

Tutorial 1 – ARC EM9D AIoT DK Environment Installation

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2023/02/06



Install VirtualBox



VirtualBox Installation

1. Download the installation file

https://www.virtualbox.org/wiki/Downloads?fbclid=IwAR12O6-1e_Dg00CFt4xuChqjJSuGKQwgVZDZa3MI-I2QojYsEq9ILe3bWLQ



The screenshot shows the VirtualBox website's download page. On the left is a sidebar with navigation links: About, Screenshots, Downloads, Documentation (with sub-links for End-user docs and Technical docs), Contribute, and Community. The main content area features the VirtualBox logo, a heading 'Download VirtualBox', and a paragraph stating that links to binaries and source code will be found here. Below this is a section for 'VirtualBox binaries' with a disclaimer about license terms. It provides links for the latest 6.0 and 5.2 packages. A sub-section for 'VirtualBox 6.1.18 platform packages' lists links for Windows hosts (highlighted with a red box), OS X hosts, Linux distributions, Solaris hosts, and Solaris 11 IPS hosts. At the bottom, it mentions that binaries are released under the GPL version 2.

VirtualBox
Download VirtualBox

Here you will find links to VirtualBox binaries and its source code.

VirtualBox binaries

By downloading, you agree to the terms and conditions of the respective license.

If you're looking for the latest VirtualBox 6.0 packages, see [VirtualBox 6.0 builds](#). Please also use version 6.0 if you need

If you're looking for the latest VirtualBox 5.2 packages, see [VirtualBox 5.2 builds](#). Please also use version 5.2 if you still

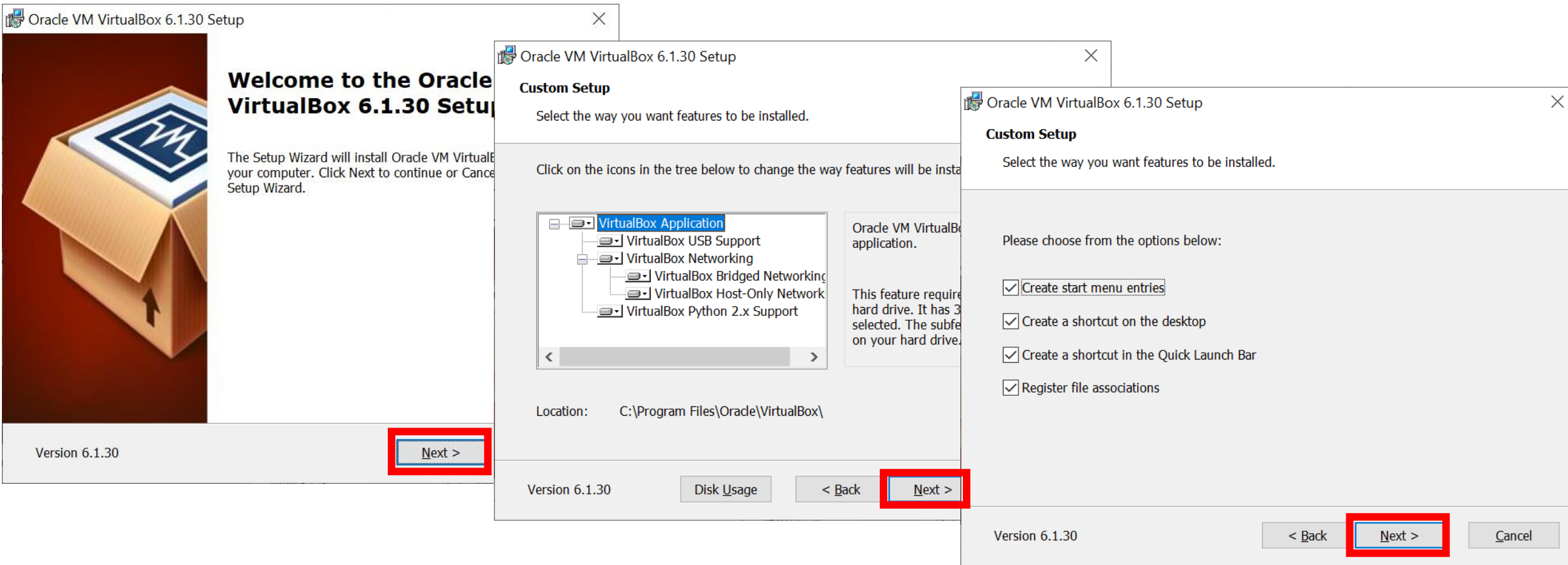
VirtualBox 6.1.18 platform packages

- [Windows hosts](#)
- [OS X hosts](#)
- [Linux distributions](#)
- [Solaris hosts](#)
- [Solaris 11 IPS hosts](#)

The binaries are released under the terms of the GPL version 2.

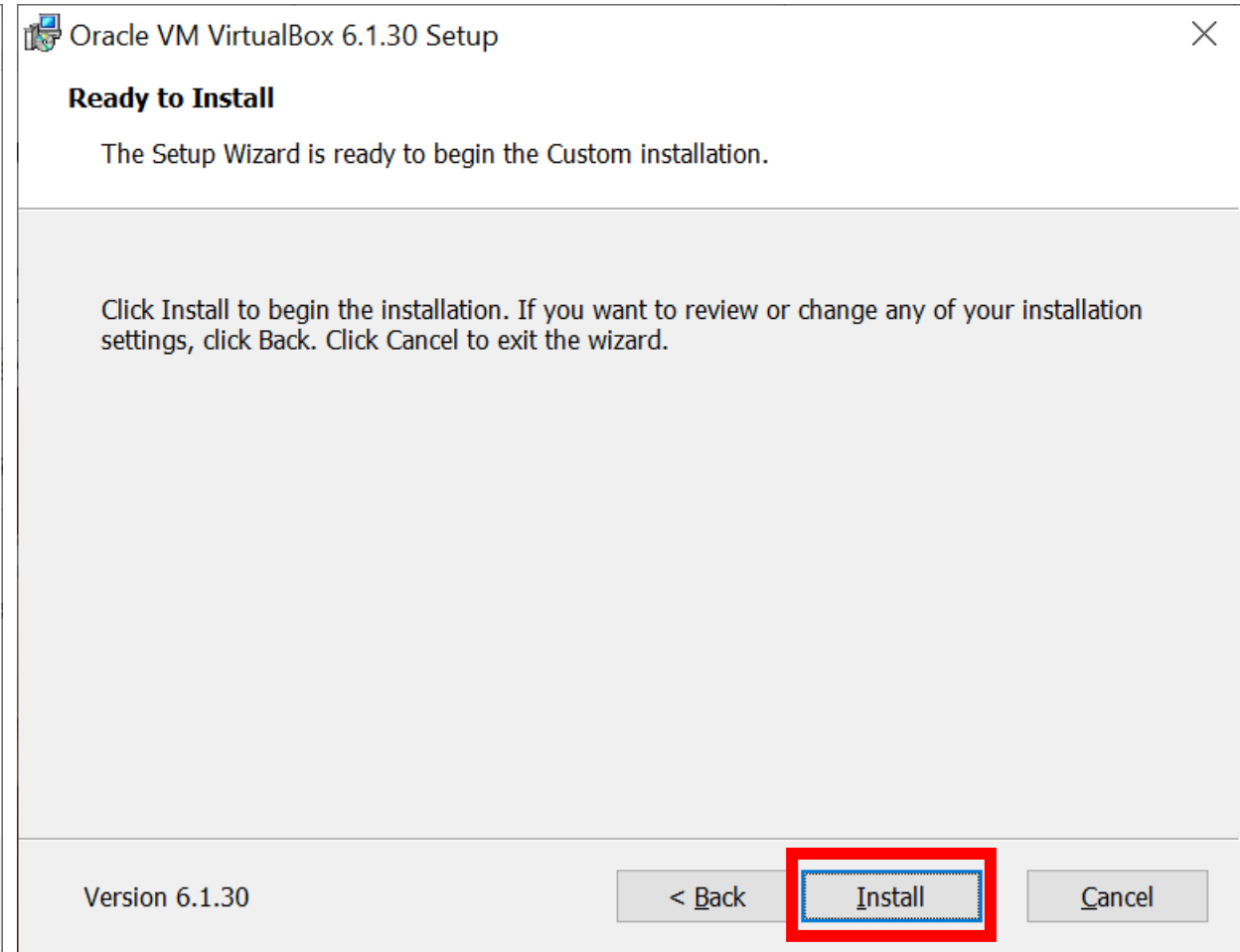
VirtualBox Installation

2. Click “Next”



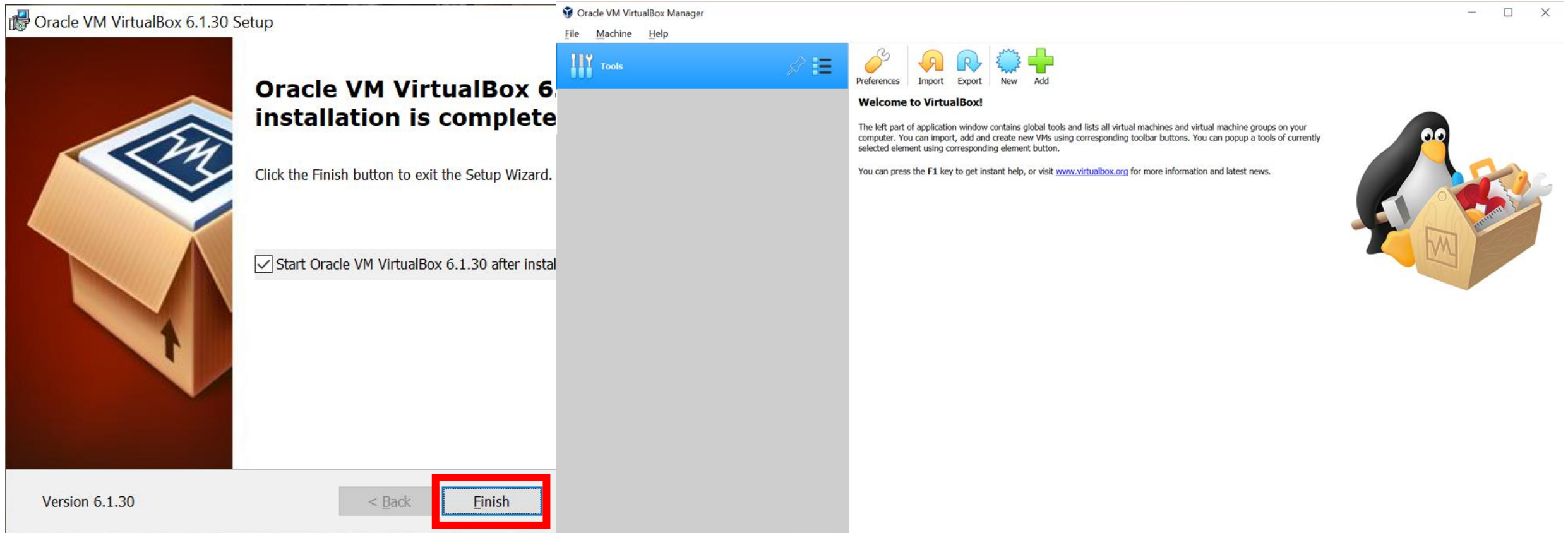
VirtualBox Installation

3. Click “Next” and “Install”



VirtualBox Installation

4. Click “Finish” and you will see the UI of VM Virtual



Install Cygwin



Cygwin64 Installation

1. Download the installation file
<https://cygwin.com/install.html>

Cygwin

Get that *Linux* feeling - on Windows

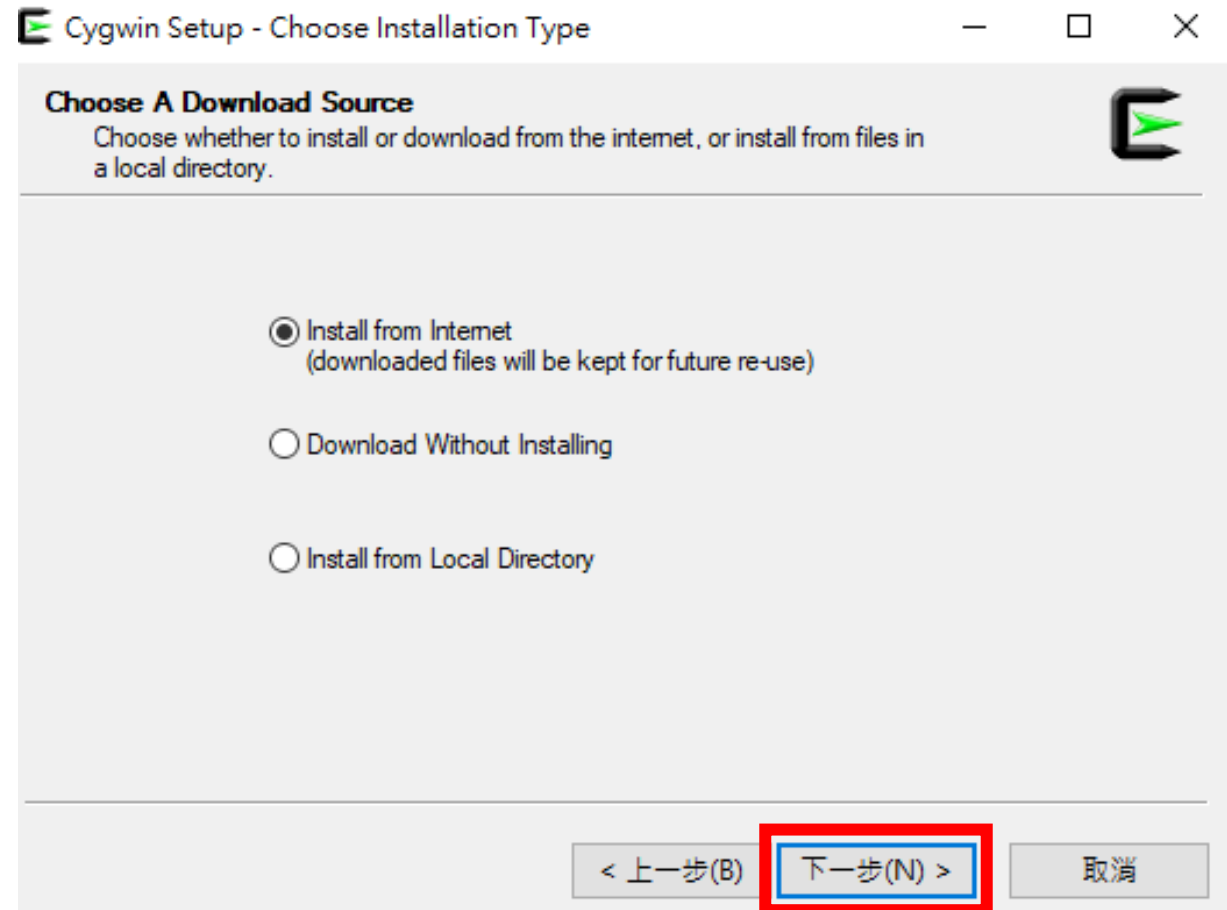
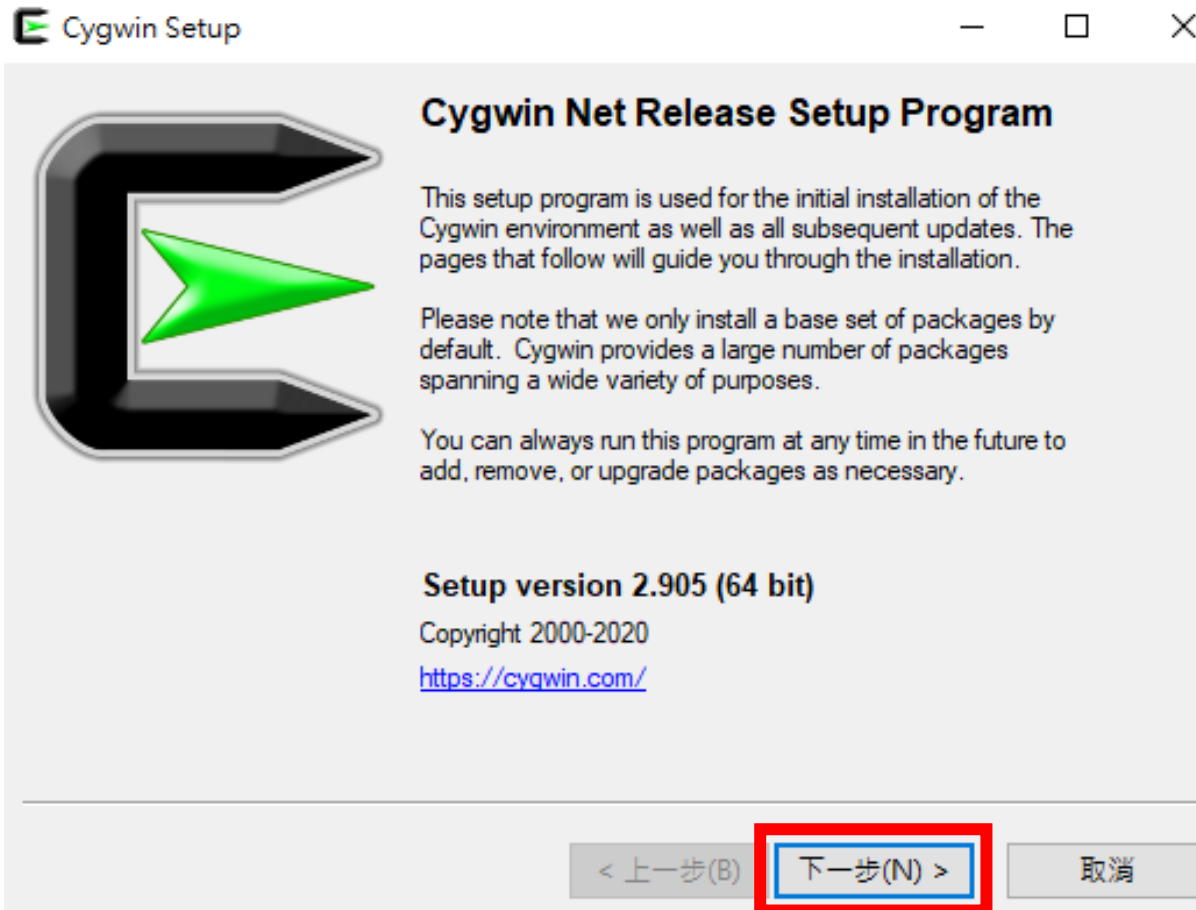
Installing and Updating Cygwin Packages

Installing and Updating Cygwin for 64-bit versions of Windows

Run [setup-x86_64.exe](#) any time you want to update or install a Cygwin package for 64-bit windows. The [signature](#) for [setup-x86_64.exe](#) can be

