

## 利用 Systemd 设置程序开机自启动

systemd 是一种用于 Linux 操作系统的初始化系统和服务管理器，负责启动和管理系统中的各种服务和进程，由 Lennart Poettering 主导开发并在 LGPL 2.1 及其后续版本许可证下开源发布。systemd 已经广泛被多数主流 Linux 发行版采用，如 Ubuntu、Fedora、Debian。展厅上的 i.MX6/8/9 系列采用 Linux 定制版，即 Yocto 系统，它也采用了 systemd 管理器。

systemctl 命令是 systemd 系统和服务管理器的命令行工具，通过控制和监视系统的服务和单位文件，提供了对系统进程的强大管理功能。

在开发板上做调试时，有时我们会想把一些命令或脚本文件设置为开机自启动。尤其是在多次开机后运行同一命令观察其结果，设置为开机自启动能提高调试效率。我们可以利用 systemd 设置命令或脚本文件的开机自启动。

### 本文档涉及案例包括：

- 利用 Systemd 设置程序开机自启动

#### 1. 预定开发板

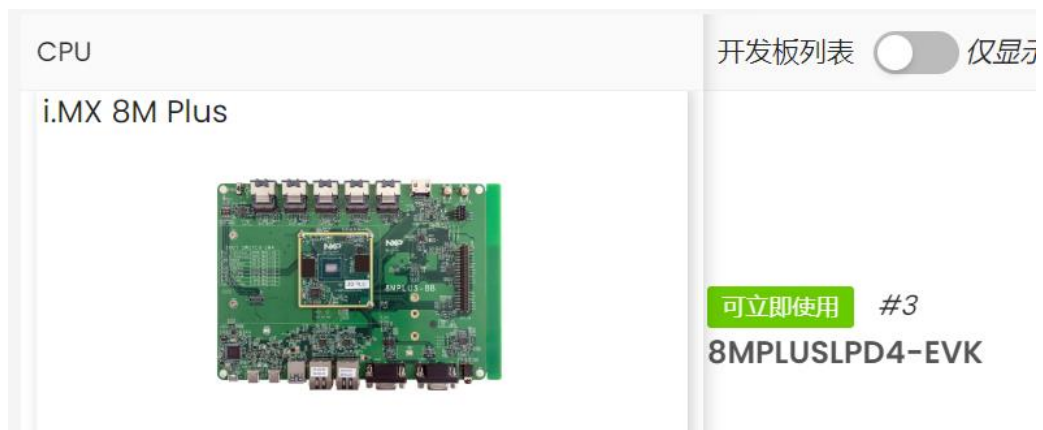
在动手实践本应用案例前先预定开发板：(以 i.MX8MP 为例，i.MX93 等同样适用)，打开云实验室网页，点击右上角登陆按钮输入账号密码。

