

CMP 102

# Introduction to Simplicity Studio 6



Andrew Escamilla  
Marketing Product Manager



# Agenda

20-21 Nov 2024

- 01 Simplicity Studio 6 Overview & Ecosystem
- 02 Web-Based Flash Tools
- 03 Simplicity Installer/Package Manager
- 04 Project Generation and Configuration
- 05 VS Code and More
- 06 Q&A

# Simplicity Studio v6 Goals

## Decrease Studio's complexity and improve usability

- Ex. Decrease number of user configurable settings, reduce number of clicks to accomplish task

## Improve the speed and reliability of Studio

- Ex. boot time, resource usage, etc

## Enable the most requested IDE/Environment, which is VS Code

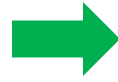
- Enables us to focus on our value-add tools by leveraging existing IDE functionality and other development tools from the community

## Give ourselves freedom to evolve and adapt to the IoT developer preferences

- Ex. Modular design of device manager, standalone analysis tools etc.

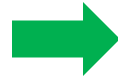
# V6 Key Features and DX Improvements

**Simplicity Installer / Package Manager**



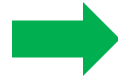
**Fast/small installer, targeted installs, on demand “example-based” installs**

**Split Config, Analysis, and IDE**



**Reduced complexity in each tool by distributing across multiple apps.**

**VS Code as Primary IDE**



**Most popular IDE today**

**Standalone tools**



**Energy Profiler and Network Analyzer**

**CLI and daemon based**



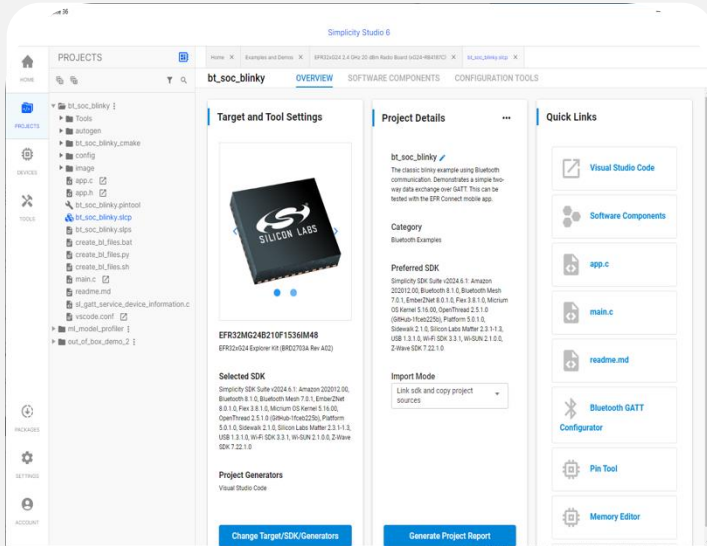
**Integrate into CI/CD, power users**

---

# Simplicity Studio V6 Ecosystem

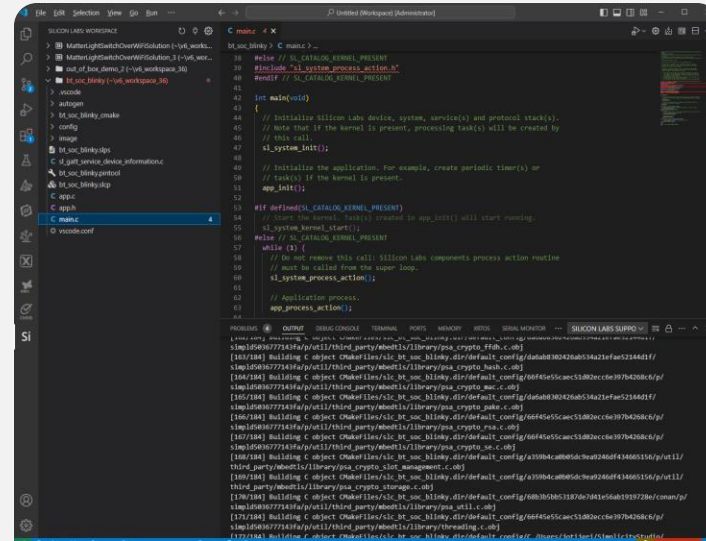


# Studio V6 Use Model



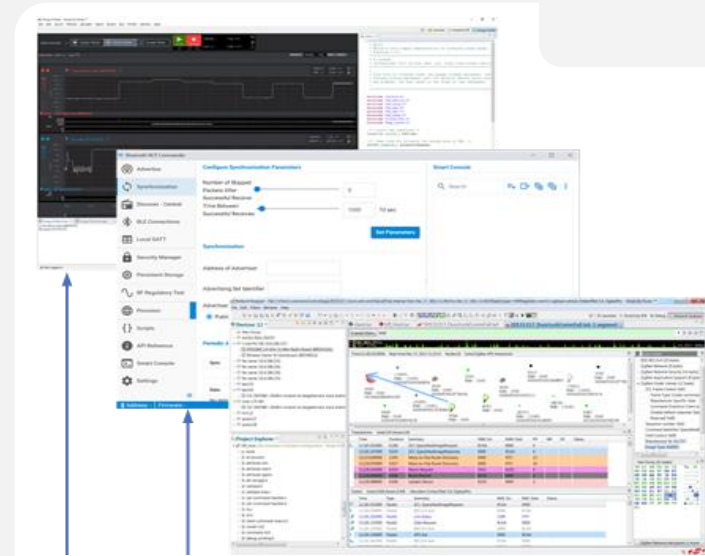
## STUDIO 6

- Device Discovery/Exploration
- SDK Discovery/Exploration
- Project Generation
- Project Configuration
- Device Provisioning
- Launch Analysis Tools



## IDE (VSCODE)

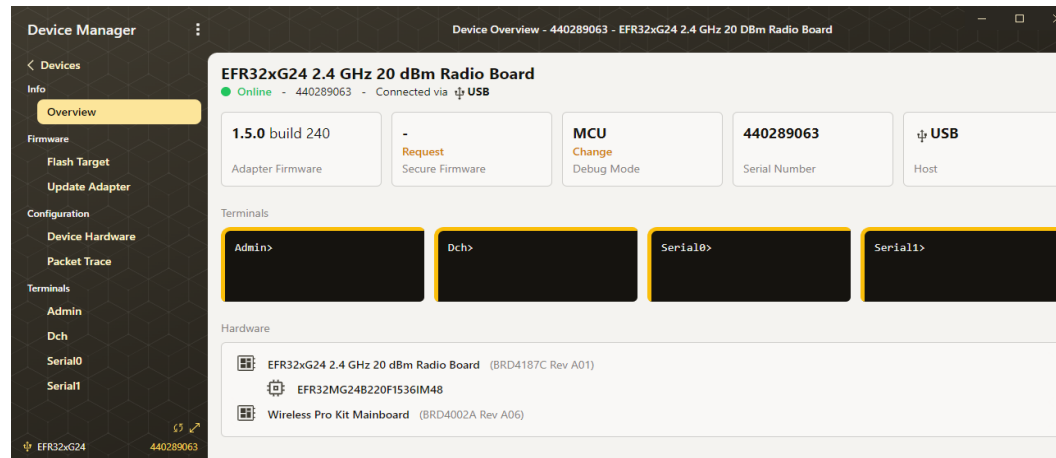
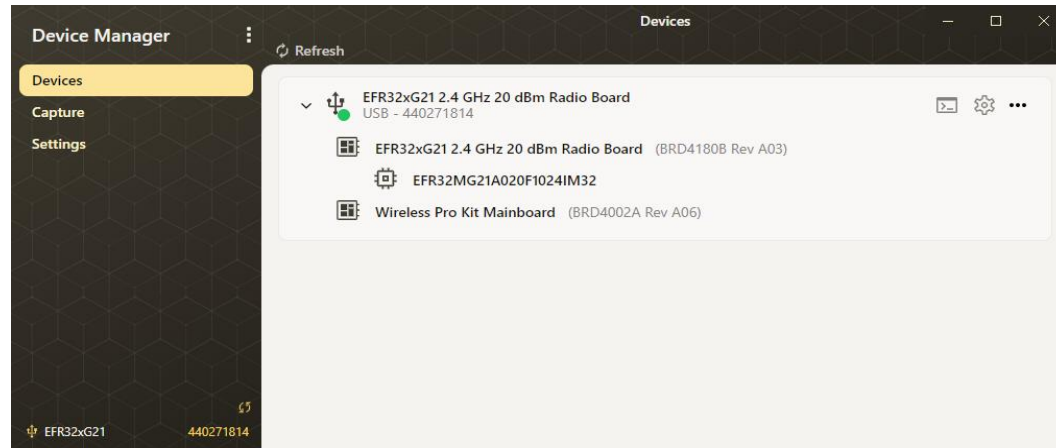
- Editor for App Development
- Build, Flash, Debug
- Console
- Launch Config Tools
- Launch Analysis Tools



## STANDALONE TOOLS

- App Analysis
- Network Analyzer
- Energy Profiler
- AoX Analyzer
- NCP Commander
- Device Manager
- etc.

