

Embedded computing for scientific and industrial imaging applications

S/W Requirements & preparation

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Requirements and recommendations

- Requirements

- [Git](#)
- Any C compiler
- [GitHub](#) account

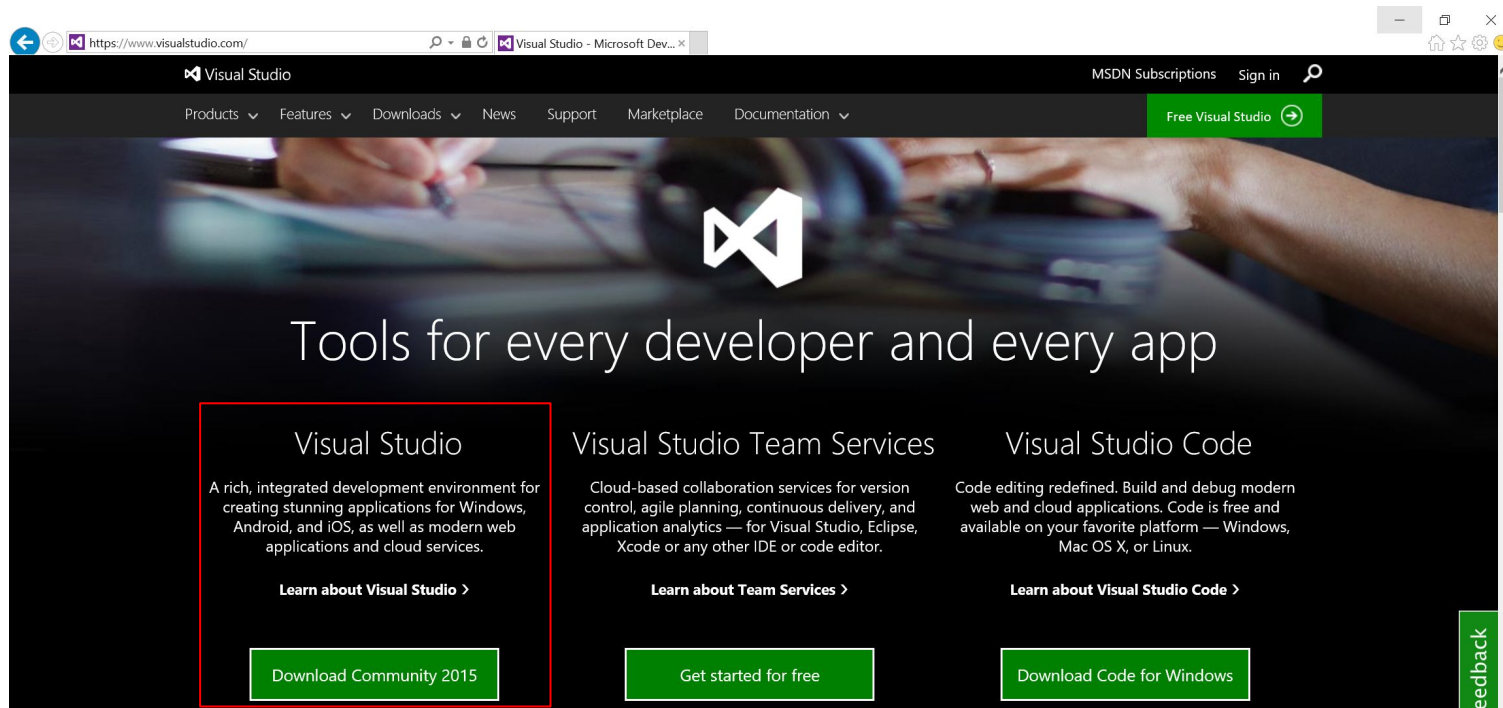
- Recommendations

- Microsoft Windows 10
- [MS Visual Studio 2015 Community](#)
- [Git](#) for Windows

Note : Linux is often required for embedded computing, but learning linux is not part of this class

Visual Studio Community 2015

<https://www.visualstudio.com/>, Visual Studio Community 2015 with Update 3



The screenshot shows the Visual Studio website homepage. The browser address bar displays 'https://www.visualstudio.com/'. The website has a dark theme with a navigation bar at the top containing links for Products, Features, Downloads, News, Support, Marketplace, and Documentation. A 'Free Visual Studio' button is visible in the top right. The main content area features the Visual Studio logo and the tagline 'Tools for every developer and every app'. Below this, there are three columns: 'Visual Studio' (highlighted with a red box), 'Visual Studio Team Services', and 'Visual Studio Code'. Each column has a description and a 'Learn about' link. At the bottom, there are three green buttons: 'Download Community 2015', 'Get started for free', and 'Download Code for Windows'. A vertical 'feedback' button is on the right side.

