Wi-SUN Beginner Development Tutorial

1.Overview

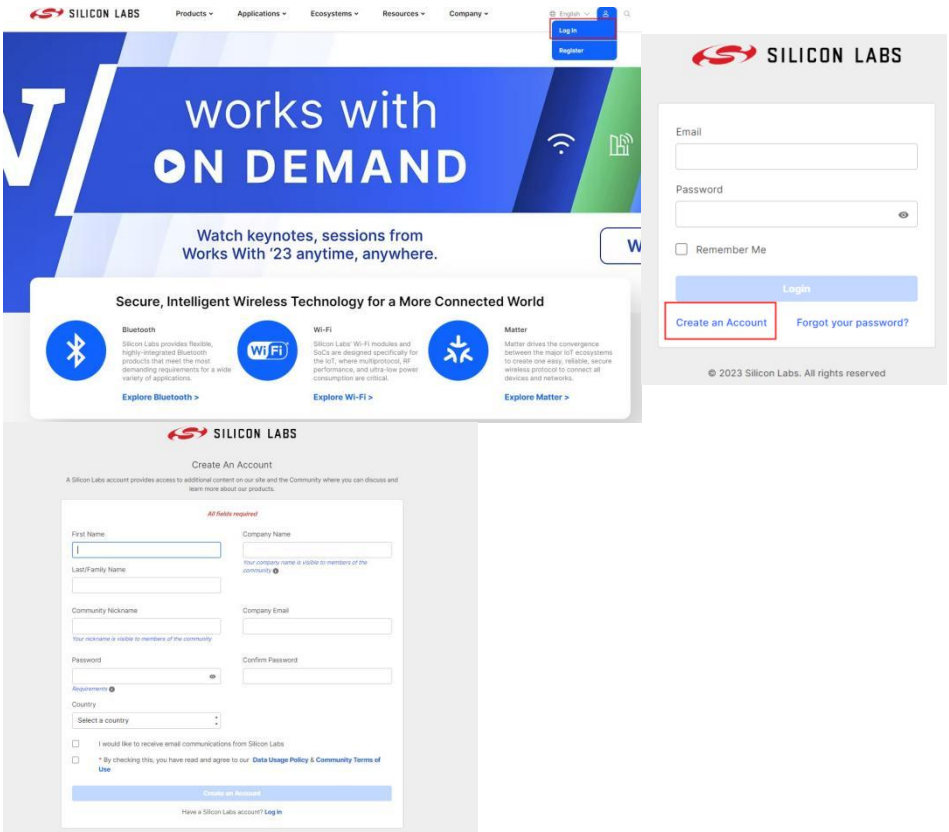
This article aims to enable users to quickly set up the Wi-SUN software development environment, guide users on how to quickly create a sample project and how to find Wi-Sun-related development materials. Note that this article does not provide a detailed interpretation of the Wi-SUN protocol stack. If users need to conduct in-depth custom development for Wi-SUN, please read the Wi-SUN stack API documentation by themselves.

2.Development environment setup

1、 Register an account on the Xinke official website

When developing with the SOC series of Xinke, it is very necessary to register an account on the Xinke official website, because many functions and information are only available to users who already have an account. The registration steps are as follows:

1. Visit Xinke website：https://www.silabs.com/；
2. Click on the login interface, fill in your personal information as required, and then register.

