

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

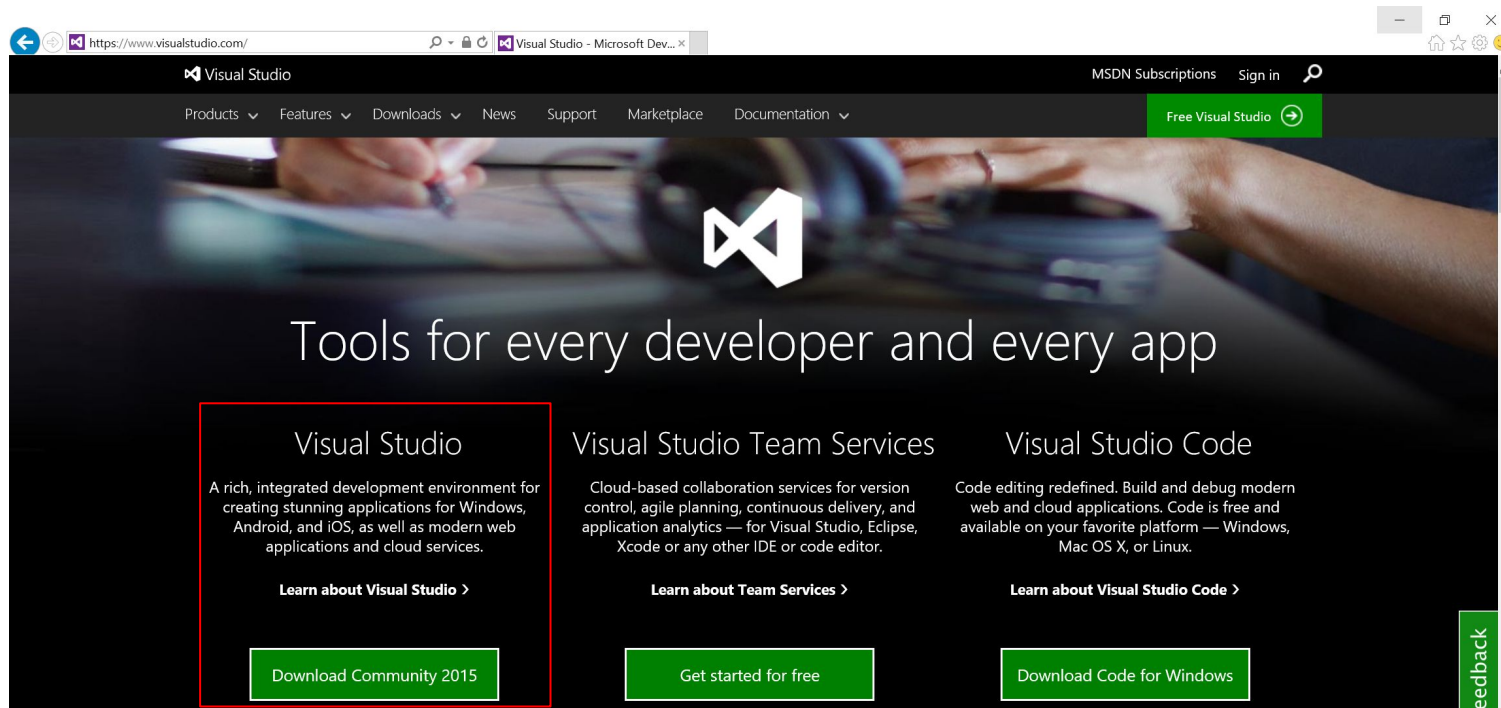
- Recommendations

- 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 page features a dark background with a blurred image of hands working on a laptop. The Visual Studio logo is prominently displayed in the center. Below the logo, the text "Tools for every developer and every app" is written in white. The page is divided into three main sections: Visual Studio, Visual Studio Team Services, and Visual Studio Code. Each section has a brief description and a "Learn about" link. A red box highlights the "Visual Studio" section, which includes a "Download Community 2015" button. The "Visual Studio Team Services" section has a "Get started for free" button, and the "Visual Studio Code" section has a "Download Code for Windows" button. A green "Free Visual Studio" button is located in the top right corner of the page. A vertical "feedback" button is visible on the right side of the page.