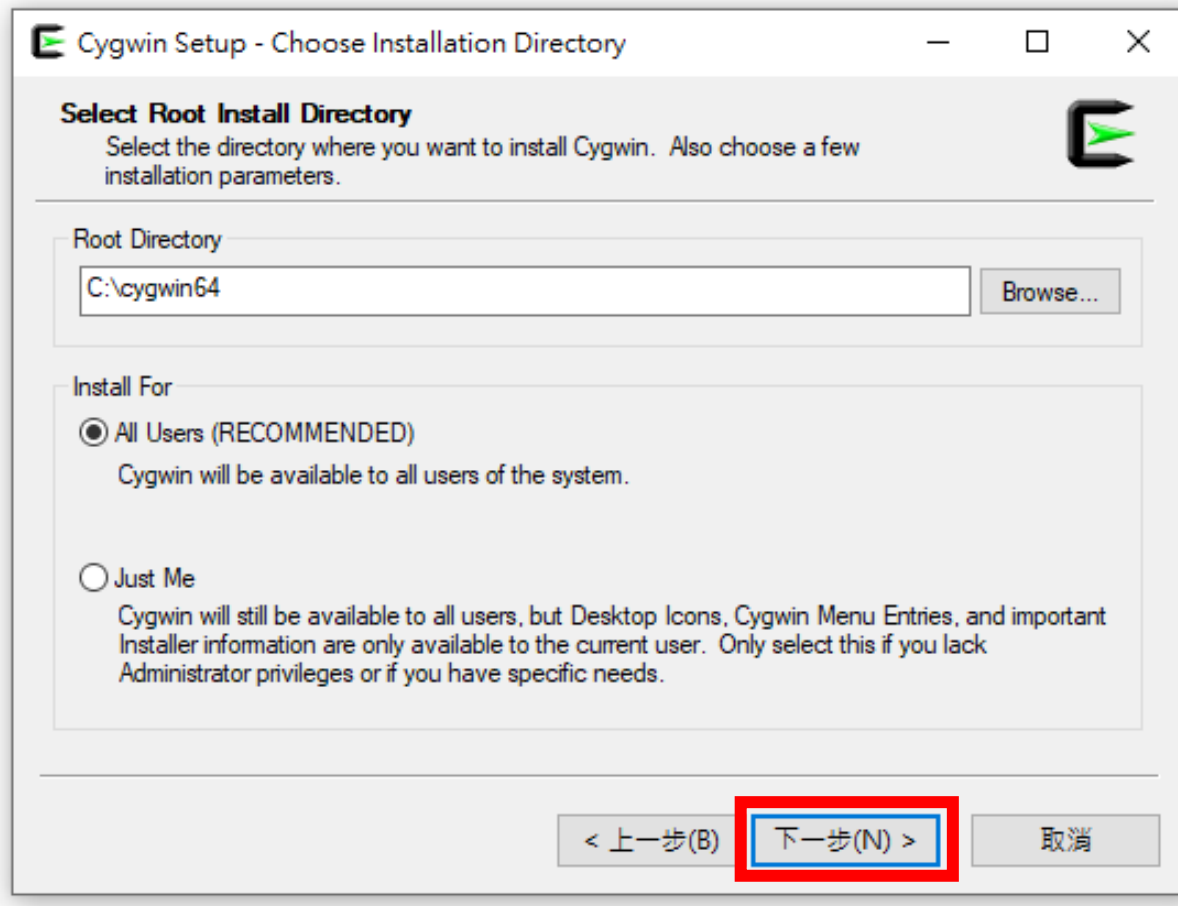
Cygwin64 Installation

2. Click “Next”



Cygwin64 Installation

3. Click “Next”



Cygwin Setup - Choose Installation Directory

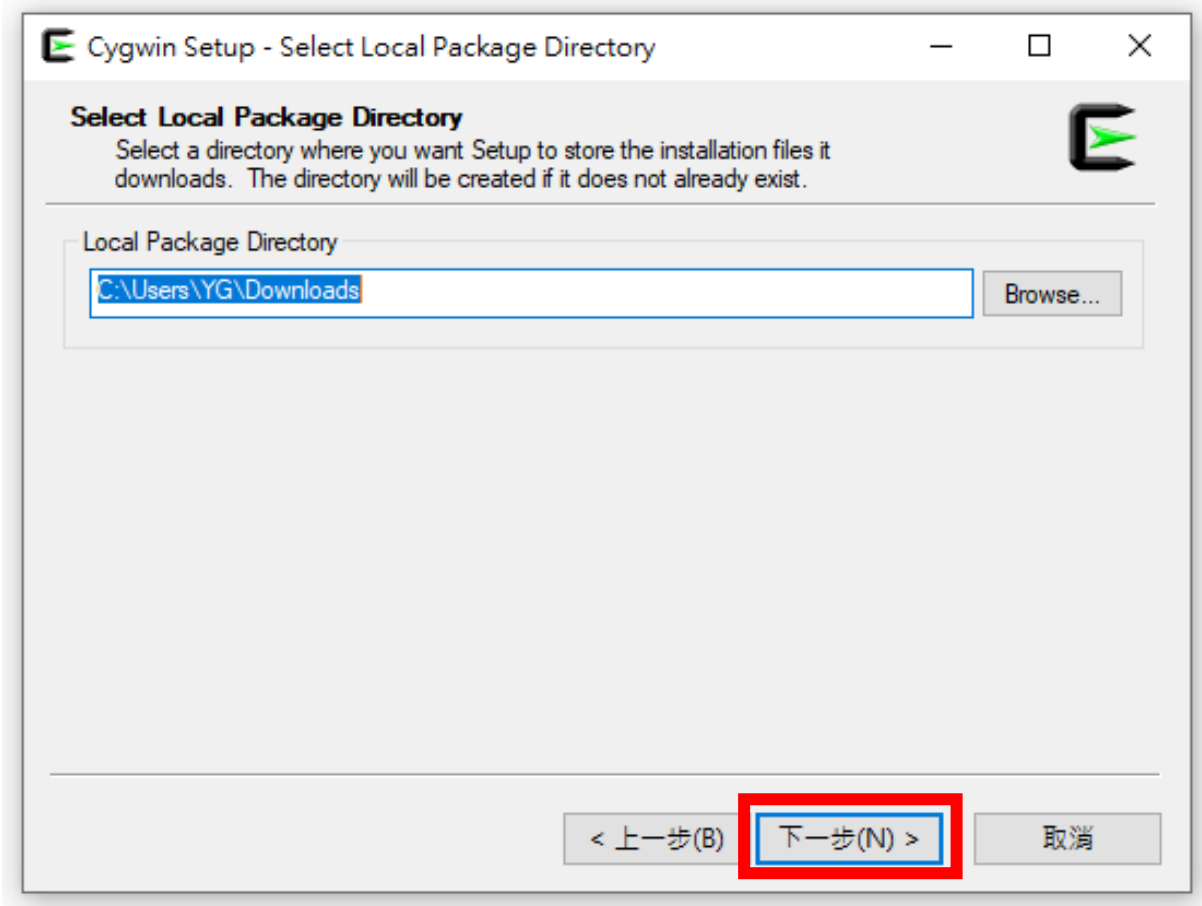
Select Root Install Directory
Select the directory where you want to install Cygwin. Also choose a few installation parameters.

Root Directory
C:\cygwin64 Browse...

Install For
☒ All Users (RECOMMENDED)
Cygwin will be available to all users of the system.

☐ Just Me
Cygwin will still be available to all users, but Desktop Icons, Cygwin Menu Entries, and important Installer information are only available to the current user. Only select this if you lack Administrator privileges or if you have specific needs.

< 上一步(B) **下一步(N) >** 取消



Cygwin Setup - Select Local Package Directory

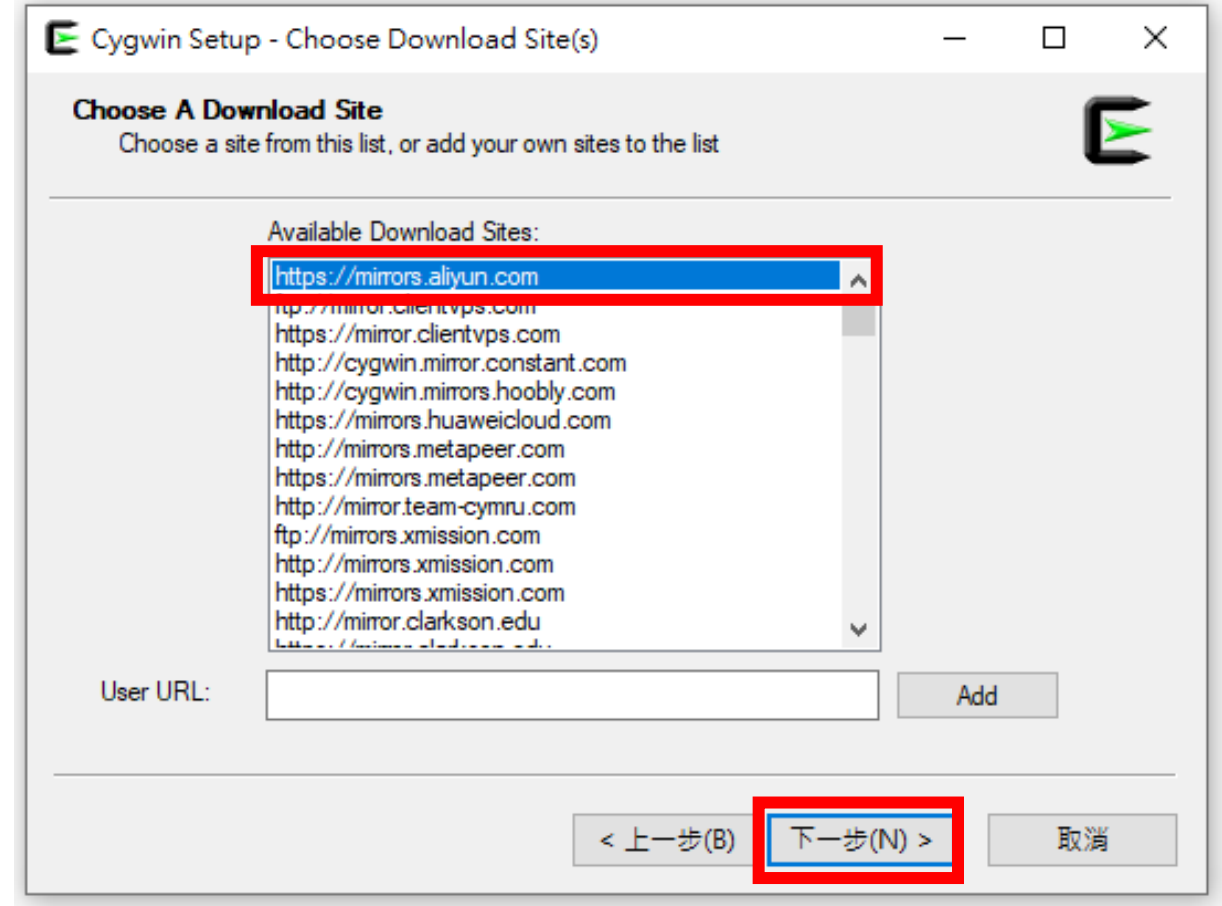
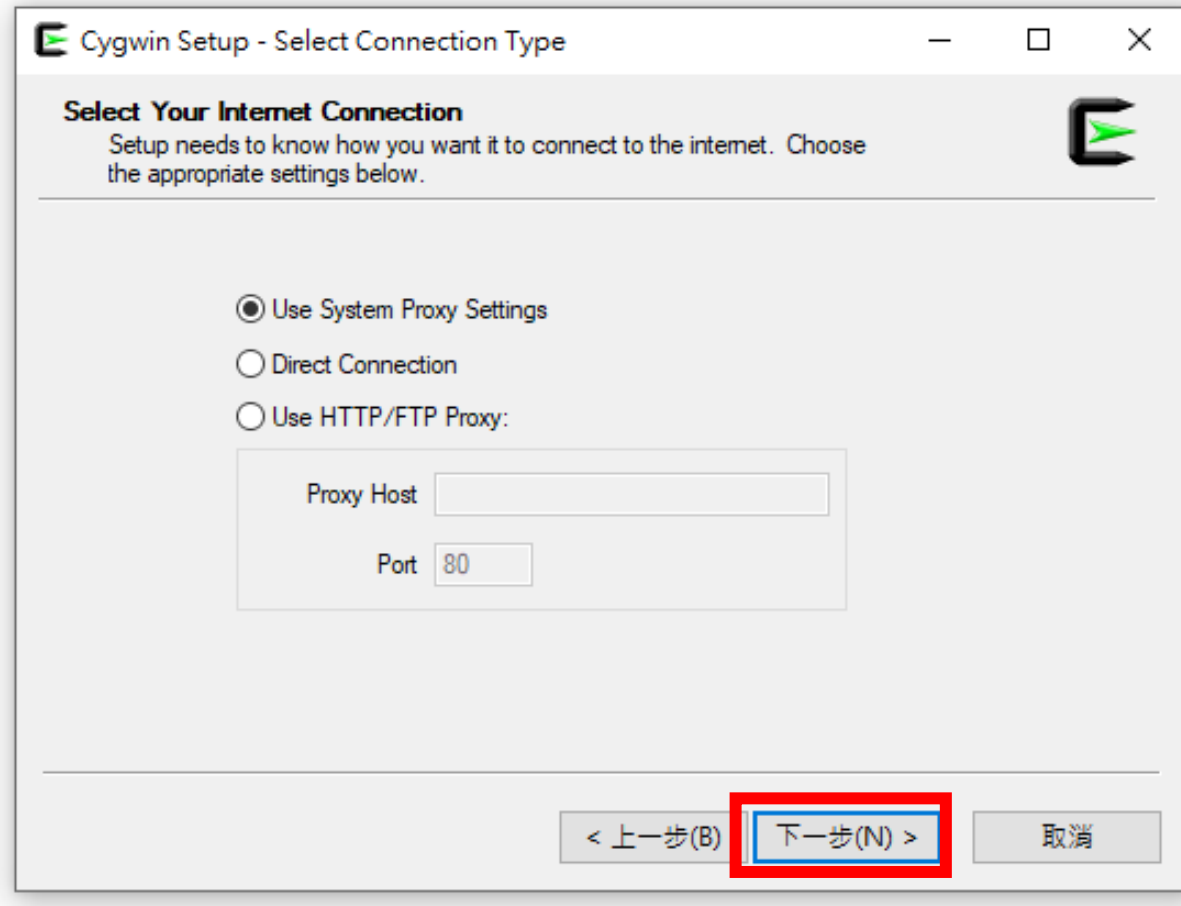
Select Local Package Directory
Select a directory where you want Setup to store the installation files it downloads. The directory will be created if it does not already exist.

Local Package Directory
C:\Users\YG\Downloads Browse...

< 上一步(B) **下一步(N) >** 取消


Cygwin64 Installation

3. Click “Next”



Cygwin64 Installation

5. Choose “Full” in “View”

 Cygwin Setup - Select Packages


Select Packages
Select packages to install

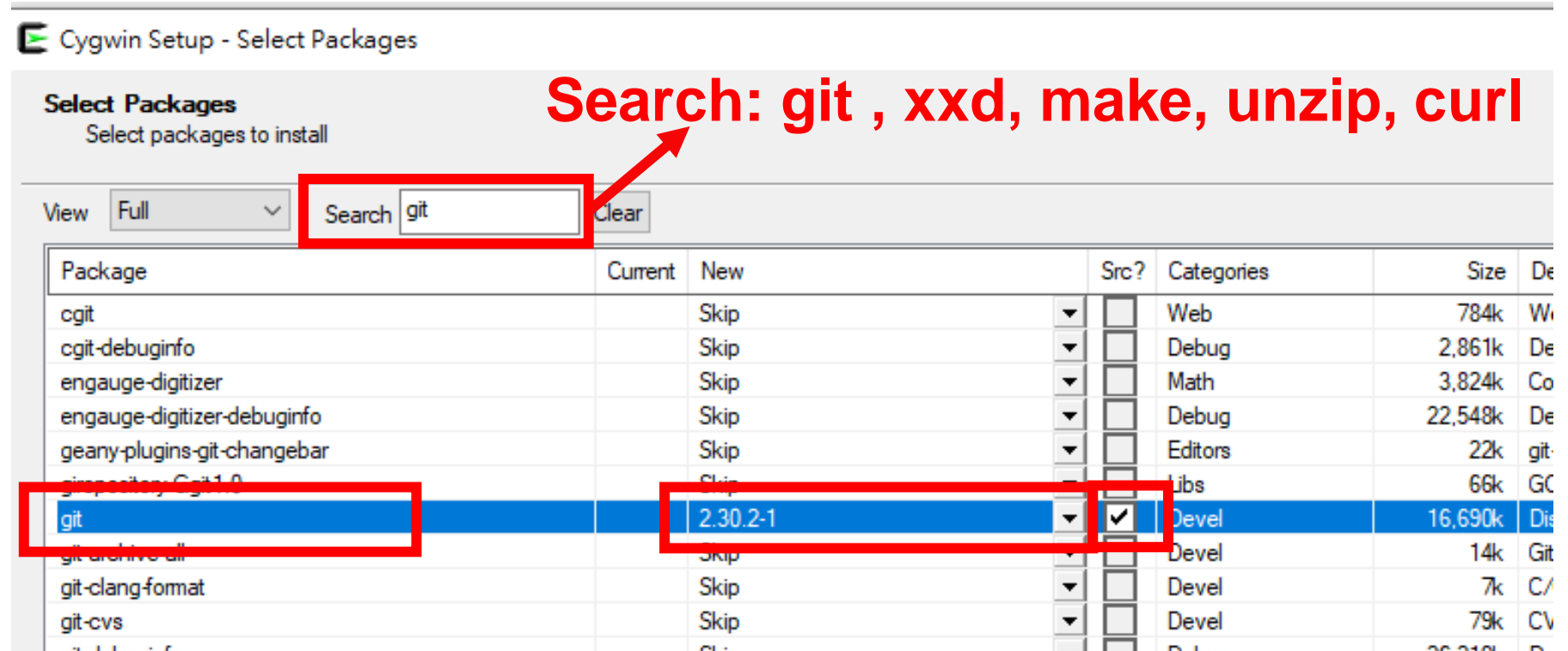
View **Full** Search

Package	Current	New	Src?	Categories
cgkit		Skip	<input type="checkbox"/>	Web
cgkit-debuginfo		Skip	<input type="checkbox"/>	Debug
engauge-digitizer		Skip	<input type="checkbox"/>	Math
engauge-digitizer-debuginfo		Skip	<input type="checkbox"/>	Debug
geany-plugins-git-changebar		Skip	<input type="checkbox"/>	Editors
girepository-Ggit 1.0		Skip	<input type="checkbox"/>	Libs
git		Skip	<input type="checkbox"/>	Devel
git-archive-all		Skip	<input type="checkbox"/>	Devel
git-clang-format		Skip	<input type="checkbox"/>	Devel
git-cvs		Skip	<input type="checkbox"/>	Devel
git-debuginfo		Skip	<input type="checkbox"/>	Debug
git-email		Skip	<input type="checkbox"/>	Devel
git-gui		Skip	<input type="checkbox"/>	Devel
git-oodiff		Skip	<input type="checkbox"/>	Utils
git-p4		Skip	<input type="checkbox"/>	Devel
git-review		Skip	<input type="checkbox"/>	Devel

