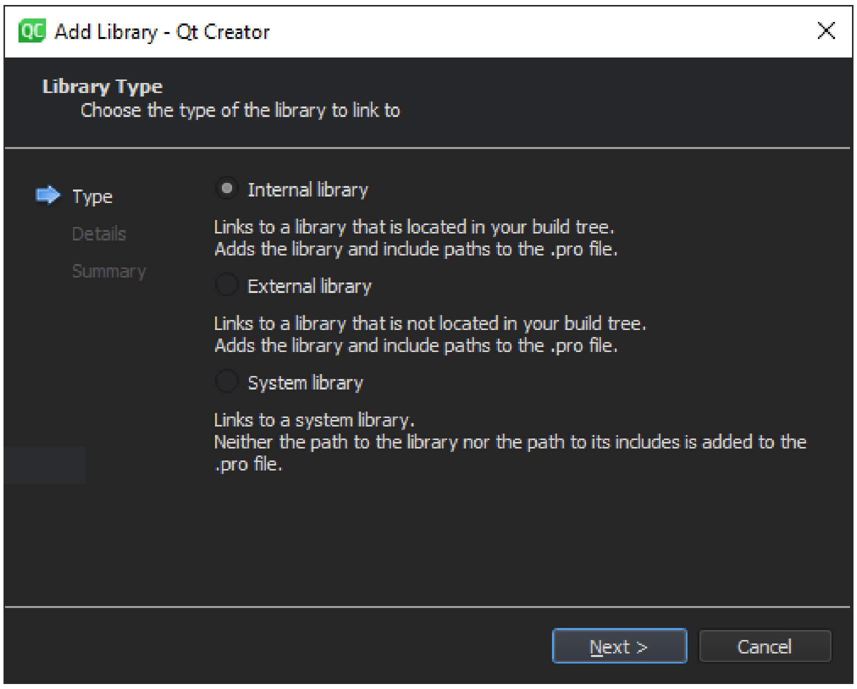
Adding Libraries to Projects

In addition to Qt libraries, you can add other libraries to your projects. The way the library is added depends on the type and location of the library. You can add a system library, your own library, or a 3rd party library. The library can be located either in the build tree of the current project or in another build tree.


Add Library - Qt Creator

Library Type
Choose the type of the library to link to

- Type
- Details
- Summary

● Internal library

Links to a library that is located in your build tree.
Adds the library and include paths to the .pro file.

○ External library

Links to a library that is not located in your build tree.
Adds the library and include paths to the .pro file.

○ System library

Links to a system library.
Neither the path to the library nor the path to its includes is added to the .pro file.

Because system libraries do not typically change and are often found by default, you do not need to specify the path to the library or to its includes when you add it. You can use `pkg-config` to query system libraries during compilation.

For your own libraries and 3rd party libraries, you need to specify the paths. Qt Creator tries to guess the include path for an external library, but you need to check it and modify it if necessary. Qt Creator automatically adds the include path for an internal library.

For all libraries, select the target platforms for the application, library, or plugin.

Specify whether the library is statically or dynamically linked. For a statically linked internal library, Qt Creator adds dependencies (target_link_libraries when using CMake or PRE_TARGETDEPS when using qmake) in the project file.

Depending on the development platform, some options might be detected automatically. For example, on macOS, the library type (**Library** or **Framework**) is detected automatically and the option is hidden. However, if you develop on another platform than macOS and want to build your project for macOS, you must specify the library type.

The default convention on Windows is that the debug and release versions of a library have the same name, but are placed in different subdirectories, usually called *debug* and *release*. If the library path does not contain either of these folders, you cannot select the option to place the libraries in separate folders.

Alternatively, the letter *d* can be added to the library name for the debug version. For example, if the release version is called example.lib, the debug version is called exampled.lib. You can specify that the letter is added for the debug version and removed for the release version. If the library name ends in *d*, deselect the **Remove "d" suffix for release version** option.

Qt Creator supports code completion and syntax highlighting for the added libraries once your project successfully builds and links to them.

