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NM180100 Software Development Toolchain Setup

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# 2. Toolchain Installation Steps

To develop software for the NM180100, you will need to install and setup a toolchain that can build, program, and debug code for the Ambiq Micro Apollo 3 processor in the NM180100. This guide will help you setup the development environment on your system.

#### 2.1. Linux

This section assumes that you are running Ubuntu or similar Debian environment.

#### 2.1.1. Pre-requisite

Check if the default development tools are installed. If not, issue the following commands in a terminal:

sudo apt-get update

sudo apt-get upgrade

sudo apt install build-essential make openocd gdb-multiarch

sudo apt install python3

#### 2.1.2. Java Development Kit

This is optional and is only required if you plan on developing with Eclipse.

sudo apt install default-jdk

#### 2.1.3. SEGGER J-Link Installation

- Visit https://www.segger.com
- Select J-Link / J-Trace under Downloads ٠



• Scroll to J-Link Software and Documentation and expand the section by clicking on the + sign.

SEGGER - The Embedded Expert: x +	-		×
← → Č û A https://www.segger.com/downloads/jlink/#J-LinkSoftwareAndDocumentationPack ☆ 7	1	$\sqrt{-1}$	
@ Contact Us 🗣 Forum W Wiki 🃜 Web Shop 💟 News	sletter	<b>ភ</b> RSS	5
Products - Downloads - Purchase - Support - About Us - 25+Years Q & Corona	Jobs	<b>∆</b> Blog	В
Documentation		+	
			1
J-Link Software and Documentation Pack		Ð	ľ
All-in-one debugging solution			
Can be downloaded and used free of charge by any owner of a SEGGER J-Link, J-Trace or Flasher model Not all features of it may be available on all J-Link / J-Trace / Flasher models.			
Updated frequently			
Release Notes			
More information			
🕹 <u>Click for downloads</u>			
J-Link Software and Documentation Pack [Beta version]		+	
All-in-one debugging solution			
Can be downloaded and used free of charge by any owner of a SEGGER J-Link, J-Trace or Flasher model			-



• Download the appropriate file for your OS. If you are running Ubuntu 64-bit for example, download the Linux, DEB installer, 64-bit.

SEGGER - The Embedded Expert: x +				-		×
← → O û A https://www.segger.com/downloads/jlink/#J-Link	© Contact Us	nentationPack	i 📜 Web Shop 💌	☆ ∕ <b>≏ ⊡</b> Newsletter	√=1 <b>ふ</b> RSS	••
Products + Downloads + Purchase	← Support <del>~</del>	About Us -	rs 🔍 🏶 Coron	a 🛢 Jobs	<b>⊥</b> Blog	l
■ J-Link Software and Documentation pack for macOS	V6.80b 🗸	[2020-06-05]	34,311 KB	🕹 DOWNL	.OAD	ł
▣ J-Link Software and Documentation pack for Linux, DEB installer, 32-bit	V6.80b ¥	[2020-06-05]	32,637 KB	🕹 DOWNL	.OAD	
▣ J-Link Software and Documentation pack for Linux, DEB installer, 64-bit	V6.80b 🗸	[2020-06-05]	43,171 KB	🕹 DOWNL	.OAD	
▣ J-Link Software and Documentation pack for Linux, RPM installer, 32-bit	V6.80b 🗸	[2020-06-05]	32,650 KB	🕹 DOWNL	.OAD	
▣ J-Link Software and Documentation pack for Linux, RPM installer, 64-bit	V6.80b 🗸	[2020-06-05]	38,365 KB	🕹 DOWNL	.OAD	
■ J-Link Software and Documentation pack for Linux, TGZ archive, 32-bit	V6.80b 🗸	[2020-06-05]	32,702 KB	🕹 DOWNL	.OAD	
■ J-Link Software and Documentation pack for Linux, TGZ archive, 64-bit	V6.80b 🗸	[2020-06-05]	43,247 KB	🕹 DOWNL	.OAD	
J-Link Software and Documentation pack for Linux     ARM systems	V6.80b 🗸	[2020-06-05]	22,189 KB	L DOWNL	.OAD	Ţ

• In a terminal, navigate to the directory where you have downloaded the installer and type the following sudo apt install *installer\_file\_name.deb* 

In Ubuntu, this will install JLink under /opt/SEGGER/JLink. You can optionally add this directory to your search path so that J-Link is accessible anywhere.