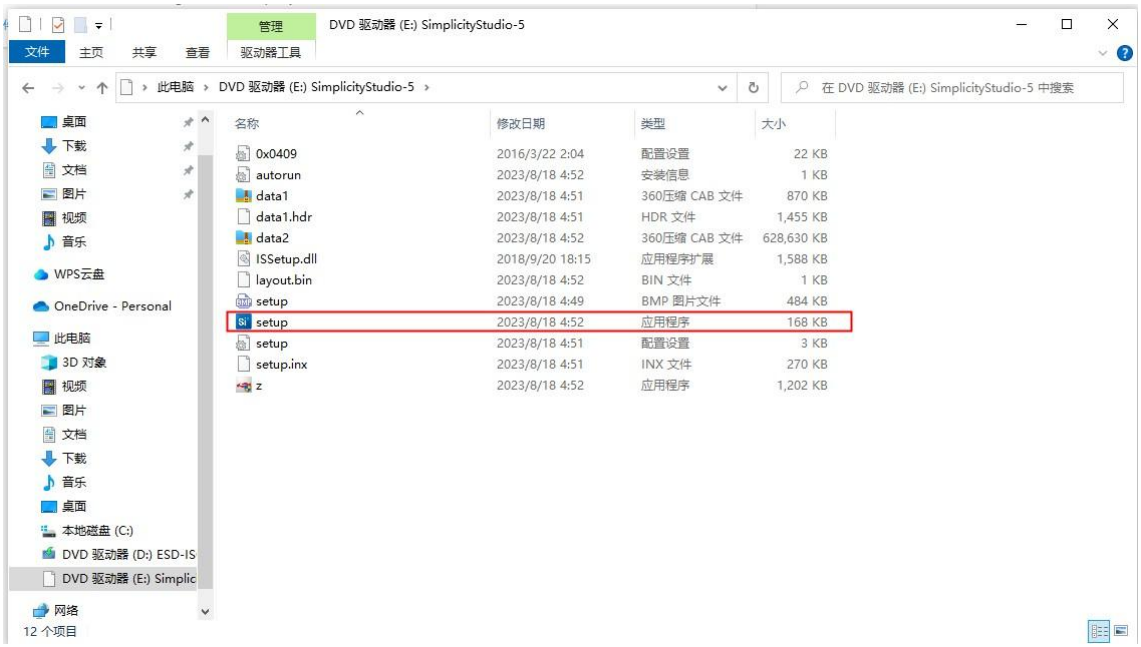


2、IDE Install Simplicity Studio IDE

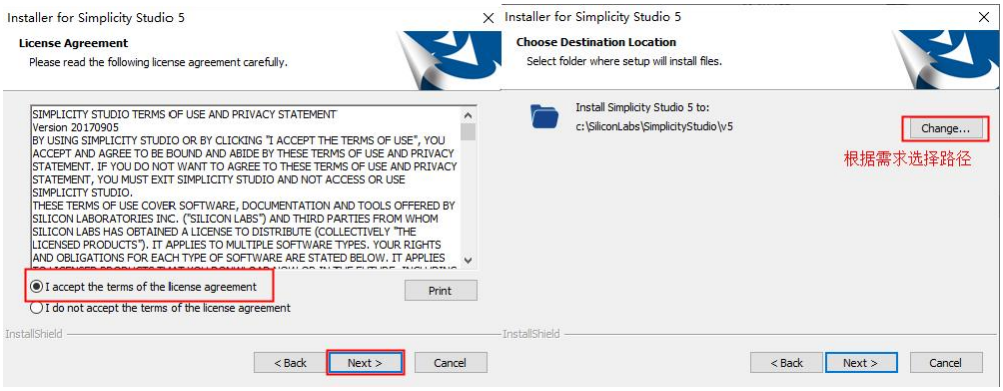
1.Enter the website：https://www.silabs.com/developers/simplicity-studio；：

2.Users select the appropriate IDE version (windows, Mac, Linux) based on their system environment.

