RENESAS

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.

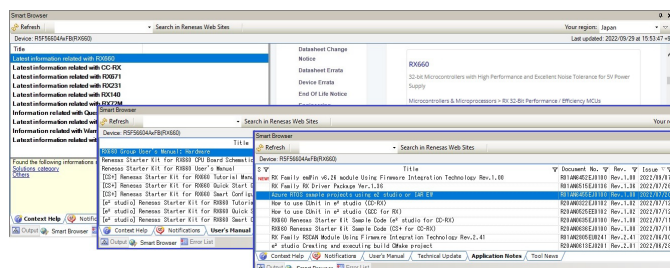### ✅ Function for referencing manuals

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 device 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 device 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 device configuration

Smart Configurator

Smart Configurator -- A GUI-based tool that allows for easy configuration of clocks, pins, and interrupts of a device, 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
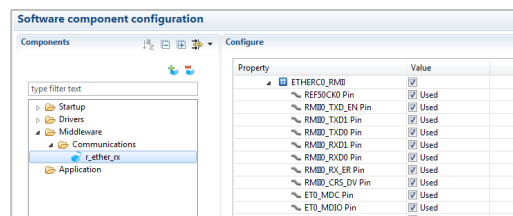
Detail   www.renesas.com/smart-configurator

✅ 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 devices such as realtime trace, peripheral register display, and event break are provided.
More advanced functions are also available by using an optional Renesas emulator.
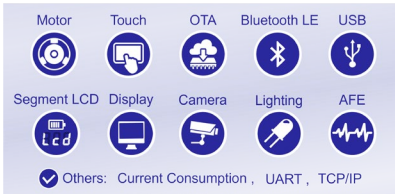
Able to develop applications with only e² studio
QE -Quick and Effective tool solution-

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.

Quick and Effective tool solution

QE tools allow you to just make simple setting to start developing your applications.

Motor Touch OTA Bluetooth LE USB
Segment LCD Display Camera Lighting AFE

Others: Current Consumption , UART , TCP/IP

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 USB system Applications
QE for USB

For Motor Applications
QE for Motor

For Cloud Applications
QE for OTA

For Other Applications
QE for TCP/IP
QE for UART
QE for Current Consumption

For Display Applications
QE for Display
QE for Segment LCD

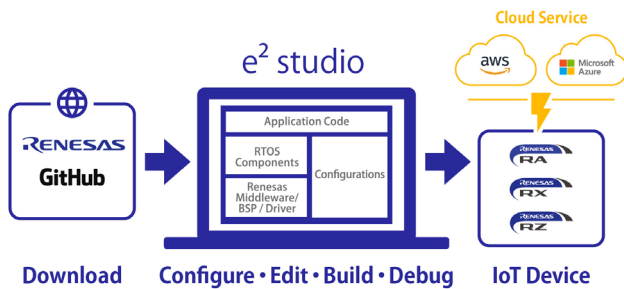For Camera Applications
QE for Camera

For DALI-compliant Lighting System Applications
QE for Lighting & Power

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:

Cloud Service

e² studio

Application Code
RTOS Components Configurations
Renesas Middleware/ BSP / Driver

RENESAS GitHub

IoT Device
RA RX RZ

Download Configure • Edit • Build • Debug IoT Device

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Azure is a trademark owned by Microsoft Corporation and its affiliated companies.
FreeRTOS is a trademark of Amazon Web Services, Inc.
GitHub® is a trademark of GitHub, Inc.

✔ 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 families, use the platform installer specific to the family:

RA Family github.com/renesas/fsp

RZ Family https://www.renesas.com/software-tool/
e2studio-information-rz-family
#tab-release-information

Supported Devices

RA Family RZ Family RL78 Family RX Family RH850 Family
RISC-V MCU Renesas Synergy™

Video

Tutorial videos for families 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)

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Contact information
For further information on a product technology, to most up-to-date version of a document, or your nearest office, please visit **www.renesas.com/contact/**

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