#### 2.1.4. GNU ARM Embedded Toolchain Installation

- Visit <u>https://developer.arm.com/open-source/gnu-toolchain/gnu-rm/downloads</u>
- Download the corresponding file for your OS.

GNU Toolchain   GNU Arm Emb∈ x +	ζ≡	- M	□ √-1	×
CITM Developer IP PRODUCTS TOOLS AND SOFTWARE ARCHITECTURES SOLUTIONS COMMUNITY SUPPORT DOCUMENTATION DOWNLOADS	 Q		•	•
Overview GNU-A ▼ GNU-RM ▼ Architecture Support Specifications				
What's new in 9-2020-q2-update				
In this release				ł
1 gcc-arm-none-eabi-9-2020-q2-update-win32.exe				
Windows 32-bit Installer (Signed for Windows				
10 and later) (Formerly SHA2 signed binary)				
MDD: 6202D38503155004310914806006D044				Fee
				dback
2 gcc-arm-none-eabi-9-2020-q2-update-win32.zip				
Windows 32-bit ZIP package				
MD5: 184b3397414485TZ24e7ba950989aab6				
3 gcc-arm-none-eabi-9-2020-q2-update-x86_64-				
Linux x96 64 Tarball				
MD5: 2b9eeccc33470f9d3cda26983b9d2dc6				
4 gcc-arm-none-eabi-9-2020-α2-update-aarch64-				
linux.tar.bz2				
Linux AArch64 Tarball				Ŧ

• In a terminal, extract the file to a location of your choice. For example, if the file is downloaded to your Downloads directory under your home folder and you want to install the toolchain in /opt, then type the following:

cd /opt

sudo bunzip2 ~/Downloads/gcc-arm-none-eabi-9-2020-q2-update-x86\_64linux.tar.bz2



#### 2.1.5. Eclipse Installation

• To install Eclipse, open a terminal and type the following

```
sudo snap install eclipse --classic
```

• If you already have Eclipse installed and need to update to the latest version, type the following. Otherwise skip to the next step.

sudo snap refresh eclipse

• Once Eclipse is installed, start the program. If this is the first time you are running Eclipse, it will ask you for a location for the workspace. Mark the checkbox and select "Launch"



• We will now install the C/C++ Development Tools necessary for firmware development. With Eclipse opened, click "Help" in the menu bar and then select "Install New Software..."



• This will open a new window. Click the "Work with" drop down box and select "-All Available Sites-"



• Once the loading is complete, scroll to the line called "Programming Languages" and expand the item.



- Mark the checkbox for "C/C++ Development Tools"
- Click Next to proceed and follow the on-screen instructions to complete.
- Once the installation is completed, Eclipse will prompt for a restart. Click "Restart Now" to continue.
- We will now install the GNU MCU Eclipse plugin for cross platform embedded ARM development. With Eclipse open, click "Help" in the menu bar and then select "Eclipse Marketplace..." A new window will open.

• In the Find text box, type "GNU MCU Eclipse" without the quotes and press ENTER.



• When the search results are loaded, find the entry "GNU MCU Eclipse" and click on the "Install" button



• Accept the default selection and click "Confirm"



- Follow the on-screen instructions to complete. A security warning may pop-up indicating that the plugin contains unsigned content. Select "Install anyway" to complete the installation.
- Once the plugin is completed, Eclipse will prompt you to restart. Click "Restart now" to complete the eclipse development environment and toolchain installation.



#### 2.2. Windows

#### 2.2.1. Pre-requisite

There are four commands required from GnuWin32: cp, mkdir, rmdir, and make. They can be obtained from the packages CoreUtils and Make. There are other alternatives including but not limited to Cygwin, MinGW, or Windows Subsystem for Linux.

