

Getting ready for your

Red Hat remote exam

Red Hat® remote exams provide an entire operating system tailored for the purpose of delivering a Red Hat exam. Take the steps below to ensure you are prepared for your remote exam.

2-3 days prior to your exam:

1
Check system requirements »

2
**Download and create a
remote exam LiveUSB »**

3
**Boot to the remote exam
LiveUSB and configure your
internet and other settings »**

4
**Log into the remote exam LiveUSB
environment »**

5
**Run a compatibility test* in the
remote exam LiveUSB environment »**



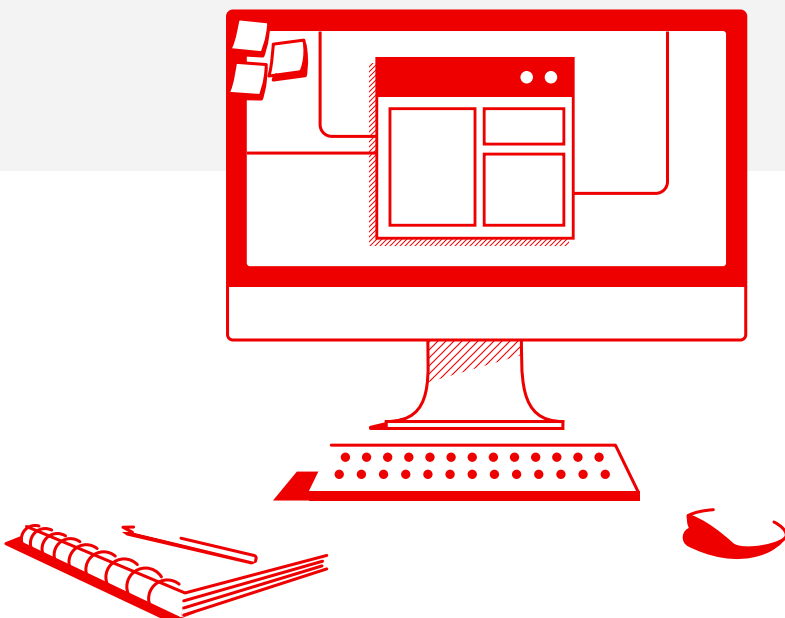
Make sure to run the compatibility test at the time of day your exam is scheduled to get the most accurate evaluation possible.

**If system requirements are not met,
you will have to reschedule your exam.**

Read the FAQ or chat with our support team if you have questions during exam preparation.

[Contact support](#)

* Required; you can only proceed with your scheduled Red Hat remote exam if your compatibility test is successful.



Getting ready for your

Red Hat remote exam

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System requirements

- ✔ **Computer:** You will need a computer with a single active monitor. Red Hat supports many Intel-compatible X86_64-bit architecture computers.
- ✔ **USB:** One USB drive (2.0 or higher) with at least 8 GB capacity
NOTE: The entire disk will be overwritten, so make sure you have saved any contents you may have on the disk before following the procedure for creating the remote exam LiveUSB.
- ✔ **USB hub:** One wired USB hub is allowed if a hub is needed to accommodate permitted peripheral devices as described below.
- ✔ **Hard drive:** A hard drive with free storage capacity of at least 4 GB (for LiveUSB creation only).
- ✔ **Mouse:** A wired mouse is optional but recommended. A wireless mouse is not allowed. A wired mouse is required if you use a laptop with the lid closed as described below.
- ✔ **Keyboard:** Only one keyboard is allowed for the exam. If you wish to use an external, wired keyboard with your laptop, you will have to keep the lid closed. This configuration will require the use of an external monitor and wired mouse as well. Wireless keyboards are not permitted.
- ✔ **Webcam:** One external webcam with at least a 1m cable.
- ✔ **Monitors:** Only one physical display will be allowed for the exam.
- ✔ **Connecting an external monitor to a laptop:** You are only allowed to use one monitor, one keyboard, and one external mouse. If you chose to connect an external monitor to your laptop, the laptop lid must be closed throughout the duration of the exam session. You will be required to use a wired keyboard and a wired mouse.
- ✔ **Sound and microphone:** A working microphone is required. Verify that the audio and microphone are not set on mute prior to the exam.
- ✔ **Operating system:** N/A.
- ✔ **Firewalls:** Firewalls that allow normal web activities will typically work. More restrictive firewalls that limit outgoing access and that require additional authentication may cause problems. Most firewall issues will show up when you run the compatibility test.
- ✔ **RAM:** Minimum 4GB of RAM is required.
- ✔ **Internet connection speed:** 2.0 Mbps download and 1.0 Mbps upload.
- ✔ **Network connection:** Unless it is physically not possible, a wired network connection

should be used, not wireless, to ensure the most reliable delivery of your exam.

- ☑ **Laptop battery:** If using a laptop, please ensure that the built-in battery is fully charged just in case there is an interruption of power. Do not rely on the battery as the principal power source.
- ☑ **Power:** We recommend the use of an uninterruptible power supply (UPS) for your computer, external monitor (if used), and networking equipment to maintain internet connectivity during power outages.
- ☑ **Desktop or tower computer placement:** All desktop or tower computers used for remote exams must sit either on top of the desk being used or in a place that allows a full 360-degree scan of the computer.

For a real-time assessment of your network and hardware requirements, run the compatibility check within the remote exam LiveUSB environment, which will be provided after the exam is scheduled.



You will need a USB drive with at least 8 GB storage, USB 2.0 or higher.

Creating a remote exam LiveUSB

Operating system: Windows 10, Windows 8.1, Windows 7

The display prompts and screens shown below might vary slightly depending on the version of Windows used.

Important: You need to be an administrator of the system. Obtain administrator privileges from your IT department if you are using a laptop provided by your organization. Use your personal laptop or computer to create a LiveUSB if admin rights cannot be provided for security reasons.

1. **Download the LiveUSB**, and save it on the local hard drive.
2. **Connect the USB drive** intended for creation of the LiveUSB.
3. **Download** and install [Fedora® Media Writer](#).

fedora Editions ▾ Help ▾ Wiki

WORKSTATION Overview Download

Download Fedora Workstation.

We're so glad you've decided to give Fedora Workstation a try. We know you'll love it.

On Windows or MacOS?
Get started by using **Fedora Media Writer**, which makes it super easy to give Fedora a try.

Fedora Media Writer

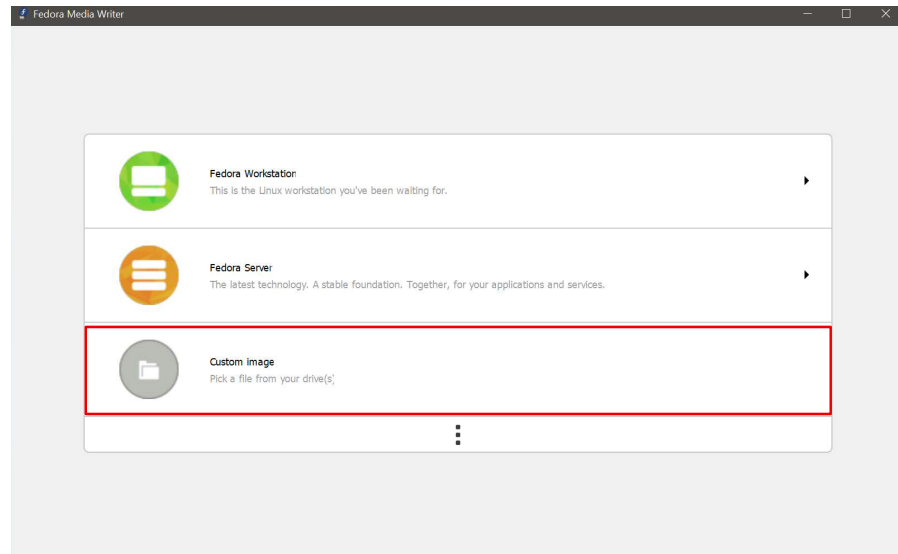
On Linux or just want an ISO file?
Not sure how to use this file? [Learn here.](#)

For x86_64:
Fedora 33: x86_64 DVD ISO Download

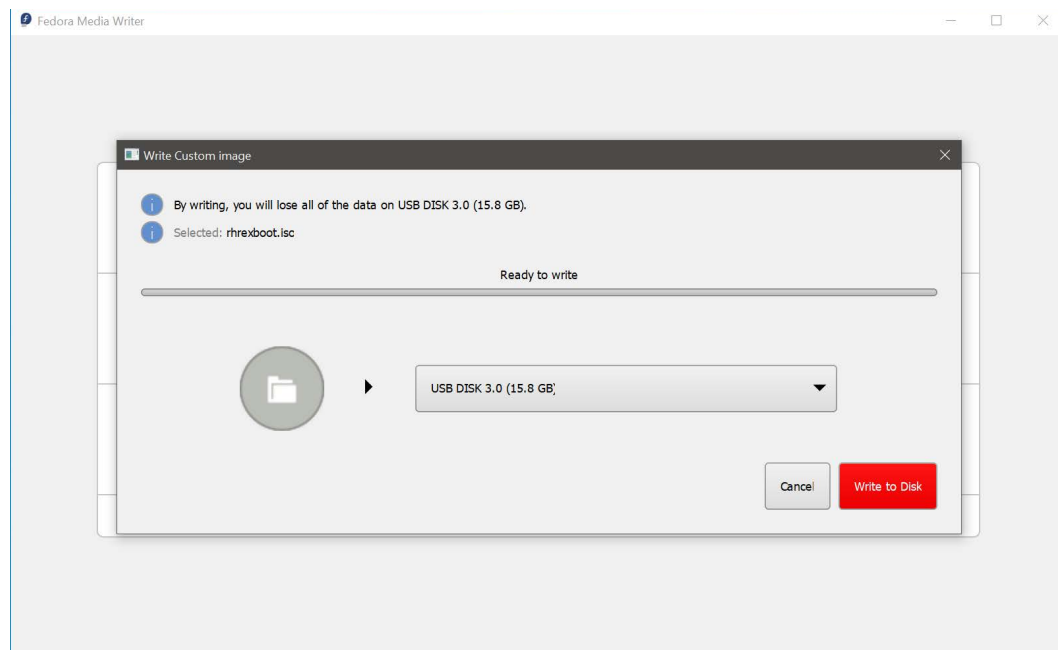
For ARM® aarch64:
Fedora 33: aarch64 raw image Download

4. **Use Fedora Media Writer** to write the downloaded .iso file to your USB drive.

- Launch Fedora Media Writer from the list of installed programs
- Select “custom image”



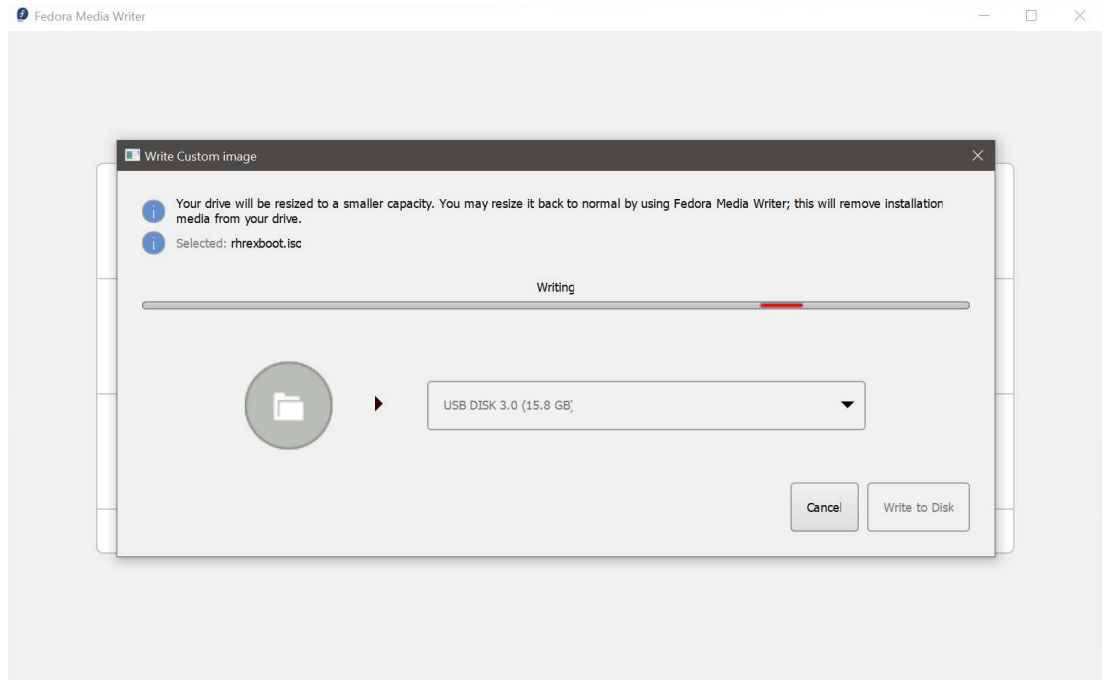
- Navigate to the remote exam LiveUSB stored on your computer, click on “open” and bring up the “write custom image” window.



- If you have a USB drive connected to your computer, Fedora Media Writer will display

that as the target device to create a LiveUSB. Note: Fedora Media Writer destroys all data on the USB drive when creating a LiveUSB. We recommend you back up the contents of your USB drive beforehand.

- Select "write to disk" to initiate the remote exam LiveUSB creation process. The "write custom image" window should identify the connected USB drive.



5. Close the window once the writing process is completed.

6. Boot to the remote exam LiveUSB. [Go to instructions.](#)



You will need a USB drive with at least 8 GB storage, USB 2.0 or higher.

Operating system: Fedora

The display prompts and screens shown below might vary slightly depending on the version of Fedora used.

