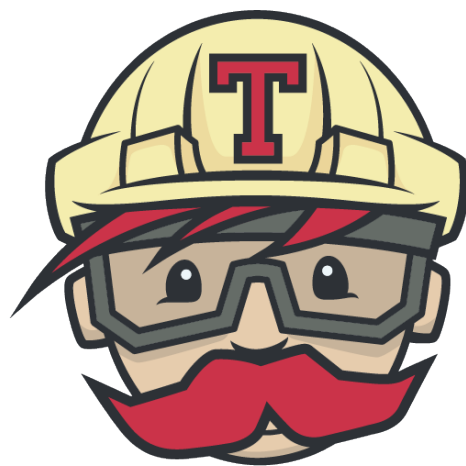


# Travis C++ tutorial

Richèl Bilderbeek

March 13, 2016



## Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	License . . . . .	1
1.2	Feedback . . . . .	2
<b>2</b>	<b>The basic build</b>	<b>2</b>
<b>3</b>	<b>Adding code coverage using gcov</b>	<b>3</b>

## 1 Introduction

This is a Travis C++ tutorial, version 0.1

### 1.1 License

This tutorial is licensed under Creative Commons license 4.0. All C++ code is licensed under GPL 3.0.



Figure 1: Creative Commons license 4.0

## 1.2 Feedback

This tutorial is not intended to be perfect yet. For that, I need help and feedback from the community. All referenced feedback is welcome, as well as any constructive feedback.

## 2 The basic build

The basic build has the following specs:

- Build system: qmake
- C++ compiler: gcc
- C++ version: C++98
- Libraries: STL only
- Code coverage: none
- Source: one single file, main.cpp

First I will show the single file this build is about:

---

**Algorithm 1** main.cpp

---

```
#include <iostream>

int main(int argc, char* argv[])
{
    if (argc == 1)
    {
        std::cout << argv[1] << '\n';
    }
    else
    {
        std::cout << "Too_much_commands" << '\n';
    }
}
```

---

This single file is compiled with qmake from the Qt Creator project file 'travis\_qmake\_gcc\_cpp98.pro', as shown here:

---

**Algorithm 2** travis\_qmake\_gcc\_cpp98.pro

---

```
TEMPLATE = app
CONFIG += console
CONFIG -= app_bundle
CONFIG -= qt
SOURCES += main.cpp
QMAKE_CXXFLAGS += -Wall -Wextra -Weffc++ -Werror
```

---

The bash build script to build this is:

---

**Algorithm 3** build.sh

---

```
qmake
make
./travis_qmake_gcc_cpp98
```

---

Setting up Travis:

---

**Algorithm 4** .travis.yml

---

```
sudo: false
language: cpp

compiler:
  - gcc

script:
  - ./build.sh
```

---

### 3 Adding code coverage using gcov

The basic build has the following specs:

- Build system: qmake
- C++ compiler: gcc
- C++ version: C++98
- Libraries: STL only
- Code coverage: none

- Source: one single file, main.cpp

First I will show the single file this build is about:

---

**Algorithm 5** main.cpp

---

```
#include <iostream>

int main(int argc, char* argv[])
{
    if (argc == 1)
    {
        std::cout << argv[1] << '\n';
    }
    else
    {
        std::cout << "Too_much_commands" << '\n';
    }
}
```

---

This single file is compiled with qmake from the Qt Creator project file 'travis\_qmake\_gcc\_cpp98.pro', as shown here:

---

**Algorithm 6** travis\_qmake\_gcc\_cpp98.pro

---

```
TEMPLATE = app
CONFIG += console
CONFIG -= app_bundle
CONFIG -= qt

SOURCES += main.cpp
QMAKE_CXXFLAGS += -Wall -Wextra -Weffc++ -Werror

# gcov
QMAKE_CXXFLAGS += -fprofile-arcs -ftest-coverage
LIBS += -lgcov
```

---

The bash build script to build this is:

---

**Algorithm 7** build.sh

---

```
qmake
make
./travis_qmake_gcc_cpp98_gcov
gcov main.cpp
cat main.cpp.gcov
```

---

Setting up Travis:

---

**Algorithm 8** .travis.yml

---

```
sudo: true
language: cpp

compiler:
  - gcc

before_install:
  - if [ "$CXX" == "g++" ]; then sudo add-apt-repository -y ppa:ubuntu-toolchain-r/test; fi
  - sudo pip install codecov # From https://github.com/travis-ci/travis-ci/issues/1705
  - sudo apt-get update -qq

#install:
  - if [ "$CXX" = "g++" ]; then sudo apt-get install -qq g++-4.8; fi
  - if [ "$CXX" = "g++" ]; then export CXX="g++-4.8"; fi

script:
  #- $CXX --version
  #- g++ --version
  #- qmake
  #- cat Makefile
  #- make
  - ./build.sh

after_success:
  - codecov
```

---