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— TASTE OF LINUX —

WELCOME TO THE WORLD OF LINUX

DAY - 12

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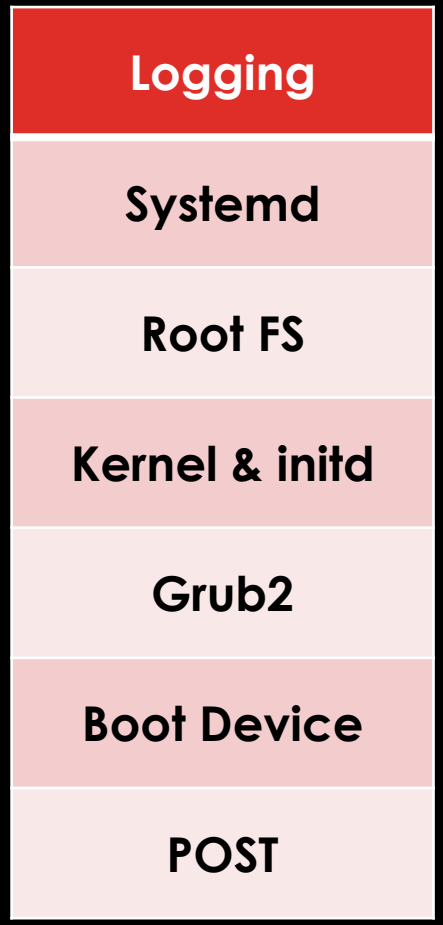
Accessing Network Storage with SMB

RHEL 7 Boot Process

1. When Computer Starts up, First thing that happen is "**POST**". Means it search all the hardware peripherals are connected and working or not .
2. Then computer finds the "**Boot Device**". That is typically be your 'HDD'.
3. Then it finds the boot loader. In RHEL 7 is "**grub2**". It contains your Operating System path.
4. Then you are allowed to load the "**kernel & initd**" systems.
5. From there "**root FS**" is mounted.
6. After that "**systemd**" is accessed.
7. After "systemd" is access every "services and demons" are working as they are.



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Understanding GRUB2

GRUB stands for **'GRand Unified Bootloader'** version 2. GRUB2 is a boot loader package from the GNU Project.

- grub is located at "**/etc/default/grub**".
- Additional configuration files are stored into "**/etc/grub.d**" directory.
- We can configure the grub by using "**grub2-mkconfig**" command.
- At the time of computer start, we can use the grub boot menu by pressing "**Escape**".

Recovering the root password

1. Reboot the system.
2. Interrupt the boot loader countdown by pressing any key.
3. Move the cursor to the entry that needs to be booted.
4. Press '**e**' to edit the selected entry.
5. Move the cursor to the kernel command line (the line that starts with linux16).
6. Type "**rd.break console=tty1**" then press "**Ctrl+x**" to continue with the changes.

Note:- At this point, a root shell will be presented, with the root file system for the actual system mounted read-only mode on /sysroot.So we need to remount as read and write

7. mount -o remount,rw /sysroot

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8. chroot /sysroot

[Note: - **chroot** is a **command** or an interactive shell from another directory, and treats that directory as root.]

9. passwd [To change the password]
10. touch /.autorelabel

Note: -.autorelabel file will be reset all the selinux context and settings

11. exit [To exit form chroot]
12. exit [To exit for debug shell]

Setting up a GRUB2 Password

Grub2 configuration file is "/boot/grub2/grub.cfg and it has a soft link as "/etc/grub.cfg".

Configuration is as follows

grub2-mkpasswd-pbkdf2

'Put the password twice. Then it shows the encrypted password like below'

PBKDF2 hash of your password is

grub.pbkdf2.sha512.10000.07D2BF9CA77D4161B779BC666FF75D0F6618CC85F4111AC51FDE0FE8B0E7C0AF45B19EF3821DD18AA6A0F276C8885D0D6DD0798FC0E7975E7AC840BC66037DB9.A13DF676A0DB98335A9CE41E29742B4FFE3979F6E5B95602D04EE80E9D624601DD

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Copy from "grub.pbkdf2" till end.
vim /etc/grub2.cfg
Then find the kernel into the script, and type down the following before the kernel line
set superusers="root"
export superusers
password_pdkdf2 [Paste the copied password]
Note:- then save and exit. Shown below

```
### BEGIN /etc/grub.d/10_linux ###

set superusers="root"
export superusers
password_pbkdf2 root grub.pbkdf2.sha512.10000.07D2BF9CA77D4161B779BC666FF75D0F6618CC85F4111AC51FDE0FE8B0E7C0AF45B19EF3821D
D18AA6A0F276C8885D0D6DD0798FC0E7975E7AC840BC66037DB9.A13DF676A0DB98335A9CE41E29742B4FFE3979F6E5B95602D04EE80E9D624601DD248
7B972E31E42AF4C0B967D63F8B04A193B3935F559ED17A9A84CC6D15EDB

menuentry 'Red Hat Enterprise Linux Server (3.10.0-514.el7.x86_64) 7.3 (Maipo)' --class red --class gnu-linux --class gnu
--class os --unrestricted $menuentry_id_option 'gnulinux-3.10.0-514.el7.x86_64-advanced-dcffeb25-0ea9-4f05-8f6c-74411848c3
ef' {
```

After modification finished reboot the system.

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Understanding and Managing Systemd Targets

Systemd unit files are basically everything started by systemd. The specific type of unit files are called as systemd targets.

- Systemd targets defines the state your system enters.
- Some systemd targets are equivalent to runlevels in the previous version of RHEL.
  - poweroff.target [Shutdown]
  - rescue.target [Single user of rescue]
  - multiuser.target [Multi user with no GUI]
  - graphical.target [Multi user with GUI]
  - reboot.target [Reboot the system]
  - emergency.target [This is also for rescue for minimal troubleshooting]

To show the systemd units list

```
# systemctl list-units --type=target
```

To change to rescue mode

```
# systemctl isolate rescue.target
```

To view your default target

```
# systemctl get-default
```

To set a default systemd target

```
# systemctl set-default multi-user.target
```

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THANK YOU

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