ESPRESSIF

Zephyr®

Zephyr® on ESP Devices

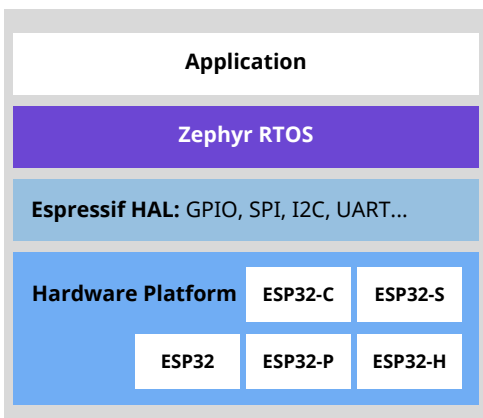**Zephyr® RTOS** is a real-time operating system optimized for IoT and embedded applications.

Developed by the **Linux Foundation®**, it supports microcontrollers from multiple vendors, enabling code portability across different hardware families. Espressif actively contributes to its development, ensuring seamless integration with its hardware and expanding possibilities for IoT and AIoT, from consumer electronics to industrial automation.

Zephyr® RTOS: Optimized for IoT, supported by Espressif

Upstream Development and Support

Zephyr is a **flexible RTOS** supporting multiple hardware vendors, with applications built on its OS APIs. It features a Hardware Abstraction Layer tailored for Espressif devices, allowing developers to use familiar APIs without dealing with low-level hardware details.

Application
Zephyr RTOS
Espressif HAL: GPIO, SPI, I2C, UART...

Hardware Platform	ESP32-C	ESP32-S
ESP32	ESP32-P	ESP32-H

Commitment to Open-Source

Espressif embraces open source by contributing to Zephyr RTOS and supporting its **community**.

This approach drives innovation, ensures **stability**, and fosters collaboration, enabling developers to share knowledge and enhance the ecosystem.

Get started today!

Get started with Zephyr on Espressif today! Explore our documentation, tools, and community support to build powerful IoT and embedded applications with ease.

Explore more at:
github.com/zephyrproject-rtos/zephyr

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Explore our Developer Resources

Documentation

Explore our documentation!
Find detailed API references, and the programming guide to help you get started with **ESP-IDF**.

idf.espressif.com

Developer Portal

Visit our Developer Portal!
Explore a wealth of resources, including technical **articles**, and **workshops** to help you level up your skills.

developer.espressif.com

GitHub

Explore our projects on GitHub!
Dive into our **open-source** repositories, contribute to the community, and stay up to date with our latest developments.

github.com/espressif

ESP32 Forum

Join us on our Forum!
Ask **questions**, share knowledge, and connect with other developers to get help and **discuss** our projects.

esp32.com

YouTube

Follow us on YouTube!
Watch hundreds of hours of **content**, including all **DevCon** talks, new product introductions, and more.

youtube.com/@EspressifSystems

Community

Join our community on Reddit!
Connect with over **100,000 developers**, share insights, ask questions, and stay updated on the latest discussions.

reddit.com/r/esp32

ESP-Registry

Find the most exciting ESP-IDF components!
Discover, download and publish **components** and examples for ESP-IDF.

components.espressif.com

ESP-RainMaker

A complete IoT solution!
An **IoT** cloud platform on AWS, offering control, scalability, and customization with its open-source SDK for your devices.

rainmaker.espressif.com

ESP-Insights

Identify issues faster!
A cloud **remote diagnostics** platform helps monitor, debug, and optimize IoT devices with real-time data and analytics.

insights.espressif.com

Matter SDK

Espressif's solution for Matter!
A **simplified** API and the required tools help **build** Matter-enabled smart-home devices with ease.

github.com/espressif/esp-matter