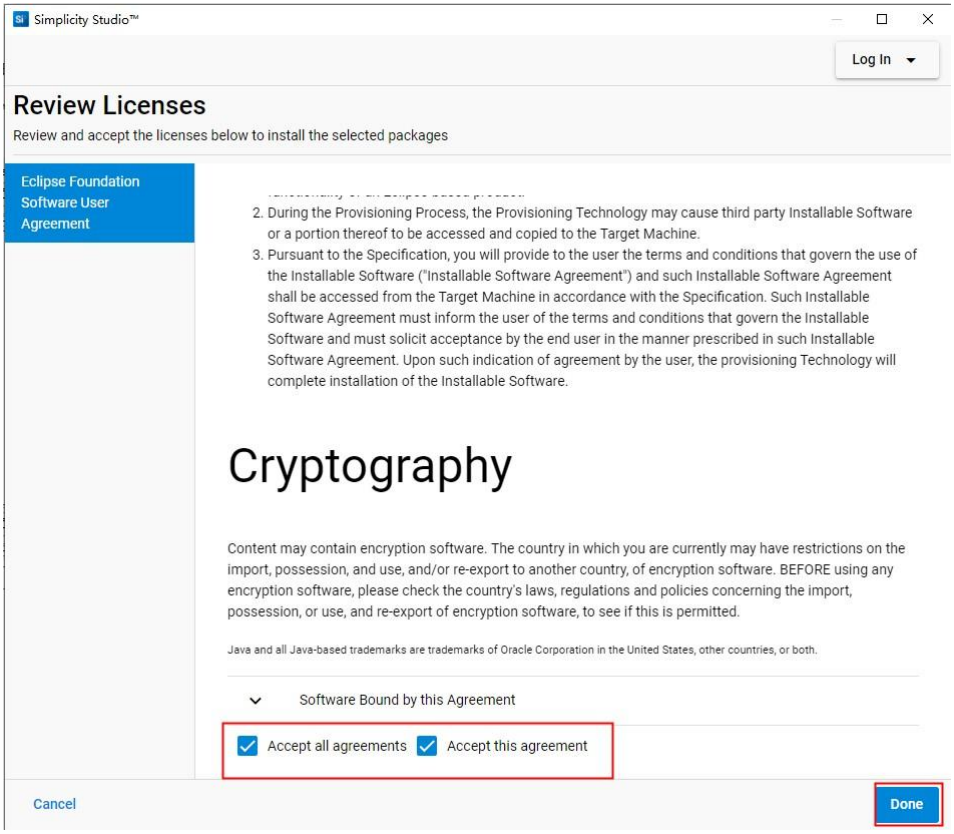
3.After the download is complete, start installing the IDE (right-click on the SimplicityStudios-5 image file, select Load, select setup, right-click and run as an administrator).



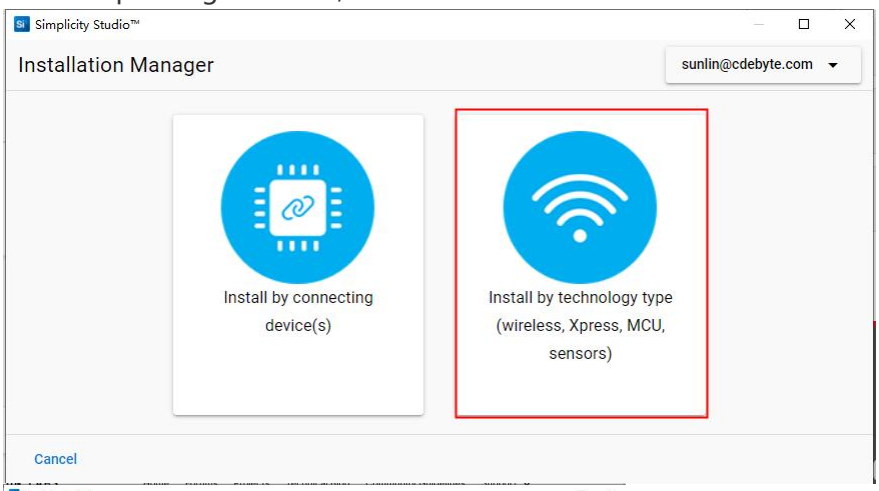
4. Select "I Agree", proceed to the next step, and follow the prompts.