# Simplicity Device Manager



## Centralized device handling for the Simplicity Tools Suite

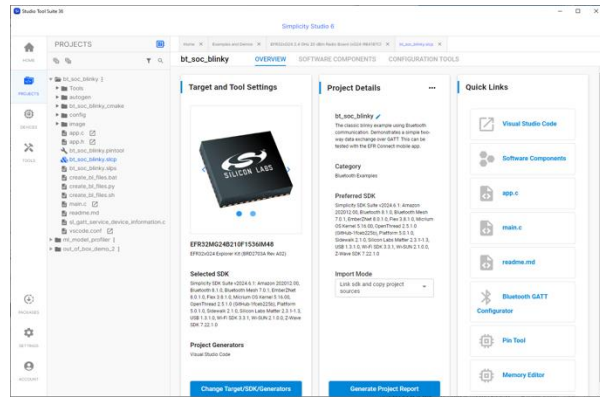
- Enables Device Detection
- Administrative Device Actions
- Device Console
- Binary Flashing
- PTI data streams for Wireshark (future)

## Enables Web Based Tools

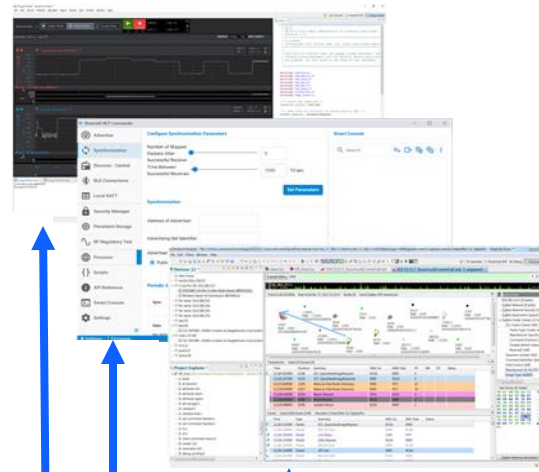
- [Matter Development Journey](#)
- Matter over Wi-Fi Demos
  - Lighting
  - Locks
  - Window Covering
  - Thermostat

# Simplicity Studio V6 Ecosystem

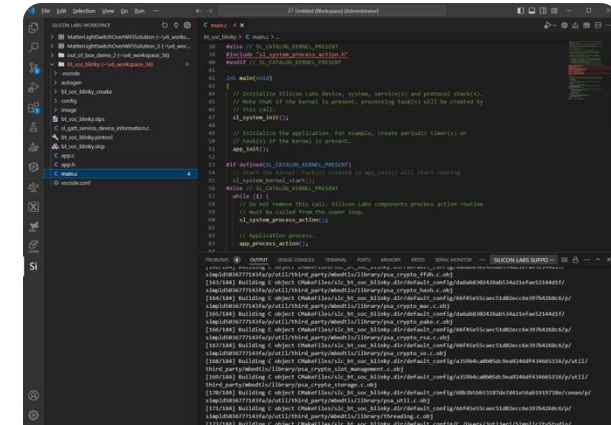
## SDK Exploration and App Configuration



