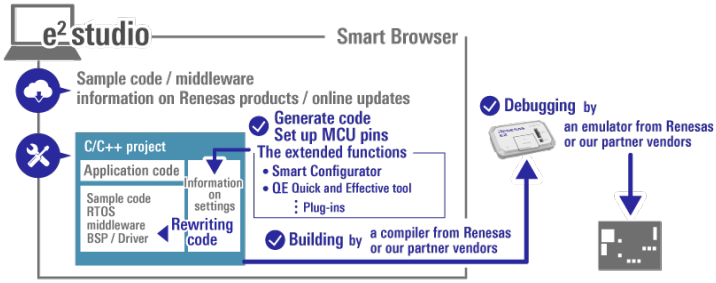
All-in-one tool for all development processes

# e² studio

https://www.renesas.com/e2studio

## The e² studio IDE covers all aspects of development.




e² studio is an integrated development environment consisting of the Eclipse-standard code editor and various extended functions such as:

- Functions for referencing manuals and technical information
- Smart Configurator, which facilitates code generation
- QE tools aiding application development

Facilitates all development processes up to building in a seamless manner within a single environment with a Renesas compiler.

### Editor

#### Eclipse CDT Editor

Editor providing superior functions including code completion according to the syntax of the C/C++ programming language.

### Function for referencing manuals

#### Smart Manual

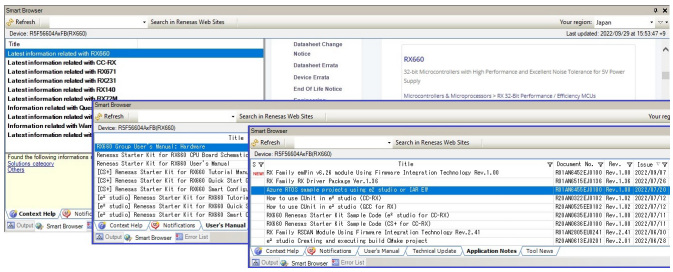
Smart Manual -- A function that displays a pop-up window showing an explanation of the register name or API function name at which the mouse pointer is positioned in the editor. With this function, you can quickly access explanations in Renesas microcontroller hardware manuals and find information about registers without opening manuals.

### Function for accessing technical information

#### Smart Browser

Smart Browser -- A function that allows you to easily perform searches in the latest version of the hardware manual, technical updates, application notes, and tool news for the Renesas microcontroller you are using.

With this function, you can also download sample code or import a project from sample code that contains the project.



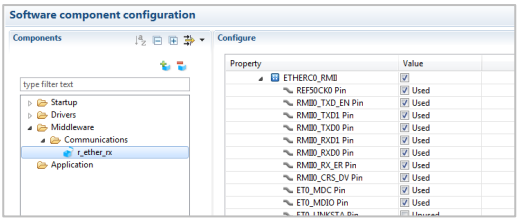
Detail www.renesas.com/su

### Aid to code generation and microcontroller configuration

#### Smart Configurator

Smart Configurator -- A GUI-based tool that allows for easy configuration of clocks, pins, and interrupts of a microcontroller, and provides automatic generation of code according to configured settings. This tool provides support in downloading and importing middleware for code generation and configuring various settings.

Easy reconfiguration of pins and functions after importing middleware




Detail www.renesas.com/smart-configurator

### Build function

#### Compiler

Multiple compilers from Renesas and partner companies are available. Two or more compilers can be installed and used in combination according to the product.

All toolchain settings can be configured from the GUI, and "makefile" for executing a build can be generated automatically.

### Debugger

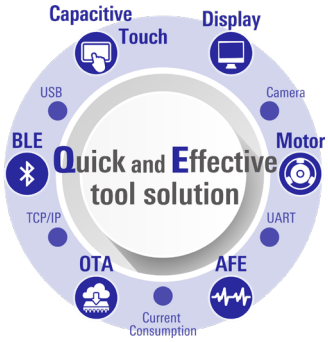
In addition to the functions provided by the Eclipse CDT standard GDB debugger, advanced debugging functions for Renesas microcontrollers such as realtime trace, peripheral register display, and event break are provided.

