

# Without Warning

Keeping the Noise Down in Legacy Code Builds

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*legacy code* is simply code without tests

— Michael Feathers, *Working Effectively With Legacy Code*





↑ ↑  
**THIS WAY UP**

↑ ↑ ↑  
**THIS WAY UP**

↑ ↑ ↑ ↑ ↑  
**THIS WAY UP**

**HANDLE WITH  
GREAT CARE**

**HANDLE WITH  
GREAT CARE**

**HANDLE WITH  
GREAT CARE**

**DO NOT DROP**



Know Your Enemy

`build`

```
graph TD; A[build] --> B[warnings.txt]; B --> C[summarise-warnings]; C --> D[warnings-summary.txt];
```

`warnings.txt`

`summarise-warnings`

`warnings-summary.txt`

=== Warnings by project

5780 GUI

3876 C4244

3457 conversion from 'double' to 'int', possi

389 conversion from 'TChar' to 'char', possi

12 conversion from 'double' to 'long', poss

9 conversion from 'int' to 'float', possib

5 conversion from 'int' to 'wchar\_t', poss

2 conversion from 'const double' to 'int',

2 conversion from 'double' to 'unsigned in

822 C4482

469 nonstandard extension used: enum 'GUIOnl

309 nonstandard extension used: enum 'Compan

32 nonstandard extension used: enum 'GUIOnl

4 nonstandard extension used: enum 'GUIOnl

4 nonstandard extension used: enum 'Compan

1 nonstandard extension used: enum 'Compan

1 nonstandard extension used: enum 'Compan

1 nonstandard extension used: enum 'Qt::Ch

1 nonstandard extension used: enum 'Planne



=== Warnings by type

4036 C4244

3462 conversion from 'double' to 'int', possi

3457 GUI

4 Reporting

1 Planner

389 conversion from 'TChar' to 'char', possi

389 GUI

96 conversion from 'XMLSize\_t' to 'int', po

96 Planner

14 conversion from 'int' to 'unsigned short

14 Reporting

12 conversion from 'double' to 'unsigned \_\_

12 UT\_Core

12 conversion from 'double' to 'long', poss

12 GUI

971 C4482

469 nonstandard extension used: enum 'GUIOnl

469 GUI

451 nonstandard extension used: enum 'Compan

=== Warnings by file

```
1776 src\DataPlotHandler.cpp
  1776 C4244 conversion from 'double' to 'int', p
1251 src\plotting\Box.cpp
  1245 C4244
    1144 conversion from 'double' to 'int', possi
    100 conversion from 'TChar' to 'char', possi
     1 conversion from 'const double' to 'int',
     4 C4189 local variable is initialized but no
     1 C4267 conversion from 'size_t' to 'int', p
     1 C4800 forcing value to bool 'true' or 'fal
245 src\TableWPView.cpp
  245 C4482
    243 nonstandard extension used: enum 'GUIOnl
     2 nonstandard extension used: enum 'GUIOnl
231 src\plotting\Graph2.cpp
  190 C4244
    189 conversion from 'double' to 'int', possi
     1 conversion from 'const double' to 'int',
    34 C4267 conversion from 'size t' to 'int'. o
```

# Know your enemy

- Globally suppress warnings we don't care about
- Fix low-incidence “risk-free” warnings
- Suppress other warnings

Suppress other  
warnings

- MSVC

```
__pragma(warning(suppress: 4244))  
unsigned u = -1;
```

- clang

```
_Pragma("clang diagnostic push")  
_Pragma("clang diagnostic ignored \"-Wconversion\"")  
unsigned u = -1;  
_Pragma("clang diagnostic pop")
```