## Analysis Tools



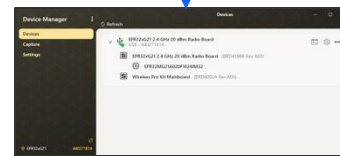
## Edit, Build, Flash, Debug



## Web-based Flash Tool

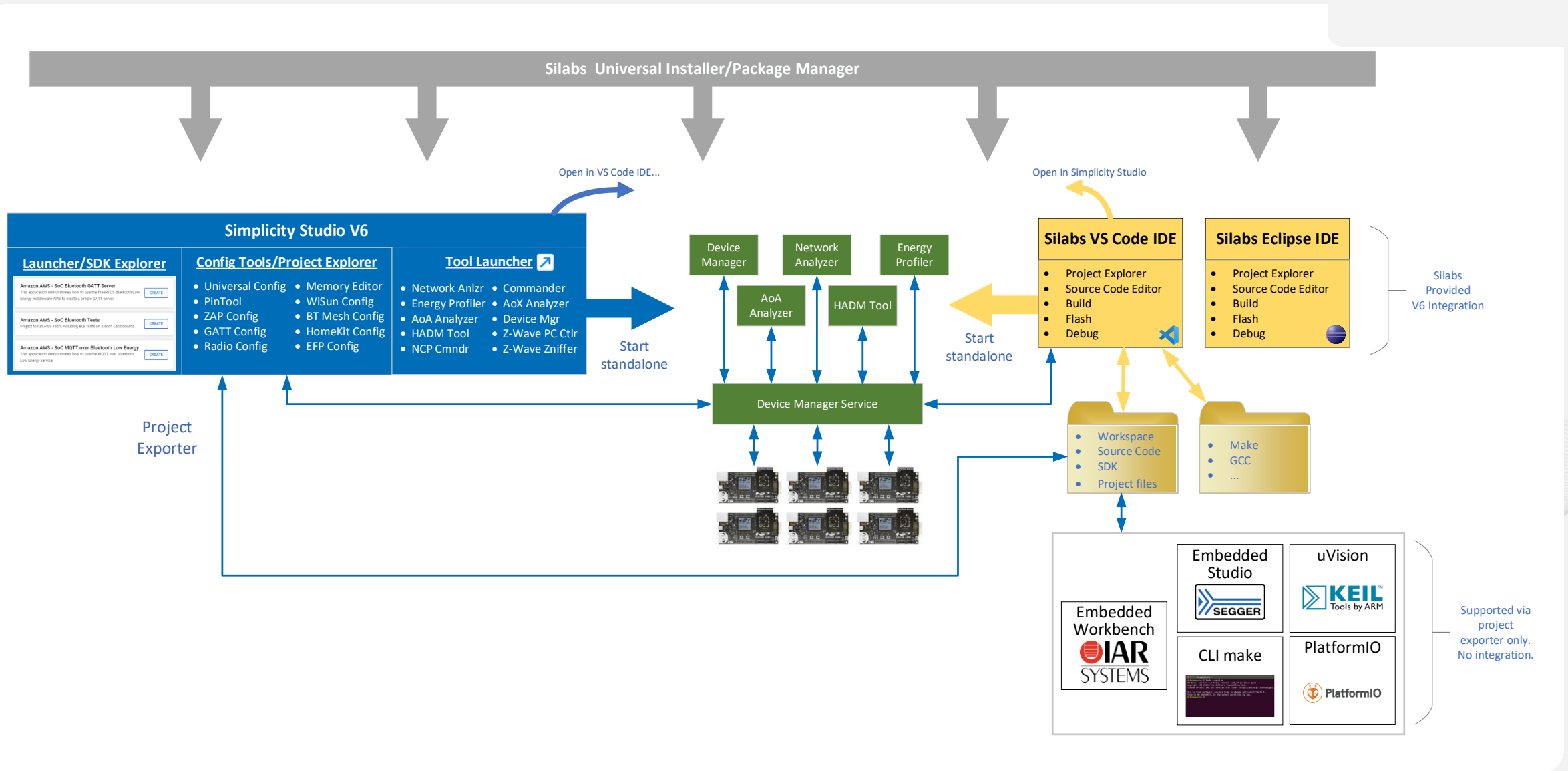


## Device Manager





# Simplicity Studio V6 Ecosystem – Big Picture View

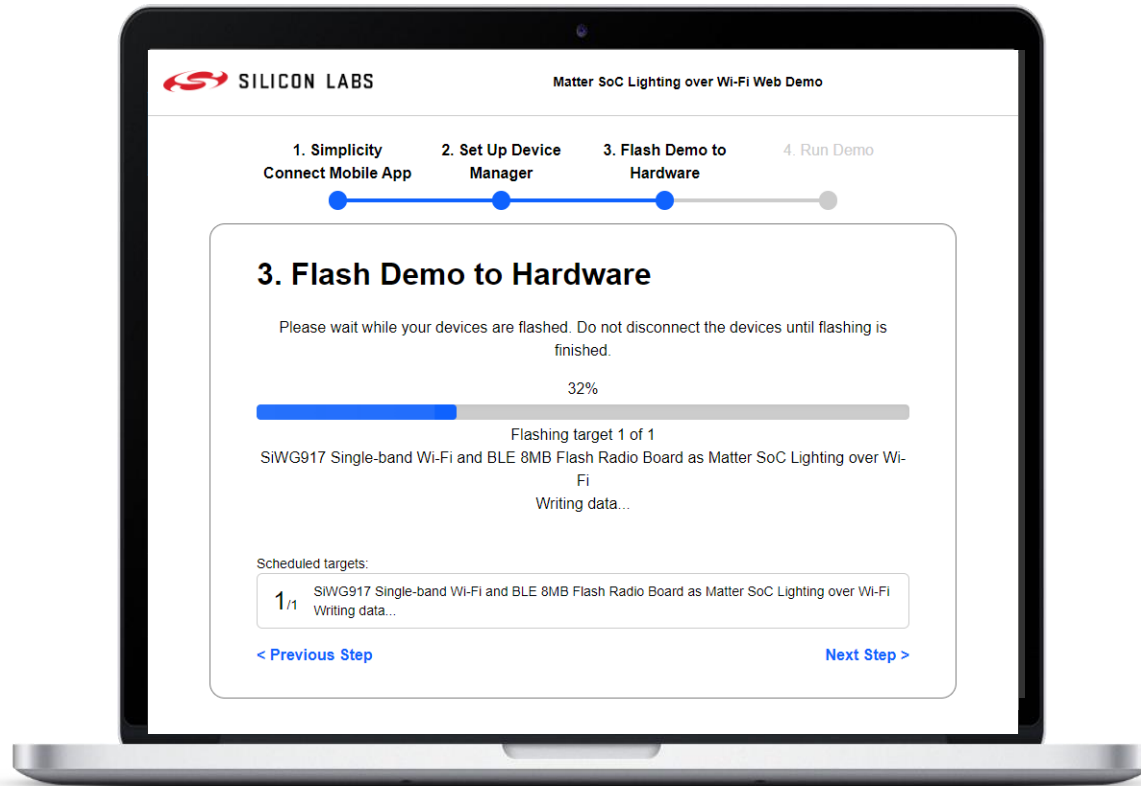


---

# Web-based Flash Tool

Matter Development Journey Demos

# Matter Developer Journey – Flash a demo from our website



- Explore Matter pre-built demos online
- Flash demos to connected kits
- Provides a guided, step-by-step walk-through of the demo
- Get up and running in under 5 minutes

Opening the box to flashing demos in under 5 minutes

# Web-based Flash Tool Demo: Matter over Wi-Fi

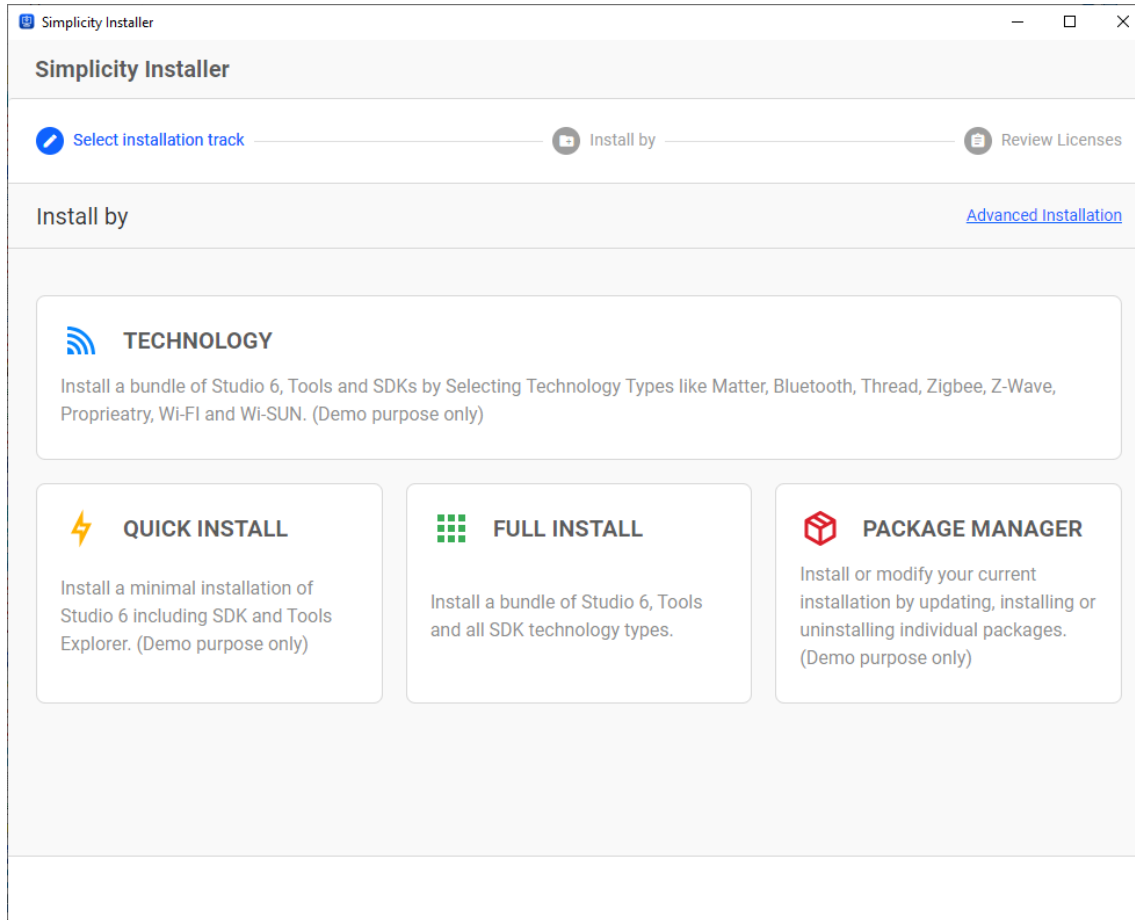


---

# Simplicity Installer / Package Manager



# Simplicity Installer/Package Manager DX



## Standalone installer/package manager

- Studio V6 is **not** your installer

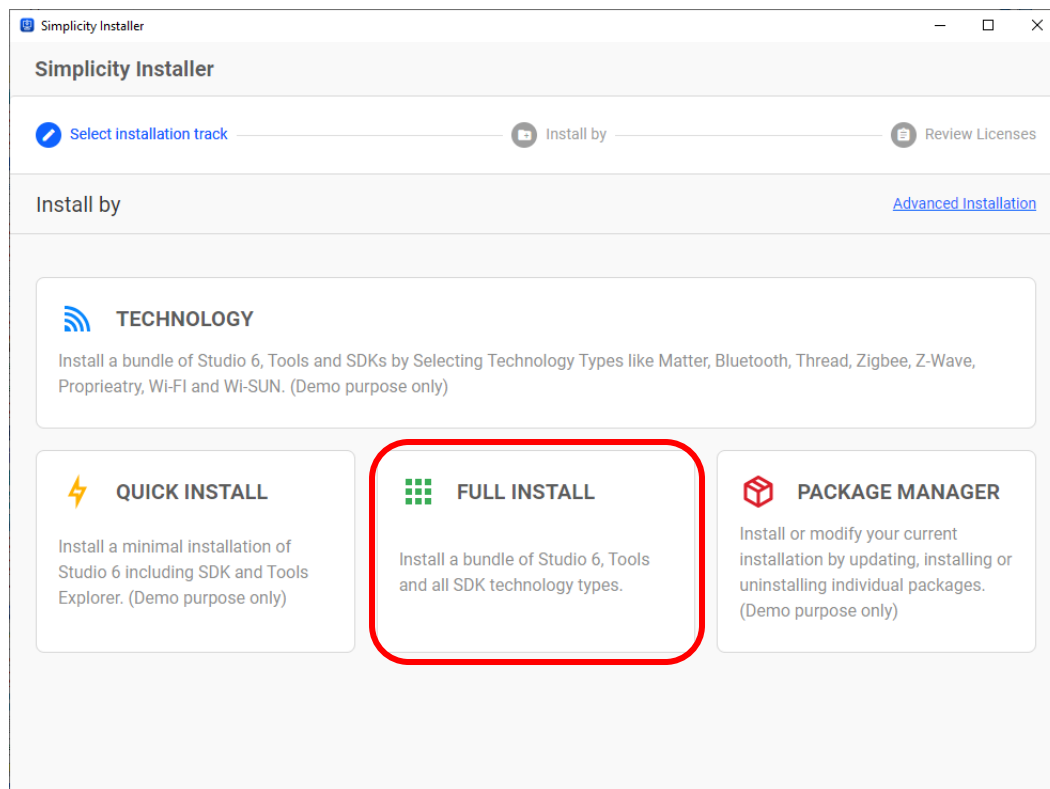
## Installs/manages all tools and SDKs on local system