- Visit <u>http://gnuwin32.sourceforge.net/packages.html</u>
- Click on the package CoreUtils

GnuWin32 Packa	ges X					×
$\leftarrow \rightarrow $ D	▲ Not secu	re   gnuwin32.sourceforge.net/packages.html		<b>V</b>		
Package	Varsion	Description	Satur			-
ACRAGE	4 14	formet files for printing on a Postcorint printer	Setup			
ALES	4.14	arasta & antrast files from an files	Setup			
Ani	3.21J	create & extract mes nom arc mes	Setup			
<u>Arj</u> Assii Chart	3.10.22	archiver for .arj files	Setup			
Ascii_Chart	0.9	librar and utilities for entended attributes (NIT (2000 / ND)	Setup			
AutoConf	2.4.14	indrary and unifies for extended autibules (N1 / 2000 / XP)	Setup			
AutoCom	2.05	creating automatic configuration scripts	Setup			
AutoMake	1.9.4	AWW to C templeteneral library	Setup			
<u>Awka</u>	0.7.5	AWK to C translator and infrary	Setup			
Barcode	0.98	barcode library and utility	Setup			
BC	1.06	aronrary precision calculator and language	Setup			
Bison	2.4.1	Yacc-compatible parser generator	setup			
Bm2Font	2.0	convert a bitmap to a TeX font	<b>C</b> .			
Bmp2Png	1.54	convert between bitmap images and PNG images	Setup			
Bsd1ar	2.4.12	manipulate archives (.tar, .gz, .z, .bz2, .zip)	Setup			
Btyacc	3.0	a version of Byacc with backtracking	Setup			
Byacc	1.9	Berkeley Yacc: LALR(1) parser generator	Setup			
Bzip2	1.0.5	file compressor	Setup			
Calc	2.11.10.1	arbitrary precision calculator	Setup			
Chsuf	0.9	changes the suffix of files	Setup			
Comprace	1.5.2	compress and expand 48x48x1 face image files	<u>Setup</u>			
CoreUtils	5.3.0	GNU file, shell and text utilities	<u>Setup</u>			
Cpic	2.6	copy files to and from archives	<u>Setup</u>			
<u>Cproto</u>	4.7c	generate C function prototypes and convert function definitions	<u>Setup</u>			
Cpuid	3.3	CPU identification utility	<u>Setup</u>			
<u>Crafty</u>	22.1	chess program: new package	<u>Setup</u>			
<u>Crypt</u>	2.2.5	cryptographic functions from the GNU C library				
<u>CygUtils</u>	1.3.2	miscellaneous utilities	<u>Setup</u>			
<u>DeHtml</u>	1.5	remove html constructs from documents	<u>Files</u>			
<u>DeRoff</u>	2.0	remove roff, tbl, eqn, refer and pic constructs from documents	<u>Setup</u>			
Diction	1.11	print wordy and commonly misused phrases in sentences	Setup			
<b>DiffUtils</b>	2.8.7	show differences between files	Setup			
DmiDecode	2.10	DMI-table and BIOS decoder	Setup			*



• Download the setup package. If you choose manual installation, make sure that you download both the binaries and the dependencies.