Visual Studio

MSDN Subscriptions Sign in

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Free Visual Studio

Tools for every developer and every app

Visual Studio

A rich, integrated development environment for creating stunning applications for Windows, Android, and iOS, as well as modern web applications and cloud services.

[Learn about Visual Studio >](#)

[Download Community 2015](#)

Visual Studio Team Services

Cloud-based collaboration services for version control, agile planning, continuous delivery, and application analytics — for Visual Studio, Eclipse, Xcode or any other IDE or code editor.

[Learn about Team Services >](#)

[Get started for free](#)

Visual Studio Code

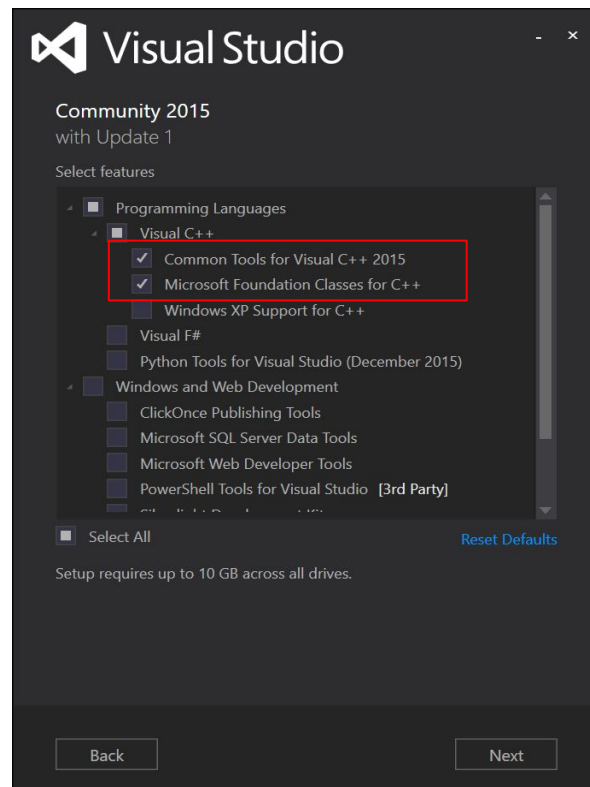
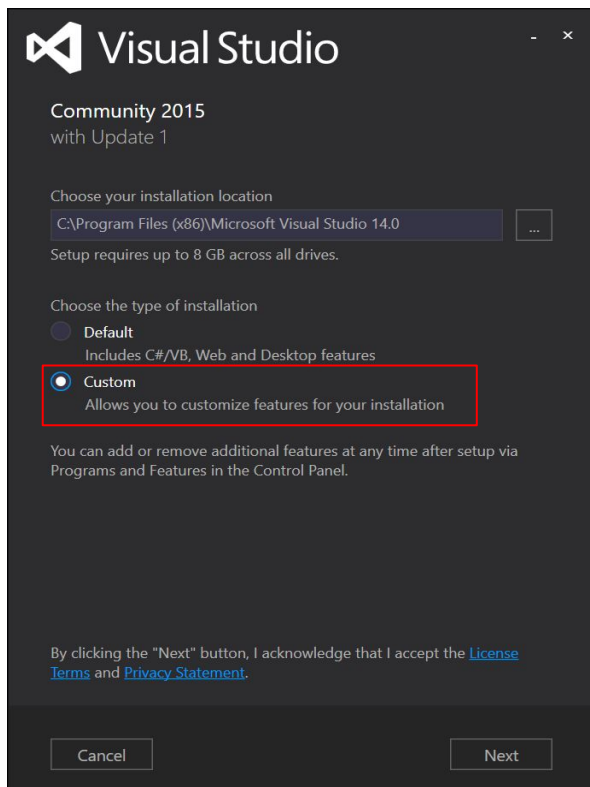
Code editing redefined. Build and debug modern web and cloud applications. Code is free and available on your favorite platform — Windows, Mac OS X, or Linux.