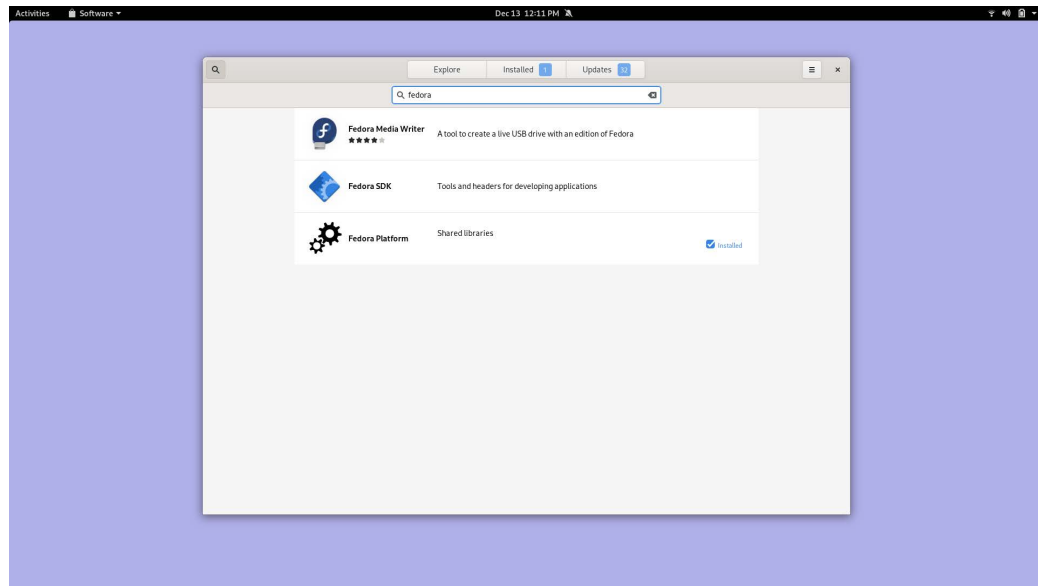
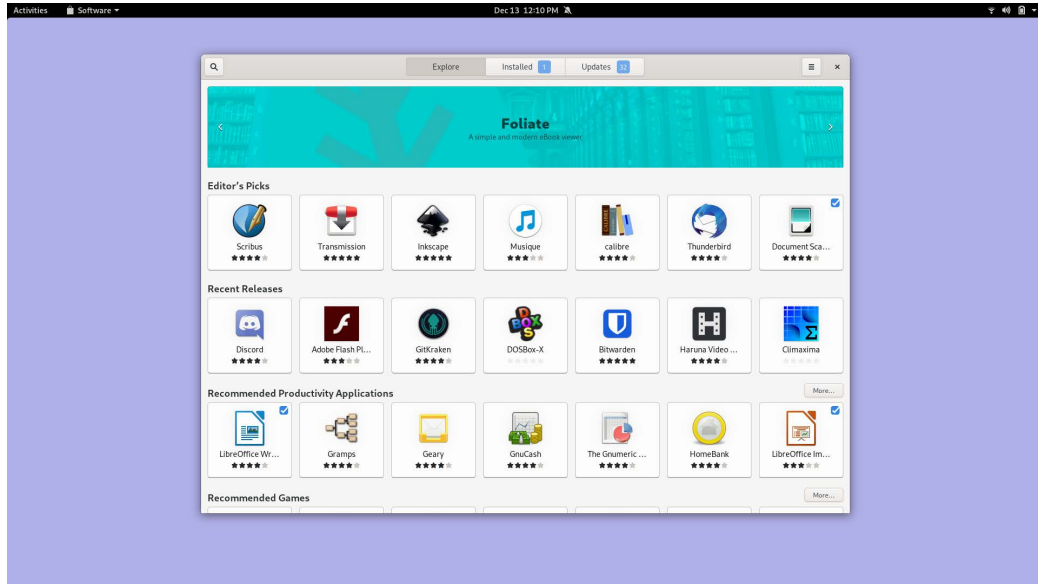
Important: Root access or sudo access is needed to perform these operations.

Method 1—Using Fedora Media Writer

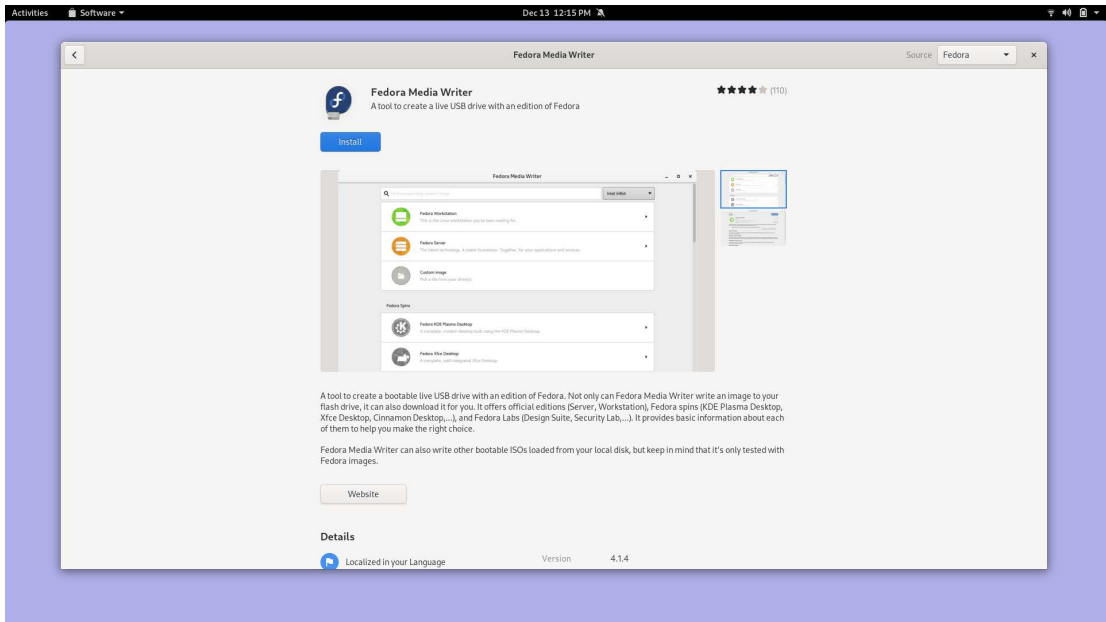
1. Download the [remote exam LiveUSB](#), and save it in the local hard drive.
2. Download **Fedora Media Writer** from the software download utility.



3. Search for Fedora Media Writer in the software download utility.

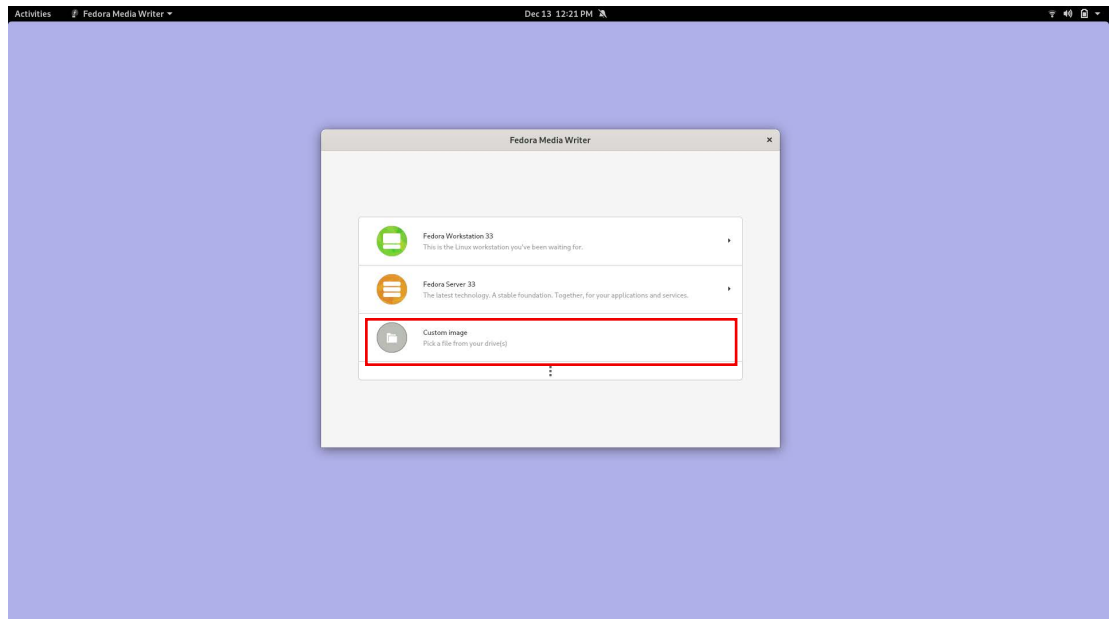


4. Select and install.

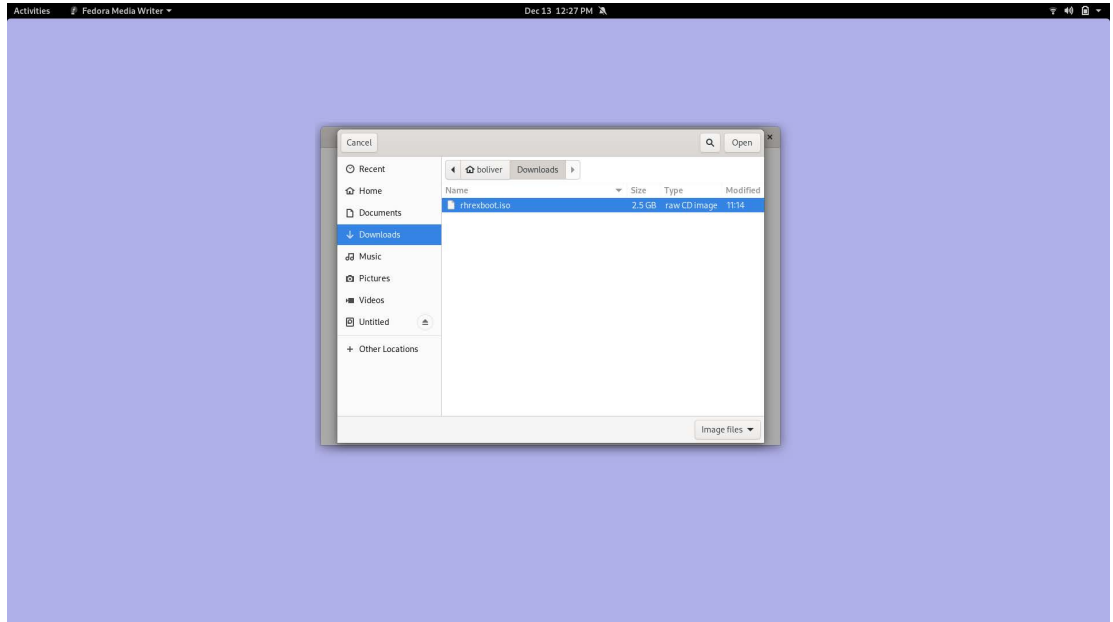


5. Click on "launch" after installation.

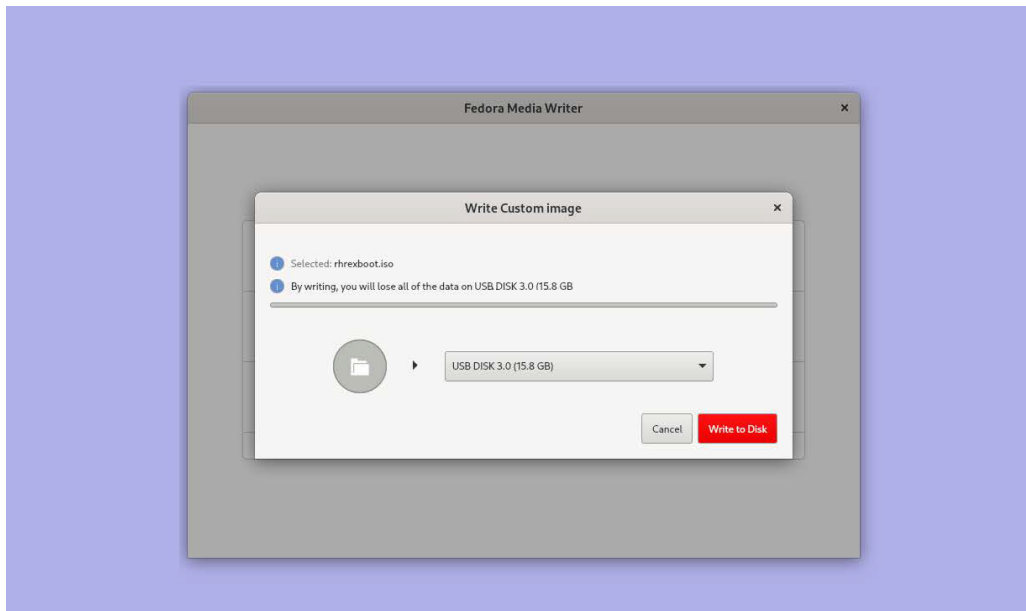
6. Select "custom image" at the Fedora Media Writer screen.



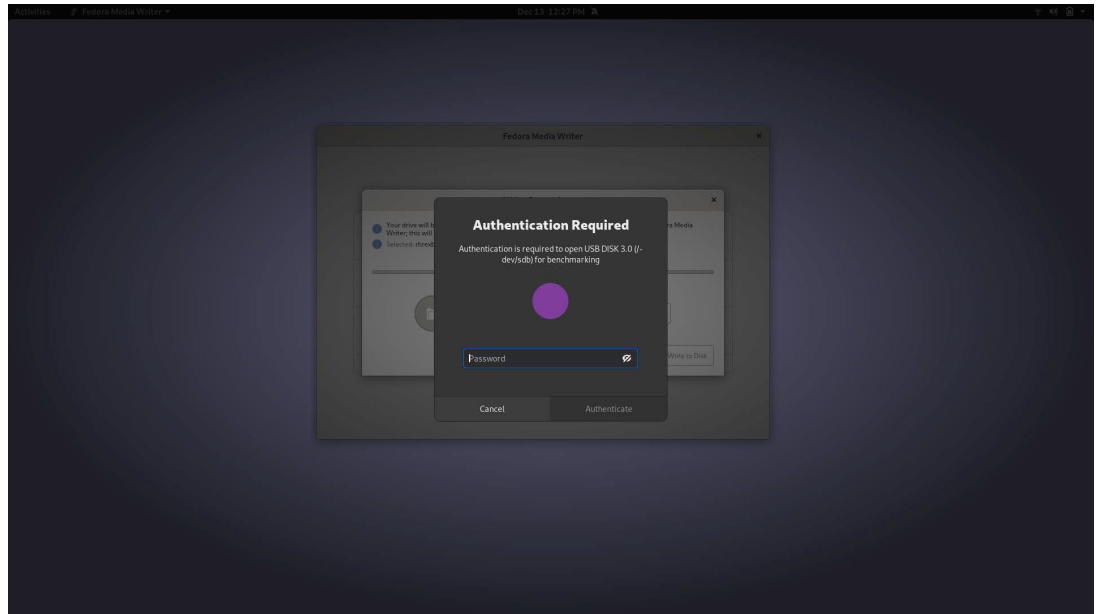
7. Select the “remote exam LiveUSB file” stored on your computer.