📆 CoreUtils for Windows 🗙 🕂									
<ul> <li>↔ → ○ ▲ Not secure   grow</li> <li>uname - rrint system momante</li> <li>users - Print current user names.</li> <li>who - Print a list of all users cur</li> <li>whoami - Print effective user id.</li> <li>yes - Print a string repeatedly.</li> </ul>	vin32.sourceforge.net/packa  rently logged in.	iges/coreutils.htm		\$	♥	佳	(H)	9	•••
Homepage									
http://www.gnu.org/software/coreutils									
Download									
If you download the <u>Setup program</u> of under Requirements, are already inclu (header files and libraries) from other	the package, any require ded. If you download the packages are however no	ements for runnin e package as Zip ot included; so if	ng applications, such as dynamic link libraries (DLL's) from the files, then you must download and install the <u>dependencies zip</u> you wish to develop your own applications, you must separate	e depeno <u>file</u> you ly instal	denci urself ll the	es as l Deve requir	isted b loper f ed pac	elow files kages	ŝ.
Description	Download Size	Last change	Md5sum						
• Complete package, except sources	Setup 6439882	21 April 2005	5a3e9d30b906dadf54de0635522fd62c						
Sources	<u>Setup</u> 3527755	21 April 2005	64b8f7c03895de29c6ee669c9092fe1b						
• Binaries	Zip 5176996	21 April 2005	aa7ce7f1f2befb930fb156bddea41bc4						
Dependencies	<u>Zip</u> 706641	21 April 2005	6cf05855b6902dffa2cf4ba8b90e82e6						
Documentation	Zip 4540924	21 April 2005	ee0b456daf011d6e348cc64adafe968a						
Sources	<u>Zip</u> 9371720	21 April 2005	5cbd86c56e6eb29b6af2810849d08c8c						
You can also download the files from	the GnuWin32 <u>files page</u>								
You can <u>monitor</u> new releases of the p	ort of this package.								
Installation and Usage									
The MS-Windows version of ln imple Windows-95 / 98 / ME, and as hard lin	ments soft links as MS-V 1ls on MS-Windows-NT	Vindows shortcu / 2000 / XP.	ts. If necessary, it adds the extension .lnk Hard links are implen	nented a	is cop	oies or	ı MS-		

General Installation Instructions



#### • Repeat the above two steps for Make

GnuWin32 Packag	es X	+			-		×
$\leftarrow \rightarrow \circ$	▲ Not secur	e   gnuwin32.sourceforge.net/packages.html		<b>V</b>		<b>(</b> =1)	
LibIntl	0.14.4	library for native language support	Setup				*
LibOpennet	0.9.1	URL handling library	Setup				
<u>LibJpeg</u>	6b	library and tools for JPEG images	Setup				
LibPaper	1.1.21	library for handling paper size and type	Setup				
<u>LibPng</u>	1.2.37	library and tools for PNG images	Setup				
LibRle	3.1b1	library and tools for Utah Raster Toolkit (URT) images	Setup				
<u>LibTiff</u>	3.8.2	library and tools for TIFF images	Setup				
<u>LibTool</u>	1.5.26	generic library support script	Setup				
LibURT	3.1b1	library and tools for Utah Raster Toolkit (URT) images	Setup				
LibUTF8	0.8	Unicode/UTF-8 locale plugin	Setup				
LibUnGif	4.1.4	library and tools for uncompressed GIF images	Setup				
<u>LibWmf</u>	0.2.8.3	library and tools for Windows Metafile images	Setup				
<u>LibXmi</u>	1.2	2D rasterization library	Setup				
LibXml	2.6.28	parser library for XML	<b>Files</b>				
M	1.4.14	macro processor	Setup				
Make	3.81	GNU make utility to maintain groups of programs	Setup				
Mawl	1.3.3	pattern scanning and text processing language	Setup				
MiniSed	1.12	stream editor (small version of sed): new package	Setup				
<b>MiscFiles</b>	1.4.2	collection of various files	Setup				
<u>MkTemp</u>	1.6	return temporary-file name	Setup				
MsCompress	0.3	Microsoft "compress.exe/expand.exe" compatible (de)compressor	Setup				
Nawk	2007.10.23	pattern scanning and text processing language	Setup				
Nenscript	1.13.3	format an ASCII file and convert to PostScript	Setup				
<u>NetPbm</u>	10.27	tools for converting and manipulating images	Setup				
<u>NtfsProgs</u>	1.9.0	utilities for the NTFS file system	Setup				
OpenSSL	0.9.8h	open implementation of Secure Socket Layer protocol					
<u>Palm</u>		convert Palm Pilot images					
Patch	2.5.9	apply a diff file to an original	Setup				
PbmAdd	1.1	additions to the PbmPlus (NetPbm) package	Setup				
<u>PcRe</u>	7.0	Perl compatible regular expression library	Setup				
PdCurses	2.6	terminal library	Setup				
PDFlib-Lite	6.0.2	library for writing PDF files	<u>Setup</u>				
PieChart	0.13	plot piecharts (extension to <u>PlotUtils</u> )	<u>Setup</u>				•

