



# **Bluetooth Mesh Developer Study Guide**

Orientation Guide

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# Revision History

Version	Date	Author	Changes
1.0.0	15 <sup>th</sup> June 2018	Martin Woolley Bluetooth SIG	Initial version

## Overview

### Bluetooth Mesh

Bluetooth® Mesh is a Bluetooth networking technology whose specification was released in the summer of 2017. Mesh networks allow a many to many communication topology to be created between potentially very large numbers of devices. To communicate, devices send messages and the devices to which those messages are addressed do not have to be within direct radio range. Bluetooth mesh employs a strategy for propogating messages across the network which can involve messages being relayed from one device to another, in a series of *hops* until they reach their final destination, a technique known as *multi-hop delivery*. Furthermore, copies of messages get sent via different paths through the network (known as *multi-path delivery*), which makes a Bluetooth mesh network very reliable.

You'll learn more about the theory and practice of using certain aspects of Bluetooth mesh technology in this self-study resource.

### About the Bluetooth Mesh Developer Study Guide

There are probably three types of Bluetooth mesh developer:

- 1. Mesh Stack Developer** - develops a full Bluetooth mesh stack, probably as part of an SDK.
- 2. Mesh Product Developer** - an embedded software engineer who develops the firmware for Bluetooth mesh products such as lights, switches and so on.
- 3. Mesh Application Developer** - develops applications for smartphones, tablets and desktop computers which allow the monitoring or control of mesh networks and their devices.

This resource is aimed at embedded software engineers who intend to become Mesh Product Developers (2). Those developers wishing to develop mesh applications should download and work through the Mesh Proxy Kit from <https://www.bluetooth.com/develop-with-bluetooth/build/developer-kits>

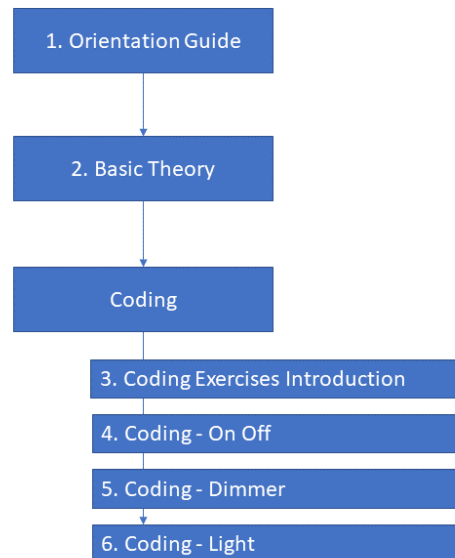
You should start by reading the basic theory document which will explain the key technical concepts of Bluetooth mesh that you'll need to know before proceeding to the hands-on coding labs.

In the hands-on coding labs, you'll implement a series of different Bluetooth mesh devices and get a chance to both verify your understanding of the concepts and experience one way in which these concepts manifest themselves in a real SDK.

We provide full source code solutions for each of the coding labs so if you get stuck, you can refer to the solution for help. We also provide binary versions of the solutions so you can simply install the binary firmware on a device, perhaps to have something to test another device against.

## Recommended Study Sequence

This study resource is modular in design and we recommend that you follow this sequence:



All documents including this one are in the docs folder of the kit. You'll find initial skeleton code and complete solutions in the code/ folder.

Good luck!