

## Copilot

Certainly! To build and install GoogleTest using CMake in Visual Studio Code (VSCode), follow these steps:

1. **Create a Project Directory:** First, create a directory for your project. Open a terminal and run:

```
mkdir my_project
cd my_project
```

2. **Create a CMakeLists.txt File:** Inside your project directory, create a CMakeLists.txt file with the following contents:

```
cmake_minimum_required(VERSION 3.14)
project(my_project)

# GoogleTest requires at least C++14
set(CMAKE_CXX_STANDARD 14)
set(CMAKE_CXX_STANDARD_REQUIRED ON)

include(FetchContent)
FetchContent_Declare(googletest
  URL https://github.com/google/googletest/archive/03597a01ee50ed33e9dfd640b249b4be3799d395.zip
)

# For Windows: Prevent overriding the parent project's compiler/linker settings
set(gtest_force_shared_crt ON CACHE BOOL "" FORCE)
FetchContent_MakeAvailable(googletest)
```

This configuration declares a dependency on GoogleTest, which will be downloaded from GitHub.

3. **Write a Test File:** Create a file named hello\_test.cc in your project directory with the following contents:

```
#include <gtest/gtest.h>

// Demonstrate some basic assertions.
TEST(HelloTest, BasicAssertions) {
    // Expect two strings not to be equal.
    EXPECT_STRNE("hello", "world");
    // Expect equality.
    EXPECT_EQ(7 * 6, 42);
}
```

4. **Build the Project:** Add the following lines to the end of your CMakeLists.txt file:

```
add_executable(my_tests hello_test.cc)
target_link_libraries(my_tests gtest_main)
```

5. **Configure and Build:** In the terminal, navigate to your project's build directory (create it if it doesn't exist):

```
mkdir build
cd build
```

Run CMake to configure the project:

```
cmake -Dgtest_build_samples=ON -DCMAKE_BUILD_TYPE=Debug ..
```

6. **Build and Run Tests:** Build the project using your preferred build tool (e.g., make, ninja, etc.):

```
make -j4
```

Execute the tests:

./my\_tests

That's it! You've successfully built and run GoogleTest using CMake in VSCode. Adjust the paths and filenames as needed for your specific project. 🚀

For more details, you can refer to the [official GoogleTest documentation](#). If you encounter any issues, feel free to ask! 😊