# Make for Windows x + → ○ ▲ Not secure | gnuwin32.sourceforge.net/packages/make.htm ☆ ♥ | ☆ ⊕ ☆ ○ → □ inites, in case one non-source file depends on another non-source file. As a result, if you change a few source files and then run Make, it does not need to recompile all of your program. It updates only those non-source files that depend directly or indirectly on the source files that you changed. Make is not limited to any particular language. For each non-source file in the program, the makefile specifies the shell commands to compute it. These shell commands

Make is not limited to any particular language. For each non-source file in the program, the makefile specifies the shell commands to compute it. These shell commands can run a compiler to produce an object file, the linker to produce an executable, ar to update a library, or TeX or Makeinfo to format documentation.
 Make is not limited to building a package. You can also use Make to control installing or deinstalling a package, generate tags tables for it, or anything else you want to

Make is not limited to building a package. You can also use Make to control installing or deinstalling a package, generate tags tables for it, or anything else you want to
do often enough to make it worth while writing down how to do it.

#### Homepage

http://www.gnu.org/software/make

#### Download

If you download the <u>Setup program</u> of the package, any requirements for running applications, such as dynamic link libraries (DLL's) from the dependencies as listed below under Requirements, are already included. If you download the package as Zip files, then you must download and install the <u>dependencies zip file</u> yourself. Developer files (header files and libraries) from other packages are however not included; so if you wish to develop your own applications, you must separately install the required packages.

Description	Download	Size	Last change	Md5sum
Complete package, except sources	<u>Setup</u>	3384653	25 November 2006	8ae51379d1f3eef8360df4e674f17d6d
Sources	Setup	1252948	25 November 2006	b896c02e3d581040ba1ad65024bbf2cd
• Binaries	<u>Zip</u>	495645	25 November 2006	3521948bc27a31d1ade0dcb23be16d49
Dependencies	<u>Zip</u>	708206	25 November 2006	d370415aa924fa023411c4099ef84563
Documentation	Zip	2470575	25 November 2006	43a07e449d4bab3eb3f31821640ecab7
Sources	Zip	2094753	25 November 2006	8bed4cf17c5206f8094f9c96779be663
You can also download the files from	the GnuWin32	2 <u>files page</u>	2.	
You can <u>monitor</u> new releases of the p	ort of this pac	kage.		
Installation, Usage and	Help			
General Installation Instructions				



#### 2.2.2. Python Installation

Python is needed to dynamically generate the board support package including the pin definition header and source files.

- Visit <u>https://www.python.org/downloads/</u>
- Download the latest version for Windows and follow the on-screen instructions.





#### 2.2.3. SEGGER J-Link Installation

Follow the steps in 2.1.3 and download the Windows version of J-Link at

https://www.segger.com/downloads/jlink/#J-LinkSoftwareAndDocumentationPack

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$\leftarrow \rightarrow$	C A https://www.segger.com/downloads/jlink/#J-LinkSoftwareA	ndDocumentationPack	:		🕸 🔍 🛓 🇯	🖻 🖅	
		@ Con	tact Us 🔍 Forum	W Wiki 🍞 We	eb Shop 🔽 Newslette	r <b>A</b> RS	s
	Products - Downloads - Purch	hase 🔻 Support 👻	About Us 👻	25 + Yo	ears Q 🚔 Jobs 🔺 I	Blog	
	<ul> <li>Opdated inequently</li> <li><u>Release Notes</u></li> <li><u>More information</u></li> </ul>						
	Lick for downloads	Version	Date	File size	*		
	<ul> <li>J-Link Software and Documentation pack for Windows</li> <li>Installing the software will automatically install the J-Link USB drivers and offers to update applications which use the J-Link DLL. Multiple versions of the J-Link software con be installed on the same PC without problems; they will co- exist in different directories</li> </ul>	V6.88c ~	[2020-12-04]	50,181 KB	Ł DOWNLOAD		
	▣ J-Link Software and Documentation pack for macOS	V6.88c ¥	[2020-12-04]	34,800 KB	L DOWNLOAD		
	□ J-Link Software and Documentation pack for Linux, DEB installer, 32-bit	V6.88c ¥	[2020-12-04]	33,088 KB	L DOWNLOAD		
	□ J-Link Software and Documentation pack for Linux, DEB installer, 64-bit	V6.88c 🗸	[2020-12-04]	43,995 KB	🛓 DOWNLOAD		
	□ J-Link Software and Documentation pack for	V6.88c ~	[2020-12-04]	33,109 KB	L DOWNLOAD		Ŧ