<https://aiotcloud.nxp.com.cn/>

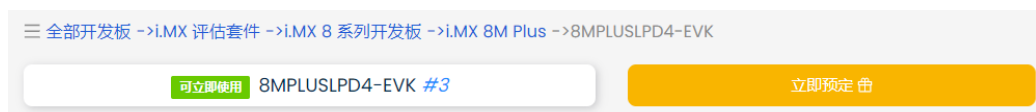
登陆后依次点击硬件 -> i.MX 8 系列开发板



找到 i.MX 8M Plus “可立即使用” 状态的板子，点击“8MPLUSLPD4-PEVK”进入。



然后点击“立即预定”按钮：



选择立即使用，填写使用结束时间

请选择预定日期、开始和结束时间

立即使用

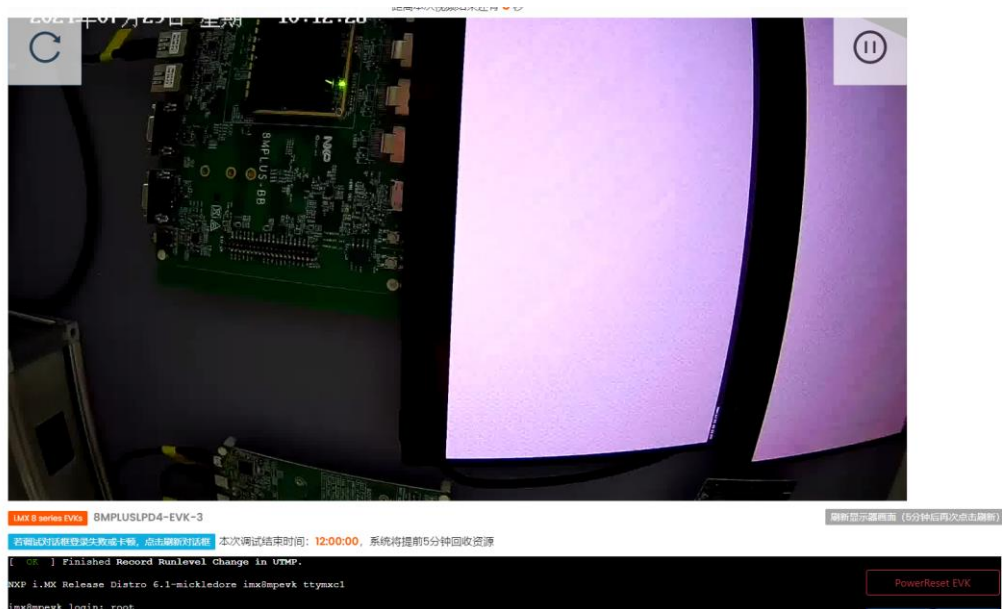
12 0

确认预定

然后点击进入我的预定,

我的预定									
ID	CPU	开发板名称	编号	开始时间	结束时间	时长	操作时间	状态	调试
4350	IMX 8M Plus	BMPLUSLPD4-EVK	#3	2024-07-29 10:15	2024-07-29 11:55	1:667h	2024-07-29 10:16	正常	<a href="#">调试</a> <a href="#">取消</a>

点击右侧蓝色“调试”按钮，之后就进入到板子的实物页面和系统启动 log 页面。到此为止，板子预定并且启动成功。



1. 如前面所述，systemctl 命令是 systemd 系统和服务管理器的命令行工具。当 Linux 系统启动时，内核会加载并执行第一个用户空间程序，即 systemd。它作为 PID 1 运行，是所有其他进程的父进程。Systemd 会读取配置文件，通常配置文件位于 /etc/systemd/system 下和 /lib/systemd/system 下，后缀为 .service，按照依赖顺序并行或顺序地启动服务。

systemctl 命令的基本语法为：

```
systemctl [OPTIONS...] COMMAND [UNIT]
```

其中，OPTIONS 是可选参数，用于指定 systemctl 的行为；COMMAND 是必需参数，用于执行特定的 systemd 命令，如启动、停止或重新启动服务；UNIT 是可选参数，用于指定要操作的服务或单元。

例如：

启动服务：

```
systemctl start 服务名称.service
```

停止服务：

```
systemctl stop 服务名称.service
```

重启服务：

```
systemctl restart 服务名称.service
```

查看服务状态：

```
systemctl status 服务名称.service
```

设置服务开机自启动：

```
systemctl enable 服务名称.service
```

取消服务开机自启动：

```
systemctl disable 服务名称.service
```

查看所有已启用的服务：

```
systemctl list-unit-files --state=enabled
```

重新加载服务配置文件：

当修改了服务的配置文件后，需要执行此命令来重新加载配置文件。

```
systemctl daemon-reload
```

2. systemd 设计的单元 (Units) 是用于描述系统资源和服务的配置文件，它们代表了 systemd 可以管理的各种不同类型的对象。systemd 支持的主要单元类型有：

- (1) 服务单元 (.service)：这是最常用的单元类型，用于定义系统服务，如守护进程 (daemon) 及其相关进程。服务单元控制着服务的启动、停止、重载等操作。
- (2) 套接字单元 (.socket)：用于管理系统中的本地 IPC (进程间通信) 或网络套接字，支持基于套接字激活服务，即当套接字上有连接请求时自动启动相应服务。
- (3) 目标单元 (.target)：作为一组单元的集合，用于定义系统状态或运行级别，如多用户目标 (multi-user.target) 或图形界面目标 (graphical.target)。切换目标实际上就是启动或停止与该目标相关联的一组服务。
- (4) 设备单元 (.device)：代表系统中的硬件设备，可以用于基于设备的激活，即当设备接入或移除时执行特定操作。

除此之外，还有挂载单元 (.mount)，路径单元 (.path)，计时器单元 (.timer)，交换单元 (.swap)，自动挂载点单元 (.automount) 等。

