Chapter 1: Exercise Checklist

You will be experimenting with various aspects of AnyCloud™ 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)	01	Basic	Create a forum account
		02	Basic	Install ModusToolbox
		03	Basic	Open the documentation
	02 (Peripherals)	01	Basic	Install Shield Support Libraries
		02	Basic	Blink an LED
		03	Basic	Add debug printing
		04	Basic	Read an input pin
		05	Basic	Use a pin interrupt
		06	Basic	Read sensor values over I2C
		07	Basic	Read potentiometer value via an ADC
		08	Advanced	Adjust LED brightness
		09	Advanced	Display sensor info on the TFT display
		10	Advanced	Write a value using the standard UART functions
		11	Advanced	Read a value using the standard UART functions
	03 (RTOS)	01	Basic	Create an LED blink thread
		02	Basic	Use a semaphore
		03	Advanced	Use a MUTEX
		04	Advanced	Use a Queue
		05	Advanced	Use a Timer
	04 (AnyCloud)	01	Basic	Parse JSON using cJSON
		02	Advanced	Parse JSON using JSON_Parser
	05 (Wi-Fi)	01	Basic	Attach to WPA2 PSK network
		02	Basic	Attach to an open network
		03	Basic	Print network information to a terminal
		04	Advanced	Switch between 2 networks within the application
	06A (Sockets)	01	Basic	Implement a client to write data to the server using TCP streams
		02	Basic	Modify the client to inspect return code from the server
		03	Advanced	Implement a server for a single non-secure TCP connection
	06B (TLS)	01	Basic	Modify the client to use secure TLS sockets
		02	Advanced	Implement a server using secure TLS sockets
		03	Advanced	Implement a client that uses both non-secure and secure sockets
		04	Advanced	Implement a server that listens to both non-secure and secure sockets

✓	Chapter	Exercise	Category	Description
	07B (HTTP)	01	Basic	Use CURL to connect to http://httpbin.org
		02	Basic	Use CURL to connect to https://httpbin.org using TLS
		03	Basic	Run the AnyCloud HTTPS client/server examples
		04	Basic	Use AnyCloud to get data from httpbin.org
		05	Basic	Use AnyCloud to get data from httpbin.org using TLS
		06	Basic	Use AnyCloud to post data to httpbin.org
		07	Basic	Use AnyCloud to post data to httpbin.org using TLS
		08	Advanced	Use a WEB API for getting weather conditions
		09	Advanced	Control a Virtual LED on Initial State using APIARY and CURL
		10	Advanced	Control a Virtual LED on Initial State using a button on the board
		11	Advanced	Send potentiometer position to initial state
		12	Advanced	Graph potentiometer position on Initial State
	7C (MQTT and AWS)	01	Basic	Run the AWS Tutorial
		02	Basic	Provision a new *thing* in the AWS IOT cloud
		03	Basic	Use the Test terminal on the AWS website
		04	Basic	Build and run the AnyCloud MQTT client example
		05	Basic	Explain the example application firmware flow
		06	Basic	Publish from the AWS Test MQTT Client
		07	Advanced	Get the shadow of your *thing* from AWS using HTTPS
	08 (Low Power)	01	Basic	Making “Hello World” energy efficient
		02	Basic	Improving CapSense energy efficiency
		03	Basic	Improving FreeRTOS energy efficiency
		04	Basic	Low power WiFi
		05	Advanced	Configure packet filter offload
		06	Advanced	ARP offload
		07	Advanced	Allow ping packets through the filter