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Static IP address using esp-netif

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Static IP address using esp-netif (#p56803)

[by Foxtrot813](#) » Wed Mar 11, 2020 11:39 pm

Hi , I've been trying to make the ESP32 IP address static (ie. 192.168.15.12), but I can't make sense of the documentation.

The getting started wifi station example unfortunately uses DHCP...

I think I should use this function

CODE: SELECT ALL (#)

```
esp_err_t esp_netif_set_ip_info(esp_netif_t *esp_netif, const esp_netif_ip_info_t *ip_info)
```

below the

CODE: SELECT ALL (#)

```
esp_netif_create_default_wifi_sta()
```

but the ESP-IDF Programming Guide isn't clear on how should I implement neither esp_netif nor ip_info. I'm not even sure if this function alone would make the IP static.

Any help, please? Thanks!

[\[//posting.php?mode=quote&f=2&p=5680\]](#)

Foxtrot813

Posts: 8

Joined: Sun Apr 08, 2018
6:37 am

Re: Static IP address using esp-netif (#p56804)by **PeterR** » Thu Mar 12, 2020 12:37 am[\(/posting.php?mode=quote&f=2&p=5680\)](#)

PeterR

Posts: 493

Joined: Mon Jun 04, 2018

2:47 pm

Not entirely sure what you mean. You want a static IP address on a station? Don't you want the station to be a DHCP client?

Anyway the documentation is not easy to understand.

Have a look at the difference between:

ESP_NETIF_DEFAULT_ETH();

and the wifi AP default initialiser & in particular .flags. .flags determines DHCP, static, auto etc.

So create a const structure close to the ESP_NETIF_DEFAULT_ETH settings (which is DHCP client) before you:

CODE: [SELECT ALL \(#\)](#)

```
esp_netif_config_t cfg = MY_NETIF;
eth_netif = esp_netif_new(&cfg);
```

Sorry not to be more explicit but short on time.

Re: Static IP address using esp-netif (#p56806)by **Foxtrot813** » Thu Mar 12, 2020 1:22 am[\(/posting.php?mode=quote&f=2&p=5680\)](#)

Foxtrot813

Posts: 8

Joined: Sun Apr 08, 2018

6:37 am

Sorry, I mean I want to ESP32 have a fixed IP address in station mode.

I'm developing an Android application to communicate with the ESP32 with TCP sockets, thus I need to know the ESP32 IP address to establish a connection.

I remember that with ESP8266 and Arduino you could achieve this:

CODE: [SELECT ALL \(#\)](#)

```
IPAddress ip(192, 168, 15, 11);
IPAddress gateway(192, 168, 15, 1);
IPAddress subnet(255, 255, 255, 0);
WiFi.begin(ssid, password);
WiFi.config(ip, gateway, subnet);
```

So I'm trying to do a similar thing with ESP32 and IDF, but seems way too hard to figure out.

Re: Static IP address using esp-netif (#p56825)by **Foxtrot813** » Thu Mar 12, 2020 9:34 am[\(/posting.php?mode=quote&f=2&p=5682\)](#)

Ok, now I got it working!

Foxtrot813

Posts: 8

Joined: Sun Apr 08, 2018

6:37 am

I've done this

CODE: SELECT ALL (#)

```
esp_netif_t *my_sta = esp_netif_create_default_wifi_sta();

esp_netif_dhcpc_stop(my_sta);

esp_netif_ip_info_t ip_info;

IP4_ADDR(&ip_info.ip, 192, 168, 15, 22);
IP4_ADDR(&ip_info.gw, 192, 168, 15, 1);
IP4_ADDR(&ip_info.netmask, 255, 255, 255, 0);

esp_netif_set_ip_info(my_sta, &ip_info);
```

I'll paste the full initialization code below, hope it helps someone (the original code was generated with the getting started wifi station)

CODE: SELECT ALL (#)

```
void wifi_init_sta(void)
{
    s_wifi_event_group = xEventGroupCreate();

    ESP_ERROR_CHECK(esp_netif_init());

    ESP_ERROR_CHECK(esp_event_loop_create_default());


    esp_netif_t *my_sta = esp_netif_create_default_wifi_sta();

    esp_netif_dhcpc_stop(my_sta);

    esp_netif_ip_info_t ip_info;
```

Re: Static IP address using esp-netif (#p56827)

by **PeterR** » Thu Mar 12, 2020 10:45 am

 posting PeterR //postingPeterRode=quote&f=2&p=5682

Posts: 493

Joined: Mon Jun 04, 2018

2:47 pm

That works as well. I forgot that .flags is a capability description and so you can simply stop DHCP.

ESP has mDNS which you can use to tell others about your IP address. This would allow you to remain a DHCP client.

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