

# bootloader-uart-xmodem: Configuring and building it in Simplicity Studio

## Introduction

The **bootloader-uart-xmodem** project by Silicon Labs provides a flexible solution for managing firmware updates on Zigbee NCP devices. While pre-compiled binaries are not provided by Silicon Labs, this guide offers a step-by-step process for configuring, compiling, and deploying the bootloader using UART and the XMODEM protocol within Simplicity Studio. This bootloader is specifically configured for use in the Hemla project, facilitating seamless communication and firmware updates via UART.

## Prerequisites

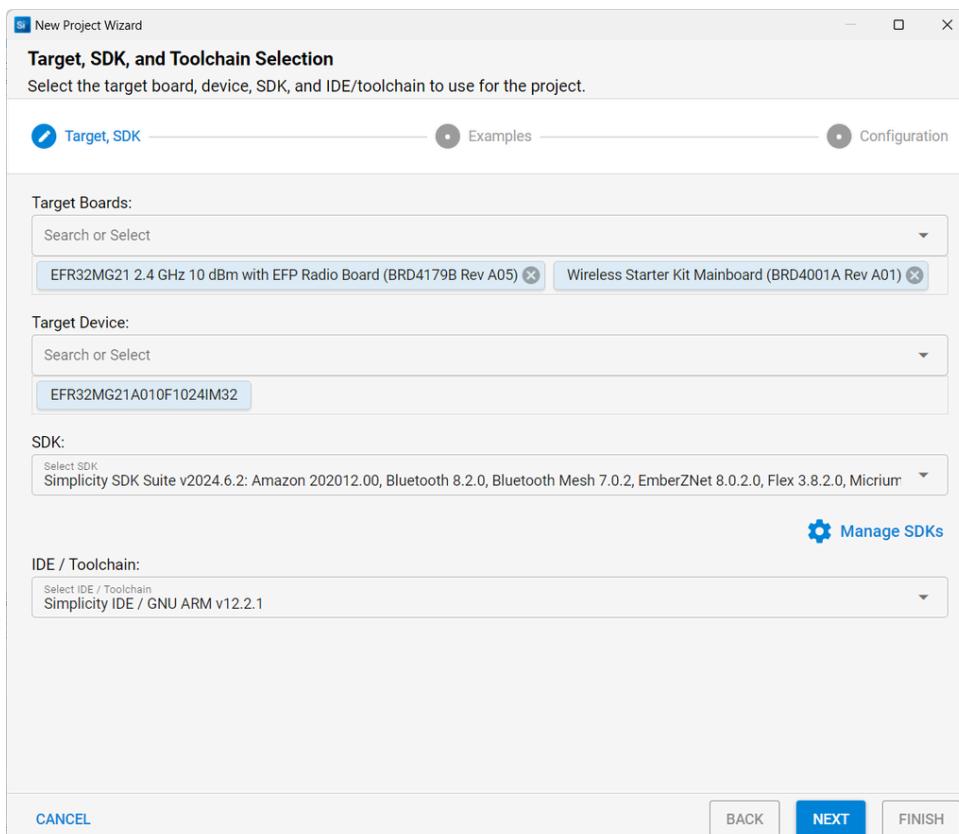
Before proceeding with the configuration, ensure that the following tools and hardware are available:

- **Simplicity Studio**: Version 5.9.2.1
- **Simplicity SDK Suite v2024.6.1**: Amazon 202012.00, Bluetooth 8.1.0, Bluetooth Mesh 7.0.1, EmberZNet 8.0.1.0, Flex 3.8.1.0, Micrium OS Kernel 5.16.00, OpenThread 2.5.1.0 (GitHub-1fcceb225b), Platform 5.0.1.0, Sidewalk 2.2.0, Silicon Labs Matter 2.3.1-1.3, USB 1.3.1.0, Wi-Fi SDK 3.3.2, Wi-SUN 2.1.0.0, Z-Wave SDK 7.22.1.0
- **UART Interface** (e.g., USB-to-UART converter)
- **XMODEM Transfer Tool**: A terminal application supporting XMODEM (e.g., TeraTerm, PuTTY, universal-silabs-flasher)
- **Silicon Labs Microcontroller**: MGM210PB221JIA

