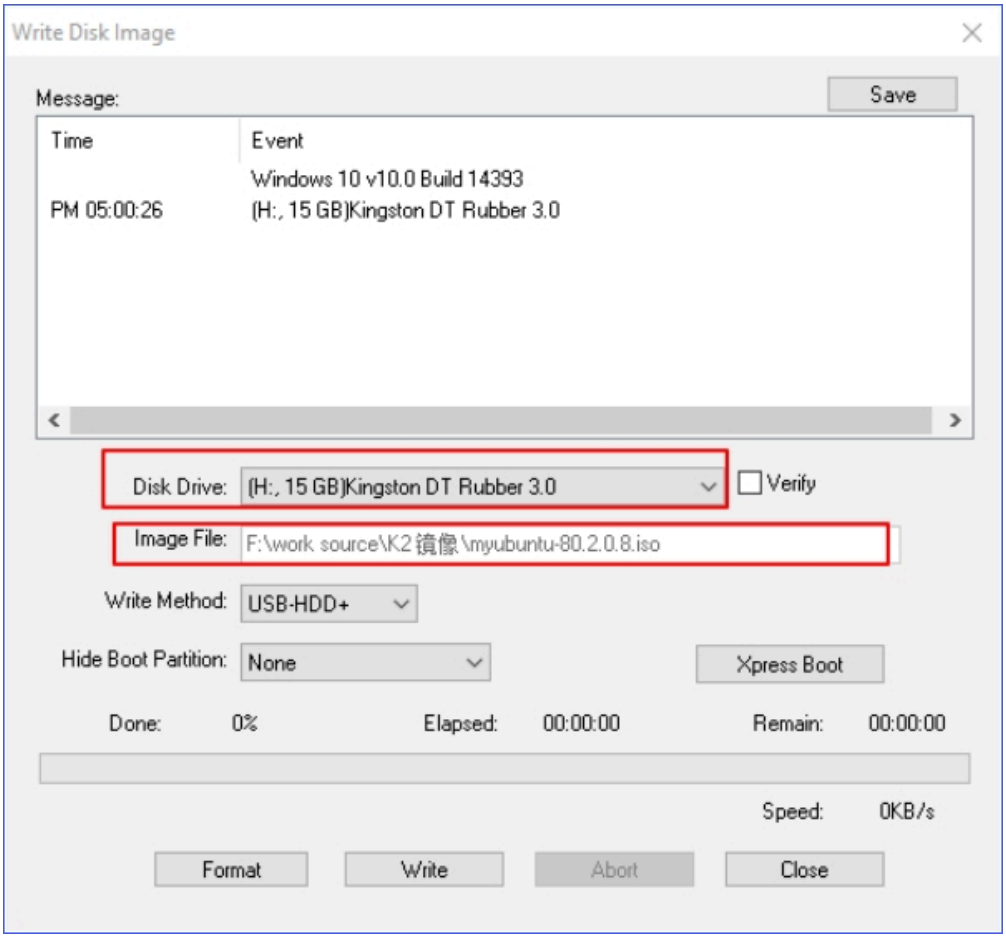
1. Format your USB with FAT32.
2. Open the K2 image file via UltraISO.



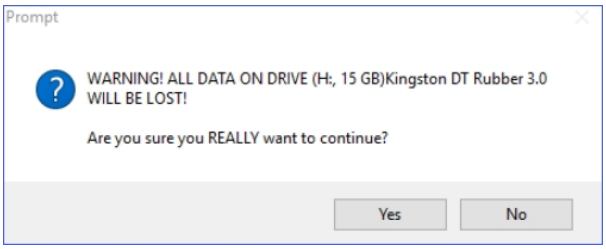
3. Click **Bootable > Write Disk Image**.



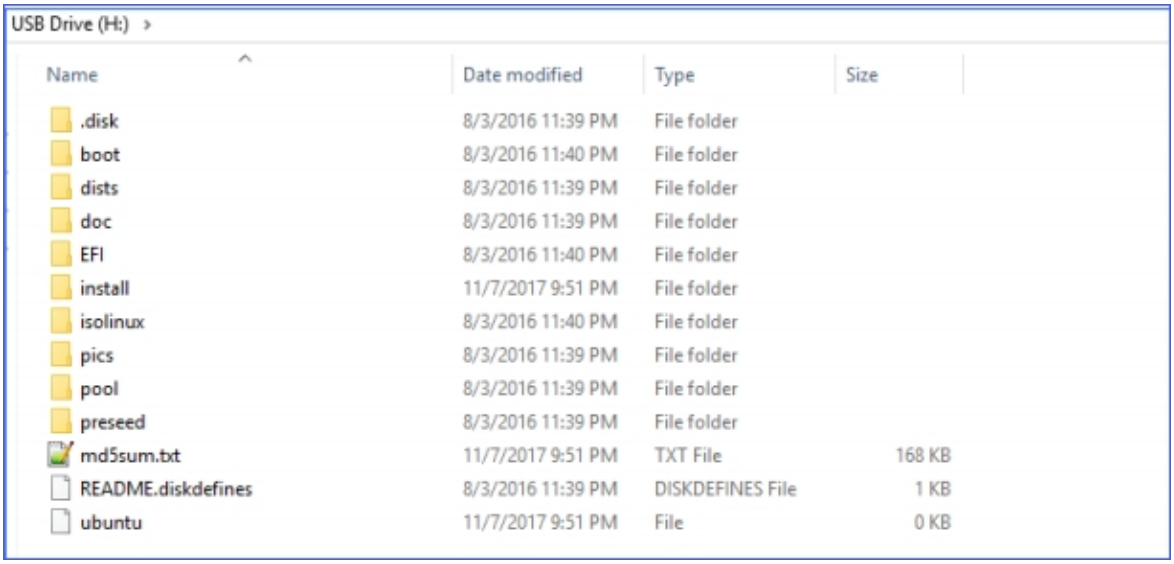
4. Choose your USB drive as **Disk Drive**, and choose the K2 image file, then click **Write**.



5. Click **Yes** to start writing image.



6. After the process of writing image is completed, you can check your USB drive. The USB should contain the files as the following figure shows.



What's Next:

Install Yeastar K2 System on VMware Workstation

Install Yeastar K2 IPPBX System on Dell EMC PowerEdge R240 Server

This topic describes how to install Yeastar K2 system on Dell EMC PowerEdge R240 server.

Before You Begin

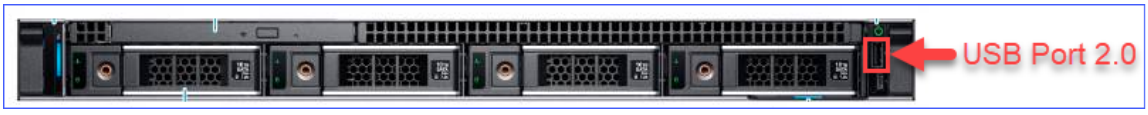
You need to write Yeastar K2 image in a USB, then connect the USB driver to the physical machine to start installing the K2 system.

Step1. Prepare before Installation Process

Note: Do not connect Dell EMC PowerEdge R240 Server to network, or problems may occur during the installation process.

1. Connect the USB driver to the USB 2.0 port on Dell EMC PowerEdge R240 Server.

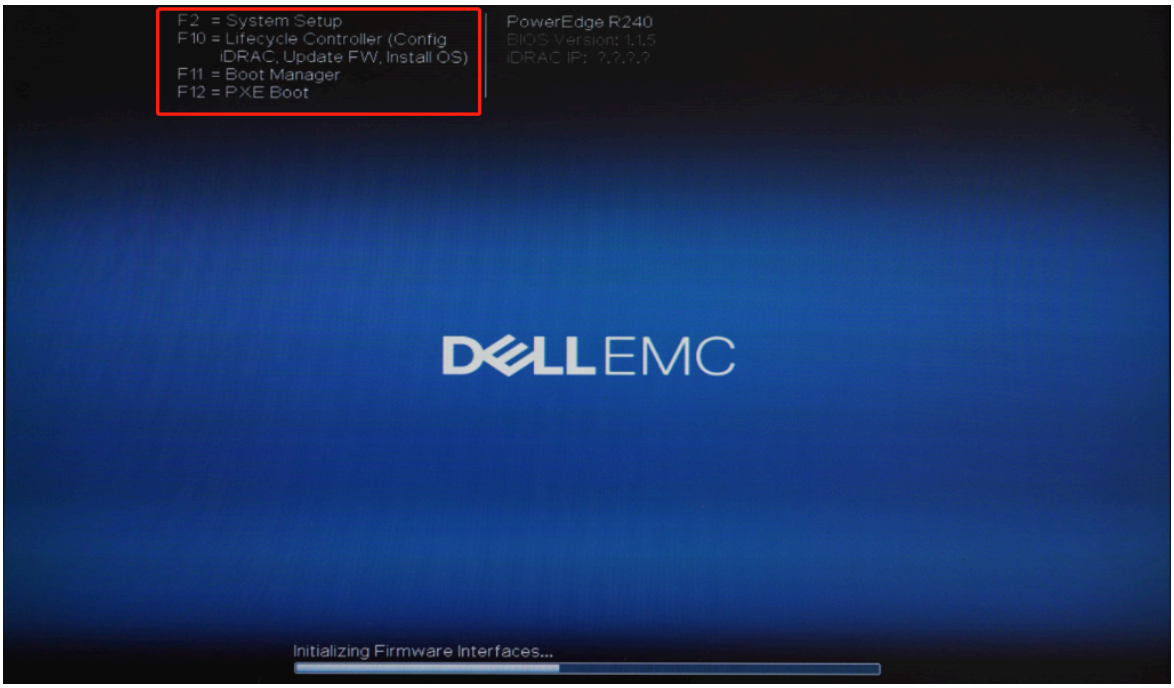
   Note:
   - The USB 2.0 port is at the right side of the front panel.
   - The installation process cannot work with USB 3.0.