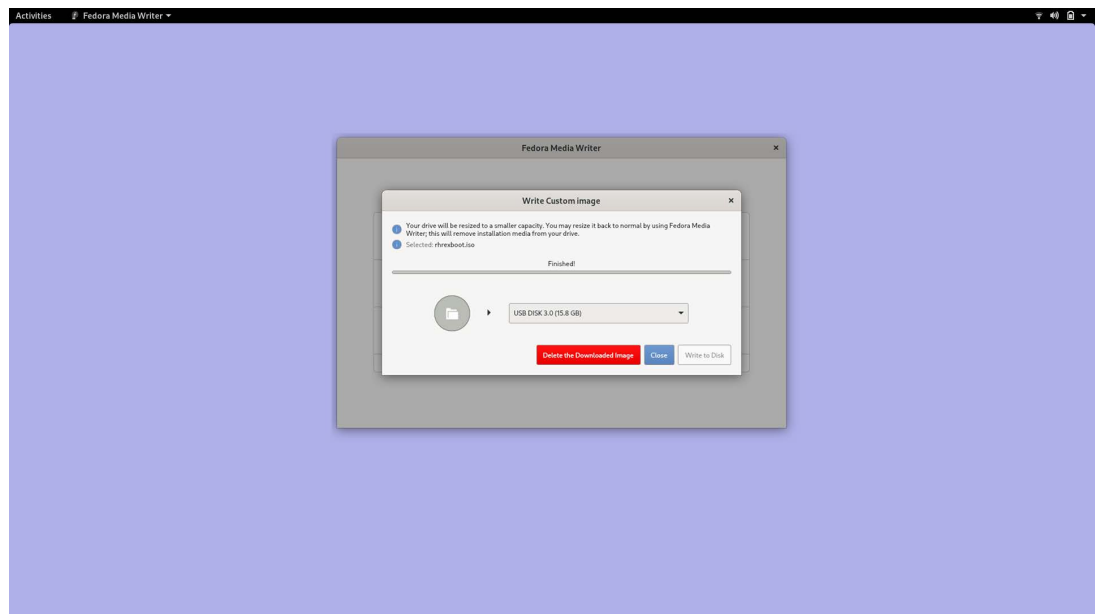
8. Select “write to disk”. Plug in the USB drive if you haven’t already done so, and ensure that the right USB drive is detected in the Fedora Media Writer screen.



9. Enter the root password to your Fedora operating system to proceed.



10. Close and remove the USB drive once finished.

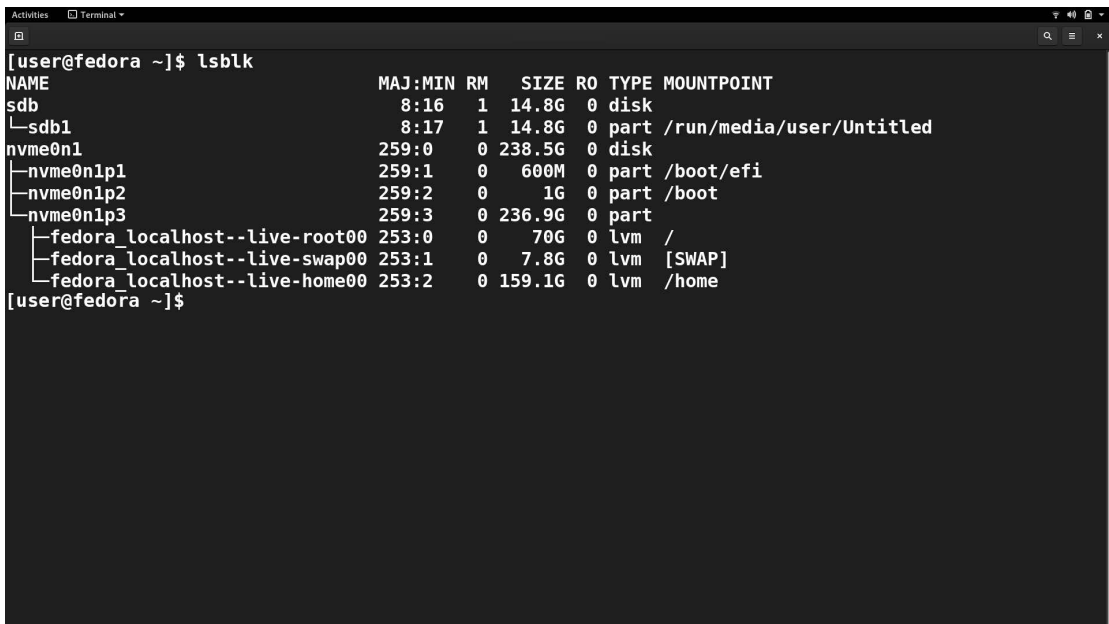


11. Boot to the remote exam LiveUSB. [Go to instructions.](#)

Method 2—Using the dd utility

Caution: Use dd utility with extreme caution. Using the wrong destination drive letter in the dd command can wipe out or overwrite the content of a different drive than intended—even your computer’s hard drive. Read the command and ensure accuracy of syntax and parameters before running the dd utility.

1. **Download the [remote exam LiveUSB](#)**, and save it in the local hard drive.
2. **Open a terminal window and run the dd command** to write the remote exam LiveUSB image directly to the USB drive.
3. **Use the lsblk command to find the attached USB drive.** (For example, it can be sda,sdb or sdc). Here is an sdb example:
\$ lsblk



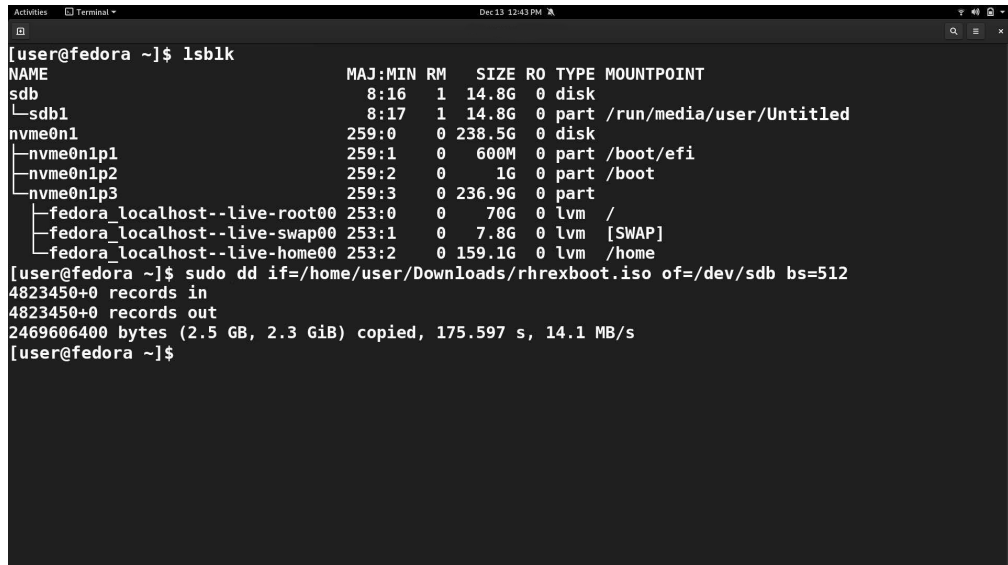
```
Activities Terminal
[user@fedora ~]$ lsblk
NAME                                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sdb                                  8:16   1  14.8G  0 disk
├─sdb1                               8:17   1  14.8G  0 part /run/media/user/Untitled
nvme0n1                             259:0   0  238.5G  0 disk
├─nvme0n1p1                         259:1   0    600M  0 part /boot/efi
├─nvme0n1p2                         259:2   0     1G  0 part /boot
├─nvme0n1p3                         259:3   0  236.9G  0 part
├─fedora_localhost--live-root00    253:0   0     70G  0 lvm  /
├─fedora_localhost--live-swap00    253:1   0     7.8G  0 lvm  [SWAP]
└─fedora_localhost--live-home00    253:2   0   159.1G  0 lvm  /home
[user@fedora ~]$
```

4. To run the **dd** command as a **sudo** user, enter the sudo password when prompted.

Syntax: \$ sudo dd if=/home/<<user>>/Downloads/<<File_name_of_image.iso>> of=/dev/<<destination USB drive>> bs=512k

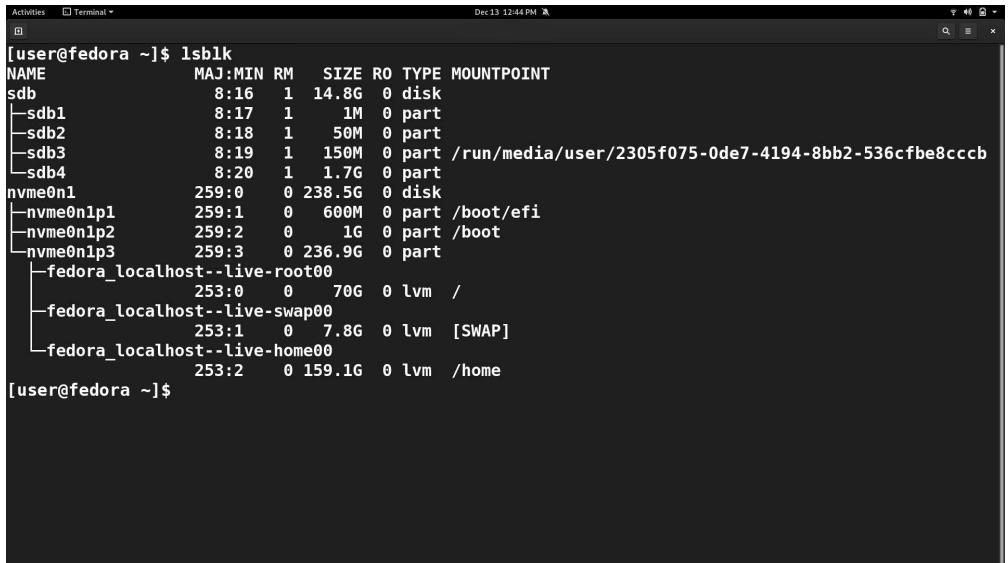
Example:

\$ sudo dd if=/home/<<user>>/Downloads/<<File_name_of_image.iso>> of=/dev/sdX bs=512k



```
[user@fedora ~]$ lsblk
NAME                                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sdb                                  8:16  1  14.8G  0 disk
├─sdb1                               8:17  1  14.8G  0 part /run/media/user/Untitled
nvme0n1                             259:0  0  238.5G  0 disk
├─nvme0n1p1                         259:1  0   600M  0 part /boot/efi
├─nvme0n1p2                         259:2  0    1G  0 part /boot
├─nvme0n1p3                         259:3  0  236.9G  0 part
│   └─fedora_localhost--live-root00 253:0  0   70G  0 lvm /
│       └─fedora_localhost--live-swap00 253:1  0   7.8G  0 lvm [SWAP]
└─fedora_localhost--live-home00    253:2  0  159.1G  0 lvm /home
[user@fedora ~]$ sudo dd if=/home/user/Downloads/rhrexboot.iso of=/dev/sdb bs=512
4823450+0 records in
4823450+0 records out
2469606400 bytes (2.5 GB, 2.3 GiB) copied, 175.597 s, 14.1 MB/s
[user@fedora ~]$
```

5. **Unplug the USB drive, connect it again, and run lsblk.** You can see the mount point now. /run/media/<<user>>/<<Live_USB_Image_Name>>



```
[user@fedora ~]$ lsblk
NAME                                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sdb                                  8:16  1  14.8G  0 disk
├─sdb1                               8:17  1    1M  0 part
├─sdb2                               8:18  1   50M  0 part
├─sdb3                               8:19  1  150M  0 part /run/media/user/2305f075-0de7-4194-8bb2-536cfbe8cccb
├─sdb4                               8:20  1   1.7G  0 part
nvme0n1                             259:0  0  238.5G  0 disk
├─nvme0n1p1                         259:1  0   600M  0 part /boot/efi
├─nvme0n1p2                         259:2  0    1G  0 part /boot
├─nvme0n1p3                         259:3  0  236.9G  0 part
│   └─fedora_localhost--live-root00 253:0  0   70G  0 lvm /
│       └─fedora_localhost--live-swap00 253:1  0   7.8G  0 lvm [SWAP]
└─fedora_localhost--live-home00    253:2  0  159.1G  0 lvm /home
[user@fedora ~]$
```

6. **Boot to the remote exam LiveUSB.** [Go to instructions.](#)



You will need a USB drive with at least 8 GB storage, USB 2.0 or higher.

Operating system: Red Hat Enterprise Linux 7 or 8

Important: Root access or sudo access is needed to perform these operations.

1. Download the [remote exam LiveUSB](#), save it in the local hard drive.
2. Use the `lsblk` command to find the attached USB drive. (For example, it can be sda,sdb or sdc). In the below example, it is sdc.

```
$ lsblk
```

```
Activities Terminal
File Edit View Search Terminal Help
[user@localhost ~]$ lsblk
NAME                MAJ:MIN RM   SIZE RO TYPE MOUNTPOINT
sdb                  8:16  0 223.6G  0 disk
├─sdb1                8:17  0   576M  0 part /boot/efi
├─sdb2                8:18  0    1G   0 part /boot
├─sdb3                8:19  0 221.9G  0 part
└─rhe1-root          253:0  0    70G   0 lvm  /
   └─rhe1-swap        253:1  0    7.9G  0 lvm  [SWAP]
      └─rhe1-home      253:2  0   144G  0 lvm  /home
sdc                  8:32  1  14.8G  0 disk
└─sdc1                8:33  1  14.8G  0 part
[user@localhost ~]$
```

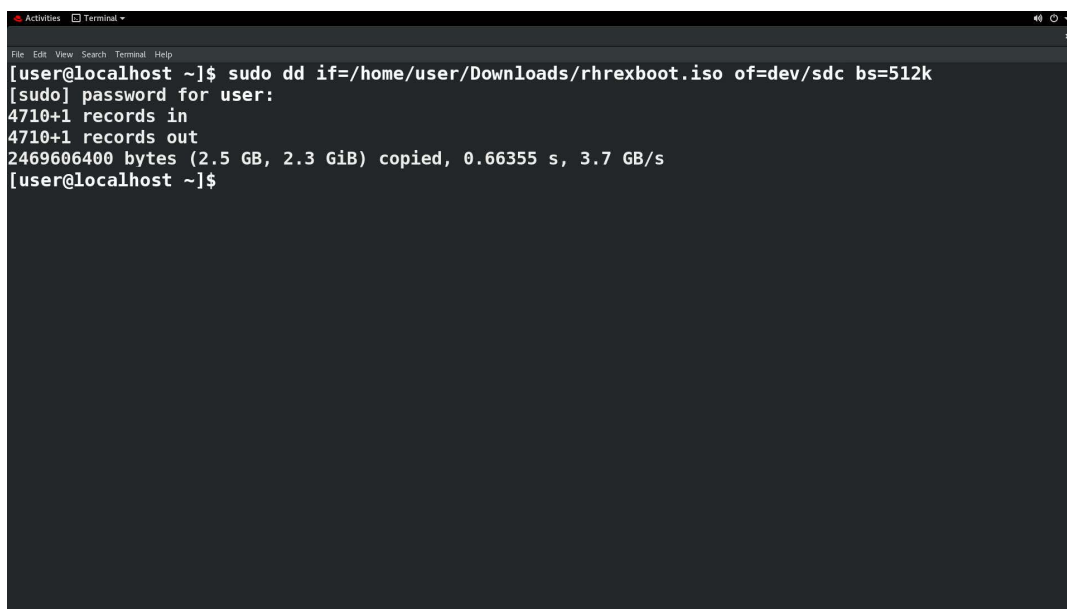
Caution: Use `dd` utility with extreme caution. Using the wrong destination drive letter in the `dd` command can wipe out or overwrite the content of a different drive than intended—even your computer’s hard drive. Read the command and ensure accuracy of syntax and parameters before running the `dd` utility.