Cygwin64 Installation

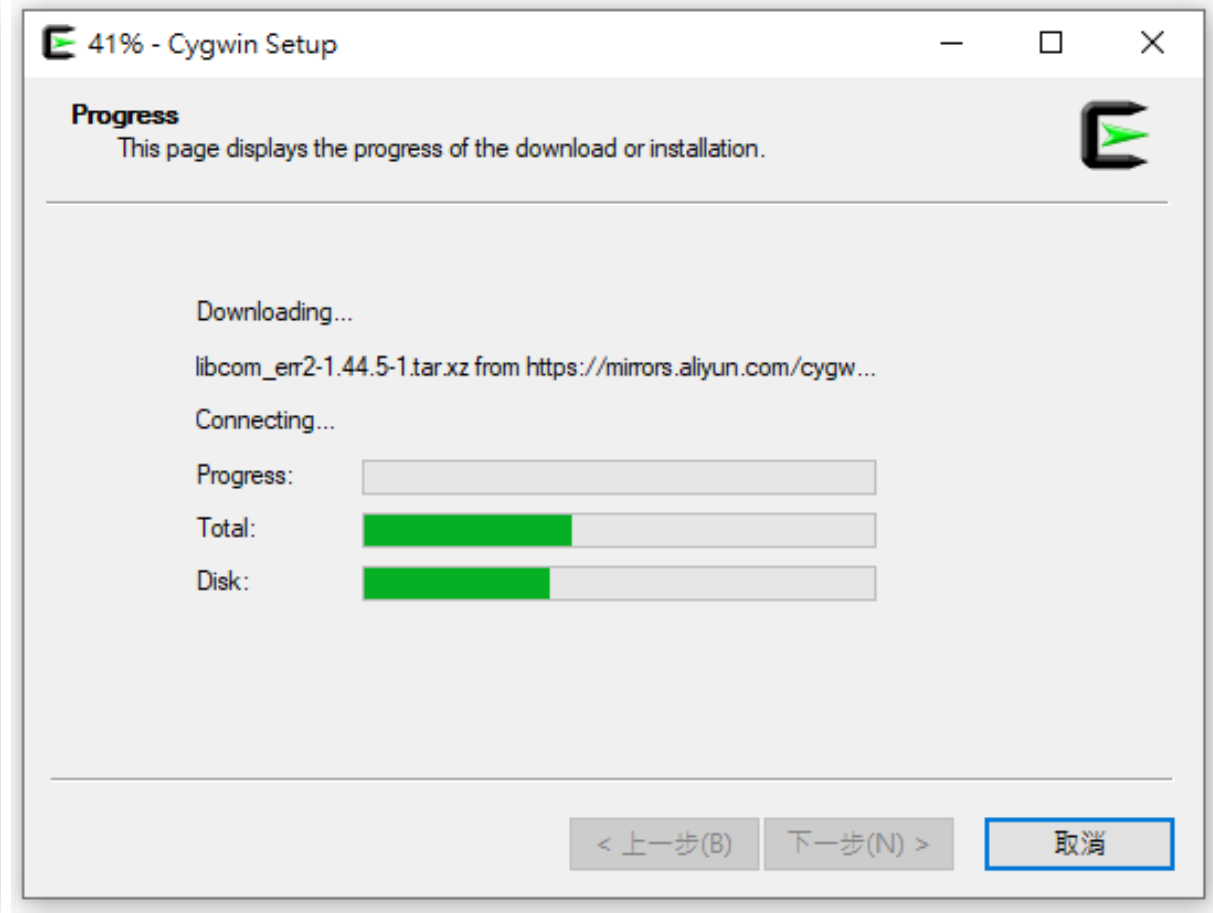
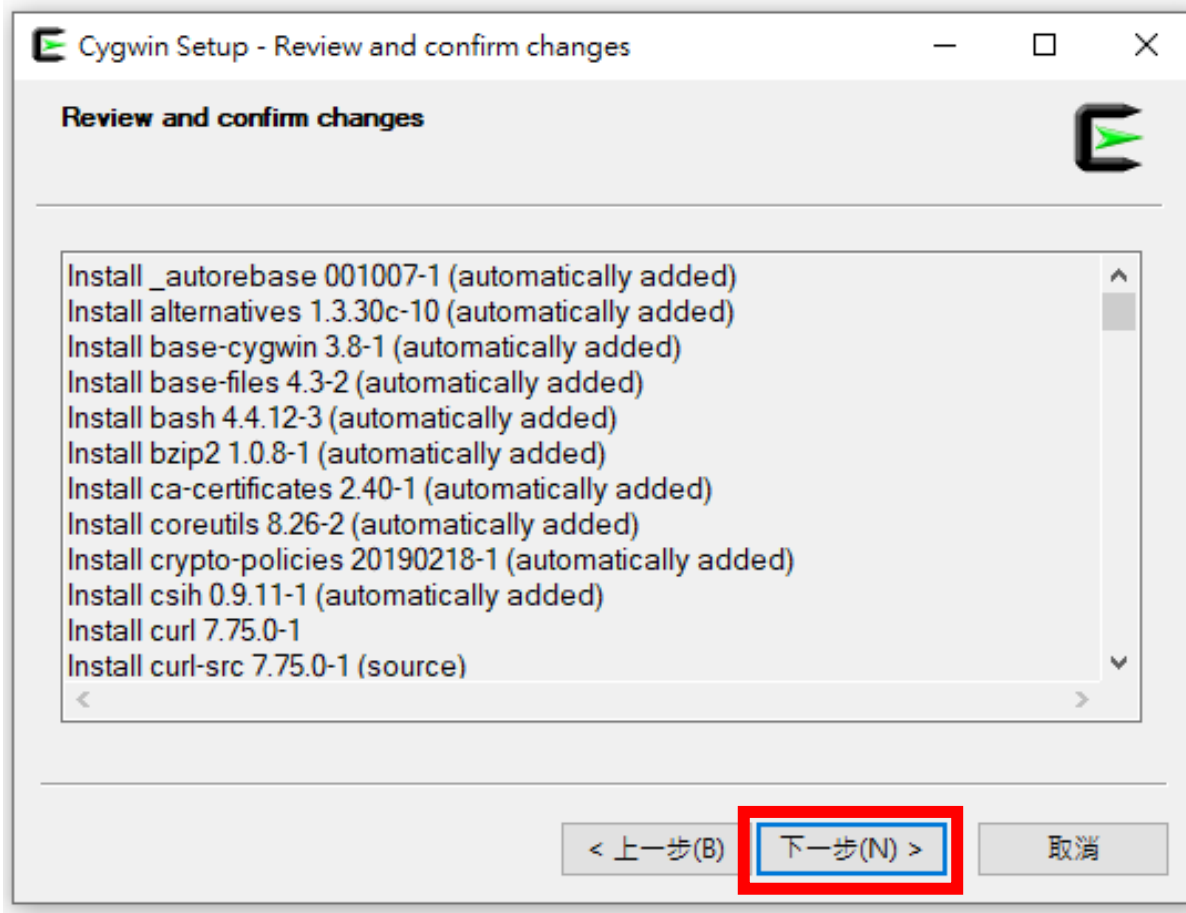
6. Install module:

1. Search “git”, “xxd”, “make”, “unzip” and “curl”
2. Click  and select the latest version and click the checkbox
3. After configure all module in step1, click “Next”



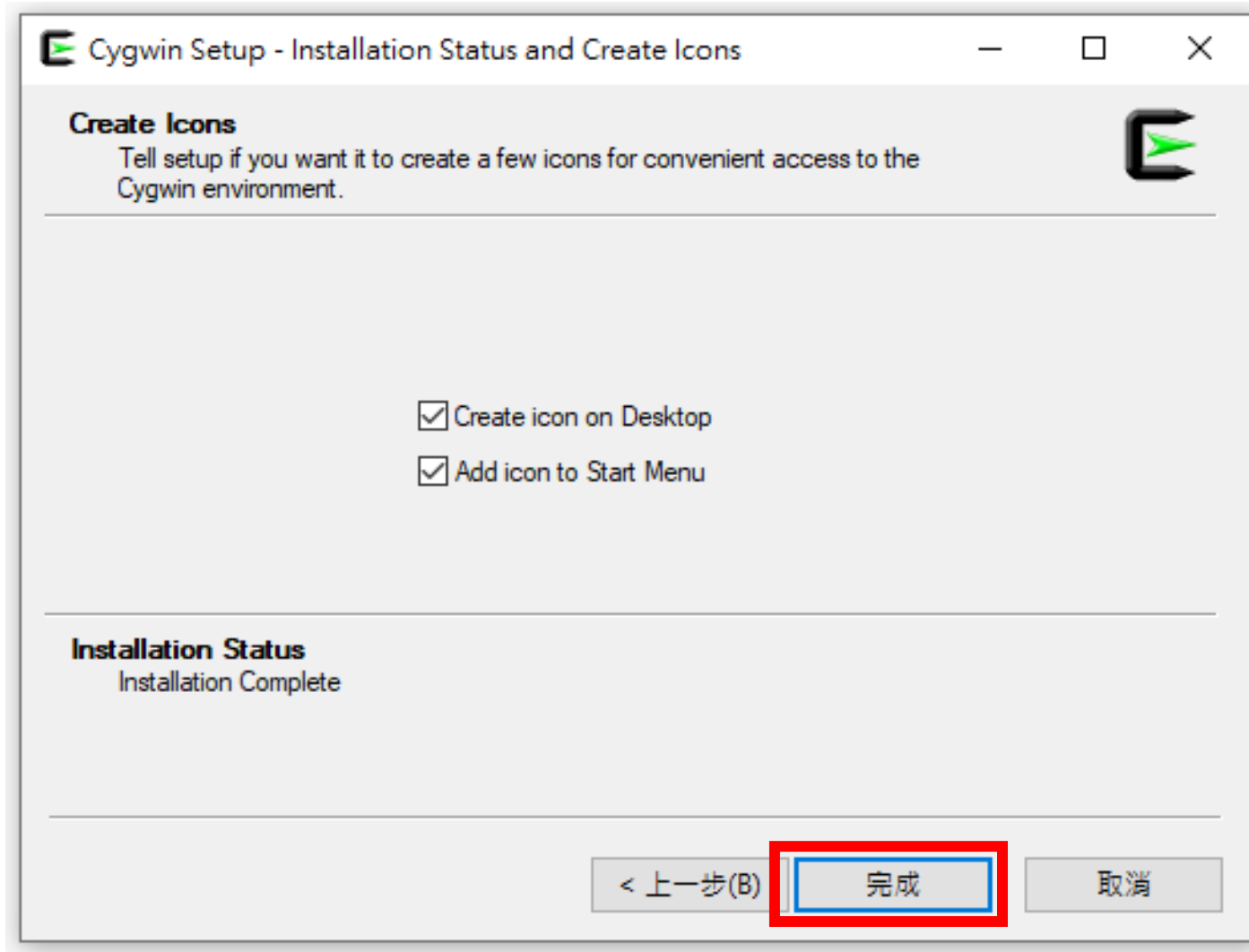
Cygwin64 Installation

7. Click “Next” and start to install



Cygwin64 Installation

8. Click “finish”



Install Teraterm



TeraTerm Installation

1. Download the installation file

<https://ttssh2.osdn.jp/index.html.en>

Tera Term Home Page

[\[Project page\]](#) [\[License\]](#) [\[Download\]](#) [\[Document\]](#) [\[Snapshot\]](#) [\[SourceCode\]](#) [\[Users ML\]](#) [\[Commit ML\]](#) [\[Development\]](#)

8468346 (Today: **1067** Yesterday: **2515**)

TeraTerm Project

TeraTerm Project would have been developed terminal emulator "Tera Term" and SSH module "TTSSH". This software is open source software in [Project Page](#) on OSDN.

Download

Latest version is available from OSDN [download page](#). Current latest release is [4.105](#).

If you can get latest development version, the source code is available from [SVN repository](#). And [snapshot](#) is here. Here is the [Old release](#), however we recommend using the latest release as possible.

Teraterm Installation

2. Download the last version

Download Package list

Tera Term (37 items )

4.105 (2 files )

Name ▲

[teraterm-4.105.exe](#) 

[teraterm-4.105.zip](#) 

4.104 (2 files )

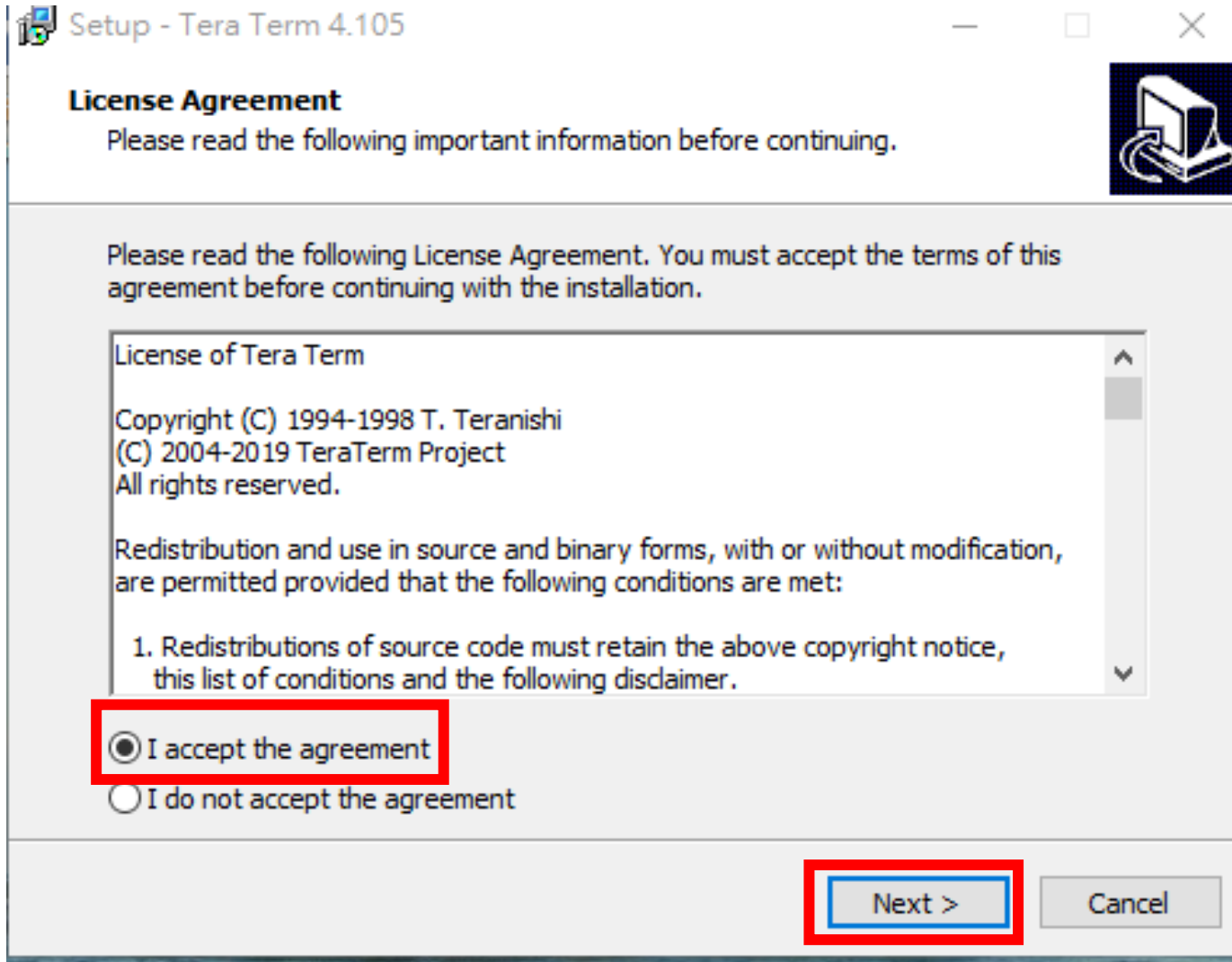
4.103 (2 files )

We use cookies to understand how you use our site and to improve your experience. By continuing to use our site, you accept our use of cookies, Privacy Policy and Terms of Use.

[Privacy policy](#) [Term of Use](#)

TeraTerm Installation

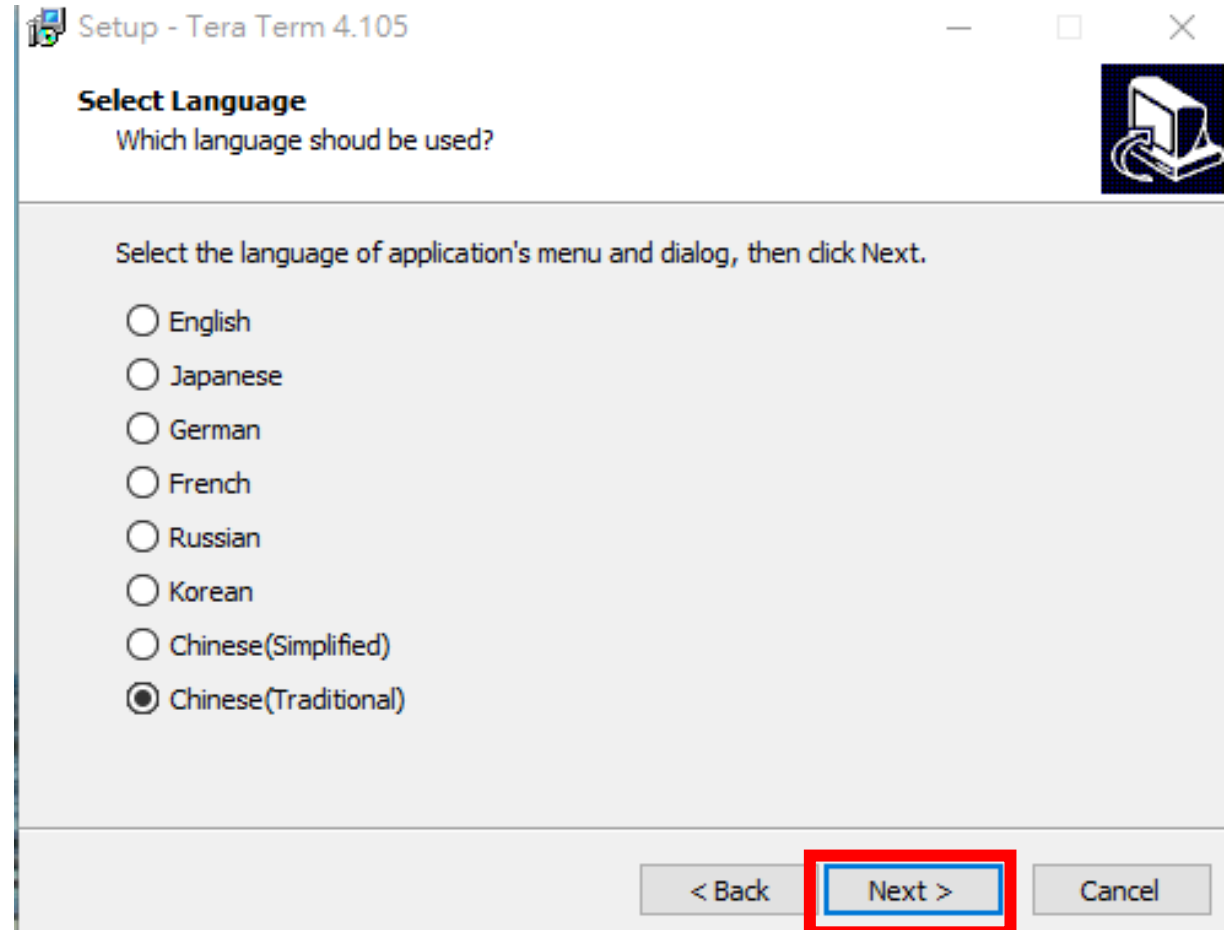
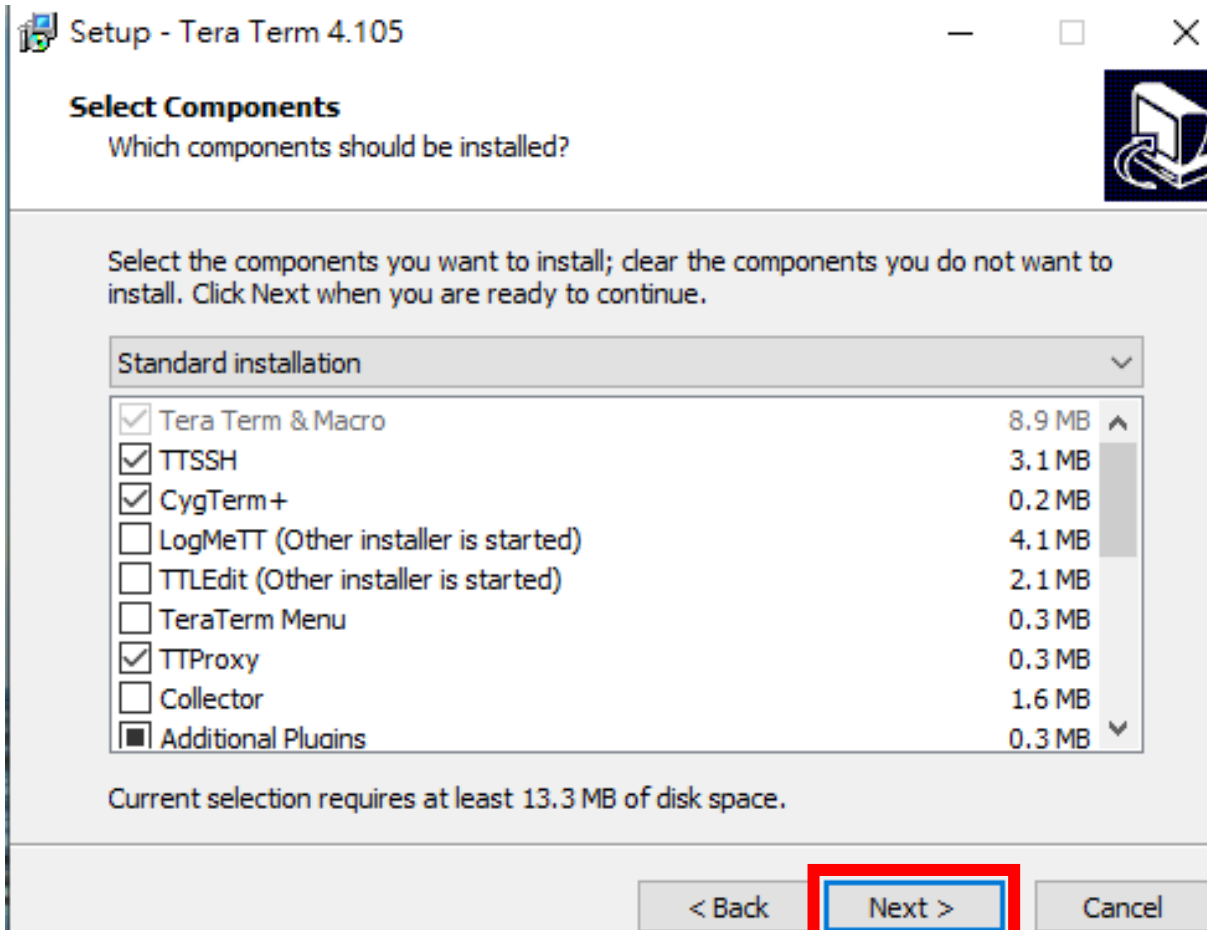
3. Accept the agreement after reading it and press next



