

(Top) → Component config → ESP System Settings

Espressif IoT Development Framework Configuration

Panic handler behaviour (Print registers and reboot) --->

```
[*] Enable RTC fast memory for dynamic allocations
    Memory protection ----
(32) System event queue size
(2048) Event loop task stack size
(4096) Main task stack size
    Main task core affinity (CPU0) --->
(2048) Minimal allowed size for shared stack
    Channel for console output (Default: UART0) --->
    Channel for console secondary output (USB_SERIAL_JTAG PORT) --->
[*] Interrupt watchdog
(1000) Interrupt watchdog timeout (ms)
[*] Also watch CPU1 tick interrupt
[*] Initialize Task Watchdog Timer on startup
[*] Invoke panic handler on Task Watchdog timeout
(60) Task Watchdog timeout period (seconds)
[ ] Watch CPU0 Idle Task
[ ] Watch CPU1 Idle Task
[ ] Place panic handler code in IRAM
[ ] OpenOCD debug stubs
    Interrupt level to use for Interrupt Watchdog and other system checks (Level 4 interrupt) --->
[*] Re-calibration BBPLL at startup
```

(Top) → Component config → Wi-Fi

Espressif IoT Development Framework Configuration

```
(16) Max number of WiFi static RX buffers
(64) Max number of WiFi dynamic RX buffers
    Type of WiFi TX buffers (Static) --->
(16) Max number of WiFi static TX buffers
(32) Max number of WiFi cache TX buffers
    Type of WiFi RX MGMT buffers (Static) --->
(5) Max number of WiFi RX MGMT buffers
[*] WiFi CSI(Channel State Information)
[*] WiFi AMPDU TX
(16) WiFi AMPDU TX BA window size
[*] WiFi AMPDU RX
(32) WiFi AMPDU RX BA window size
[ ] WiFi AMSDU TX
[*] WiFi NVS flash
    WiFi Task Core ID (Core 0) --->
(752) Max length of WiFi SoftAP Beacon
(32) WiFi mgmt short buffer number
[*] WiFi IRAM speed optimization
[*] WiFi RX IRAM speed optimization
[*] Enable WPA3-Personal
[*] WiFi SLP IRAM speed optimization
(50) Minimum active time
(10) Maximum keep alive time
[*] WiFi FTM
[*] FTM Initiator support
[*] FTM Responder support
[ ] Power Management for station at disconnected
[ ] WiFi GCMP Support(GCMP128 and GCMP256)
[ ] WiFi GMAC Support(GMAC128 and GMAC256)
[*] WiFi SoftAP Support
```

(Top) → Component config → LWIP

Espressif IoT Development Framework Configuration

```
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(1) LWIP TCP/IP Task Priority
[ ] Enable tcpip core locking
[ ] Checks that lwip API runs in expected context
[*] Enable mDNS queries in resolving host name
[ ] Enable copy between Layer2 and Layer3 packets
[*] Enable LWIP IRAM optimization
[*] Enable LWIP Timers on demand
(16) Max number of open sockets
[ ] Support LWIP socket select() only (DEPRECATED)
[ ] Enable SO_LINGER processing
[*] Enable SO_REUSEADDR option
[*] SO_REUSEADDR copies broadcast/multicast to all matches
-* Enable SO_RCVBUF option
[ ] Enable IP_PKTINFO option
(64) The value for Time-To-Live used by transport layers
[*] Enable fragment outgoing IP4 packets
[*] Enable fragment outgoing IP6 packets
[*] Enable reassembly incoming fragmented IP4 packets
[ ] Enable reassembly incoming fragmented IP6 packets
[ ] Enable IP forwarding
[ ] Enable LWIP statistics
[*] Enable LWIP ARP trust
[*] Send gratuitous ARP periodically
(60) GARP timer interval(seconds)
[*] Send mldv6 report periodically
(40) mldv6 report timer interval(seconds)
(128) TCPIP task receive mail box size
[ ] DHCP: Perform ARP check on any offered address
+++++
```

Enable this option allows to send gratuitous ARP periodically. This option solve the compatibility issues. If the ARP send ARP request to update it's ARP table, this will lead to the STA sending IP packet fail. Thus we send gratuitous table.

(Top) → Component config → LWIP → TCP

Espressif IoT Development Framework Configuration

```
(512) Maximum active TCP Connections
(512) Maximum listening TCP Connections
[*] TCP high speed retransmissions
(12) Maximum number of retransmissions of data segments
(12) Maximum number of retransmissions of SYN segments
(1460) Maximum Segment Size (MSS)
(50) TCP timer interval(ms)
(60000) Maximum segment lifetime (MSL)
(20000) Maximum FIN segment lifetime
(8182) Default send buffer size
(32768) Default receive window size
(32) Default TCP receive mail box size
[*] Queue incoming out-of-order segments
(6) Timeout for each pbuf queued in TCP OOSEQ, in RT0s.
(0) The maximum number of pbufs queued on OOSEQ per pcb
[ ] Support sending selective acknowledgements
[*] Keep TCP connections when IP changed
Pre-allocate transmit PBUF size (MSS) --->
[*] Support TCP window scale
(5) Set TCP receiving window scaling factor
(1500) Default TCP rto time
```

The maximum number of simultaneously active TCP connections. The practical maximum limit is determined by available memory. Increasing this value by itself does not substantially change the memory usage of LWIP, except for preventing new TCP connections after it reaches the limit.

(Top) → Component config → LWIP

Espressif IoT Development Framework Configuration

```

[*] Enable LWIP ARP trust
[*] Send gratuitous ARP periodically
(60)   GARP timer interval(seconds)
[*] Send mldv6 report periodically
(40)   mldv6 report timer interval(seconds)
(128)  TCPIP task receive mail box size
[ ] DHCP: Perform ARP check on any offered address
[ ] DHCP: Disable Use of HW address as client identification
[*] DHCP: Disable Use of vendor class identification
[*] DHCP: Restore last IP obtained from DHCP server
(128)  DHCP total option length
(1)    DHCP coarse timer interval(s)
      DHCP server --->
[ ] Enable IPv4 Link-Local Addressing (AUTOIP) ----
[*] Enable IPv6
[*]   Enable IPv6 stateless address autoconfiguration (SLAAC)
(3)   Number of IPv6 addresses on each network interface
[ ]   Enable IPv6 forwarding between interfaces
(0)   Use IPv6 Router Advertisement Recursive DNS Server Option
[ ] Enable DHCPv6 stateless address autoconfiguration
[ ] Enable status callback for network interfaces
[*] Support per-interface loopback --->
TCP --->
UDP --->
Checksums --->
(3072) TCP/IP Task Stack Size
      TCP/IP task affinity (CPU0) --->
[ ] Enable PPP support (new/experimental) ----

```