

Renesas Synergy[™] Platform

Installing IAR Compiler into e² studio

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1. Install IAR Embedded Workbench[®] for Renesas Synergy[™] (IAR EW for Synergy)

- 1. Go to the Development Tools page in the website: <u>https://www.renesas.com/en-us/products/synergy/software/tools.html</u>
- 2. Click the Explore IAR EW for Synergy link to open the IAR Embedded Workbench for Renesas Synergy page.
- 3. Scroll down to click the **Download** button to download the current public release of IAR Installer.
- 4. Accept the SSP Tool License agreement.
- 5. Click the Acquire License button and enter your email address if requested.
- 6. Double-click the downloaded file to install the IAR tool chain.
- 7. Continue the install using the **default option** provided until the installation is complete.

2. Install e² studio

- 1. Go to the Development Tools page in the website: https://www.renesas.com/en-us/products/synergy/software/tools.html
- 2. Click the **Explore e^2 studio** link to open the e^2 studio page.
- 3. Scroll down to click the **Download** link to download e² studio.
- 4. Double click the downloaded file (e² studio) to launch the Platform installer.

Note: Select the **default option** whenever possible.

2.1 Install IAR plugins in e² studio

- 1. **Launch e² studio** once the installation is complete.
- 2. Go to the Help menu and select IAR Embedded Workbench plugin manager.
- Note: This step requires e² studio to access an external server to download the necessary IAR plugins. You may need to configure HTTP and HTTPS proxy settings under **Window** | **Preferences** | **General** | **Network Connection**.
- 3. e^2 studio displays a list of available plugins that could be installed.
 - A. The left pane displays the major versions of IAR Arm[®] compiler.
 - B. The right pane displays the version of the selected IAR Embedded Workbench installation.



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4. Select the appropriate version of the Synergy plugin and click Install.

e² IAR Embedded Workbench plugin manager

Supported targets			Available IAR Er	mbedded Workbench installa	ations
Target	Installed plugin	^	Version	Status	IAR Embedded Workbench Installation path
ARM (8.x)	8.0.0.201712211314		8.21.1	Plugin installed	C:\Program Files (x86)\IAR Systems\Embedded V
ARM (7.20.x to 7.80.x)	8.0.0.201712211314		8.21.1	Plugin installed	C:\Program Files (x86)\IAR Systems\Embedded
R32C (>= 1.30)	not installed		8.21.1	Plugin installed	C:\Program Files (x86)\IAR Systems\Embedded W
RH850 (>= 1.10)	not installed		8.21.1	Plugin installed	C:\Program Files (x86)\IAR Systems\Embedded W
RL78 (>= 2.10)	not installed		8.21.1	Plugin installed	C:\Program Files (x86)\IAR Systems\Embedded W
RL78 (1.x)	not installed			,	
RX (>= 2.20)	not installed				
STM8 (>= 2.10)	not installed				
Synergy (7.x)	not installed				
Synergy (8.x)	1.0.0.201712211314				
V850 (>= 3.71, < 4.x)	not installed				
V850 (4.x)	not installed				
		¥	<		2

5. Select all the plugins displayed. Click Next to continue the install and accept the terms of the license agreement.

e ² Install			-		
Install Check the items that you wish to install.					
Name IAR C-SPY Debug Support for ARM (8.x) BETA IAR Common Components IAR Common Debugger Components IAR Toolchain for ARM (8.x) BETA IAR Toolchain for ARM (8.x) BETA IAR toolchain integration for Renesas Synergy (EWSYN 8.x	Version 8.0.0.201712211314 2.1.0.201712211314 1.0.0.201712211314 8.0.0.201712211314 1.0.0.201712211314	ld com.iar.cdt.arm.debugger.feature.featur com.iar.common.feature.feature.group com.iar.common.debugger.feature.featu com.iar.cdt.arm.sdk.feature.feature.group com.iar.cdt.synergy.toolchain.arm8x.feat			
<u>Select All</u> Details				(
•	[< <u>B</u> ack <u>N</u> ext > <u>F</u> inish		Cancel	

6. Click **OK** when the Security Warning dialog shows.



7. Allow the installation of the plugins to complete, this may take some time.

e ² Softw	vare Updates	×
?	You will need to restart e2 studio for the changes to take effect. Would you like to restart now?	
	<u>Y</u> es <u>N</u> o	

Allow e² studio to restart. Creating a new Synergy project will now show the options of the new toolchain.