TeraTerm Installation

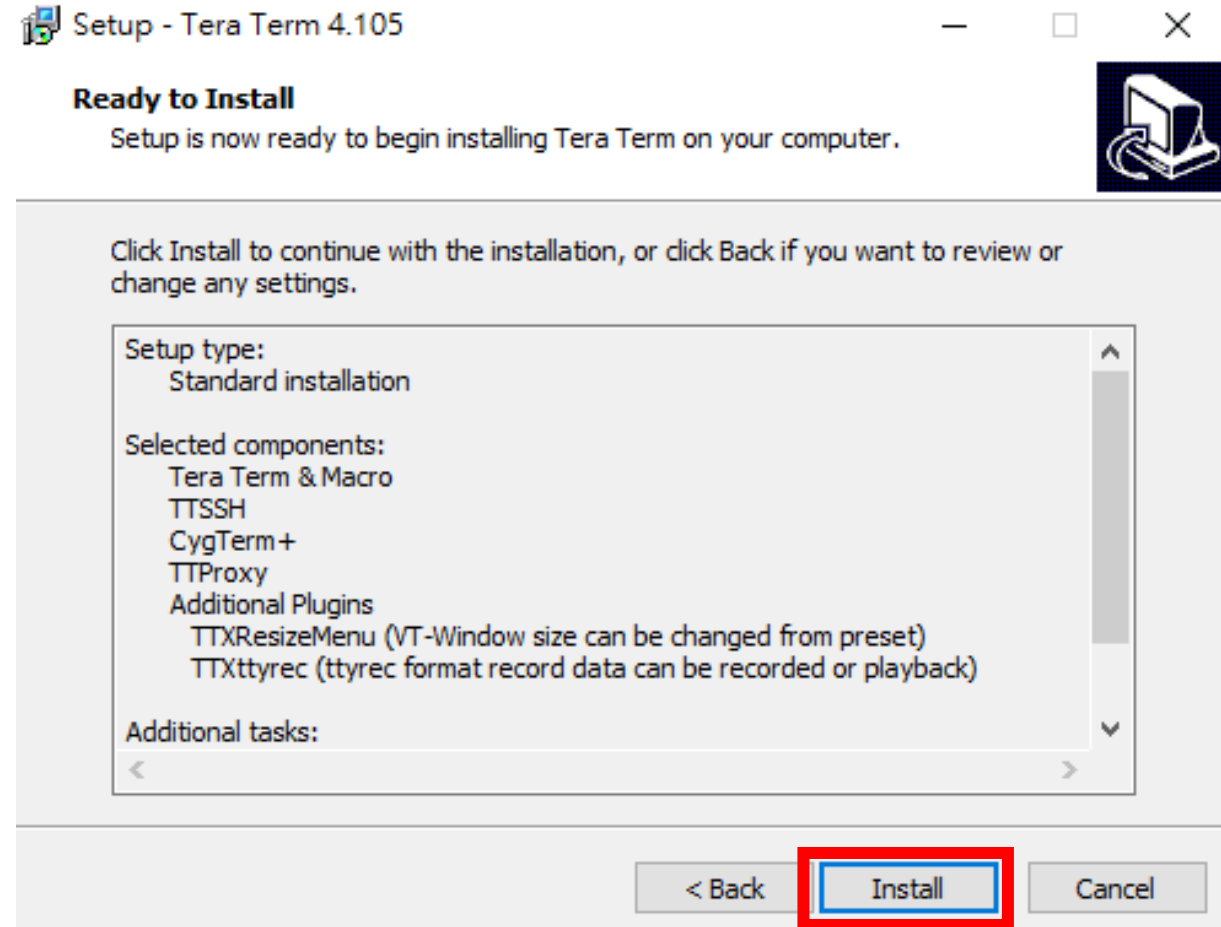
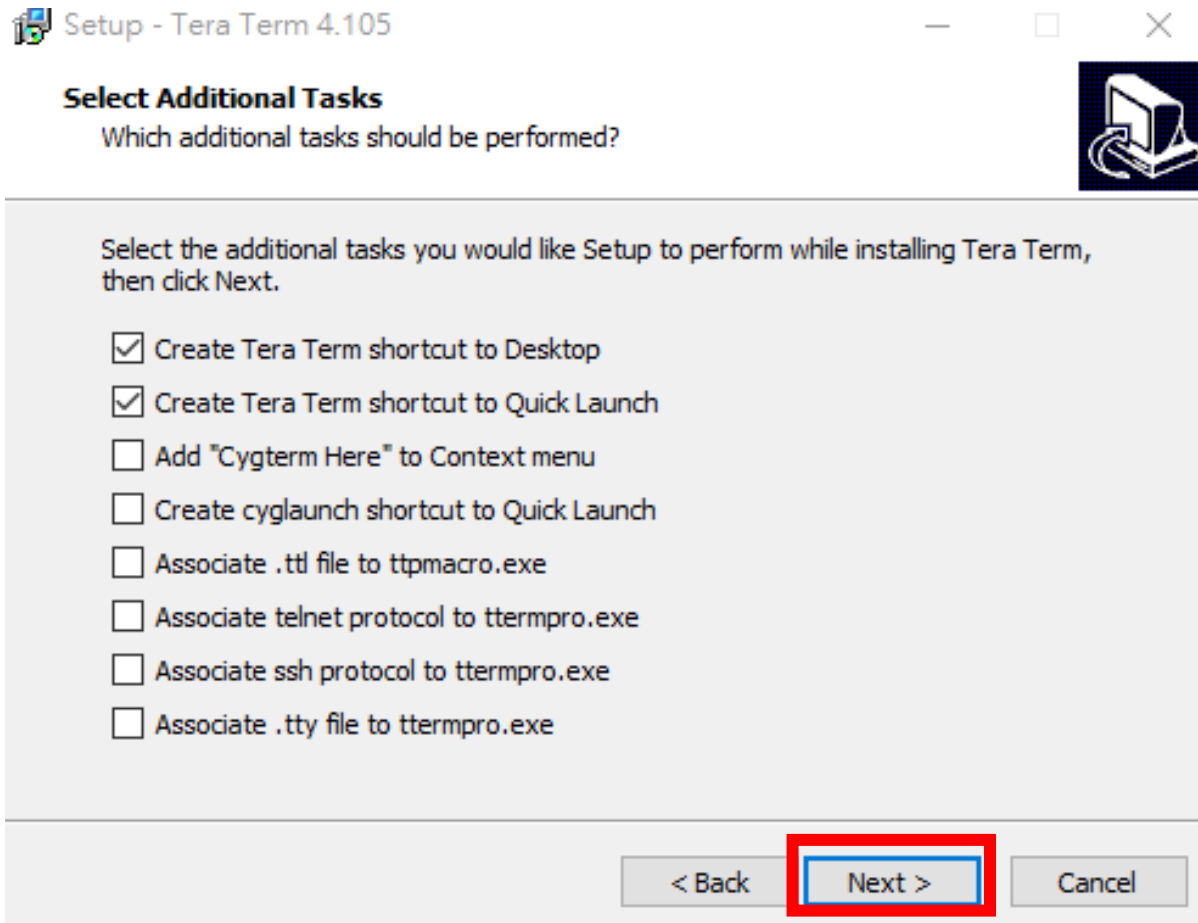
4. Press next

English is recommended



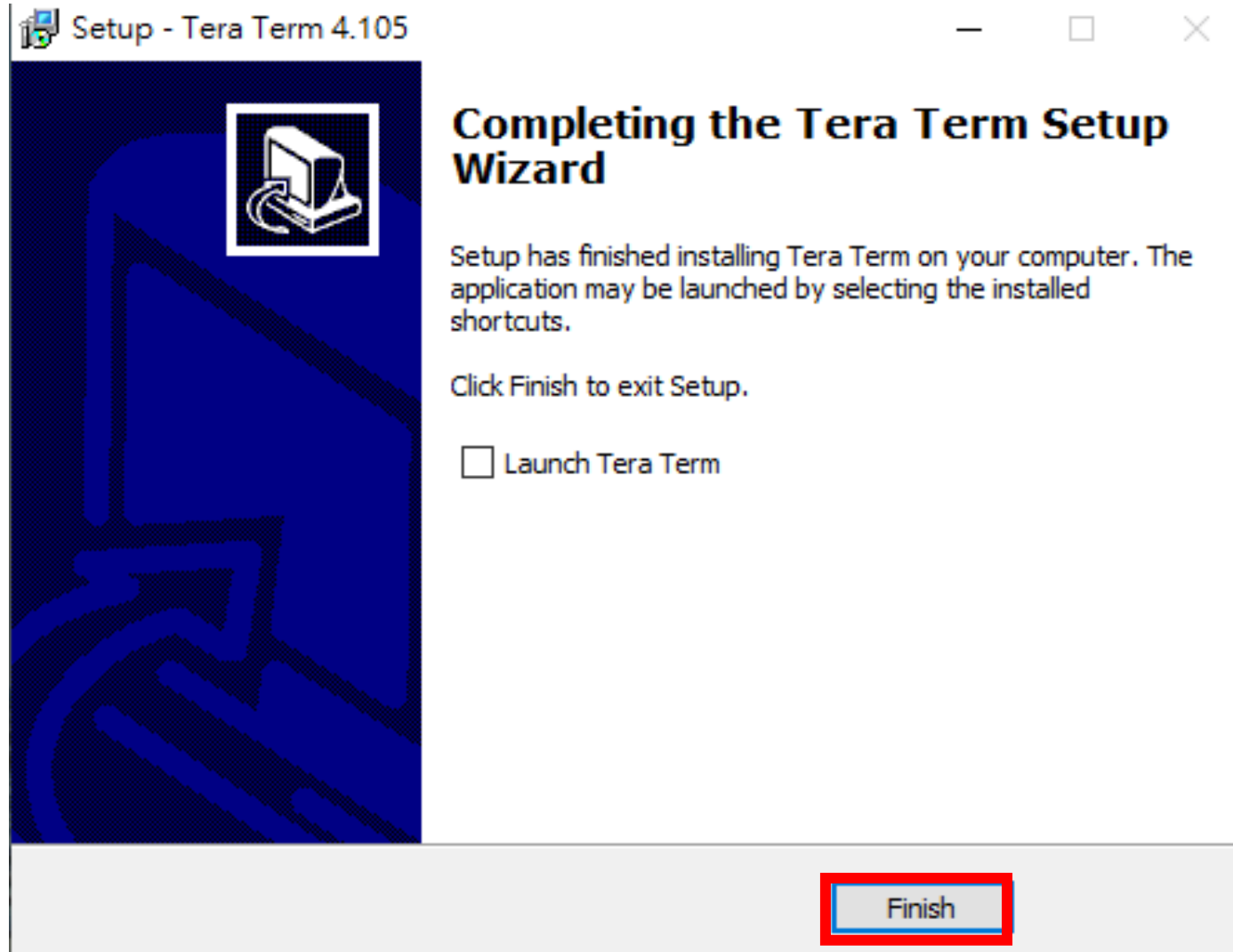
Teraterm Installation

5. Keep pressing next and install



TeraTerm Installation

6. Press finish



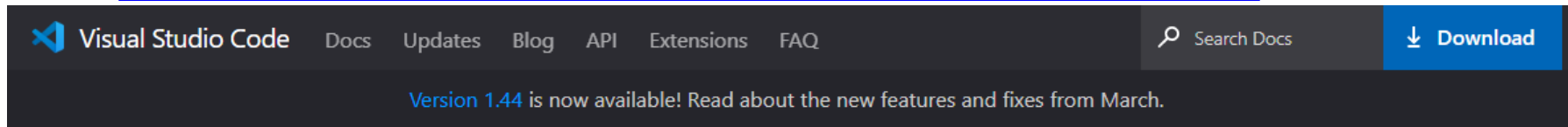
Install VScode



VScode Installation

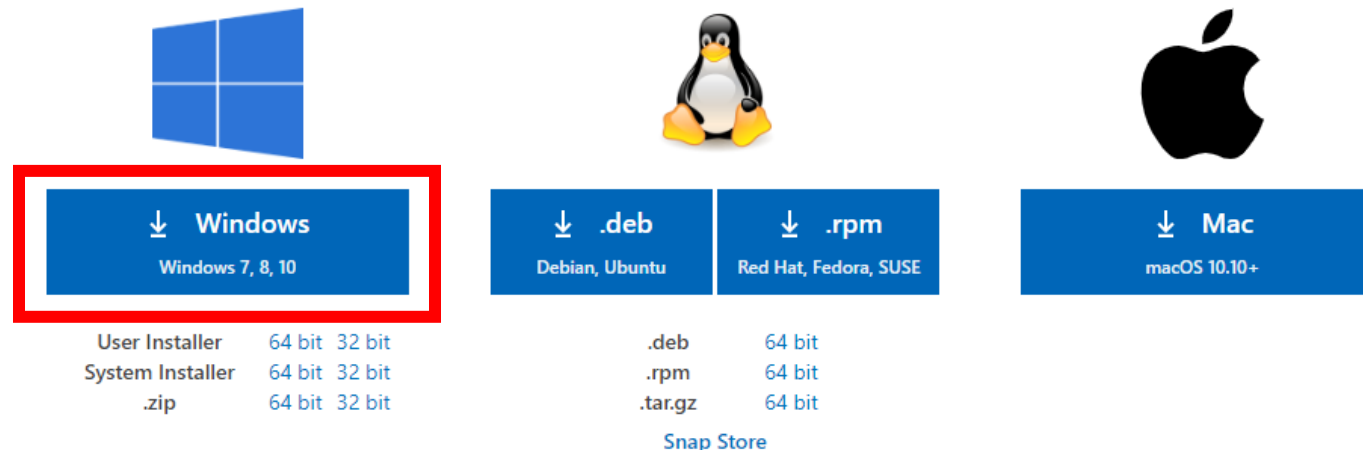
1. Download the installation file

<https://code.visualstudio.com/download>



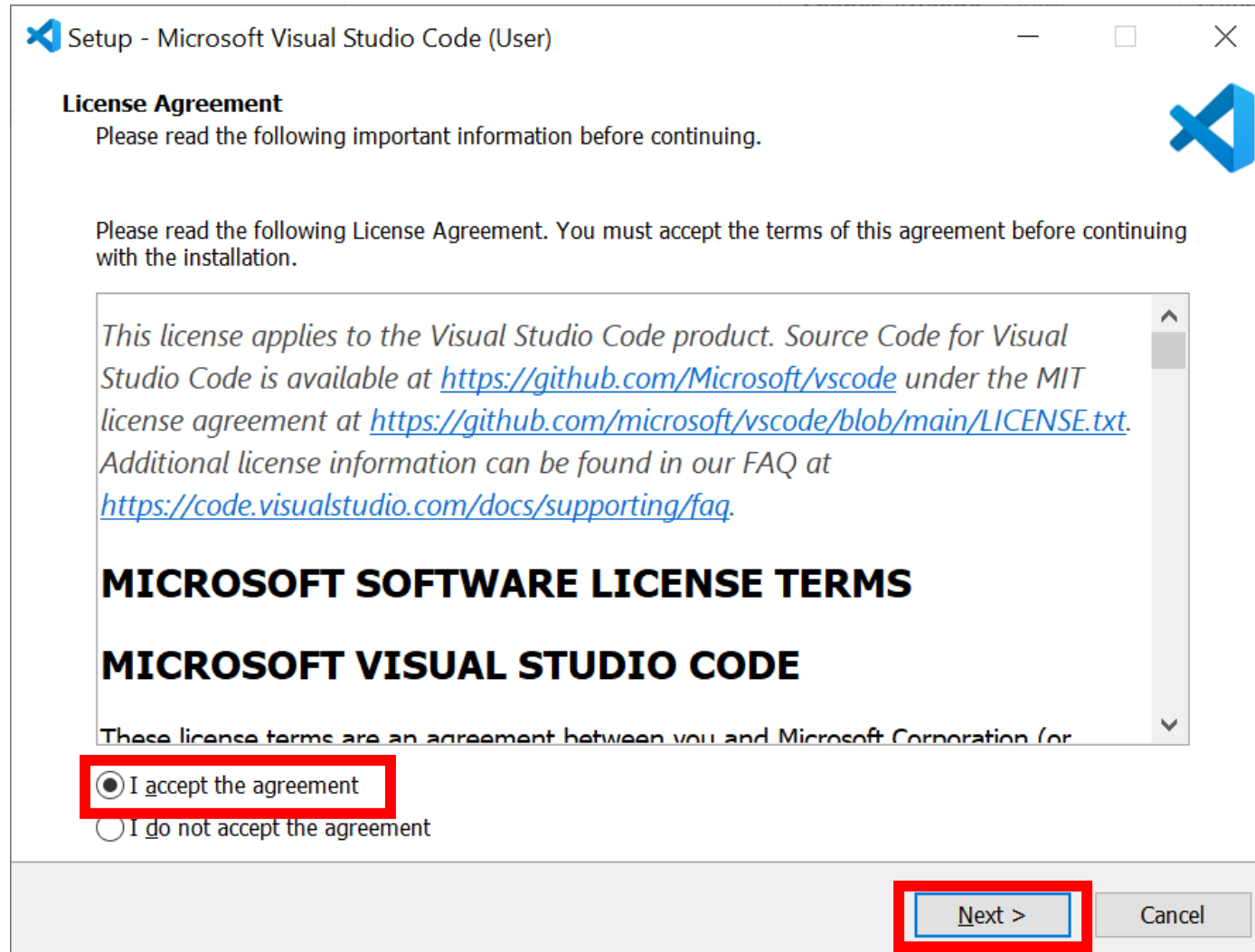
Download Visual Studio Code

Free and built on open source. Integrated Git, debugging and extensions.