[Learn about Visual Studio Code >](#)

[Download Code for Windows](#)

feedback

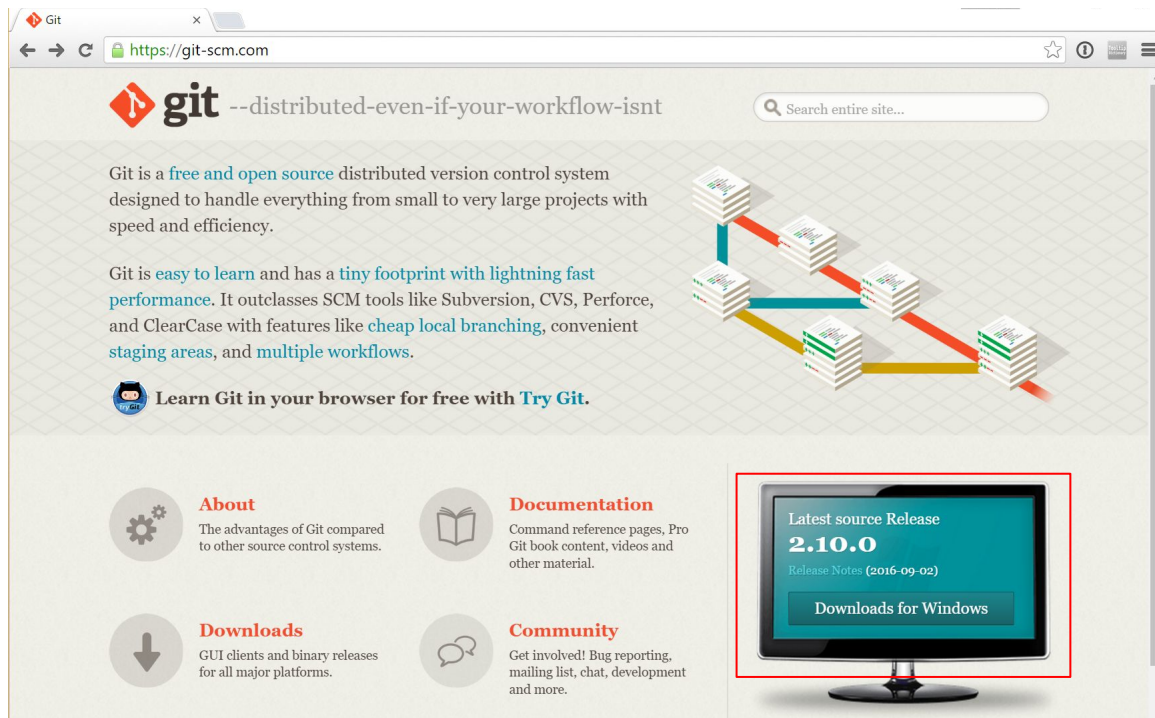
Installation of Visual Studio Community 2015



