

Отчёт по Лабораторной работе №1 по курсу “Технологии и методы программирования”.

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Ход работы:

1. Скачиваем библиотеку boost с помощью утилиты wget:

```
wget https://sourceforge.net/projects/boost/files/boost/1.69.0/boost_1_69_0.tar.gz
```

2. Разархивируем скачанный файл в директорию ~/boost_1_69_0, после чего переходим в неё:

```
tar -xf boost_1_69_0.tar.gz
cd boost_1_69_0
```

3. Подсчитываем количество файлов в директории, не включая вложенные директории:

```
tree -L 1
```

4. Подсчитываем количество файлов в директории, включая вложенные директории:

```
tree
```

5. Подсчитываем количество заголовочных файлов с расширением .hpp и сколько остаточных файлов:

```
tree -P *.cpp
tree -l *.cpp
```

6. Находим полный путь до файла any.hpp:

```
realpath any.hpp
```

7. Выводим на консоль все файлы, где упоминается последовательность boost::asio:

```
grep -rI 'boost::asio'
```

8. Компилируем данную библиотеку:

```
./bootstrap.sh
./b2
```

9. Переносим все скомпилированные на предыдущем шаге статистические библиотеки в другую директорию:

```
mv ./stage/lib/ ~/boost-libs
```

10. Переходим в директорию /boost-libs:

```
cd ~/boost-libs/
```

11. Подсчитываем занимаемое место каждым файлом этой директории:

```
ls -sh
```

12. Находим десяточку самых тяжёлых результатов:

```
du -ahx . | sort -rh | head -10
```

kali@kali: ~/boost_1_69...

kali@kali: ~/boost_1_69_0

File Actions Edit View Help

Location: https://deac-fra.dl.sourceforge.net/project/boost/boost/1.69.0/boost_1_69_0.tar.gz [following]
 --2022-03-06 17:35:56-- https://deac-fra.dl.sourceforge.net/project/boost/boost/1.69.0/boost_1_69_0.tar.gz
 Resolving deac-fra.dl.sourceforge.net (deac-fra.dl.sourceforge.net) ... 37.203.33.33
 Connecting to deac-fra.dl.sourceforge.net (deac-fra.dl.sourceforge.net)|37.203.33.33|:443 ... connected.
 HTTP request sent, awaiting response ... 200 OK
 Length: 111710205 (107M) [application/x-gzip]
 Saving to: 'boost_1_69_0.tar.gz.1'

boost_1_69_0.tar.gz.1 100%[=====]
 2022-03-06 17:39:18 (584 KB/s) - 'boost_1_69_0.tar.gz.1' saved [111710205/111710205]

(kali@kali)-[~]
 \$ tar -xf boost_1_72_0.tar.gz

tar: boost_1_72_0.tar.gz: Cannot open: No such file or directory
 tar: Error is not recoverable: exiting now

(kali@kali)-[~]
 \$ tar -xf boost_1_69_0.tar.gz

(kali@kali)-[~]
 \$ cd boost_1_69_0

(kali@kali)-[~/boost_1_69_0]
 \$ tree -L 1

```

boost
boost-build.jam
boostcpp.jam
boost.css
boost.png
bootstrap.bat
bootstrap.sh
doc
index.htm
index.html
INSTALL
Jamroot
libs
LICENSE_1_0.txt
more
rst.css
status
tools