Visual Studio

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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

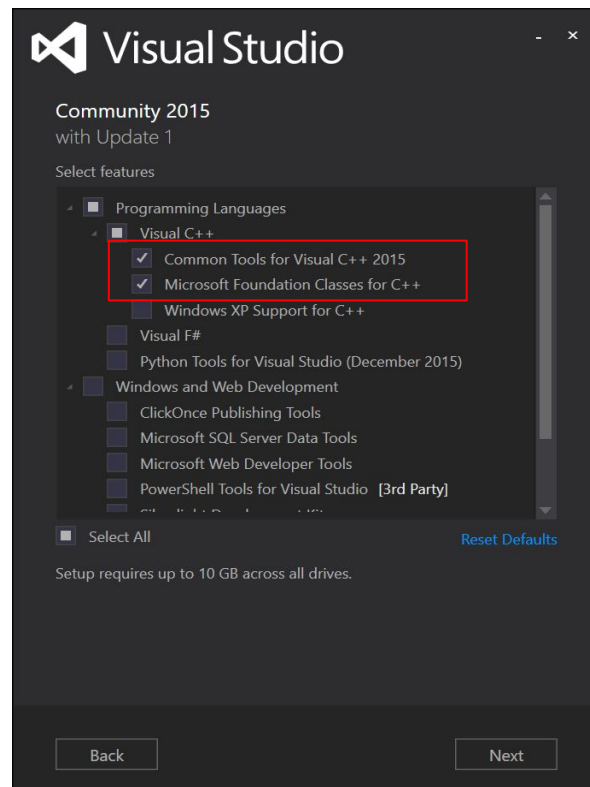
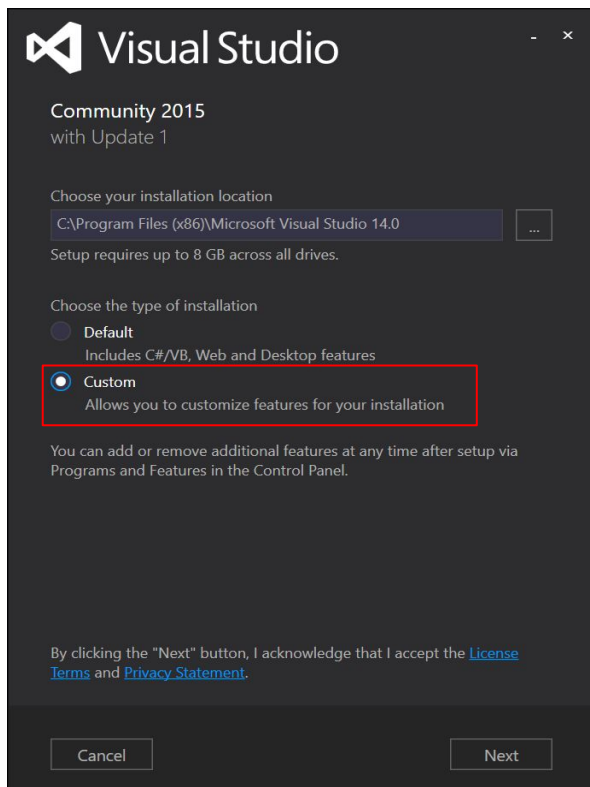
Code editing redefined. Build and debug modern web and cloud applications. Code is free and available on your favorite platform — Windows, Mac OS X, or Linux.

