Systemd

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Systemd is an improved version of service, controlled via systemctl. Allows you to initalise components after the linux kernel is booted. Also managed services and daemons.

Systemd used units controlled via a unit file.

1 General Service Control

Listing 1: Controlling servies

```
1
2         systemctl ...
3
4         start app.service //.service not needed
5         stop
6         restart
7         reload
8         reloadorrestart
9
10        enable //start service at boot
11        disable
12
13        status
14        isactive
15        isenabled
16        isfailed
17
18        list-units //list all units
19
20        cat //show unit file
21        mask //stop unit from starting
22        edit //append to unit file
23
24        edit --full //edit unit file
```

Targets are used to group units together, used to ref a system state instead of a unit.
Journald combines all outputs from services.

Listing 2: Logging view

```
1
2       journalctl –u unit // outputs from chosen unit
3
4       –n 20 // see last 20 logs
5       –f // follow a log
```

2 Unit files

2.1 [Unit]

Listing 3: Unit file sections

```
1
2       Description = //best to keep it short
3       Documentation = //man page or url
4       Requires = //Any units required
5       Wants = //Less strict than requires
6       BindsTo = //if unit stops this will to
7       Before = // Dont start these units until the associated unit has started
8       After = // start associated after these units
9       Conflicts = // dont run these units at the same time
10      Condition = // Only run if true, if failure skip
11      Assert = //if failure cause error
```

2.2 [Install]

Controls enabled units

Listing 4: Install section

```
1
2       Wantedby = //similar to Wants
3       Requiredby = //similar to requires
4
5       Alias =
6       Also = //Create a set of units to enable with this one
```

2.3 [Service]

Listing 5: Service section

```
1
2       Type = // simple,notify etc
3       ExecStart = //commands for when started
4       ExecStartPost = //commands post start
5       ExecReload = //commands on reload
6       ExecStop = // commands on stop
7       ExecStopPost = //commands post stop
8       RestartSec = // commands on restart
```

```
9         Restart = // commands on restart
10        TimeoutSec = // commands on timeout
```

2.4 [Path]

Listing 6: Path section

```
1
2         PathChange = //path to monitor for changes
3         Unit = //units to activate on changes
4         MakeDirectory = //if path should be created
```

2.5 [Timer]

Listing 7: Timer Section

```
1
2         OnActiveSec = //start after .timer service
3         OnBootSec = //start after boot
4         OnUnitActive = //time after unit activation
5         OnCalendar =  // use absolute time instead
6         AccuracySec = // accuracy level
```

2.5.1 subsubsection