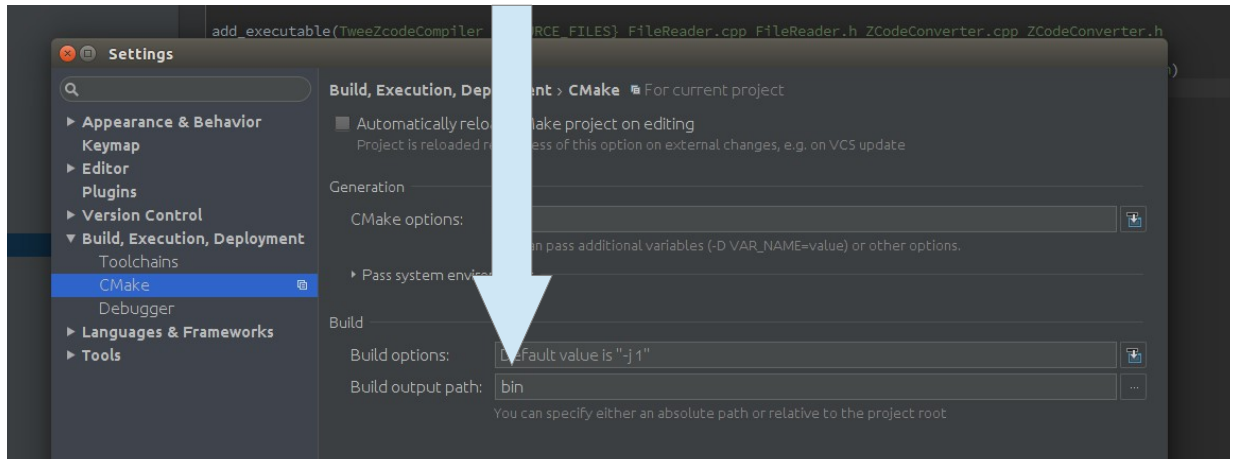
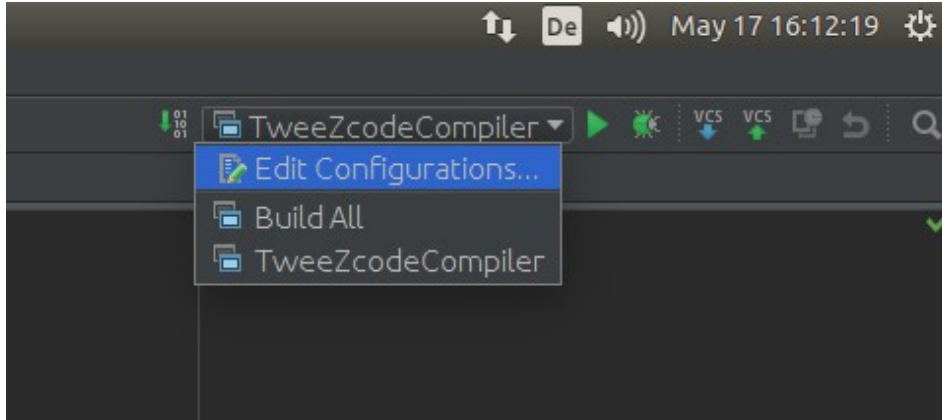


Valgrind in Clion

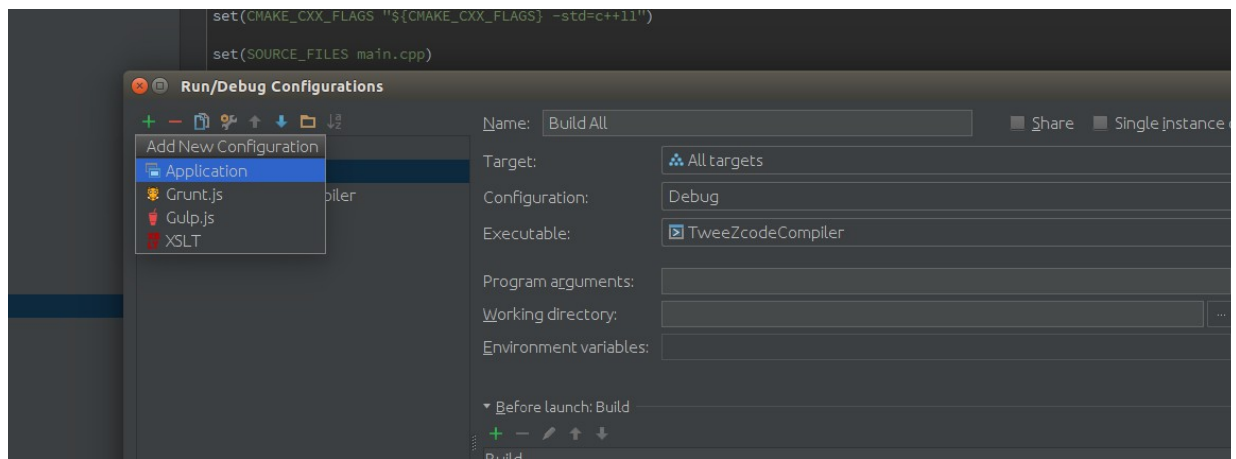
- install valgrind (Ubuntu Software Center → search: valgrind → install: Instrumentation framework for building dynamic analysis tools)
- Set an output path for compiled binary (File → settings → build, execution, deployment → cmake). To create a folder in your working directory simply insert a name for a folder (here: bin):