Learn about Visual Studio Code >

Download Code for Windows

feedback

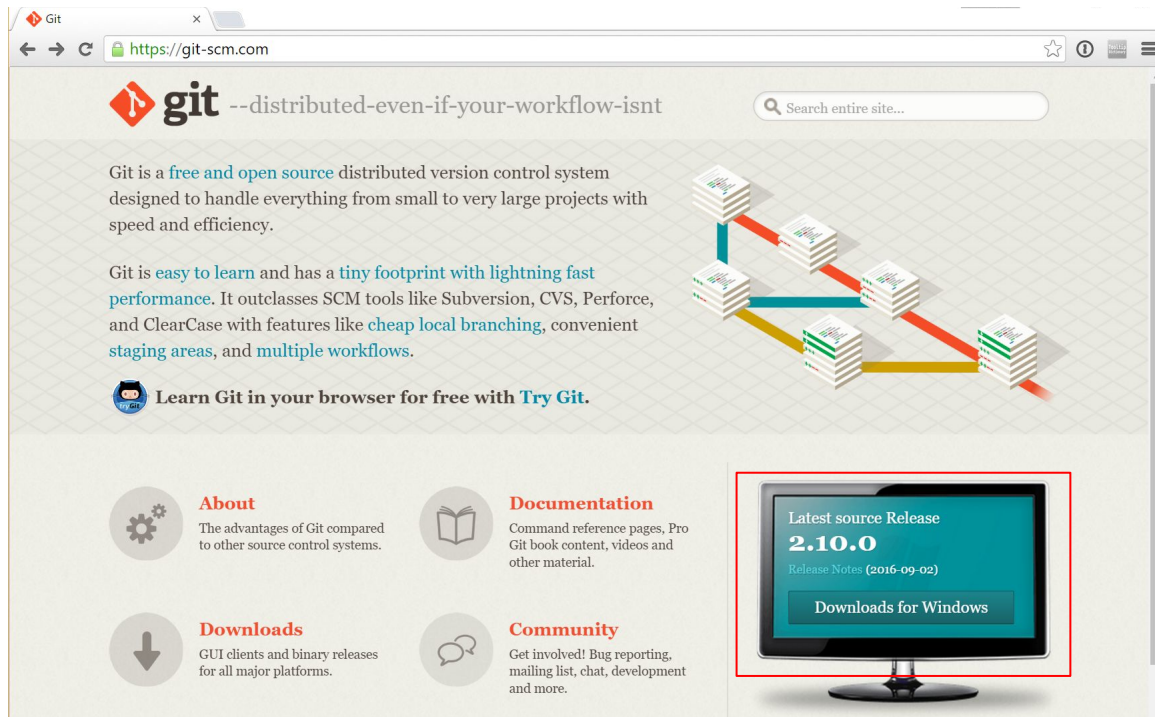
Installation of Visual Studio Community 2015