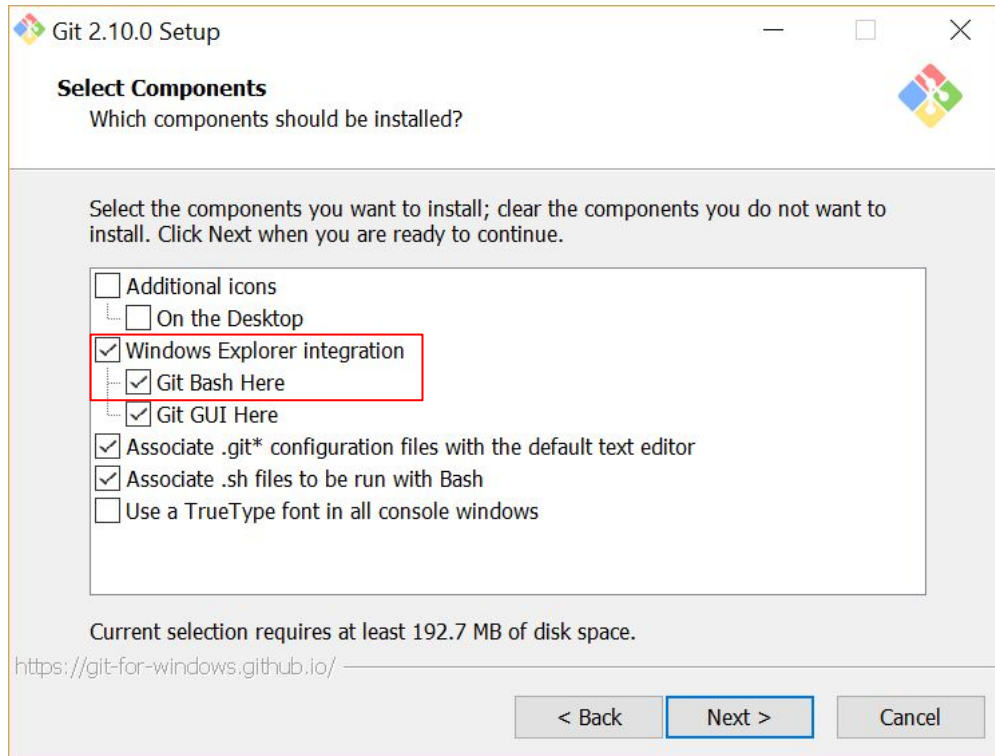
Git for Windows

Download Git for Windows

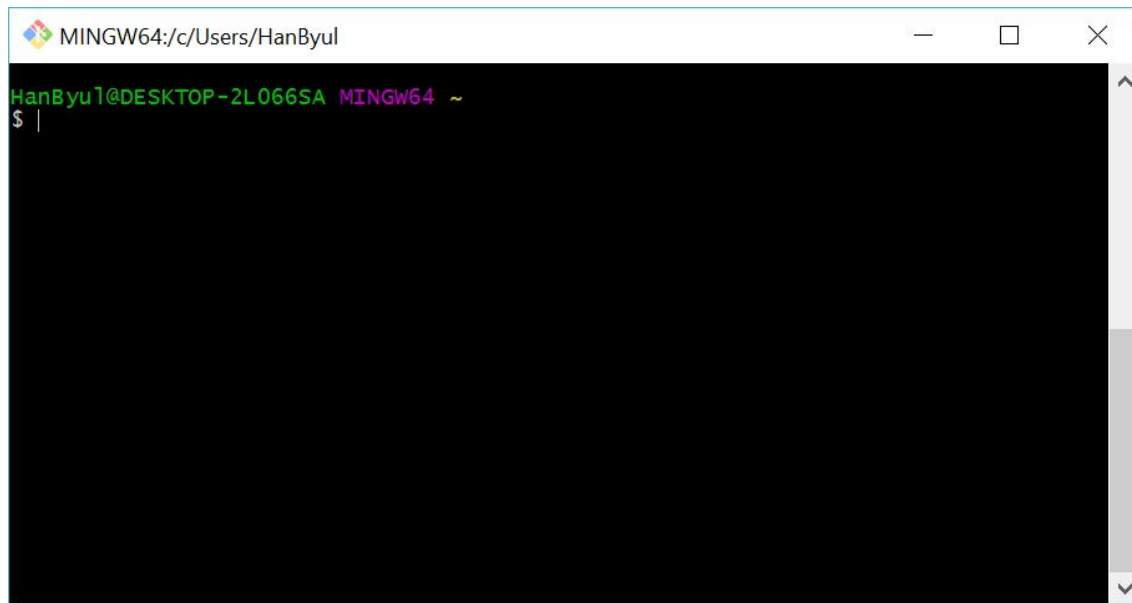
Git-2.10.0-64-bit.exe
(Sep 4, 2016)