- open edit configuration window:

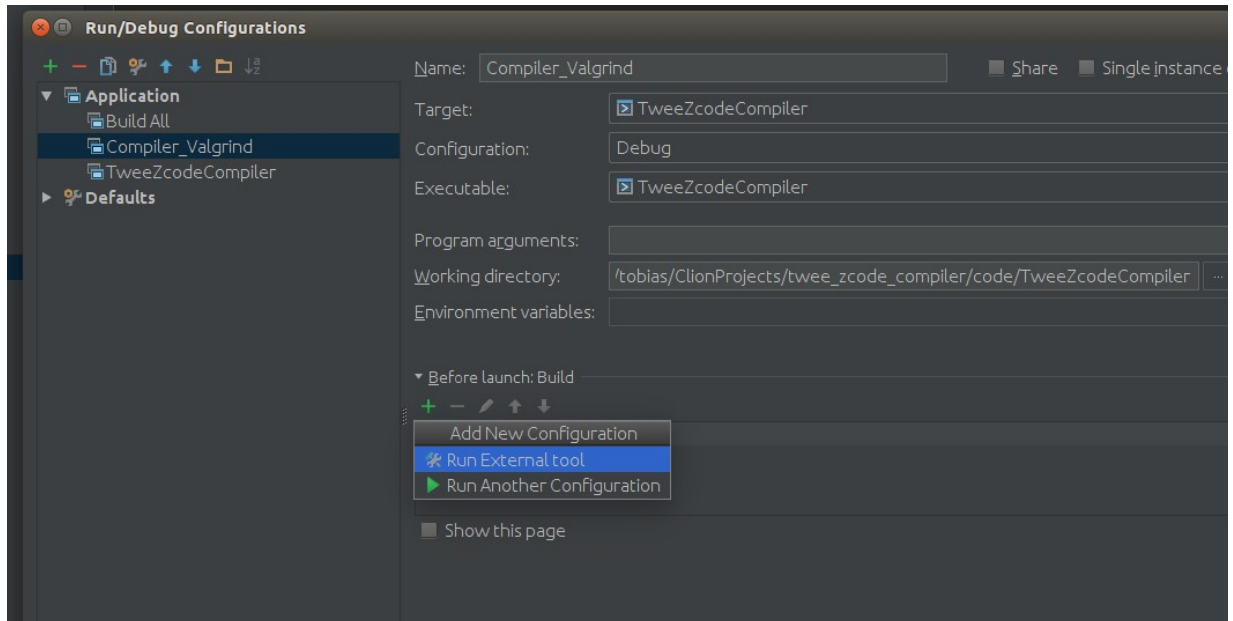


- Add new Application configuration:

