

# C++ Programming

## Configuring the Compiler

**Mostafa S. Ibrahim**

*Teaching, Training and Coaching since more than a decade!*

*Artificial Intelligence & Computer Vision Researcher*

*PhD from Simon Fraser University - Canada*

*Bachelor / Msc from Cairo University - Egypt*

*Ex-(Software Engineer / ICPC World Finalist)*



# C++ Standards

- C++ has many standards
- The modern versions: C++11, 14, 17, 20
  - C++11 has a huge subset of changes than classical C++
- Having the most recent GCC compiler != they are active
- You have to do 1 extra change to enable it
  - Otherwise: Proper code won't compile on your machine!

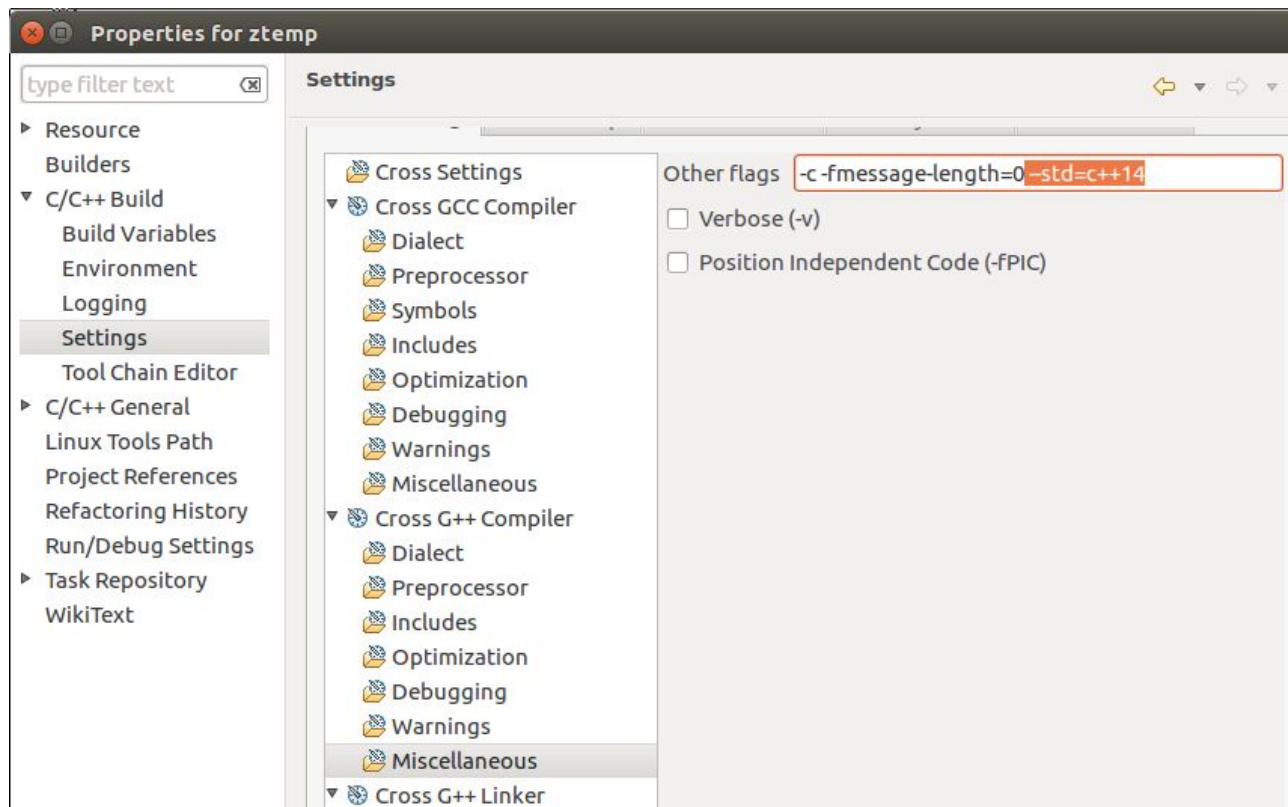
# Compiler version

- To compile C++ 11  $\Rightarrow$  Compiler version 4.8 +
- To compile C++ 14  $\Rightarrow$  Compiler version 5.2 +
- To compile C++ 17  $\Rightarrow$  Compiler version 8.0 +
- Some code doesn't compile?
  - Maybe you need to upgrade the compiler
- Can't install a C++14 compiler?
  - <https://ideone.com/> supports C++14
- Can't install a C++17 compiler?
  - [https://www.onlinegdb.com/online\\_c++\\_compiler](https://www.onlinegdb.com/online_c++_compiler) supports C++17