- A standalone application, **not part of Studio**
- Core functionality is in Package Manager Service
- Tools can self-update through Package Manager Service, CLI, or invoke the UI

## Multiple flows for every user

- **Technology**: User knows the stack they need
- **Quick Install (By Example/Device)**: Installs Studio SDK Example Explorer and Advanced Part Selector
- **Full Install**: Install full Simplicity SDK Suite (2024.6.1) and Tools
- **Advanced**: A la carte install to pick and choose SDK, and single tool install

# Simplicity Installer/Package Manager DX – Full Install

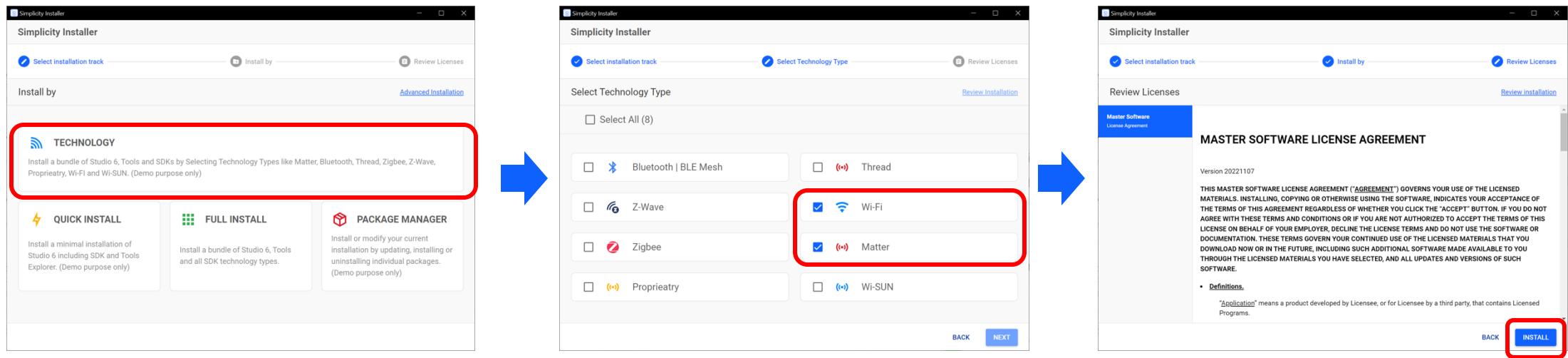


**Full Install:** Install full Simplicity SDK Suite (2024.6.1) and Tools

Provides all SDKs and Tools components

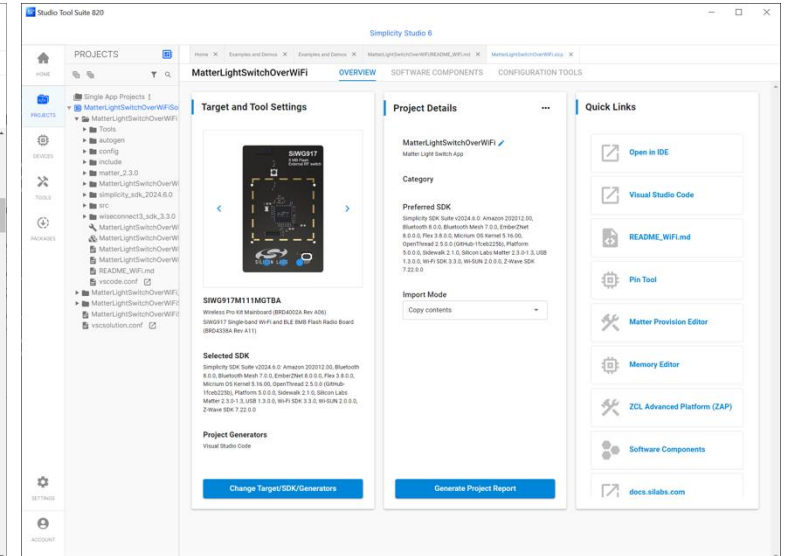
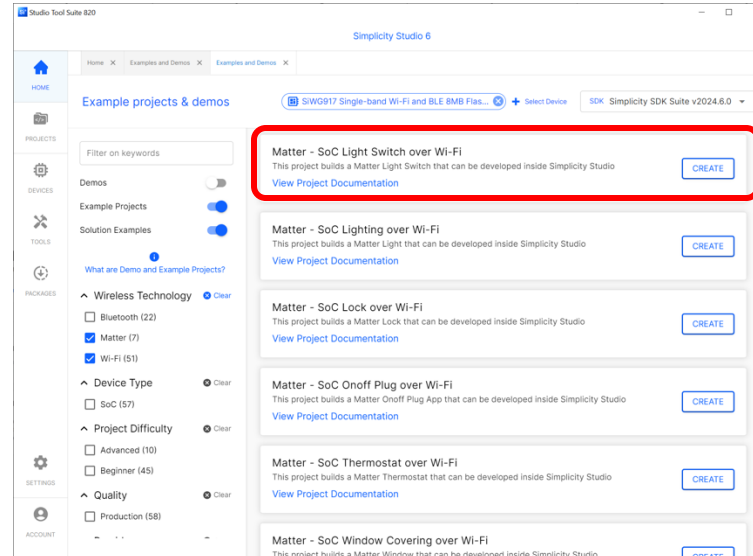
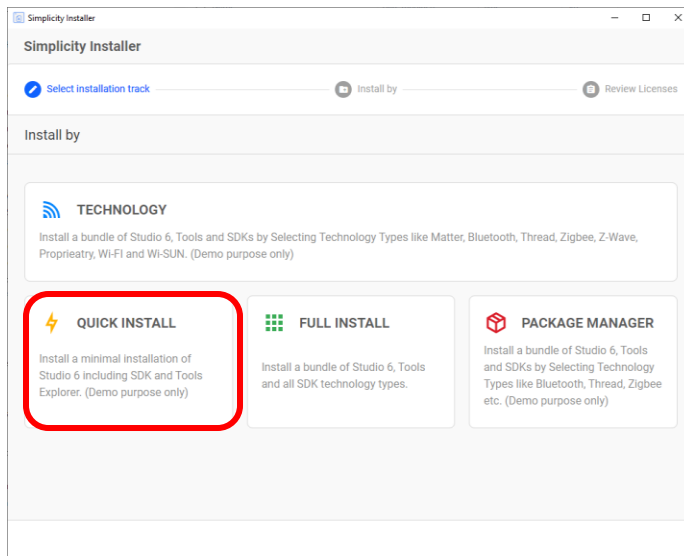
# Simplicity Installer/Package Manager DX - Technology

- **Technology Install** for the user that knows their desired technology
- Provides a fast/targeted install of only the tools and SDK components needed for that technology



# Simplicity Installer/Package Manager DX – Quick Install

- **Quick Install** delivers lightest possible V6 Tool Suite with SDK/Part Metadata only, fastest possible install
- User selects an example, the needed tools/SDK components for project generation are installed on-demand
- After project creation, tools quick-links from SLCP editor will trigger on-demand installs as needed