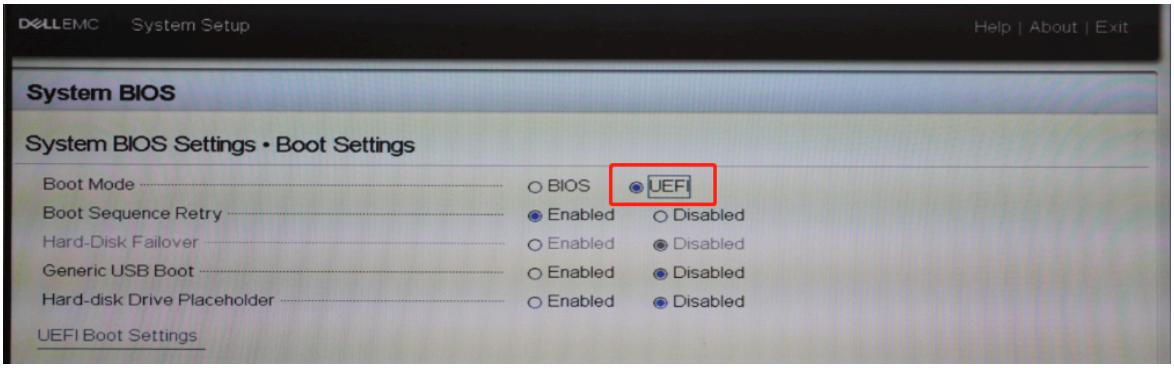
2. Press the power button to power on the device.

3. When you see the following figure, press F2 immediately to enter system setup.

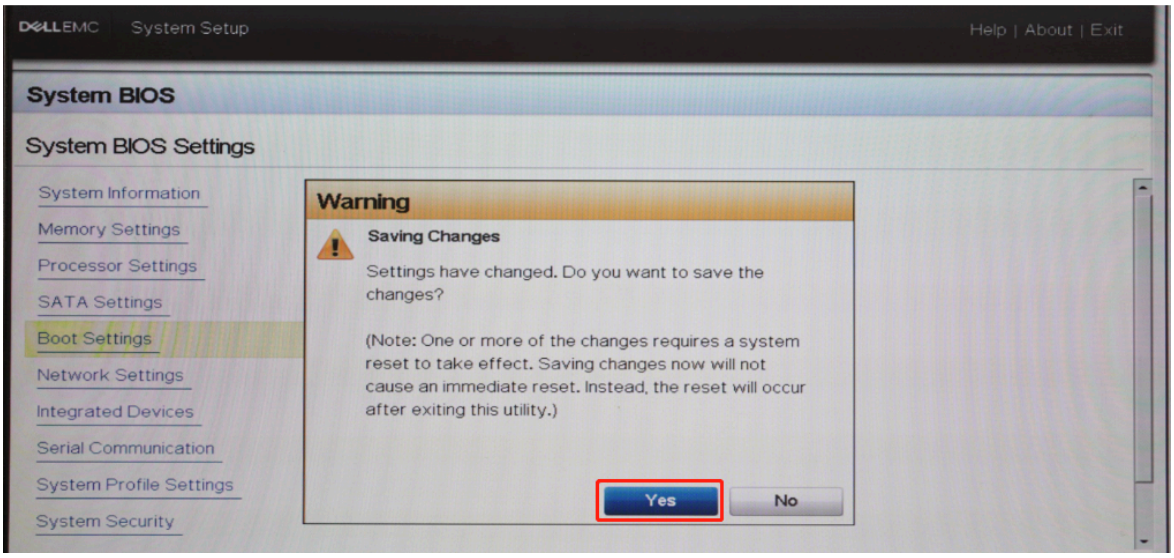
   Note: If you don't press F2 in time to enter the system setup, reboot the device to try again.



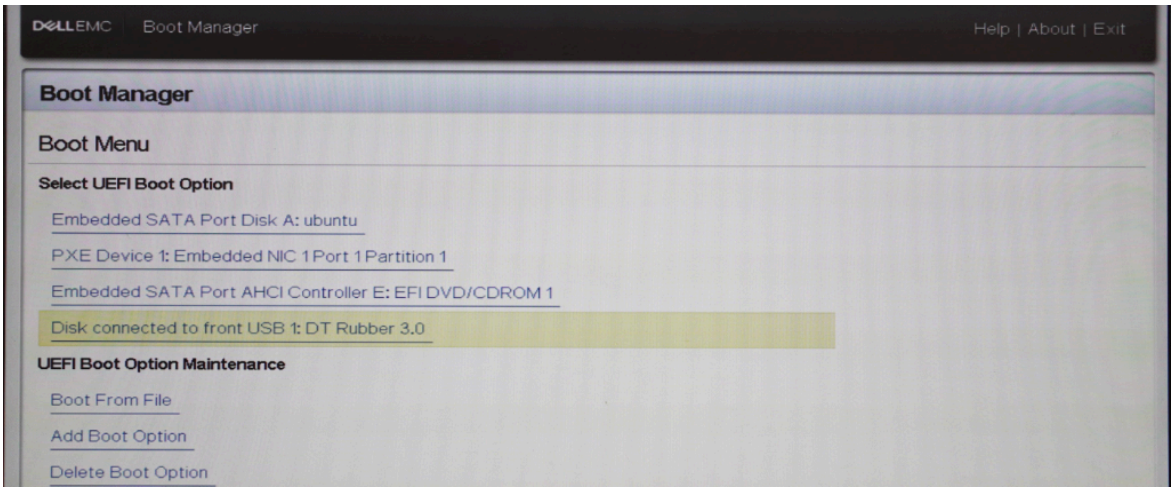
4. Go to **System BIOS > Boot Settings**, set the **Boot Mode** to **UEFI**.



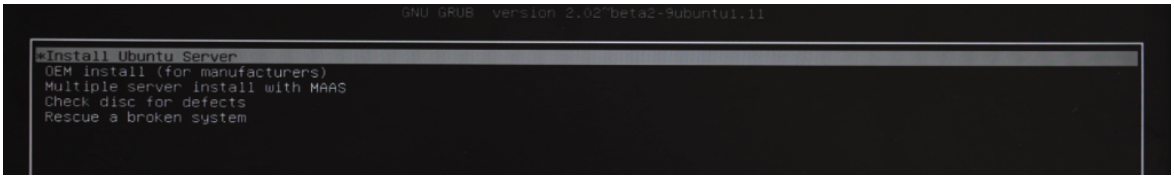
5. Press **Esc** key twice to exist **System BIOS Settings**, then select **Yes** to save the setting.



6. Press **Ctrl** + **Alt** + **Delete** key to reboot the sever.
7. During boot, press **F11** to enter the **Boot Manager**.
8. Select **One-shot UEFI Boot Menu**, then select **Disk connected to front USB 1: DT Rubber 3.0**.



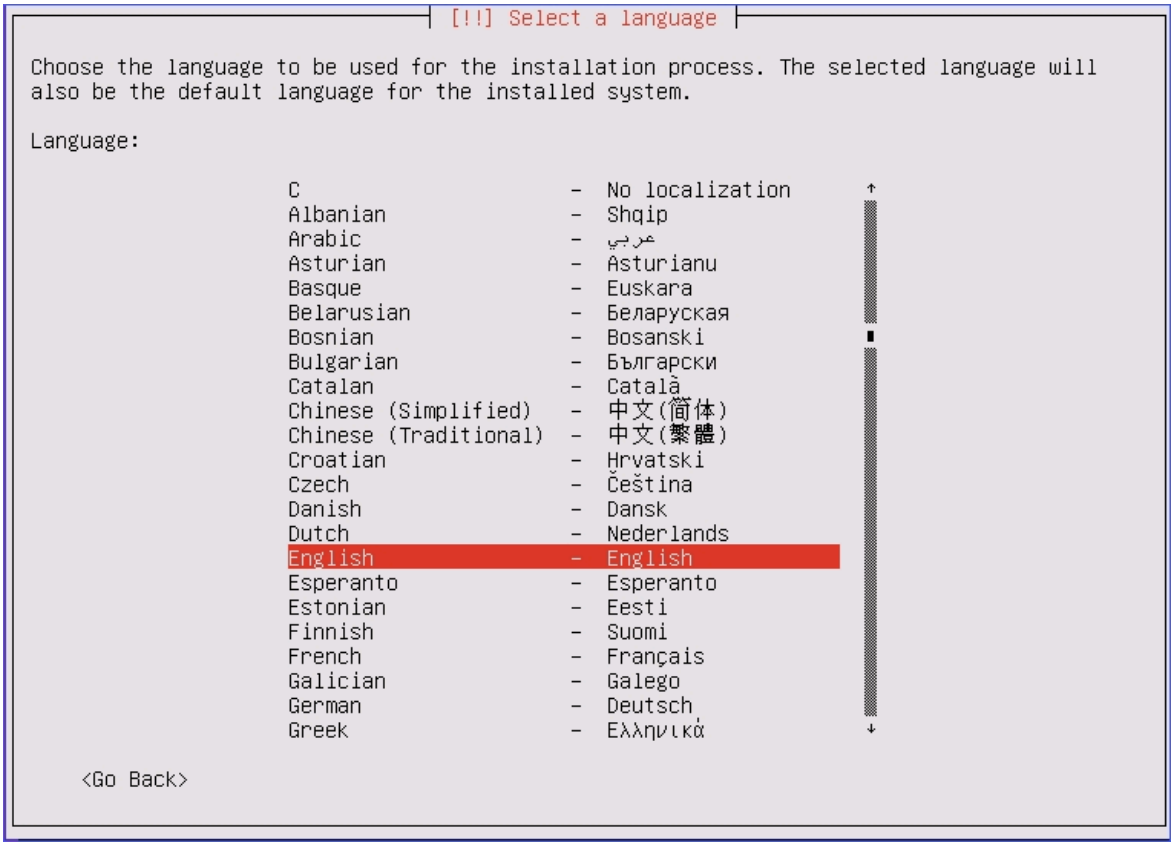
9. Select **Install Ubuntu Server** to install K2 system.