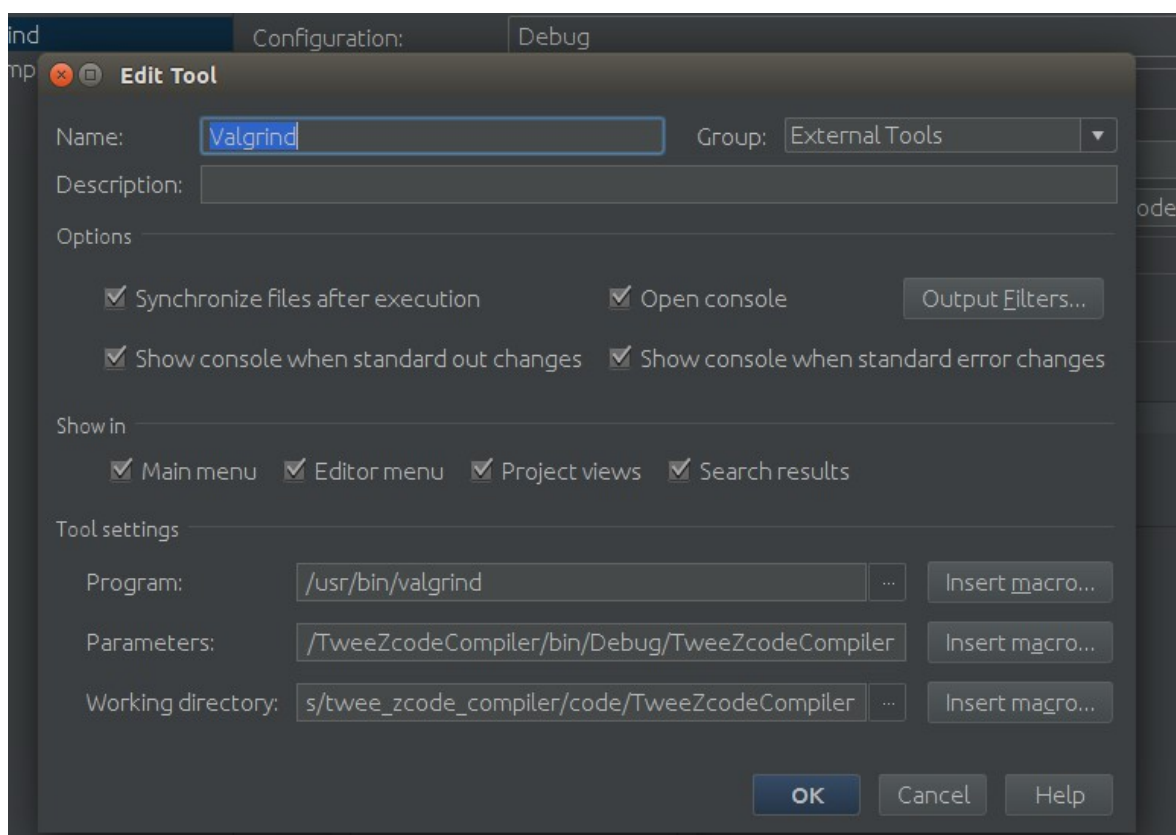


Tobias Schülke

- Rename configuration to remind you it will compile with valgrind (here: CONF_NAME), select executable and your working directory
- add new external tool:



- select the '+' symbol
- Configure valgrind. These are my settings:



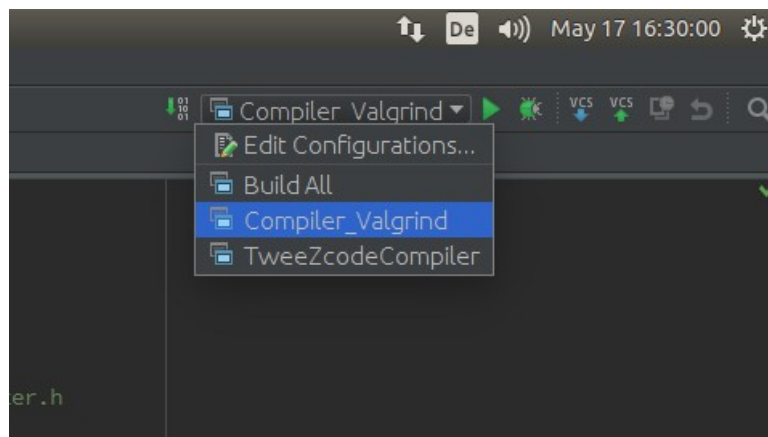
- Set Tool settings → Program to valgrind path

- Set Tool settings → parameters to
--leak-check=yes --track-origins=yes /path_to_working_dir/bin/Debug/CONF_NAME

my parameters are:

--leak-check=yes --track-origins=yes
/home/tobias/ClionProjects/twee_zcode_compiler/code/TweeZcodeCompiler/bin/Debug/TweeZcodeCompiler_Valgrind

- Set Tool settings → “Working directory” to your working directory
 - Finally click OK in this window and the underlying one
- click Apply and OK to exit the last window
- you can change between you configurations with and without valgrind here:



- Select your valgrind configuration and click Run (green arrow). Valgrind logs (e.g. heap & leak summary) will be printed in red to the console:

```
Run | Valgrind
00000000
00000000
terminate called after throwing an instance of 'std::logic_error'
what(): basic_string::S_construct null not valid
Enter <filename> as parameter for call
==9769==
==9769== HEAP SUMMARY:
==9769==   in use at exit: 819 bytes in 6 blocks
==9769==   total heap usage: 76 allocs, 70 frees, 12,069 bytes allocated
==9769==
==9769== 66 bytes in 1 blocks are possibly lost in loss record 3 of 6
==9769==   at 0x4C28B80: operator new(unsigned long) (in /usr/lib/valgrind/vgpreload_memcheck-amd64-linux.so)
==9769==   by 0x4EF13B8: std::string::Rep::_S_create(unsigned long, unsigned long, std::allocator<char> const&) (in /usr/lib/x86_64-linux-gnu/libstdc++.so.6.0.19)
==9769==   by 0x4EF2AE0: char* std::string::_S_construct<char const*, char const*, std::allocator<char> const&, std::forward_iterator_tag> (in /usr/lib/x86_64-linux-gnu/libstdc++.so.6.0.19)
==9769==   by 0x4EF2EF7: std::basic_string<char, std::char_traits<char>, std::allocator<char> >::basic_string(char const*, std::allocator<char> const&) (in /usr/lib/x86_64-linux-gnu/libstdc++.so.6.0.19)
==9769==   by 0x4EF7322: std::_throw_logic_error(char const*) (in /usr/lib/x86_64-linux-gnu/libstdc++.so.6.0.19)
==9769==   by 0x4EF2B09: char* std::string::_S_construct<char const*, char const*, char const*, std::allocator<char> const&, std::forward_iterator_tag> (in /usr/lib/x86_64-linux-gnu/libstdc++.so.6.0.19)
==9769==   by 0x4EF2EF7: std::basic_string<char, std::char_traits<char>, std::allocator<char> >::basic_string(char const*, std::allocator<char> const&) (in /usr/lib/x86_64-linux-gnu/libstdc++.so.6.0.19)
==9769==   by 0x40887E: FileReader::getFileFromArgs(int, char**) (FileReader.cpp:21)
==9769==   by 0x40894D: main (main.cpp:14)
==9769==
==9769== 144 bytes in 1 blocks are possibly lost in loss record 4 of 6
==9769==   at 0x4C28B80: malloc (in /usr/lib/valgrind/vgpreload_memcheck-amd64-linux.so)
==9769==   by 0x4E944E2: __cxa_allocate_exception (in /usr/lib/x86_64-linux-gnu/libstdc++.so.6.0.19)
==9769==   by 0x4EF7302: std::_throw_logic_error(char const*) (in /usr/lib/x86_64-linux-gnu/libstdc++.so.6.0.19)
==9769==   by 0x4EF2B09: char* std::string::_S_construct<char const*, char const*, char const*, std::allocator<char> const&, std::forward_iterator_tag> (in /usr/lib/x86_64-linux-gnu/libstdc++.so.6.0.19)
==9769==   by 0x4EF2EF7: std::basic_string<char, std::char_traits<char>, std::allocator<char> >::basic_string(char const*, std::allocator<char> const&) (in /usr/lib/x86_64-linux-gnu/libstdc++.so.6.0.19)
==9769==   by 0x40887E: FileReader::getFileFromArgs(int, char**) (FileReader.cpp:21)
==9769==   by 0x40894D: main (main.cpp:14)
==9769==
==9769== 608 (72 direct, 536 indirect) bytes in 1 blocks are definitely lost in loss record 6 of 6
==9769==   at 0x4C28B80: operator new(unsigned long) (in /usr/lib/valgrind/vgpreload_memcheck-amd64-linux.so)
==9769==   by 0x40D3F8: ZCodeHeaderTest::testHeader() (ZCodeHeaderTest.cpp:10)
==9769==   by 0x40D3DF: MainTest::runAllTest() (MainTest.cpp:18)
==9769==   by 0x408928: main (main.cpp:10)
==9769==
==9769== LEAK SUMMARY:
==9769==   definitely lost: 72 bytes in 1 blocks
==9769==   indirectly lost: 536 bytes in 2 blocks
==9769==   possibly lost: 216 bytes in 2 blocks
==9769==   still reachable: 1 bytes in 1 blocks
==9769==   suppressed: 0 bytes in 0 blocks
==9769== Reachable blocks (those to which a pointer was found) are not shown.
==9769== To see them, rerun with: --leak-check=full --show-leak-kinds=all
==9769==
==9769== For counts of detected and suppressed errors, rerun with: -v
==9769== ERROR SUMMARY: 3 errors from 3 contexts (suppressed: 0 from 0)
Process finished with exit code 134
External tool 'Valgrind' completed with exit code 134
```