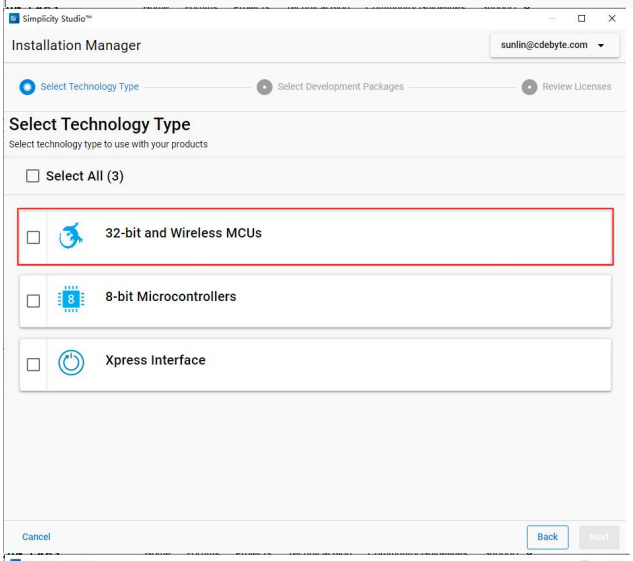


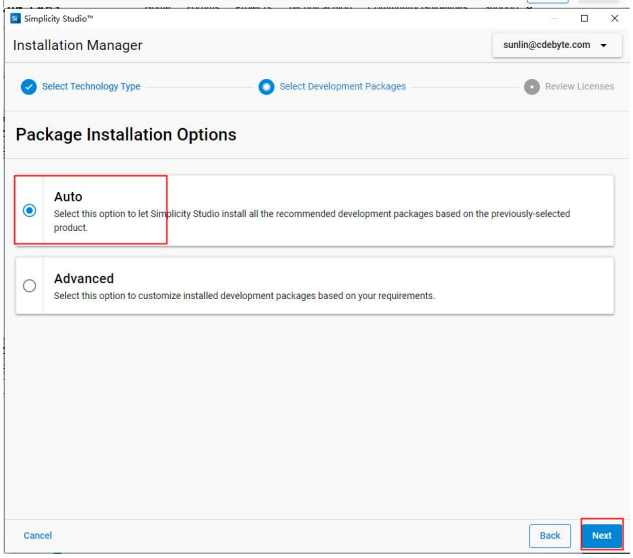
5. Select: Accept all agreements option;



6. Log in to the registered Xinke account (wait for the resource to be obtained). After obtaining it, follow the prompts in the picture below to make the selection, and finally select Accept all agreements;