3. To run the dd command as a sudo user, enter the sudo password when prompted.

Syntax: `$ sudo dd if=/home/⟨⟨user⟩⟩/Downloads/⟨⟨File_name_of_image.iso⟩⟩ of=/dev/⟨⟨destination USB drive⟩⟩ bs=512k`

Example:

`$ sudo dd if=/home/⟨⟨user⟩⟩/Downloads/⟨⟨File_name_of_image.iso⟩⟩ of=/dev/sdX bs=512k`

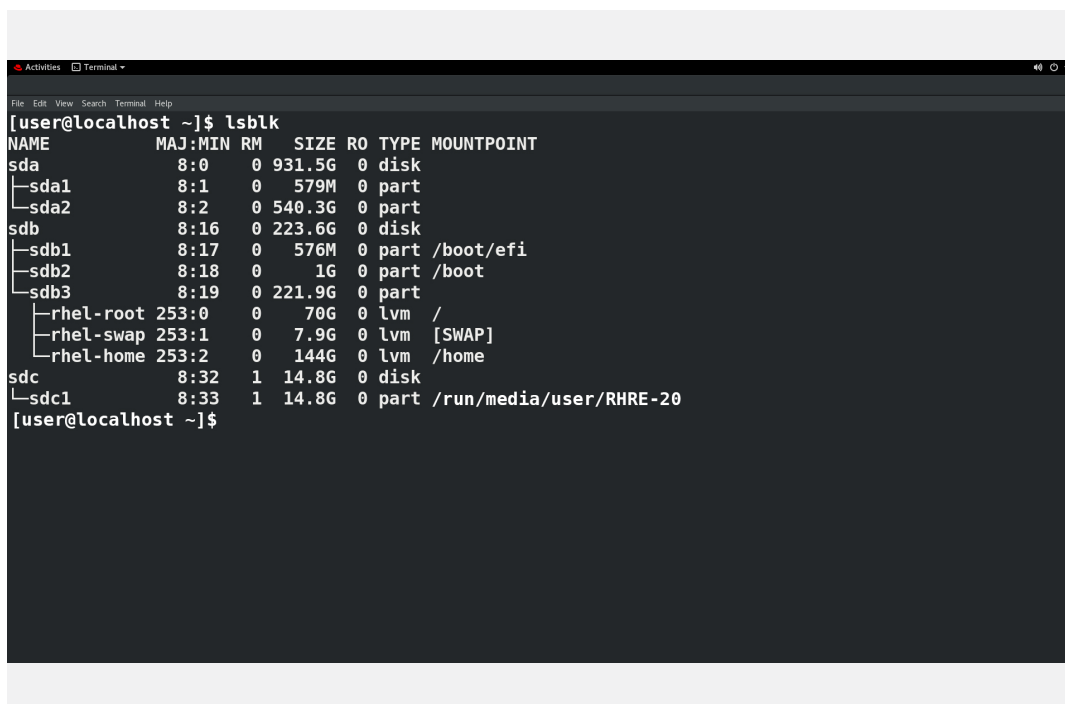


```
Activities Terminal
File Edit View Search Terminal Help
[user@localhost ~]$ sudo dd if=/home/user/Downloads/rhrexboot.iso of=/dev/sdc bs=512k
[sudo] password for user:
4710+1 records in
4710+1 records out
2469606400 bytes (2.5 GB, 2.3 GiB) copied, 0.66355 s, 3.7 GB/s
[user@localhost ~]$
```

Note: The dd command will return results faster when the actual ISO to USB process is complete. Wait for about 15-20 minutes before ejecting the USB drive. Typically, if you try to eject the USB drive (Places > USB Drive > Eject button) while the files are being copied, you will see a warning message.

The speed of the data transfer depends on the speed of your USB ports and the USB drive (USB 2.0 or USB 3.0).

4. **Unplug the USB drive, connect it again, run lsblk.** You can see the mount point now. `/run/media/<<user>>/<<Live_USB_Image_Name>>`



```
[user@localhost ~]$ lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda         8:0    0 931.5G 0 disk
├─sda1      8:1    0   579M 0 part
├─sda2      8:2    0 540.3G 0 part
sdb         8:16   0  223.6G 0 disk
├─sdb1      8:17   0   576M 0 part /boot/efi
├─sdb2      8:18   0    1G  0 part /boot
├─sdb3      8:19   0  221.9G 0 part
├─rhel-root 253:0   0    70G  0 lvm  /
├─rhel-swap 253:1   0    7.9G  0 lvm  [SWAP]
└─rhel-home 253:2   0   144G  0 lvm  /home
sdc         8:32   1   14.8G  0 disk
└─sdc1      8:33   1   14.8G  0 part /run/media/user/RHRE-20
[user@localhost ~]$
```

5. **Boot to the remote exam LiveUSB.** [Go to instructions.](#)

Operating system: Macintosh—El Capitan, Mojave, Catalina and Big Sur

Important: 2018 and later series of Mac systems have been found to have compatibility issues with several Linux® distributions. These issues impact the remote exam LiveUSB as well.

The issues include, but are not limited to:

- ▶ T2 security system prevents booting from an external device by default.
- ▶ 2019 MacBook keyboard and touchpad doesn't work when booted from an external media.
- ▶ Other internal components such as webcam, microphone, and wifi adapters are not detected by many Linux distributions.

If your system encounters such issues, please use another laptop that meets the system requirements and passes the compatibility test.

Using the dd utility

- ▶ You will need a USB drive with at least 8 GB storage, USB 2.0 or higher.
- ▶ Important: Root access or sudo access is needed to perform these operations.
- ▶ Important: Newer Mac users will need a USB-C to Ethernet adapter converter for plugging in a network cable and a USB to Thunderbolt adapter to connect a conventional wired mouse or keyboard.

1. **Download the [remote exam LiveUSB](#)**, and save it in the local hard drive.
2. **Connect the USB drive**, and run this command to list the disks: `$ diskutil list`.

```
Last login: Wed Dec 16 09:58:23 on ttys000
userabc@Macintosh ~ % diskutil list
/dev/disk0 (internal, physical):
#:

| #: | TYPE                  | NAME  | SIZE     | IDENTIFIER |
|----|-----------------------|-------|----------|------------|
| 0: | GUID_partition_scheme |       | *1.0 TB  | disk0      |
| 1: | EFI                   | EFI   | 209.7 MB | disk0s1    |
| 2: | Apple_APFS Container  | disk1 | 1.0 TB   | disk0s2    |


/dev/disk1 (synthesized):
#:

| #: | TYPE                  | NAME                   | SIZE     | IDENTIFIER |
|----|-----------------------|------------------------|----------|------------|
| 0: | APFS Container Scheme | -                      | +1.0 TB  | disk1      |
|    |                       | Physical Store disk0s2 |          |            |
| 1: | APFS Volume           | Macintosh HD - Data    | 597.4 GB | disk1s1    |
| 2: | APFS Volume           | Preboot                | 81.8 MB  | disk1s2    |
| 3: | APFS Volume           | Recovery               | 529.0 MB | disk1s3    |
| 4: | APFS Volume           | VM                     | 2.1 GB   | disk1s4    |
| 5: | APFS Volume           | Macintosh HD           | 11.3 GB  | disk1s5    |


/dev/disk2 (external, physical):
#:

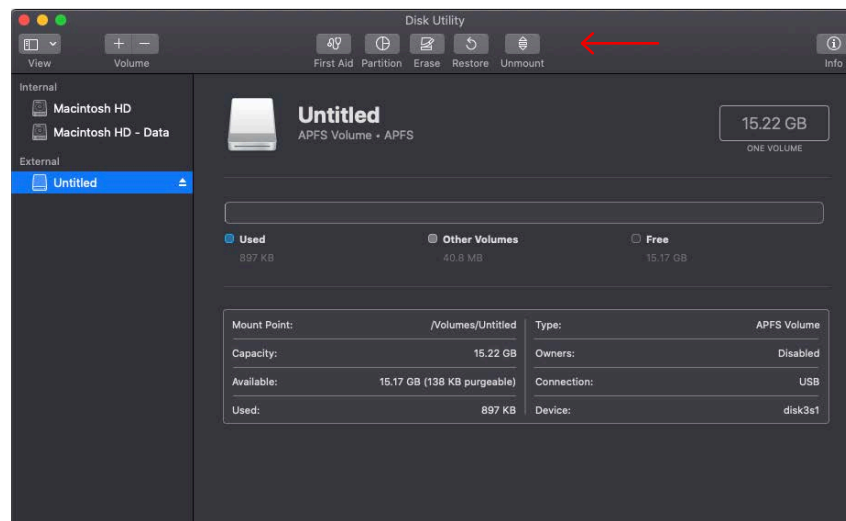
| #: | TYPE                  | NAME  | SIZE     | IDENTIFIER |
|----|-----------------------|-------|----------|------------|
| 0: | GUID_partition_scheme |       | *15.8 GB | disk2      |
| 1: | EFI NO NAME           |       | 629.1 MB | disk2s1    |
| 2: | Apple_APFS Container  | disk3 | 15.2 GB  | disk2s2    |


/dev/disk3 (synthesized):
#:

| #: | TYPE                  | NAME                   | SIZE     | IDENTIFIER |
|----|-----------------------|------------------------|----------|------------|
| 0: | APFS Container Scheme | -                      | +15.2 GB | disk3      |
|    |                       | Physical Store disk2s2 |          |            |
| 1: | APFS Volume           | Untitled               | 897.0 KB | disk3s1    |


userabc@Macintosh ~ %
```

- The connected drive address and name would be listed. In the above example, the USB drive is /dev/disk2.
- Unmount the disk named /dev/disk2 (if this step is not completed, then you will get a “resource busy” error while attempting to write a bootable image).
`$ diskutil unmountDisk /dev/disk2`
Sample output: Unmount of all volumes on disk2 was successful
- The disk can also be unmounted by going to the disk utility, locating the USB drive and clicking on the “unmount” button at the top.



Caution: Use dd utility with extreme caution. Using the wrong destination drive letter in the dd command can wipe out or overwrite the content of a different drive than intended—even your computer’s hard drive. Read the command and ensure accuracy of syntax and parameters before running the dd utility.

3. Create the remote exam LiveUSB with dd: In the terminal, run

Syntax: `$ sudo dd if=/home/⟨⟨user⟩⟩/Downloads/⟨⟨File_name_of_image.iso⟩⟩ of=/dev/⟨⟨destination USB drive⟩⟩ bs=512k`

Example:

`$ sudo dd if=/home/⟨⟨user⟩⟩/Downloads/⟨⟨File_name_of_image.iso⟩⟩ of=/dev/diskX bs=512k`

**Replace “/home/⟨⟨user⟩⟩/Downloads/⟨⟨File_name_of_image.iso⟩⟩” by the actual path to the remote exam LiveUSB image in the Mac hard drive.

4. Enter sudo password at the prompt.

The .iso to LiveUSB writing process takes time. Wait patiently at the terminal screen. Final output could look something like this example:

```
2358+1 records in
```

```
2358+1 records out
```

```
1236664320 bytes transferred in 514.656396 secs (2402893 bytes/sec)
```

Note: The dd command will return results faster when the actual ISO to USB process is complete. Wait for about 15-20 minutes before ejecting the USB drive. Typically, if you try to eject the USB drive (Places > USB Drive > Eject button) while the files are being copied, you will see a warning message.

The speed of the data transfer depends on the speed of your USB ports and the USB drive (USB 2.0 or USB 3.0).

5. Boot to the remote exam LiveUSB. [Go to instructions.](#)

Booting to the remote exam LiveUSB

1. Connect all the external devices you will be using during the remote exam to your computer before booting. These may include:

- The remote exam LiveUSB, an external wired webcam, network cable (unless you plan on using wifi) and a wired mouse (optional) for laptops
- The remote exam LiveUSB, an external wired webcam, network cable, wired keyboard and wired mouse for desktops
- The remote exam LiveUSB, an external wired webcam, network cable, wired keyboard, wired mouse and external monitor for laptops with external display.
- You will need to keep the laptop lid closed if an external display is used.

