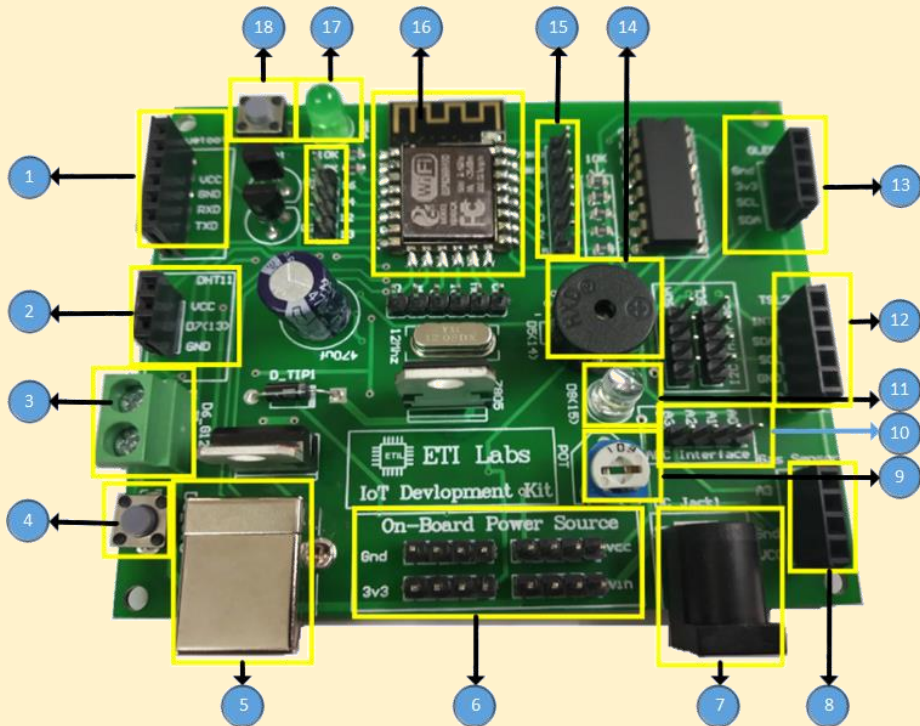


ETI Labs Pvt. Ltd.

IoT Development Board (IOT12E)



- | | | |
|-----------------------------------|----------------------------------|-------------------|
| 1 Bluetooth/BLE Connector | 7 DC Jack | 13 OLED Connector |
| 2 DHT11 Connector | 8 MQ series Gas Sensor Connector | 14 Buzzer |
| 3 12 Volt PWM/Switch | 9 Potentiometer | 15 ESP12E Pinout |
| 4 Push Button | 10 4 Analog Pins | 16 ESP12E SoC |
| 5 USB for Programming | 11 General Purpose LED | 17 Power LED |
| 6 Power Pins (5V, 3.3V, VIN, GND) | 12 TSL2561 Connector | 18 Reset Button |

FEATURES

SoC:

- ✓ SRAM: 128kBytes
- ✓ OS: XTOS
- ✓ CPU: ESP8266 (LX106)
- ✓ Flash Memory: 4MBytes
- ✓ Wired Communication: SPI/SDIO/UART/I2C
- ✓ Wireless Communication: WIFI
- ✓ 10 bit ADC
- ✓ Operating voltage: 3-3.6V

On board programmer

- ✓ No need to buy a separate programmer
- ✓ USB connector for easy programming

On board Peripherals for rapid prototyping

- ✓ 1 LED, 1 Push Button, 1 Potentiometer, 1 Buzzer, Power LED
- ✓ 7-25 volt input through DC jack and output for interfacing high-voltage components like motors
- ✓ 5 volt output for interfacing various sensors and communication modules which can work only on 5 v.
- ✓ Connectors for Bluetooth/BLE module, OLED, DHT11 and MQ series gas sensors
- ✓ All the GPIO pins of the SoC are provided on the board
- ✓ PWM control for DC Motor/Bulb

DC Jack (7-25V) for battery powered and rectified mains powered applications



Multiple Power Outputs
5v 7-25V
3.3v Ground

Single USB connector for power, programming and debugging the board

SET UP INSTRUCTIONS

1. Download & install IDE for programming and burning output file: Recommended Arduino IDE for Editing, Compiling, Debugging and Programming
2. Download and install CH340G driver to connect IoT board with your PC

Programming IoT Board using Arduino

1. Open Arduino IDE and write the desired code.
2. Click Tools->Board and select NodeMCU 1.0 (ESP12-E) module
3. Click Tools->Port and select the COM port as detected by computer in device manager.
3. Click Verify to compile the code.
4. Click on Upload to burn the “.hex” file in SoC’s flash memory.

Peripheral	Pin No.	Turn ON Logic	Default Input Logic	Range
LED 1 (Blue SMD)	2	LOW	-	-
LED 2 (White)	15	HIGH	-	-
Buzzer	14	LOW	-	-
Push Button	16	-	HIGH	-
Bulb/Fan PWM	12	-	-	0-1023
DHT11	13	-	-	-

Default Output State for all pins = LOW
Default Pin Mode for all pins = INPUT