# Chapter 2: Using the WICED SDK to connect inputs and outputs

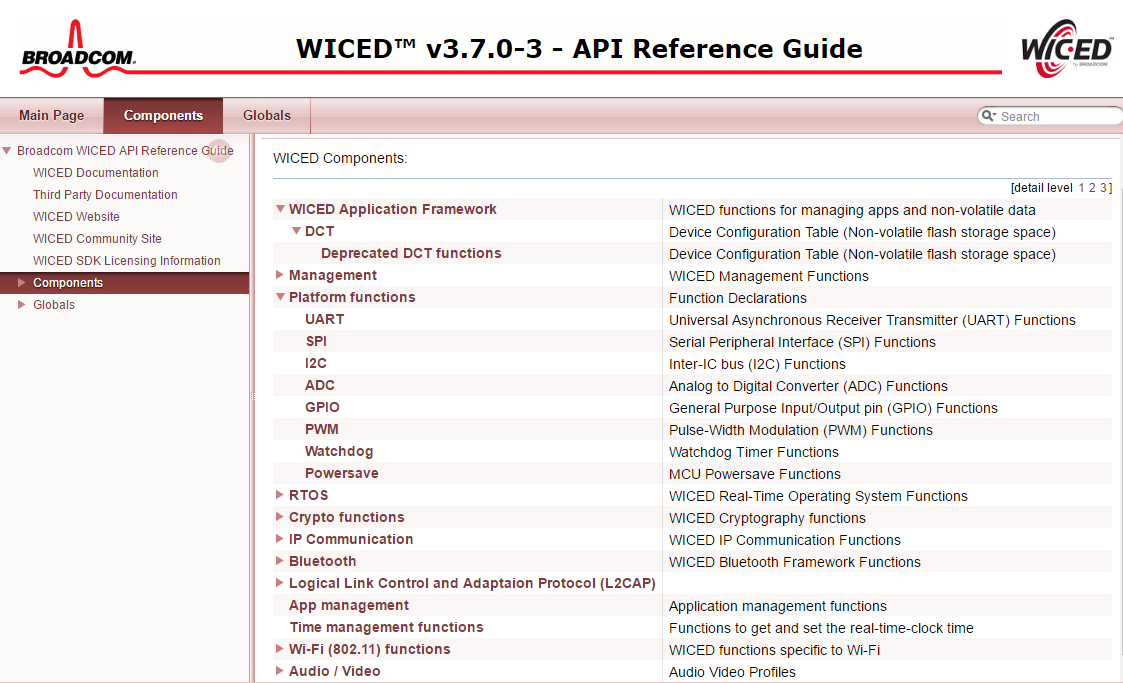
## Objective

At the end of this chapter you should be able to write firmware for the MCU peripherals (GPIO’s, ADC, UART, SPI, I2C and PWMs) to interface with the shield including the LEDs, Switches, Thermistors, Analog Co-Processor I2C and the KIT Prog UART. In addition, you will understand the role of the critical files platform.h/c.

## Time: 2 Hours

## Fundamentals

### Documentation



### Structure of “app” project

### platform.h + platform.c

How does the WICED SDK deal with pin names

How does the WICED SDK deal with peripherals?

## Exercise(s)

### (platform) Install BCM9494W\_AVN into Platforms directory

### Create you first project by copying/modify

### (gpio) Blink led [don’t forget to you need to init the pin]

### (gpio) read switch How to figure out what the pins are (platform.h / platform.c)

### (gpio) use interrupt to flip state of LED

### (platforms) Make/modify platform files for the shield

### (uart)Print to screen

### (Uart) Write to the kitprog UART

### (Pwm) led brightness

### (i2c) probe bus

### (I2c) change duty cycle on psoc

### (i2c) read retries != 0

### (Adc) read thermistor (write temperature on screen)

### (Spi) save data in the spi flash