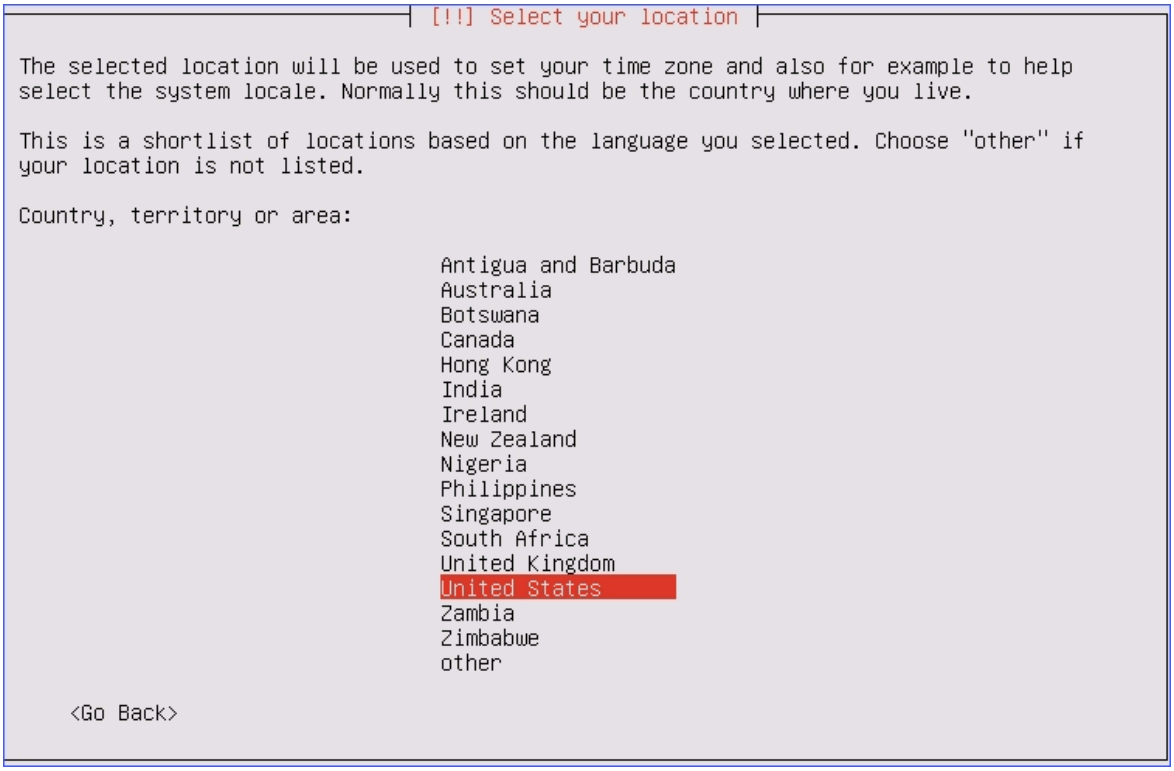
Step 2. Configure language and location

The installer will begin with a prompt to select a language for the installation process.

1. Select a language to be used for the installation process and installed system.

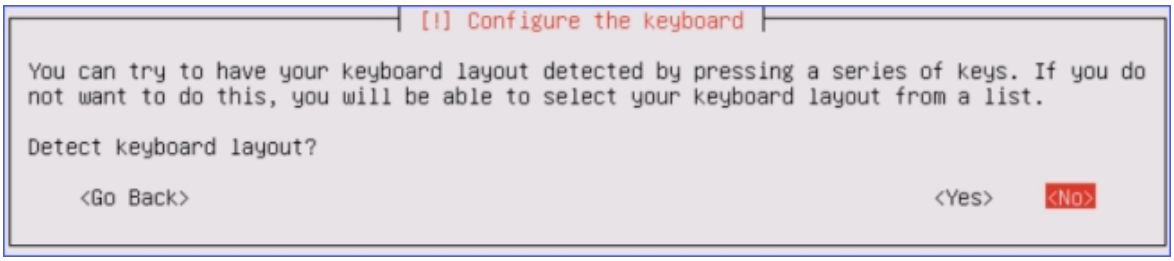


2. Select your location based on the language you selected.



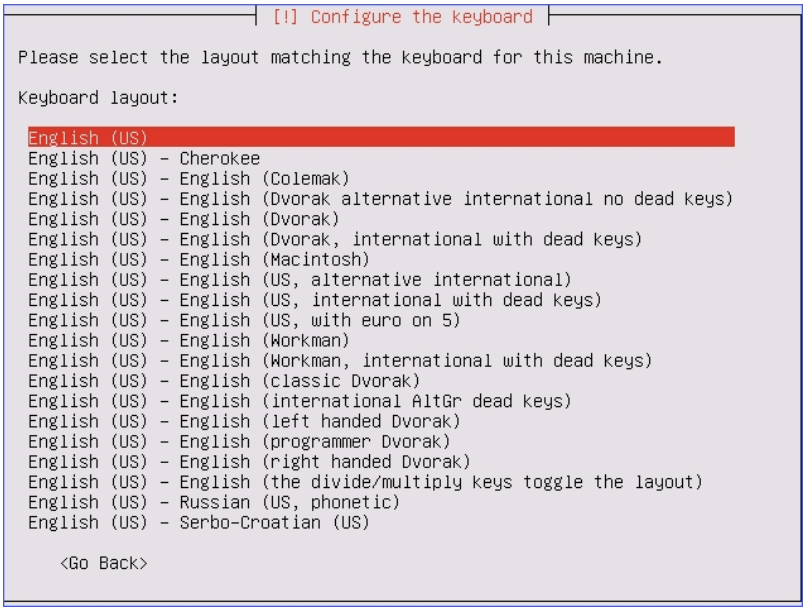
Step 2. Configure the keyboard

1. Select **NO**, not to do keyboard layout detection.

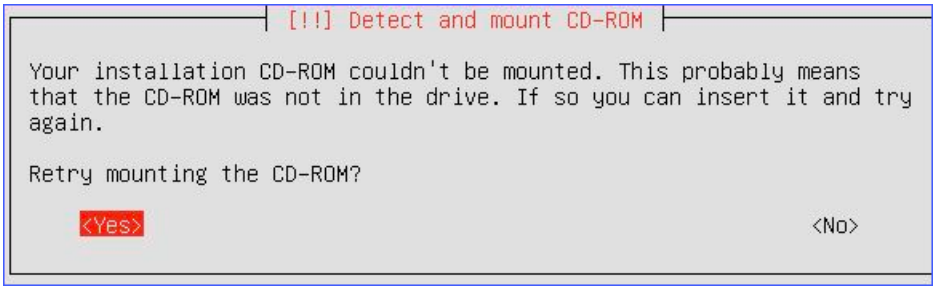


2. Select a country of origin for the keyboard of this computer.

3. Select the layout matching the keyboard for your machine.

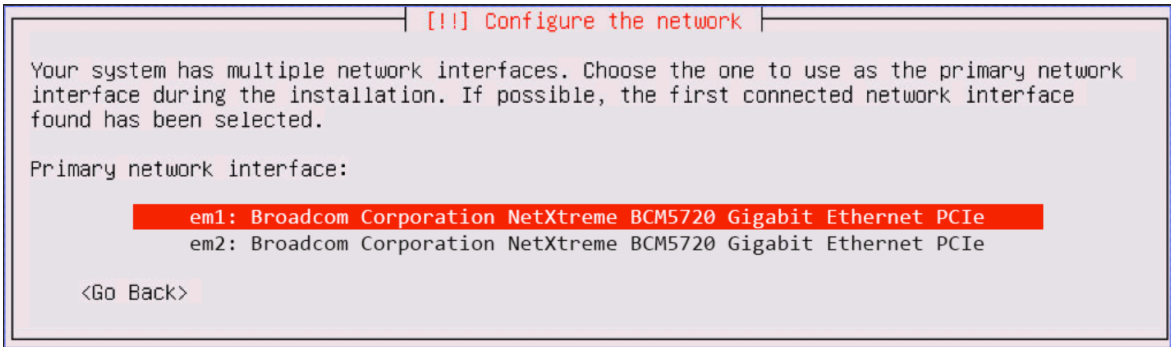


4. If it is the first time to install K2 on R240 server, you may be prompted that the installation CD-ROM couldn't be mounted. To solve this issue, disconnect your USB driver and reconnect it again.

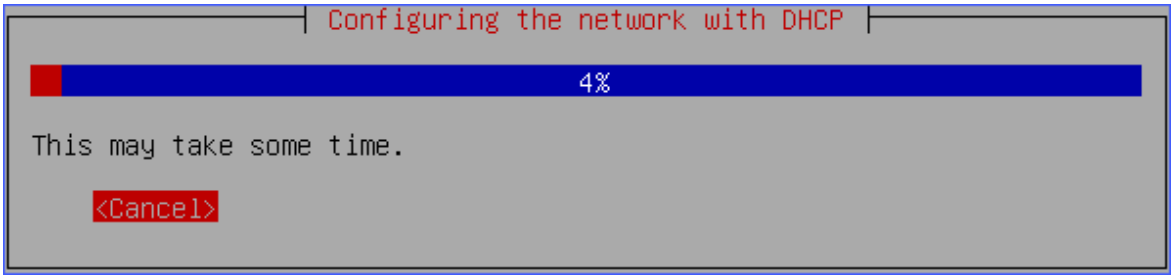


Step 3. Skip network configuration

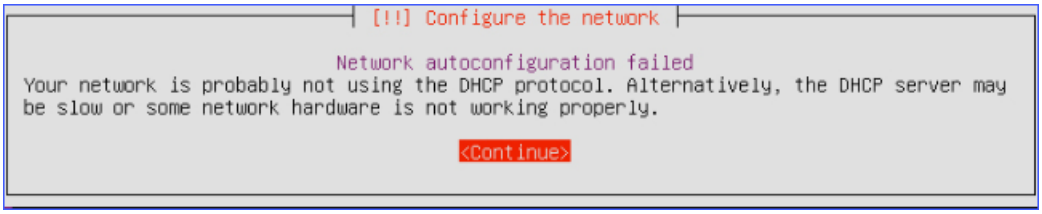
1. Select the primary network interface.



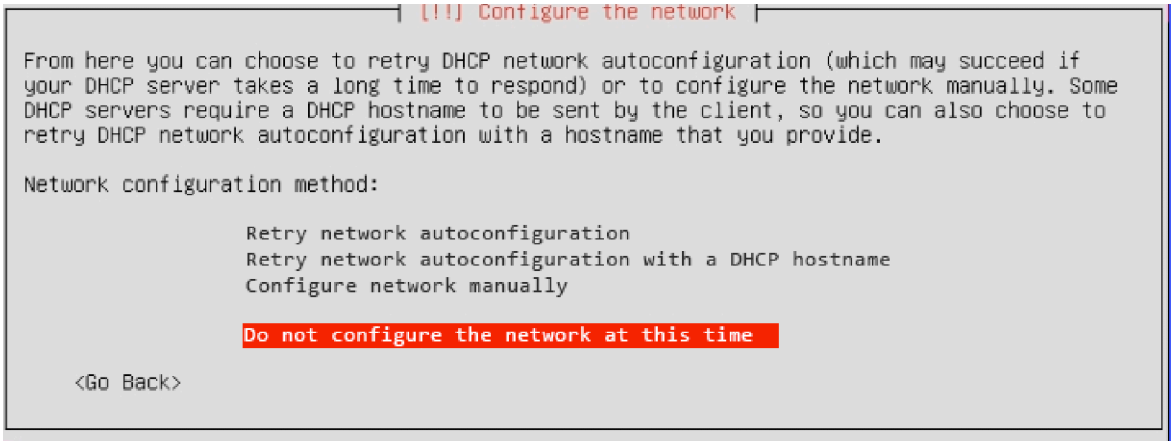
2. When you see the DHCP configuration process, press **Enter** key to cancel.



