

# Visual C++

## A brief Introduction

## Administrative

- Weeks 8 and 9 Readings
- Project 4 due 10/26 (eclipse project)
- Switching to MS Visual Studio as development environment, see IDE\_Setup folder for instructions.

## Outline

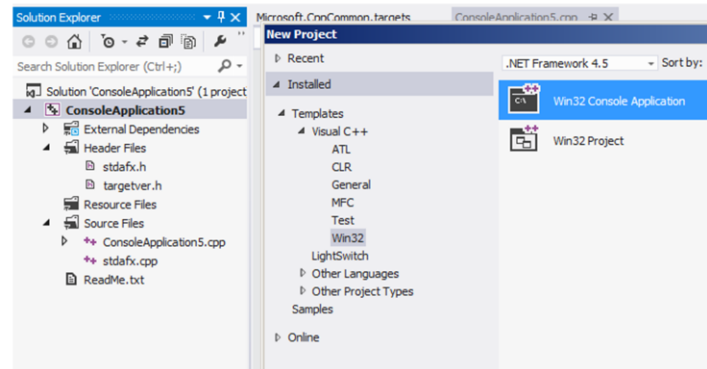
- Obtaining and Installing VC++ 2012
- Creating an application
- Some differences from Eclipse
  - Deprecation
  - Ensuring Standard C++
  - Main with arguments
  - Stdafx.h
- Keyboard Shortcuts
- Demo

## Obtaining and Installing

- See 'Visual C++ Professional 2012.pdf' in IDE Setup section of scholar

## Create a Console App

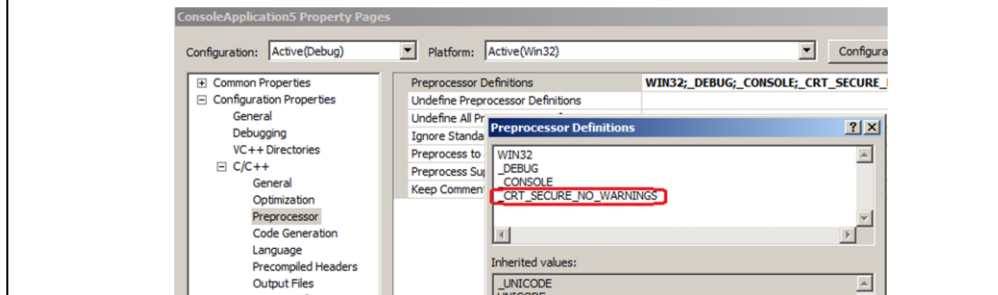
- CTRL-Shift-N
- Create a 'Win32 Console Application'
- Not a CLR Console Application



- CLR is managed code, runs in VM, has garbage collection, is not portable
- See <http://stackoverflow.com/questions/3016451/performance-of-managed-c-vs-unmanaged-native-c>
- Can have different portions of your code managed

## Deprecation

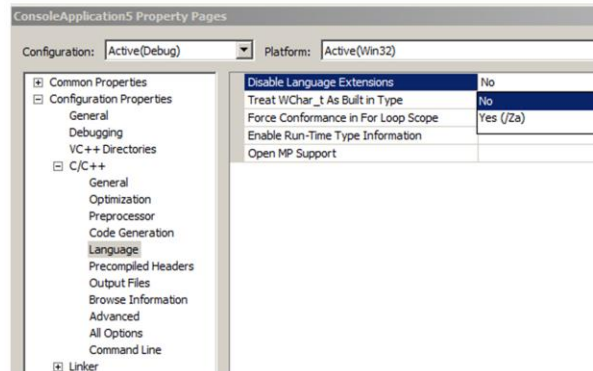
- Some C++ syntax is inherently error prone
- (strcpy, strlen, strncpy etc..)
- MS deprecated it and will not let you use it unless you set `_CRT_SECURE_NO_WARNINGS` switch



- [http://msdn.microsoft.com/en-us/library/0k0w269d\(v=vs.90\).aspx](http://msdn.microsoft.com/en-us/library/0k0w269d(v=vs.90).aspx)
- **Standard C++ - add /Za -(do this if you want portable code)**
- **Default is /Ze – enables MS extensions to C++**
  - Properties-configurations Properties-C++-Language-Disable Language Extensions

## Using Standard C++

- Add the /ZA preprocessor directive if you need portable code.
- Don't do this if you need to use Microsoft Extensions to C++ (\_\_try \_\_finally for instance)



- [http://msdn.microsoft.com/en-us/library/0k0w269d\(v=vs.90\).aspx](http://msdn.microsoft.com/en-us/library/0k0w269d(v=vs.90).aspx)
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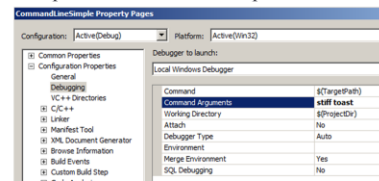
## Main with Arguments

- argc is the number of arguments
- argv[] is an array of string pointers which hold the arguments

```
int main(int argc, char* argv[])
{
    //print out all the command line arguments
    for (int i = 0; i < argc; i++)
    {
        std::cout<<argv[i]<<std::endl;
    }

    //so it waits for you in debugger
    int i;
    std::cin>>i;
    return 0;
}
```

To pass in command line params



- [Http://www.cplusplus.com/articles/DEN36Up4/](http://www.cplusplus.com/articles/DEN36Up4/)
- Also visual C++ defaults to wide chars
- Typedefs for wchar\_t



## Stdafx.h – Compile time saver

- Precompiled header
- Compiling C++ is slow.
- Especially for large APIs (like Windows)
- Why not compile once? And then reuse?

### Baseline

- “stdafx.h” – first header listed
- All lengthy header files go in “stdafx.h”
- Compiled once to pch file
- Pch file is what is used from then on
- Big time savings

- **Precompiled header**

## Visual C++ - Shortcuts

See 14 C++ Keyboard Shortcuts

## Demo

- Demo a Visual C++ project

- **Demo**