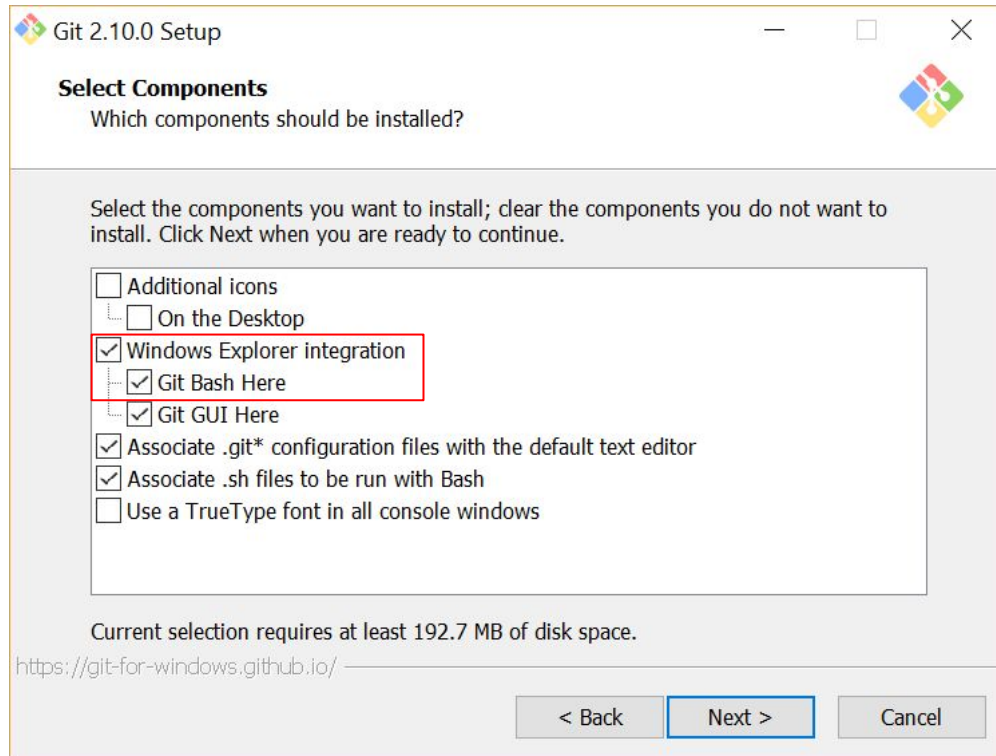
Git for Windows

Download Git for Windows

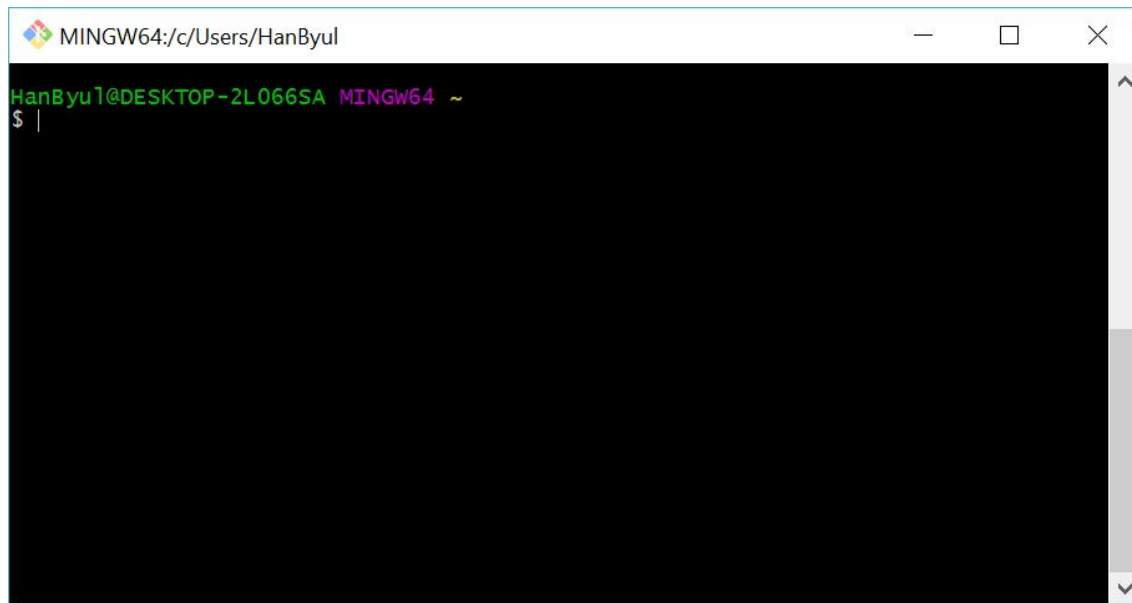
Git-2.10.0-64-bit.exe
(Sep 4, 2016)



