开发板配网

硬件要求：

- DongshanPI-AICT开发板
- 天线 x1
- Type-C数据线 x2
- 电源线 x1

1.连接互联网

1.1 检查WiFi节点

在开发板的串口终端输入`ifconfig`，查看WiFi节点是否正常。

```
root@TinaLinux:/# ifconfig
lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

wlan0     Link encap:Ethernet  HWaddr D0:59:A0:EF:AD:57
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)
```

可以看到wlan0节点已经出来了，也就意味着我们可以使用该节点连接WIFI并上网。

1.2 扫描附件可用WiFi

扫描开发板附件所有可用的WiFi，输入`wifi -s`。

```
root@TinaLinux:/# wifi -s
root@TinaLinux:/# WINF: bss[00]: bssid=94:d9:b3:b7:c9:0a  ssid=Programmers  channel=7(freq=2442)  rssi=-36  sec=WPA_PSK
WINF: bss[01]: bssid=30:fc:68:7d:69:38  ssid=GW  channel=1(freq=2412)  rssi=-64  sec=WPA_PSK
WINF: bss[02]: bssid=f0:92:b4:a6:03:91  ssid=ChinaNet-kRAH  channel=9(freq=2452)  rssi=-35  sec=WPA_PSK
WINF: bss[03]: bssid=b4:fb:f9:35:d0:14  ssid=ChinaNet-NRiu  channel=2(freq=2417)  rssi=-61  sec=WPA_PSK
WINF: bss[04]: bssid=7c:03:c9:5c:75:53  ssid=ChinaNet-ccXn  channel=12(freq=2467)  rssi=-61  sec=WPA_PSK
WINF: bss[05]: bssid=98:0d:51:10:78:30  ssid=HUAWEI-yuanyuan  channel=1(freq=2412)  rssi=-63  sec=WPA2_PSK
WINF: bss[06]: bssid=40:d6:3c:9d:57:f6  ssid=iMark  channel=11(freq=2462)  rssi=-63  sec=WPA2_PSK
WINF: bss[07]: bssid=64:6e:97:5d:22:4a  ssid=pobo  channel=7(freq=2442)  rssi=-71  sec=WPA_PSK
WINF: bss[08]: bssid=98:0d:51:10:78:31  ssid=  channel=1(freq=2412)  rssi=-65  sec=WPA2_PSK
WINF: bss[09]: bssid=bc:13:a8:9d:8b:cc  ssid=ChinaNet-frna  channel=1(freq=2412)  rssi=-66  sec=WPA_PSK
WINF: bss[10]: bssid=44:56:e2:e0:76:e1  ssid=cx1519  channel=6(freq=2437)  rssi=-69  sec=WPA_PSK
WINF: bss[11]: bssid=34:12:f9:87:a6:49  ssid=  channel=4(freq=2427)  rssi=-70  sec=WPA2_PSK
WINF: bss[12]: bssid=34:12:f9:87:a6:4d  ssid=\x00\x00\x00\x00\x00\x00\x00\x00  channel=4(freq=2427)  rssi=-73  sec=WPA2_PSK
WINF: bss[13]: bssid=c2:b8:e6:8b:0a:5a  ssid=bgydsx  channel=4(freq=2427)  rssi=-80  sec=WPA_PSK
WINF: ==Wi-Fi scan successful, total 14 ap(buff size: 60) time 1520.000000 ms==
```

> 注意：
>
> 1.请提前为开发板安装天线，否则将无法扫描到WiFi 。
>
> 2.开发板只能连接2.4GHz的WiFi，如果是5GHz的WiFi可能会出现扫描不到的情况。

1.3 连接WiFi

连接开发板附件可正常扫描到的WiFi，输入`wifi -c [WiFi名称] [密码]`。

假设这里我需要连接的WiFi名称为`Programmers`，密码为`12345678`，我们可以在开发板端输入：

```
wifi -c Programmers 12345678
```