Installation of Git for Windows



Git Bash

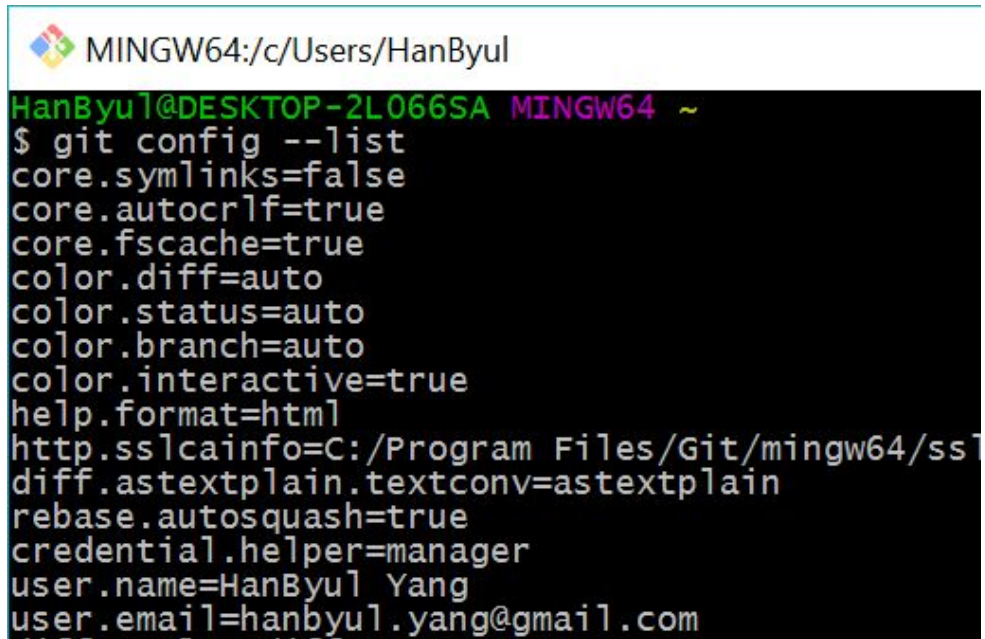


Git configuration

```
$ git config --global user.name "name"
```

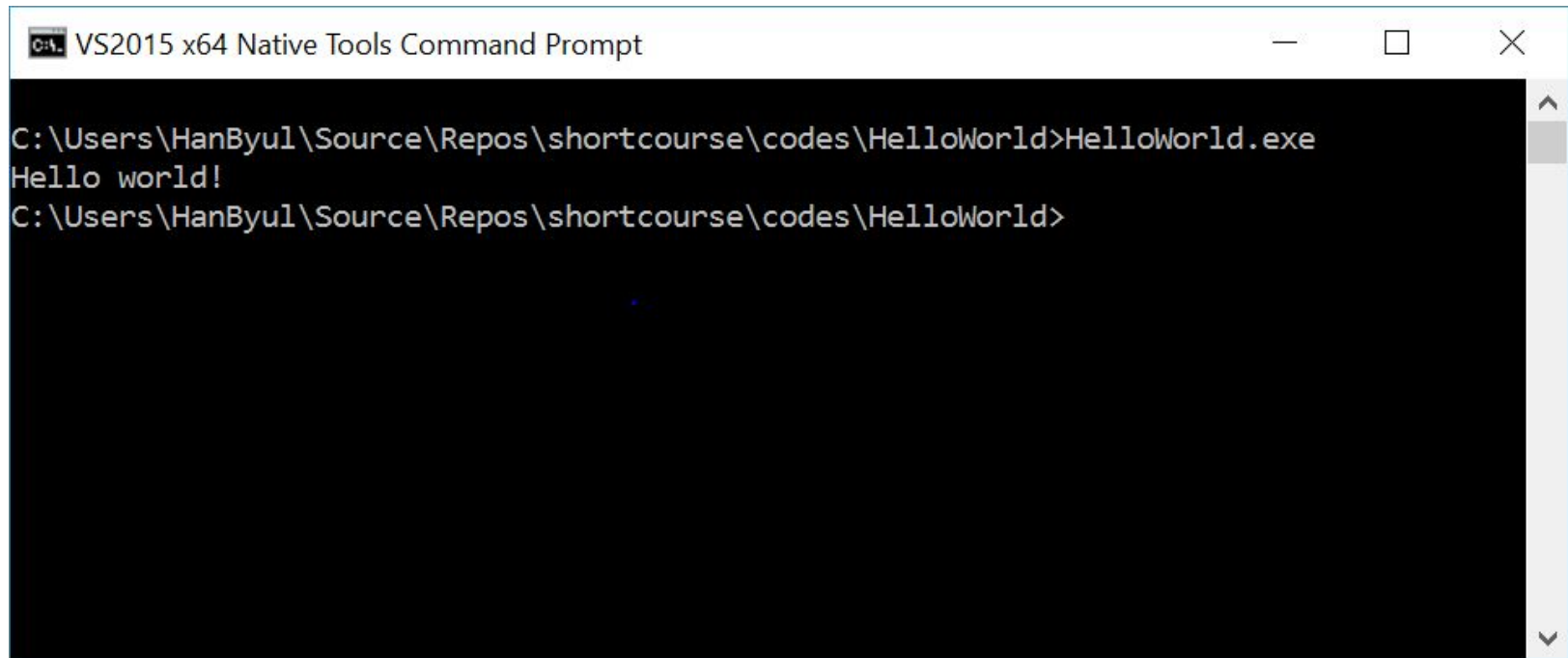
```
$ git config --global user.email "email"
```

```
$ git config --list
```