To Add Libraries

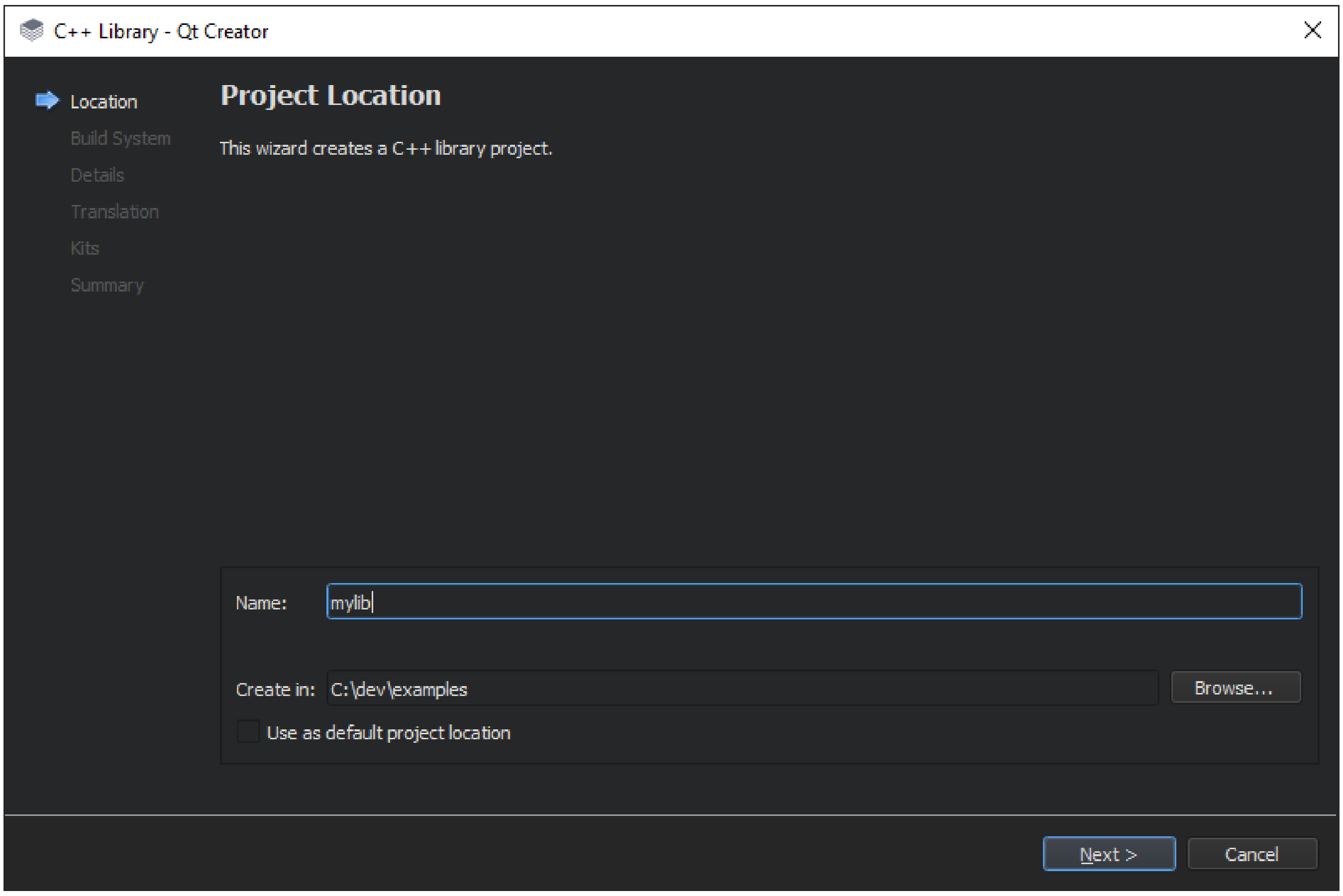
2. Follow the instructions of the wizard.

For more information about the project file settings, see Declaring Other Libraries.

Example of Adding Internal Libraries

To add an internal library to your project:

1. Select **File** > **New Project** > **Library** > **C++ Library**.
2. Select **Choose** to open the **Project Location** dialog.



Project Location

This wizard creates a C++ library project.

Name: mylib

Create in: C:\dev\examples

Use as default project location

3. In the **Name** field, give a name for the library. For example, **mylib**.
4. Follow the instructions of the wizard until you get to the **Project Management** dialog. In the **Add as a subproject to project** list, select a project. For example, **myapp**.
5. In the **Projects** view, right-click the project name to open the context menu and select **Add Library** > **Internal Library** > **Next**.
6. In the **Library** field, select **mylib**, and then select **Next**.
7. Select **Finish** to add the library declaration to the project file.

When using CMake, the `target_link_libraries` command is added to the CMakeLists.txt file:

```
target_link_libraries(myapp PRIVATE mylib)
```

When using qmake, the following library declaration is added to the .pro file:

```
win32:CONFIG(release, debug|release): LIBS += -L$$OUT_PWD/../../../projects/mylib/release/ -lmylib
else:win32:CONFIG(debug, debug|release): LIBS += -L$$OUT_PWD/../../../projects/mylib/debug/ -lmylib
else:unix: LIBS += -L$$OUT_PWD/../../../projects/mylib/ -lmylib
INCLUDEPATH += $$PWD/../../../projects/mylib
DEPENDPATH += $$PWD/../../../projects/mylib
```

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```
else:unix: PRE_TARGETDEPS += $$OUT_PWD/../../../projects/mylib/libmylib.a
```

‹ Opening Projects | Adding New Custom Wizards ›

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