Quarklink Getting Started Guide

This guide shows you how to use the Getting Started example with Quarklink.

The steps involved are:

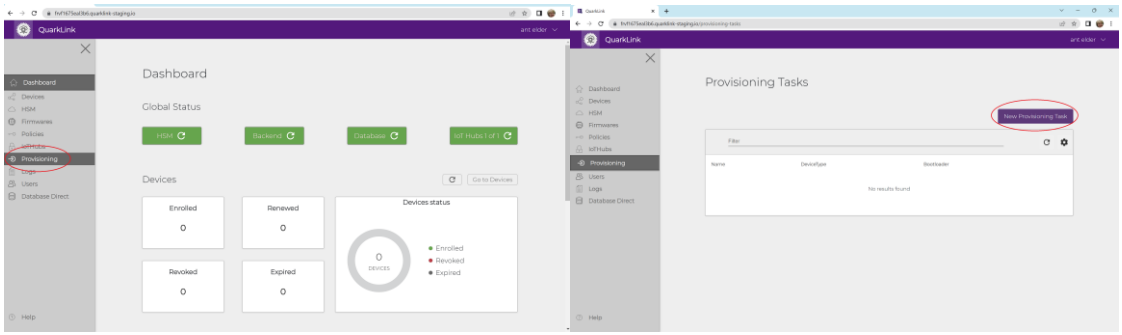
1) Create a new Provisioning Task
2) Run the Provisioning Task on a device
3) Upload firmware to Quarklink associate with the device

The result is an ESP32 that is using secure boot, flash encryption, a Root-of-Trust, and which can only be updated Over-The-Air with firmware signed by a key from the Quarklink Hardware Security Module (HSM).

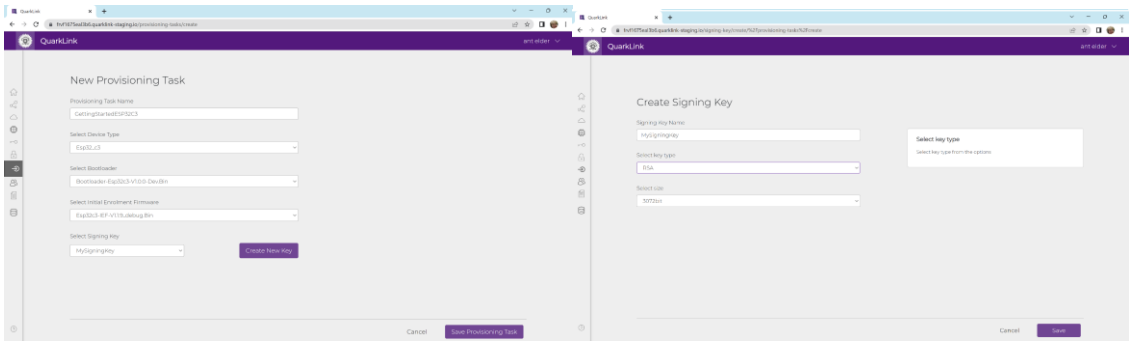
1) Create a new Provisioning Task

A Provisioning Task defines how to configure a secure device, including the boot loader, signing key, and the Initial Enrolment Firmware which is what initializes the device's Root-of-Trust.

On the Quarklink left menu choose Provisioning and then New Provisioning Task:

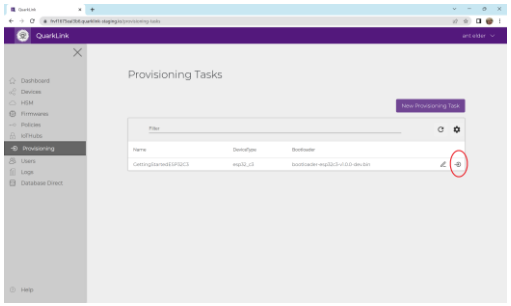


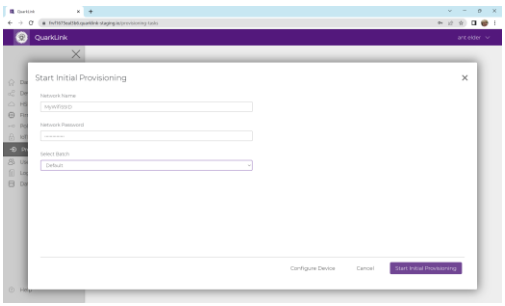
On the New Provisioning Task page fill in the details for your device type, for example, here it is using an ESP32-C3. If you have not yet created a Signing Key then click the Create New Key button to create one.



