

# Reset Cisco DNA Center's Maglev User Password

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## Introduction

This document describes how to unlock and/or reset the password for the Maglev user.

## Background Information

In the case where the Maglev account is locked out, you cannot log in to unlock it. To unlock and/or reset the password for the Maglev user, you must mount an image to the Cisco IMC vKVM. This allows you to access the shell and reset the user and/or password.

## Prerequisites

### Requirements

- You need to download an ISO image for Ubuntu 16.04 or newer from <https://ubuntu.com/download/desktop>.
- After the ISO has been downloaded to the local system you then need to mount the ISO to the Cisco Integrated Management Controller (CIMC) KVM.
- Once the ISO is mounted to the KVM you then need to boot from the ISO.
- Once you can access Ubuntu, mount the root and var directories to the system.
- After you have mounted the root and var directories, you can unlock and change the Maglev user account.
- Finally, you reboot the appliance, confirm you can login in with Maglev, and reset the password with the configuration wizard.

### Components Used

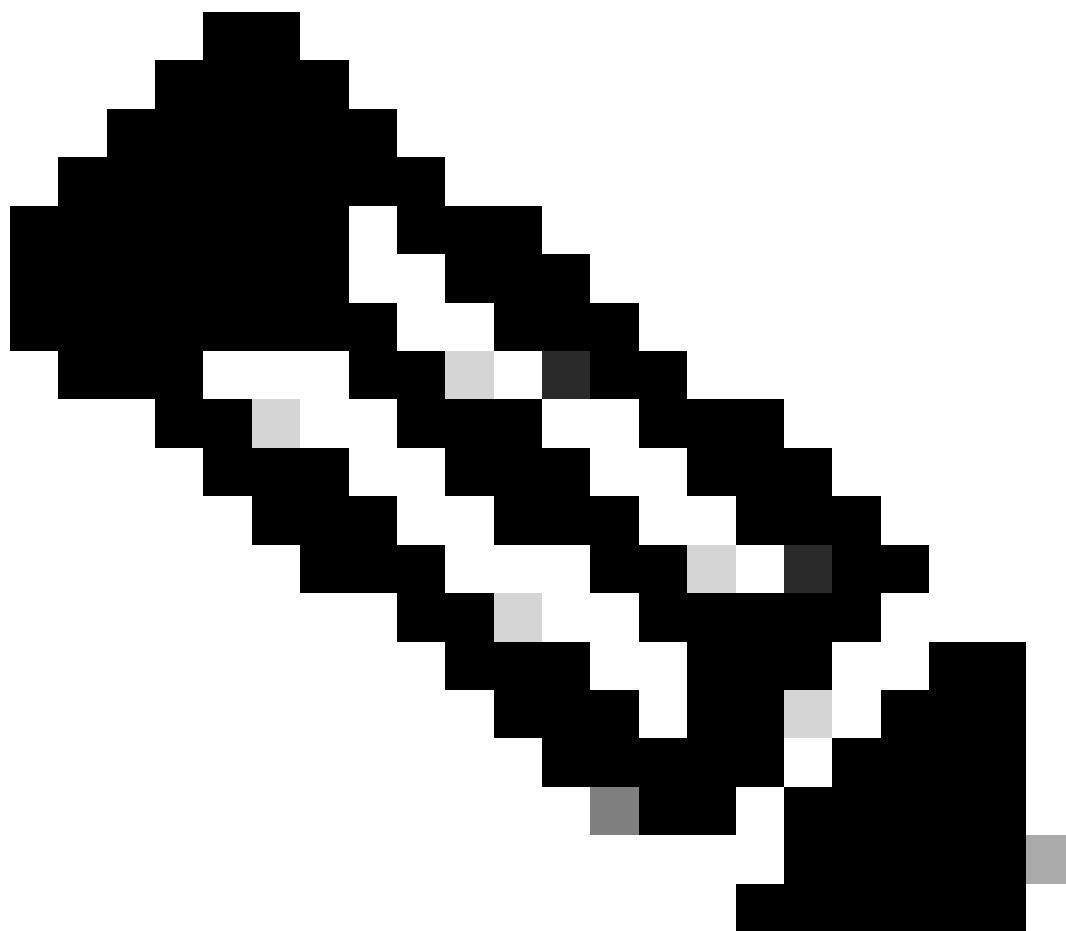
This operation was run on Ubuntu 20.04 image; a different image produces different times and results.

It has been seen in some environments to take up to 2 hours to reach the Ubuntu desktop.

This operation is not restricted strictly to the Ubuntu desktop version. All that is required is access to the shell. Any Ubuntu image that provides shell access works for this operation.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

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**Note:** you can use the same procedure in a DR environment. However, note these points:

**\*\*\* Ensure that disaster recovery is in a PAUSED state before attempting any password recovery/reset methods \*\*\***

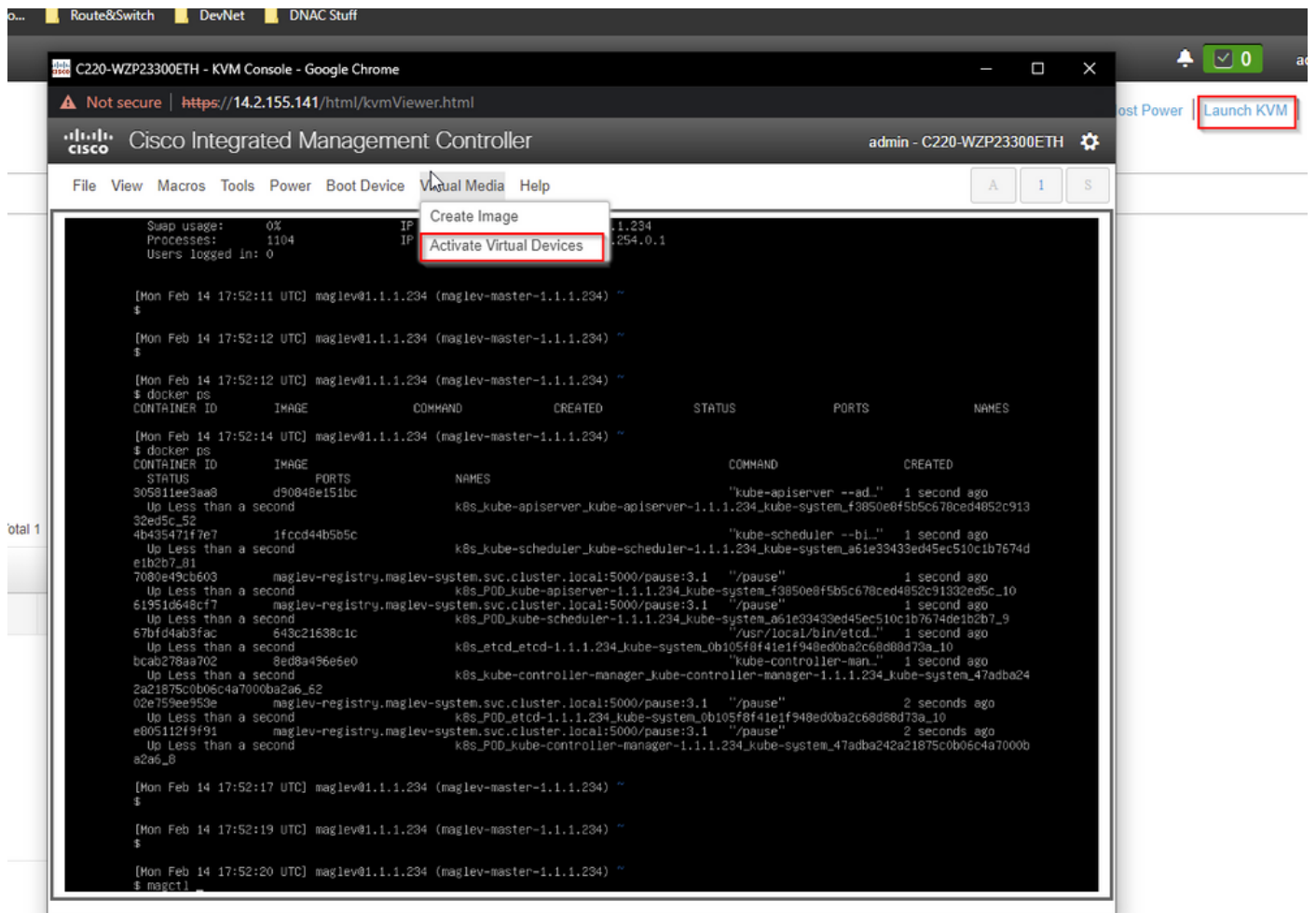
In a 1+1+1 DR deployment, the corresponding site is down while this process is completed.

