

*****Default*****

Initial pico2_w-mqtt based on pico-examples
and hostapd testing
pico2_w-mqtt key starting point
04/11/25

*****Default*****

The repository “<https://github.com/develone/pico-examples/tree/test-dev>” branch test-dev with “https://github.com/develone/pico-examples/blob/test-dev/pico_w/wifi/freertos/iperf/picow_freertos_iperf.c” opens the way to for repository “https://github.com/develone/pico2_w-mqtt”. The pico2_w-mqtt needs a few extra projects called in “https://github.com/develone/pico_w-mqtt/blob/master/pico_w/wifi/freertos/iperf/CmakeLists.txt”.

04/11/25 This is going to use another of the wifi networks "Pico_w-Net3" that I have working using hostapd on a Raspberry Pi4 4Gb.

This build required setting two environment variables.

```
export WIFI_SSID="Pico_w-Net3"
```

```
export WIFI_PASSWORD="WIFI_PASSWORD"
```

```
devel@pi5-70:~/pico2_w-mqtt/pico2_w/wifi/freertos/iperf $ less ~/pico-examples/compile-rp2350.sh
```

```
#!/bin/bash
```

```
rm -rf build-rp2350
```

```
mkdir build-rp2350
```

```
cd build-rp2350
```

```
cmake .. -DPICO_BOARD=pico2_w -DPICO_PLATFORM=rp2350 -DWIFI_SSID="Pico_w-Net3" -DWIFI_PASSWORD="WIFI_PASSWORD"
```

```
make
```

```
#!/bin/bash
```

```
rm -rf build-rp2350
```

```
mkdir build-rp2350
```

```
cd build-rp2350
```

Raspberry Pi4 provided the WIFI_SSID="Pico_w-Net3" running hostapd

Note:Need the step required to get hostapd working

```
devel@pi4-60:~ $ less /etc/hostapd/hostapd.conf
```

```
interface=wlan0
```

```
driver=nl80211
```

```
ssid=Pico_w-Net3
```

```
hw_mode=g
```

```
channel=7
```

```
wmm_enabled=0
```

```
macaddr_acl=0
```

```
auth_algs=1
```

```
ignore_broadcast_ssid=0
```

```
wpa=2
```

```
wpa_passphrase="WIFI_PASSWORD"
```

```
wpa_key_mgmt=WPA-PSK
```

```
wpa_pairwise=TKIP
```

```
rsn_pairwise=CCMP
```

```
devel@pi4-60:~ $ ifconfig wlan0
wlan0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.20.1 netmask 255.255.255.0 broadcast 192.168.20.255
    inet6 fe80::70e3:cabc:fb9b:de49 prefixlen 64 scopeid 0x20<link>
    ether dc:a6:32:09:35:24 txqueuelen 1000 (Ethernet)
    RX packets 108 bytes 6694 (6.5 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 272 bytes 47167 (46.0 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
cmake .. -DPICO_BOARD=pico2_w -DPICO_PLATFORM=rp2350 -DWIFI_SSID="Pico_w-
Net3" -DWIFI_PASSWORD="WIFI_PASSWORD"
make
```

```
commit 3959c1a2b7ff33f025c5bcd9f07f32898894066d (HEAD -> test-dev, origin/test-dev)
Merge: b3403e5 84e8d48
Author: develone <develone@sbcglobal.net>
Date: Wed Apr 9 11:14:17 2025 -0600
```

Merge branch 'raspberrypi:master' into test-dev

```
diff --git a/pico_w/CMakeLists.txt b/pico_w/CMakeLists.txt
index f66c02e..35fd59a 100644
--- a/pico_w/CMakeLists.txt
+++ b/pico_w/CMakeLists.txt
@@ -1,28 +1,9 @@
 cmake_minimum_required(VERSION 3.12)
 -
 -if (PICO_CYW43_SUPPORTED) # set by PICO_BOARD=pico_w
 -  if (NOT TARGET pico_cyw43_arch)
 -    message("Skipping Pico W examples as support is not available")
 -  else()
 -
 -    if (DEFINED ENV{WIFI_SSID} AND (NOT WIFI_SSID))
 -      set(WIFI_SSID $ENV{WIFI_SSID})
 -      message("Using WIFI_SSID from environment (${WIFI_SSID})")
 -    endif()
 -
 -    if (DEFINED ENV{WIFI_PASSWORD} AND (NOT WIFI_PASSWORD))
 -      set(WIFI_PASSWORD $ENV{WIFI_PASSWORD})
 -      message("Using WIFI_PASSWORD from environment")
 -    endif()
 -
 -    set(WIFI_SSID "${WIFI_SSID}" CACHE INTERNAL "WiFi SSID for examples")
 -    if (DEFINED ENV{WIFI_PASSWORD} AND (NOT WIFI_PASSWORD))
 -      set(WIFI_PASSWORD $ENV{WIFI_PASSWORD})
 -      message("Using WIFI_PASSWORD from environment")
 -    endif()
 -
 -    set(WIFI_SSID "${WIFI_SSID}" CACHE INTERNAL "WiFi SSID for examples")
 -    set(WIFI_PASSWORD "${WIFI_PASSWORD}" CACHE INTERNAL "WiFi password for
examples")
```

```

+set(WIFI_SSID $ENV{WIFI_SSID})
+set(WIFI_PASSWORD $ENV{WIFI_PASSWORD})
+message("Using WIFI_SSID from environment ('${WIFI_SSID}')"")
+message("Using WIFI_PASSWORD from environment")
+message("Using WIFI_PASSWORD from environment ('${WIFI_PASSWORD}')"")

```

```

    add_subdirectory(wifi)
-   if (NOT TARGET pico_btstack_base)
-       message("Skipping Pico W Bluetooth examples as support is not available")
-   else()
        add_subdirectory(bt)
-   endif()
- endif()
-endif()

```

```

devel@pi5-70:~/pico-examples $ ls build-rp2350/pico_w/wifi/
access_point cmake_install.cmake httpd  mqtt  tcp_server wifi_scan
blink        freertos      iperf  ntp_client  tls_client
CMakeFiles  http_client    Makefile tcp_client  udp_beacon

```

```

devel@pi5-70:~/pico-examples/build-rp2350/pico_w/wifi/freertos/iperf $ scp
picow_freertos_iperf_server_sys.uf2 pi5-90:/media/devel/RP2350/
picow_freertos_iperf_server_sys.uf2      100% 655KB 10.6MB/s  00:00
The is working pico2_w

```

```

devel@pi5-90: ~
File Edit Tabs Help

Welcome to minicom 2.8

OPTIONS: I18n
Port /dev/ttyUSB0, 05:56:05

Press CTRL-A Z for help on special keys

Starting FreeRTOS SMP on both cores:
Connecting to Wi-Fi...
Connected.
blink_task starts

Ready, running iperf server at 192.168.20.106

```

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