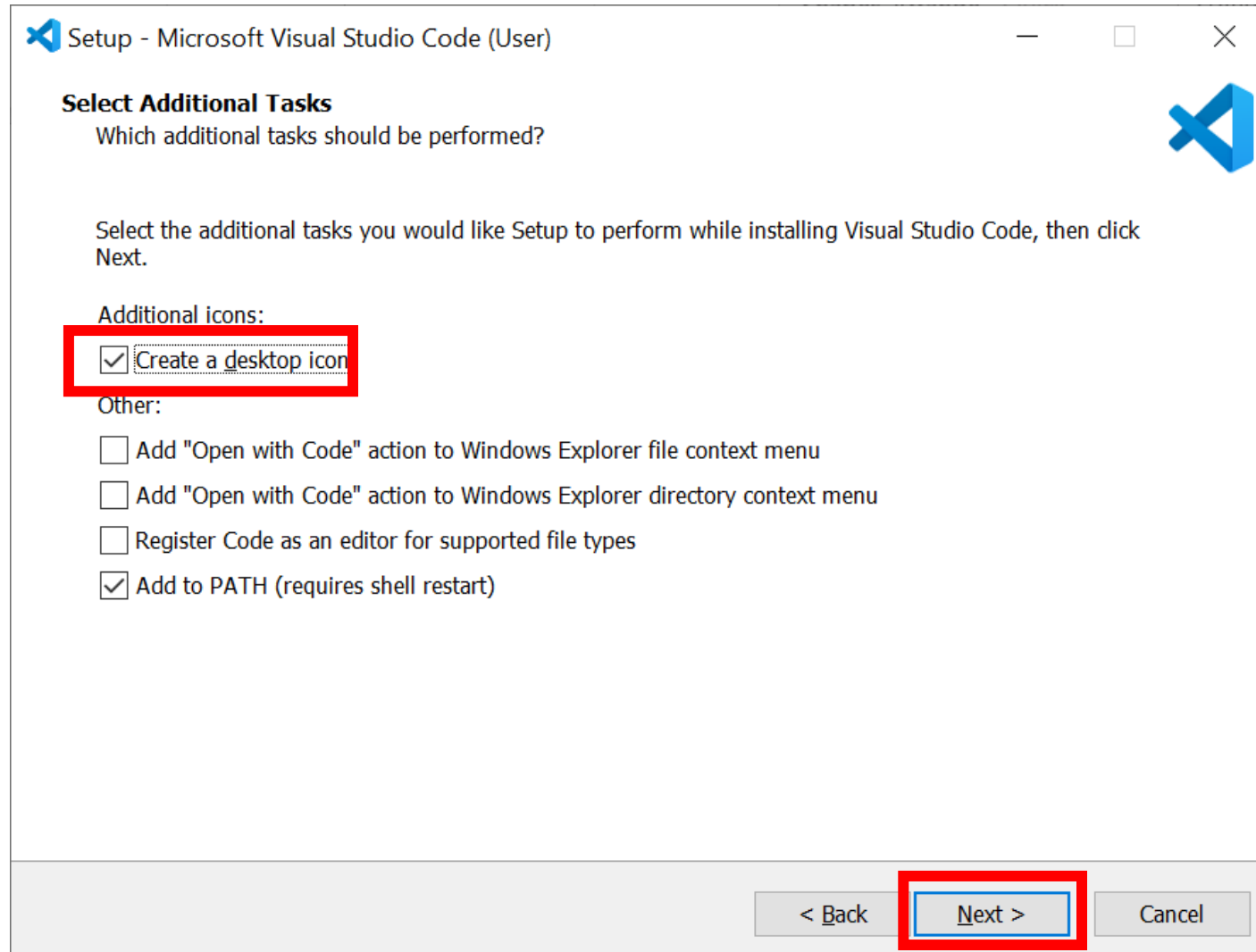
VScode Installation

2. Click “I accept the agreement” and “Next”



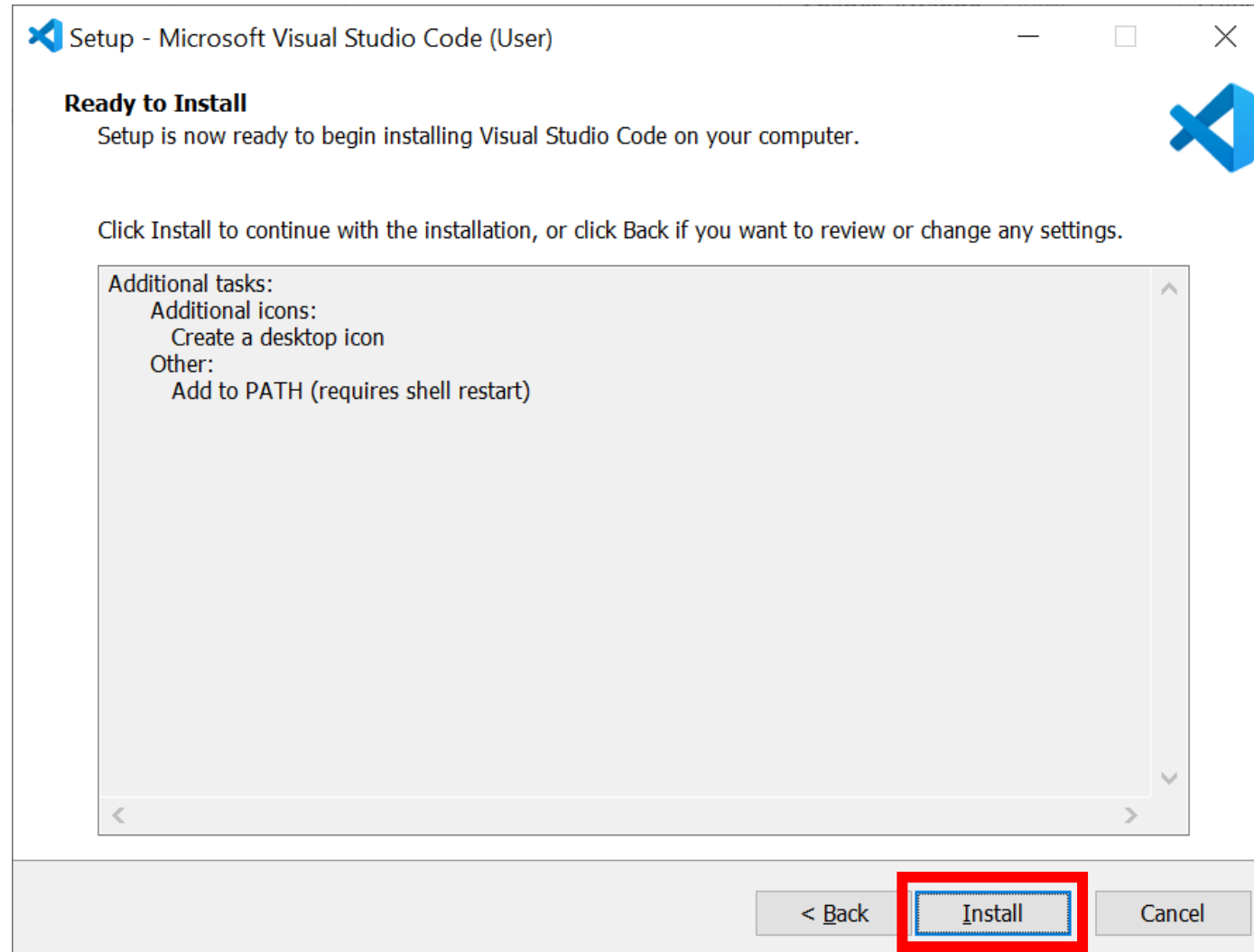
VScode Installation

3. Click “Create a desktop icon” and “Next”



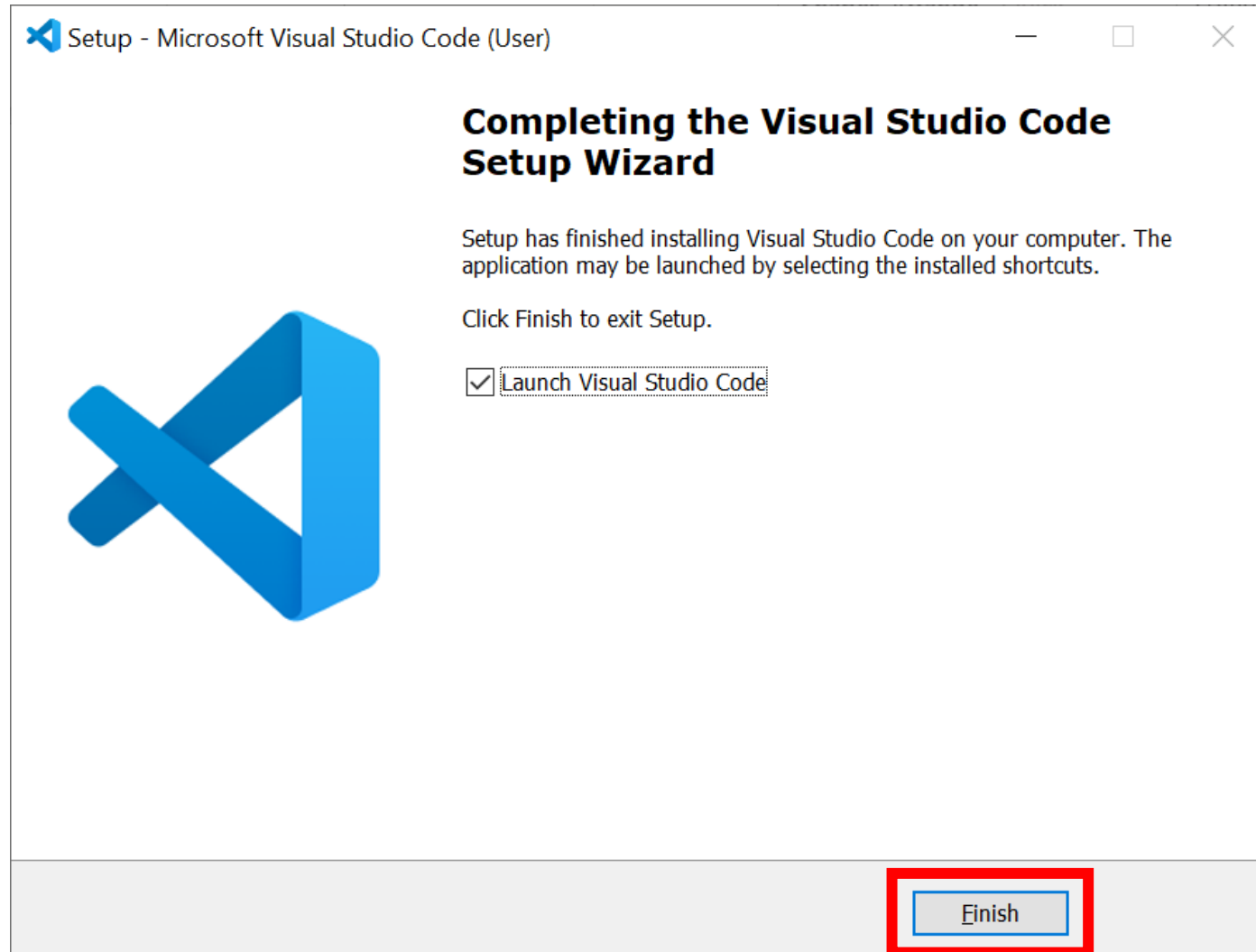
VScode Installation

4. Click “Install”



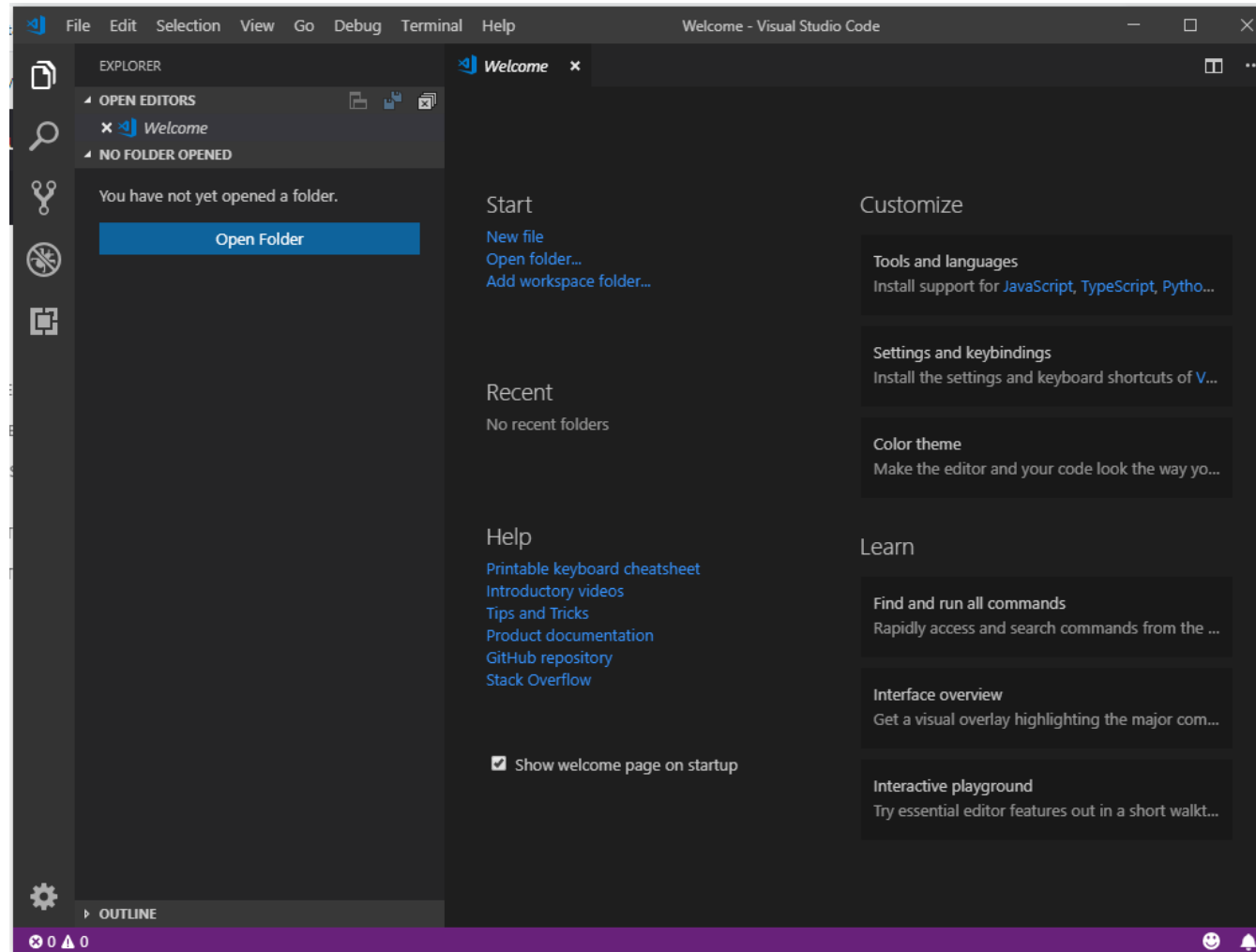
VScode Installation

5. Click “Finish”



VScode Installation

6. Open VScode



Install ARC GNU ToolChain



ARC GNU ToolChain Installation

1. Download the installation file and select version **2019.09**

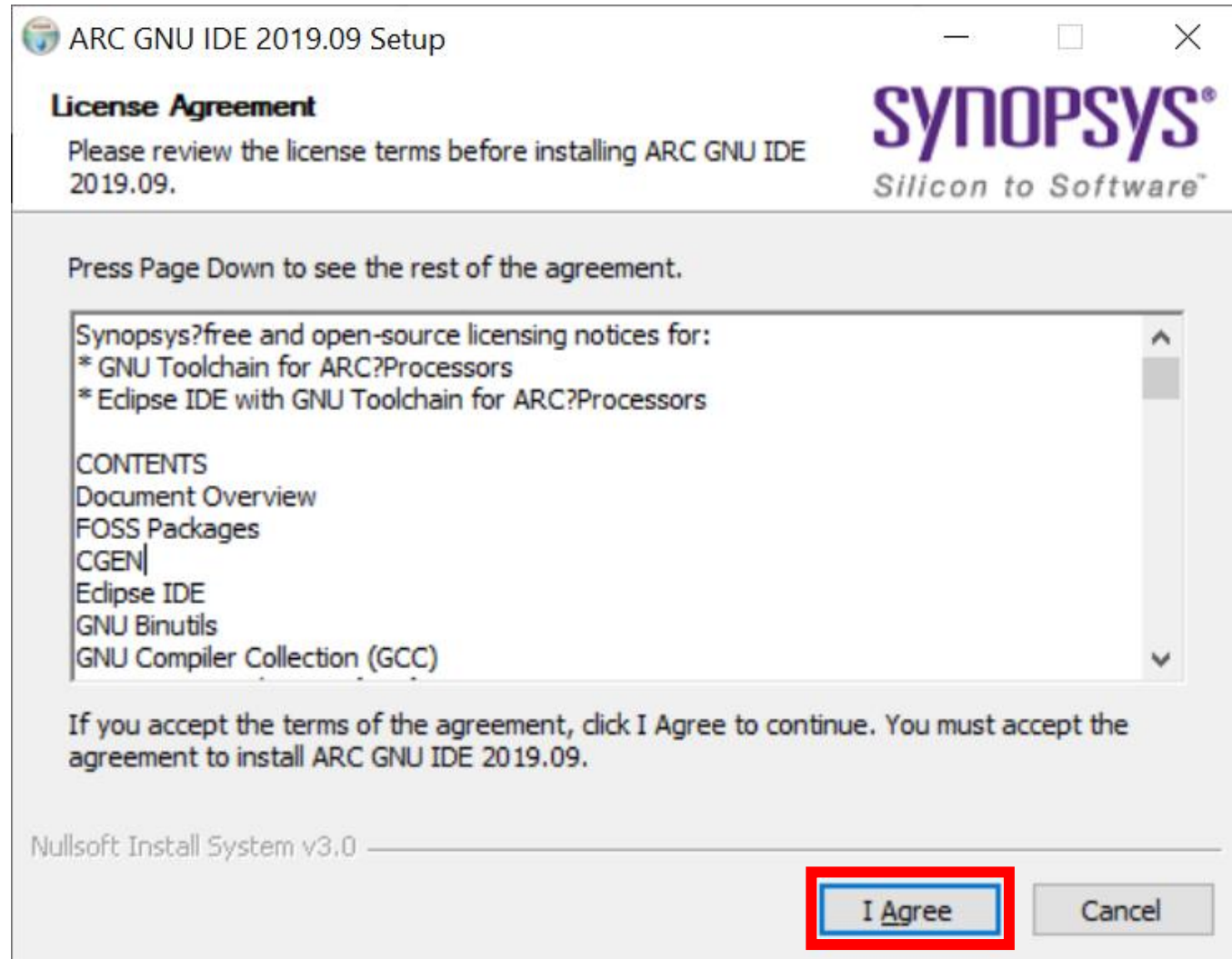
Please download the version without rc label

<https://github.com/foss-for-synopsys-dwc-arc-processors/toolchain/releases/tag/arc-2019.09-release>

