# System Start Up and Services

# Generic Boot Process

- CPU runs it's own internal test
- CPU executes code at 'magic' address (boot ROM)
- Boot ROM code executes code from 'magic' address on disk (boot loader)
- Boot loader executes the kernel

# CentOS 8 Boot Process

- CPU runs it's own internal test
- CPU executes code at 'magic' address
  (boot ROM = BIOS)
- BIOS code executes code from 'magic' address on disk
  (boot loader = GRUB)
- GRUB executes the kernel

# Linux Start UP (CentOS 8)

- kernel initializes hardware
- kernel runs the systemd process

# systemd

- First process started
- PID = 1
- Parent process for daemons (services)
- “Top” of the process tree
- Starts and stops daemons (services)

# systemd: Units and Targets

Units are objects on which systemd operates (most commonly services)

Targets are sets of objects that run together.  (We usually only use the default target.)

# Commands

Show default target

```
systemctl get-default
```

Set httpd service to start automatically

```
systemctl enable httpd.service
```

Set httpd service to not start automatically

```
systemctl disable httpd.service
```

Start,stop, or restart httpd service manually

```
systemctl start httpd.service
```

```
systemctl stop httpd.service
```

```
systemctl restart httpd.service
```

# Commands (cont)

Shutdown the server

```
systemctl  poweroff
```

Reboot the server

```
systemctl  reboot
```