# Simplicity Installer/Package Manager DX – Advanced Mode

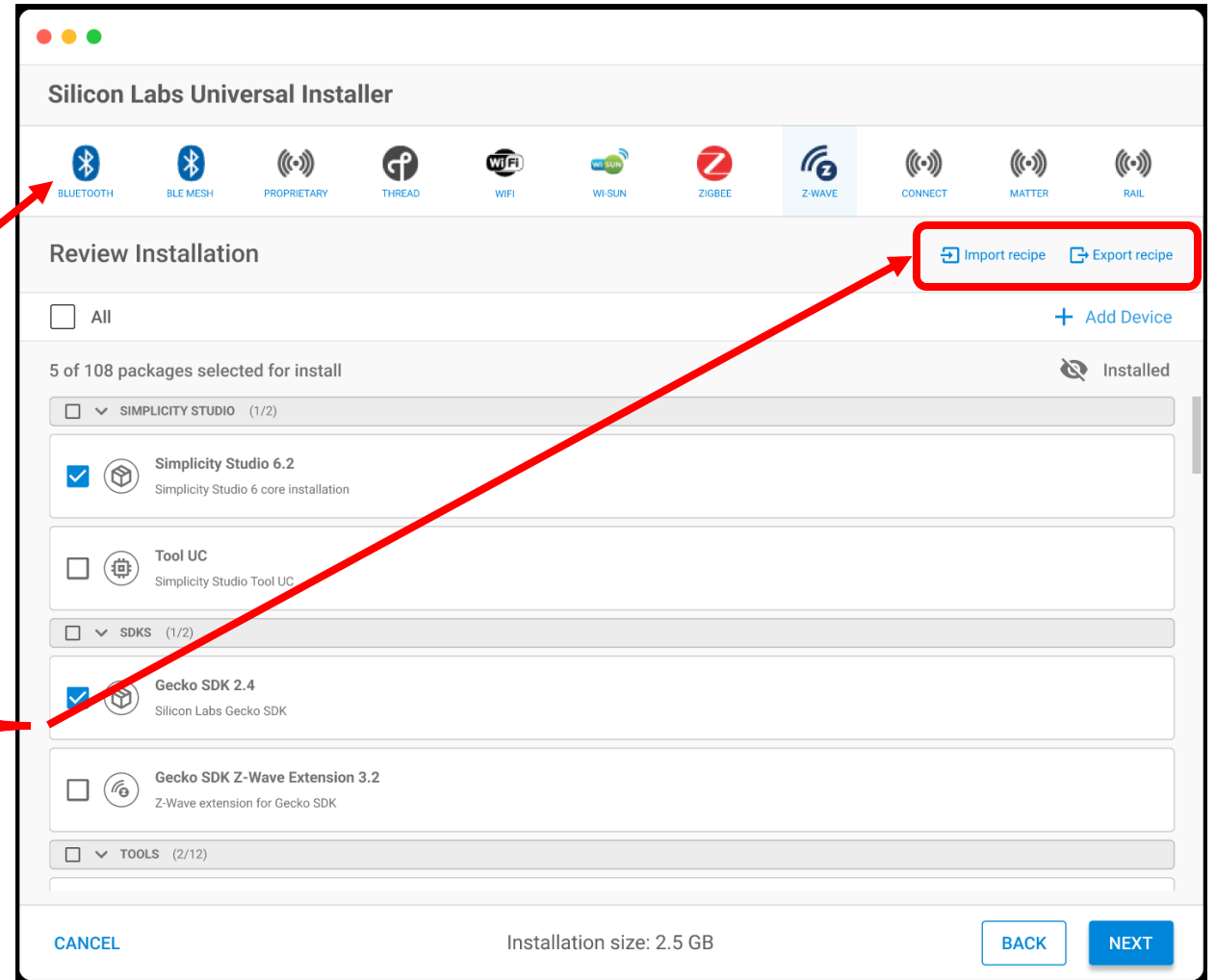
*What if I want a unique collection?*

**Advanced Mode:** Enables users to augment a standard install incrementally with specific tools, or to create an a-la-carte collection

Filter by Technology ease's ability to see how much of a Technology Type Full install has been selected

Installation “**recipes**” can be exported and later imported by peers to recreate identical installs

**Exported recipes can also be used with the SLT CLI (Silicon Lab Tools CLI) for scripted workstation configuration**





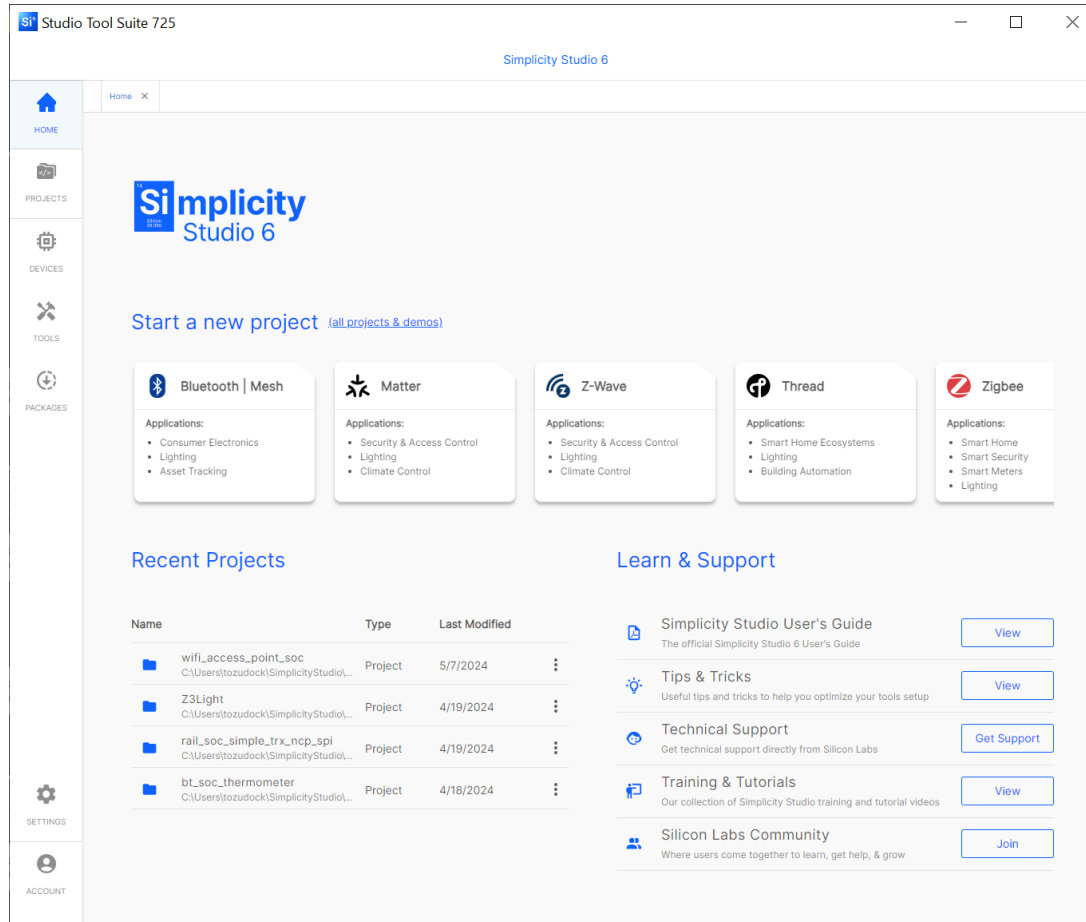
# Simplicity Installer/ Package Manager DX Demo



---

# Project Generation and Configuration

# Project Generation and Configuration Overview



## HOME

- Start project from “Technology”
- Starts SDK Explorer for example discovery and creation

## PROJECTS

- Project explorer created for projects and solutions
- Core config tools (SLCP editor, component explorer)
- Advanced Configurators (GATT, ZAP, Sidewalk Config)

## DEVICES

- For the user who *prefers* “Devices First” approach
- Rich UI for exploring the Silabs device catalog
- Connected and virtual devices presented here
- Device documentation, prefiltered demos/example