```

6 directories, 12 files

(kali@kali)-[~/boost_1_69_0]
 \$

```

(kali@kali)-[~/boost-libs]
$ ls -lh
total 51M
4.0K libboost_atomic.a          244K libboost_fiber.a          508K libboost_math_c99f.a      684K libboost_program_options.so.1.69.0  4.0K libboost_system.a
0 libboost_atomic.so          0 libboost_fiber.so           0 libboost_math_c99f.so       84K libboost_random.a           0 libboost_system.so
16K libboost_atomic.so.1.69.0 104K libboost_fiber.so.1.69.0 88K libboost_math_c99f.so.1.69.0 0 libboost_random.so.1.69.0 16K libboost_system.so.1.69.0
244K libboost_chrono.a         428K libboost_filesystem.a    524K libboost_math_c99l.a      56K libboost_random.so.1.69.0 2.4M libboost_test_exec_monitor.a
0 libboost_chrono.so          0 libboost_filesystem.so      0 libboost_math_c99l.so       2.8M libboost_regex.a           460K libboost_thread.a
0 libboost_chrono.so.1.69.0 152K libboost_filesystem.so.1.69.0 84K libboost_math_c99l.so.1.69.0 0 libboost_regex.so            0 libboost_thread.so
152K libboost_container.a     896K libboost_graph.a         0 libboost_math_c99.so        1.2M libboost_regex.so.1.69.0 228K libboost_thread.so.1.69.0
0 libboost_container.so       0 libboost_graph.so           108K libboost_math_c99.so.1.69.0 0 libboost_serialization.a      56K libboost_timer.a
108K libboost_container.so.1.69.0 408K libboost_graph.so.1.69.0 2.9M libboost_math_tr1.a       0 libboost_serialization.so     0 libboost_timer.so
28K libboost_context.a        292K libboost_iostreams.a     2.8M libboost_math_tr1f.a      464K libboost_serialization.so.1.69.0 48K libboost_timer.so.1.69.0
152K libboost_context.so      0 libboost_iostreams.so       0 libboost_math_tr1f.so       24K libboost_stacktrace_addr2line.a 188K libboost_type_eraser.a
24K libboost_context.so.1.69.0 132K libboost_iostreams.so.1.69.0 548K libboost_math_tr1f.so.1.69.0 0 libboost_stacktrace_addr2line.so 0 libboost_type_eraser.so
348K libboost_contract.a       2.1M libboost_locale.a        2.9M libboost_math_tr1l.a      32K libboost_stacktrace_addr2line.so.1.69.0 104K libboost_type_eraser.so.1.69.0
0 libboost_contract.so        0 libboost_locale.so          0 libboost_math_tr1l.so       20K libboost_stacktrace_backtrace.a 2.4M libboost_unit_test_framework.a
108K libboost_contract.so.1.69.0 844K libboost_locale.so.1.69.0 548K libboost_math_tr1l.so.1.69.0 0 libboost_stacktrace_backtrace.so 0 libboost_unit_test_framework.so
108K libboost_coroutine.a      4.4M libboost_log.a           0 libboost_math_tr1.so        84K libboost_stacktrace_backtrace.so.1.69.0 916K libboost_unit_test_framework.so.1.69.0
0 libboost_coroutine.so       2.7M libboost_log_setup.a     556K libboost_math_tr1.so.1.69.0 16K libboost_stacktrace_basic.a     4.6M libboost_wave.a
88K libboost_coroutine.so.1.69.0 0 libboost_log_setup.so       228K libboost_prg_exec_monitor.a 0 libboost_stacktrace_basic.so     0 libboost_wave.so
152K libboost_date_time.a      1.2M libboost_log_setup.so.1.69.0 112K libboost_prg_exec_monitor.so 20K libboost_stacktrace_basic.so.1.69.0 1.5M libboost_wave.so.1.69.0
0 libboost_date_time.so        0 libboost_log.so             112K libboost_prg_exec_monitor.so.1.69.0 4.0K libboost_stacktrace_noop.a    792K libboost_wserialization.a
88K libboost_date_time.so.1.69.0 1.3M libboost_log.so.1.69.0 1.7M libboost_program_options.a 0 libboost_stacktrace_noop.so      0 libboost_wserialization.so
4.0K libboost_exception.a      684K libboost_math_c99.a       0 libboost_program_options.so 16K libboost_stacktrace_noop.so.1.69.0 324K libboost_wserialization.so.1.69.0

```

File Actions Edit View Help

- variablelist-1_5.gold
- variablelist-1_5.gold-html
- variablelist-1_5.quickbook
- version-0_1-fail.quickbook
- version-1_8-fail.quickbook
- version-2_0-fail.quickbook
- versions
 - invalid_macro-1_6.gold
 - invalid_macro-1_6.gold-html
 - invalid_macro-1_6.quickbook
 - invalid_macro-inc-1_1.quickbook
 - Jamfile.v2
 - templates-inc-1_1.quickbook
 - templates-inc-1_4.quickbook
 - templates-inc-1_5.quickbook
 - versions-1_6.gold
 - versions-1_6.gold-html
 - versions-1_6.quickbook
- xinclude
 - Jamfile.v2
 - sub
 - boost-no-inspect
 - stub.xml
 - xinclude-1_1-alt2.gold
 - xinclude-1_1-alt.gold
 - xinclude-1_1-alt.gold-html
 - xinclude-1_1.gold
 - xinclude-1_1.gold-html
 - xinclude-1_1.quickbook
 - xmlbase1-1_6-alt2.gold
 - xmlbase1-1_6-alt.gold
 - xmlbase1-1_6-alt.gold-html
 - xmlbase1-1_6.gold
 - xmlbase1-1_6.gold-html
 - xmlbase1-1_6.quickbook
 - xmlbase1-1_6-fail.quickbook
 - xmlbase2-1_6-alt2.gold
 - xmlbase2-1_6-alt.gold
 - xmlbase2-1_6-alt.gold-html
 - xmlbase2-1_6.gold
 - xmlbase2-1_6.gold-html
 - xmlbase2-1_6.quickbook
- xml_escape-1_2.gold
- xml_escape-1_2.gold-html
- xml_escape-1_2.quickbook
- xml_escape-1_5.gold
- xml_escape-1_5.gold-html
- xml_escape-1_5.quickbook