Project	Toolchains
Project name Test	GCC ARM Embedded
Use default location	IAR Toolchain for ARM - (8.x)
Location: C:\Users\@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@	Lat roothum for Address (regacy,
License	
License file:	Change license file
C:\Renesas\e2_studio\internal\projectgen\arm\Licenses\SSP_License_Example	e_EvalLicense_20160205.xml
License Details:	
CUSTOMER INFORMATION: Company: Renesas Electronics America Inc. UserName: Renesas Synergy Evaluation User Email: noreply@renesas.com LICENSE INFORMATION: Issued: 06/02/2016	^ ►
Visit the Apps Gallery for license file and Pack file downloads	



8. In e² studio, go to the menu Window > Preferences > IAR Embedded Workbench Setup and browse to the IAR EW for Synergy installation folder, if needed.

e ² Preferences		
type filter text	IAR Embedded Workbench Setup	• => •
> General	Installed IAR Toolchains	
> C/C++	IAR Toolchain for ARM - (8.x) (iar.sdkprovider.arm.v8)	~
> Doxygen	Path to the IAR Embedded Workbench IDE installation directory	
> Help	CARseners Eller (200) IAR Sustantial Embedded Medderset 8 100 EMSVN 2	Pressor
> IAR Embedded Workbench Setup	C:\Program Files (x80)\IAK Systems\Embedded Workbench 8.100 EWSYIN_3	Browse
> Install/Update		
> Java		
> Library Hover		
> LinkerScript		
> MCU		
> Oomph		
> Plug-in Development		
> Remote Development		
Renesas QE		
> Run/Debug		
> Scripting		
> leam		
Terminal		
> Tracing		
	Restore <u>D</u> efaults	Apply
(?) (ОК	Cancel
<u> </u>		

The IAR toolchain will now be available in the new Synergy Project dialog.

3. Migration of GCC project to IAR

Automatic migration of an existing GCC project to IAR is not supported. However, it is possible for you to manually port a project using the steps below.

- Note: You can follow this approach at their own risk. Compiler settings, user setting, linker script changes, and so on that were made in the GCC project will not be carried across to the new project. It is your responsibility to make the necessary changes and perform suitable testing to ensure the project functionality.
- 1. **Open** the existing GCC project in e² studio and then open the configurator by **double clicking** on the **configuration.xml** file.
- 2. If the SSP pack of the selected project is missing (see the following example), install the <u>Synergy Software</u> <u>Package</u> version needed.

e ² e2 st	udio	×
\bigcirc	Warning: Pack missing for project's current selected SSP version of 1.3.3.	
•	Project: Thermostat_SK_S7G2_SSP_V1_20	
	If you remain with this SSP version you will not be able to add further SSP components or re-extract SSP source files.	
	Would you like to switch to latest available SSP version? (1.4.0-11102.6d177e)	
	Note: changing SSP version may result in any locally modified files from Packs in your project to be overwritten at building or re-generating project files.	
Ren	nember my decision	
	Yes <u>N</u> o Cancel	

Note: You will need to sign in to MyRenesas to see All Versions of the SSP near the bottom of the page.

3. Create a new project selecting the IAR compiler and the same device as the GCC project.

Project		Toolchains
Project na	me PPv2_PKS5D9_IAR	GCC ARM Embedded
		IAR Toolchain for ARM - (8.x)
Location:	C:\Users\aravinda.godavarthy\e2_studio\works	IAR Toolchain for ARM - (lega
icense license fil	Choose file system: default	Change license fil
icense License fil C:\Renes License Di	Choose file system: default e e: as\e2_studio\internal\projectgen\arm\Licenses\SSP_License_Exa	<u>Change license fil</u> ample_EvalLicense_20160205.xml
icense License fil C:\Renes License Do CUSTOM Compan UserNam Email: no LICENSE Issued: 0	e: as\e2_studio\internal\projectgen\arm\Licenses\SSP_License_Exa etails: ER INFORMATION: y: Renesas Electronics America Inc. ie: Renesas Synergy Evaluation User ireply@renesas.com INFORMATION: 5/02/2016	Change license fil ample_EvalLicense_20160205.xml

- 4. Where possible be sure to select the same SSP version as the original GCC project.
- Note: If this is not possible, you will be asked to update the project (as above) when the configuration file is opened in following steps.
- 5. Delete the src folder from the new IAR project.
- 6. Select the src folder in the GCC project and copy it (right click and select copy from the options or use CTRL+C).
- 7. Select the new **IAR project** and paste the src folder to the new project (right click and select paste from the options or use CTRL+V).
- 8. Copy the configuration.xml file from the GCC project and paste it into the new IAR project.
- 9. Click **Yes To All** if a message dialog pops up.

e ² Reso	ource Exists	×
\bigcirc	Resource exists. Do you wish to overwrite?	
•	Overwrite:	
	C:\Users\\e2_studio\workspace\PPv2_PKS50	09_IAR\configuration
	Last modified: January 23, 2018 at 9:50:36 AM	
	with:	
	C:\Users\\e2_studio\workspace\PPv2_PKS5	09\configuration.xml
	Last modified: January 11, 2018 at 3:53:44 PM	
	Yes Yes To <u>A</u> ll <u>N</u> o	Cancel



- 10. Copy *.pincfg from the GCC project to the IAR project.
- 11. Open the **configuration.xml** file.