服务单元 (.service) 是最常用的单元类型。以 /lib/systemd/system 下的 psplash-start.service 为例，该服务单元会让屏幕在 Weston 启动之前显示一张 open-embedded 图片，

```
vi /lib/systemd/system/psplash-start.service
```

```
[Unit]
```

```
Description=Start Psplash Boot Screen
```

```
Wants=systemd-vconsole-setup.service
```

```
After=systemd-vconsole-setup.service systemd-udev-trigger.service systemd-udevd.service
```

```
DefaultDependencies=no
```

```
[Service]
ExecStartPre=/bin/sh -c "if [ -e /sys/class/graphics/fbcon/cursor_blink ]; then echo 0 >
/sys/class/graphics/fbcon/cursor_blink; fi"
ExecStart=/bin/sh -c "s=$(/usr/sbin/fbset -i -fb /dev/fb0 | grep epdc); if [ -z "$s" ];
then i=0; else i=1; fi; if [ -e /dev/fb$i ]; then /usr/bin/psplash -n

[Install]
WantedBy=sysinit.target
```

.service 文件分为三个部分：

- (1) [Unit]部分，描述了单元的元数据和依赖关系。
  - 1) Description：对当前服务的描述。
  - 2) After 和 Before：定义服务的启动顺序，表示当前服务应该在哪些服务之后或之前启动。这两个字段只涉及启动顺序，不涉及依赖关系。
  - 3) Wants：表示当前服务与另一个服务之间存在弱依赖关系。如果另一个服务启动失败或停止运行，不影响当前服务继续执行。
  - 4) Requires：表示当前服务与另一个服务之间存在强依赖关系。如果另一个服务启动失败或异常退出，当前服务也必须退出。
  - 5) Conflicts：定义与当前服务冲突的服务。如果冲突的服务已经启动，那么当前服务就不能启动。
- (2) [Service]部分：定义了服务的具体行为。
  - 1) ExecStart：定义服务启动时要执行的命令。可以是单个命令、脚本文件、或者多个命令组成的脚本。
  - 2) ExecStop：定义服务停止时要执行的命令。
  - 3) ExecStartPre 和 ExecStopPost：定义服务启动前和停止后要执行的命令。
  - 4) WorkingDirectory：指定服务的工作目录。
  - 5) User 和 Group：指定服务运行的用户和组。
  - 6) Restart 和 RestartSec：定义服务的重启策略，如是否自动重启、重启间隔等。
- (3) [Install]部分：定义了如何将服务安装到系统中。
  - 1) WantedBy 和 RequiredBy：定义哪些服务或目标需要或要求当前服务。
  - 2) Alias：为服务定义别名。

3. 以 **8MPLUSLPD4-PEVK-3** 开发板为例，CPU 频率默认的策略是 ondemand 的（平时低速运行，当系统负载提高时按需自动提高频率），我们想设置开机自启动让 CPU 频率策略为 powersave，即以最低的频率运行。

先查看默认的 CPU 频率：

```
cat /sys/kernel/debug/clk/clk_summary|grep arm
```

```

arm          1          1          0 1800000000          0          0 50000          Y
root@imx8mpevk:~# cat /sys/kernel/debug/clk/clk_summary|grep arm
arm_a53_div  0          0          0 800000000          0          0 50000          N
  arm_pll_ref_sel  1          1          0 240000000          0          0 50000          Y
    arm_pll          1          1          0 1800000000          0          0 50000          Y
      arm_pll_bypass  1          1          0 1800000000          0          0 50000          Y
        arm_pll_out  1          1          0 1800000000          0          0 50000          Y
          arm_a53_core  1          1          0 1800000000          0          0 50000          Y
            arm          1          1          0 1800000000          0          0 50000          Y
root@imx8mpevk:~# cat /sys/kernel/debug/clk/clk_summary|grep arm
arm_a53_div  0          0          0 800000000          0          0 50000          N
  arm_pll_ref_sel  1          1          0 240000000          0          0 50000          Y
    arm_pll          1          1          0 1600000000          0          0 50000          Y
      arm_pll_bypass  1          1          0 1600000000          0          0 50000          Y
        arm_pll_out  1          1          0 1600000000          0          0 50000          Y
          arm_a53_core  1          1          0 1600000000          0          0 50000          Y
            arm          1          1          0 1600000000          0          0 50000          Y
root@imx8mpevk:~# cat /sys/kernel/debug/clk/clk_summary|grep arm
arm_a53_div  0          0          0 800000000          0          0 50000          N
  arm_pll_ref_sel  1          1          0 240000000          0          0 50000          Y
    arm_pll          1          1          0 1800000000          0          0 50000          Y
      arm_pll_bypass  1          1          0 1800000000          0          0 50000          Y
        arm_pll_out  1          1          0 1800000000          0          0 50000          Y
          arm_a53_core  1          1          0 1800000000          0          0 50000          Y
            arm          1          1          0 1800000000          0          0 50000          Y
root@imx8mpevk:~#