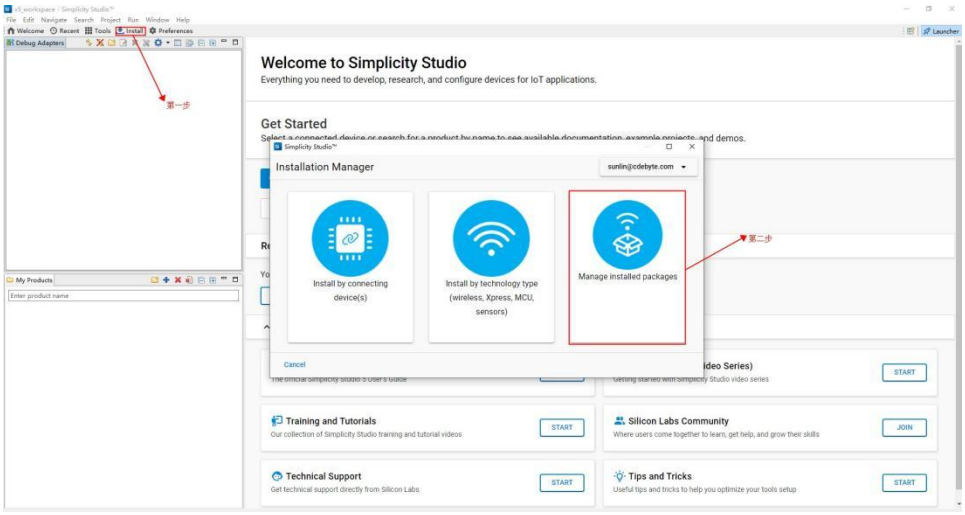


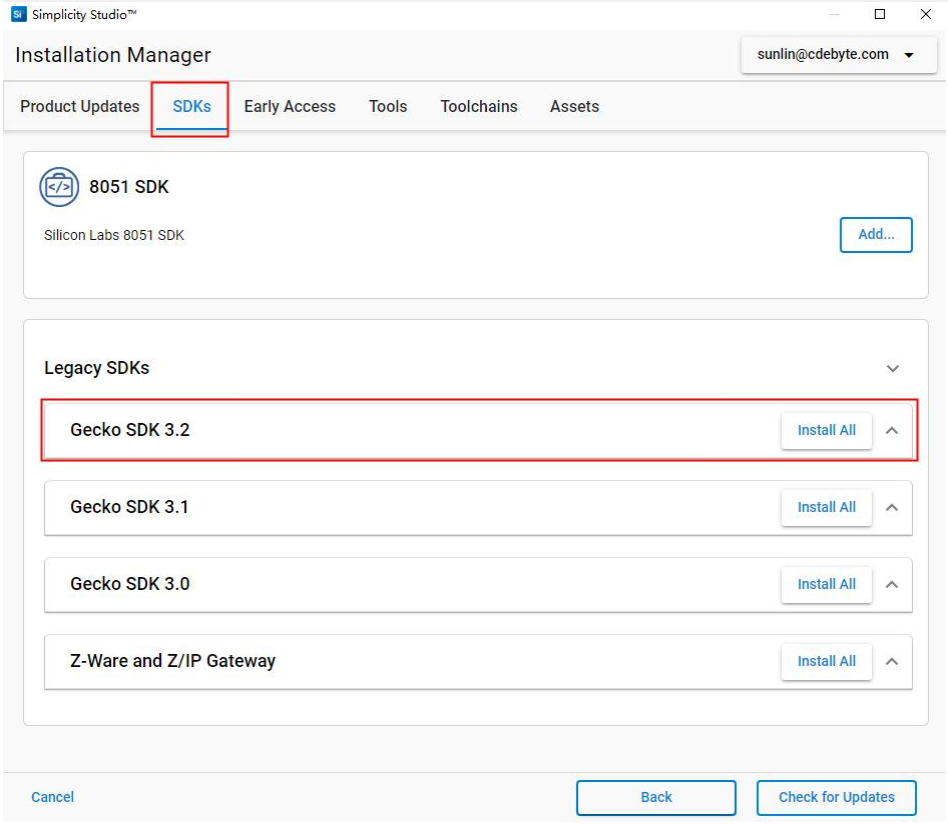




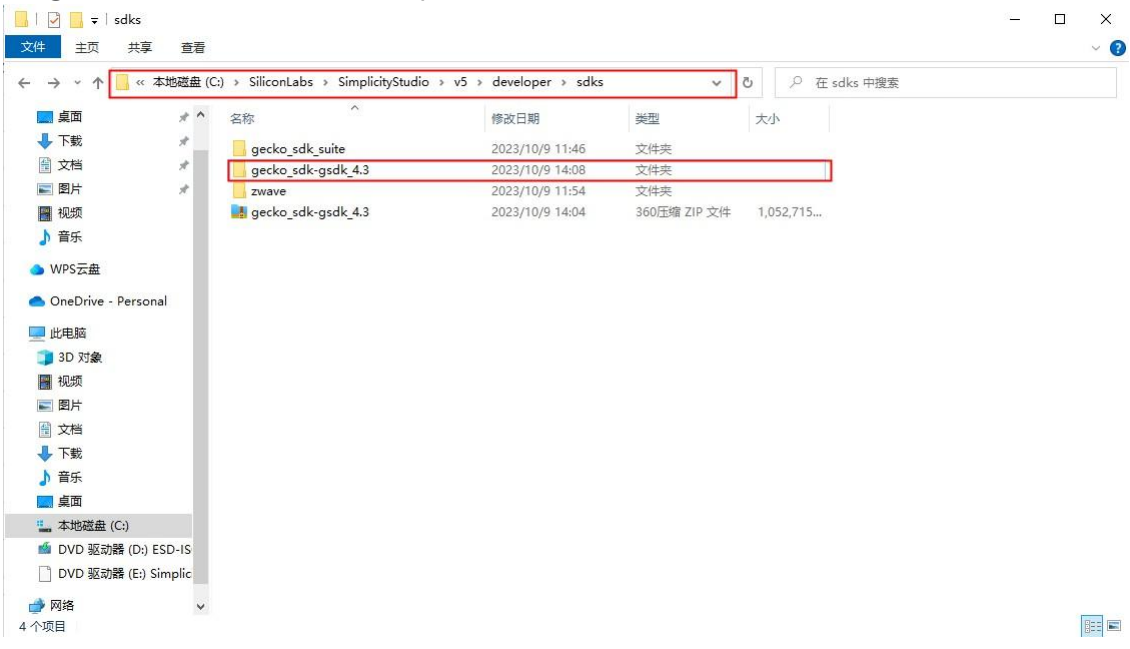
7. Wait for the resources to be obtained and the IDE to be installed. After the installation is completed, follow the prompts to restart the Simplicity Studio IDE.

8.Install the SDK and select the latest version.