## 2.2.4. GNU ARM Embedded Toolchain Installation

#### Follow the steps in 2.1.4 and download the Windows version of GNU toolchain at

https://developer.arm.com/tools-and-software/open-source-software/developer-tools/gnu-toolchain/gnurm/downloads



#### 2.2.5. Executable Search Path

- Finally ensure that the paths to all the executables are added to your search path.
  - 1. Type "View Advanced System Settings" in the Windows search bar



All Apps Documents Web More	-	₽
Best match		
View advanced system settings Control panel		
Settings		View advanced system settings
View your PC name	>	Control panel
View reliability history	>	
View network computers and devices	>	□" Open
View network connections	>	
View RAM info	>	
$\bigcirc$ View your Update history	>	
View system resource usage in Task Manager	>	
Search work and web		
✓ View - See work and web results	>	
Apps (5)		
Documents - This PC (4+)		
Photos (1+)		
𝒫 View advanced system settings		o 🗄 🖌 💽 🛐 🚍 🔤 💀

## 2. Click on Environment Variables

System Properties	×
Computer Name Hardware Advanced System Protection	n Remote
You must be logged on as an Administrator to make most of Performance Visual effects, processor scheduling, memory usage, and	f these changes. virtual memory <u>S</u> ettings
User Profiles Desktop settings related to your sign-in	S <u>e</u> ttings
Startup and Recovery System startup, system failure, and debugging information	Settings ment Variables
OK	Apply



3. Select Path under System variables and click "Edit..."

lser variables for joshu		
Variable	Value	^
HOME	C:\Users\joshu	
OneDrive	C:\Users\joshu\OneDrive - northernmechatronics.com	
OneDriveCommercial	C:\Users\joshu\OneDrive - northernmechatronics.com	
OneDriveConsumer	C:\Users\joshu\OneDrive	
Path	C:\Users\joshu\AppData\Local\Microsoft\WindowsApps;	
TEMP	C:\Users\joshu\AppData\Local\Temp	
TMP	C:\Users\ioshu\AppData\Local\Temp	¥
ystem variables		
ystem variables Variable	Value	^
ystem variables Variable DriverData	Value C:\Windows\System32\Drivers\DriverData	^
ystem variables Variable DriverData NUMBER_OF_PROCESSORS	Value C:\Windows\System32\Drivers\DriverData 16	^
ystem variables Variable DriverData NUMBER_OF_PROCESSORS	Value C:\Windows\System32\Drivers\DriverData 16 Windows_NT	^
ystem variables Variable DriverData NUMBER_OF_PROCESSORS Path	Value C:\Windows\System32\Drivers\DriverData 16 Windows_NT C:\Python\Python39\Scripts\;C:\Python\Python39\;C:\Program File	^
ystem variables Variable DriverData NUMBER_OF_PROCESSORS Path NATHEXT	Value C:\Windows\System32\Drivers\DriverData 16 Windows_NT C:\Python\Python39\Scripts\;C:\Python\Python39\;C:\Program File .COM;.EXE;.BAT;.CMD;.VBS;.VBE;JS;.JSE;.WSF;.WSH;.MSC;.PY;.PYW	^
ystem variables Variable DriverData NUMBER_OF_PROCESSORS Path NATHEXT PROCESSOR_ARCHITECTURE	Value C:\Windows\System32\Drivers\DriverData 16 Windows_NT C:\Python\Python39\Scripts\;C:\Python\Python39\;C:\Program File .COM;.EXE;.BAT;.CMD;.VBS;.VBE;JS;JSE;.WSF;.WSH;.MSC;.PY;.PYW AMD64	
variables Variable DriverData NUMBER_OF_PROCESSORS Path NATHEXT PROCESSOR_ARCHITECTURE PROCESSOR IDENTIFIER	Value C:\Windows\System32\Drivers\DriverData 16 Windows_NT C:\Python\Python39\Scripts\;C:\Python\Python39\;C:\Program File .COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC;.PY;.PYW AMD64 Intel64 Family 6 Model 158 Stepping 12. GenuineIntel	. ~
ystem variables Variable DriverData NUMBER_OF_PROCESSORS Path NATHEXT PROCESSOR_ARCHITECTURE PROCESSOR_IDENTIFIER	Value C:\Windows\System32\Drivers\DriverData 16 Windows_NT C:\Python\Python39\Scripts\;C:\Python\Python39\;C:\Program File .COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC;.PY;.PYW AMD64 Intel64 Family 6 Model 158 Stepping 12. GenuineIntel New Edit Delete	