```

能看到大部分时候 CPU 频率是 1.8GHz（最高），偶尔也运行在 1.6GHz。如果手动运行以下命令，CPU 频率策略为 powersave，即以最低的频率运行：

```
cpufreq-set -g powersave
```

```

root@imx8mpevk:~# cpufreq-set -g powersave
root@imx8mpevk:~#
root@imx8mpevk:~# cat /sys/kernel/debug/clk/clk_summary|grep arm
arm_a53_div  0          0          0 800000000          0          0 50000          N
  arm_pll_ref_sel  1          1          0 240000000          0          0 50000          Y
    arm_pll          1          1          0 1200000000          0          0 50000          Y
      arm_pll_bypass  1          1          0 1200000000          0          0 50000          Y
        arm_pll_out  1          1          0 1200000000          0          0 50000          Y
          arm_a53_core  1          1          0 1200000000          0          0 50000          Y
            arm          1          1          0 1200000000          0          0 50000          Y
root@imx8mpevk:~#

```

可以看到 CPU 的频率已经变为 1.2GHz，为最低频率。

我们现在通过在 systemd 中新添加一个 my service 服务，设置 CPU 频率策略为 powersave 命令为开机自启动。

首先在 /home/root 下，创建一个名为 cpufreq.sh 的脚本文件，并将脚本权限设置为最高 777：

```
#!/bin/bash
cpufreq-set -g powersave
cpufreq-info
```

```

root@imx8mpevk:~# pwd
/home/root
root@imx8mpevk:~# vi cpufreq.sh
root@imx8mpevk:~# chmod 777 cpufreq.sh
root@imx8mpevk:~#

```

在 /etc/systemd/system 路径下，创建一个名为 myservice.service 的文件，内容如下：

```
[Unit]
Description=My service
After=weston.service

[Service]
```

```
ExecStart=/home/root/cpufreq.sh
```

```
User=root
```

```
[Install]
```

```
WantedBy=multi-user.target
```

ExecStart 表示该服务启动时要执行脚本/home/root/cpufreq.sh。

依次运行以下命令：

```
systemctl daemon-reload
```

```
systemctl enable myservice.service
```

```
systemctl start myservice.service
```

```
root@mx8mpvkv:/etc/systemd/system# systemctl daemon-reload
[ 2474.246223] systemd-sysv-generator[1617]: SysV service '/etc/init.d/save-rtc.sh' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2474.268249] systemd-sysv-generator[1617]: SysV service '/etc/init.d/fuse' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2474.292398] systemd-sysv-generator[1617]: SysV service '/etc/init.d/pplash.sh' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2474.337980] systemd-sysv-generator[1617]: SysV service '/etc/init.d/sendsigs' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2474.380459] systemd-sysv-generator[1617]: SysV service '/etc/init.d/trousers' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2474.408377] systemd-sysv-generator[1617]: SysV service '/etc/init.d/rc.local' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2474.464839] systemd-sysv-generator[1617]: SysV service '/etc/init.d/single' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2474.518680] systemd-sysv-generator[1617]: SysV service '/etc/init.d/halt' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2474.569729] systemd-sysv-generator[1617]: SysV service '/etc/init.d/umountfs' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2474.545869] systemd-sysv-generator[1617]: SysV service '/etc/init.d/reboot' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2474.596957] systemd-sysv-generator[1617]: SysV service '/etc/init.d/umountfs' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2474.661532] systemd-sysv-generator[1617]: SysV service '/etc/init.d/umountfs.sh' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2474.697292] systemd-sysv-generator[1617]: SysV service '/etc/init.d/usb' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2476.142516] audit: type=1334 audit(1677839418.404:18): prog-id=15 op=LOAD
[ 2476.149378] audit: type=1334 audit(1677839418.412:19): prog-id=16 op=LOAD
[ 2476.156229] audit: type=1334 audit(1677839418.412:20): prog-id=3 op=UNLOAD
[ 2476.163141] audit: type=1334 audit(1677839418.432:21): prog-id=4 op=UNLOAD
[ 2476.170472] audit: type=1334 audit(1677839418.432:22): prog-id=17 op=LOAD
```

```
root@mx8mpvkv:/etc/systemd/system# systemctl enable myservice.service
Created symlink /etc/systemd/system/multi-user.target.wants/myservice.service -> /etc/systemd/system/myservice.service.
[ 2565.076363] systemd-sysv-generator[1673]: SysV service '/etc/init.d/fuse' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2565.102545] systemd-sysv-generator[1673]: SysV service '/etc/init.d/fuse' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2565.127846] systemd-sysv-generator[1673]: SysV service '/etc/init.d/pplash.sh' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2565.150625] systemd-sysv-generator[1673]: SysV service '/etc/init.d/sendsigs' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2565.190664] systemd-sysv-generator[1673]: SysV service '/etc/init.d/trousers' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2565.221316] systemd-sysv-generator[1673]: SysV service '/etc/init.d/rc.local' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2565.265595] systemd-sysv-generator[1673]: SysV service '/etc/init.d/single' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2565.308007] systemd-sysv-generator[1673]: SysV service '/etc/init.d/halt' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2565.339504] systemd-sysv-generator[1673]: SysV service '/etc/init.d/reboot' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2565.371741] systemd-sysv-generator[1673]: SysV service '/etc/init.d/umountfs' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2565.427966] systemd-sysv-generator[1673]: SysV service '/etc/init.d/umountfs.sh' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
[ 2565.453757] systemd-sysv-generator[1673]: SysV service '/etc/init.d/sand' lacks a native systemd unit file. Automatically generating a unit file for compatibility. Please update package to include a native systemd unit file, in order to make it more safe and robust.
```

```
root@mx8mpvkv:~# systemctl start myservice.service
root@mx8mpvkv:~#
```