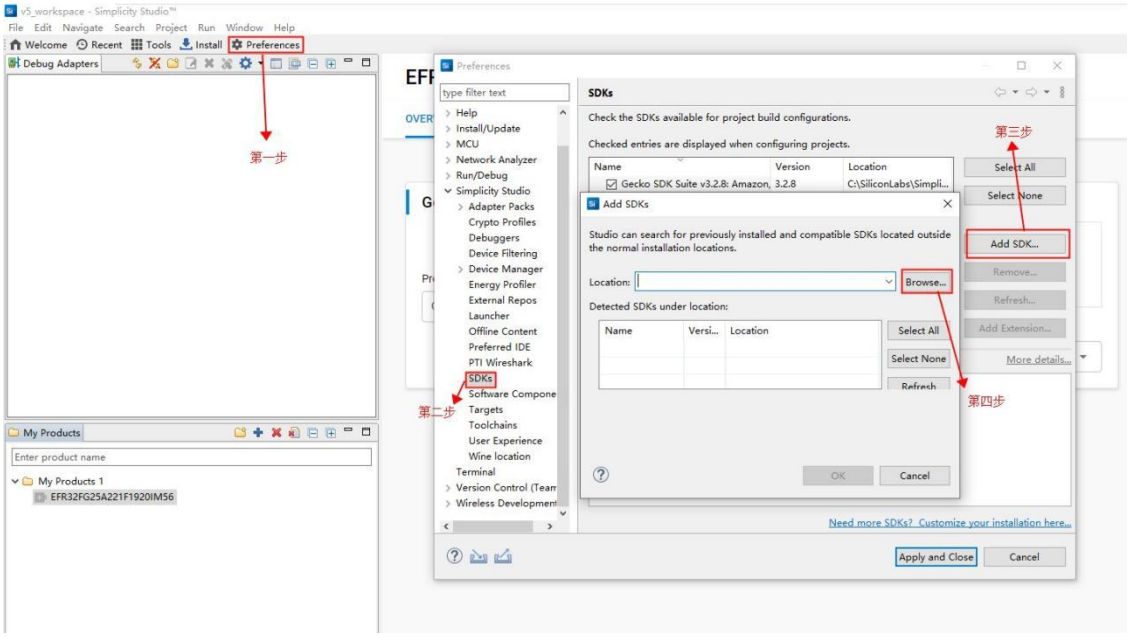




9.Enter：https://www.silabs.com/developers，Select "GitHub" to download the latest version "gsdk_4.3". After the download is complete, place the latest version of the SDK package under the IDE installation path.



10.Import the SDK package in the Simplicity Studio IDE;

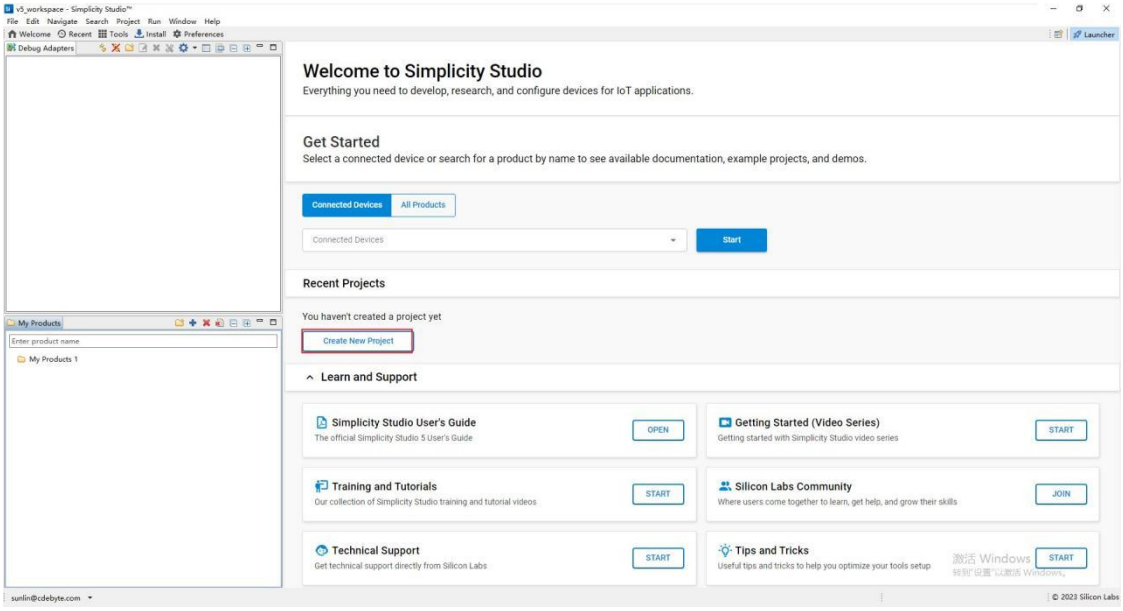


11.After confirming there are no issues, the installation of the environment here has been completed. Now, you can proceed with software development.