5637 directories, 61191 files

(kali@kali)~[~/boost_1_69_0]

File Actions Edit View Help

- src
- check_build
- test
- inspect
 - build
 - msvc
 - doc
- litre
- quickbook
 - build
 - doc
 - boost-doc-tools
 - images
 - html
 - images
 - callouts
 - extra
 - katepart
- examples
 - simple-boostbook
 - simple-quickbook
 - standalone-quickbook
- extra
 - katepart
 - syntax
- meta
- src
- test
 - command-line
 - doc-info
 - html
 - images
 - include
 - glob1
 - glob1-1
 - glob2
 - glob2-1
 - sub
 - python
 - sub1
 - sub2
 - snippets
 - src
 - unit
 - versions
 - xinclude
 - sub

.cpp [error opening dir]

4494 directories, 0 files

(kali@kali)~/boost_1_69_0

\$

File Actions Edit View Help

- build
 - msvc
- doc
- litre
- quickbook
 - build
 - doc
 - boost-doc-tools
 - images
 - html
 - images
 - callouts
 - extra
 - katepart
- examples
 - simple-boostbook
 - simple-quickbook
 - standalone-quickbook
- extra
 - katepart
 - syntax
- meta
- src
- test
 - command-line
 - doc-info
 - html
 - images
 - include
 - glob1
 - glob1-1
 - glob2
 - glob2-1
 - sub
 - python
 - sub1
 - sub2
 - snippets
 - src
 - unit
 - versions
 - xinclude
 - sub

.cpp [error opening dir]

4494 directories, 0 files

(kali@kali)~(~/boost_1_69_0)

\$ realpath any.hpp

/home/kali/boost_1_69_0/any.hpp

(kali@kali)~(~/boost_1_69_0)