In a 3+3+3, If your passwords are to be updated on all three nodes, do it one node at a time to ensure that the two other nodes are available to avoid an unnecessary DR failover.

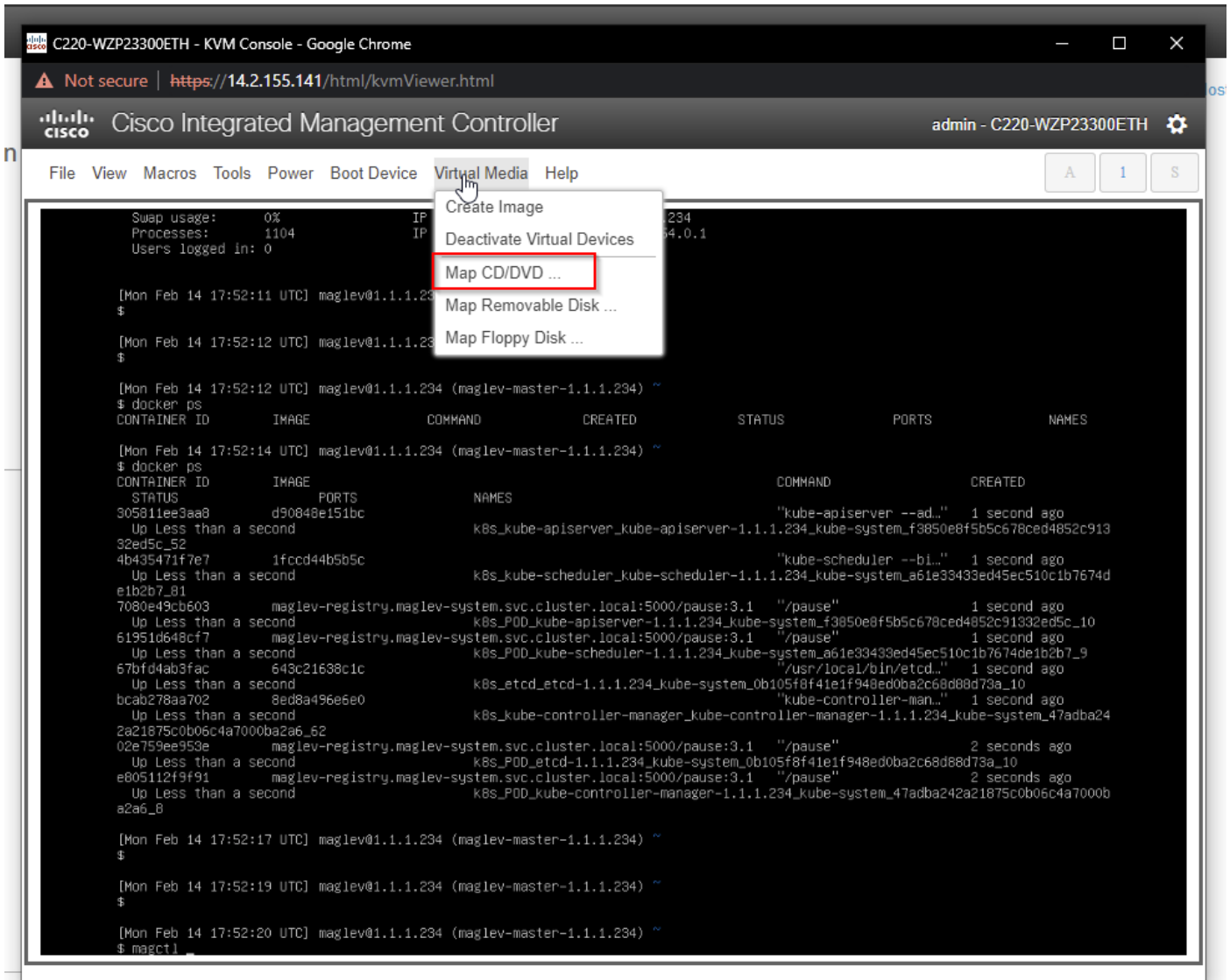
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# Step 1: Boot from Live CD

Log in to the Cisco IMC GUI, choose **Launch KVM** and then choose **Virtual Media > Activate Devices**.



Next, choose **Map CD/DVD**.



After that choose **Browse** and then select the Ubuntu ISO image you downloaded to your local system. After you have selected the Ubuntu image, choose the **Map Drive** button.

C220-WZP23300ETH - KVM Console - Google Chrome

Not secure | https://14.2.155.141/html/kvmViewer.html

Cisco Integrated Management Controller admin - C220-WZP23300ETH

File View Macros Tools Power Boot Device Virtual Media Help

```
Swap usage: 0% IP address for cluster: 1.1.1.234
Processes: 1104 IP address for docker0: 169.254.0.1
Users logged in: 0

[Mon Feb 14 17:52:11 UTC] maglev@1.1.1.234 (maglev-master-1.1.1.234) ~
$
[Mon Feb 14 17:52:12 UTC] maglev@1.1.1.234 (maglev-master-1.1.1.234) ~
$
[Mon Feb 14 17:52:12 UTC] maglev@1.1.1.234 (maglev-master-1.1.1.234) ~
$ docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
[Mon Feb 14 17:52:14 UTC]						
\$ docker ps						
CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
[Mon Feb 14 17:52:14 UTC]						
\$ docker ps						
CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
STATUS						
305811ee3aa8	maglev-system	"/usr/local/bin/etcd..."	1 second ago	Up Less than a second		etcd
32ed5c_52	maglev-system	"/usr/local/bin/etcd..."	1 second ago	Up Less than a second		etcd
4b435471f7e7	maglev-system	"/usr/local/bin/etcd..."	1 second ago	Up Less than a second		etcd
e1b2b7_81	maglev-system	"/usr/local/bin/etcd..."	1 second ago	Up Less than a second		etcd
7080e49cb603	maglev-system	"/usr/local/bin/etcd..."	1 second ago	Up Less than a second		etcd
61951d648cf7	maglev-system	"/usr/local/bin/etcd..."	1 second ago	Up Less than a second		etcd
67bfd4ab3fac	643c21638c1c	"/usr/local/bin/etcd..."	1 second ago	Up Less than a second		etcd
bcab278aa702	8ed8a496e5e0	"/usr/local/bin/etcd..."	1 second ago	Up Less than a second		etcd
2a21875c0b06c4a7000ba2a6_62	maglev-system	"/usr/local/bin/etcd..."	1 second ago	Up Less than a second		etcd
02e759ee953e	maglev-registry	"/pause"	2 seconds ago	Up Less than a second		maglev-registry
e805112f9f91	maglev-registry	"/pause"	2 seconds ago	Up Less than a second		maglev-registry
a2a6_8	maglev-registry	"/pause"	2 seconds ago	Up Less than a second		maglev-registry
[Mon Feb 14 17:52:17 UTC]						
\$						
[Mon Feb 14 17:52:19 UTC]						
\$						
[Mon Feb 14 17:52:20 UTC]						
\$ magctl						

Then browse for the Ubuntu image and then press the "Map Drive" button.

Virtual Media - CD/DVD

Image File :  Browse

Read Only

Map Drive Cancel

Virtual Media - CD/DVD

Image File :  Browse

Read Only

Map Drive Cancel

Next power cycle the appliance with **Power > Reset System (warm boot)**.

C220-WZP23300ETH - KVM Console - Google Chrome

Not secure | https://14.2.155.141/html/kvmViewer.html

Cisco Integrated Management Controller admin - C220-WZP23300ETH

File View Macros Tools **Power** Boot Device Virtual Media Help

Power On System  
 Power Off System  
**Reset System (warm boot)**  
 Power Cycle System (cold boot)

