# How to Install Erika Enterprise (Windows)

**Avees Lab** 

#### Cygwin 설치

http://Cygwin.com 접속 후 운영체제에 맞는 Cygwin 다운로드



Get that Linux feeling - on Windows

#### This is the home of the Cygwin project

#### What...

...is it?

Cygwin is:

- a large collection of GNU and Open Source tools which provide functionality similar to a <u>Linux</u> <u>distribution</u> on Windows.
- · a DLL (cygwin1.dll) which provides substantial POSIX API functionality.

...isn't it?

Cygwin is not:

- a way to run native Linux apps on Windows, want it to run on Windows.
- a way to magically make native Windows ap Again, you need to build your apps from sofunctionality.

The Cygwin DLL currently works with all recent, commercially released x86 32 bit and 64 bit versions of Windows, starting with Windows XP SP3.

For more information see the FAQ.

#### **Current Cygwin DLL version**

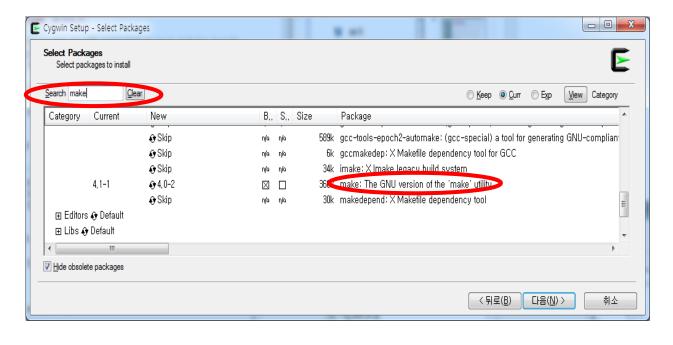
The most recent version of the Cygwin DLL is 2.0.0. Install it by running setup-x86.exe (32-bit installation) or setup-x86 64.exe (64-bit installation).

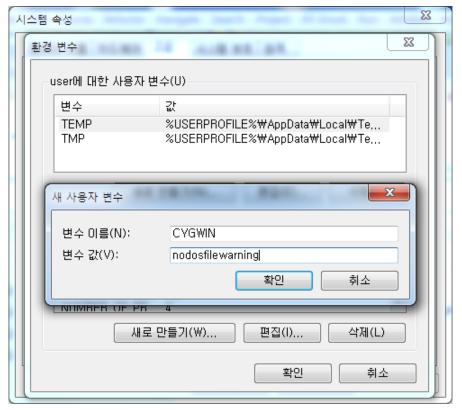
운영체제에 맞는 Cygwin 다운로드!