之后点击 PowerReset-EVK 重启开发板，在临近文件系统 login 时，可以看到 My service 在 Weston service 启动后 自启动。查看 CPU 频率，看到 CPU 频率已经被设置为最低 1.2GHz，证明通过 systemd 设置程序自启动已经生效。

```
IMX 8 series EVKS 8MPLUSLDP4-EVK-3
吾调试对话框登录失败或卡顿，点击刷新对话框 本次调试结束时间: 17:45:00, 系统将提前5分钟回收资源

[ 22.091733] imx-dwmac 30bf0000.ethernet eth1: configuring for phy/rgmii-id link mode
[ 22.100615] 8021q: adding VLAN 0 to HW filter on device eth1
[ OK ] Started User Manager for UID 0.
[ OK ] Started Session of User root.
[ OK ] Started Hostname Service.
[ OK ] Started Weston, a Wayland compositor, as a system service.
[ OK ] Started My service.
[ OK ] Reached target Multi-User System.
[ OK ] Reached target Graphical Interface.
Starting Record Runlevel Change in UTMP...
[ OK ] Finished Record Runlevel Change in UTMP.

NXP i.MX Release Distro 6.1-mickledore imx8mpvkv ttyxcl

imx8mpvkv login: root

root@mx8mpvkv:~# cat /sys/kernel/debug/clk/clk_summary|grep arm
arm_pll_ref_sel 0 0 0 800000000 0 0 50000 N
arm_pll 1 1 0 240000000 0 0 50000 Y
arm_pll_bypass 1 1 0 1200000000 0 0 50000 Y
arm_pll_out 1 1 0 1200000000 0 0 50000 Y
arm_a53_core 1 1 0 1200000000 0 0 50000 Y
arm 1 1 0 1200000000 0 0 50000 Y
```