```

Swap usage:
Processes:
Users logged in:

[Mon Feb 14 17:52:11 UTC] maglev@1.1.1.234 (maglev-master-1.1.1.234) ~
$

[Mon Feb 14 17:52:12 UTC] maglev@1.1.1.234 (maglev-master-1.1.1.234) ~
$

[Mon Feb 14 17:52:14 UTC] maglev@1.1.1.234 (maglev-master-1.1.1.234) ~
$ docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED              STATUS              PORTS              NAMES
305811ee3aa8       d90848e151bc      "kube-apiserver --ad..." 1 second ago        Up Less than a second          6443/tcp           kube-apiserver_kube-apiserver-1.1.1.234_kube-system_f3850e8f5b5c678ced4852c913
32ed5c_52
4b435471f7e7       1fccd44b5b5c      "kube-scheduler --bi..." 1 second ago        Up Less than a second          10250/tcp          kube-scheduler_kube-scheduler-1.1.1.234_kube-system_a61e33433ed45ec510c1b7674de1b2b7_81
e1b2b7_81
7080e49cb603       maglev-registry.maglev-system.svc.cluster.local:5000/pause:3.1 "/pause"              1 second ago        Up Less than a second
k8s_POD_kube-apiserver-1.1.1.234_kube-system_f3850e8f5b5c678ced4852c91332ed5c_10
619510648cf7       maglev-registry.maglev-system.svc.cluster.local:5000/pause:3.1 "/pause"              1 second ago        Up Less than a second
k8s_POD_kube-scheduler-1.1.1.234_kube-system_a61e33433ed45ec510c1b7674de1b2b7_9
67bfd4ab3fac       643c21638c1c      "/usr/local/bin/etcd..." 1 second ago        Up Less than a second          2379/tcp           k8s_etcd_etcd-1.1.1.234_kube-system_0b105f8f41e1f948ed0ba2c68d88d73a_10
bcab278aa702       8ed8a496e6e0      "kube-controller-man..." 1 second ago        Up Less than a second
k8s_kube-controller-manager_kube-controller-manager-1.1.1.234_kube-system_47adba24
2a21875c0b06c4a7000ba2a6_62
02e759ee953e       maglev-registry.maglev-system.svc.cluster.local:5000/pause:3.1 "/pause"              2 seconds ago      Up Less than a second
k8s_POD_etcd-1.1.1.234_kube-system_0b105f8f41e1f948ed0ba2c68d88d73a_10
e805112f9f91       maglev-registry.maglev-system.svc.cluster.local:5000/pause:3.1 "/pause"              2 seconds ago      Up Less than a second
k8s_POD_kube-controller-manager-1.1.1.234_kube-system_47adba242a21875c0b06c4a7000b
a2a6_8