Installation of Git for Windows



Git Bash

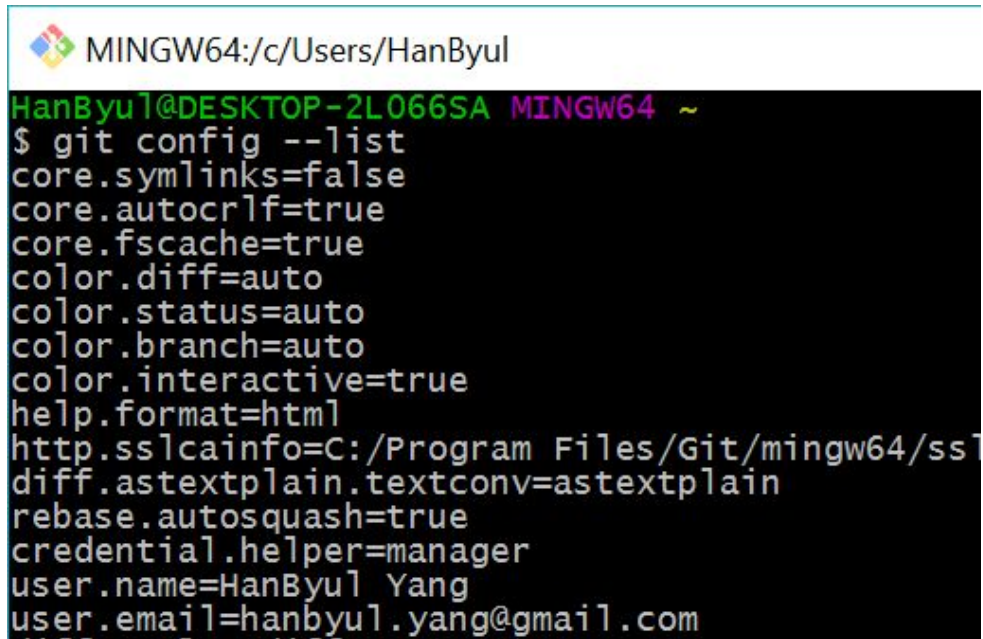


Git configuration

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

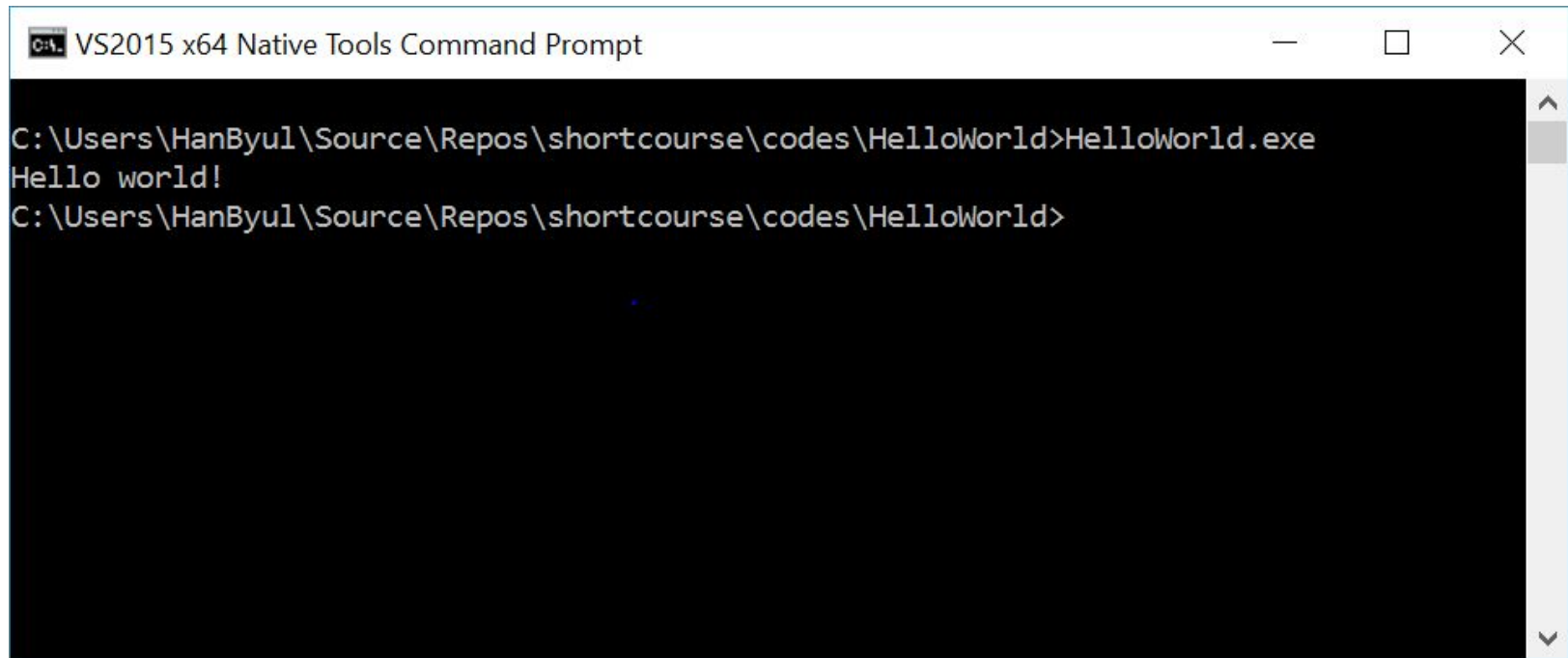
```
$ git config --global user.email "email"
```

```
$ 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 terminal text shows the command 'git config --list' and its output, which lists various Git configuration settings including core, color, help, http, diff, rebase, credential, user.name, and user.email.