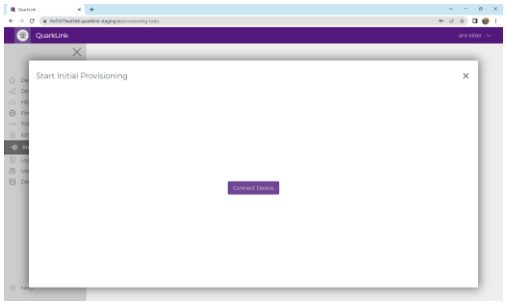
2) Run the Provisioning Task on a device

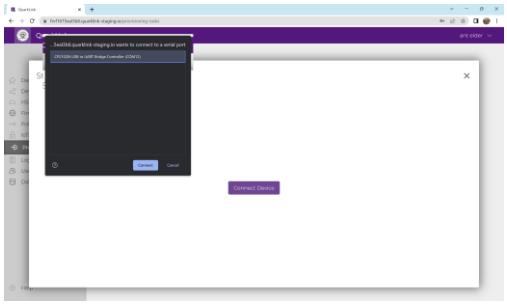
Now you can run the Provisioning Task to configure your devices. On the right of the page, click the Run button for the Provisioning Task:





Click the Start Initial Provisioning button and connect the device to a USB port:

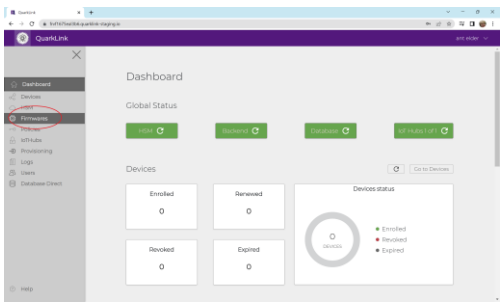


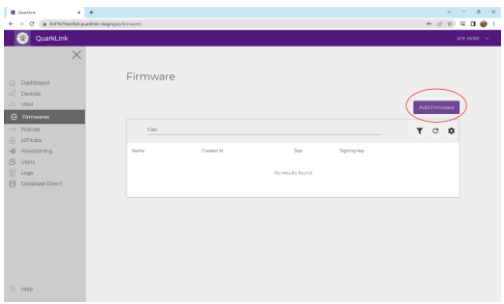


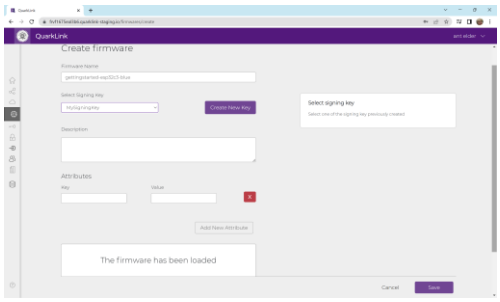
The device will now be configured to be secure and with firmware that initializes its Root-of-Trust and Quarklink details and then waits polling for a firmware update.

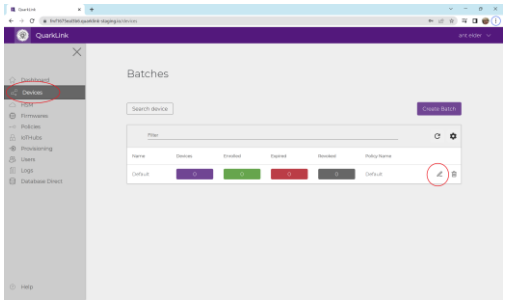
3) Upload firmware to Quarklink and associate with the device

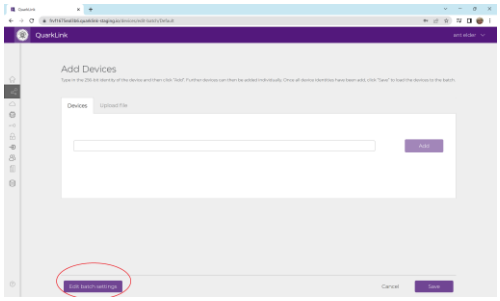
There is the source code for an example Getting Started firmware project in Github (https://github.com/cryptoquantique/quarklink-getting-started), or to make it easy to get going there are pre-built binaries of that here: https://github.com/cryptoquantique/quarklink-binaries/tree/main/quarklink-getting-started. There are two versions, one blue and the other green, which change the colour of the RGB LED on the C3 module so that it is easy to see a change when you do firmware updates.

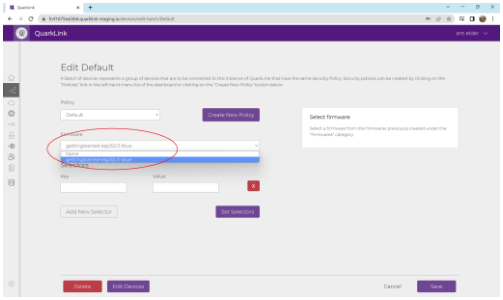












After you click Save the Batch configurtion will be updated with the firmware and after 30 seconds or so the device will be updated with the new firmware.

You can repeat the process with the green and blue firmwares and see the RGB LED on the device change colour to see each firmware update has been succesful.