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#### Cygwin 설치

설치시 make 추가 Devel Category 설치 후 사용자 변수 추가 (제어판 -> 시스템 -> 고급시스템설정 -> 환경변수





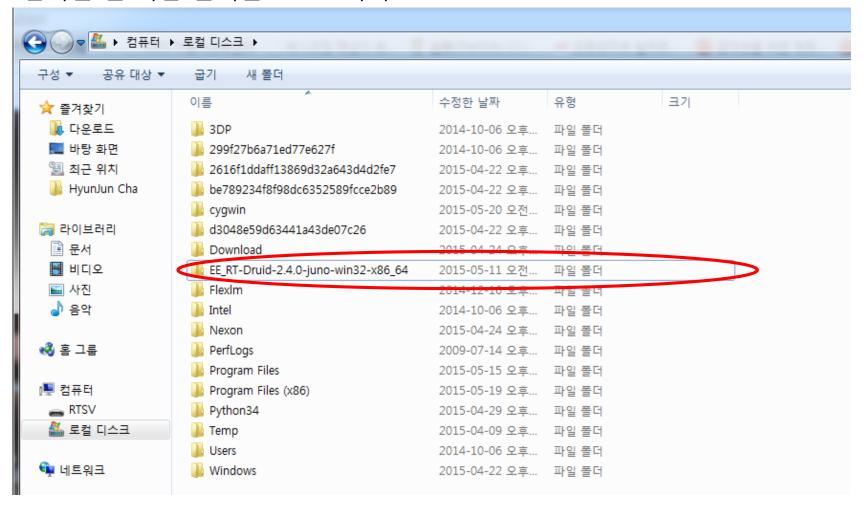
#### Arduino IDE 설치

설치시 경로를 C:₩arduino-1.6.0 로 지정



#### Erika Enterprise IDE 설치 (압축만 풀면 됨)

운영체제에 맞는 RT-Druid 압축파일 복사 후 압축 풀기 압축을 푼 다음 폴더를 C:₩로 복사



#### Erika Enterprise IDE 설치

다음과 같이 수정

```
## Author: 2014, Gluseppe Serano
##Check if is the stack that we're asking for
ifeq ($(call iseeopt, __ARDUINO_SDK__), yes)
## Check the Arduino library selection
ifeq ($(findstring __LIB_ARDUINO_SDK__,$(LIB_OPT)) , __LIB_ARDUINO_SDK__)
INCLUDE_ARDUINO_SDK = YES
endif
## Check if it's selected all libs inclusion
ifeq ($(call iseeopt, __BUILD_ALL_LIBS__), yes)
                                             C:₩EE_RT-Druid-2.4.0-juno-win32-x86_64₩
INCLUDE_ARDUINO_SDK = YES
endif
                                             eclipse₩plugins₩com.eu.evidence.ee_2.4.0.20141105_0021₩
## If the library is required
                                             ee_files₩contrib₩arduino₩cfg 밑에 있는
ifeq ($(INCLUDE_ARDUINO_SDK), YES)
                                             libcfg.mk 파일 수정
ifndef ARDUINO_SDK_FILES
export ARDUINO_SDK_FILES = C:/arduino-1.6.0
endif
ifeq ($(call iseeopt, __RTD_LINUX__), yes)
ARDUINO_SDK_ROOT := \#
             $(call short_native_path, $(ARDUINO_SDK_FILES))
else
ARDUINO_SDK_ROOT := \#
       $\(shell cygpath $\(call short_native_path, $\(ARDUINO_SDK_FILES)\)
endif
EE_VPATH += $(ARDUINO_SDK_ROOT)
EEOUT += ARDUINO=160
## Library code
## Add the inc path to the include pathlist
INCLUDE_PATH := $(ARDUINO_SDK_ROOT)/hardware/arduino/avr/cores/arduino #
     $(INCLUDE_PATH)
ifeq (*call isecopt, __ARDUINO_UNO_328__), yes)
INCLUDE_PATH := $(ARDUINO_SDK_ROOT)/hardware/arduino/avr/variants/standard
endif
```

#### Erika Enterprise IDE 설치

#### 다음과 같이 수정

```
($(call isecopt, __ATMEGA__), yes)
ifeq
        ($(call isecopt, __AVR8__), yes)
ifeq
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/wiring.c
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/wiring_digital.c
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/wiring_analog.c
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/wiring_pulse.c
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/wiring_shift.c
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/CDC.cpp
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/HardwareSerial.cpp
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/HID.c
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/IPAddress.cpp
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/new.c
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/Print.cpp
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/Stream.cpp
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/Tone.cpp
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/USBCore.cpp
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/WMath.cpp
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/WString.cpp
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/hooks.c
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/Winterrupts.c
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/abi.cpp
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/HardwareSerialo.cpp
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/HardwareSerial1.cpp
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/HardwareSerial2.cpp
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/HardwareSerial3.cpp
```