4. If not done already, add the paths where you have installed Python, GnuWin32, J-Link and Arm GNU Toolchain

Ed	it environment variable	×
1	C:\Python\Python39\Scripts\	New
U	C:\Python\Python39\ C:\Program Files (x86)\unix\bin	Edit
	C:\Program Files (x86)\vim	
	%SYSTEMROOT%\System32\OpenSSH\	Browse
	C:\Program Files\Common Files\Oracle\Java\javapath	
	%SystemRoot%\system32	Delete
	%SystemRoot%	
	%SystemRoot%\System32\Wbem	
	%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\	Move Up
	C:\Program Files\Git\cmd	
	C:\Cadence\SPB_17.4\tools\bin	Move Down
	C·\Program Files\PuTTY\	
(	C:\Program Files (x86)\SEGGER\JLink	E all'à à suit
	C:\Program Files (x86)\Arm\gcc-arm-none-eabi\bin	Edit text
	ОК	Cancel



# 3. Eclipse Configuration

## 3.1. C/C++ Environment Setup

Eclipse defaults to the Java language development environment. You can change this by opening the C/C++ perspective.

• With Eclipse opened, click on "Window", "Perspective", "Open Perspective", and finally "Other..."





• This opens a new Window. Select "C/C++" and click "Open"



• Close or minimize the "Welcome" tab and you will be presented with the C/C++ environment.





## 3.2. Eclipse GNU MCU Configuration

Finally, we will configure the GNU MCU plugin by specifying the location of the GNU ARM toolchain installation location.





- Find and expand the row containing "MCU"
- The items under "MCU" are prefixed by either "Global" and "Workspace". We will focus on the Global settings right now. These settings are the global default.
- There are two paths we need to configure:
  - Global ARM Toolchains Paths
  - o Global SEGGER J-Link Path



## 3.2.1. Global ARM Toolchains Paths Configuration

• With the Preference dialog window open, select "Global ARM Toolchains Paths" under MCU and click on "Browse"



• Browse to the location where the ARM toolchain was installed in 2.1.4. In our example, this is located under

/opt/gcc-arm-none-eabi-9-2020-q2-update/bin

• Click "Apply" to apply the changes.



#### 3.2.2. Global SEGGER J-Link Path Configuration

• With the Preference dialog window open, select "Global SEGGER J-Link Path" under MCU.



• The plugin should automatically detect the SEGGER J-Link installation. If not, enter the values into the Executable and Folder text boxes as shown in the screenshot.

Executable: JLinkGDBServerCLExe

Folder: /opt/SEGGER/JLink (or the path where you have installed SEGGER Jlink)

- Click "Apply and Close" to apply the changes.
- The Eclipse development environment is now completely configured.



# 4. Document Details

Parameter	Value
Name	NM180100 Software Development Toolchain Setup
Number	2000012
Revision	A.7
Life Cycle State	Released