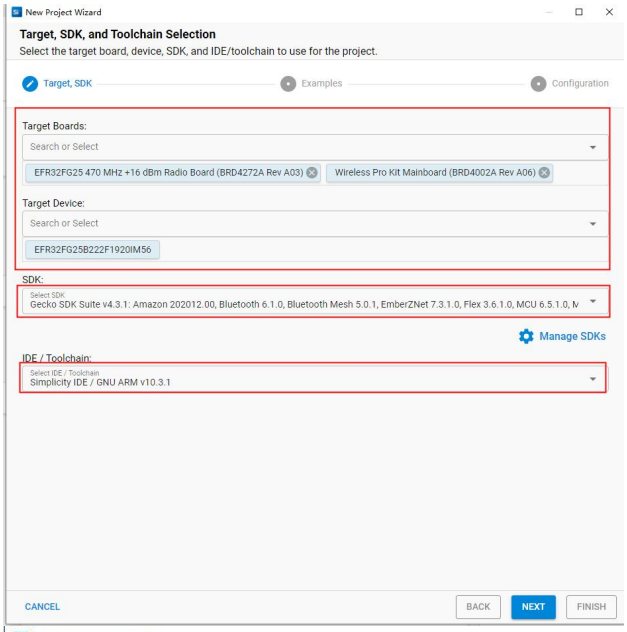
3.ntroduction to Software Development

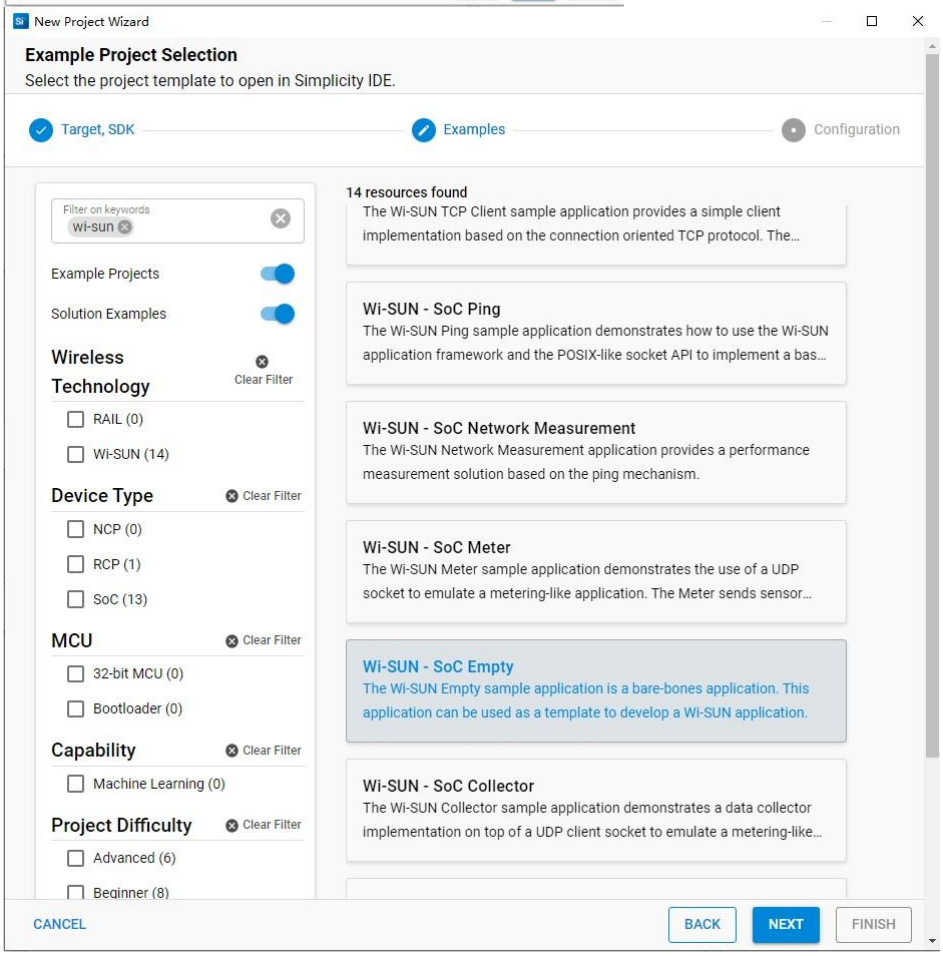
1、Project creation

1. Creat a new project.

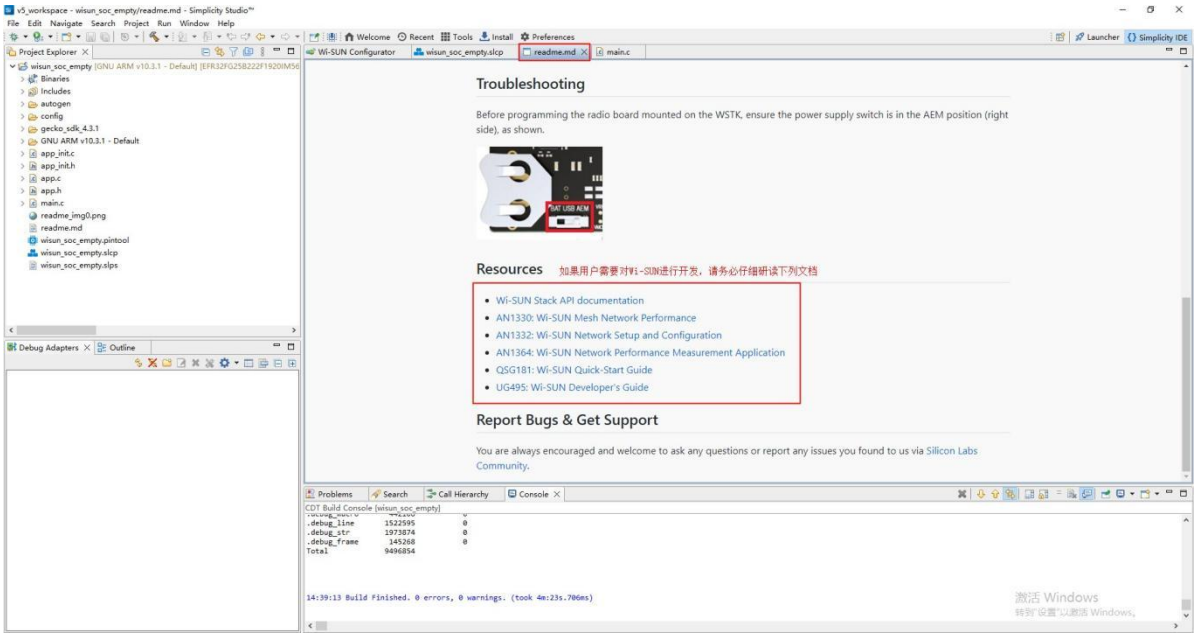


2. Select the model of the base plate and SOC (users can make reasonable configuration choices based on their own needs here), and choose the sample project suitable for themselves. Here, we directly select Wi-SUN-SoC Empty;





3. After the project is created, compile the entire project. After completion, check the "readme.md" document provided by the official, which contains the functions related to this project and the relevant documentation of Wi-SUN;



2、Wi-SUN help documentation

1、Wi-SUN Stack API documentation

This document is mainly an explanatory document for the apis within the standard Wi-SUN protocol Stack. The Wi-SUN Stack API is based on requests from application to stack and events from stack to application. A request is made using a function call, where the function call either immediately executes the required operation or initiates an internal operation in the stack, which ends with an event. All events contain status codes indicating the outcome of the requested operation. The stack also uses events to notify the application of any important information, such as connection status.
(https://docs.silabs.com/wisun/1.7/wisun-stack-api/)

2、Silicon Labs Wi-SUN SDK QuickStart Guide

Silicon LThis document describes how to start developing with Wi-SUN, using Silicon Labs' Wi-SUN Software Development Kit (SDK) and Simplicity Studio V5.
(https://www.silabs.com/documents/public/quick-start-guides/qsg181-wi-s un-sdk-quick-start-guide.pdf)