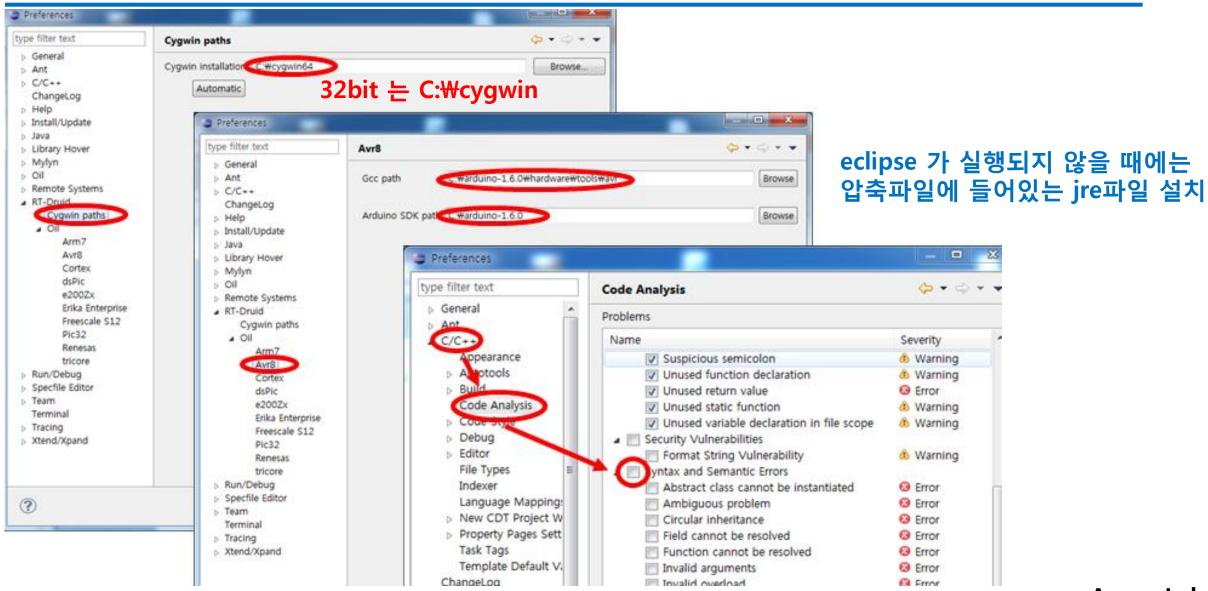
#### 최신 버전 Arduino의 바뀐 소스코드 리스트

#### Copy&paste용



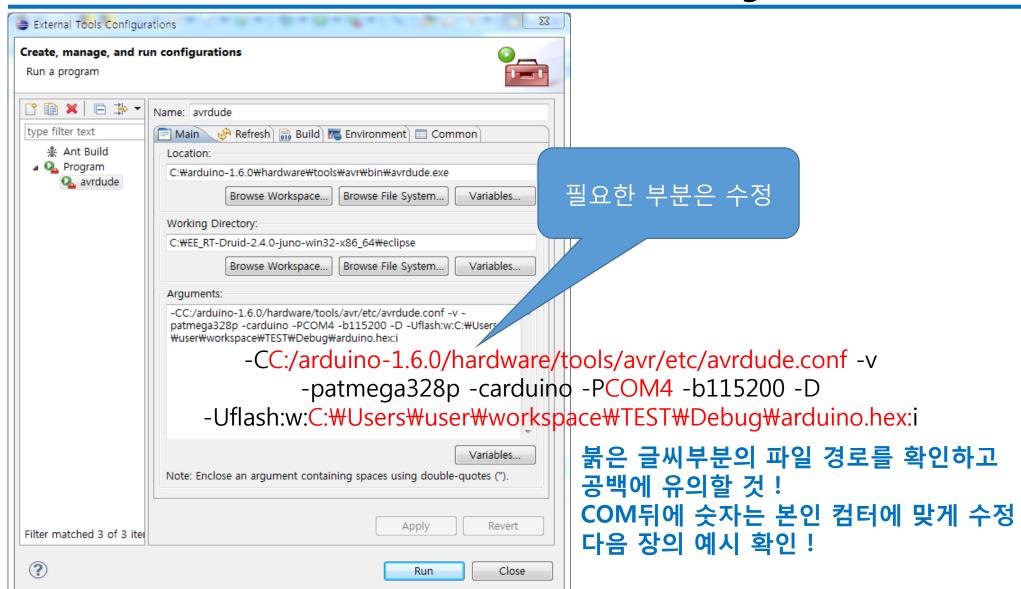
```
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/wiring.c
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/wiring digital.c
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/wiring analog.c
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/wiring pulse.c
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/wiring shift.c
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/CDC.cpp
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/HardwareSerial.cpp
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/HID.c
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/IPAddress.cpp
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/new.c
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/Print.cpp
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/Stream.cpp
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/Tone.cpp
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/USBCore.cpp
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/WMath.cpp
EE SRCS ARDUINO_SDK += hardware/arduino/avr/cores/arduino/WString.cpp
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/hooks.c
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/WInterrupts.c
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/abi.cpp
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/HardwareSerial0.cpp
EE_SRCS_ARDUINO_SDK += hardware/arduino/avr/cores/arduino/HardwareSerial1.cpp
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/HardwareSerial2.cpp
EE SRCS ARDUINO SDK += hardware/arduino/avr/cores/arduino/HardwareSerial3.cpp
```