	Linux x86_64	Windows x86_64	Linux ARC HS	macOS x86_64
Baremetal	Little endian \ Big endian			Little endian \ Big endian
Linux/uClibc ARC700	Little endian \ Big endian			
Linux/uClibc ARC HS	Little endian \ Big endian		Little endian	
Linux/glibc ARC HS	Little endian \ Big endian			
IDE	Download	Download		Download

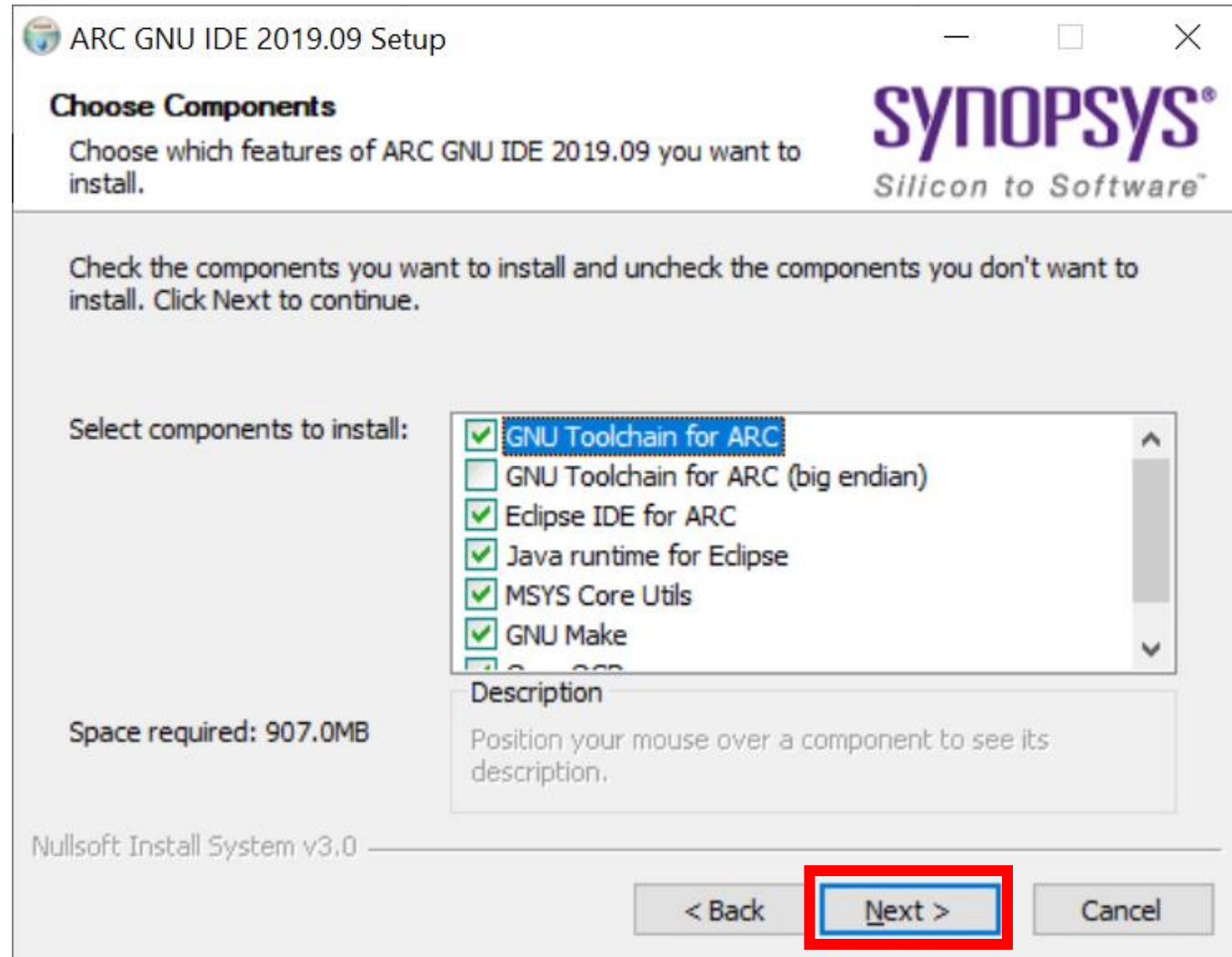
ARC GNU ToolChain Installation

2. Double click the installation file and click “I Agree”



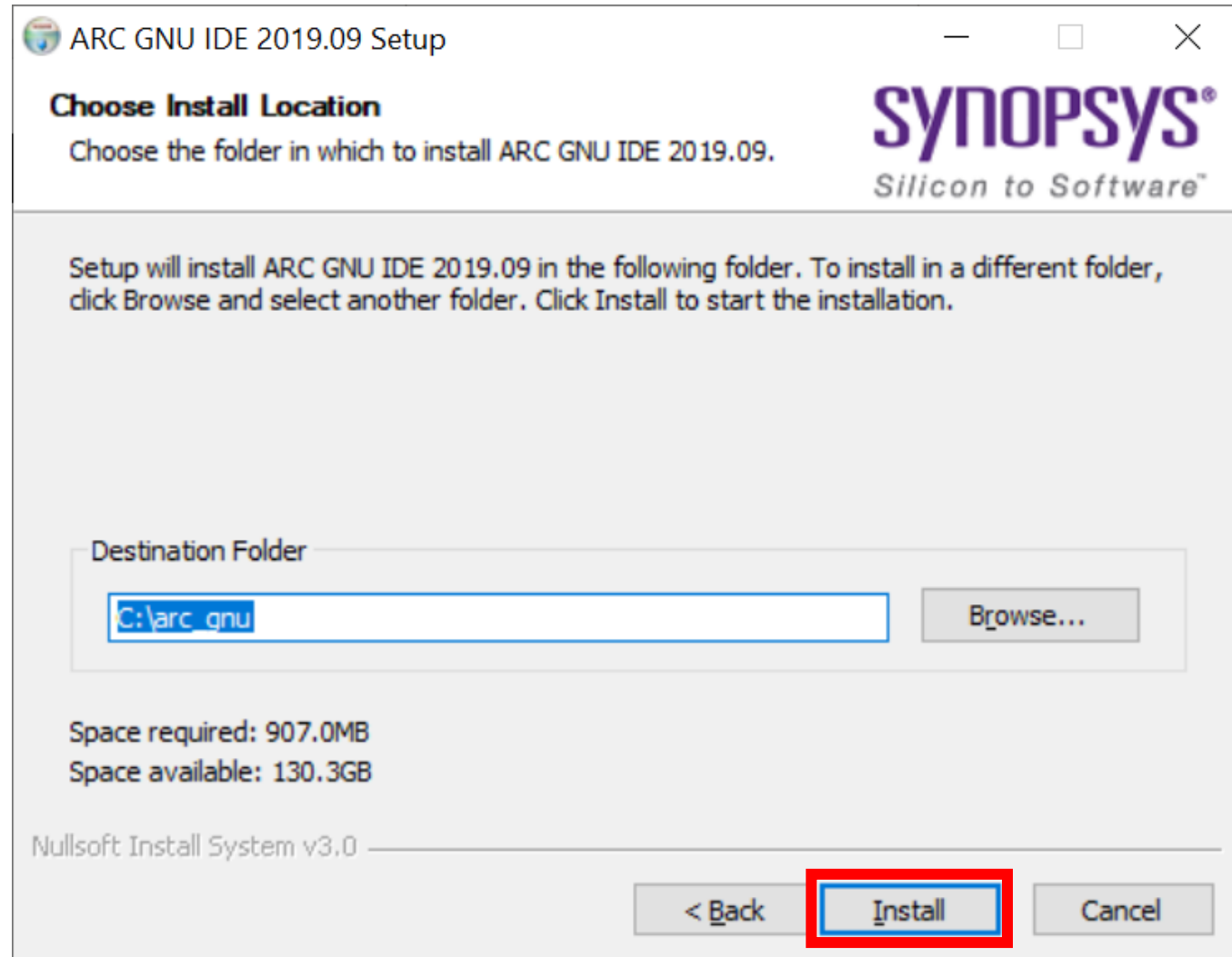
ARC GNU ToolChain Installation

3. Click “Next”



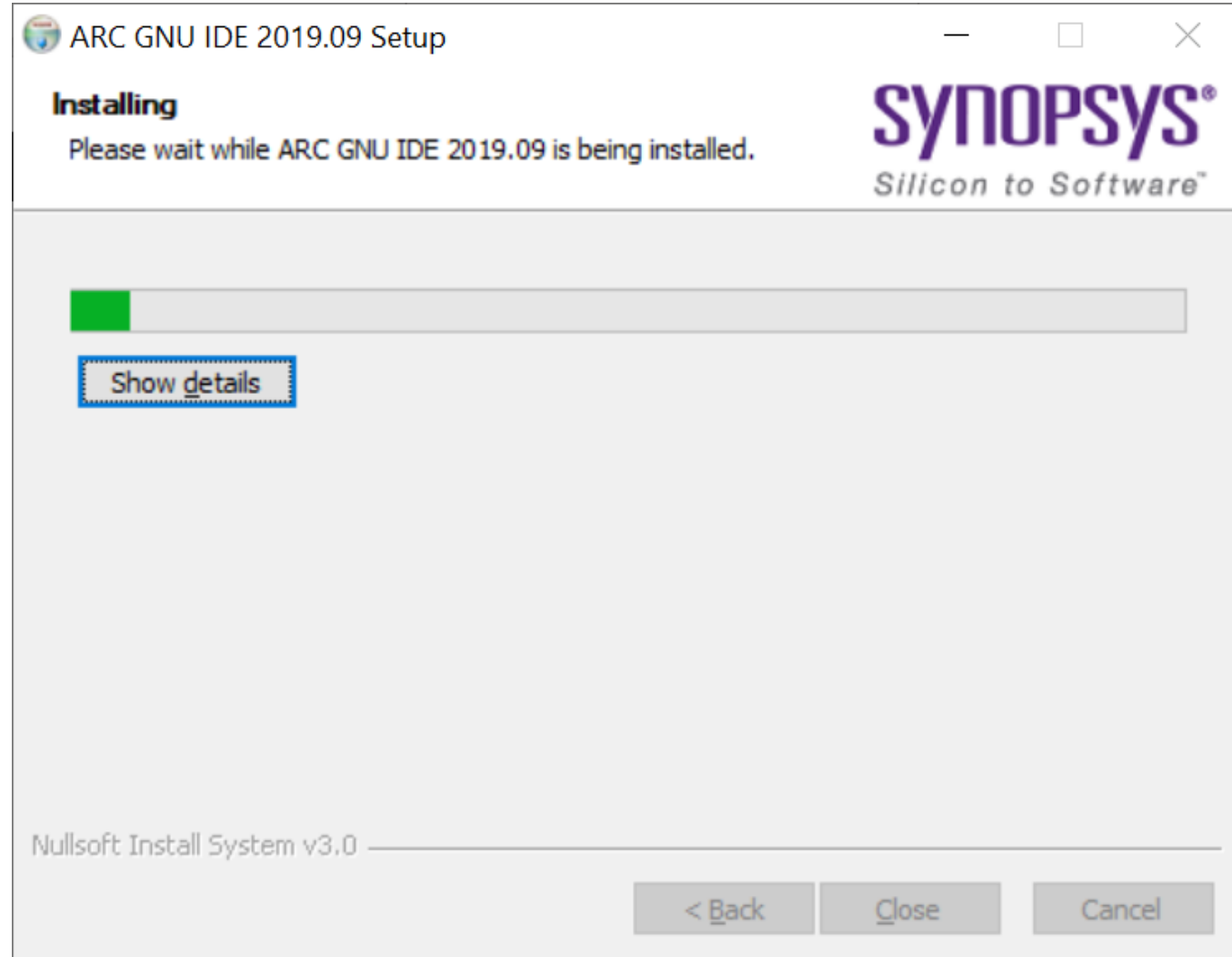
ARC GNU ToolChain Installation

4. Click “Install”



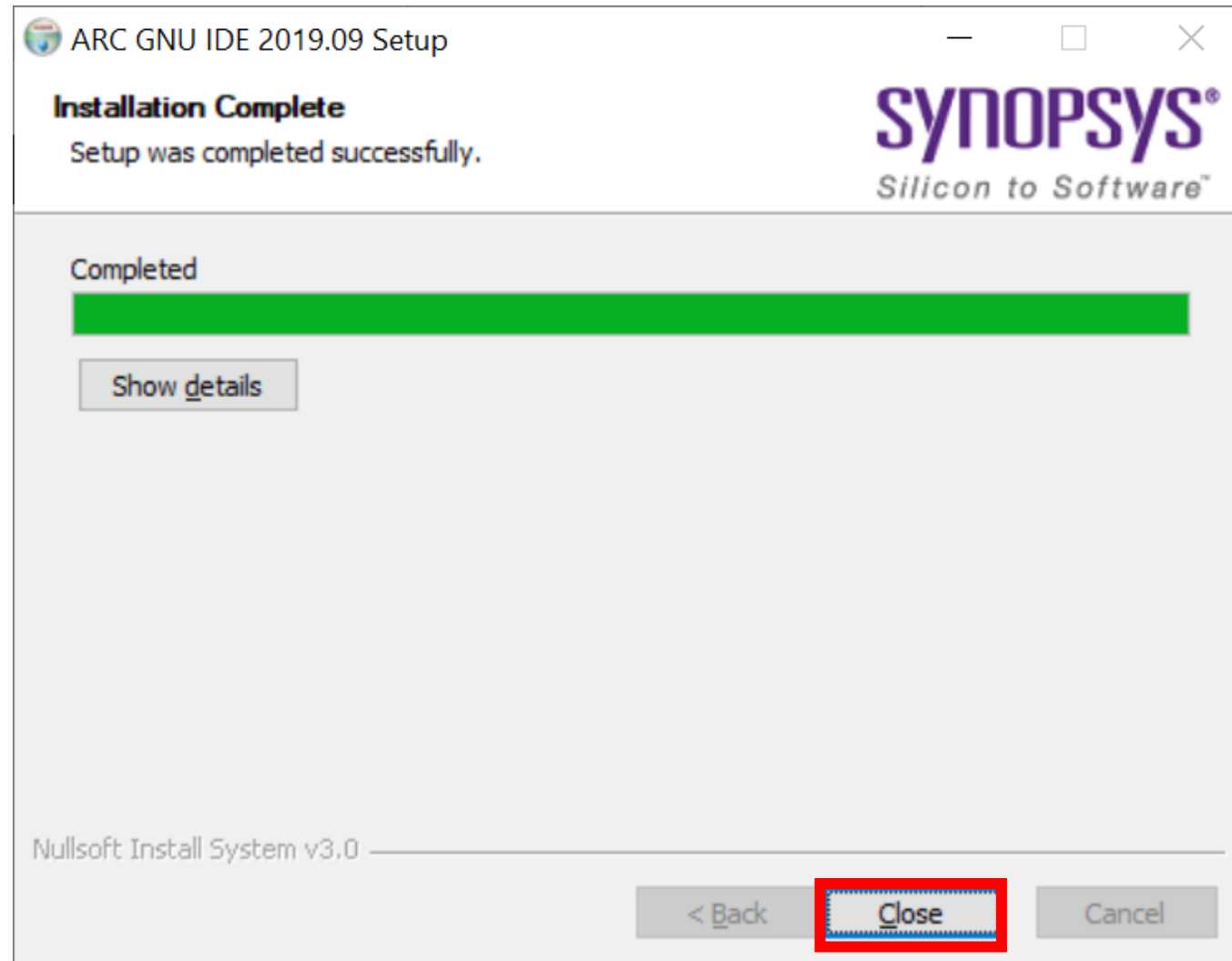
ARC GNU ToolChain Installation

5. Start to install...



ARC GNU ToolChain Installation

6. Click “Close” and complete the installation



ARC GNU ToolChain Installation

1. Download the installation file and select version **2019.09**

Please download the version without rc label

<https://github.com/foss-for-synopsys-dwc-arc-processors/toolchain/releases/tag/arc-2019.09-release>

	Linux x86_64	Windows x86_64	Linux ARC HS	macOS x86_64
Baremetal	Little endian \ Big endian			Little endian \ Big endian
Linux/uClibc ARC700	Little endian \ Big endian			
Linux/uClibc ARC HS	Little endian \ Big endian		Little endian	
Linux/glibc ARC HS	Little endian \ Big endian			
IDE	Download	Download		Download

Install FTDI VCP Driver

Install FTDI VCP Driver

If the USB serial port is not shown in Ports (COM & LPT):

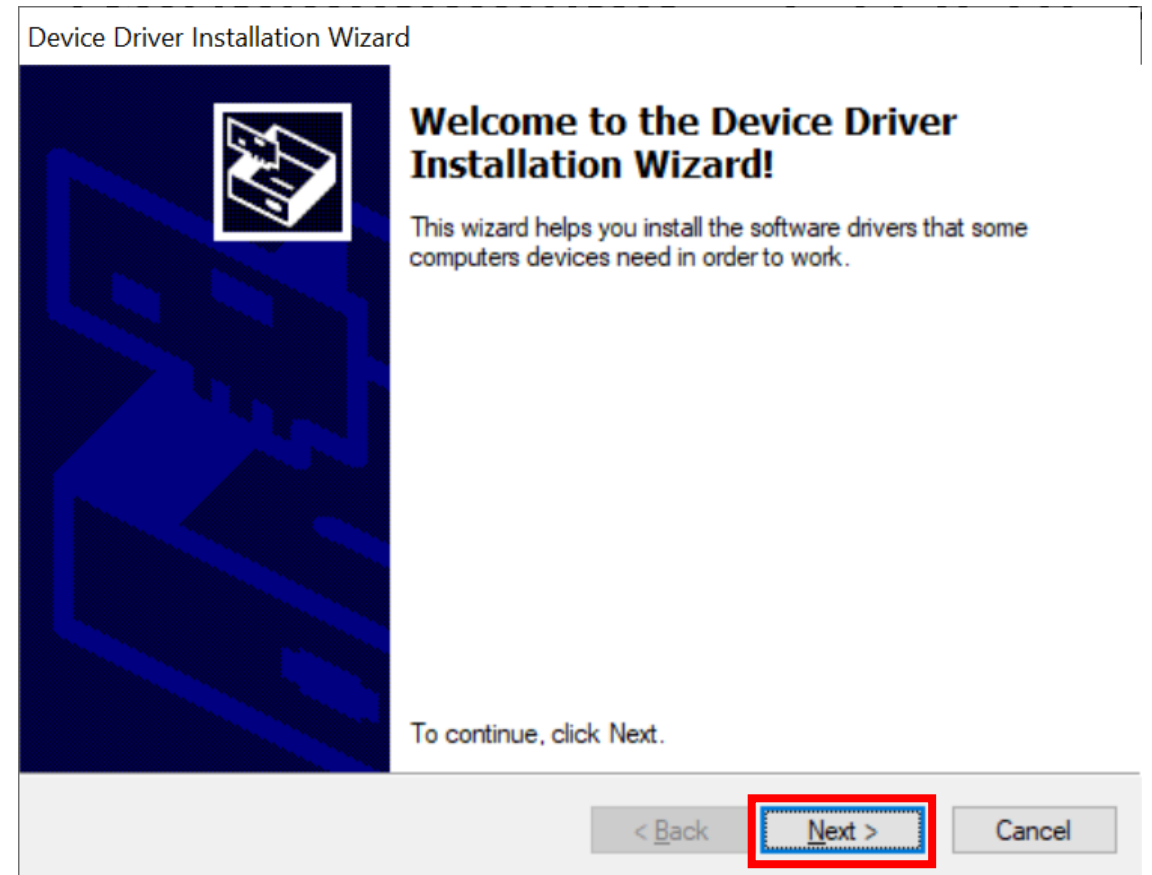
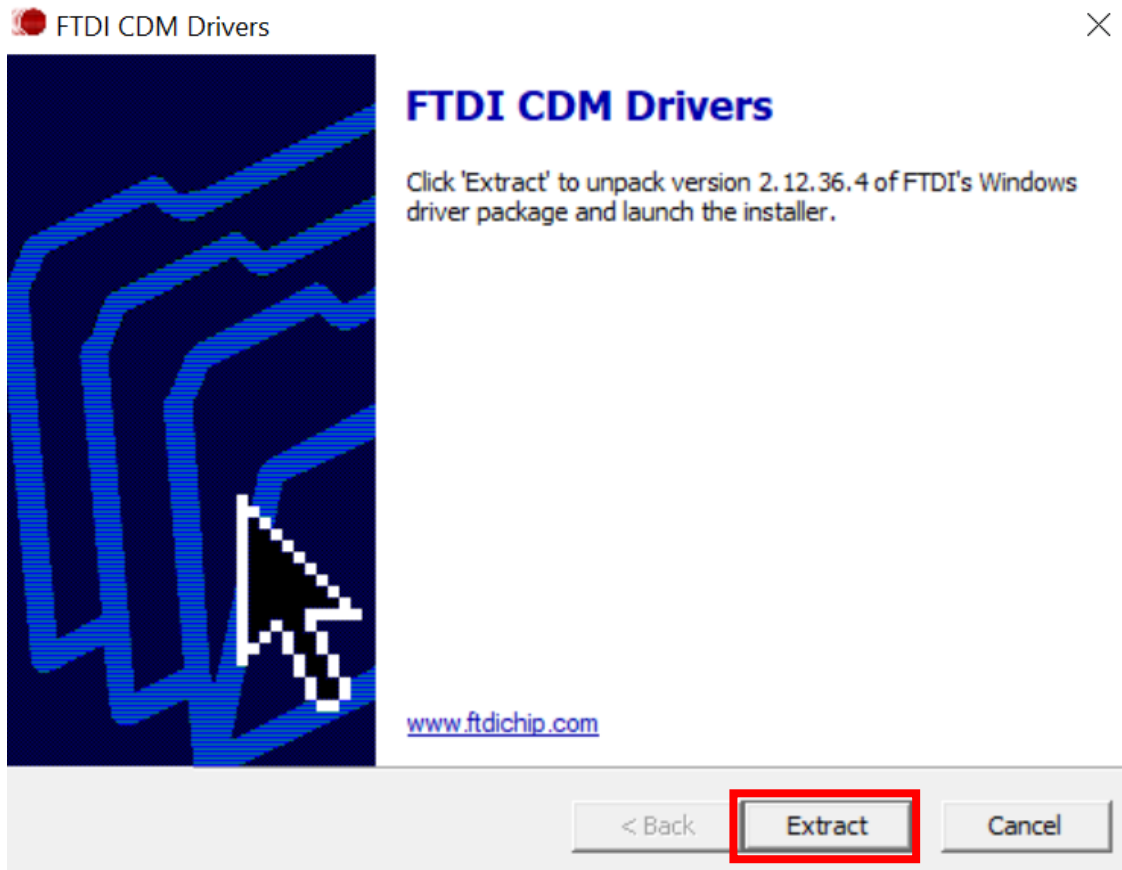
1. Download VCP driver: <https://ftdichip.com/drivers/vcp-drivers/>
Select setup executable
2. Unzip and execute the file