You will be prompted that the network auto configuration failed, press **Enter** key to continue.



3. Select **Do not configure the network at this time**.



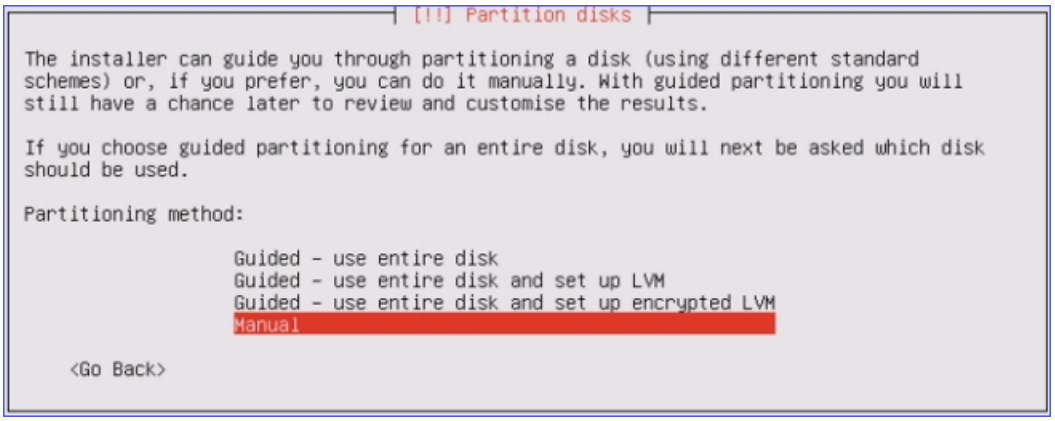
4. Select the time zone.

Step 4. Plan and create partition disk

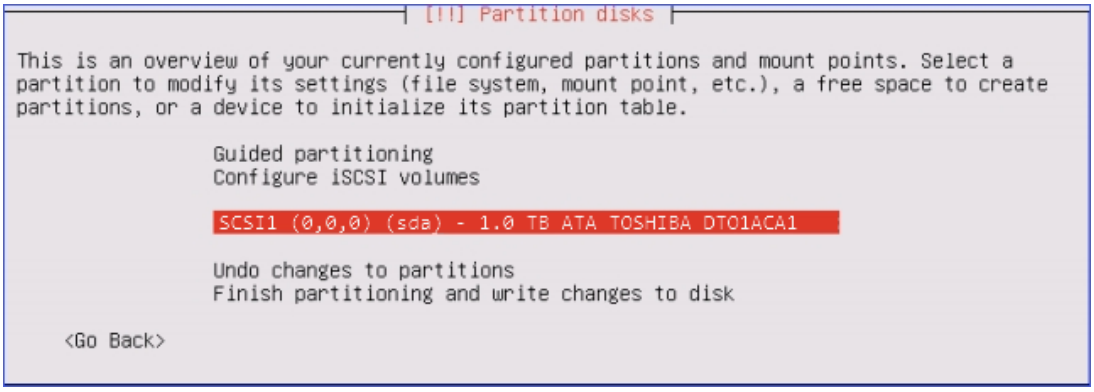
1. Unmount partitions that are in use.

a. Select **Yes** to unmount the partitions.

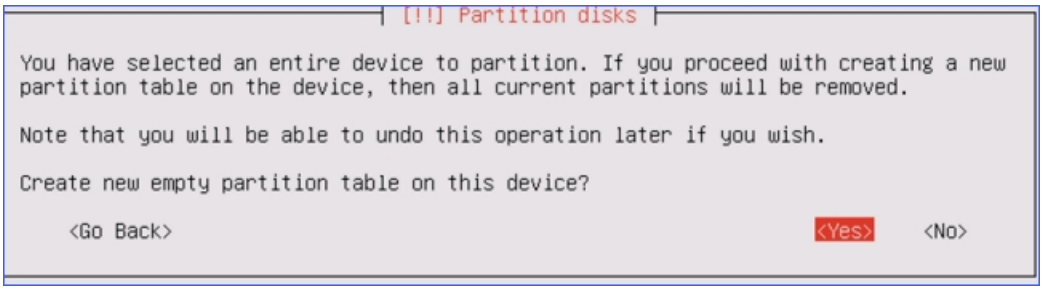
b. Select **Manual** partitioning method.



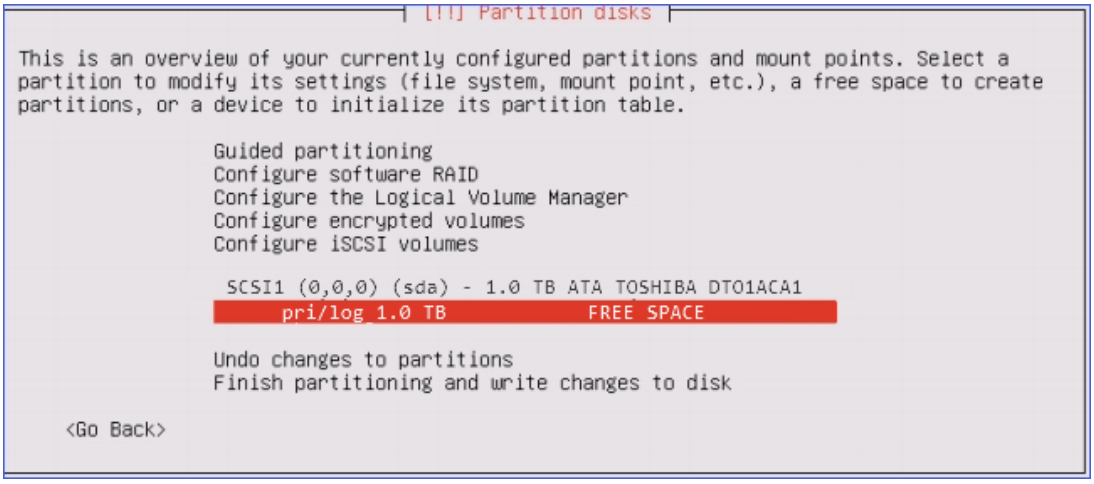
c. Select the partition of the system.



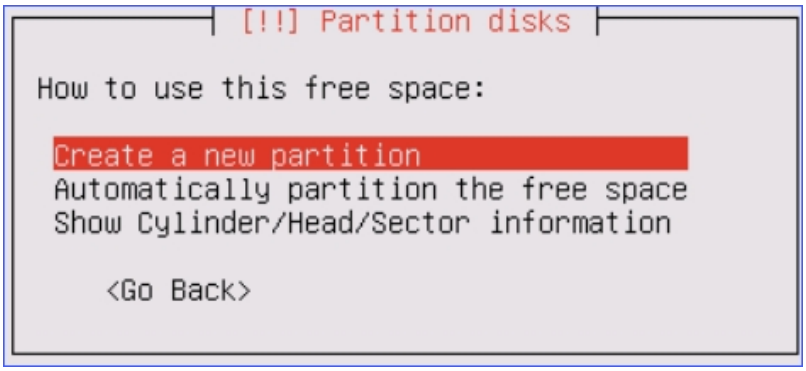
d. Select **Yes** to create new empty partition table on this device.



2. Create partition 1: root directory for system files.
   a. Select the **FREE SPACE** to create partition 1.

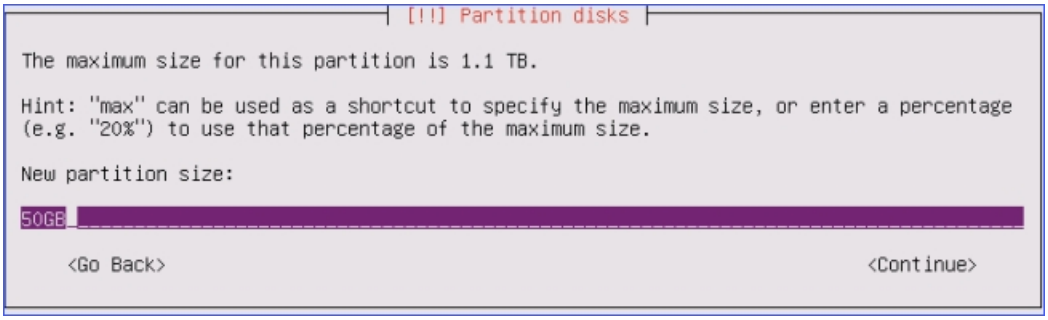


   b. Select **Create a new partition**.

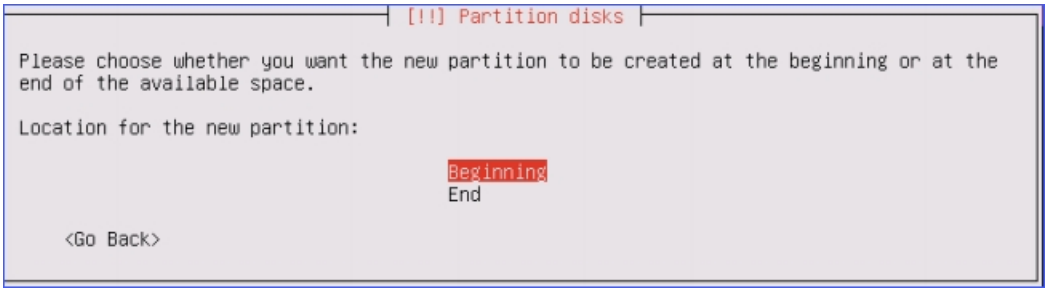


   c. Set the partition size.

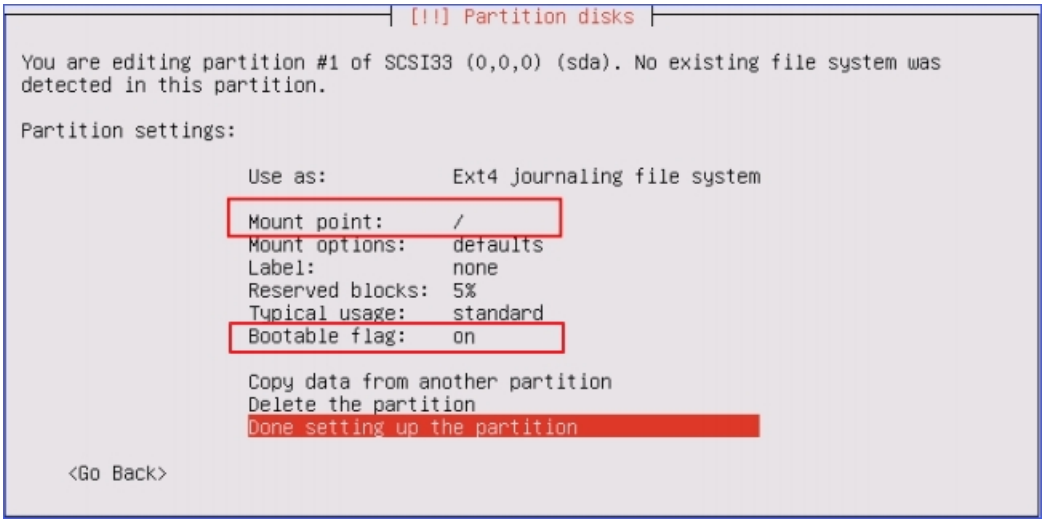
   Recommended size: 50 GB.