2. Restart your computer/Mac and go to the boot menu. Select your boot device as USB drive.

Note: Boot menu is available in most computers to select the boot device temporarily without entering the BIOS Setup Utility. Depending on your hardware, the keystroke to enter the boot menu at start up may differ. The typical keys used for various brands of computers are, but not limited to the following:

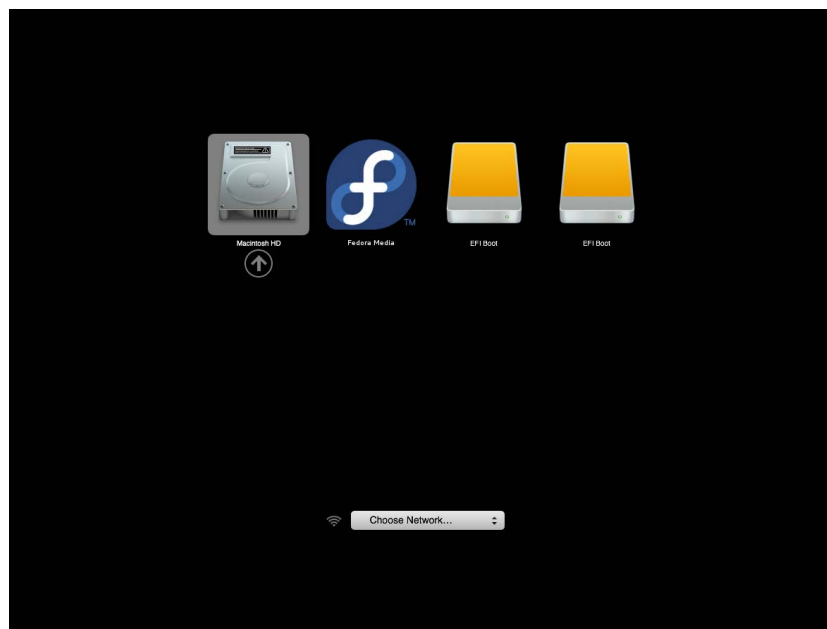
F12 - for most Lenovo, Dell, and Toshiba laptop models

ESC and F9 for HP

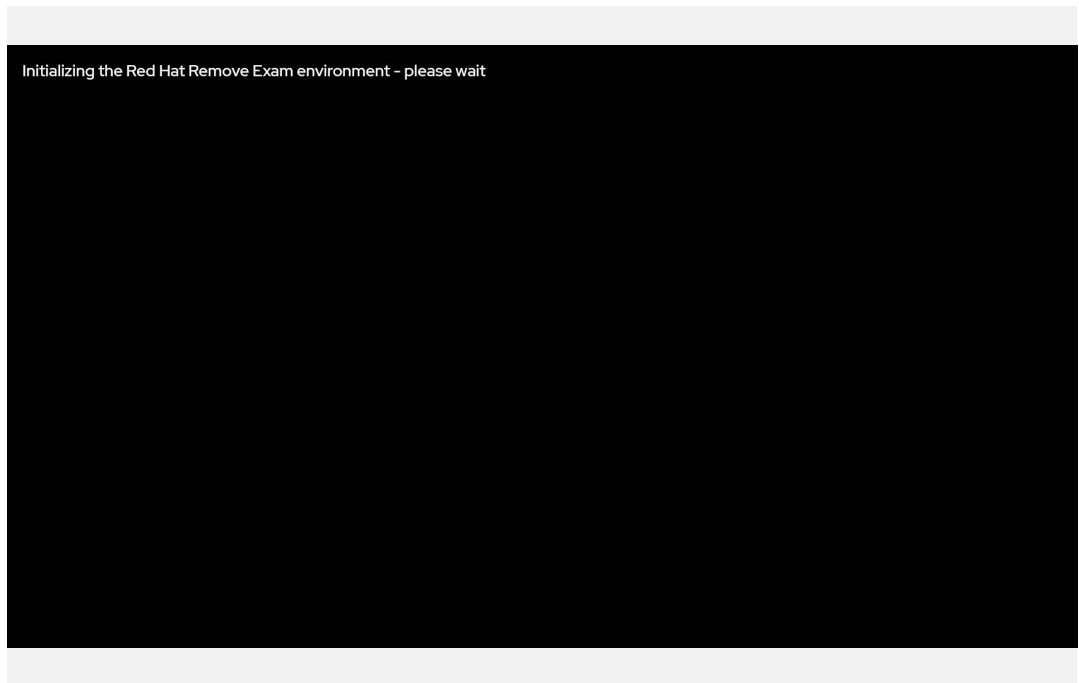
Look at the splash screen when your computer starts to know the key to interrupt the booting process and enter the temporary boot menu.

For Mac systems, press and hold the Option () or Alt key to access the start up manager and select the boot device.

3. Review boot order selection screen. An example of a typical Macintosh boot screen is as follows. Select any of the EFI boot icons.



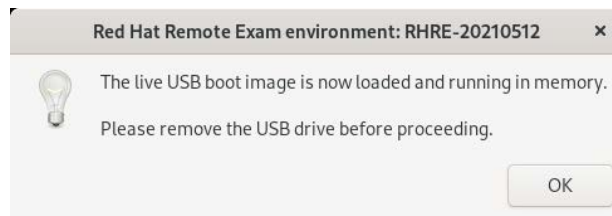
4. Wait for the image to load.



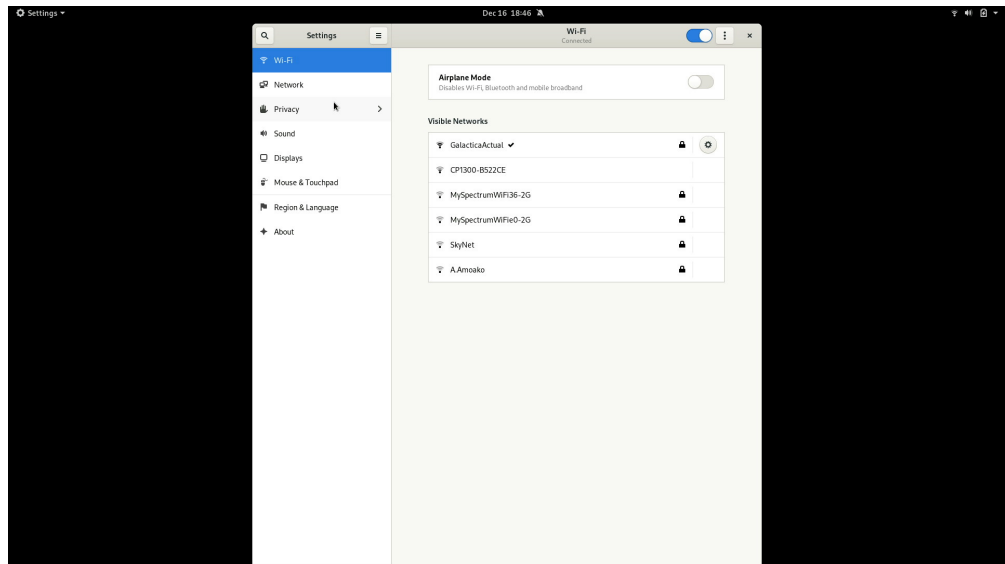
5. Allow the LiveUSB resources to be loaded to the random access memory.



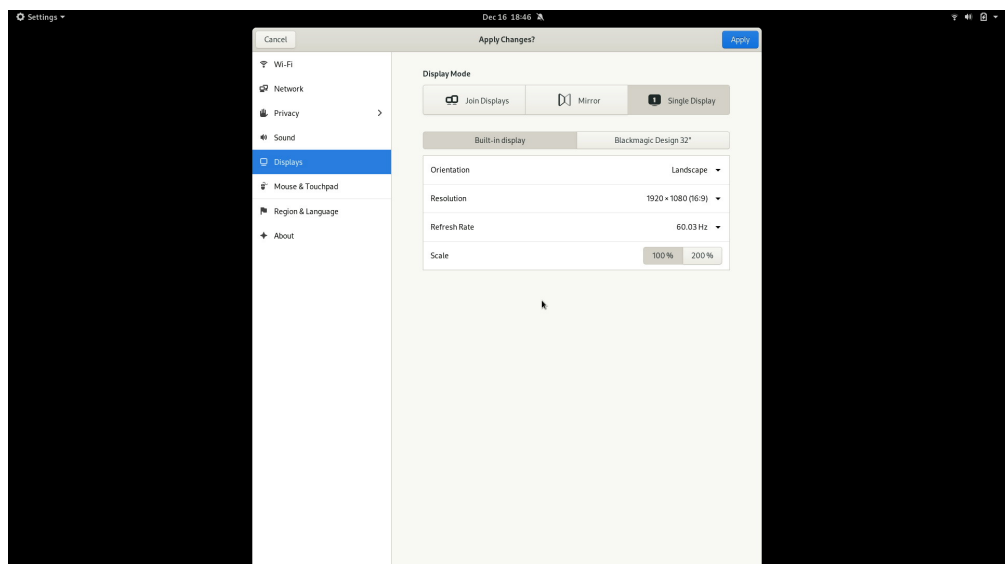
6. Remove the USB drive and click Ok.



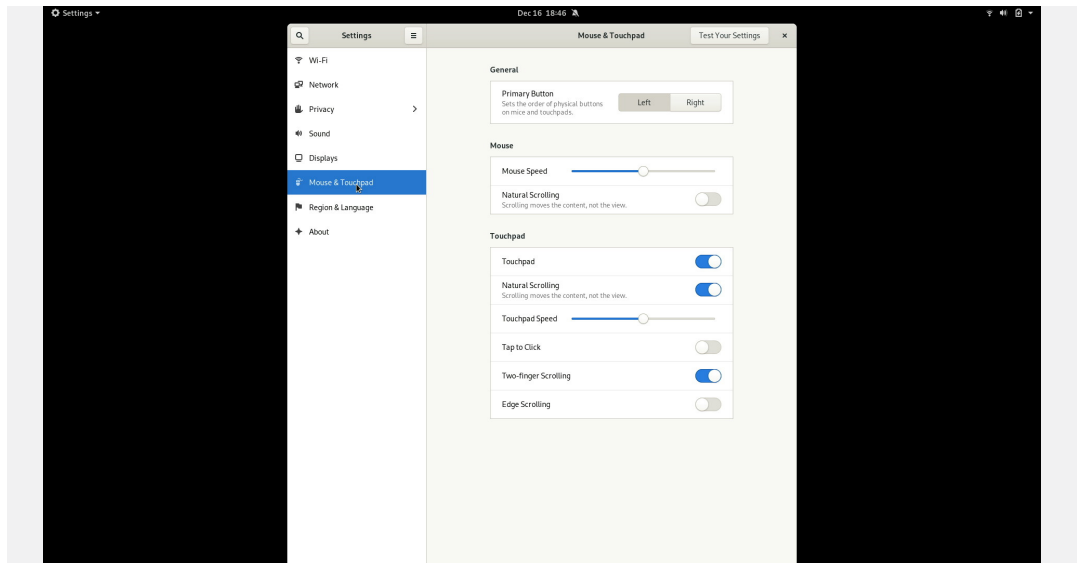
7. Use the settings page to make changes, such as mouse and touchpad speed, region and language, and sound levels. The hamburger button next to "settings" provides a list of available keyboard shortcuts.



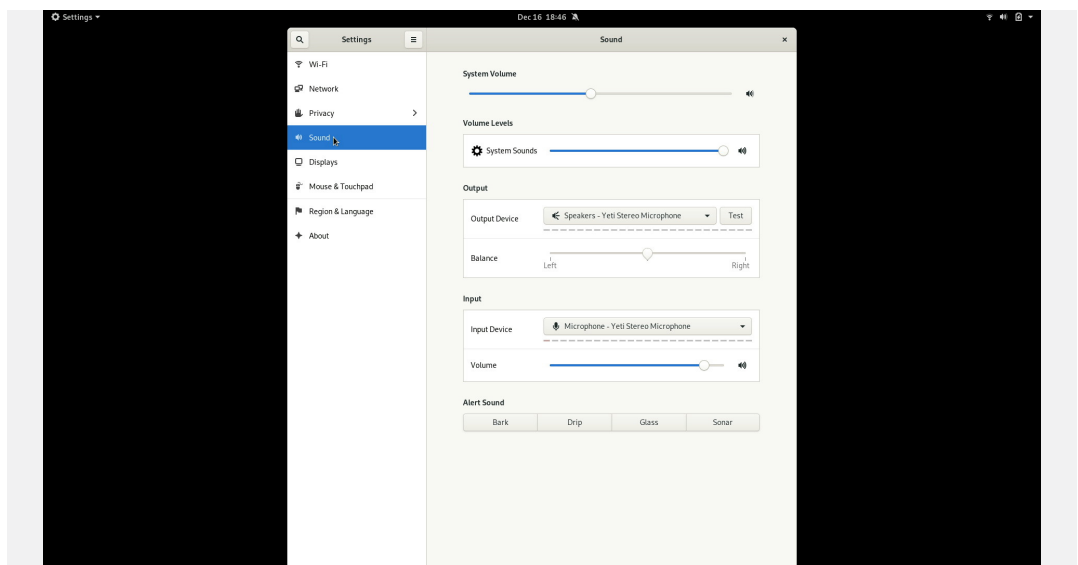
8. Adjust display resolution. If the default resolution of your screen is higher than 1920*1080, we recommend adjusting it to 1920*1080 for better screen readability inside the exam environment. Leave the settings as is if the default screen resolution is less than 1920*1080.



9. Adjust the mouse/touchpad settings per your preference. If you plan to use only the touchpad, it is advised to test your touchpad functionality, as well as your click and scroll settings here.