#### eclipse의 Window -> Preference 수정

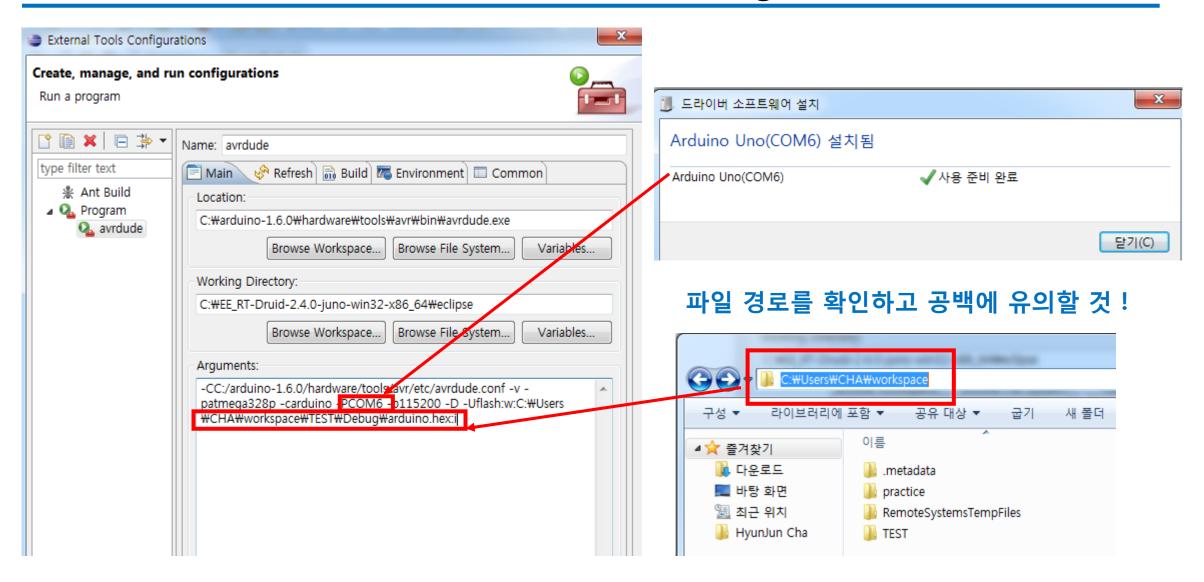


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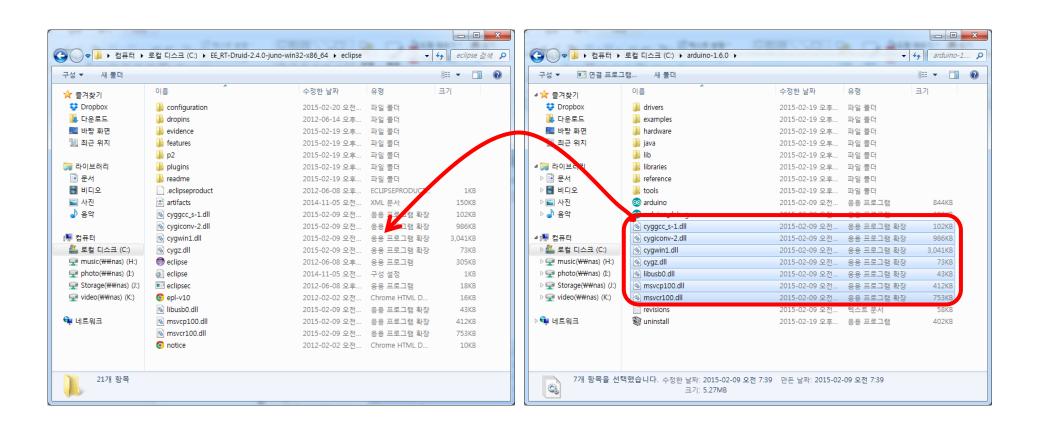
#### Run -> External Tools -> External Tools Configurations 추가 (avrdude)