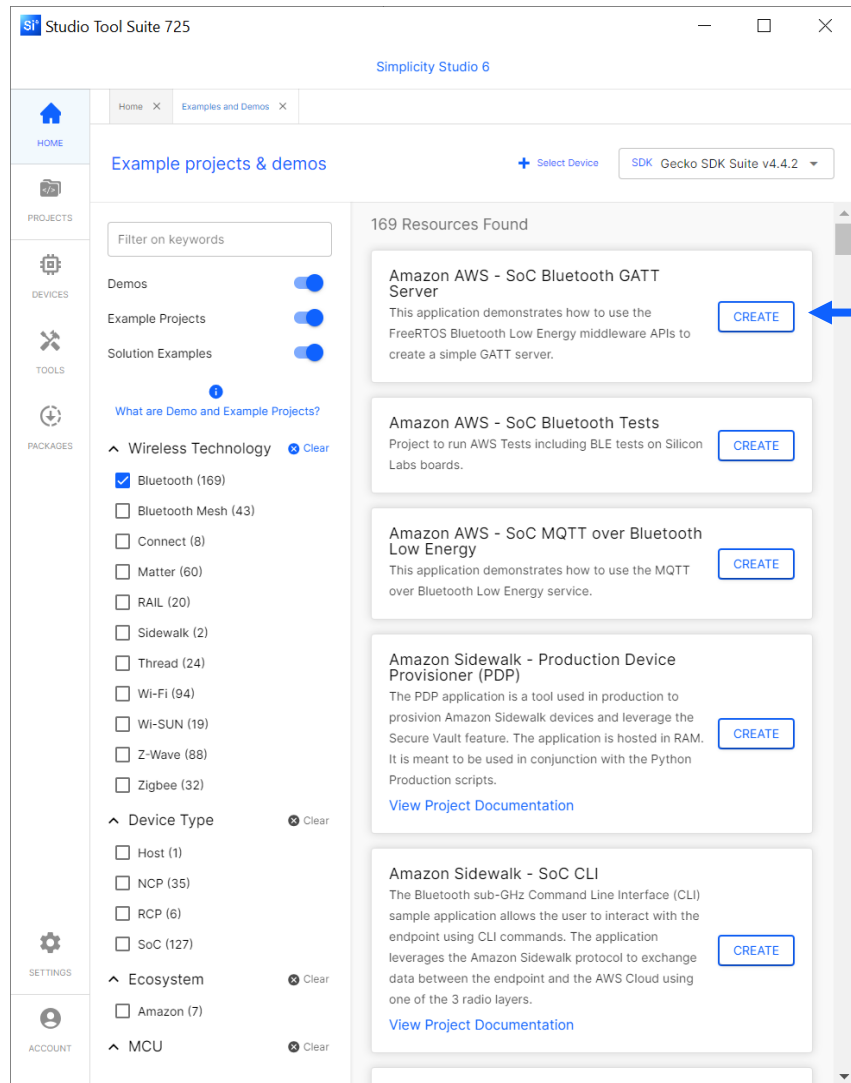
## TOOLS

- Centralized application launcher and documentation source for tools outside CTS.

## PACKAGES

- TBD – Possibly replaced by Simplicity Installer

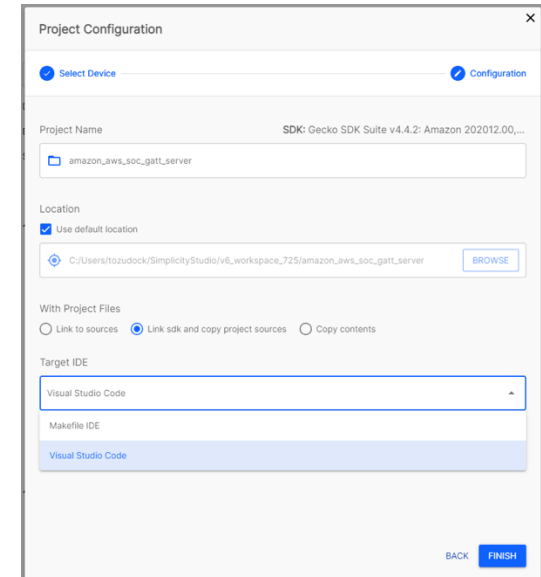
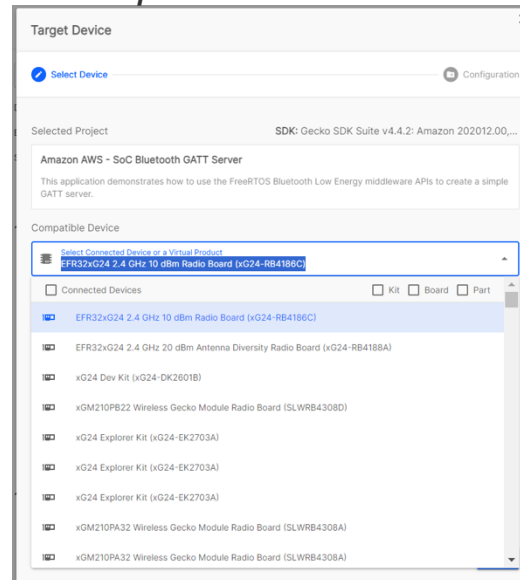
# Project Generation and Configuration – SDK Explorer



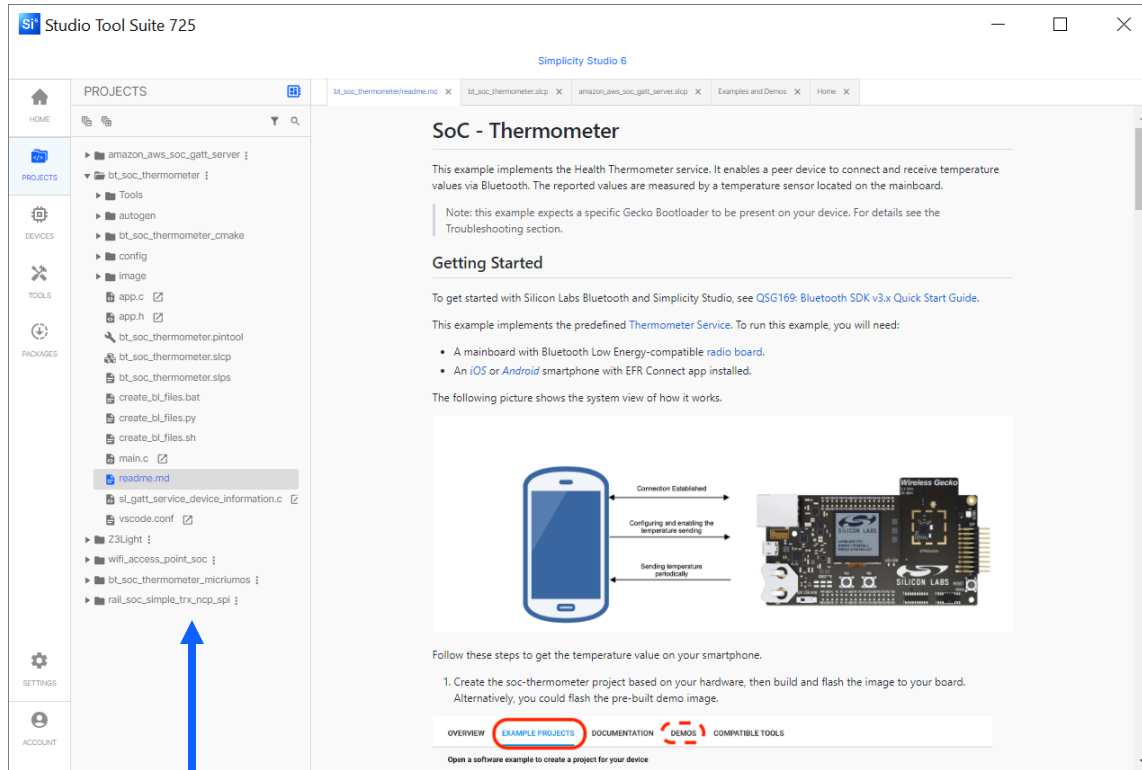
1) SDK Explorer shows all examples for *all devices*, **“Technology First”**

2) New Project Wizard shows *only the devices that work with the selected example*