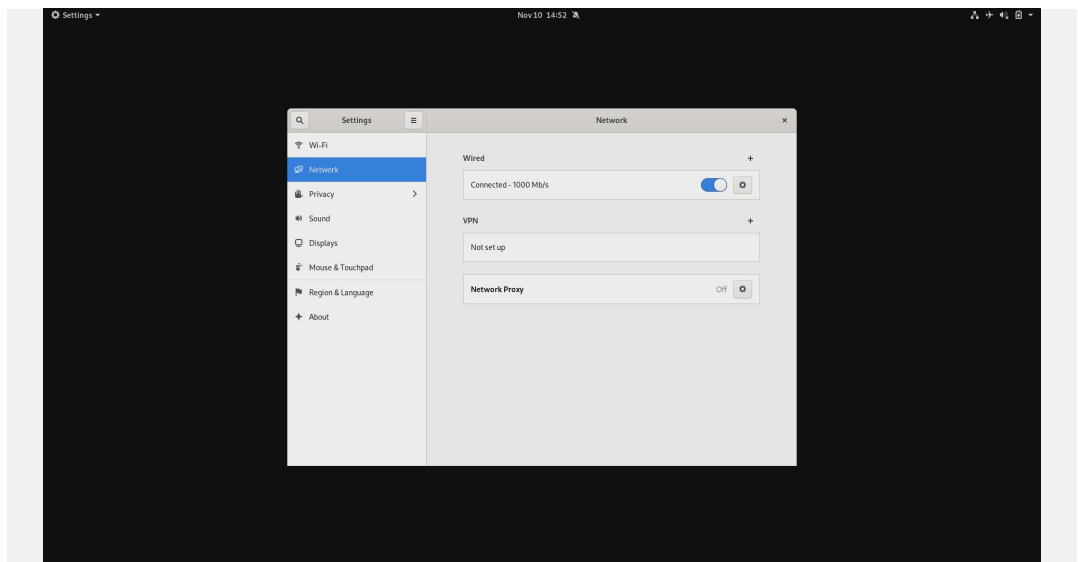
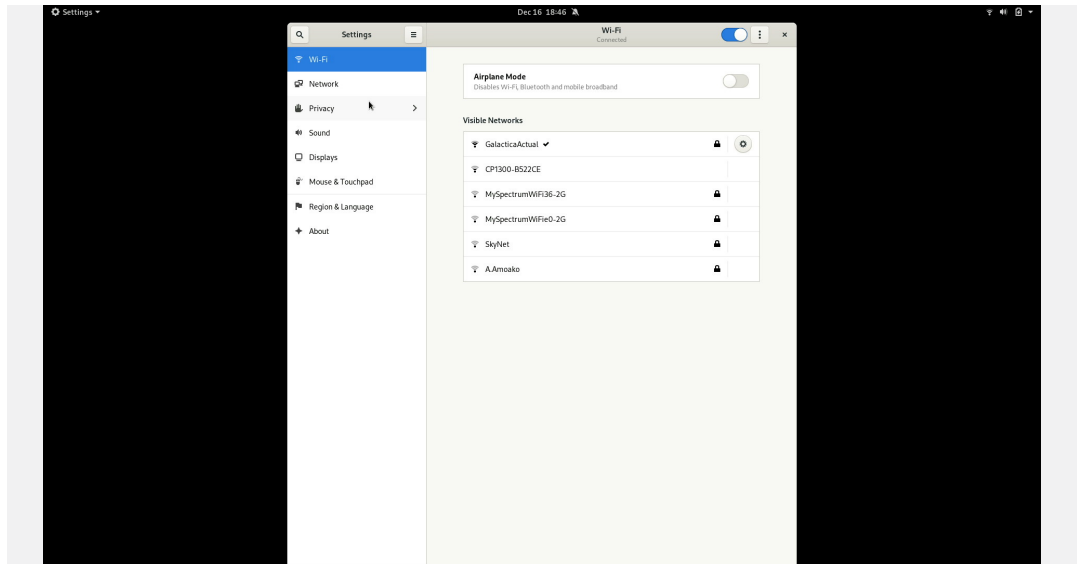
10. Important: Keep the input - volume slider high so that your microphone can pick up sound and pass the compatibility test.



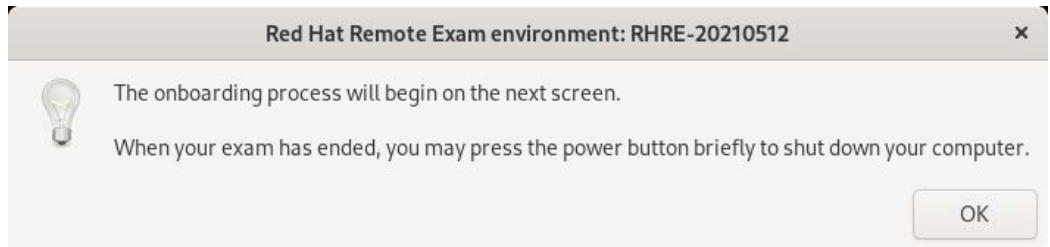
11. Go to network and make sure that your wired internet connection is recognized.

Wifi compatibility with the remote exam LiveUSB cannot be guaranteed on all makes of hardware. Wifi may not be listed if the wireless adapter is not recognized by the image.

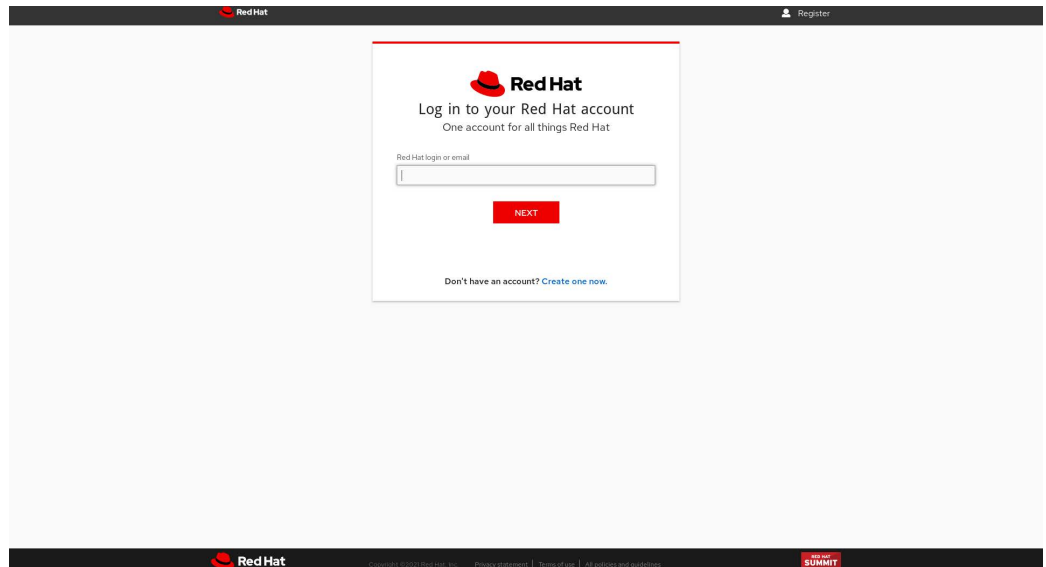
If the wifi adapter in your computer is recognized, you may be able to connect to a wireless router with the router password. Additional credentials may be needed to connect to your internet service provider. Please note that network performance and stability will depend on various aspects, such as the distance between your computer and the wifi router, bandwidth shared with other connected devices, etc.




12. After connecting to the internet, close the settings window to connect to the remote exam landing page.



13. Login using your redhat.com account username and password. Ensure that this is the same account that was used to purchase the exam.

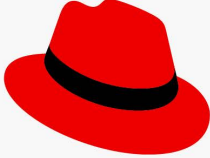


Red Hat Remote Exam environment: RHRE-20210512

 The onboarding process will begin on the next screen.

When your exam has ended, you may press the power button briefly to shut down your computer.


OK



Red Hat


Welcome to your remote exam

[Need help? Chat with exam support.](#)


Compatibility check

RUN COMPATIBILITY CHECK

The compatibility check is designed to ensure candidates can confidently continue performing their exam in a safe and secured environment.


Your exams

You have no exams scheduled in the next 6 hours.
Please wait until an exam is available.

Compatibility Test

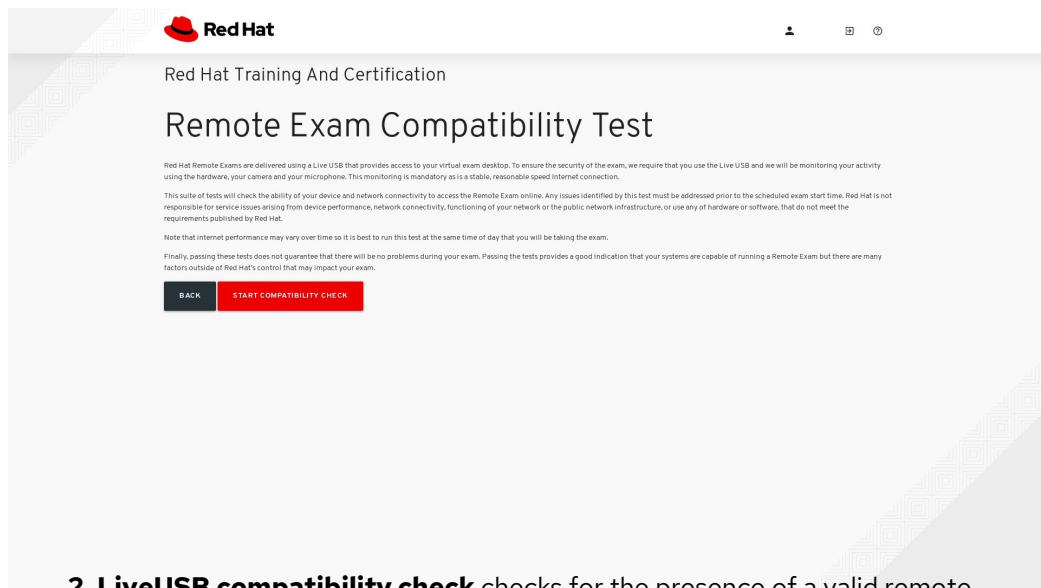
Note: Run the compatibility test 2-3 business days before the exam date at about the same time of day your exam is scheduled. Running the test well in advance helps you work out any technical issues or reschedule the exam if the system requirements are not met.

If a part of the test fails, you can rerun the failed test or the entire set of tests in that page.

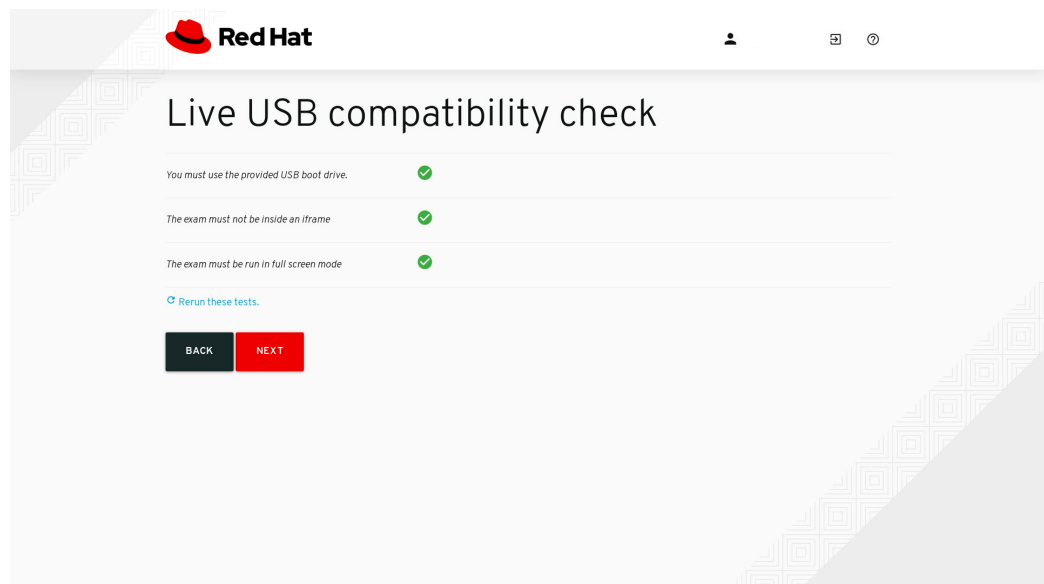


 Click on the circled question mark icon on the top right to raise a chat with support

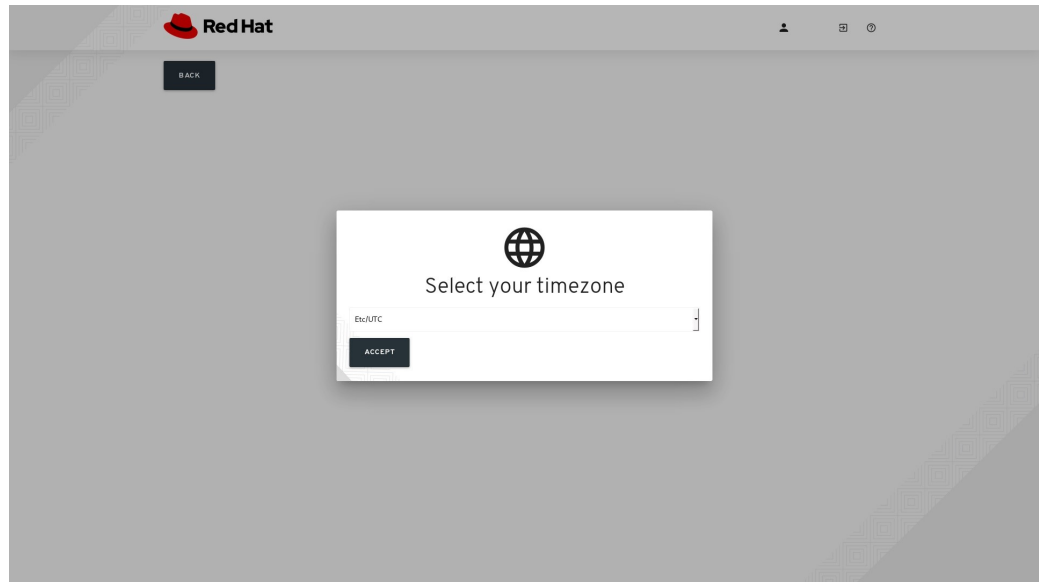
1. Click on Start Compatibility Check.



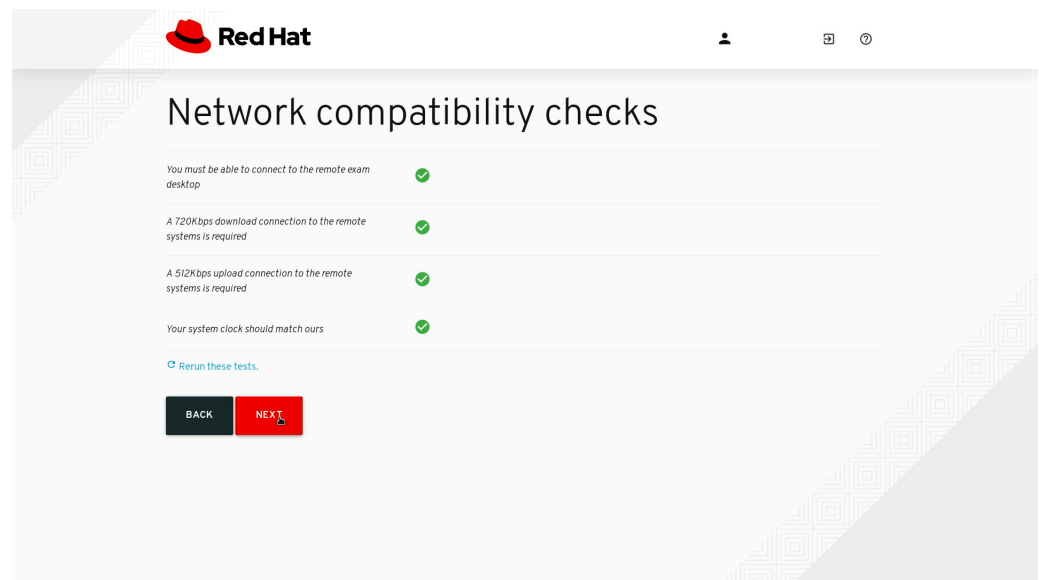
2. LiveUSB compatibility check checks for the presence of a valid remote exam LiveUSB image.