More advanced functions are also available by using an optional Renesas emulator.

## Able to develop applications with only e² studio
## QE -Quick and Effective tool solution-

Detail www.renesas.com/qe

Have you ever wondered "What's the matter with this thing? I understand the development environment, and have pulled the application together, but it still doesn't go!"?
With the QE (Quick and Effective) tool solution, which provides extended functions of e² studio, you are free from such worries.
The QE tool solution allows you to use development tips (functions) applicable to many applications for easier initiation.




### Supported applications

For Capacitive Touch Sensor Applications
**QE for Capacitive Touch**

For Analog Front End
**QE for AFE**

For Bluetooth® Low Energy Applications
**QE for BLE**

For Display Applications
**QE for Display**

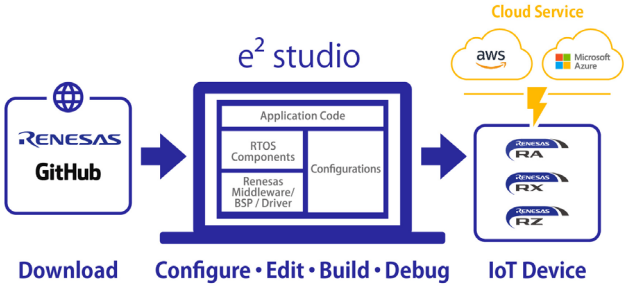
For Cloud Applications
**QE for OTA**

For Motor Applications
**QE for Motor**

For Other Applications
**QE for Camera**
**QE for Current Consumption**
**QE for TCP/IP**
**QE for UART**
**QE for USB**

## Support for FreeRTOS and AzureRTOS
## Facilitating development of IoT devices connectable to cloud services

e² studio provides the following functions to help you develop software for IoT devices that can connect to Amazon Web Services (AWS) and Microsoft Azure Cloud Computing Services:






- ✓ Function to obtain sample projects for the latest version of FreeRTOS for AWS or Azure RTOS that can be built quickly by using easy GUI operations
- ✓ Smart Configurator*3, helping you configure RTOS, network stacks*1, and component libraries*2, which are required for connecting to a cloud service
- ✓ QE for OTA, allowing you to easily develop OTA functions *4, which are required for IoT devices

*1: TCP/IP, Wi-Fi, and MQTT are examples of network stacks.
*2: Device Shadow and Azure RTOS NetX duo are examples of component libraries.
*3: Configurable RTOS components are MQTT, Greengrass Discovery, Device Shadow, Azure RTOS NetX duo, Secure Sockets, and TCP/IP.
*4: Over the Air functions, which perform operations such as updating software via wireless communication

### Download

**e² studio Installer ≫**
**www.renesas.com/e2studio_download**

**Platform Installer ≫**

For the following microcontrollers, use the platform installer specific to the family:

| | |
|---|---|
| RA Family | github.com/renesas/fsp |
| RZ/A | github.com/renesas/rza-fsp |
| RZ/T2 | github.com/renesas/rzt-fsp |
| RZ/N2 | github.com/renesas/rzn-fsp |

### Supported MCUs/MPUs

RA Family RZ Family RL78 Family RX Family
RH850 Family Renesas Synergy™

### Video

Tutorial videos for microcontrollers are available:

| | |
|---|---|
| For RA Family | www.renesas.com/ra-how-to-video |
| For RL78 Family | www.renesas.com/rl78-how-to-video |
| For RX Family | www.renesas.com/rx-how-to-video |

**FAQ** en-support.renesas.com/knowledgeBase

**Community** community.renesas.com

### Operating environment

Windows® 11
Windows® 10 (64-bit version)

Detail www.renesas.com/system-requirements





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