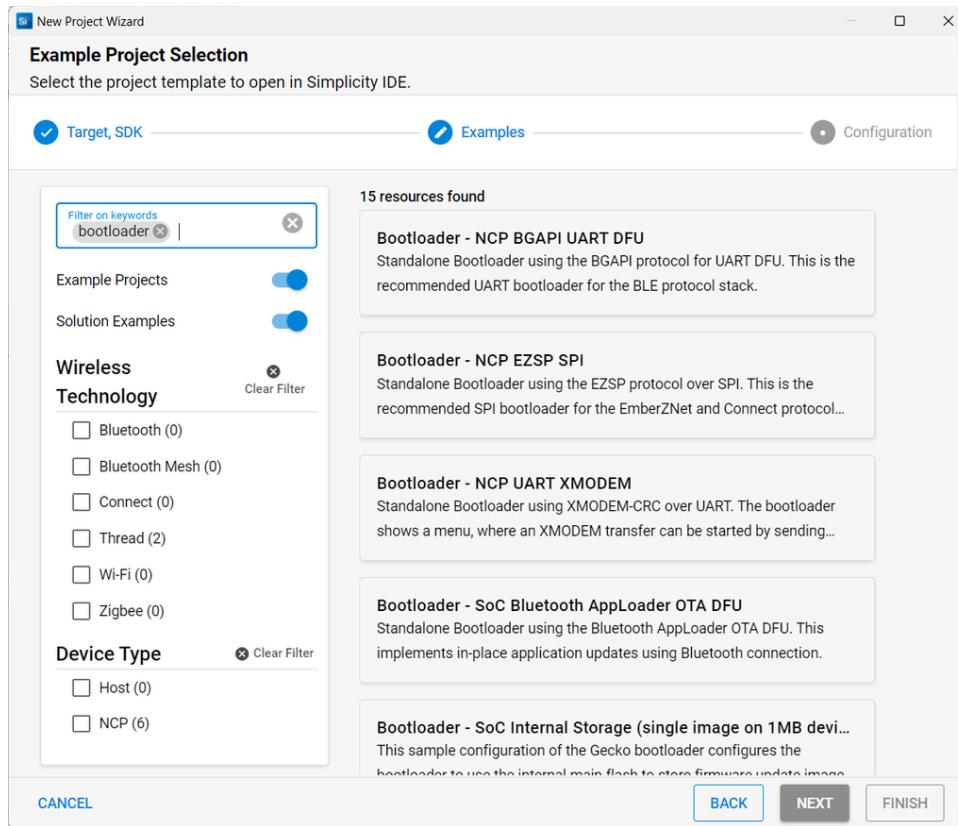
## Create a Bootloader Project

### 1. Create a New Project:

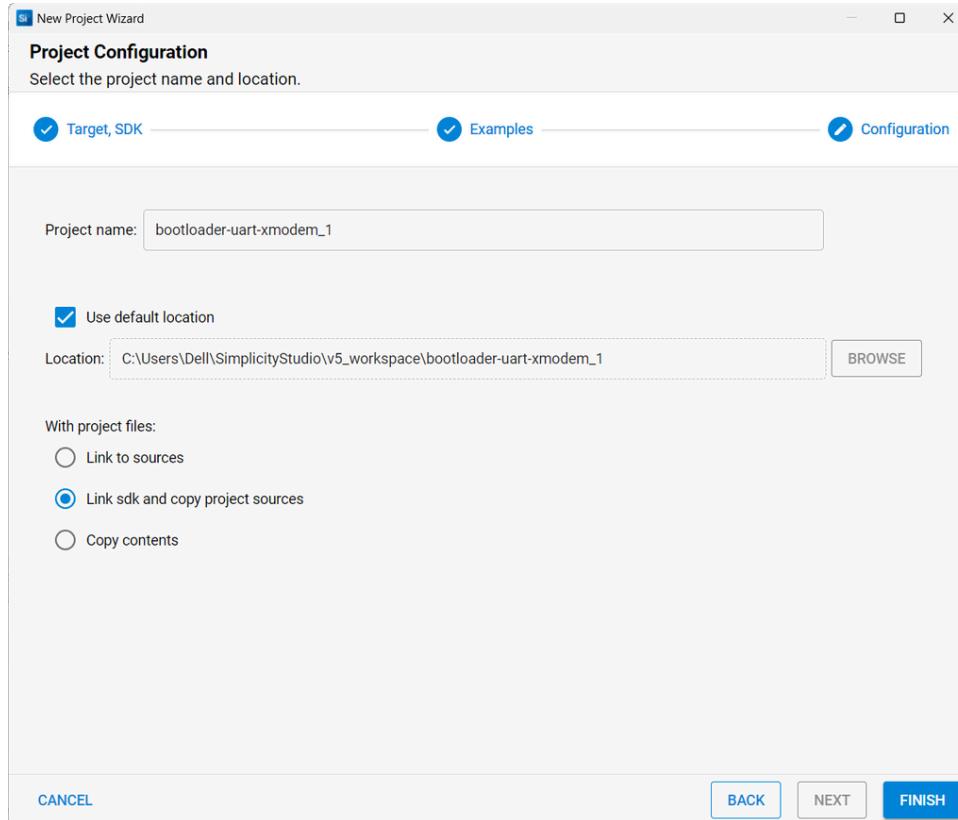
- Navigate to **File** → **New** → **Silicon Labs Project Wizard**.
- A screen like this will appear, be sure the fields are populated as in this image, then click **Next**:



- A new screen will appear, on the search box type “bootloader”, and a project called “Bootloader - NCP UART MODEM” should be visible, select it and click **Next**.

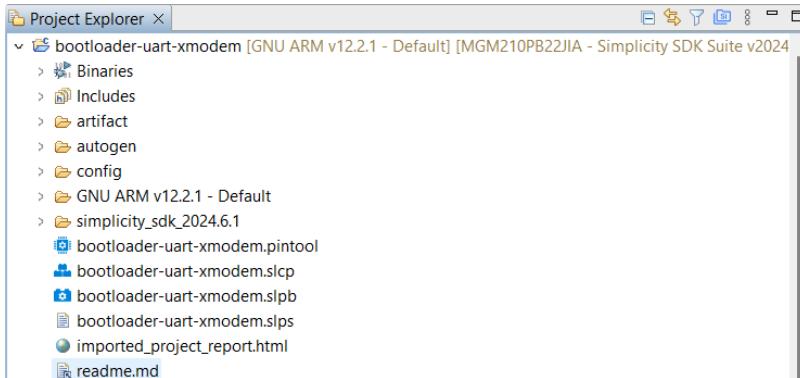


- A new screen will appear, leave the defaults, click **Finish**:



## 2. Configure the new project:

- On the Project Explorer you should see your recently created project:



- The project it is already configured and it works out of the box. You can proceed to compile it.

## Compile the project

Simply click the button with a hammer and the process will start. Terminal should end with a blue message saying:  
"Build finished. 0 errors, 0 warnings."

The binaries generated can be found on the folder called "artifact".

## Troubleshooting

Sometimes, it seems some packages are not available in Simplicity Studio, that is because your installation is corrupted (it failed to install everything due to unknown reasons), but it is not able to notify when this happened. The best solution is to uninstall and install it again, attached to a reliable internet connection. This will increase the probability of success to have a proper installation of Simplicity Studio.