

Signatures

You will be experimenting with various aspects of WICED Bluetooth by completing the exercises below. Labs are marked as "Basic" and "Advanced". You should make sure you complete the basic exercises first and then work on the advanced exercises as time allows.

✓	Chapter	Exercise	Category	Description
	01 (Tour)	1.1	Basic	Create a forum account
		1.2	Basic	Open the WICED documentation
		1.3	Basic	Download the Bluetooth Spec Version 5.0
	02 (Peripherals)	2.1	Basic	Install kit + shield platform files
		2.2	Basic	Blink an LED
		2.3	Basic	Add Debug Printing to the LED Blink Project
		2.4	Basic	Read the State of a Mechanical Button
		2.5	Basic	Use an Interrupt to Toggle the State of an LED
		2.6	Basic	Write and Read Data in the NVRAM
		2.7	Basic	Toggle 4 I2C Controlled LEDs
		2.8	Basic	Read PSoC CapSense Button Values using I2C
		2.9	Advanced	Read PSoC Sensor Values using I2C
		2.10	Advanced	LED brightness
		2.11	Advanced	LED toggling at specific frequency and duty cycle
		2.12	Advanced	Measure Ambient Light Sensor
		2.13	Advanced	Send a value using the standard UART functions
		2.14	Advanced	Get a value using the standard UART functions
		2.15	Advanced	Display Data on the OLED Display
		2.16	Advanced	Display Time and Date Data on the OLED Display
	03 (RTOS)	3.1	Basic	Semaphore
		3.2	Advanced	MUTEX
		3.3	Advanced	Queues
		3.4	Advanced	Timers
	04A (Essential BLE Peripherals)	4A.1	Basic	Create a BLE Project with a WicedLED Service
		4A.2	Basic	Add a Connection Status LED
		4A.3	Basic	Create a BLE Advertiser
		4A.4	Basic	Connect using BLE
	04B (More Advanced BLE Peripherals)	4B.1	Basic	Simple BLE Project with Notifications
		4B.2	Basic	BLE Notifications for CapSense
		4B.3	Basic	BLE Pairing and Security
		4B.4	Advanced	Save BLE Pairing Information (i.e. Bonding)
		4B.5	Advanced	Add a Pairing Passkey
		4B.6	Advanced	Add Numeric Comparison
		4B.7	Advanced	Add Multiple Device Bonding Capability
	04C (Even More Advanced BLE)	4C.1	Basic	Advertise Manufacturing Data and Provide Scan Response
		4C.2	Basic	Implement Eddystone URL Beacon
		4C.3	Basic	BLE Low Power (PDS)
		4C.4	Advanced	Use Multi-Advertising on a Beacon
		4C.5	Advanced	OTA Firmware Upgrade (Non-Secure)
		4C.6	Advanced	OTA Firmware Upgrade (Secure)
		4C.7	Advanced	BLE Low Power (SDS)
	04D (BLE Centrals)	4D.1	Basic	Make an Observer
		4D.2	Basic	Read Device Name to Show Only Your Peripheral
		4D.3	Basic	Connect to Your Peripheral and Turn ON/OFF the LED
		4D.4	Advanced	Add Commands to Turn Notify ON/OFF
		4D.5	Advanced	Do Service Discovery
		4D.6	Advanced	Run the Advertising Scanner
	05 (Debugging)	5.1	Basic	Use ClientControl
		5.2	Basic	Run BTspy
		5.3	Advanced	Run the Debugger
	06A (Classic Bluetooth – SPP)	6A.1	Basic	Create a Serial Port Profile Project

✓	Chapter	Exercise	Category	Description
		6A.2	Basic	Add UART Transmit Capability
		6A.3	Advanced	Improve Security by Adding IO Capabilities (Display)
		6A.4	Advanced	Improve Security by Adding IO Capabilities (Yes/No)
		6A.5	Advanced	Add Multiple Device Bonding Capability