3. **Select your time zone** and click Accept.



4. **Network compatibility checks** test your internet performance. Results while connecting to our remote systems will vary depending on a number of factors such as the load on your router at time of running the test and distance to our servers.



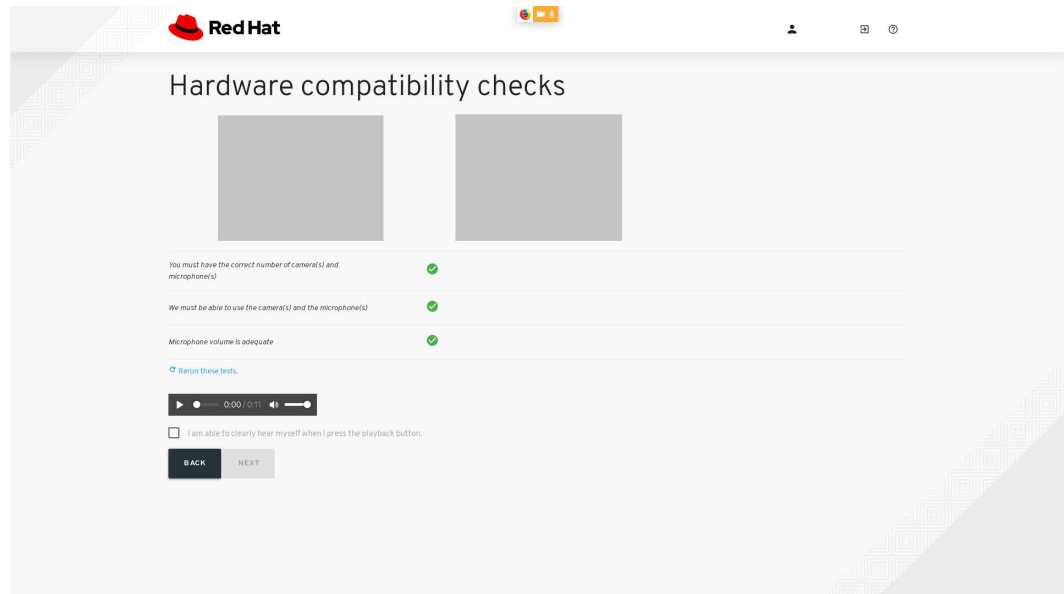
5. Hardware compatibility checks test your external webcam and microphone functionality. Ensure that you are able to see a feed from your external webcam as it is mandatory to conduct the exam.

It is okay even if your video feed appears flipped in the hardware compatibility checks.

If the microphone volume test fails, try speaking while rerunning the test.

Play the sample audio file to hear yourself during playback and check the box to confirm.

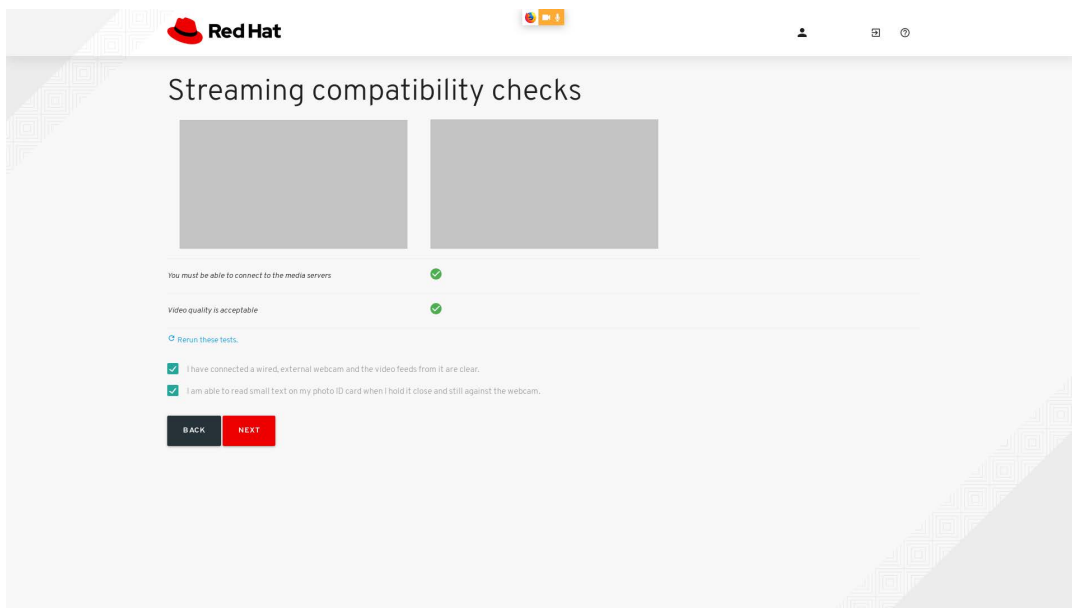
If the microphone test continues to fail, reboot to the remote exam LiveUSB environment, access settings and set the Input - Volume slider high for the input device you wish to use. Typically, you will find the system's integrated microphone (if any) and the microphone of your external webcam listed as input devices.



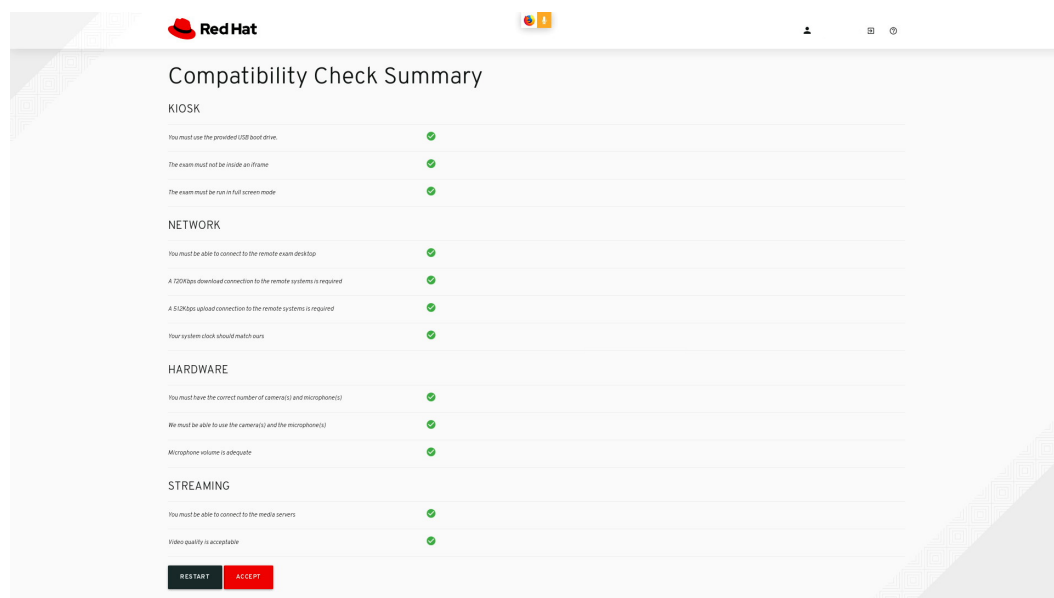
6. Streaming compatibility checks, test your system's ability to connect to the media servers and the quality of the video feed. Connecting from heavily firewalled networks may affect media streaming. Try a personal internet connection instead.

The ability to read small text off your photo ID card is important for the remote exam proctor to validate your identity. Hold your photo ID card close to the webcam feed and confirm if the text is clearly visible.

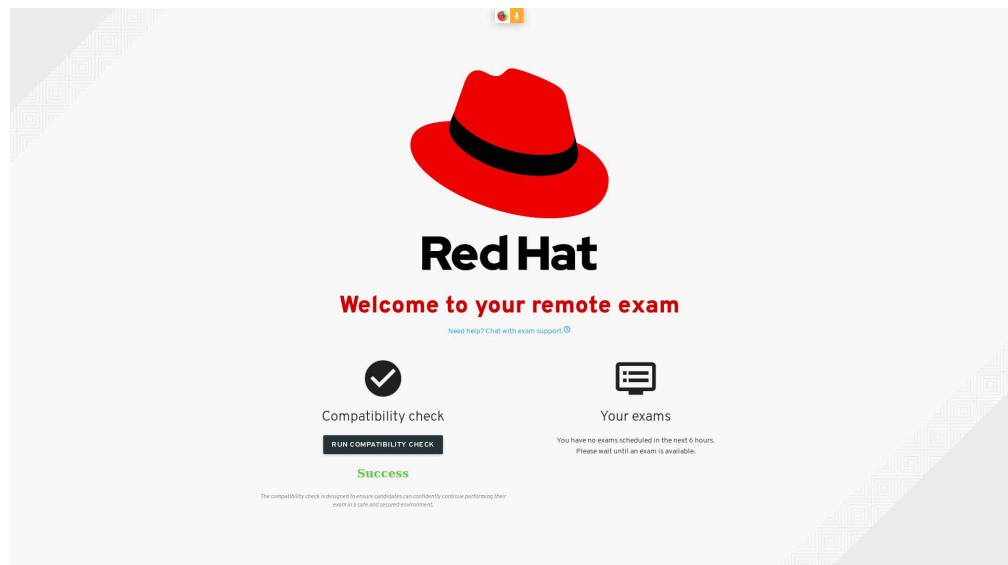
It is okay even if your video feed appears flipped. The exam proctor will be able to see your un-inverted feed.



7. Compatibility Check Summary provides a summary of all the tests. You can rerun failed tests or restart the whole test if needed. Accept and return to the main section once all tests are successful.



08. Return to the main section and press the power button of your computer briefly to get the prompt to shut the machine down.



09. Your exams section will display your scheduled exams about one hour before the start time. You can access the exam 10 minutes before the start time. Click on this section next to the compatibility check to proceed if you are going to start your exam.

Frequently asked questions

I created the remote exam LiveUSB successfully. However, I am unable to boot to the USB drive. Why?

Common reasons why an external USB drive would not be allowed to boot include:

- Security restrictions imposed by your organization's IT if this is a work computer.
- Secure boot enabled in the UEFI/BIOS setup.
- 2018 and later Mac systems have a T2 security chip that may prevent external media boot.

How do I verify if I downloaded the remote exam LiveUSB image successfully?

The size of the rhrexboot.iso is about 2.3 GB. The MD5 checksum is 0dd72ac558fc1afbf0c0e1fa4b366f10.

Why does it take a very long time to download the remote exam LiveUSB image?

The remote exam LiveUSB image is approximately 2.5 GB in size. Download speeds can vary depending on a variety of factors, including the available bandwidth and download speed of your internet connection at the time of downloading, number of users connected to the same router, distance from your wifi router, and hardware specifications.

How do I check the integrity of the remote exam LiveUSB image I have downloaded?

The MD5 checksum for the LiveUSB Image is: 0dd72ac558fc1afbf0c0e1fa4b366f10.

Windows cmd:

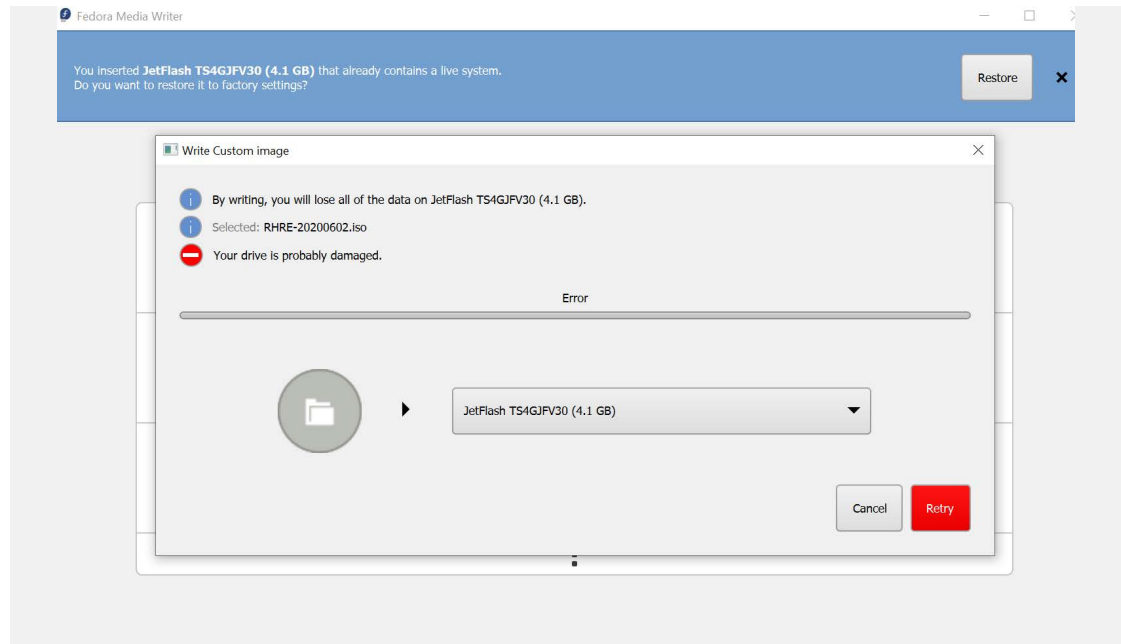
```
C:\Users\user>Certutil -hashfile C:\Users\user\Downloads\rhrexboot.iso MD5
```

Linux/Mac: From the folder where the file is stored, run:

```
md5sum rhrexboot.iso
```

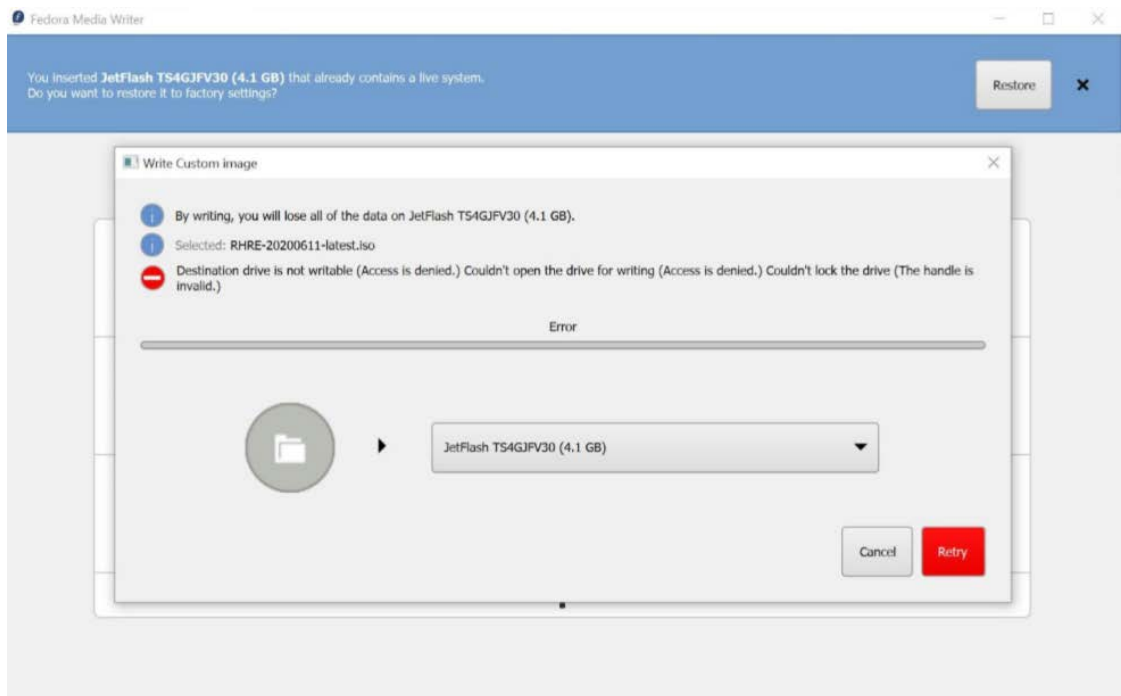
Why am I getting errors in Fedora Media Writer when creating a LiveUSB on Windows 10?