If the SSP pack of the selected project is missing (see the following example), install the needed <u>Synergy Software</u> <u>Package</u> version or update the project as needed.

e ² e2 st	tudio	×
\bigcirc	Warning: Pack missing for project's current selected SSP version of 1.3.3.	
•	Project: Thermostat_SK_S7G2_SSP_V1_20	
	If you remain with this SSP version you will not be able to add further SSP components or re-extract SSP source files.	
	Would you like to switch to latest available SSP version? (1.4.0-11102.6d177e)	
	Note: changing SSP version may result in any locally modified files from Packs in your project to be overwritten at building or re-generating project files.	
Ren	nember my decision	
	Yes <u>N</u> o Cancel	
	Designation	_

Note: You will need to sign in to MyRenesas to see All Versions of the SSP near the bottom of the page.

12.	Click the G	enerate Projec	t Content to add th	he IAR com	patible SSP	files to the	project.
		· · · · · · · · · · · · · · · · · · ·					

Synergy Configuration - PPv2_PKS5D9_IAR	configuration.xn	nl - e2 studio				- C	x נ
Eine Forr Manifere seller Loler veh	øitews <u>K</u> un Øiten t	○ • ♀ • <i>※</i> •	월 - 월 - 야 수 · Quic	k Access	å C/C++ 🔞 Sy	nergy Con	ifiguration
🏠 Project Explorer 🕱 📄 🍇 🔻 🗖 🗖	(PPv2_PH	(S5D9] Synergy Con	(PPv2_PKS5D9_IA	R] Synergy 🔀 💽 I	nal_entry.c	- 0	- 0
✓ ²⁶ PPv2_PKS5D9 > ³⁰ Includes > ⁶⁰ src	Summa	Ŋ		G	enerate Project Co	ontent	€ €
 > > src > > configuration.xml > configuration.xml > PPv2_PKS5D9 Debug.jlink > PPv2_PKS5D9 Debug.launch > PPv2_PKS5D9_RUN.pincfg > PPv2_PKS5D9_RSV.pincfg > PPv2_PKS5D9.ewd > PPv2_PKS5D9.ewp 	< s5 s	Series			\$	D V	
	Projec Board:	t Summary S5D9 PK				<	
 PPv2_PKS5D9.eww R7FS5D97E3A01CFC.pincfg S5D9-PK.pincfg synergy_cfg.txt 	You Tube	Renesas Synergy Gallery					v
V PPV2_PRSSD9_IAR	Summary E	ISP Clocks Pins Threa	ds Messaging ICU Cor	nponents			< >
Properties 🛐 Problems 🔀		🎦 Pin Conflicts 📮	Console 🛛 🛛 🤴 😚	🔁 🗠 🖛 🚮	= 🔍 🛃	- 🖻	
0 errors, 19 warnings, 0 others		CDT Build Console [PP	2_PKS5D9_IAR]				
Description		into: Parallel	threads used: 4				
				<u>C</u>			

13. Manually update any compiler and linker settings as needed.

14. Build the project that will now use the IAR compiler.

Note: Default compiler and linker settings will be used and may need to be modified to suit the target application.

15. Test the built project.



4. Migration of existing project with old version of IAR toolchain to a new major version of IAR toolchain

Projects created with an old version of the IAR toolchain might not always migrate correctly to a major, new version of IAR toolchain when opened in e² studio, causing the build to fail. Follow the steps from section 3, **Migration of GCC project to IAR**, to open an existing project with old version of IAR toolchain.

To summarize:

- 1. Create a new project using the new major version of IAR (for example, IAR V8.x) with same SSP version used by the existing project with old version of IAR toolchain (for example, IAR 7.x).
- 2. Copy the src folder, configuration.xml, and *.pincfg from the existing project to the new project.
- 3. Open configuration.xml file from the new project and generate project content.
- 4. Build and test the new project.



Website and Support

Support:

t: <u>https://synergygallery.renesas.com/support</u>

Technical Contact Details:

- America: <u>https://www.renesas.com/en-us/support/contact.html</u>
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Revision History

		Description		
Rev.	Date	Page	Summary	
1.00	Feb 14, 2018		Initial version	
1.01	Mar 12, 2018		Workaround for the issue of migrating the IAR7.x project to IAR8.x	
1.02	Apr 18, 2018		Fixed graphic layouts, links, and made minor corrections.	
1.03	May 14, 2018	1, 5	Minor update of the hyperlink in section 2 and screen shot of	
			Resource Exists.	

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