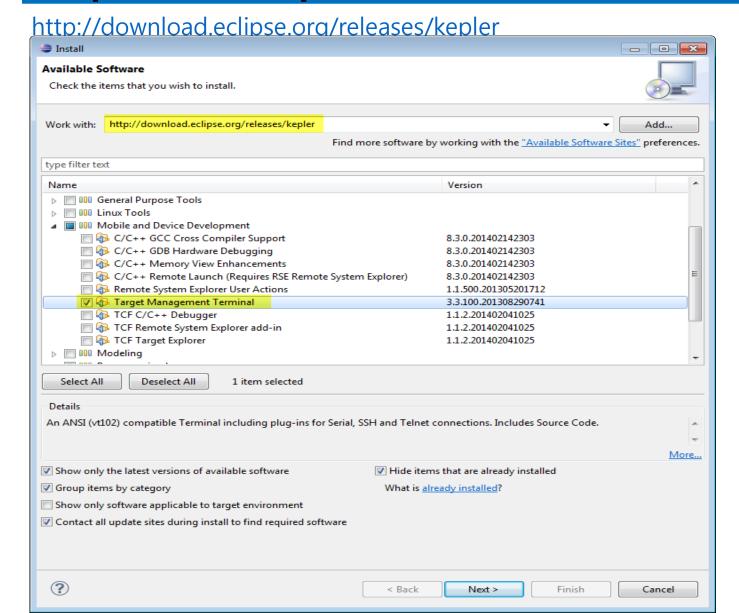
#### Run -> External Tools -> External Tools Configurations 추가 (예시)