Operating System	Release Date	Processor Architecture							Comments
		X86 (32-Bit)	X64 (64-Bit)	PPC	ARM	MIPSII	MIPSIV	SH4	
Windows (Desktop)*	2021-07-15	2.12.36.4	2.12.36.4	—	2.12.36.4A****	—	—	—	WHQL Certified. Includes VCP and D2XX. Available as a setup executable Please read the Release Notes and Installation Guides .

Install FTDI VCP Driver

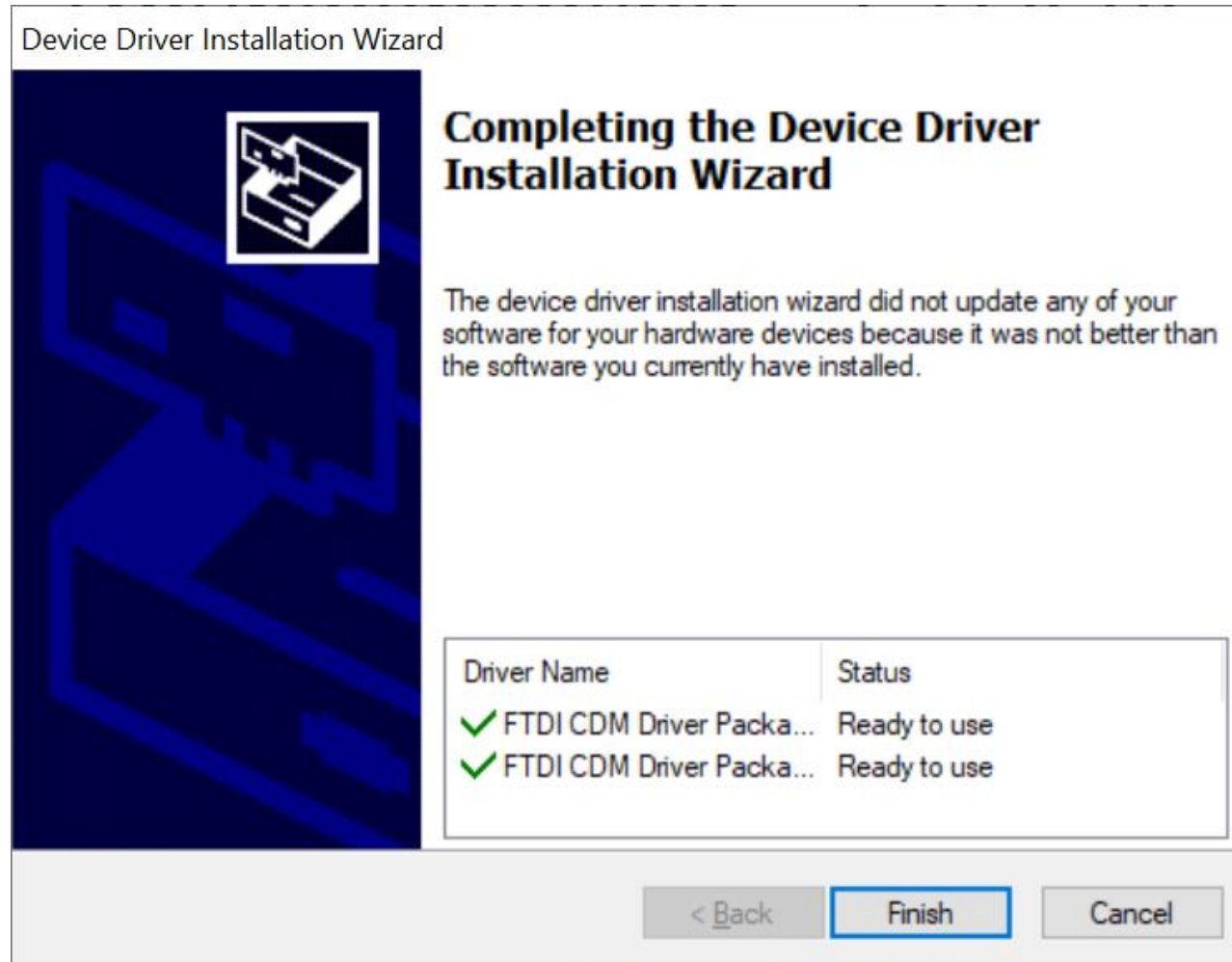
3. Click “Extract”

4. After finish-ing this process, click “Next” to install



Install FTDI VCP Driver

5. Finish



Install CP2102 VCP Driver



Install CP2102 VCP Driver

If the USB serial port is not shown in Ports (COM & LPT):

1. Download VCP driver:

<https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers>

Select CP210x VCP Windows version

2. Unzip the downloaded file (CP210x_VCP_Windows)

Software • 10

CP210x Universal Windows Driver	v11.1.0 3/22/2022
CP210x VCP Mac OSX Driver	v6.0.2 10/27/2021
CP210x Windows Drivers	v6.7.6 9/4/2020
CP210x Windows Drivers with Serial Enumerator	v6.7.6 9/4/2020
CP210x_5x_AppNote_Archive	9/4/2020

[Show 5 more Software](#)

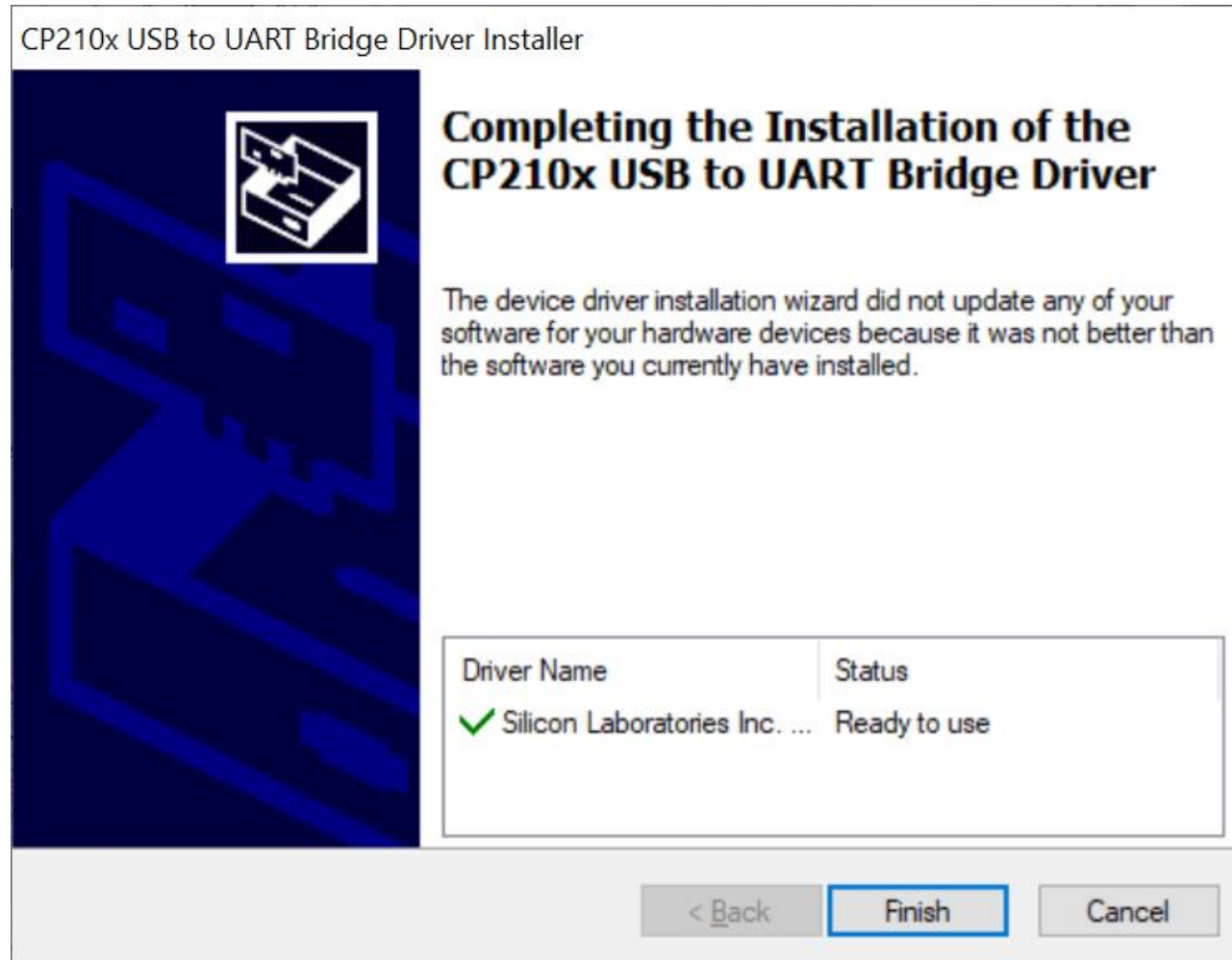
Install CP2102 VCP Driver

3. Execute “CP210xVCPInstaller_x64.exe” or “CP210xVCPInstaller_x86.exe” dependence on your PC
4. Click “Next”



Install CP2102 VCP Driver

5. Finish



Appendix-1: Metaware Install (Option) (For user in Taiwan)



MetaWare Download

- 台灣學界人員可向TSRI申請MetaWare使用權限，申請流程可至TSRI網站，設計服務 > 軟體申請須知 進行查詢。

<https://www.tsri.org.tw/main.jsp>

- 請指導教授先完成申請TSRI會員，接著即可申請要使用之軟體，並且登錄欲要用該軟體之實驗室電腦IP。
- 指導教授為TSRI會員後，學生可點選登入會員，接著選擇註冊帳號，填寫完相關資訊，並等待相關程序處理完畢。



MetaWare Download

- 進入TSRI 官網 <https://www.tsri.org.tw/main.jsp>
- 點選設計服務->軟體資訊/下載



MetaWare Download

- 點選軟體申請，跳至會員登入頁面，並完成登入動作

軟體簡介

軟體簡介

名稱: MetaWare Development Toolkit

簡介: 軟體功能:
為因應國內學術界對ARC嵌入式軟體開發工具的需求，TSRI引進新思(Synopsys)公司的DesignWare MetaWare Toolkit軟體開發工具，開放給學術界免費申請使用。



功能權限錯誤

您需要先 **登入** 才能使用此功能。

其他問題可以先參考 [申請須知](#)。

[聯絡我們](#)

新竹辦公室: 30078 新竹市科學園區展業一路26號
台南-成大奇美樓: 70101台南市大學路1號成功大學自強校區奇美樓7樓
最佳瀏覽解析度為1366*768以上

軟體資訊

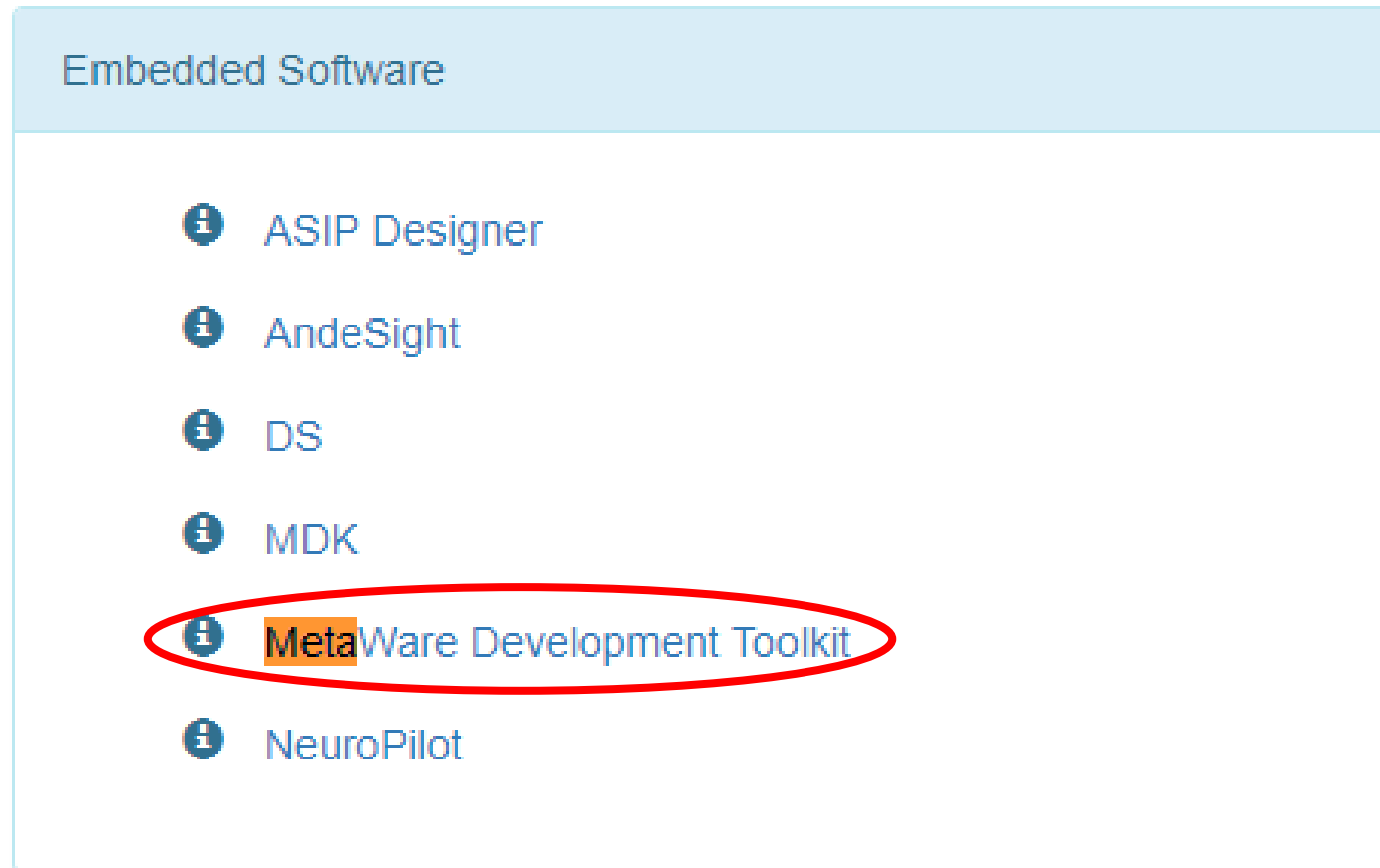
軟體申請

IP登錄

聯絡窗口

MetaWare Download

- Ctrl+f 搜尋Meta
- 點選MetaWare Development Toolkit



MetaWare Download

- 點選軟體取得

軟體簡介

軟體取得

實作範例

軟體簡介

名稱： MetaWare Development Toolkit

簡介：

軟體功能：

為因應國內學術界對ARC嵌入式軟體開發工具的需求，TSRI引進新思(Synopsys)公司的DesignWare MetaWare Toolkit軟體開發工具，開放給學術界免費申請使用。

DesignWare MetaWare Toolkit可以針對ARC HS及ARC EM 平台進行相關的軟體開發、分析及除錯。

軟體內容：

1. 單一工具鏈支援所有ARC處理器(ARC 600, ARC 700, ARC EM and ARC HS)
2. 支援進階C++語法,包含Standard Template Library for ARC
3. OS Aware Debugger 可針對 MQX RTOS for ARC
4. 支援多核心除錯
5. Eclipse-based IDE

系統需求：

Windows 7/10, 64-bit

RHEL 6.6/6.7/6.8/7.1/7.3, 64-bit

1 GB of RAM

MetaWare Download

- 下載mwev

[軟體簡介](#) [軟體取得](#) [實作範例](#)

MetaWare Development Toolkit 軟體取得

2020.09

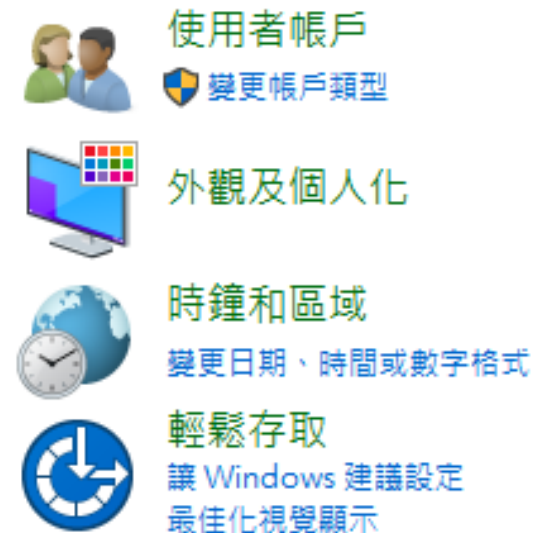
檔案名稱	檔案說明	檔案大小	下載連結
mwev_R-2020_09_win_install.exe	MetaWare Development Toolkit for Windows 64位元版安裝檔	3,382,128,416 bytes	下載
synopsys_caffe_v2020_09.exe	Synopsys caffe 安裝檔 for Windows, install with mwev_R-2020_09_win_install.exe	2,317,838,362 bytes	下載
MWDT_2020.09_linux_1of3.tgz	MetaWare Development Toolkit for Linux Disk 1/3	866,315,860 bytes	下載
MWDT_2020.09_linux_2of3.tgz	MetaWare Development Toolkit for Linux Disk 2/3	1,419,168,522 bytes	下載
MWDT_2020.09_linux_3of3.tgz	MetaWare Development Toolkit for Linux Disk 3/3	2,100,589,978 bytes	下載
mwev_R-2020_09_build_info.txt	MetaWare Development Toolkit 軟體版本說明檔	359 bytes	下載