[Mon Feb 14 17:52:17 UTC] maglev@1.1.1.234 (maglev-master-1.1.1.234) ~
$

[Mon Feb 14 17:52:19 UTC] maglev@1.1.1.234 (maglev-master-1.1.1.234) ~
$

[Mon Feb 14 17:52:20 UTC] maglev@1.1.1.234 (maglev-master-1.1.1.234) ~
$ magctl

```

After the system has rebooted, press **F6** when the Cisco logo appears. Expect to see the message "Entering Boot Menu ...".



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Press <F2> BIOS Setup : <F6> Boot Menu : <F7> Diagnostics

Press <F8> CIMC Setup : <F12> Network Boot

Bios Version : C480M5.4.0.4b.0.0407190307

Platform ID : C480M5

Processor(s) Intel(R) Xeon(R) Platinum 8176 CPU @ 2.10GHz

Total Memory = 768 GB Effective Memory = 768 GB

Memory Operating Speed 2666 Mhz

M.2 SNRAID configuration is not detected. Switching to AHCI mode.

Cisco IMC IPv4 Address : 10.207.165.50

Cisco IMC MAC Address : 5C:71:0D:24:B6:44

Entering Boot Menu ...

A2

When the boot menu pops up, choose the option that says **Cisco vKVM-Mapped vDVD1.24**. This causes the appliance to boot from the mapped Ubuntu image selected earlier.

Please select boot device:

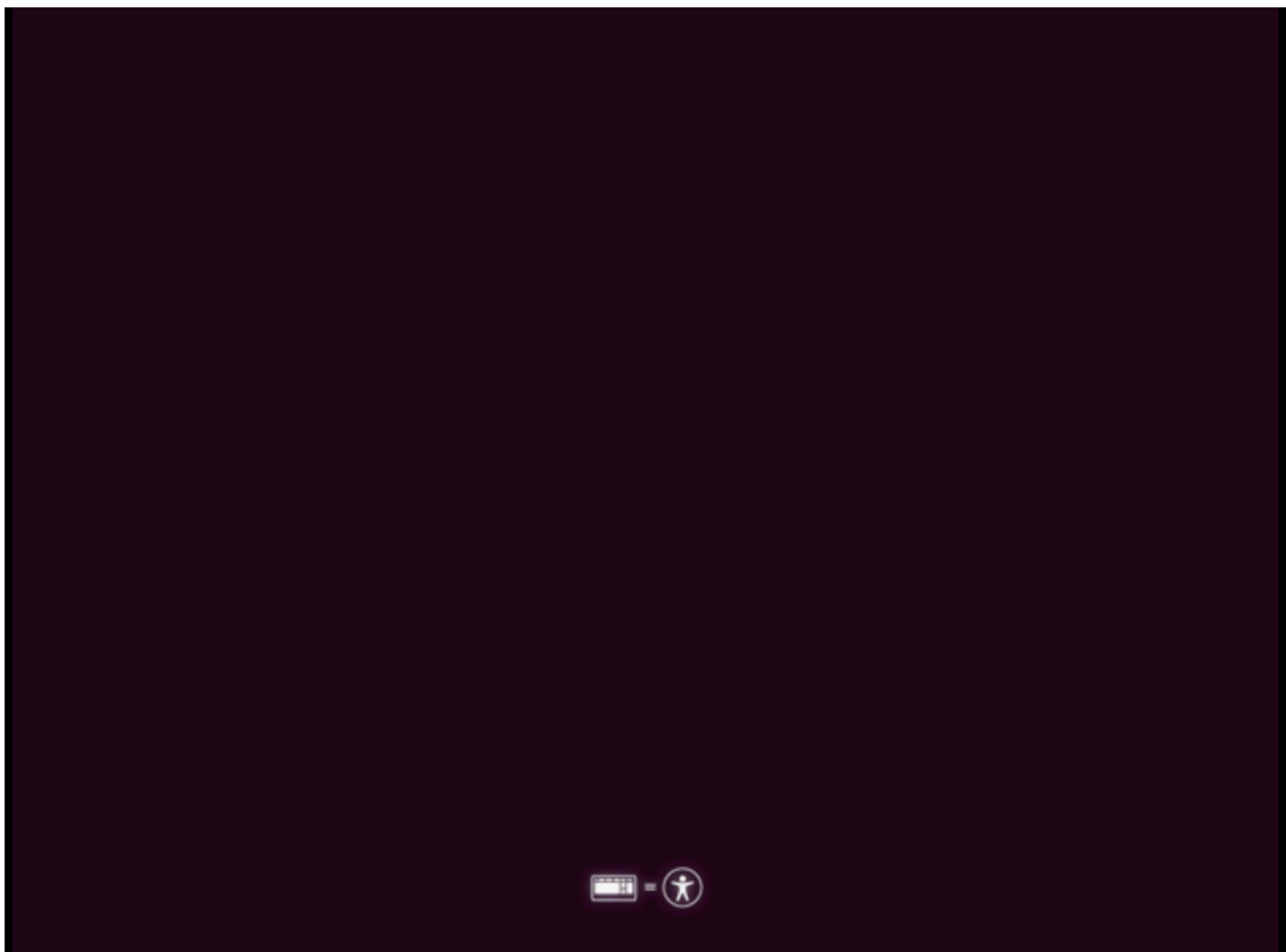
(Bus 33 Dev 00)PCI RAID Adapter  
CiscoVD Hypervisor  
SanDisk  
UEFI: Built-in EFI Shell  
IBA XE (X550) Slot 3500 v2413  
IBA XE (X550) Slot 3501 v2413  
**Cisco vKVM-Mapped vDVD1.24**  
Cisco vKVM-Mapped vHDD1.24  
Cisco vKVM-Mapped vFDD1.24  
Cisco CIMC-Mapped vDVD1.24  