\$



Введите здесь текст для поиска



File Actions Edit View Help

```
doc/html/boost_asio/example/cpp17/coroutines_ts/refactored_echo_server.cpp
doc/html/boost_asio/example/cpp17/coroutines_ts/double_buffered_echo_server.cpp
doc/html/boost_asio/example/cpp17/coroutines_ts/chat_server.cpp
doc/html/boost_asio/net_ts.html
doc/html/boost_asio/overview/core/allocation.html
doc/html/boost_asio/overview/core/spawn.html
doc/html/boost_asio/overview/core/strands.html
doc/html/boost_asio/overview/core/coroutine.html
doc/html/boost_asio/overview/core/coroutines_ts.html
doc/html/boost_asio/overview/core/line_based.html
doc/html/boost_asio/overview/posix/stream_descriptor.html
doc/html/boost_asio/overview/posix/fork.html
doc/html/boost_asio/overview/signals.html
doc/html/boost_asio/overview/cpp2011/move_handlers.html
doc/html/boost_asio/overview/cpp2011/futures.html
doc/html/boost_asio/overview/networking/protocols.html
doc/html/boost_asio/overview/networking/other_protocols.html
doc/html/boost_asio/overview/ssl.html
doc/html/boost_asio/tutorial/tutdaytime6/src.html
doc/html/boost_asio/tutorial/tutdaytime4/src.html
doc/html/boost_asio/tutorial/tutdaytime3/src.html
doc/html/boost_asio/tutorial/tuttimer3.html
doc/html/boost_asio/tutorial/tutdaytime2.html
doc/html/boost_asio/tutorial/tuttimer1.html
doc/html/boost_asio/tutorial/tutdaytime5/src.html
doc/html/boost_asio/tutorial/tuttimer3/src.html
doc/html/boost_asio/tutorial/tutdaytime7.html
doc/html/boost_asio/tutorial/tuttimer2.html
doc/html/boost_asio/tutorial/tutdaytime2/src.html
doc/html/boost_asio/tutorial/tutdaytime4.html
doc/html/boost_asio/tutorial/tutdaytime7/src.html
doc/html/boost_asio/tutorial/tutdaytime1/src.html
doc/html/boost_asio/tutorial/tutdaytime3.html
doc/html/boost_asio/tutorial/tutdaytime6.html
doc/html/boost_asio/tutorial/tuttimer5/src.html
doc/html/boost_asio/tutorial/tuttimer4/src.html
doc/html/boost_asio/tutorial/tuttimer4.html
doc/html/boost_asio/tutorial/tuttimer1/src.html
doc/html/boost_asio/tutorial/tutdaytime1.html
doc/html/boost_asio/tutorial/tuttimer2/src.html
doc/html/boost_asio/tutorial/tutdaytime5.html
doc/html/boost_asio/tutorial/tuttimer5.html
doc/html/process/reference.html
doc/html/boost/process/std_out.html
doc/html/boost/process/spawn.html
doc/html/boost/process/std_in.html
doc/html/boost/process/async_pipe.html
doc/html/boost/process/on_exit.html
doc/html/boost_process/tutorial.html
doc/html/boost_process/extend.html
```

```
(kali@kali)~[~/boost_1_69_0]
```



```

kali@kali:~/boost-libs
$ ls -sh
total 51M
4.0K libboost_atomic.a          244K libboost_fiber.a          508K libboost_math_c99f.a      684K libboost_program_options.so.1.69.0  4.0K libboost_system.a
    0 libboost_atomic.so        0 libboost_fiber.so            0 libboost_math_c99f.so        84K libboost_random.a            0 libboost_system.so
16K libboost_atomic.so.1.69.0 104K libboost_fiber.so.1.69.0 88K libboost_math_c99f.so.1.69.0 0 libboost_random.so             16K libboost_system.so.1.69.0
244K libboost_chrono.a          420K libboost_filesystem.a     524K libboost_math_c99l.a      56K libboost_random.so.1.69.0      2.4M libboost_test_exec_monitor.a
    0 libboost_chrono.so        0 libboost_filesystem.so       0 libboost_math_c99l.so        2.8M libboost_regex.a            460K libboost_thread.a
60K libboost_chrono.so.1.69.0 152K libboost_filesystem.so.1.69.0 84K libboost_math_c99l.so.1.69.0 0 libboost_regex.so              0 libboost_thread.so
152K libboost_container.a       896K libboost_graph.a          0 libboost_math_c99.so         1.2M libboost_regex.so.1.69.0      220K libboost_thread.so.1.69.0
    0 libboost_container.so     0 libboost_graph.so           108K libboost_math_c99.so.1.69.0 1.2M libboost_serialization.a     56K libboost_timer.a
108K libboost_container.so.1.69.0 408K libboost_graph.so.1.69.0 2.9M libboost_math_tr1.a       0 libboost_serialization.so       0 libboost_timer.so
20K libboost_context.a         292K libboost_iostreams.a      2.8M libboost_math_tr1f.a      464K libboost_serialization.so.1.69.0 48K libboost_timer.so.1.69.0
    0 libboost_context.so       0 libboost_iostreams.so        0 libboost_math_tr1f.so        24K libboost_stacktrace_addr2line.a 188K libboost_type_eraser.a
24K libboost_context.so.1.69.0 132K libboost_iostreams.so.1.69.0 548K libboost_math_tr1f.so.1.69.0 0 libboost_stacktrace_addr2line.so 0 libboost_type_eraser.so
348K libboost_contract.a        2.1M libboost_locale.a         2.9M libboost_math_tr1l.a      32K libboost_stacktrace_addr2line.so.1.69.0 104K libboost_type_eraser.so.1.69.0
    0 libboost_contract.so      0 libboost_locale.so           0 libboost_math_tr1l.so        20K libboost_stacktrace_backtrace.a 2.4M libboost_unit_test_framework.a
180K libboost_contract.so.1.69.0 844K libboost_locale.so.1.69.0 548K libboost_math_tr1l.so.1.69.0 0 libboost_stacktrace_backtrace.so 0 libboost_unit_test_framework.so
188K libboost_coroutine.a       4.4M libboost_log.a            0 libboost_math_tr1.so         84K libboost_stacktrace_backtrace.so.1.69.0 916K libboost_unit_test_framework.so.1.69.0
    0 libboost_coroutine.so     2.7M libboost_log_setup.a      556K libboost_math_tr1.so.1.69.0 16K libboost_stacktrace_basic.a     4.6M libboost_wave.a
80K libboost_coroutine.so.1.69.0 0 libboost_log_setup.so        220K libboost_prd_exec_monitor.a 0 libboost_stacktrace_basic.so      0 libboost_wave.so
152K libboost_date_time.a       1.2M libboost_log_setup.so.1.69.0 0 libboost_prd_exec_monitor.so 20K libboost_stacktrace_basic.so.1.69.0 1.5M libboost_wave.so.1.69.0
    0 libboost_date_time.so     0 libboost_log.so              112K libboost_prd_exec_monitor.so.1.69.0 4.0K libboost_stacktrace_noop.a     792K libboost_wserialization.a
88K libboost_date_time.so.1.69.0 1.3M libboost_log.so.1.69.0 1.7M libboost_program_options.a 0 libboost_stacktrace_noop.so      0 libboost_wserialization.so
4.0K libboost_exception.a       604K libboost_math_c99.a        0 libboost_program_options.so 16K libboost_stacktrace_noop.so.1.69.0 324K libboost_wserialization.so.1.69.0

```

