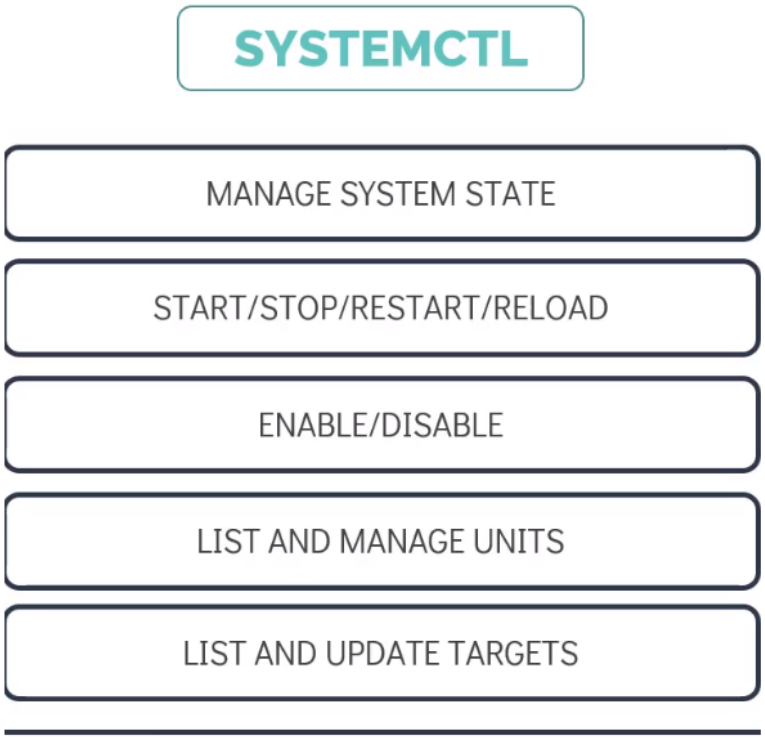
SYSTEMD Tools to Manage SYSTEMD service

In this lecture we will explore two major SYSTEMD tools:

- SYSTEMCTL
- JOURNALCTL

SYSTEMCTL

- **Systemctl** is the main command used to manage services on a `SYSTEMD` managed server.
- It can be used to manage services such as `START/STOP/RESTART/RELOAD` as well as `ENABLE/DISABLE` services during the system boot.
- It is also used to `LIST AND MANAGE UNITS` and `LIST AND UPDATE TARGETS`



Systemctl Commands

- To start a service use the start command, for example to start a docker service use `systemctl start docker`

```
[~]$ systemctl start docker
```

- To stop a service use the stop command, for example to stop a docker service use `systemctl stop docker`

```
[~]$ systemctl stop docker
```

- To restart a service use the restart command, for example to restart a docker service use `systemctl restart docker` this will stop and start again.

```
[~]$ systemctl restart docker
```

- To reload a service use the reload command, for example to reload a docker service use `systemctl reload docker`, this will reload all the configuration without interrupting the normal functionaltiy of the service

```
[~]$ systemctl reload docker
```

- To enable a service and make it persistent accross reboots use the enable command, for example to enable a docker service use `systemctl enable docker`

```
[~]$ systemctl enable docker
```

- To disable a service at boot use the disable command, for example to disable a docker service use `systemctl disable docker` command.

```
[~]$ systemctl disable docker
```

- To know the status of the service use `systemctl status docker` command. This command provided the state of the service. If running properly is should show `active (running)` state as shown in screenshot below.

```
[~]$ systemctl status docker
```

- Besides `active (running)` state there are few other state that you should be aware off.

STATE	Meaning
Active	Service Running
Inactive	Service Stopped
Failed	Crashed/Error/Timeout e.t.c

- Running `systemctl daemon reload` command after making changes to service unit file reloads the system manager configuration and makes the systemd aware of the changes.
- To edit the service file use command `systemctl edit project-mercury.service --full` this will open a text editor, you can make the changes and re-write the settings as needed, making changing this way applied immediately without running the `systemctl daemon reload` command

```
[~]$ systemctl daemon-reload
[~]$ systemctl edit project-mercury.service --full
```

- To see the current runlevel use `systemctl get-default`

```
[~]$ systemctl get default
```

- To change the runleve to a different target use `systemctl set-default multi-user.target`

```
[~]$ systemctl set-default multi-user.target
```

- To list all the units that systemd has loaded use `systemctl list-units --all`, this lists all the unit which are active, inactive or anyother state.

```
[~]$ systemctl list-units --all
```

- To list only active units use `systemctl list-units` command

```
[~]$ systemctl list-units
```

- To view, and also locate a unit file use `systemctl cat` command. A comment line containing the path to the unit file is printed as the first line of output.

```
[~]$ systemctl cat project-mercury.service
```

JOURNALCTL

- **Journalctl** is a command for quering/viewing logs collected by systemd.
- The systemd-journald service is responsible for systemd's log collection, and it retrieves messages from the kernel systemd services, and other sources.
- Very useful when you are troubleshooting issues with systemd services.

- Using `journalctl` commands print all the log entries from oldest to the newest.

```
[~]$ journalctl
```

- Using `journalctl -b` command print all the logs from the current boot.

```
[~]$ journalctl -b
```

- Using `journalctl -u docker.service` command print all the logs specific to the unit specified, for example docker in this case.

```
[~]$ journalctl -u docker.service
```

- Using `journalctl -u docker.service --since` command print all the logs specific to the unit specified since the given time, for example docker in this case.

```
[~]$ journalctl -u docker.service --since "2022-01-01 13:45:00"
```