A screenshot of a Windows command prompt window. The title bar shows the Windows logo and the path 'MINGW64:/c/Users/HanByul'. The prompt is 'HanByul@DESKTOP-2L066SA MINGW64 ~'. The command '\$ git config --list' has been executed, and the output is displayed as a list of configuration variables and their values.

```
MINGW64:/c/Users/HanByul
HanByul@DESKTOP-2L066SA MINGW64 ~
$ git config --list
core.symlinks=false
core.autocrlf=true
core.fscache=true
color.diff=auto
color.status=auto
color.branch=auto
color.interactive=true
help.format=html
http.sslcainfo=C:/Program Files/Git/mingw64/ss
diff.astextplain.textconv=astextplain
rebase.autosquash=true
credential.helper=manager
user.name=HanByul Yang
user.email=hanbyul.yang@gmail.com
```

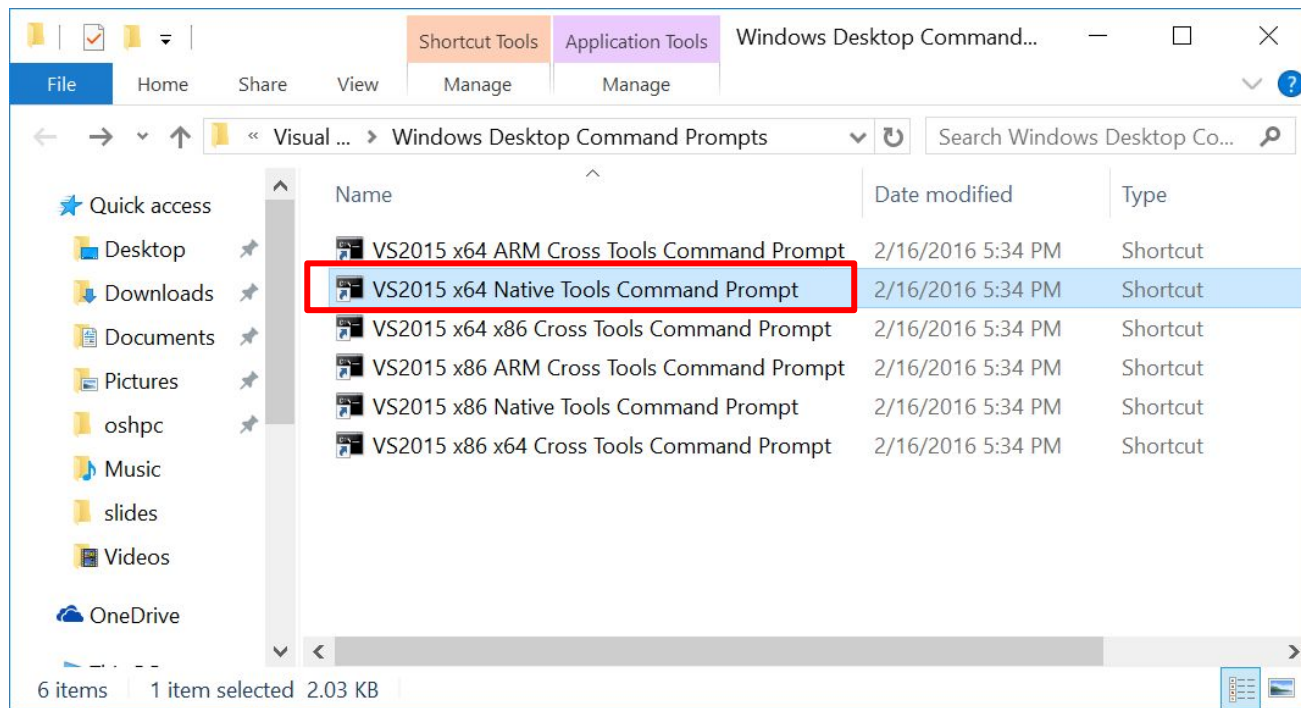

Demo : Hello World!



