# Using Renesas RA Smart Configurator with Keil MDK

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## Abstract

The Renesas RA Smart Configurator (RASC) is a desktop application that allows you to configure the software system (BSP, drivers, RTOS and middleware) for an Armv8-M based Renesas RA microcontroller when using a third-party IDE and toolchain.

This application note shows how to use RA Smart Configurator tool together with Arm Keil MDK. It explains the basic project set up and how to change the configuration during project development time.

## Contents



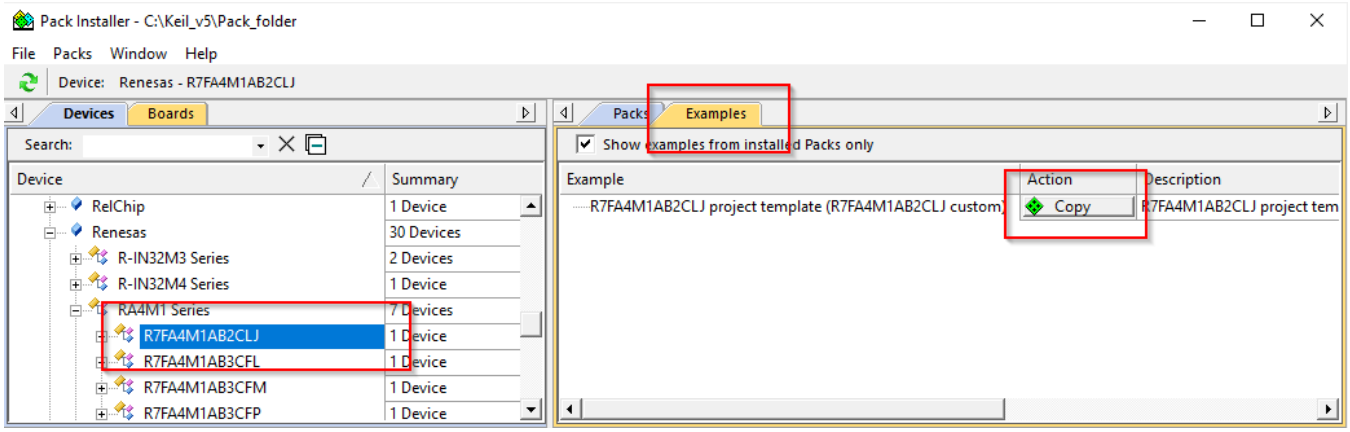
## Prerequisites

For successful operation, you need the following:

- MDK v5.30 or later.
- The latest RA device family pack installed.
- For flashing and debugging, Segger J-Link DLL (v6.54 or higher) installed into Keil MDK.
- Renesas RA Smart Configurator (on GitHub)

## Step 1: Copy a project template

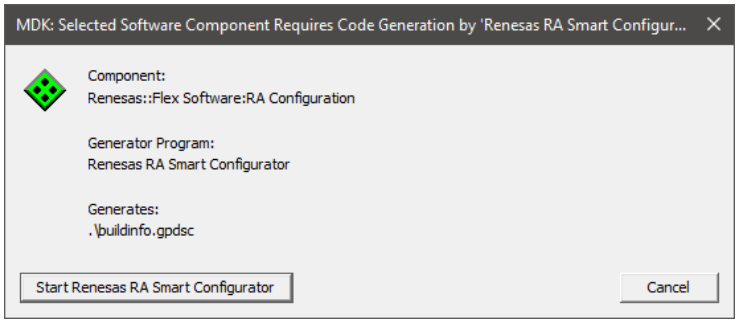
1. Open Pack Installer.
2. In the Devices tab, select the target Renesas RA device.
3. In the Examples tab, select **Copy** for the project template for the target device:




4. Select a destination folder and click **OK**.

## Step 2: Start configuring the project

After the project has been created, µVision will ask to open RASC:




1. Click on **Start Renesas RA Smart Configurator** to launch the tool.
2. Use RA Smart Configurator to set up and configure your device. Once finished, select **Generate Project Content**:

   Generate Project Content
3. Close the RA Smart Configurator.
4. In µVision, a dialog indicates that new generated code is available. Select **Yes** to import changes.
5. In the **Project** window, expand the **Flex Software** item. It contains all generated files, including a main.c file.
6. Continue working with the µVision project as usual.

## Optional Step 3: Modifying an existing RA configuration

If you want to revisit the project settings or change device configuration parameters, you can restart RA Smart Configurator easily from µVision:

1. Open the **Manage Run-Time Environment** window
2. Expand the **Flex Software** item.
3. Use the play button next to **RA Configuration** to restart RA Smart Configurator.
4. Modify the configuration, rerun the generation process, and reimport into µVision.