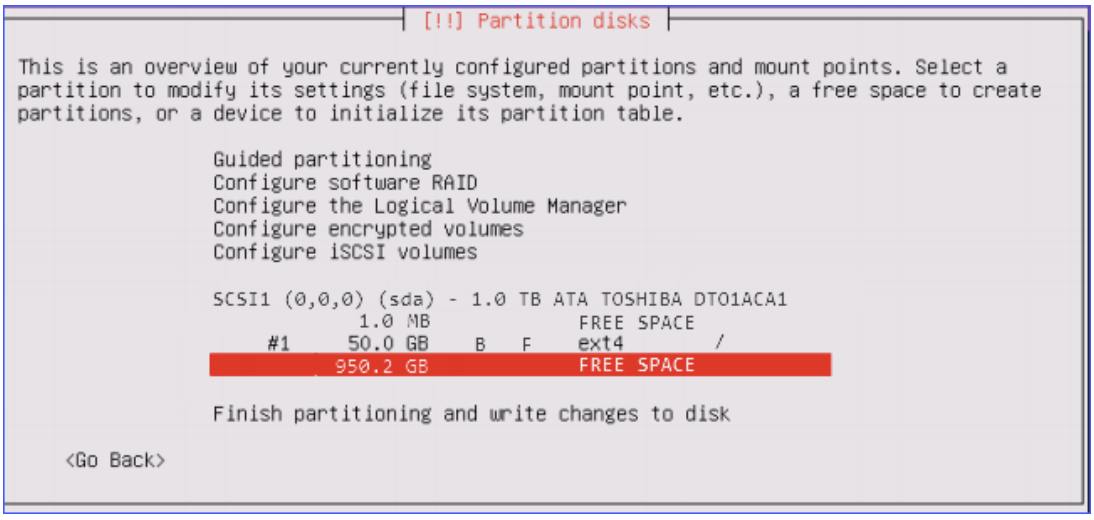
   d. Select location for the partition as **Beginning**.



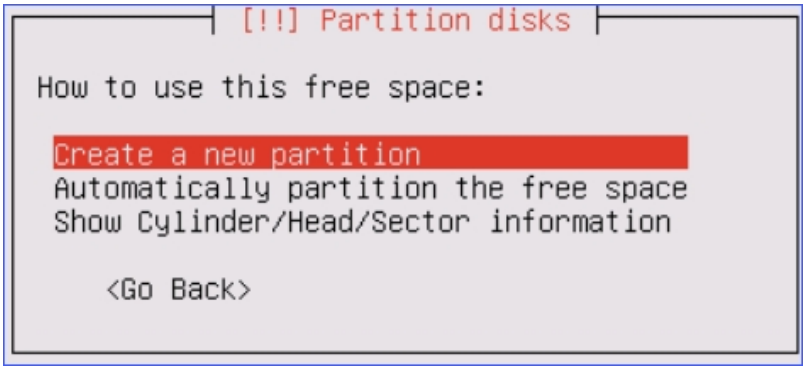
e. Set **Use as** and **Mount point** for the partition 1, then select **Done settings up the partition**.
   - **Use as**: Ext4 journaling file system
   - **Mount point**: /
   - **Bootable flag**: on



3. Create partition 2: home directory for data and recordings.
   a. Select the **FREE SPACE** to create partition 2.



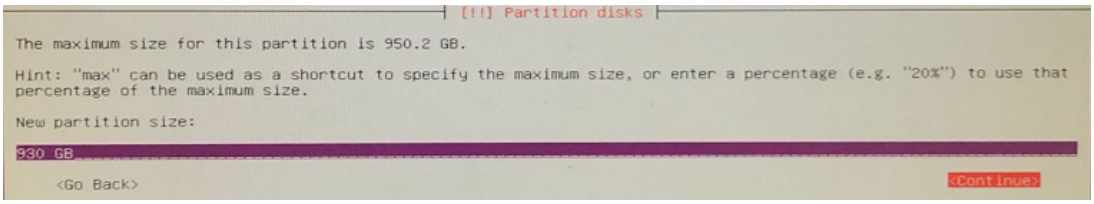
   b. Select **Create a new partition**.



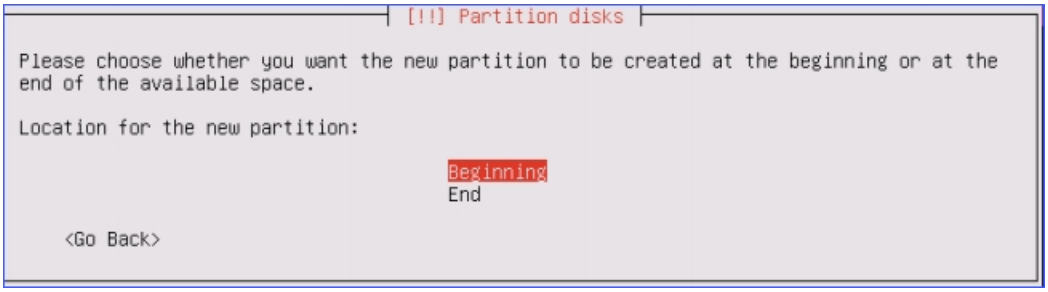
c. Set the partition size.

Note:

- 1000-minute recordings require about 1GB space.
- We recommend that you set a larger space for the partition to have more space to store your recordings and other data.

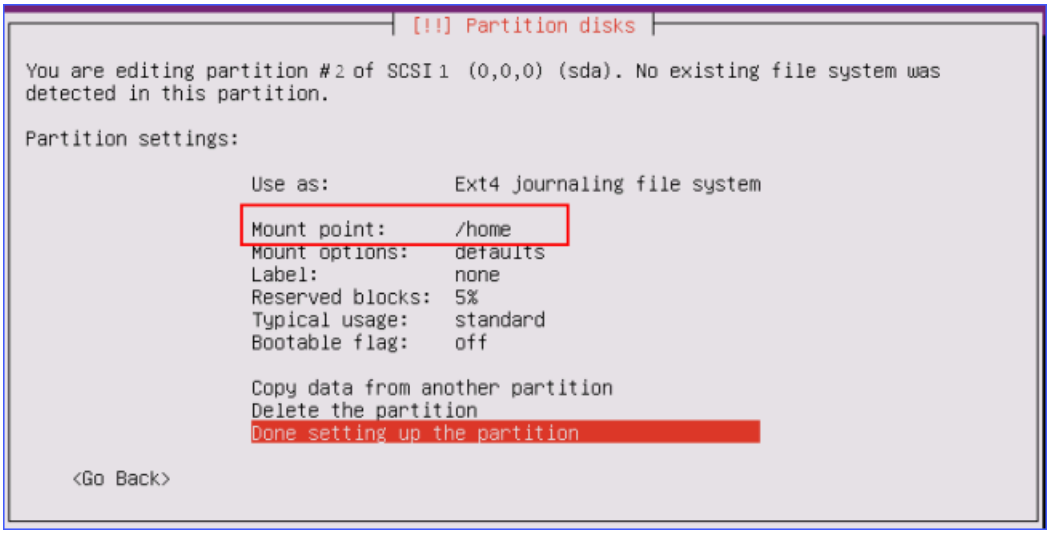


d. Select location for the partition as **Beginning**.

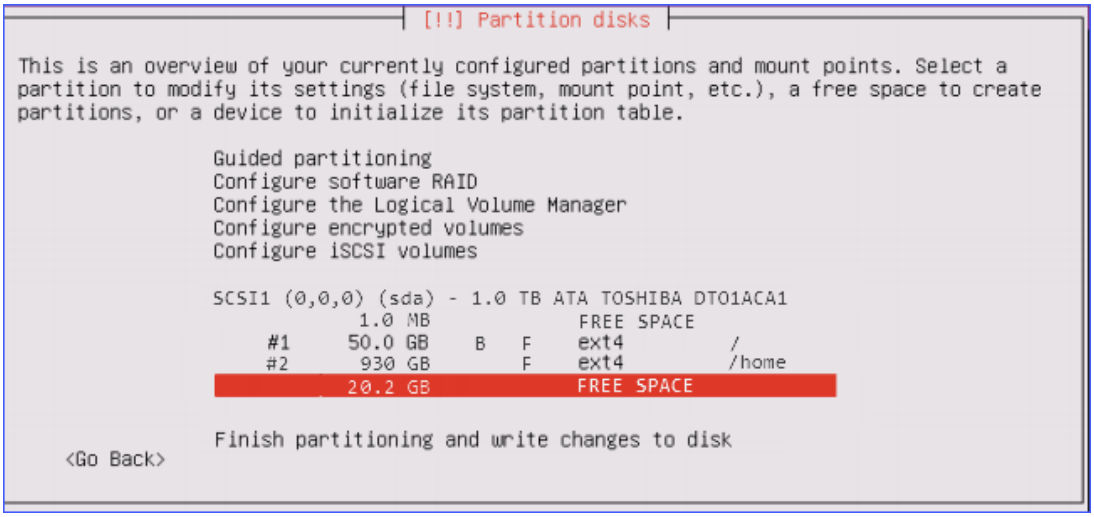


e. Set **Use as** and **Mount point** for the partition 2, then select **Done settings up the partition**.

