



# Introduction to Linux Systems

## VIM and tmux

*Lab3: Install vim plugins and work with quickfix window*

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# Lab

- Install plugin manager “vim-plug” and gcc
- Use vim-plug to install plugins
- Work with quickfix window



# Install packages

```
$ sudo apt update
```

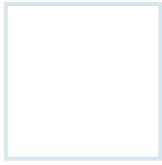
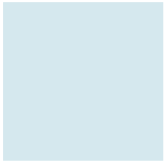
```
$ sudo apt upgrade
```

```
$ sudo apt install git curl vim-gtk3
```

\* Install gcc

```
$ sudo apt install build-essential
```

```
$ gcc --version
```



# Install plugin manager “vim-plug”

```
$ curl -fLo ~/.vim/autoload/plug.vim --create-dirs  
https://raw.githubusercontent.com/junegunn/vim-  
plug/master/plug.vim
```

Ref: [junegunn/vim-plug](https://github.com/junegunn/vim-plug)



# Use vim-plug to install plugins

1. Open [.vimrc](#) to copy the content from the files

2. Edit the .vimrc file

\$ vim ~/.vimrc

Paste the content

:wq

3. Install Plugins

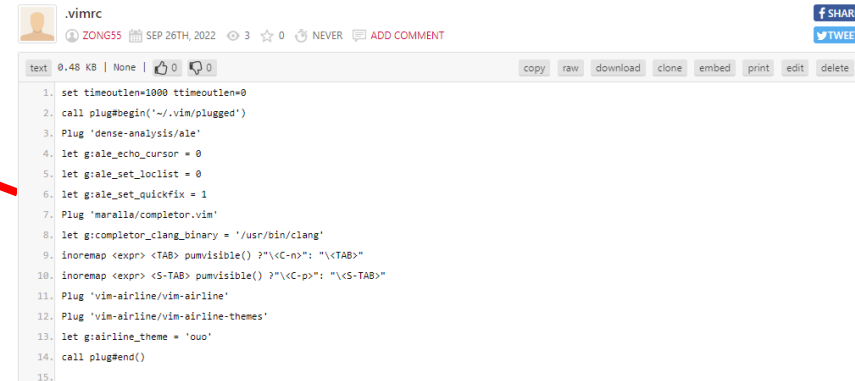
\$ vim ~/.vimrc

:PlugInstall (等候安裝完成)

:qa

shll command

command-line  
mode in vim



```

1. set timeoutlen=1000 ttimeoutlen=0
2. call plug#begin('~/.vim/plugged')
3. Plug 'dense-analysis/ale'
4. let g:ale_echo_cursor = 0
5. let g:ale_set_loclist = 0
6. let g:ale_set_quickfix = 1
7. Plug 'maralla/completor.vim'
8. let g:completor_clang_binary = '/usr/bin/clang'
9. inoremap <expr> <TAB> pumvisible() ? "\<C-n>": "\<TAB>"
10. inoremap <expr> <S-TAB> pumvisible() ? "\<C-p>": "\<S-TAB>"
11. Plug 'vim-airline/vim-airline'
12. Plug 'vim-airline/vim-airline-themes'
13. let g:airline_theme = 'ouo'
14. call plug#end()
15.

```

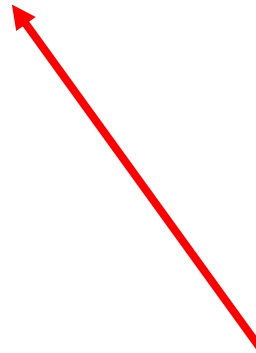


# Write a C program

Open [hello.c](#) to copy the content from the files

```
$ vim hello.c
```

Paste the content



 **hello.c**  
ZONG55 SEP 26TH, 2022 7 0 NEVER ADD COMMENT

C 0.13 KB | None | 0 0

copy raw download clone embed print edit delete

```
1. #include <stdio.h>
2. int main() {
3.     const char[] s = "Hello";
4.     printf("%d\n", s);
5.     int a = 3 / 0;
6.     printf("%d\n", a);
7.     return s;
8. }
9.
```

Tags: Linux2022Fall



# Work with quickfix window

:copen

```
:copen " Open the quickfix window :ccl " Close it
:cw " Open it if there are "errors", close it otherwise (some people prefer this)
:cn " Go to the next error in the window
:cp " Go to the previous error in the window
:cnf " Go to the first error in the next file
:.cc " Go to error under cursor (if cursor is in quickfix window)
```

:q

:cw



```
File Edit View Search Terminal Help
#include <stdio.h>
int main() {
  const char[] s = "Hello";
  printf("%d\n", s);
  int a = 3 / 0;
  printf("%d\n", a);
  return 0;
}

NORMAL hello.c[+] c utf-8[unix] 50% 4/8 ln:24 W:3(L4) E:1(L3)
hello.c|3 col 16 error| brackets are not allowed here; to declare an array, place the brackets after the identifier
hello.c|4 col 17 warning| format specifies type 'int' but the argument has type 'const char *' [-Wformat]
hello.c|5 col 12 warning| division by zero is undefined [-Wdivision-by-zero]
hello.c|7 col 9 warning| incompatible pointer to integer conversion returning 'const char [6]' from a function with result type 'int' [-Wint-conversion]
```