There are a few errors seen occasionally when Fedora Media Writer is used to create a LiveUSB from a .iso file in Windows 10. Examples include:



- IT restrictions on a corporate laptop preventing ISO to USB writing process.
- Fedora Media Writer saves the ISO to your USB drive and then reads it back to verify that it gets the same data back as it wrote. If the read does not match the write, Fedora Media Writer will show an error saying "your disk is probably damaged". This message actually means "Warning—there are inconsistencies between what was written and what was read back." There are many possible reasons why the read might not match the write and it doesn't always necessarily mean that the write failed or that the USB drive will not work. You can ignore this message on an otherwise known good USB drive and continue using the same.

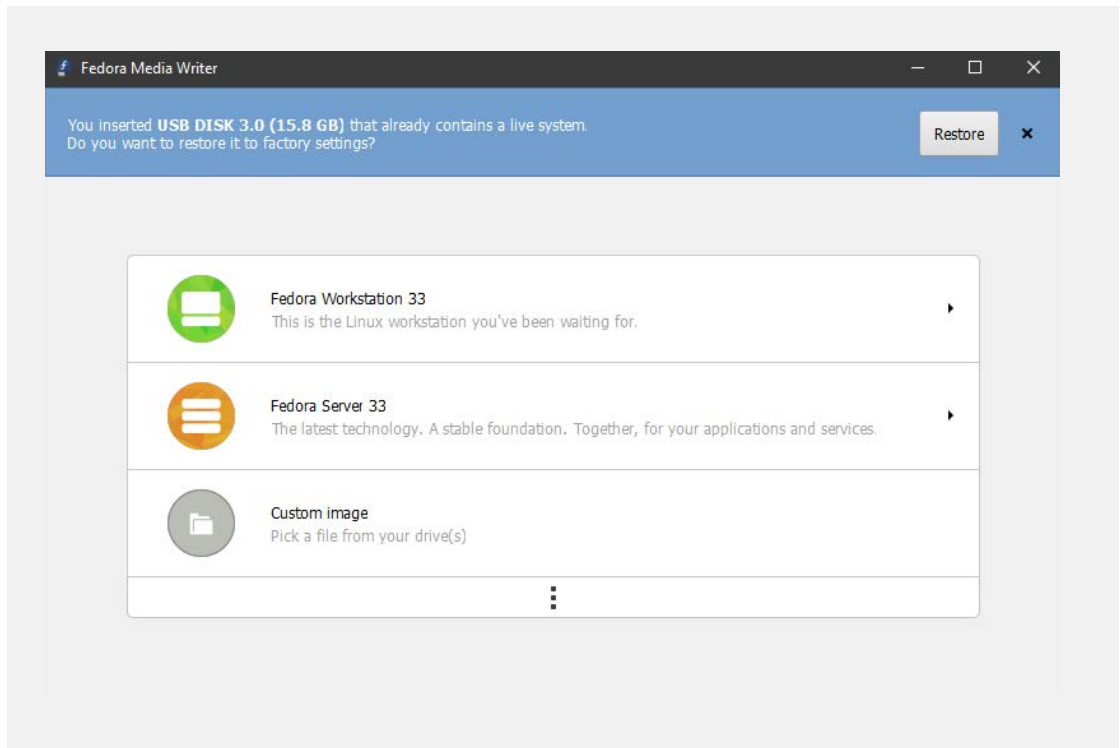
Click on 'Cancel' and use the 'Restore' option to reformat the USB drive. Close all other open applications except the Fedora Media Writer. Keep it as the active window and resume the 'Write Custom Image' process again. ISO to USB writing process can be interrupted if other applications or background processes access the USB drive in between. Restarting your computer and running this process without any other open application is another good way to ensure that the writing process is not interrupted. If you are using a work laptop, your organization's IT might have imposed restrictions on writing an ISO to USB. Please check with your organization's IT team before proceeding.



- Clicking on the “Retry” button and reattempting the writing process may fix the error.
- The above error may also appear if there is an existing LiveUSB in the disk already. The presence of a LiveUSB will be detected by Fedora Media Writer and a ‘Restore’ option will be available to format the drive. Click on “restore”, finish the format process, and reattempt the process of creating a LiveUSB.
- Close all other open applications except the Fedora Media Writer. Keep it as the active window and resume the ‘Write Custom Image’ process again. ISO to USB writing process can be interrupted if other applications or background processes access the USB drive in between. Restarting your computer and running this process without any other open application is another good way to ensure that the writing process is not interrupted. If you are using a work laptop, your organization’s IT might have imposed restrictions on writing an ISO to USB. Please check with your organization’s IT team before proceeding.

After the exam, how do I reformat my USB drive?

Using Fedora Media Writer: Connect the USB drive to your computer and start Fedora Media Writer. You will see a prompt to restore the USB drive to “factory settings.”



Follow the instructions to restore your USB drive to the factory settings:

Note to Windows users: “Factory settings” would most likely imply that your USB drive is formatted in FAT32 file system. FAT32 does not allow transfer of files larger than 4GB, and most Windows users prefer NTFS. exFAT handles larger files and is Windows and Mac OS compatible. Therefore, you will need to use an additional level of formatting using the Windows format utility.

Can I use a wireless internet connection?

Wifi is not advised. Wherever possible, use a wired internet connection for stability and compatibility. Wifi speeds can vary based on a variety of factors that may have an impact on your exam. The remote exam LiveUSB may not detect all wireless network adapters. If the wifi adapter of your computer is not detected by the remote exam LiveUSB image, then wired internet will be the only option.

How many free USB ports should be available for use during the exam?

You should ideally have a minimum of two USB ports available in a laptop for a bootable USB drive and an external webcam. In the case of a desktop computer, the requirement would be four ports for the following devices: one external webcam, USB drive, keyboard, and mouse.

Why am I unable to download the remote exam LiveUSB image?

Your computer and the network you are connecting from must have the necessary privileges and permissions to download files from a third-party source. The operating system used must have administrative (Windows) or root/sudo privilege (Linux/Mac). Firewalls and security restrictions on your network setup might block such downloads. Try a personal computer or home network to perform these tasks.

Can I boot to the remote exam LiveUSB environment using a virtual machine rather than a USB drive?

No. The remote exam image must be loaded on a USB drive. Booting off a virtual machine is not allowed.

Can I create a remote exam LiveUSB by keeping my existing data in the same USB drive?

No. The process of LiveUSB creation will wipe out any existing data and reformat your USB drive as needed.

Is a desktop computer allowed?

Yes.

Is an iMac allowed?

Compatibility cannot be guaranteed. However, if your iMac boots into the remote exam LiveUSB environment, then you can proceed. A few things to note:

- iMacs often come with wireless keyboards and mice. Wireless keyboard and mice are not allowed.
- Detection and stable performance of wifi internet is not guaranteed.
- Using a wired keyboard and mouse and a wired internet on an iMac should work fine subject to a successful compatibility test within the remote exam LiveUSB environment.
- One external webcam with at least 1 meter cable length is required.

Are there known issues with Mac systems?

Our tests passed a MacBook Pro and MacBook Air belonging to the 2016 and 2017 series. 2018 and later series of Mac systems have been found to have compatibility issues with several Linux distributions. These issues impact the remote exam LiveUSB image as well. The issues include:

- T2 security system prevents booting from an external device by default.
- 2019 MacBook Pro keyboard and touchpad doesn't work when booted from

external media.

- Other internal components, such as webcam, microphone, and wifi adapters are not detected by many Linux distributions.
- Latest Mac systems with M1 chipsets do not work with the remote exam LiveUSB

If your system encounters these issues, use another laptop that meets the system requirements and passes the compatibility test.

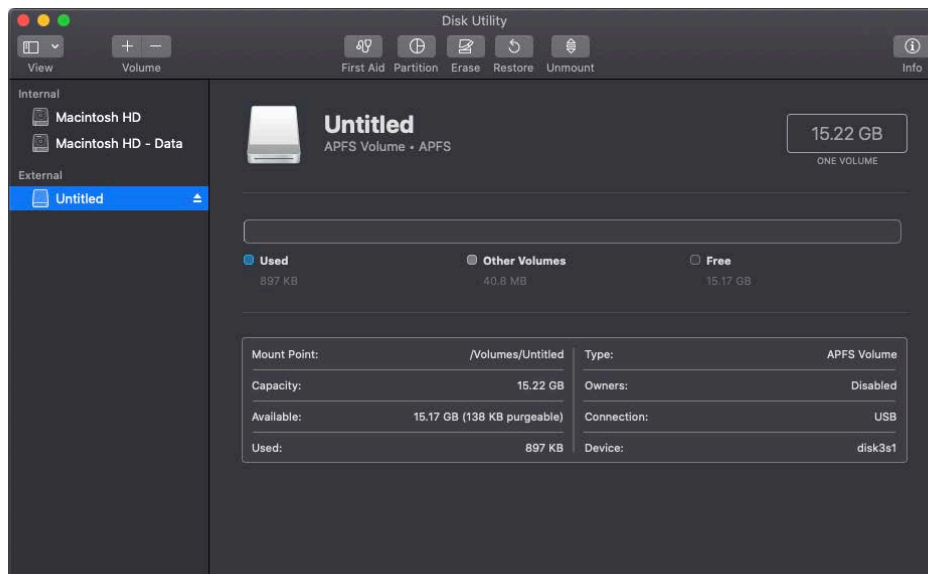
Why am I getting a “resource busy” error that is not allowing me to write to USB on my MacBook?

Prior to running the dd command, the disk must be unmounted. Try:

```
$ diskutil unmountDisk /dev/disk3
```

Sample output: Unmount of all volumes on disk3 was successful where disk3 is the USB drive used to create the remote exam LiveUSB

The disk can also be unmounted by going to the disk utility, locating the USB drive, and clicking on the “unmount” button at the top.



Can I use an external monitor or keyboard?

The [system requirements](#) table describes the conditions for using external keyboard and monitors. Examples of acceptable combinations of screens, keyboard, and touchpad/mouse include:

- Laptop screen, external webcam, integrated keyboard, and touchpad only
- Laptop screen, external webcam, integrated keyboard, and wired, external mouse

- Desktop computer with single monitor, external webcam, wired keyboard, and wired mouse
- Laptop with lid closed, external monitor, external webcam, wired keyboard, and wired mouse

Instead of an external wired webcam, can I use a wireless camera or my cell phone?

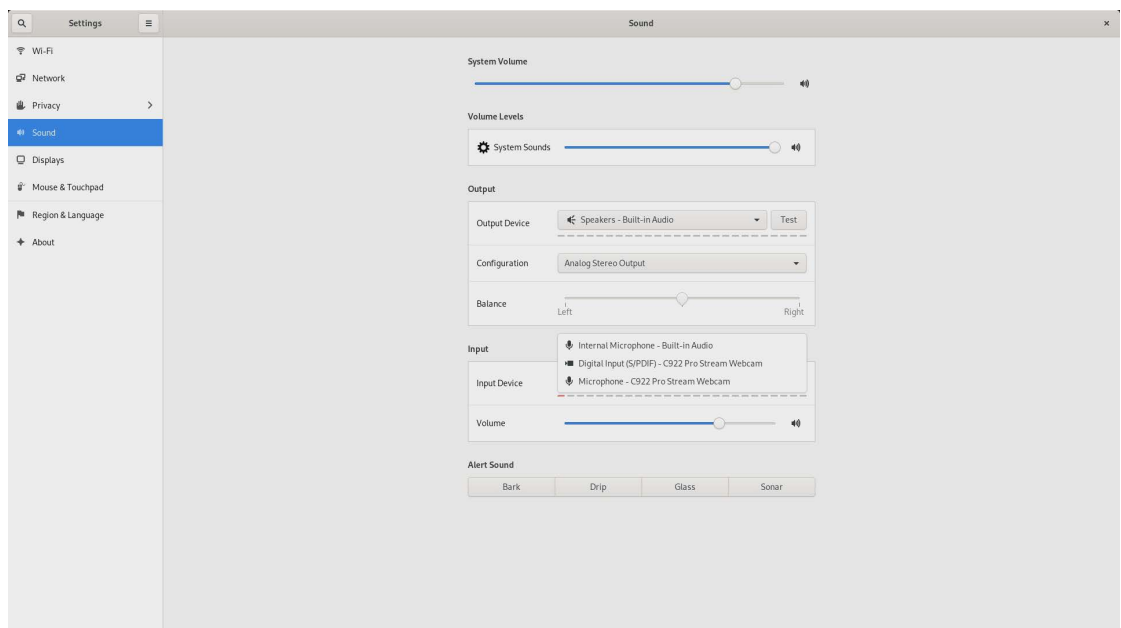
No. Wireless cameras, IP cameras, cell phone cameras, etc. are not allowed. An external wired webcam with about 1 m cable length is required.

Why does my compatibility test detect low microphone volume?

Boot to the remote exam image, go to **settings > sound > select the input device**.

When you select the microphone, after selecting, increase the volume slider all the way up.

The microphone level indicator should respond when you make some noise. If the indicator is not responding, then switch to any other option in settings (like network) and click on “sound” again. The microphone level indicator should respond to noise levels now.



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