Cisco CIMC-Mapped vHDD1.24  
Cisco Flexutil DVD 1 1.24

↑ and ↓ to move selection  
ENTER to select boot device  
ESC to boot using defaults

\*\*\* NOTE: The screen shots illustrate how long it takes to reach the Ubuntu desktop. \*\*\*

You see a loading screen for Ubuntu that is mostly blank as the system starts to initialize.



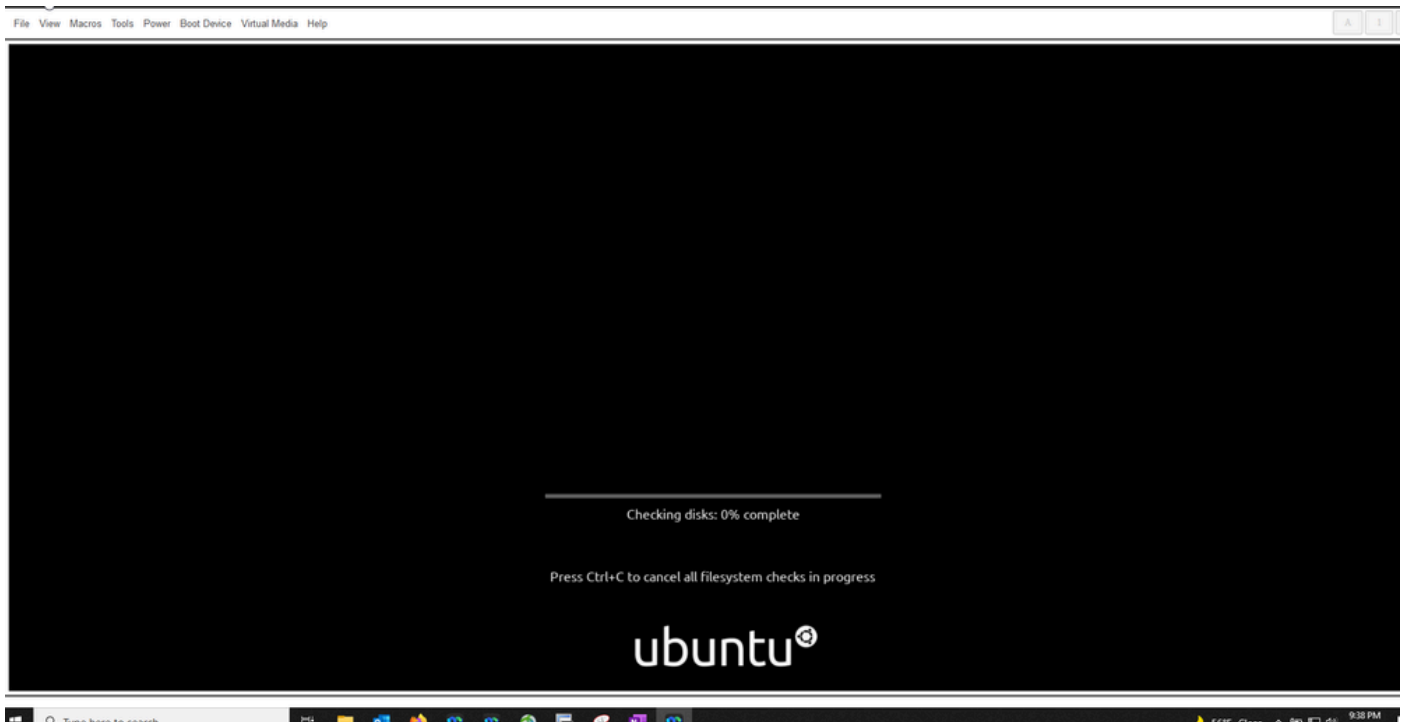


After that the screen changes to display a wheel with the Ubuntu logo. **(It could take up to 30 minutes for this transition).**

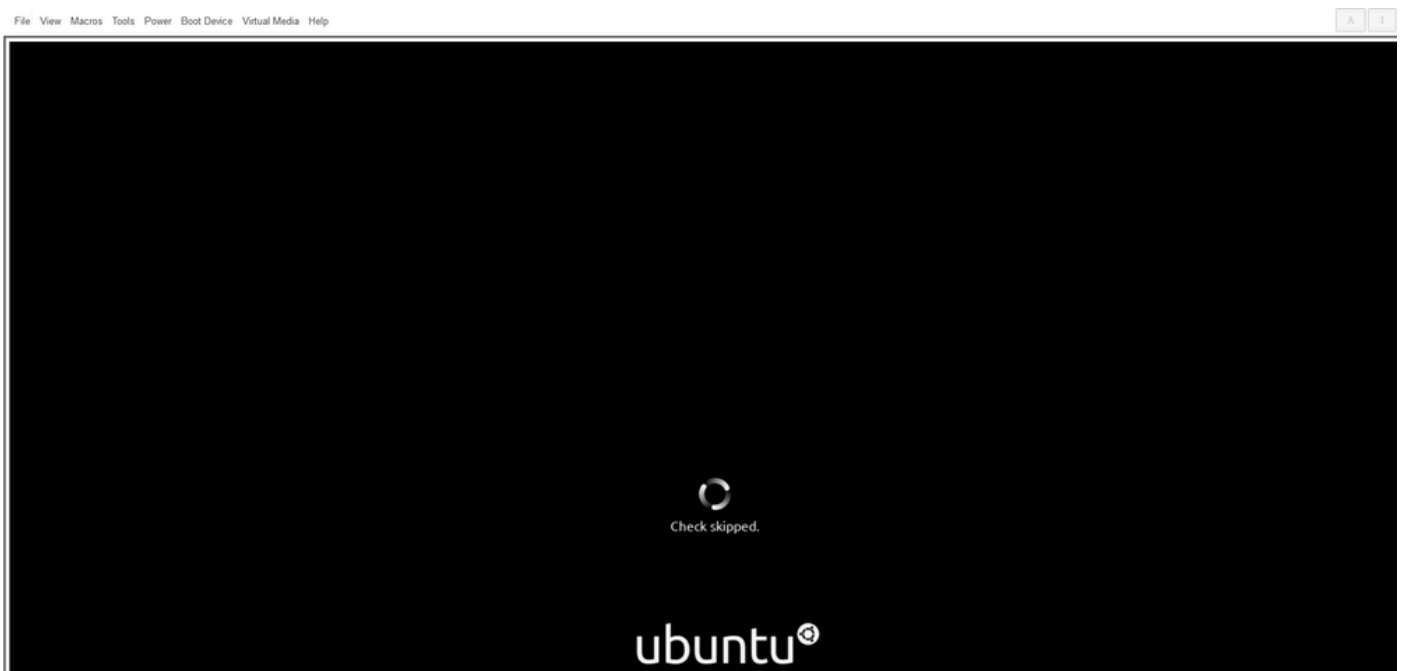


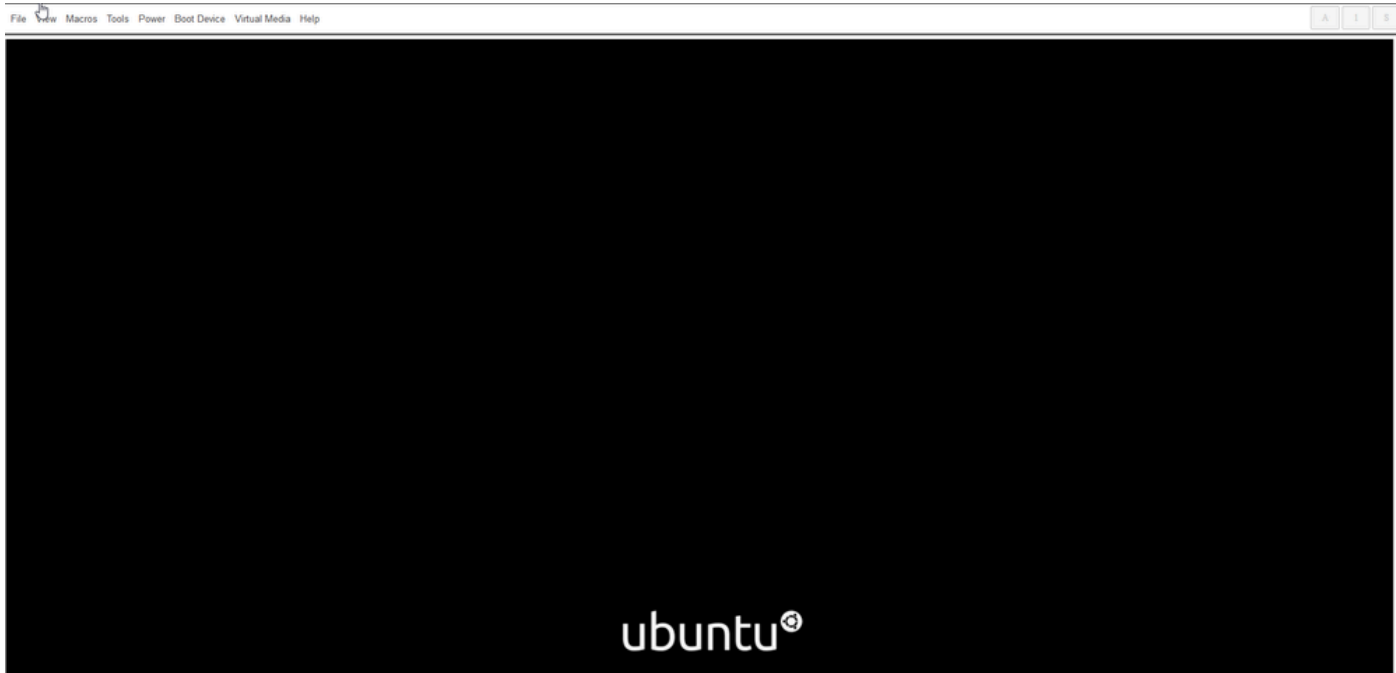
Once the screen displays the message "Checking disks: 0% complete", you need to cancel this task

Press **Ctrl+C** to cancel the disk check.



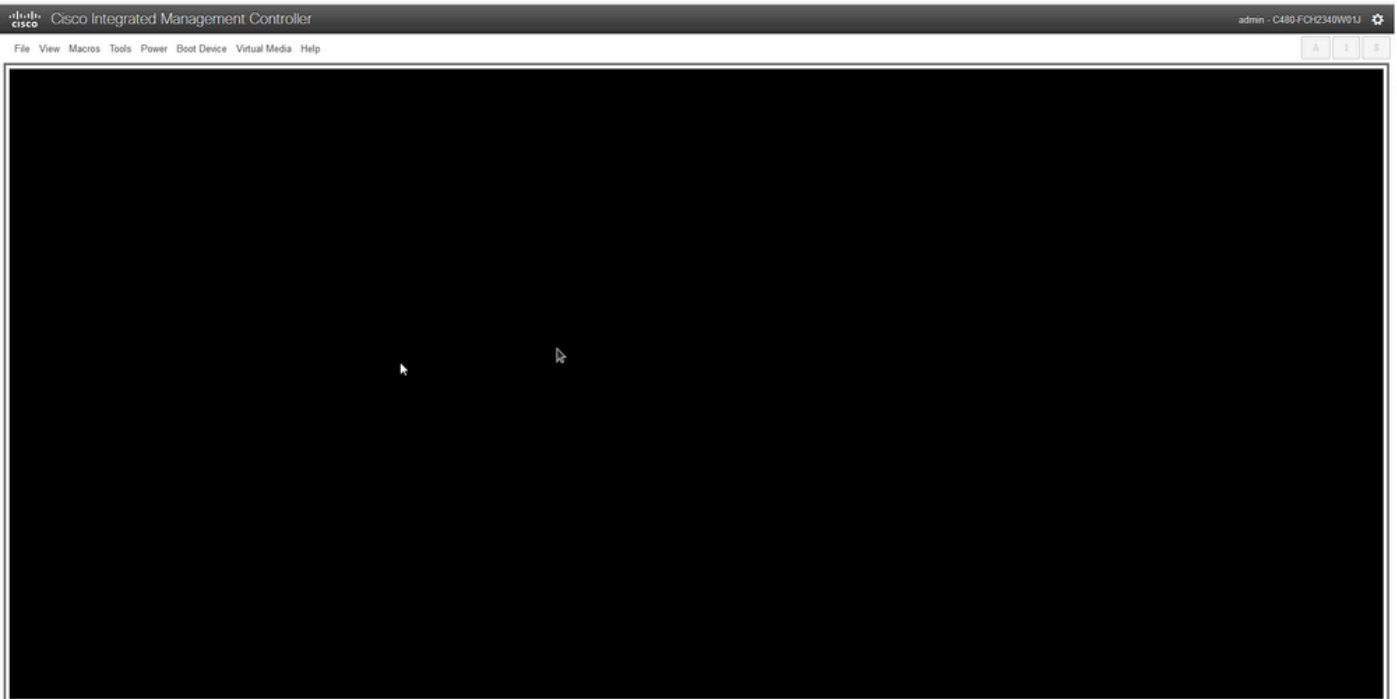
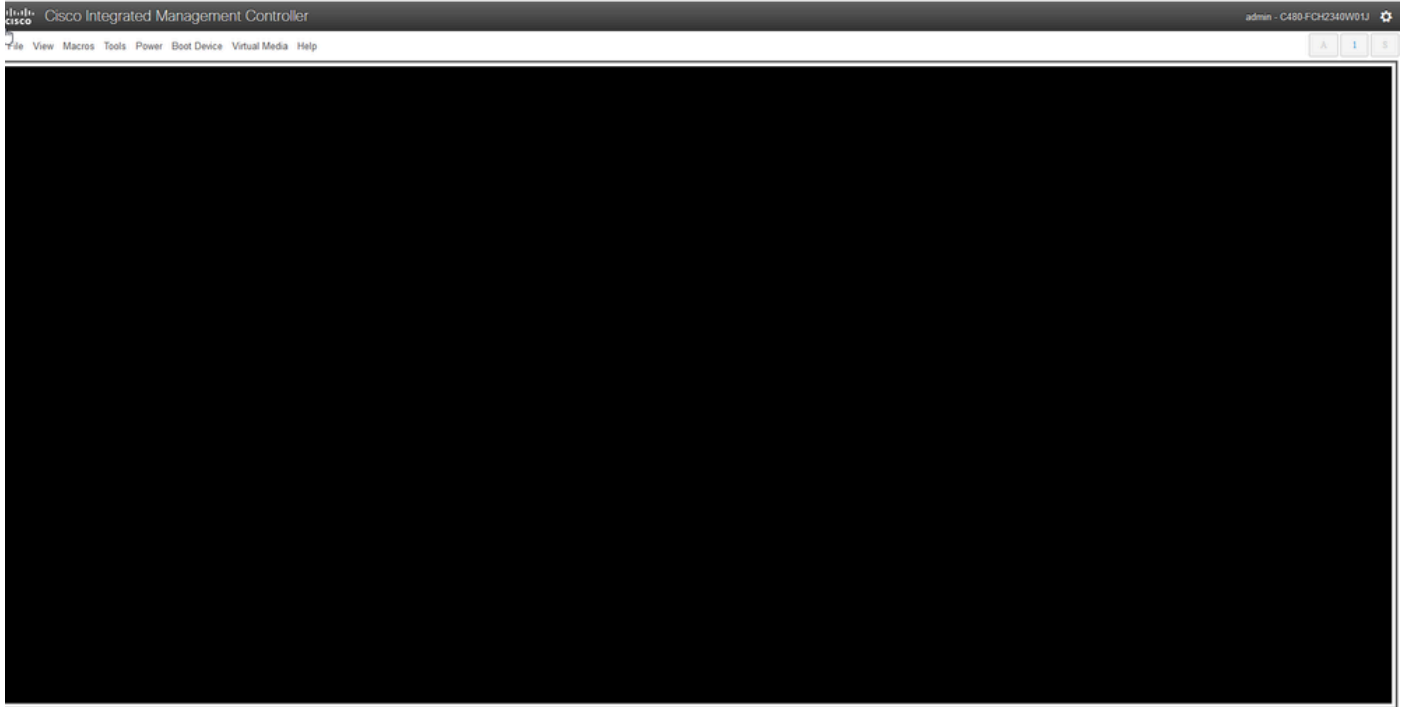
Once the disk check has been skipped you move back to a spinning wheel. Then you get a blank window with just the Ubuntu logo. **(This can take another 30 - 45 minutes to process through).**

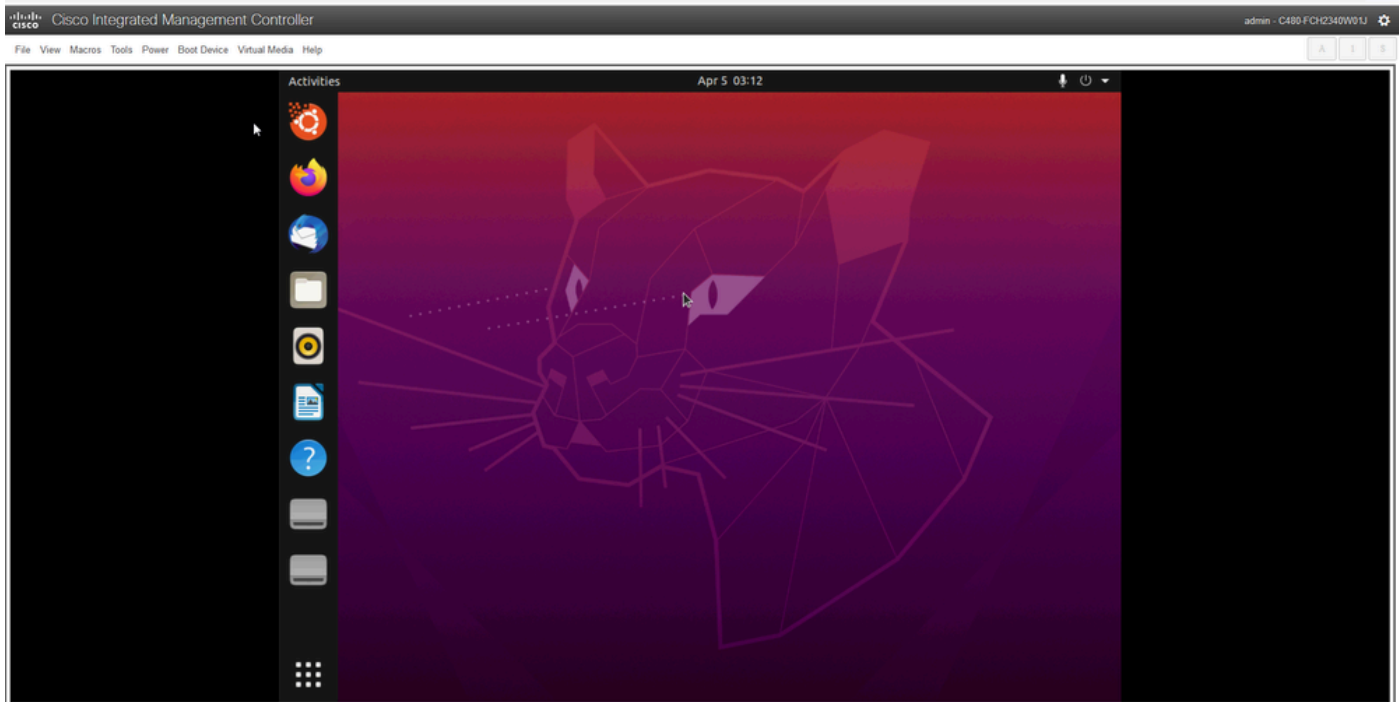




You eventually start to see some messages appear as the system starts to boot Ubuntu for use. Please note that the failed messages are expected. This window remains for up to 20 minutes. After that, the window goes back to a blank screen. After another 10-20 minutes you see the cursor appear. The Ubuntu GUI loads a short time after that.

