

The background of the slide is a light gray gradient. It is decorated with several realistic water droplets of various sizes, some clustered in the top left and others in the bottom right. In the center background, there is a faint, circular logo or seal, which appears to be the official emblem of the University of the Philippines, featuring a sun and a book.

CHAPTER 06

Maintaining System Startup and Services

Looking at init

- initialization daemon (init) determines which services are started and in what order. It allows you to stop and manage the various system services
- Finding the init program file location
which init
- Checking the init program for links
`readlink -f /usr/sbin/init`

Managing systemd Systems

- Systemd Units
 - A unit defines a service, a group of services, or an action
 - Each unit consists of a name, a type, and a configuration file

```
pstree -p
```

12 different systemd unit types

- automount
- device
- mount
- path
- scope
- service
- slice
- snapshot
- socket
- swap
- target
- timer

Units are identified by their name and type
using the format *name.type*

Looking at systemctl

`systemctl [OPTIONS...] COMMAND [NAME...] : utility`

`systemctl list-units`

`systemctl list-unit-files`

- Finding and displaying a systemd unit file

`systemctl cat cron.service`

- Viewing a service unit's status via systemctl

`systemctl status cron`

systemctl *Cont.*

- Groups of services are started via target unit files. At system startup, the *default.target* unit is responsible for ensuring that all required and desired services are launched at system initialization.

Looking at the default.target link

```
sudo find / -name default.target
```

```
readlink -f /usr/lib/systemd/system/default.target
```

```
systemctl get-default
```

systemctl *Cont.*

Start/Stop services

systemctl stop openvpn

systemctl is-active openvpn : *is-enabled | is-failed*

systemctl start openvpn

systemctl is-active openvpn

systemctl restart openvpn

systemctl mask openvpn : *unmask*

Runlevel

- # Runlevel
- 0 Shut down the system.
- 1 Single-user mode used for system maintenance.
- 2 Multiuser mode without networking services enabled.
- 3 Multiuser mode with networking services enabled.
- 4 Custom.
- 5 Multiuser mode with GUI available.
- 6 Reboot the system.

To switch between them: `init #`

To view current and last: `runlevel`

Related commands & link

- <https://distrowatch.com/search.php>
- Listing script files in the directory
`ls -lF /etc/init.d/`
- These initialization scripts are responsible for starting, stopping, restarting, reloading, and displaying the status of various system services.
- service openvpn status : *start* / *stop*

Deeper into systemd

- **Mount Units | .mount**
 - single mount unit file is created for each mount point
- **Automount Units | .automount**
 - configure on-demand mounting and automatically unmount upon lack of activity.
- **Timer Unit Files | .timer**
 - allow you to define events that occur at specific dates or times