Managing the Linux Boot Process



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Overview



Booting to the Linux Kernel

grub

- mbr
- ramdisk
- kernel
- /etc/default/grub
- grubby

Kernel panic



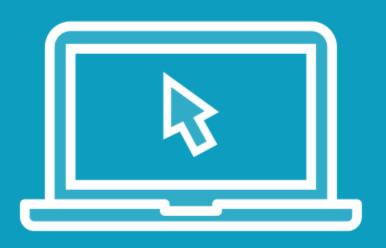
Ramdisk / Kernel

initramfs

Drivers to access to root file system at boot time

kernel

The core operating system



Working on the Alma Linux 8.5

- We discover the the /boot directory

Grub Defaults

/etc/default/grub

GRUB_TIMEOUT=5

GRUB_DISTRIBUTOR="\$(sed 's, release .*\$,,g'
/etc/system-release)"

GRUB_DEFAULT=saved

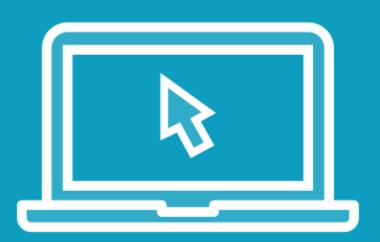
GRUB_DISABLE_SUBMENU=true

GRUB_TERMINAL_OUTPUT="console"

GRUB_CMDLINE_LINUX="resume=UUID=7191323b-10c7-416e-a894-6f0fe7031cfa rhgb quiet"

GRUB_DISABLE_RECOVERY="true"

GRUB_ENABLE_BLSCFG=true



Working on the Alma Linux 8.5

Working with Grub Defaults

- Change timeout
- Update grub2.cfg

Default Kernel Options

resume

Hibernation partition, not needed on server

rhgb

Red Hat Graphical Boot, really no one cares on a server

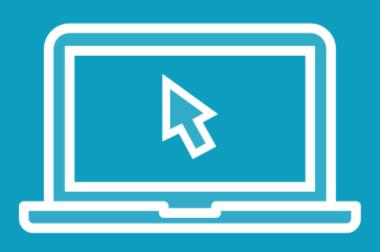
quiet

This is a server no one is going to see. If a tree falls in a forest etc



```
$ sudo -i
# cat /boot/grub2/grubenv
# cat /boot/loader/entries/<...>.conf
# grubby --update-kernel=ALL --remove-args="rhgb quiet"
# grubby --update-kernel=ALL --args="rhgb quiet"
# grubby --update-kernel=/boot/vmlinuz-$(uname -r) --remove-args="rhgb quiet"
```

Changing Entries Using grubby



Working with Alma Linux 8

- Kernel Options
- Using Grubby



Password Authentication

Add Password for Vagrant Account

\$ sudo passwd vagrant

Cause Kernel Panic

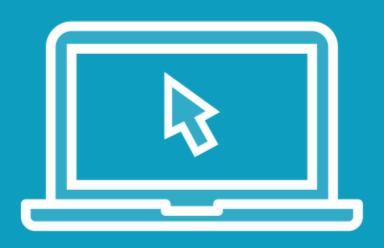
Delete Initramfs -- take care

```
# rm /boot/initramfs-$(uname -r).img
```

Fix Kernel Panic

Create Initramfs

```
Boot to Rescue Image
# mkinitrd --force /boot/initramfs-$(uname -
r).img $(uname -r)
```



Working with Alma Linux 8

- Recovering from a Kernel Panic

Summary



Booting Linux

- grub
- kernel
- initramfs

Configuring Grub

- /etc/default/grub
- grub2-mkconfig
- grubby

Kernel Panic

- corrupt or inaccessible initramfs
- rescue system
- mkinitrd or dracut



