

1. 准备工作

安装驱动之前，在aic8800_linux_driver目录下运行 `install_setup.sh`

```
sudo ./install_setup.sh
```

```
aic@aic-ThinkPad-T470:~/workspace/aic8800_linux_driver$
aic@aic-ThinkPad-T470:~/workspace/aic8800_linux_driver$ sudo ./install_setup.sh
#####
AIC Wi-Fi driver Setup Files script
2023.03.09 v1.1.0
#####
Authentication requested [root] for setup:
#####
The Setup Script is completed !
#####
aic@aic-ThinkPad-T470:~/workspace/aic8800_linux_driver$ S
```

2. 编译驱动

切换到aic8800_linux_driver/driver/aic8800目录下，运行 `make`。

```
aic@aic:~/workspace/aic8800_linux_driver/drivers/aic8800$
aic@aic:~/workspace/aic8800_linux_driver/drivers/aic8800$ make
make -C /lib/modules/5.15.0-67-generic/build M=/home/aic/workspace/aic8800_linux_driver/drivers/aic8800 ARCH=x86_64 CROSS_COMPILE= modules
make[1]: 进入目录"/usr/src/linux-headers-5.15.0-67-generic"
CC [M] /home/aic/workspace/aic8800_linux_driver/drivers/aic8800/aic_load_fw/aic_bluetooth_main.o
CC [M] /home/aic/workspace/aic8800_linux_driver/drivers/aic8800/aic_load_fw/aic_bluetooth.o
CC [M] /home/aic/workspace/aic8800_linux_driver/drivers/aic8800/aic_load_fw/aicwf_usb.o
CC [M] /home/aic/workspace/aic8800_linux_driver/drivers/aic8800/aic_load_fw/aic_txrxif.o
CC [M] /home/aic/workspace/aic8800_linux_driver/drivers/aic8800/aic_load_fw/aic_bluetooth_cmds.o
```

编译完成后，可以检查是否有aic_load_fw.ko以及aic8800_fdrv.ko

```
aic@aic:~/workspace/aic8800_linux_driver/drivers/aic8800$ ls aic_load_fw/aic_load_fw.ko
aic_load_fw/aic_load_fw.ko
aic@aic:~/workspace/aic8800_linux_driver/drivers/aic8800$ ls aic8800_fdrv/aic8800_fdrv.ko
aic8800_fdrv/aic8800_fdrv.ko
```

3. 加载驱动

切换到aic8800_linux_driver/driver/aic8800目录下，运行下面的命令。

如果是虚拟机，需要先执行 `sudo modprobe cfg80211`，然后再加载驱动。

```
sudo insmod aic_load_fw/aic_load_fw.ko
sudo insmod aic8800_fdrv/aic8800_fdrv.ko
```

```
aic@aic:~/workspace/aic8800_linux_driver/drivers/aic8800$
aic@aic:~/workspace/aic8800_linux_driver/drivers/aic8800$ sudo insmod aic_load_fw/aic_load_fw.ko
aic@aic:~/workspace/aic8800_linux_driver/drivers/aic8800$ sudo insmod aic8800_fdrv/aic8800_fdrv.ko
aic@aic:~/workspace/aic8800_linux_driver/drivers/aic8800$
```

或者

```
sudo make install
```

```
aic@aic-ThinkPad-T470:~/workspace/aic8800_linux_driver/drivers/aic8800$ sudo make install
mkdir -p /lib/modules/5.15.0-60-generic/kernel/drivers/net/wireless/aic8800
install -p -m 644 aic_load_fw/aic_load_fw.ko /lib/modules/5.15.0-60-generic/kernel/drivers/net/wireless/aic8800/
install -p -m 644 aic8800_fdrv/aic8800_fdrv.ko /lib/modules/5.15.0-60-generic/kernel/drivers/net/wireless/aic8800/
/sbin/depmod -a 5.15.0-60-generic
```

4. 使用

1. 请先安装驱动，再连接网卡到PC上。
2. 可以使用ifconfig 确认网卡是否加载成功。如果有对应的网卡设备，说明加载成功，可以在wifi 连接界面连接路由器。

```
aic@aic:~/workspace/aic8800_linux_driver/drivers/aic8800$ ifconfig
eth0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    ether 48:9e:bd:4d:93:e7 txqueuelen 1000 (以太网)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (本地环回)
    RX packets 302 bytes 24545 (24.5 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 302 bytes 24545 (24.5 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

wlan0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    ether 10:3d:1c:60:57:b1 txqueuelen 1000 (以太网)
    RX packets 1389 bytes 1030103 (1.0 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 731 bytes 122208 (122.2 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

wlan1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet6 fe80::29f5:ea22:3a74:76c2 prefixlen 64 scopeid 0x20<link>
    ether a6:9c:88:00:7a:00 txqueuelen 1000 (以太网)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 7 bytes 895 (895.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

5. 卸载驱动

卸载驱动执行下面的命令：

```
sudo rmmod aic8800_fdrv
sudo rmmod aic_load_fw
```

```
aic@aic-ThinkPad-T470:~/workspace/aic8800_linux_driver/drivers/aic8800$
aic@aic-ThinkPad-T470:~/workspace/aic8800_linux_driver/drivers/aic8800$
aic@aic-ThinkPad-T470:~/workspace/aic8800_linux_driver/drivers/aic8800$ sudo rmmod aic8800_fdrv
aic@aic-ThinkPad-T470:~/workspace/aic8800_linux_driver/drivers/aic8800$ sudo rmmod aic_load_fw
aic@aic-ThinkPad-T470:~/workspace/aic8800_linux_driver/drivers/aic8800$
aic@aic-ThinkPad-T470:~/workspace/aic8800_linux_driver/drivers/aic8800$
```

或者切换到aic8800_linux_driver/driver/aic8800目录下运行 `sudo make uninstall`

```
sudo make uninstall
```

```
aic@aic-ThinkPad-T470:~/workspace/aic8800_linux_driver/drivers/aic8800$ sudo make uninstall
rm -rfv /lib/modules/5.15.0-60-generic/kernel/drivers/net/wireless/aic8800/aic_load_fw.ko
removed '/lib/modules/5.15.0-60-generic/kernel/drivers/net/wireless/aic8800/aic_load_fw.ko'
rm -rfv /lib/modules/5.15.0-60-generic/kernel/drivers/net/wireless/aic8800/aic8800_fdrv.ko
removed '/lib/modules/5.15.0-60-generic/kernel/drivers/net/wireless/aic8800/aic8800_fdrv.ko'
/sbin/depmod -a 5.15.0-60-generic
aic@aic-ThinkPad-T470:~/workspace/aic8800_linux_driver/drivers/aic8800$
```

最后执行切换到aic8800_linux_drvier目录下运行uninstall_setup.sh

```
sudo ./uninstall_setup.sh
```

```
aic@aic-ThinkPad-T470:~/workspace/aic8800_linux_driver$ sudo ./uninstall_setup.sh
Clean aic8800 wifi driver setup files!
Authentication requested [root] for clean:
The Uninstall Setup Script is completed!
aic@aic-ThinkPad-T470:~/workspace/aic8800_linux_driver$
```