# Configure Eclipse

- Right click on the project
- Select properties
- Go to C/C++ build
- Go to Settings
- Cross G++ compiler
  - NOT GCC (For C language)
- Miscellaneous
  - Add **--std=c++11** or
  - Add **--std=c++14** or
  - Add **--std=c++17**

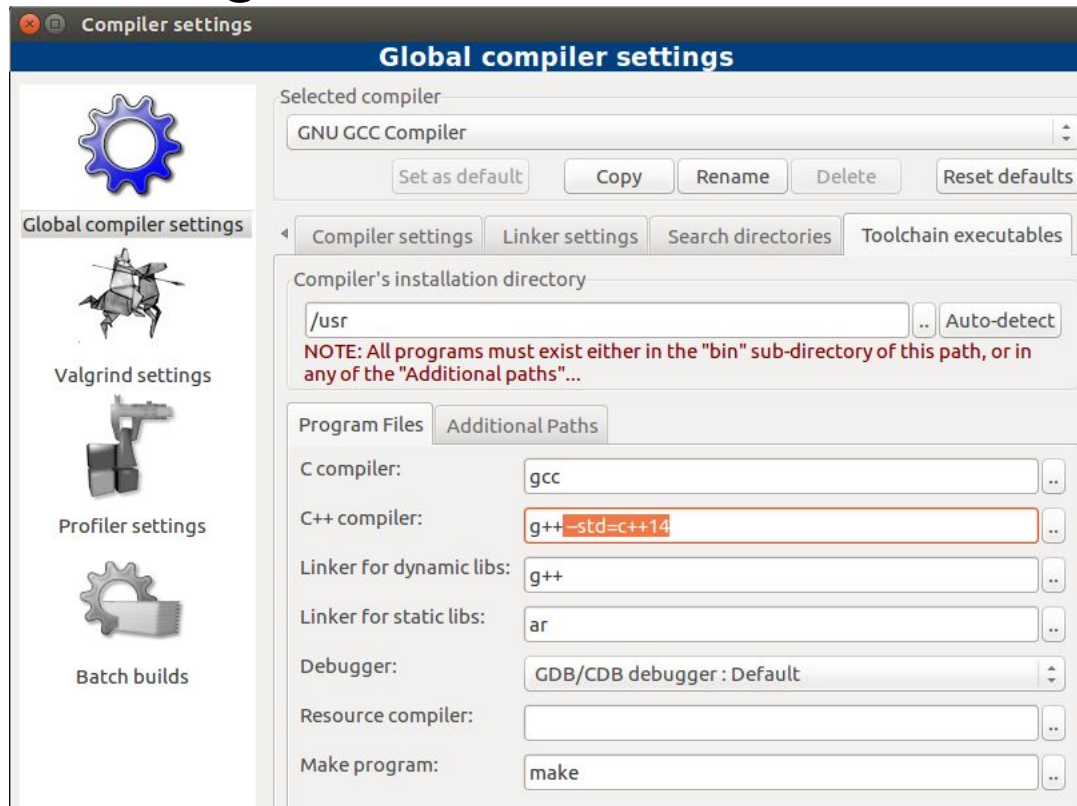
# Configure Eclipse



# Configure Codeblocks

- Select the project
- From the top menu: Settings
- Select Compiler
- Select Toolchain executable
- C++ Compiler
- Add
  - **--std=c++11** or
  - **--std=c++14** or
  - **--std=c++17**
  -
-

# Configure Codeblocks



# Other IDEs

- Just google with your first compiler errors because of the version
- If it is checkboxes select only one version not more
  - E.g. Codelite provides 3 checkboxes. Only select one of them (e.g. c++17)



# Print your activated compilation option

```
1 #include <iostream>
2 using namespace std;
3
4 int main() {
5     if (__cplusplus == 201703L)
6         cout << "C++17\n";
7     else if (__cplusplus == 201402L)
8         cout << "C++14\n";
9     else if (__cplusplus == 201103L)
10        cout << "C++11\n";
11     else if (__cplusplus == 199711L)
12        cout << "C++98\n";
13     else
14        cout << "pre-standard C++\n";
15 }
16
```

Console Problems Tasks Properties

<terminated> ztemp [C/C++ Application] /home/moust

C++14

*“Acquire knowledge and impart it to the people.”*

*“Seek knowledge from the Cradle to the Grave.”*