## Cygwin dlls eclipse 디렉토리에 복사 (avrdude 실행에 필요)

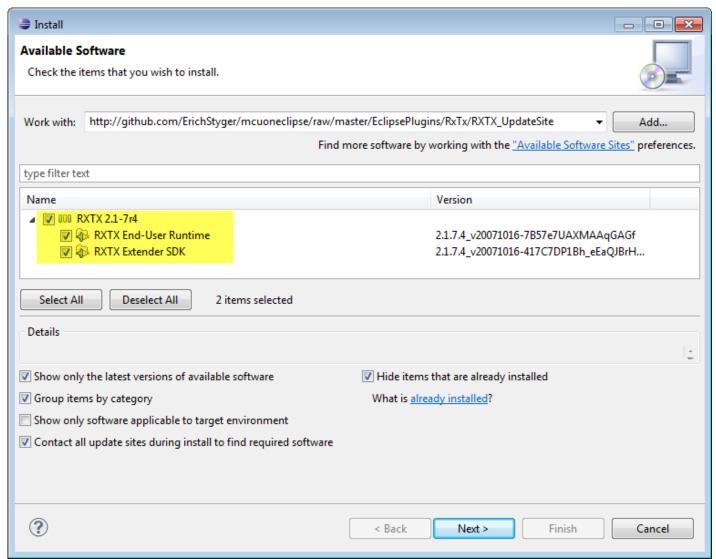


## Eclipse에서 Help -> Install New Software



## Eclipse에서 Help -> Install New Software

#### http://rxtx.qbang.org/eclipse

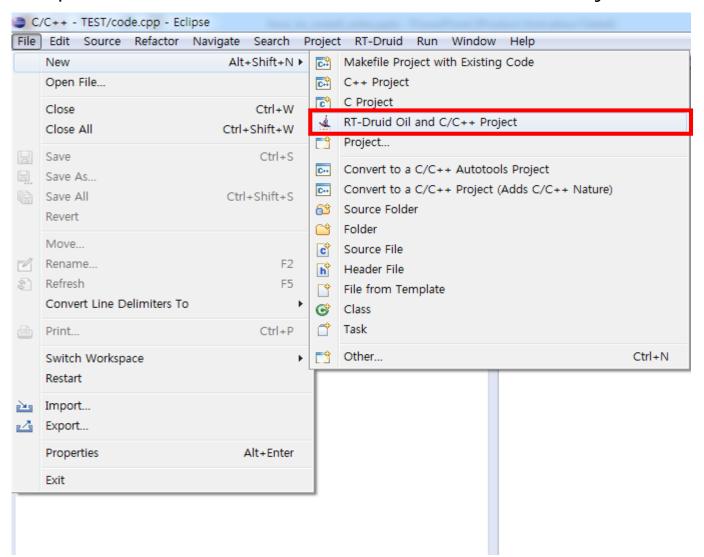


http://mcuoneclipse.com/2014/03/23/serial-terminal-view-with-eclipse-kepler/

참고사이트.