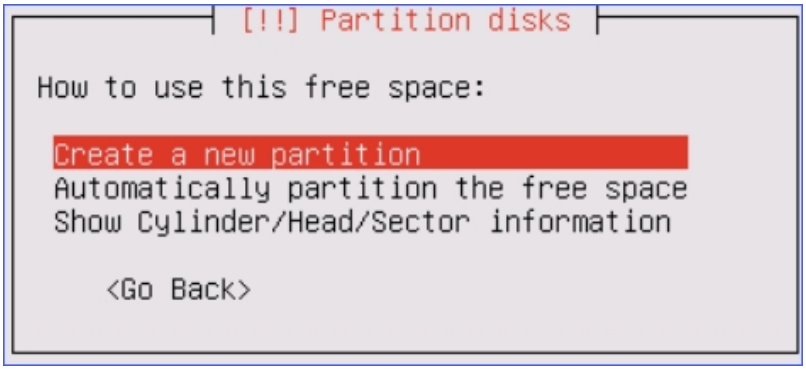
- Use as: Ext4 journaling file system
- Mount point: /home



4. Create partition 3: EFI boot for UEFI boot mode.
   a. Select the **FREE SPACE** to create a new partition.

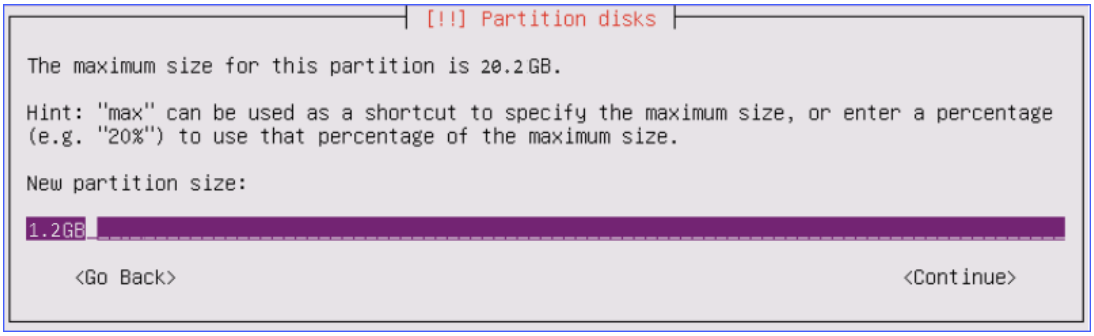


   b. Select **Create a new partition**.



   c. Set the partition size.

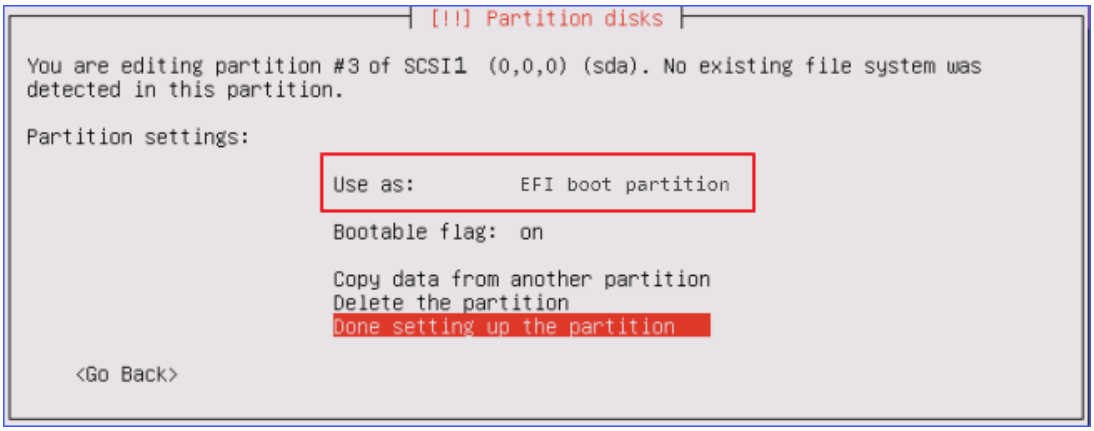
   Recommended size : 1.2 GB.



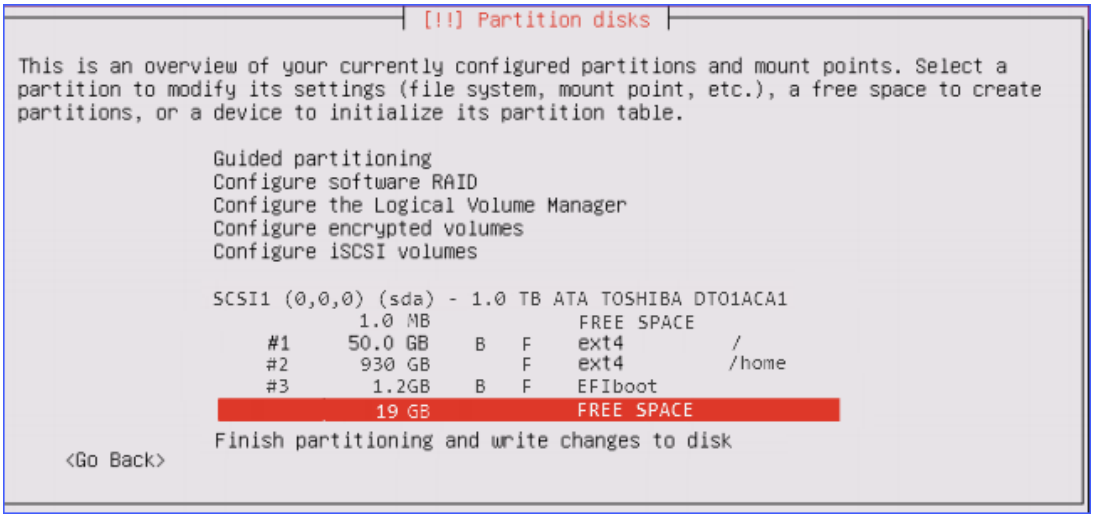
d. Select location for the partition as **Beginning**.

e. Set **Use as** and **Mount point** for the partition 3, then select **Done settings up the partition**.

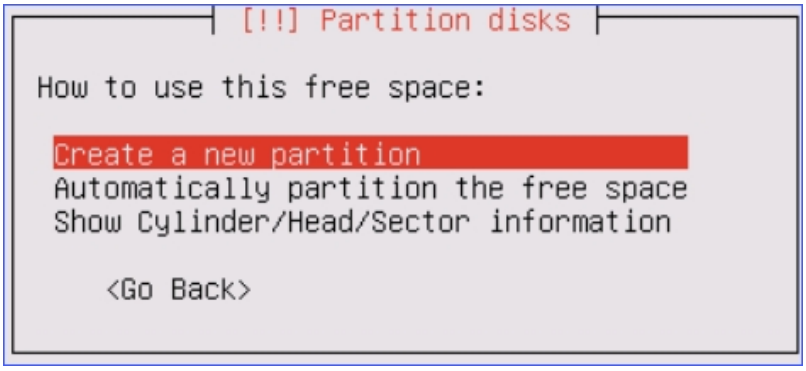
- Use as: EFI boot partition



5. Create partition 4: swap area for storing data when system hibernates.
   a. Select the **FREE SPACE** to create a new partition.

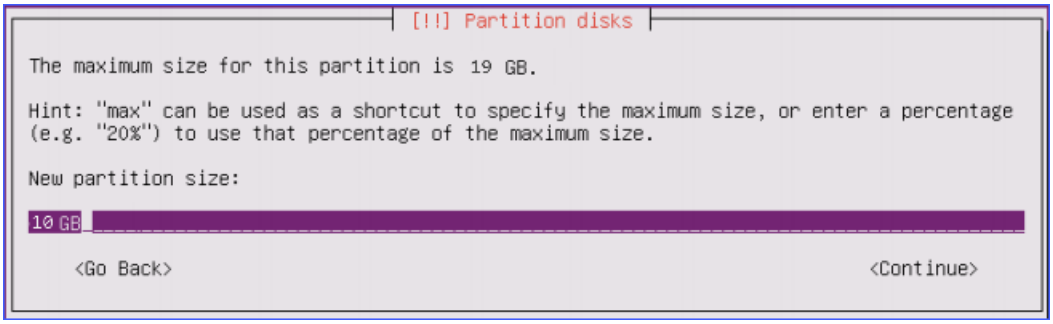


b. Select **Create a new partition**.

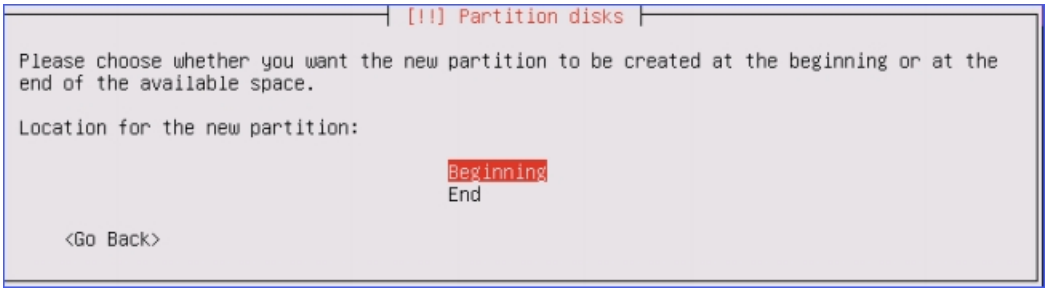


c. Set the partition size.

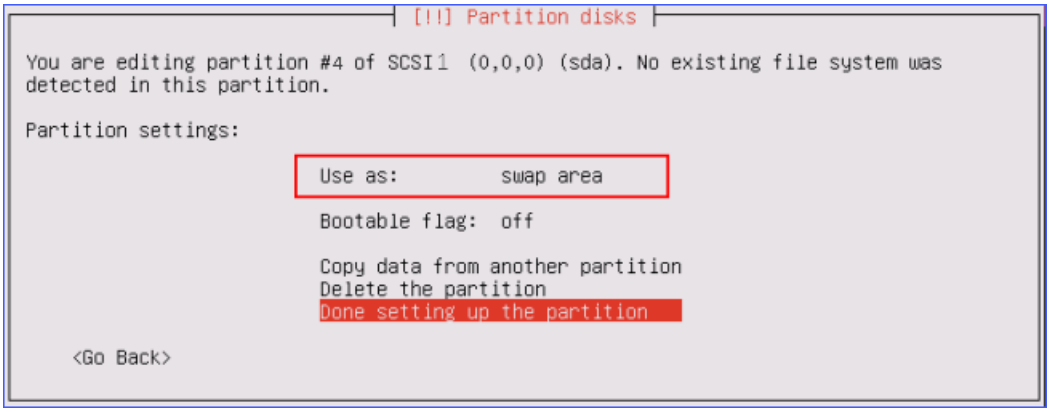
Recommended size : 10 GB.