```
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
```

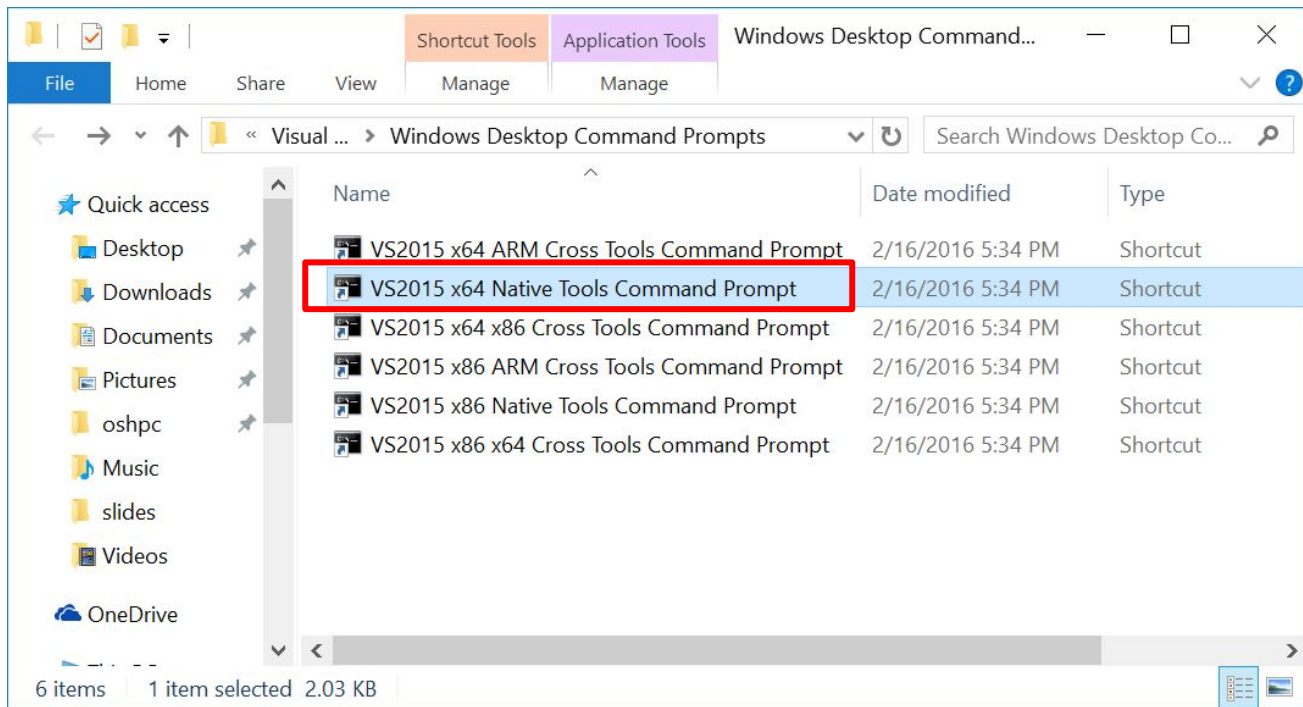

Demo : Hello World!



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 following sequence of events: the current directory is "C:\Users\HanByul\Source\Repos\shortcourse\codes\HelloWorld", the command "HelloWorld.exe" is entered and executed, and the output "Hello world!" is displayed. The prompt then returns to "C:\Users\HanByul\Source\Repos\shortcourse\codes\HelloWorld>". The window includes standard Windows window controls (minimize, maximize, close) in the top right corner and a vertical scrollbar on the right side.

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

build environment



cl.exe

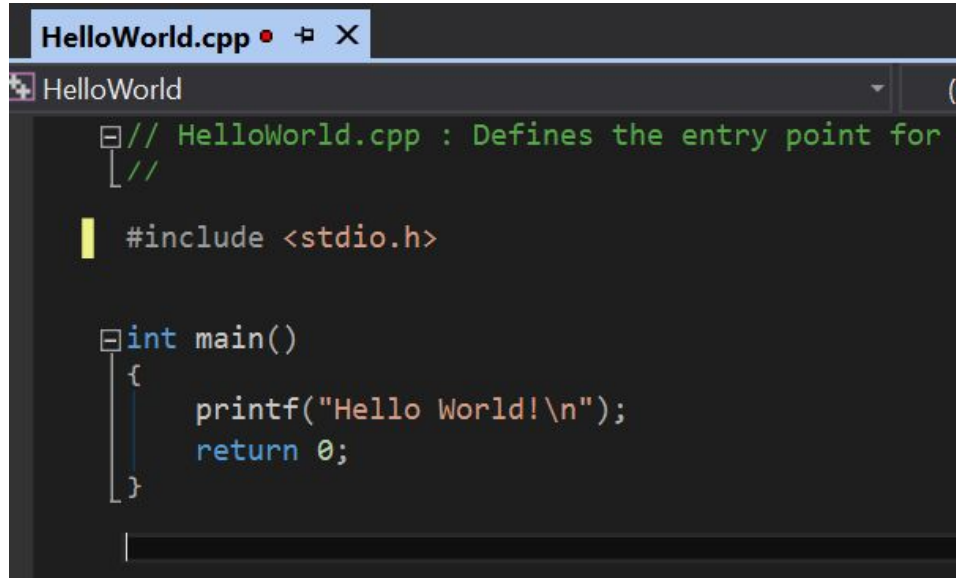
Microsoft (R) C/C++ Optimizing Compiler Version 19.00.23506

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;
}

```