WICED WiFi 101 - Introduction

Hello. My name is Alan Hawse. I am Senior Vice President of Technical Staff for Solutions and Software here at Cypress Semiconductor. Welcome to Cypress Academy. This is the first video of a series of about 40 or so that will provide you short, fundamental lessons in the programming WICED WiFi. You might ask: What is WICED WiFi? Well, WICED stands for Wireless Internet Connectivity for Embedded Devices…. But what is it? Simple, it's the best IoT embedded WiFi on the face of the planet - bar none. Cypress stands for helping you solve your problems. But I think the best way to solve WiFi problems is not create them in the first place as they are so so hard to debug in the field with your products.

It has been about one year since Cypress acquired the Broadcom IoT division. This last year has been one of the best and funnest technical years of my life as I have gotten to learn how to use the WICED WiFi and Bluetooth chips. They are truly remarkable as you will see in this series of videos. All of my learning has been codified into my textbook which I call "Cypress Academy: WICED WiFi 101". For those of you who didn't go to school in the US, the introduction class in universities is often called "101", and they are all about providing you the fundamental skills required to move to more advanced classes.

That's exactly what this class is all about. Teaching you all the fundamental skills required to be successful with WICED WiFi. You can get a copy of this book, and all of software required for the class on our website, cypress.com. Moreover, you can post and discuss your questions and problems in our developers community. Or, if you have something else, or just want to chat, please feel free to email me at alan_hawse@cypress.com or tweet me @askiotexpert.

This class is about the Internet of Things … IoT. If you follow all of the videos you will have the skills to build your own IoT device, from reading and writing the GPIOs, to using the I2C, to making threads, semaphore, and mutexes in the RTOS, Using the library, Attaching to the WiFi network, reading and writing the DCT, making TCP/IP servers and clients, and finally using MQTT to attach to Amazon.com IoT cloud.

But hang on, one step at a time.

For this class I will build all the projects on this devkit, called the CYW943907AEVAL1F. This board has a WiFi radio module with the 43907, a 160 or 320 MHz Cortex R4 + and the world's finest 802.11n radio. The board also has

- A programmer/debugger and a serial bridge
- An Ethernet PHY
- An SD card expansion slot, as well as
- Arduino compatible expansion headers.

For some of the exercises in this class I will also use the PSoC 4 Analog Front End shield which has a PSoC 4 Analog coprocessor acting as an I2C slave for the WICED board.

[This shield board will be available soon, part number CY8CKIT-032]

But more on that later.

The class has 7 chapters which I will turn into the 40ish videos. The seven chapters are:

1. A survey of the WICED WiFi Ecosystem
2. Using the MCU peripherals (like GPIOs, I2C, PWM etc.)
3. Using the WICED RTOS
4. The WICED Library
5. Making connections to WiFi networks
6. TCP/IP Socket based communication
7. Using MQTT and the Amazon.com Cloud.

In the first lesson, I will show you WICED Studio, our Eclipsed based IDE, which is your gateway to developing WICED IoT products.

You can post your comments and question in our WiFi developer community or as always you are welcome to email me at alan_hawse@cypress.com or tweet me at @askiotexpert with your comments, suggestions, criticisms and questions.

Thank you.