3) Pick your target IDE, or CLI, and **“Finish”** for project creation

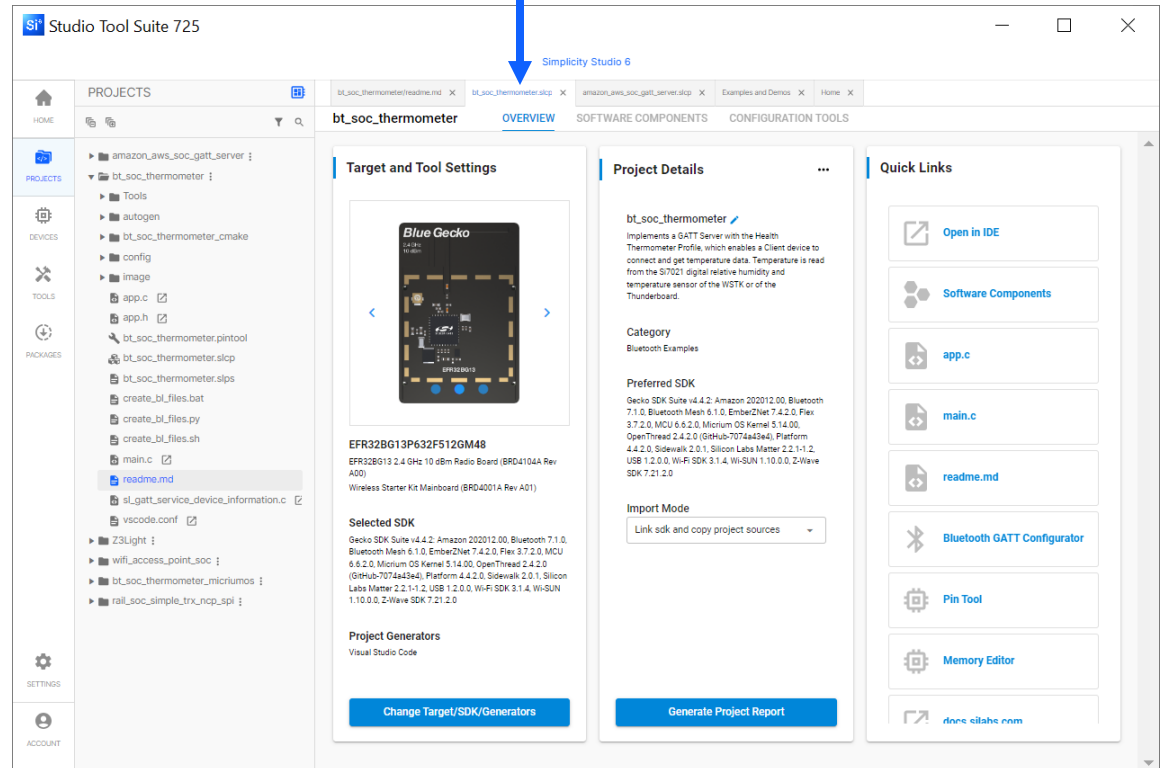


# Project Generation and Configuration – Project Explorer



Project Explorer

## Project Configuration tools

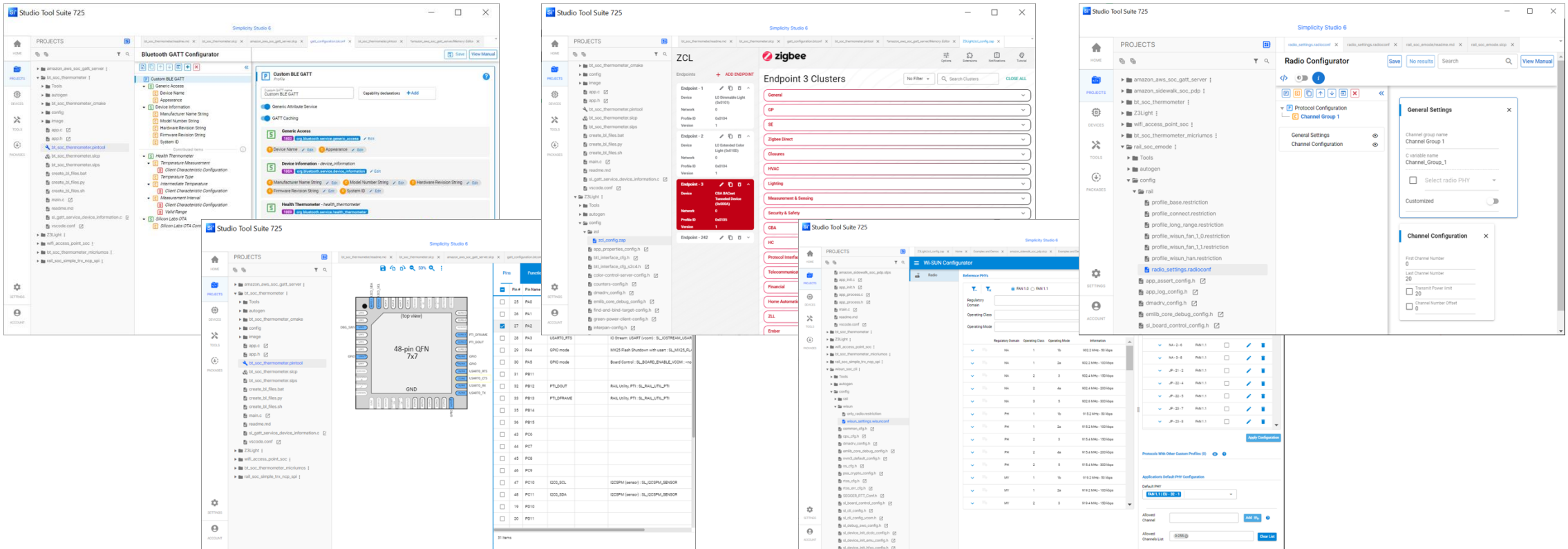




# Project Generation and Configuration – Advanced Configurators

## Advanced Configuration tools available from Studio V6:

- GATT Config, Pintool, ZAP, Wi-Sun Config, Radio Config, etc., all web-UI based, installed as needed based upon example creation.



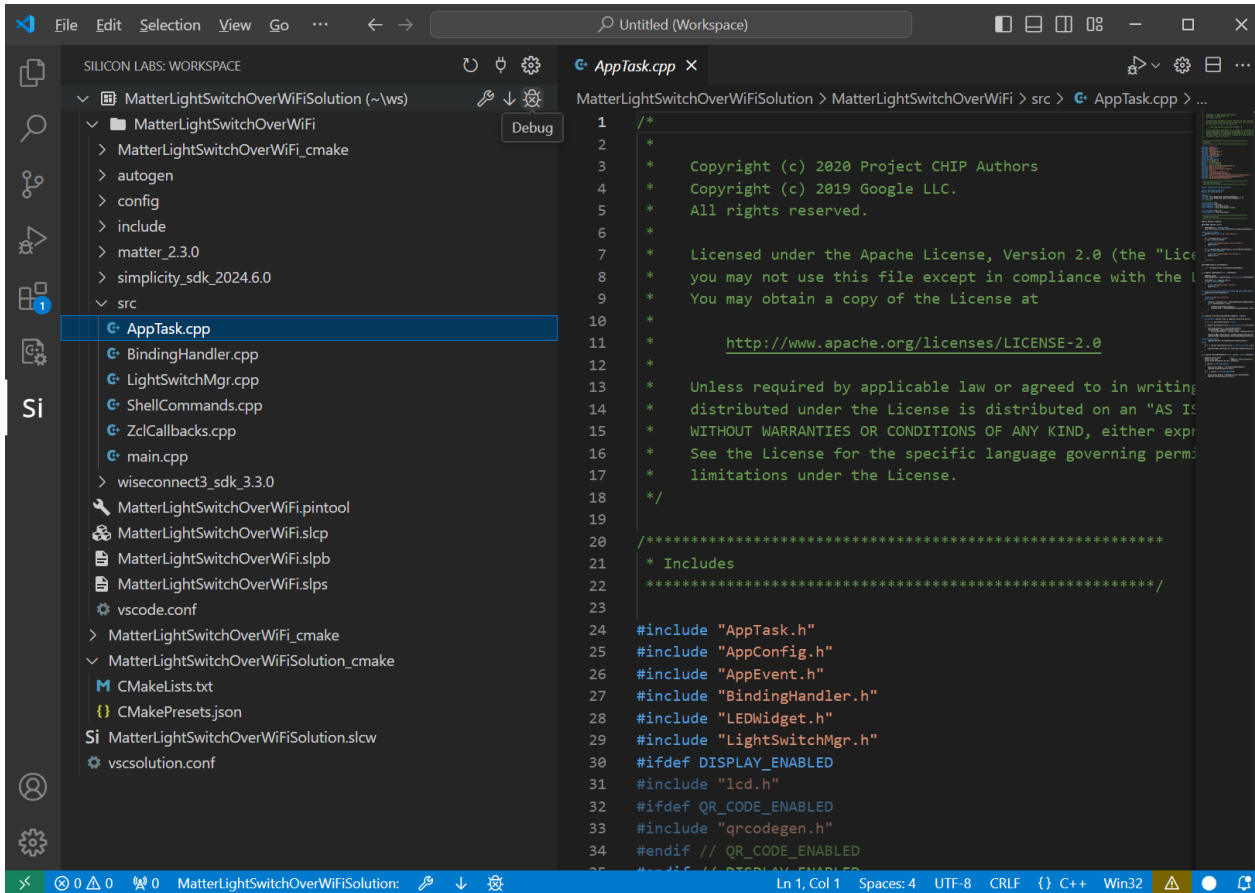
# Walkthrough and Project Generation - Demo