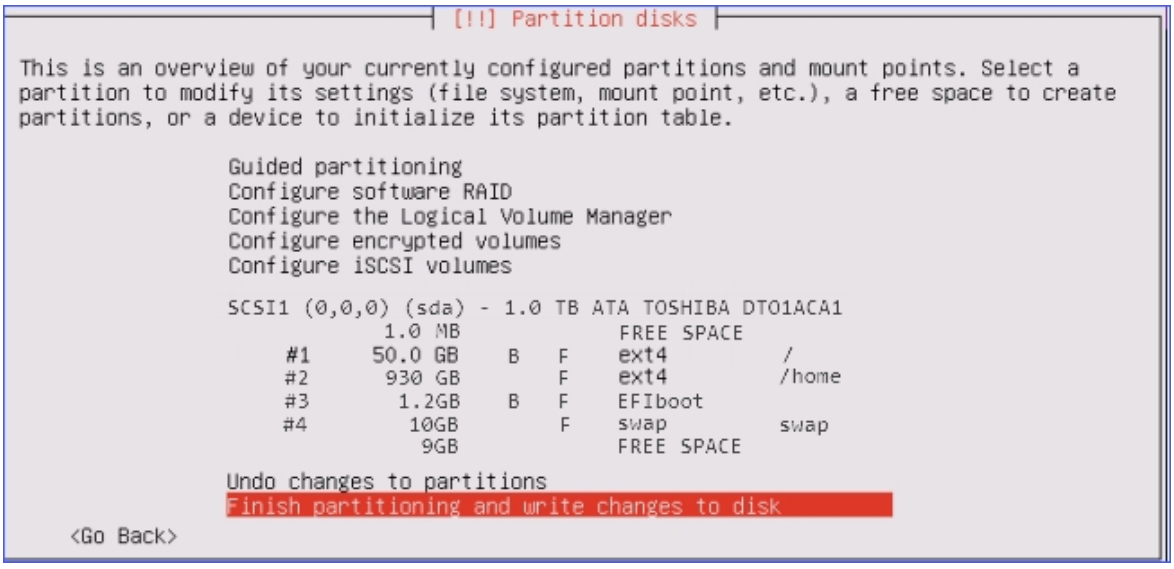
d. Select location for the partition as **Beginning**.



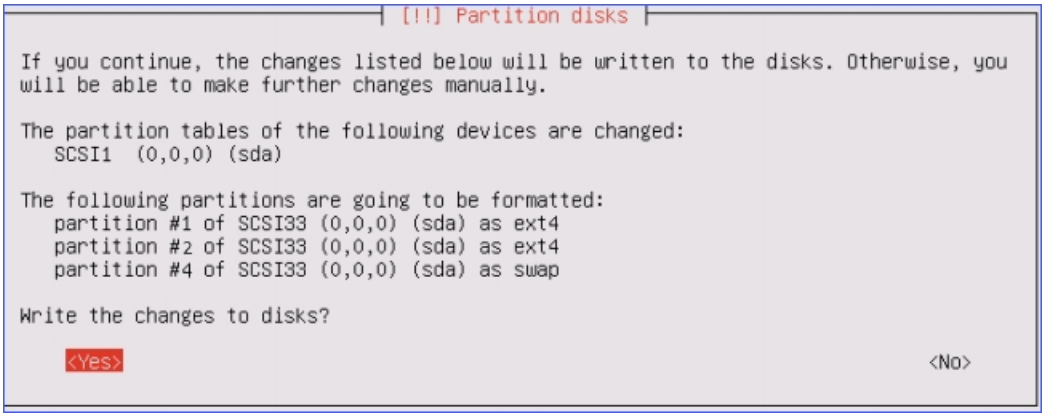
e. Set **Use as** and **Mount point** for the partition 4, then select **Done settings up the partition**.
   - Use as: swap area



6. Select **Finish partitioning and write changes to disk**.



7. Select **Yes**, write the changes to disks.

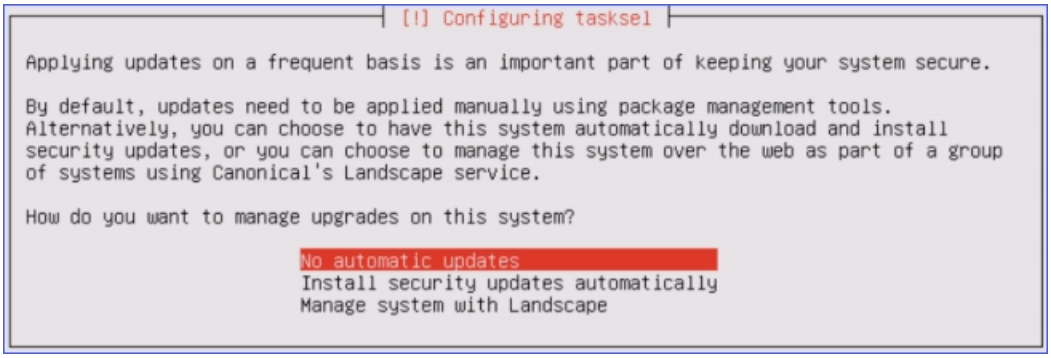


Step 5. Install the IPPBX System

After finishing partitioning and write changes to disk, the K2 system starts to be installed on the server. Wait for a few minutes for the installation.

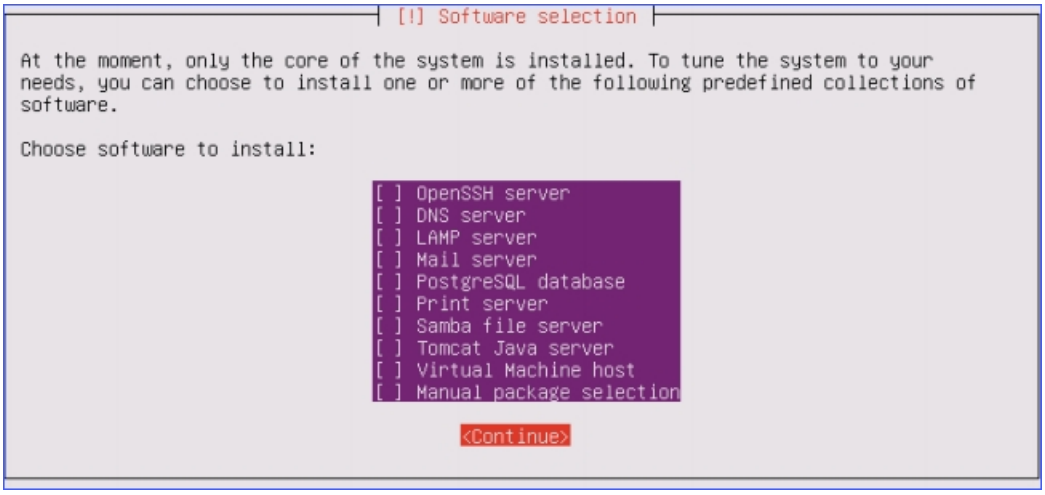
1. Select **No automatic updates**.

   Important: Do not select other options.

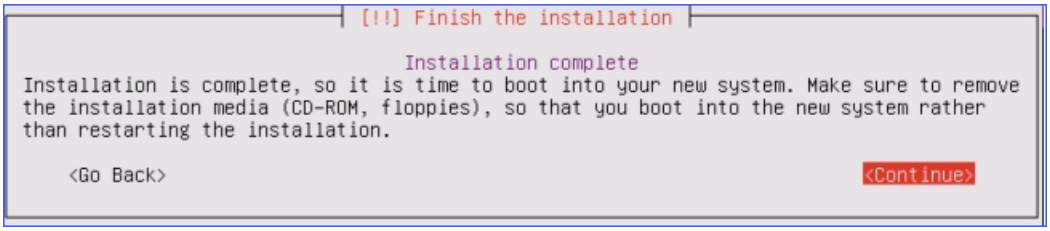


2. Press **Tab** to select **Continue** to skip this step.

   The system installation starts.



3. When you are prompted that the installation is complete, disconnect your USB driver, then select **Continue** to boot into your system.



When the following screen displays, the IPPBX system is successfully installed.

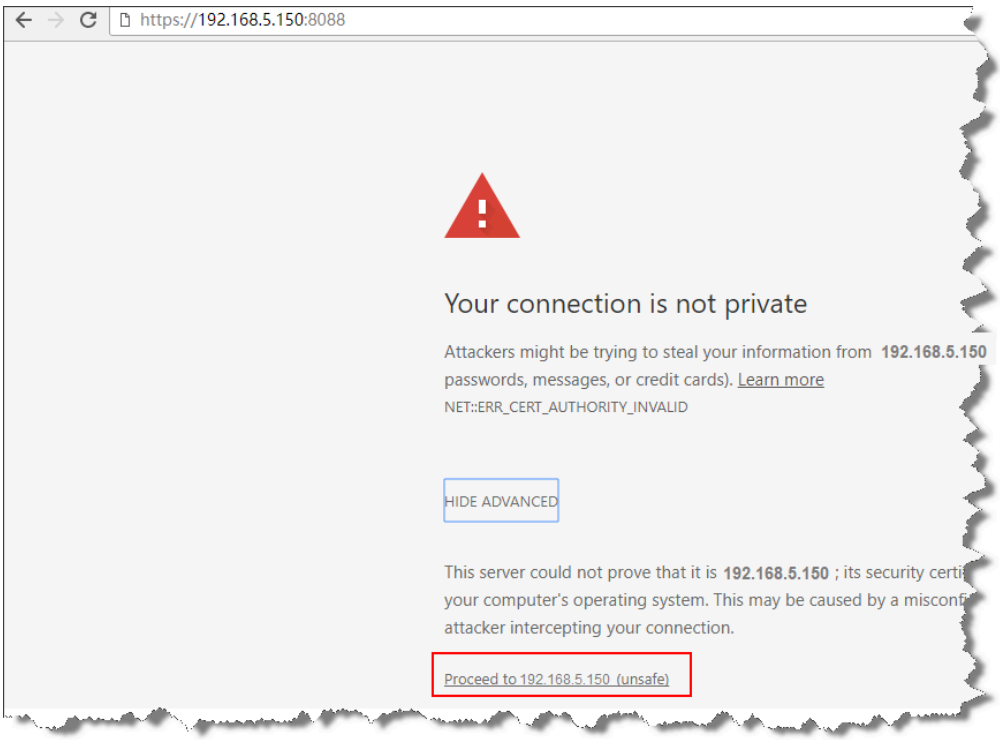
Log in to the Yeastar K2 IPPBX

After installing Yeastar K2 IPPBX system successfully, you can log in to your PBX using a local browser.

The default IP address of the PBX is 192.168.5.150. To log in to the PBX, you need to make sure that your server is in the same network segment of 192.168.5.X.