```
/init: line 49: can't open /dev/sdf: No medium found
/init: line 49: can't open /dev/sdf: No medium found
/init: line 49: can't open /dev/sdg: No medium found
/init: line 49: can't open /dev/sdg: No medium found
/init: line 49: can't open /dev/sdh: No medium found
/init: line 49: can't open /dev/sdh: No medium found
passwd: password expiry information changed.
dbus-daemon[3023]: [session uid=999 pid=3023] Activating service name='org.gtk.vfs.Daemon' requested by ':1.0' (uid=999 pid=3024
  com= label='unconfined')
dbus-daemon[3023]: [session uid=999 pid=3023] Successfully activated service 'org.gtk.vfs.Daemon'
dbus-daemon[3023]: [session uid=999 pid=3023] Activating service name='org.gtk.vfs.Metadata' requested by ':1.0' (uid=999 pid=30
  24 com= label='unconfined')
fuse: device not found, try 'modprobe fuse' first
dbus-daemon[3023]: [session uid=999 pid=3023] Successfully activated service 'org.gtk.vfs.Metadata'
A connection to the bus can't be made
Using CD-ROM mount point /cdrom
Identifying... [0e6b043c7e201f02b354eb5487a705a-2]
Scanning disc for index files...
Found 2 package indexes, 0 source indexes, 0 translation indexes and 1 signatures
Found label 'Ubuntu 20.04.4 LTS _Focal Fossa_ - Release amd64 (20220223)'
This disc is called:
'Ubuntu 20.04.4 LTS _Focal Fossa_ - Release amd64 (20220223)'
Copying package lists... gpgv: Signature made Wed Feb 23 09:10:02 2022 UTC
gpgv: using RSA key 849388F228D22F783742B0094A43F0FE21092
gpgv: Good signature from "Ubuntu CD Image Automatic Signing Key (2012) <cdimage@ubuntu.com>"
Reading Package Indexes... Done
Writing new source list
Source list entries for this disc are:
deb cdrom:[Ubuntu 20.04.4 LTS _Focal Fossa_ - Release amd64 (20220223)]/ focal main restricted
Repeat this process for the rest of the CDs in your set.
[FAILED] Failed unmounting /cdrom.
[FAILED] Failed to start udev Wait for Complete Device Initialization.
[DEPEND] Dependency failed for Install ZFS kernel module.
[DEPEND] Dependency failed for Import ZFS pools by cache file.
[ OK ] Finished Tell Plymouth To Write Out Runtime Data.
[ OK ] Finished Create Volatile Files and Directories.
Starting Network Name Resolution...
Starting Network Time Synchronization...
Starting Update UTMP about System Boot/Shutdown...
[ OK ] Finished Wait for ZFS Volume (zvol) links in /dev.
[ OK ] Reached target ZFS volumes are ready.
[ OK ] Finished Update UTMP about System Boot/Shutdown.
[ OK ] Started Network Time Synchronization.
[ OK ] Reached target System Time Set.
[ OK ] Reached target System Time Synchronized.
[FAILED] Failed to start Network Name Resolution.
[FAILED] Failed to start Snap Daemon.
Starting Snap Daemon...ice' for details.
```





\*\*\* REMINDER: It has been seen in some environments to take up to 2 hours to get to this point \*\*\*

## Step 2: Mount Required Partitions

Once you have access to the Ubuntu desktop GUI environment you need to open the terminal application and perform these steps

- Create a temporary mount point.
- Mount the root and var partitions to the system.
- Mount the pseudo filesystems to the temporary mount point.

First create the temporary mount point with the command:

```
<#root>
```

```
sudo mkdir /altsys
```

Next find the root and var partitions to mount. You can use the **lsblk -fm** command to find a partition to mount for "/" (root) and **"/var"**.

```
$ lsblk -fm
NAME FSTYPE LABEL UUID MOUNTPOINT SIZE OWNER GROUP MODE
sda 446.1G root disk brw-rw----
|-sda1 1M root disk brw-rw----
|-sda2 ext4 install1 1cac7f26-3b8b-43dd-838c-9970000cef3e 28.6G root disk brw-rw----
|-sda3 vfat 52E8-2653 239M root disk brw-rw----
|-sda4 ext4 var 0f0e3643-d4eb-46e8-af9f-756906c5f04a 9 .5G root disk brw-rw----
|-sda5 swap 221b2f64-5a44-404f-b47d-8489fec47598 30.5G root disk brw-rw----
|-sda6 ext4 data 8aff5ec4-924f-42f9-9ca0-705e5807859a 348.8G root disk brw-rw----
|-sda7 ext4 a0e853e9-b2d6-4099-ac77-2f322c2a3a26 28.4G root disk brw-rw----
sdb 1.8T root disk brw-rw----
```

```
|-sdb1 ext4 9b5c4182-9e9d-4e8a-baf6-8a88232f8bcd 426.1G root disk brw-rw----
|-sdb2 ext4 e918dda6-133b-44ee-b005-5e9707088198 1.3T root disk brw-rw----
sdc 5.2T root disk brw-rw----
|-sdc1 ext4 bea4d6d5-7750-4bac-b724-f18867e2029c 5.2T root disk brw-rw----
```

\*\*\* Please note that "**install1**" is root "/" and "**var**" is "/**var**" in the output. \*\*\*

Make a note of the partition for mount commands. If you do not see the labels, then:

- for **/var**: based on appliance profile, look for a 9.5G or 168GB partition
- for **/**: 28.66GB or 47.7GB. Note that there is **/install-artifacts** with similar size 28.46GB.

Once you have identified the var and root partitions mount them:

```
<#root>
```

```
sudo mount /dev/sda2 /altsys
```

```
# use the disk with up to 5 or 6 partitions
```

```
sudo mount /dev/sda4 /altsys/var
```

```
# use the disk with up to 5 or 6 partitions
```

Once root and var have been mounted, mount the psuedo filesystems:

```
<#root>
```

```
sudo mount --bind /proc /altsys/proc
```

```
sudo mount --bind /dev /altsys/dev
```

```
sudo mount --bind /sys /altsys/sys
```

The last step before you change the password or unlock the Maglev account is to change to the temporary mount environment:

```
<#root>
```

```
sudo chroot /altsys
```

## Use Case 1: Unlock Maglev Account

### Step 1: Verify that maglev user is unlocked

```
<#root>
```

```
grep maglev /etc/shadow
```

```
<#root>
```

```
maglev:
```

```
!
```

```
$6$6jvRGoDihpcsr8X1$RUFs.Lb.2Abbgv0DfJsw4b2EnpSwiNU1wJ6NQIjEnv0tT5Svz4ePHZa4f0eUvLH17VAFca46f2nHxqMWORY
```

Check if there is an exclamation mark in front of the password hash or not. If there is, that indicates the account is locked. Type in the command to unlock the user:

Unlock the maglev user with the command:

```
<#root>
```

```
usermod -U maglev
```

## Step 2: Reset failed count

If the user does not have an escalation mark in front of the hash in the **/etc/shadow** file, then the login failure limit has been exceeded. Please use these steps to reset failed login attempts.

Find the failed login attempts for the maglev user:

```
<#root>
```

```
$
```

```
sudo pam_tally2 -u maglev
```

Login	Failures	Latest failure	From
maglev	454	11/25/20 20:24:05	x.x.x.x

As shown here, the login attempts are larger than the default 6 attempts. This denies that user the ability to log in until the failure count drops to less than six (6). You can reset the login failure count with the command:

```
<#root>
```

```
sudo pam_tally2 -r -u maglev
```

You can confirm that the counter has been reset:

```
<#root>
```

```
sudo pam_tally2 -u maglev
```

Login	Failures	Latest failure	From
maglev	0		

## Use Case 2: Reset Maglev User Password

### Step 1: Reset the Maglev user password

```
<#root>
```

```
#
```

```
passwd maglev
```

```
Enter new UNIX password: #Enter in the desired password
```

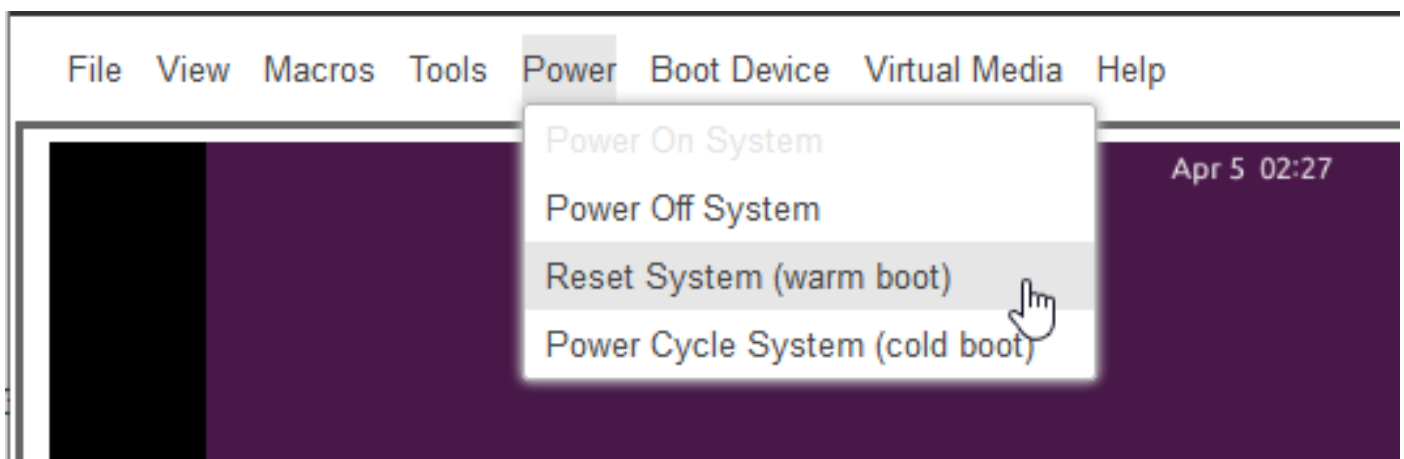
```
Retype new UNIX password: #Re-enter the same password previously applied
```

```
Password has been already used.
```

```
passwd: password updated successfully #Indicates that the password was successfully changed
```

### Step 2: Reboot normally to Cisco DNA Center environment

Click on **Power** in the KVM window and then **Reset System (warm boot)**. This causes the system to reboot and boot with the RAID controller so that the Cisco DNA Center software boots up.



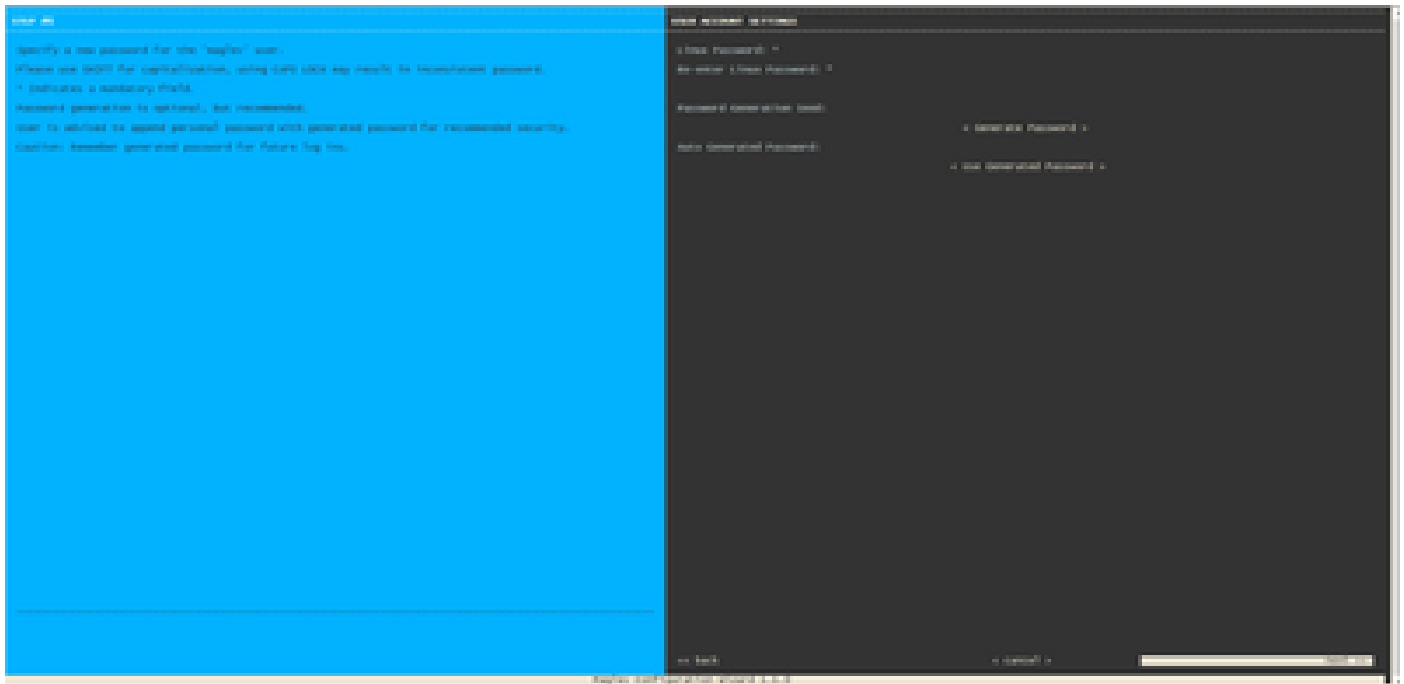
### Step 3: Update Maglev User Password from Cisco DNA Center CLI

Once the Cisco DNA Center software boots and you have access to the CLI, you need to change the Maglev password with the command **sudo maglev-config update**. This step is required to ensure that the change takes affect across the whole system.

Once the config wizard has been launched, you need to navigate completely through the wizard to screen



that allows us to set the Maglev password in step 6.



Once the password has been set for both fields **Linux Password** and **Re-enter Linux Password**, choose **next** and complete the wizard. When the wizard finishes the configuration push, the password is successfully changed. You can create a new SSH session or enter in the command **sudo -i** in the CLI to test that the password has been changed.