Use j, k to move in quickfix window then use “enter”

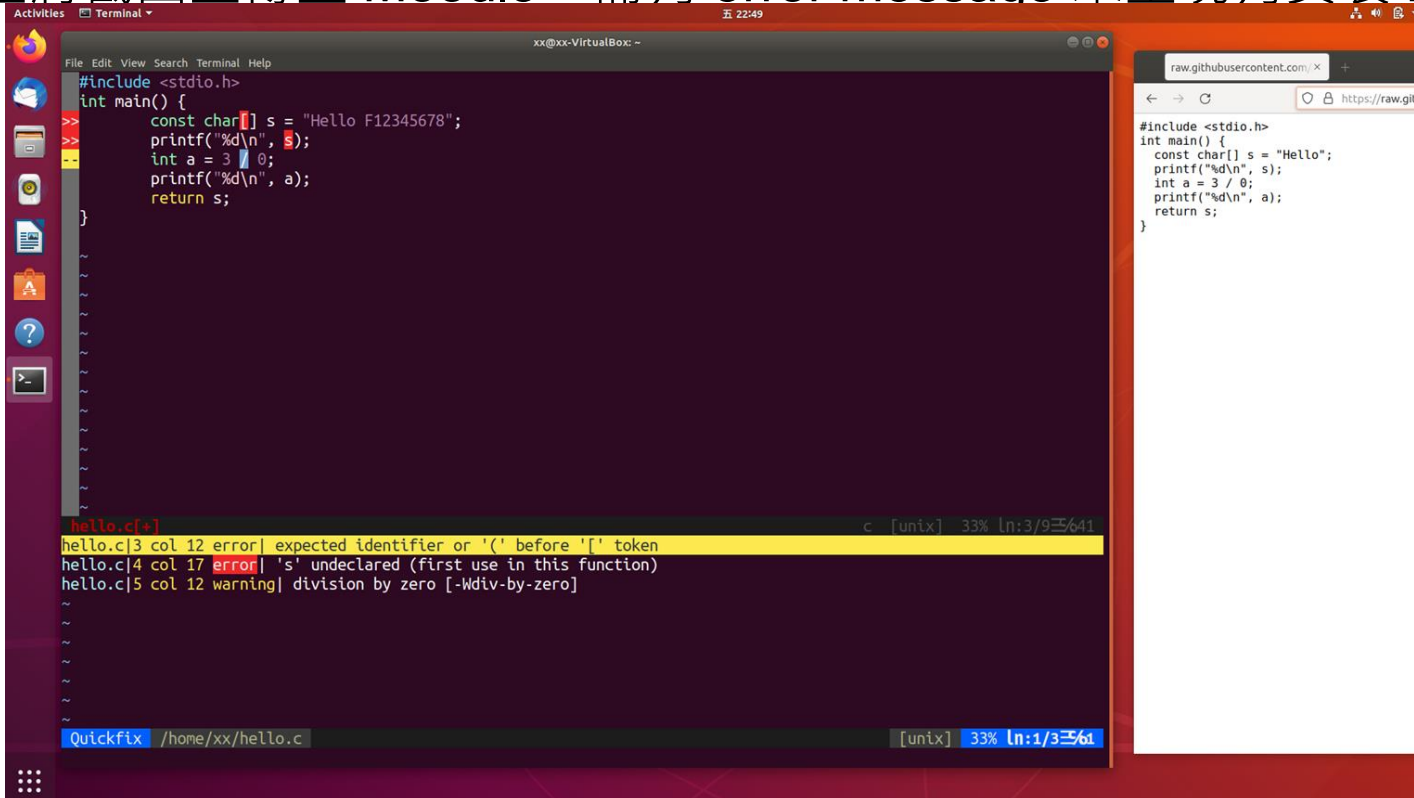
Use ctrl-w w to switch between two windows

Fix all errors and warnings then use “:cw”



# Demo (submit to moodle)

用 vim 開啟本 lab3 提供的 hello.c 並打開 quickfix window，  
將圖中的 "Hello" 後方加上你的學號，例如 "Hello F12345678"  
並將截圖上傳至 Moodle。需有 error message 來呈現有安裝 Plugins。



```

#include <stdio.h>
int main() {
    const char[] s = "Hello F12345678";
    printf("%d\n", s);
    int a = 3 / 0;
    printf("%d\n", a);
    return s;
}

```

```

hello.c:3 col 12 error| expected identifier or '(' before '[' token
hello.c:4 col 17 error| 's' undeclared (first use in this function)
hello.c:5 col 12 warning| division by zero [-Wdiv-by-zero]

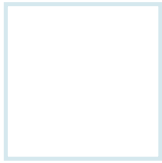
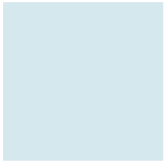
```

```

Quickfix /home/xx/hello.c

```





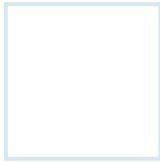
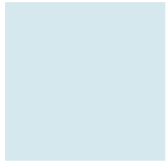
# Compile and execute the C program (Optional)

```
:! gcc % && ./a.out
```

```
Hello F12345678  
3
```

Your student ID

```
Press ENTER or type command to continue
```



# QUESTIONS