需要注意的是，当运行

```
systemctl status myservice
```

时，会看到 myservice 的状态是 inactive (dead)的，表示该服务已经停止。

```
root@imx8mpevk:~# systemctl status myservice
* myservice.service - My service
  Loaded: loaded (/etc/systemd/system/myservice.service; enabled; preset: disabled)
  Active: inactive (dead) since Fri 2024-08-30 08:37:53 UTC; 2min 23s ago
  Duration: 94ms
  Process: 697 ExecStart=/home/root/cpufreq.sh (code=exited, status=0/SUCCESS)
  Main PID: 697 (code=exited, status=0/SUCCESS)

Aug 30 08:37:53 imx8mpevk cpufreq.sh[700]: maximum transition latency: 198 us
Aug 30 08:37:53 imx8mpevk cpufreq.sh[700]: hardware limits: 1.20 GHz ~ 1.80 GHz
Aug 30 08:37:53 imx8mpevk cpufreq.sh[700]: available frequency steps: 1.20 GHz, 1.60 GHz, 1.80 GHz
Aug 30 08:37:53 imx8mpevk cpufreq.sh[700]: available cpufreq governors: conservative, ondemand, userspace, powersave, performance, schedutil
Aug 30 08:37:53 imx8mpevk cpufreq.sh[700]: current policy: frequency should be within 1.20 GHz and 1.80 GHz.
Aug 30 08:37:53 imx8mpevk cpufreq.sh[700]: The governor "powersave" may decide which speed to use
Aug 30 08:37:53 imx8mpevk cpufreq.sh[700]: within this range.
Aug 30 08:37:53 imx8mpevk cpufreq.sh[700]: current CPU frequency is 1.20 GHz (asserted by call to hardware).
Aug 30 08:37:53 imx8mpevk cpufreq.sh[700]: cpufreq stats: 1.20 GHz:60.91%, 1.60 GHz:11.83%, 1.80 GHz:27.26% (280)
Aug 30 08:37:53 imx8mpevk systemd[1]: myservice.service: Deactivated successfully.
root@imx8mpevk:~#
```

这是因为 ExecStart 调用的 cpufreq.sh 里的命令只是一句命令，不是服务程序也没有设置循环，在开机运行完后就结束了。如果我们修改 cpufreq.sh 为：

```
#!/bin/bash
while true;do
cpufreq-set -g powersave
cpufreq-info
done
```

并依次运行以下命令：

```
systemctl daemon-reload
systemctl enable myservice.service
systemctl restart myservice.service
```

后，再运行

```
systemctl status myservice
```

去查看，会看到 myservice 的状态由 inactive (dead)变为 active。开发板重启，也依旧看到此状态。

```
root@imx8mpevk:~# systemctl status myservice.service
* myservice.service - My service
  Loaded: loaded (/etc/systemd/system/myservice.service; enabled; preset: disabled)
  Active: active (running) since Fri 2024-08-30 08:45:53 UTC; 7s ago
  Main PID: 1580 (cpufreq.sh)
  Tasks: 2 (limit: 5577)
  Memory: 816.0K
  CGroup: /system.slice/myservice.service
          └─1580 /bin/bash /home/root/cpufreq.sh
              └─2275 cpufreq-set -g powersave

Aug 30 08:46:00 imx8mpevk cpufreq.sh[2274]: CPUs which need to have their frequency coordinated by software: 0 1 2 3
Aug 30 08:46:00 imx8mpevk cpufreq.sh[2274]: maximum transition latency: 198 us.
Aug 30 08:46:00 imx8mpevk cpufreq.sh[2274]: hardware limits: 1.20 GHz ~ 1.80 GHz
Aug 30 08:46:00 imx8mpevk cpufreq.sh[2274]: available frequency steps: 1.20 GHz, 1.60 GHz, 1.80 GHz
Aug 30 08:46:00 imx8mpevk cpufreq.sh[2274]: available cpufreq governors: conservative, ondemand, userspace, powersave, performance, schedutil
Aug 30 08:46:00 imx8mpevk cpufreq.sh[2274]: current policy: Frequency should be within 1.20 GHz and 1.80 GHz.
Aug 30 08:46:00 imx8mpevk cpufreq.sh[2274]: The governor "powersave" may decide which speed to use
Aug 30 08:46:00 imx8mpevk cpufreq.sh[2274]: within this range.
Aug 30 08:46:00 imx8mpevk cpufreq.sh[2274]: current CPU frequency is 1.20 GHz (asserted by call to hardware).
Aug 30 08:46:00 imx8mpevk cpufreq.sh[2274]: cpufreq stats: 1.20 GHz:90.44%, 1.60 GHz:0.47%, 1.80 GHz:1.08% (280)
root@imx8mpevk:~#
```

若想取消 myservice 的自启动，则运行

```
systemctl disable myservice.service
```

然后重启，可以看到启动 log 中“[ OK ] Started My service.”的 log 消失，查看其状态是 disabled 和 inactive 的。

```
root@imx8mpevk:~# systemctl status myservice
* myservice.service - My service
  Loaded: loaded (/etc/systemd/system/myservice.service; disabled; preset: disabled)
  Active: inactive (dead)
root@imx8mpevk:~#
```