1. Launch your web browser, enter the default IP address, and press **Enter**.

   A connection warning appears. Ignore the warning and proceed to the Yeastar IPPBX web page.



2. Enter the default user name and password, click **Login**.
   - **Username**: admin
   - **Password**: password

Activate Yeastar K2 IPPBX

After installing the Yeastar K2 Software, you can try out all the PBX features for free without time limit. However, the inactivated PBX has a limit on the number of extensions, concurrent calls, VoIP trunks, ring groups, etc. Contact Yeastar to buy the license according to the number of extensions and concurrent calls, and other features you need on the PBX.

Limitation of an inactivated Yeastar K2 IPPBX

Table 2.

Feature	Max. number
Extension	10
Concurrent call	5
Trunk	1

Table 2. (continued)

Feature	Max. number
Ring Group	1
RingGroup Member	1
Queue	1
Queue Member	1
Conference	1
Conference Member	1
Pickup Group	1
Paging/Intercom	1
Paging/Intercom Member	1
Speed Dial	1
Callback	1
DISA	1
Inbound Routes	1
Outbound Routes	1
SLA	1
Time Condition	1
Holiday	1
IVR	1
Blockllist/Allowlist	1
PIN List	1
PIN List Number	1

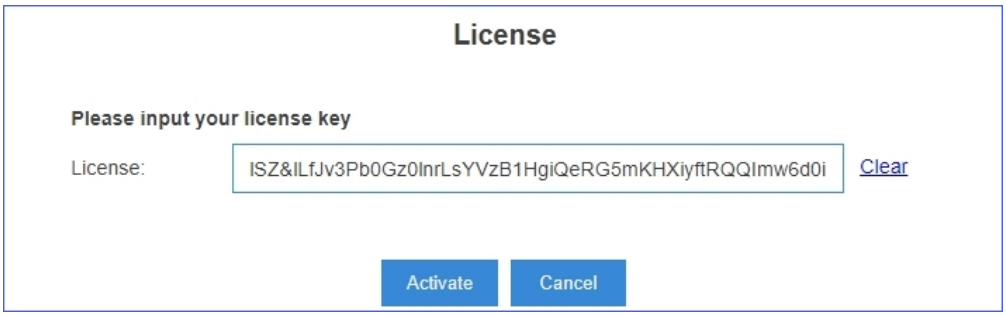
Activation methods

Method	Environment	Description
Online activation	PBX can access the internet	Keep your PBX connected to the internet to access the Yeastar activation server.
Offline activation	PBX cannot access the internet	To secure your phone system, you may install a Yeastar K2 IPPBX that fails to access the Internet. In this scenario, Yeastar will provide a USB license key to help you activate your PBX. **Note:** The USB key is programmed with your required PBX capacity, and can be used for one device only.

Important: If you reinstall your PBX, you need to contact Yeastar to get a new license, and reactivate your PBX.

Activate Yeastar K2 IPPBX online

1. Log in to the PBX web interface, go to **Maintenance > Activation**, Click **Activate**.
2. Enter your license in the **License** field, click **Activate**.

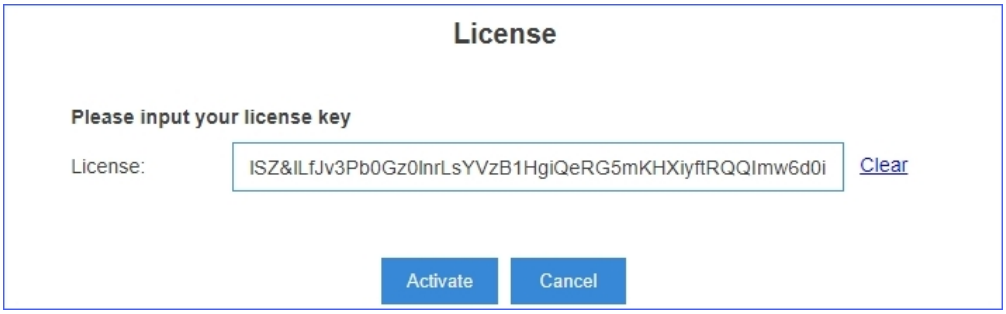


3. Click **OK** and reboot the PBX to take effect.

Note: After activating the PBX, keep your PBX connected to the Internet, or the PBX will be detected as an abnormal device.

Activate Yeastar K2 IPPBX offline (USB Key)

1. Connect the USB Key to your computer where the Yeastar K2 IPPBX is installed.
2. Log in to the PBX web interface, go to **Maintenance > Activation**, click **Activate**.
3. Enter your license in the **License** field, click **Activate**.



4. Click **OK** and reboot the PBX to take effect.

Note: After activating the PBX, keep the USB Key connected to the PBX, or the PBX will be detected as activation abnormality.

Expand System Capacity of Yeastar K2 IPPBX

If you need to expand the number of extensions, concurrent calls, or other features, contact Yeastar to upgrade your license, and then update your license to your PBX.

Update methods

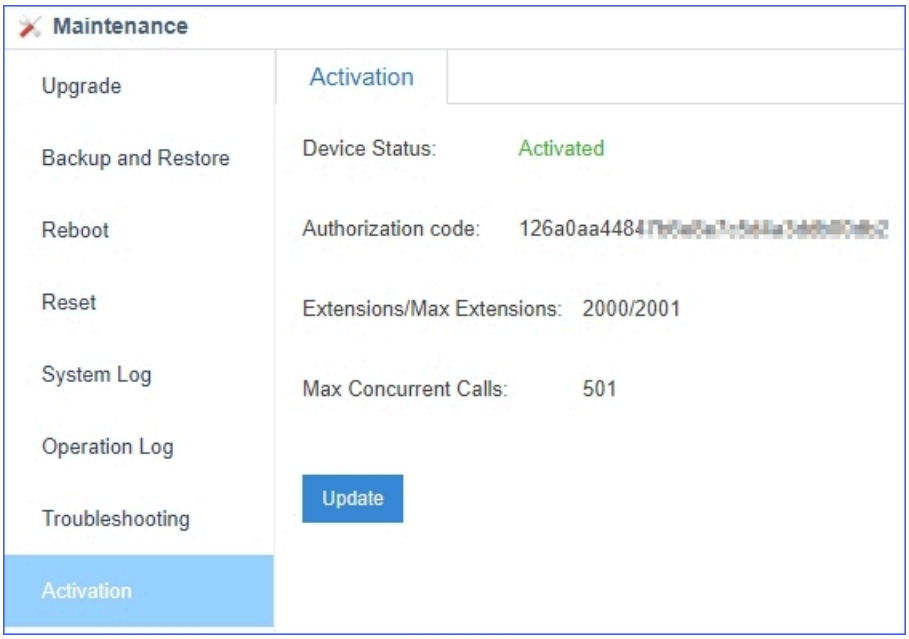
Choose the same update method as the one you choose to update the license according to the environment of your PBX.

- Update license online
- Update license offline (USB Key)

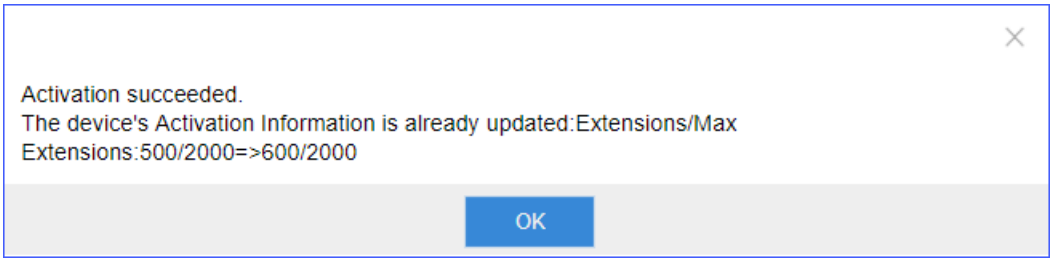
Update license online

Contact Yeastar to update your license, and confirm the license update on your PBX.

1. Log in to the PBX web interface, go to **Maintenance > Activation**, click **Update**.



2. Click **OK** after update.

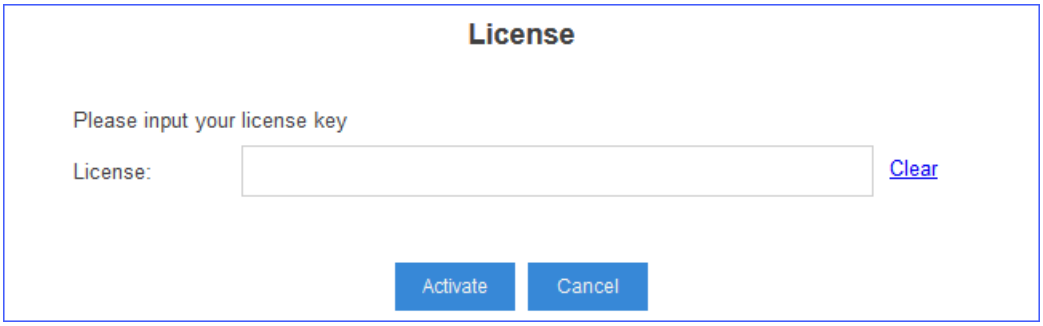


Note: Keep your PBX connected to the internet, or the PBX will be detected as an abnormal device.

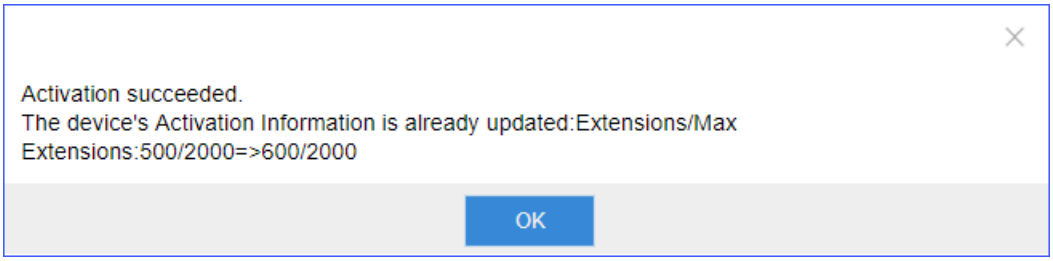
Update license offline (USB Key)

Contact Yeastar to update your license, you will get a new license, enter the new license on your PBX.

1. Log in to the PBX web interface, go to **Maintenance > Activation** , click **Update**.
2. Enter your new license, click **Activate**.



3. Click **OK** after update.



Note: Keep the USB Key connected to the PBX, or the PBX will be detected as an abnormal device.