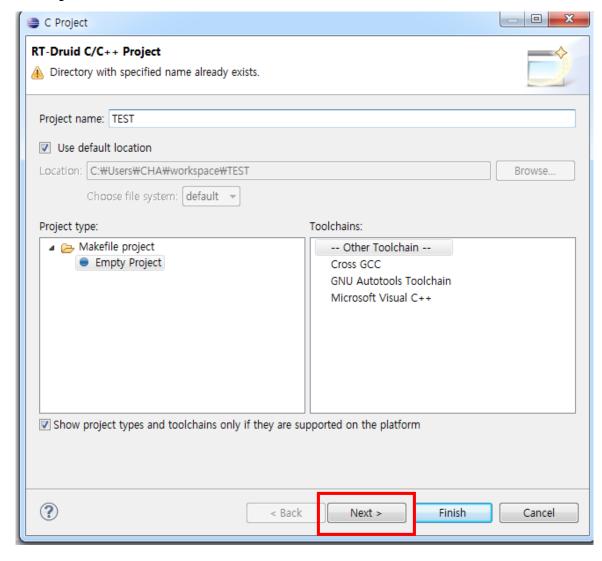
## eclipse Demo 파일 만들기

eclipse 실행 -> New -> RT Druid Oil and C/C++ Project

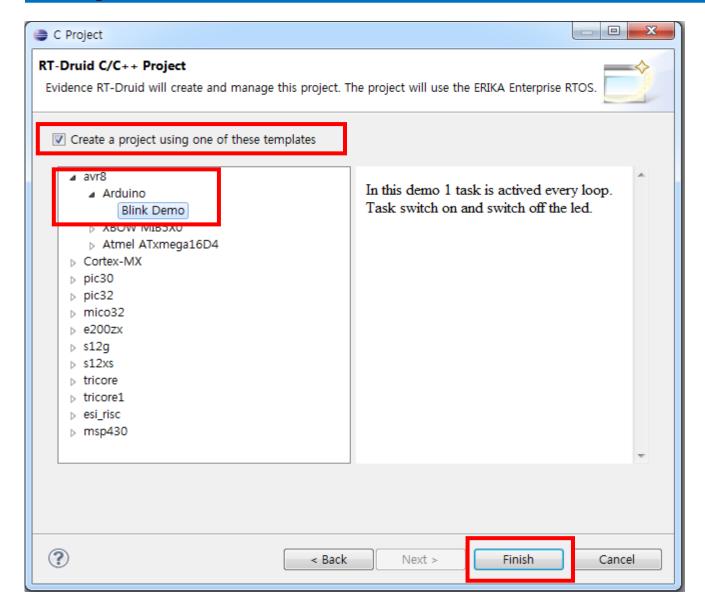


## eclipse Demo 파일 만들기

Project name : TEST 후 Next 버튼 클릭

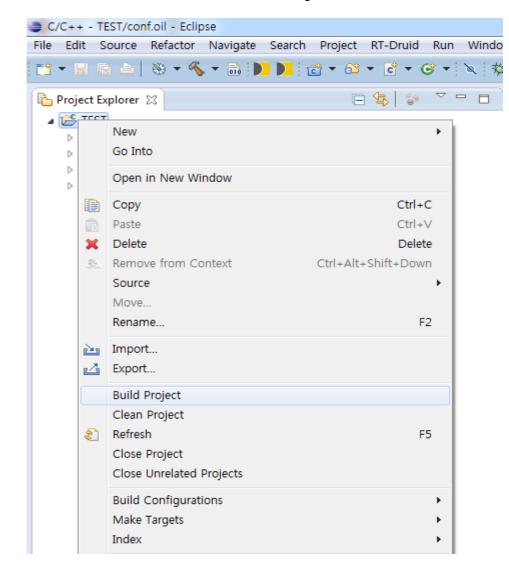


## eclipse Demo 파일 만들기



## eclipse Demo Build

TEST 우클릭 후 Build Project 클릭

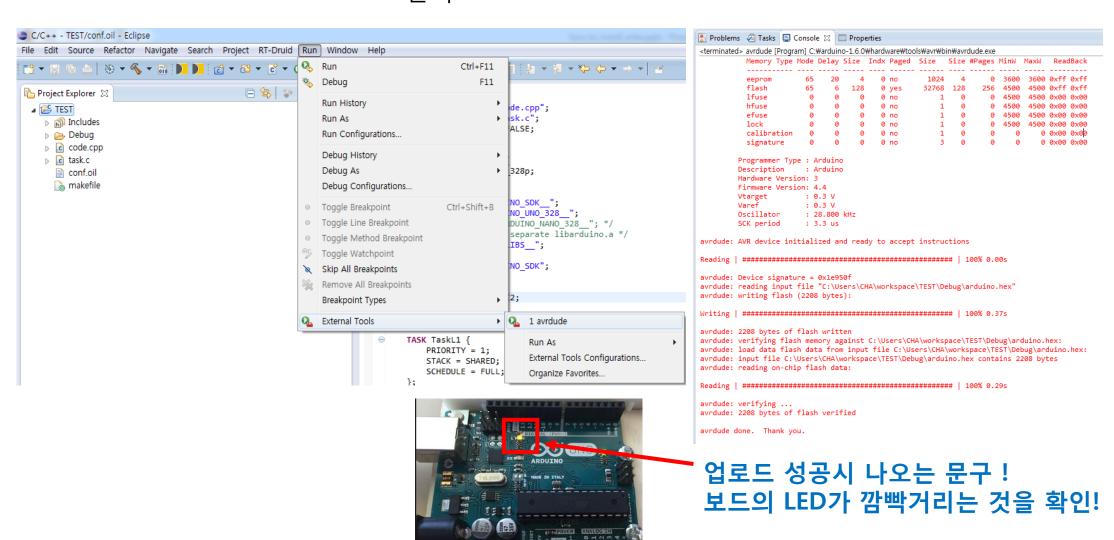


```
Problems 🔎 Tasks 📮 Console 🖾 🔲 Properties
CDT Build Console [TEST]
      ee force schedule.c
cc
      ee gettaskstate.c
cc
CC
      ee gettaskid.c
      ee terminat.c
CC
CC
      ee thendin.c
      ee irgendin.c
CC
      ee tstub.c
      ee tnterm.c
      ee lookup.c
CC
      ee rq exchg.c
      ee rq inser.c
CC
      ee shtdown.c
      ee startos.c
      ee rq first.c
      ee chaintas.c
      ee lockres.c
      ee ulockres.c
      ee ulockallres.c
CC
      ee intvect.c
CC
      libee.a
      arduino.elf
                                  hex filename
          data
                   bss
                          dec
   text
           286
                         2232
                                  8b8 arduino.elf
   1922
      arduino.elf
     arduino.elf
HEX
     arduino.elf
LSS
SREC arduino.elf
**********
                                      Build 성공시 나오는 문구
Compilation terminated successfully!
14:58:12 Build Finished (took 16s.485ms)
```

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#### Arduino에 업로드

Run -> External Tools -> avedude 클릭



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## **THANK YOU**