输入完成后，开发板自动连接互联网并获取IP地址。

```
[  607.610308] [primary_chan  :0x00000007]
[  607.610308] [ht_param      :0x0000000f]
[  607.610308] [operation_mode:0x00000006]
[  607.610308] [stbc_param    :0x00000000]
[  607.610308] [basic_set[0]  :0x00000000]
[  607.638272] [STA_WRN] [HT40][xradio_join_work][PhyModeCfg:0x0027]
[  607.638272] [ModemFlags    :0x00000007]
[  607.638272] [ChWidthCfg    :0x00000002]
[  607.638272] [PriChCfg      :0x00000000]
[  607.638272] [BandCfg       :0x00000000]
[  607.638272] [STBC_Enable   :0x00000000]
[  607.638272] [PreambleCfg   :0x00000000]
[  607.638272] [SGI_Enable    :0x00000000]
[  607.638272] GF_Enable      :0x00000000]
[  607.703332] wlan0: authenticated
[  607.707623] wlan0: associate with 94:d9:b3:b7:c9:0a (try 1)
[  607.758567] wlan0: RX AssocResp from 94:d9:b3:b7:c9:0a (capab=0x431 status=0 aid=6)
[  607.767270] wlan0: associated
[  607.773466] [AP_WRN] [STA] ASSOC HTCAP 11N 58
[  607.778474] [AP_WRN] [HT40][xradio_bss_info_changed][ht_prot:0x0000000a][HtProtMode:0x0002][Green:0x0004]
[  607.789630] [AP_WRN] [HT40][xradio_bss_info_changed][PhyModeCfg:0x5027]
[  607.789630] [ModemFlags    :0x00000007]
[  607.789630] [ChWidthCfg    :0x00000002]
[  607.789630] [PriChCfg      :0x00000000]
[  607.789630] [BandCfg       :0x00000000]
[  607.789630] [STBC_Enable   :0x00000000]
[  607.789630] [PreambleCfg   :0x00000001]
[  607.789630] [SGI_Enable    :0x00000001]
[  607.789630] [GF_Enable     :0x00000000]
[  607.836377] [AP_WRN] xradio_bss_info_changed vif(type=3) is not enable!changed=0x200
[  607.866809] IPv6: ADDRCONF(NETDEV_CHANGE): wlan0: link becomes ready
udhcpc: started, v1.27.2
udhcpc: sending discover
[  609.002302] [TXRX_WRN] drop=1771, fctl=0x00d0.
udhcpc: sending select for 192.168.0.111
udhcpc: lease of 192.168.0.111 obtained, lease time 60
udhcpc: ifconfig wlan0 192.168.0.111 netmask 255.255.255.0 broadcast 192.168.0.255
udhcpc: setting default routers: 192.168.0.1
WINF: get ip addr 192.168.0.111
WINF: ==Wi-Fi connect use sec(3)==
==Wi-Fi connect successful,time 7100.000000 ms==
```

1.4 测试联网功能

测试WiFi是否可以访问互联网，输入`ping www.baidu.com`，输入后如下所示：

```
root@TinaLinux:/# ping www.baidu.com
PING www.baidu.com (183.2.172.42): 56 data bytes
64 bytes from 183.2.172.42: seq=0 ttl=52 time=8.795 ms
64 bytes from 183.2.172.42: seq=1 ttl=52 time=8.881 ms
64 bytes from 183.2.172.42: seq=2 ttl=52 time=12.088 ms
64 bytes from 183.2.172.42: seq=3 ttl=52 time=21.264 ms
64 bytes from 183.2.172.42: seq=4 ttl=52 time=15.149 ms
^C
--- www.baidu.com ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max = 8.795/13.235/21.264 ms
```

> 注意：输入Crtl+C可结束测试。

在后续重新启动开发板，都会自动连接到WiFi并获取IP地址，可直接上网。