---

# VS Code and More

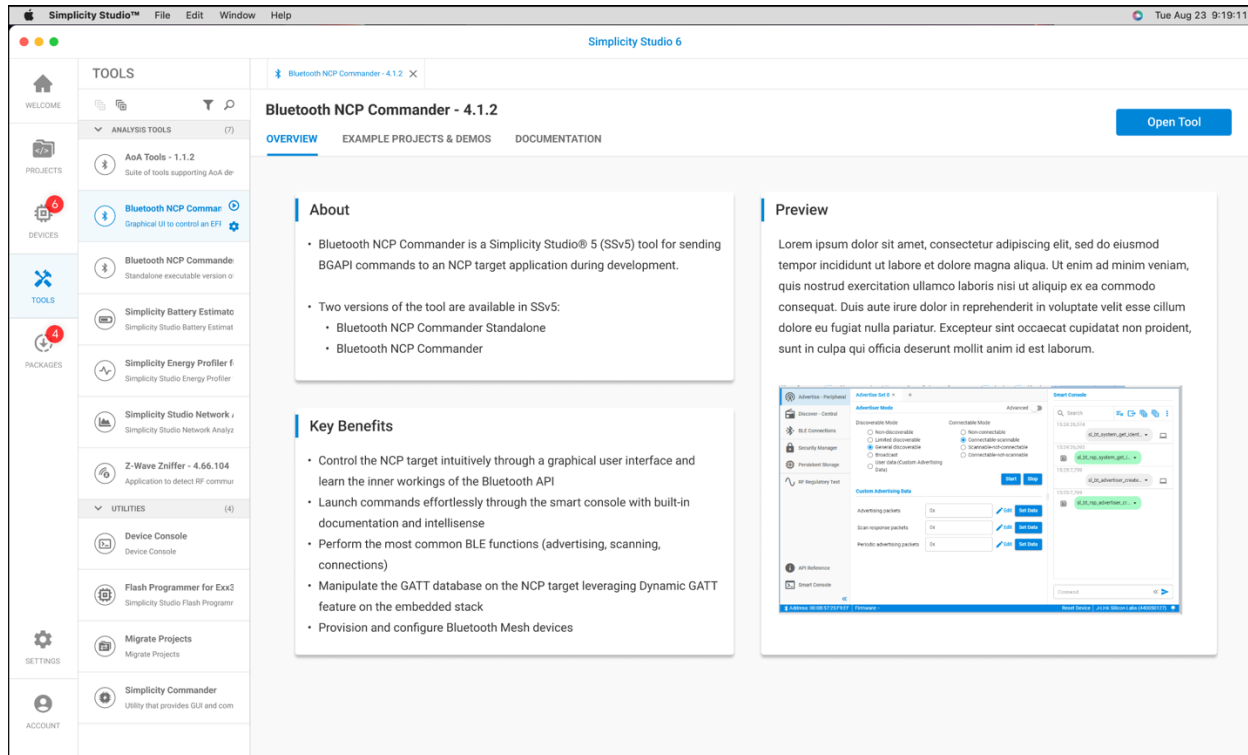
# Project Generation and Configuration Overview



```
1  *
2  *
3  *   Copyright (c) 2020 Project CHIP Authors
4  *   Copyright (c) 2019 Google LLC.
5  *   All rights reserved.
6  *
7  *   Licensed under the Apache License, Version 2.0 (the "License");
8  *   you may not use this file except in compliance with the License.
9  *   You may obtain a copy of the License at
10 *
11 *   http://www.apache.org/licenses/LICENSE-2.0
12 *
13 *   Unless required by applicable law or agreed to in writing, software
14 *   distributed under the License is distributed on an "AS IS" BASIS,
15 *   WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either expressed or implied.
16 *   See the license for the specific language governing permissions and
17 *   limitations under the License.
18 */
19
20 /*****
21  * Includes
22  *****/
23
24 #include "AppTask.h"
25 #include "AppConfig.h"
26 #include "AppEvent.h"
27 #include "BindingHandler.h"
28 #include "LEDWidget.h"
29 #include "LightSwitchMgr.h"
30 #ifdef DISPLAY_ENABLED
31 #include "lcd.h"
32 #endif
33 #ifdef QR_CODE_ENABLED
34 #include "qrcodegen.h"
35 #endif
36 #endif // QR_CODE_ENABLED
```

- Enabled with the full part catalog
- Build/flash/debug is a single click
- Add files to the project, automatically added to cmake build
- Editing a Studio config file redirects to open Studio
- Final version will launch standalone analysis tools

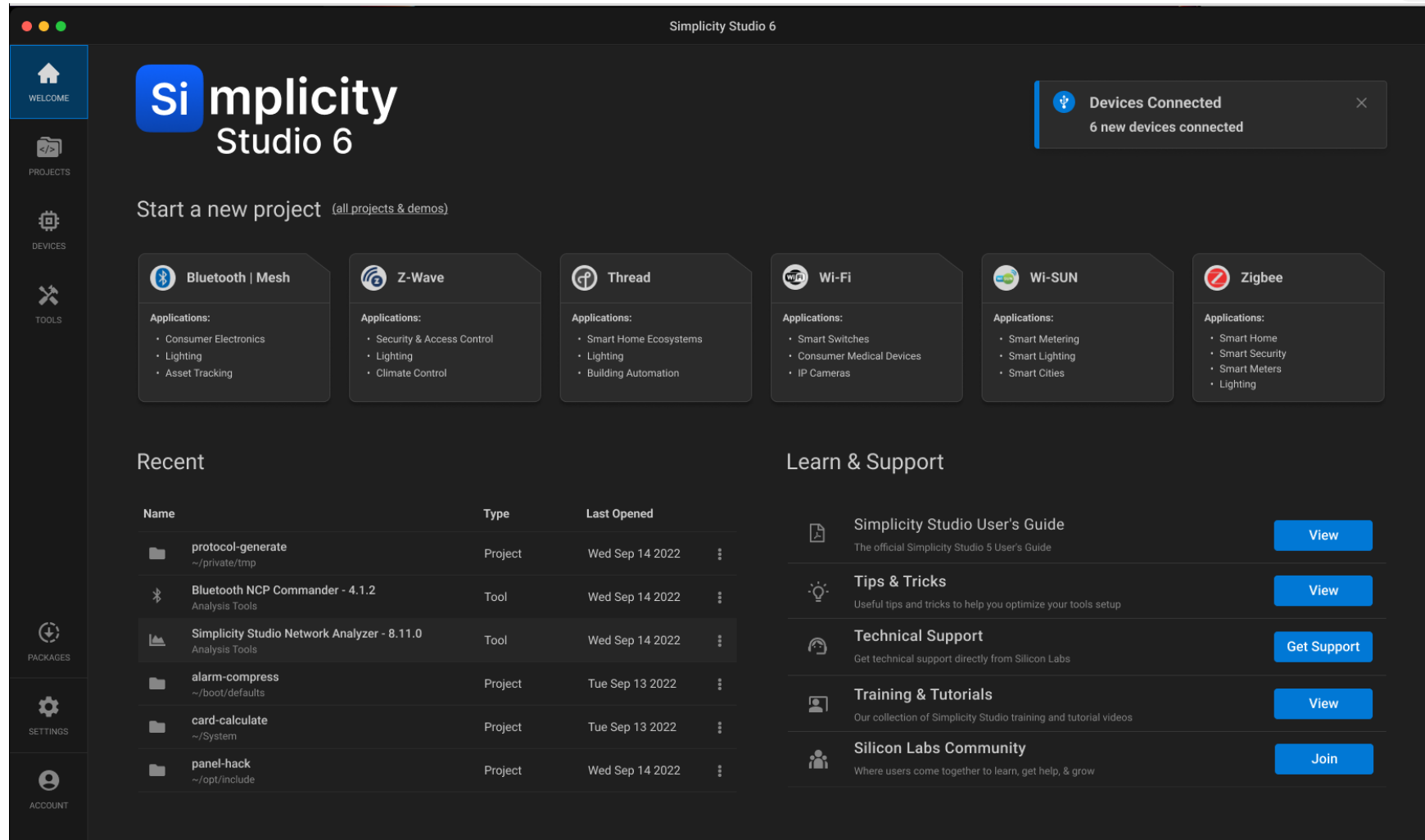
# Project Generation and Configuration – Tools View



## Installed Tools Browser

- Quickly see which tools are installed for use
- Launch tools directly from the tools section
- Tool specific documentation and examples

# Simplicity Studio V6 - Aesthetic Improvements



# VS Code and More - Demo







---

Thank You