A screenshot of a Windows Command Prompt window titled "VS2015 x64 Native Tools Command Prompt". The window has a black background and white text. The command prompt shows the current directory as "C:\Users\HanByul\Source\Repos\shortcourse\codes\HelloWorld" and the command "HelloWorld.exe" has been executed, resulting in the output "Hello world!". The prompt is now waiting for the next command.

```
C:\Users\HanByul\Source\Repos\shortcourse\codes\HelloWorld>HelloWorld.exe
Hello world!
C:\Users\HanByul\Source\Repos\shortcourse\codes\HelloWorld>
```

build environment



cl.exe

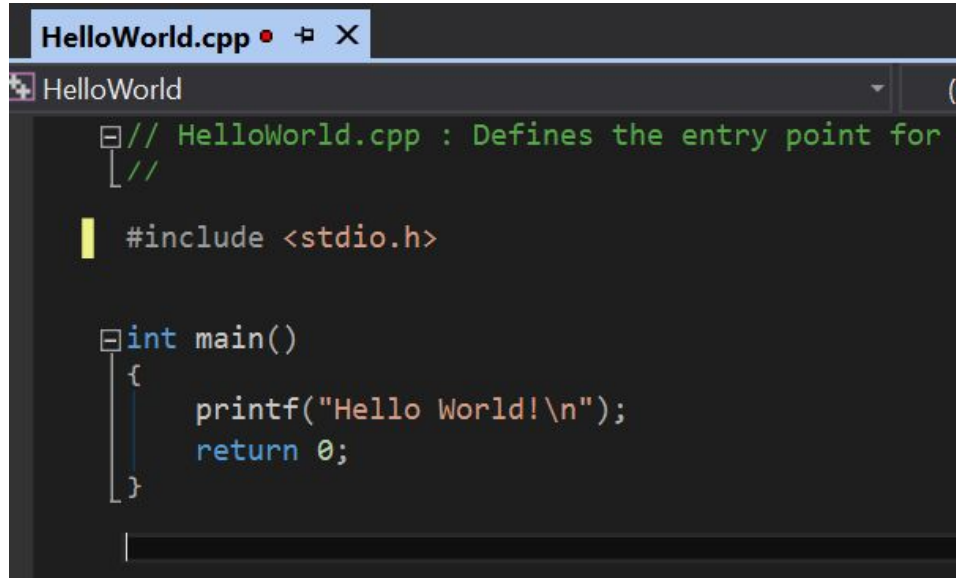
Microsoft (R) C/C++ Optimizing Compiler Version 19.00.23506

C:\Program Files (x86)\Microsoft Visual Studio 14.0\VC\bin\cl.exe

usage: cl [option...] filename... [/link linkoption...]

ex) cl.exe helloworld.c

hello world



```

HelloWorld.cpp
HelloWorld

// HelloWorld.cpp : Defines the entry point for the application.
//

#include <stdio.h>

int main()
{
    printf("Hello World!\n");
    return 0;
}

```