- MSVC

```
POTENTIAL_BUG__CONVERSION_LOSES_DATA  
unsigned u = -1;
```

- clang

```
POTENTIAL_BUG__CONVERSION_LOSES_DATA(  
unsigned u = -1;  
)
```

# LegacyCodeCompilerWarnings.hpp

- MSVC

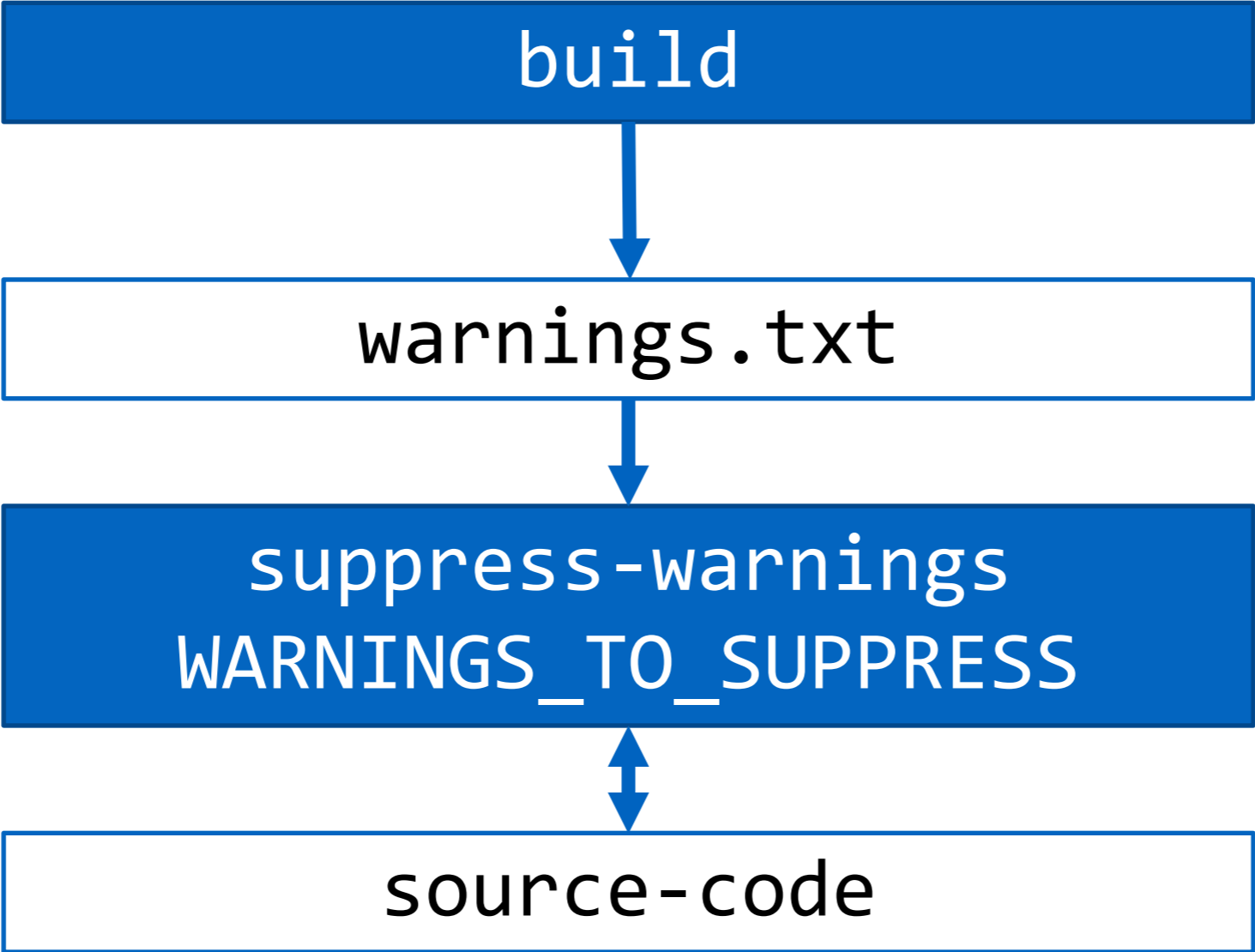
```
#define POTENTIAL_BUG__CONVERSION_LOSES_DATA \  
    __pragma(warning(suppress: 4244))
```

- clang

```
#define SUPPRESS_CLANG_WARNING_STR_(x) #x  
#define SUPPRESS_CLANG_WARNING(warning, code) \  
    _Pragma("clang diagnostic push") \  
    _Pragma(SUPPRESS_CLANG_WARNING_STR_(clang diagnostic ignored warning)) \  
    code \  
    _Pragma("clang diagnostic pop")  
#define POTENTIAL_BUG__CONVERSION_LOSES_DATA(code) \  
    SUPPRESS_CLANG_WARNING("-Wconversion", code)
```

Suppress other  
warnings







# Summary

- Warnings are a good static analysis tool
- But only if they're not there already
- Get rid of existing warnings: fix or ignore
- Make new warnings errors
- <https://github.com/guyboltonking/without-warning>