License Setting

- 進入控制台->系統及安全性->系統->進階系統設定->->環境變數->系統變數新增

調整電腦設定

檢視:



License Setting



License Setting

系統

← → ▾ ▴ 控制台 > 系統及安全性 > 系統 ▾ ↻

控制台首頁

- 裝置管理員
- 遠端設定
- 系統保護
- 進階系統設定**

檢視電腦的基本資訊

Windows 版本

Windows 10 專業版

© 2019 Microsoft Corporation. 著作權所有，並保留一切權利。



系統

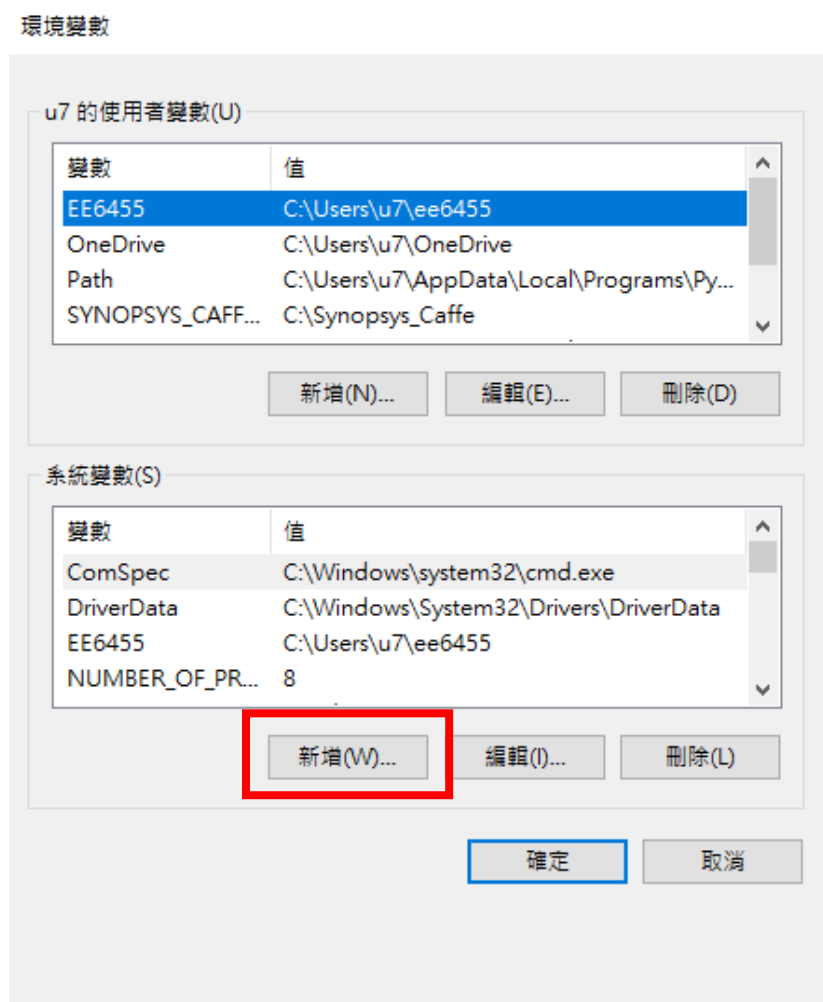
處理器:	Intel(R) Core(TM) i7-4790 CPU @ 3.60GHz 3.60 GHz
已安裝記憶體 (RAM)	16.0 GB (15.9 GB 可用)
系統類型:	64 位元作業系統, x64 型處理器
手寫筆與觸控:	此顯示器不提供手寫筆或觸控式輸入功能。

電腦名稱、網域及工作群組設定

電腦名稱:	DESKTOP-398I3S8
完整電腦名稱:	DESKTOP-398I3S8
電腦描述:	
工作群組:	WORKGROUP

Windows 啟用

License Setting



License Setting

- 變數名稱:SNPSLMD_LICENSE_FILE
- 變數值:26585@lscic.cic.org.tw
- 輸入完成後按下確定

新增系統變數



變數名稱(N):

SNPSLMD_LICENSE_FILE

變數值(V):

26585@lscic.cic.org.tw

瀏覽目錄(D)...

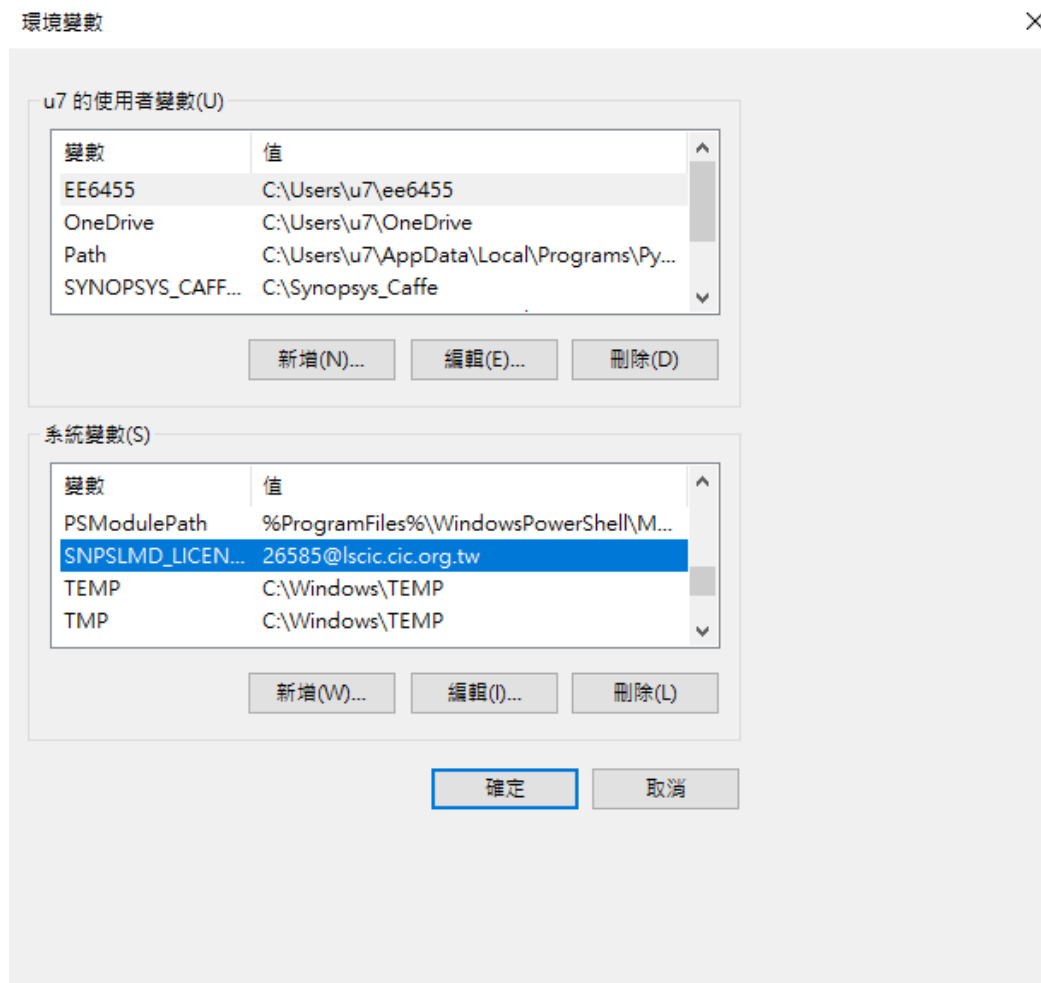
瀏覽檔案(F)...

確定

取消

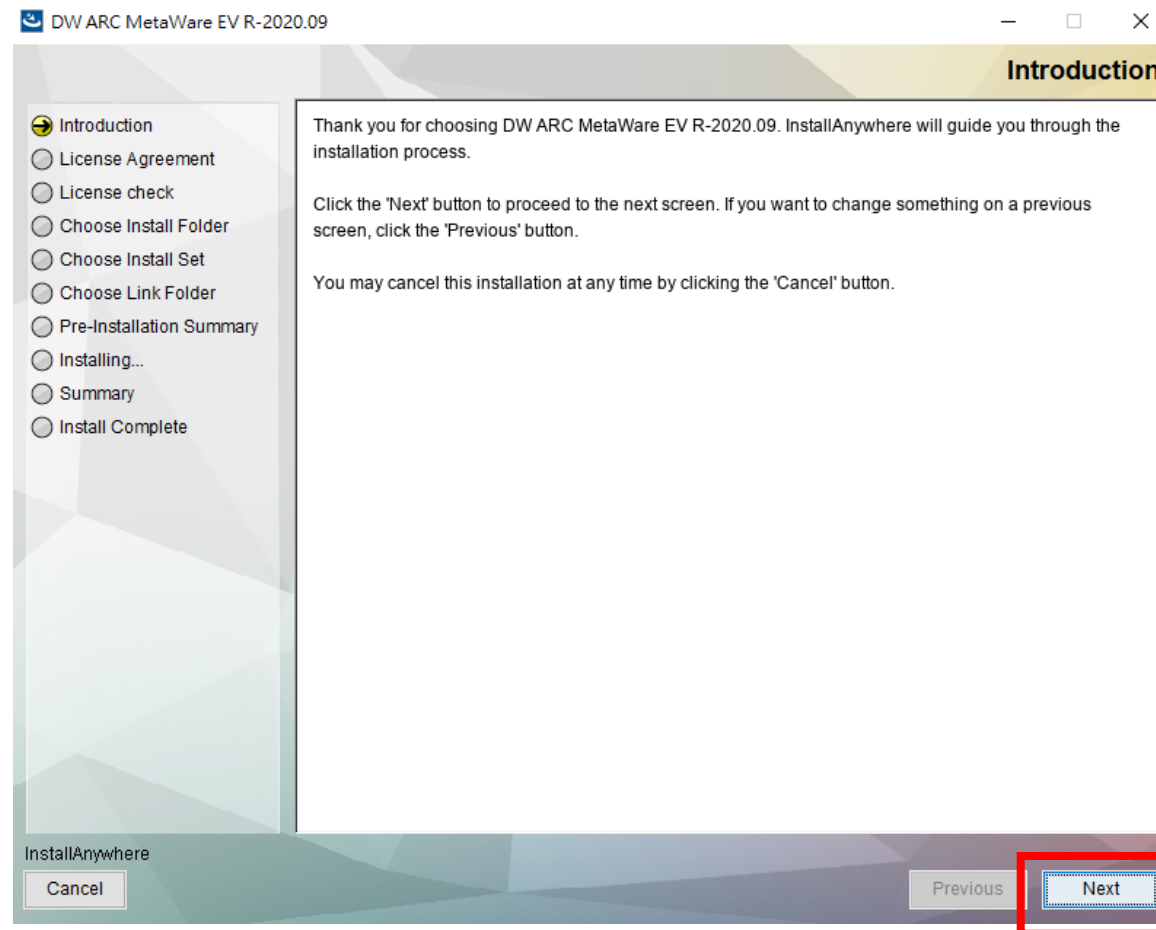
License Setting

- 確認新增成功，成功後重新啟動電腦



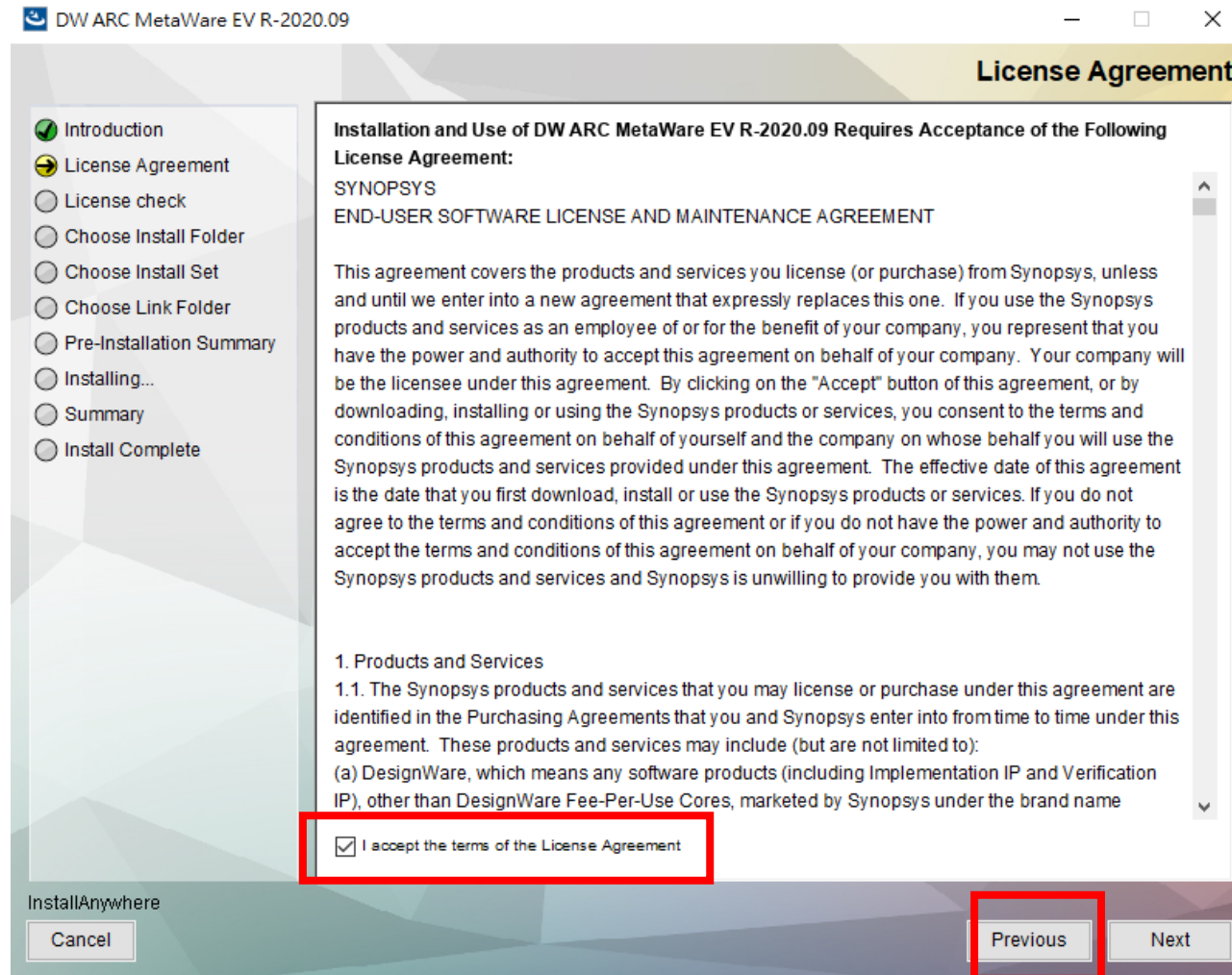
MetaWare Installation

- 執行mwew_R_2020_09_win_install
- 接下來步驟都點選Next



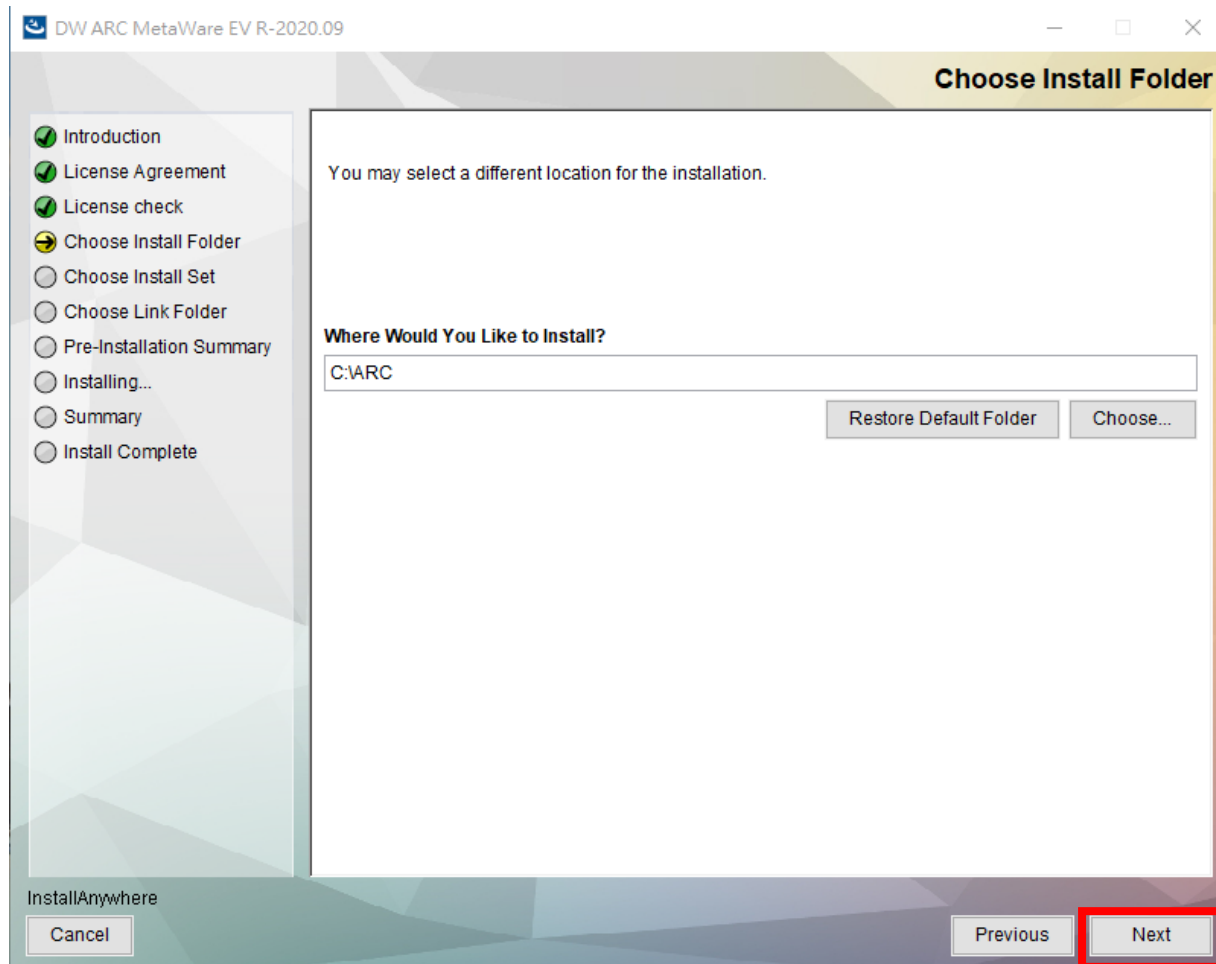
MetaWare Installation

- 勾选 I accept ...



MetaWare Installation

- 如果License check失敗，請回到第五頁確認新增環境變數成功



MetaWare Installation

- 點選Done完成安裝

