[Released on the Web]

Solution Toolkit

R20TS0867EJ0100 Rev.1.00 Aug. 01, 2022

Development Assistance Tool for Cloud

QE for OTA V1.0.0 [Technical Preview Version]

Outline

QE for OTA V1.0.0 (technical preview version), a development assistance tool for cloud, has been released on the web.

This product is available free of charge.

1. Product Features

QE for OTA (technical preview version) is one of the solution toolkits that operate on the e² studio integrated development environment.

This development assistance tool helps you easily try OTA (Over the Air) using AWS, which is a cloud service. By performing operations according to the workflow diagram, you can obtain cloud-related information, register the information necessary for performing OTA to the cloud system, embed security information into the MCU, and then perform OTA.

1.1 Workflow Diagram

Setup for Cloud

Specify the settings to sign in to the cloud and set the device authentication information.

Prepare OTA project

Import an OTA project.

Manage IoT devices

You can add and delete IoT devices and view the IoT device information. You can also create initial firmware and write it into an IoT device.

> OTA

Create update firmware and execute OTA.

| 1. Setup for Cloud | 2. Prepare OTA project | 3. Manage IoT devices | 4. OTA |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Set information for Cloud and sign-in Joud System. | Create boot loader project and firmware project. | Create IoT devices and initial firmware. | Update new firmware using Cloud system |
| Get information for Cloud Get information for evaluation board and development tools. Get Information Get Information Sign-in to Cloud System Target AWS Sign-in Setting Select Credential (device authentication keys) Storing Style Select provisioning you want to use. Source code includes credentiz | Select OTA project Import the OTA projects and select boot loader and firmware. Import OTA project Boot loader: boot_loader Firmware: aws_demos How to set up project Device : RSF56SNE_DUAL Board : RX65N Cloud Kit | Manage IoT devices Entry IoT devices to Cloud system and confirm state of IoT devices. Manage IoT devices Oreate Initial firmware Build boot Ioader and firmware, create initial firmware. Create initial firmware Mitte program to IoT devices Write Initial firmware to each IoT devices. Write Initial firmware to each IoT devices. | Create firmware for update Greate firmware for update using cloud system. Create update firmware Execute OTA and check state Execute OTA for selected IoT devices and check state of IoT devices. Execute OTA and check status |



1.2 Manage IoT Device View

This view displays a list of IoT devices registered on the cloud. You can also add and delete IoT devices.

This view has five features: IoT Device, Initial Firmware, Update Firmware, OTA, and Firmware Log.

IoT Device

You can view IoT device information including the device certificate and security key set during creation of an IoT device.

Initial Firmware

You can create initial firmware by embedding information for each IoT device into the source code.

Update firmware

You can create update firmware by embedding information for each IoT device into the source code.

- > OTA
 - Execute OTA.
- Firmware Log

You can view the operation log of the target board.

| In the second s | | | | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------|-------------------|-------------|------------|--------------------|--|--|
| All loT devices | loT Device | Initial Firmwar | e Update Firmware | OTA Firm | nware Log | | | |
| 🕂 👻 🗶 👻 | (1) Select IoT devices for which want to create initial firmware | | | | | | | |
| aws_demos_2 | 🔀 Ado | d all loT D | evice Name | Private Key | Public Key | Device Certificate | | |
| aws_demos_1 | | av av | vs_demos_0 | 0 | 0 | I | | |
| aws_demos_0 | 🕞 🔁 🕹 | d | | | | | | |
| | Odd Del | ete | | | | | | |
| | 📢 Dele | ata all | | | | | | |
| | W Den | ete all | | | | | | |
| | 🎄 Deb | ug | | | | | | |
| | | - | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | (2) Specify version of firmware | | | | | | | |
| | | | | | | | | |
| | (3) Create initial firmware | | | | | | | |
| | | | | | | | | |
| | Create ini | tial firmware | | | | | | |
| | Create fir | mware is compl | ete. | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

2. Operating Environment

- > Windows 8.1, Windows 10, Windows 11 (all are 64-bit version)
- Renesas e² studio 2022-04 (or later)
 Note: If your e² studio is earlier than 2022-04, update it to 2022-04 or later.
- Renesas Flash Programmer V3.09 (or later)
- OpenSSL: Win64 OpenSSL v3.0.4 Light (or later)
- > Device: RX Family RX65N group
- > Board: RX65N-2MB-Starter-Kit-Plus, RX65N-Cloud-Kit

An AWS account is required to use QE for OTA (technical preview version).



3. Obtaining the Product

Download the product from the URL below.

https://www.renesas.com/qe-ota

For how to use the product, refer to the e^2 studio [Help] menu.



Revision History

| | | Description | | |
|------|-----------|-------------|----------------------|--|
| Rev. | Date | Page | Summary | |
| 1.00 | Aug.01.22 | - | First edition issued | |
| | | | | |

Renesas Electronics has used reasonable care in preparing the information included in this document, but Renesas Electronics does not warrant that such information is error free. Renesas Electronics assumes no liability whatsoever for any damages incurred by you resulting from errors in or omissions from the information included herein.

The past news contents have been based on information at the time of publication. Now changed or invalid information may be included.

The URLs in the Tool News also may be subject to change or become invalid without prior notice.

Corporate Headquarters

TOYOSU FORESIA, 3-2-24 Toyosu, Koto-ku, Tokyo 135-0061, Japan www.renesas.com

Trademarks

Renesas and the Renesas logo are trademarks of Renesas Electronics Corporation. All trademarks and registered trademarks are the property of their respective owners.

Contact Information

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

> © 2022 Renesas Electronics Corporation. All rights reserved. TS Colophon 4.3

