

TEAM CBTEK

RAT-STATS 2017 Development April 20, 2017

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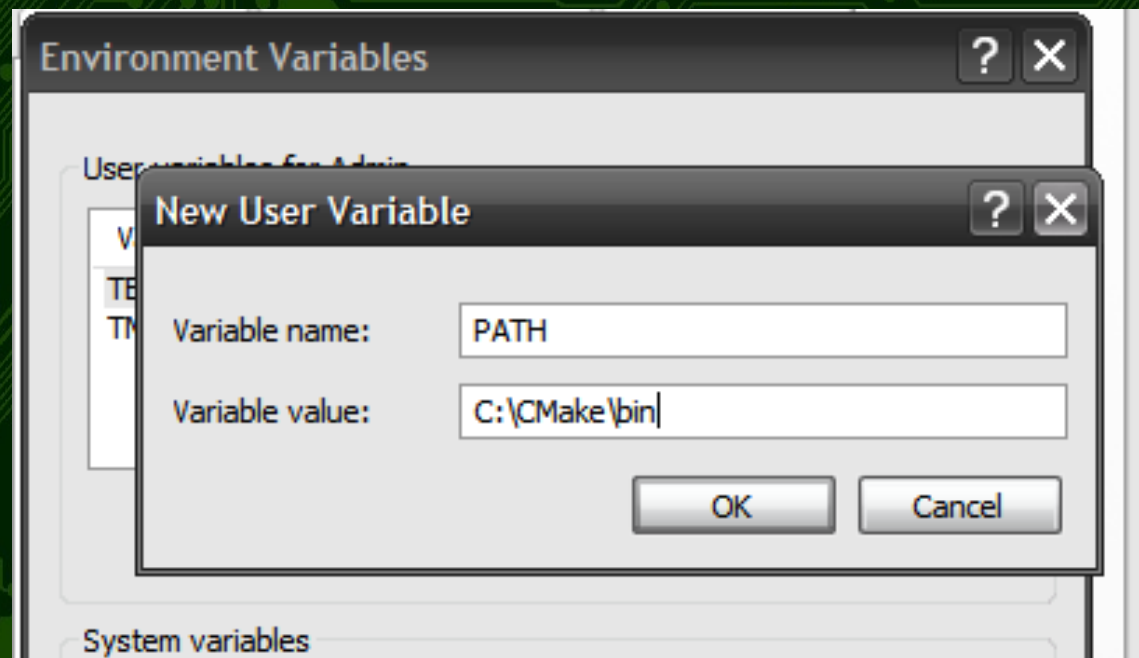
Prerequisites

Please download the tools below before continuing.

Tool	URL
CMake – This is the build system used by RAT-STATS 2017	https://cmake.org/files/v3.8/cmake-3.8.0-win32-x86.zip
QtSDK – This is a C++ library for creating user interfaces. It also provides the QtCreator IDE that RAT-STATS 2017 uses for development.	http://download.qt.io/official_releases/qt/5.8/5.8.0/qt-opensource-windows-x86-mingw530-5.8.0.exe
SourceGen / ProjectGen – These tools are used for generating C++ skeleton source code and CMake projects.	<p>These tools are located in the <u>rstats_source/products/RAT-STATS/rstats_contrib/sgen</u> and <u>rstats_source/products/RAT-STATS/rstats_contrib/pgen</u> folders</p> <p>You may also browse GitHub for future releases at: http://www.github.com/Cbtek/SourceGen and http://www.github.com/Cbtek/ProjectGen</p>

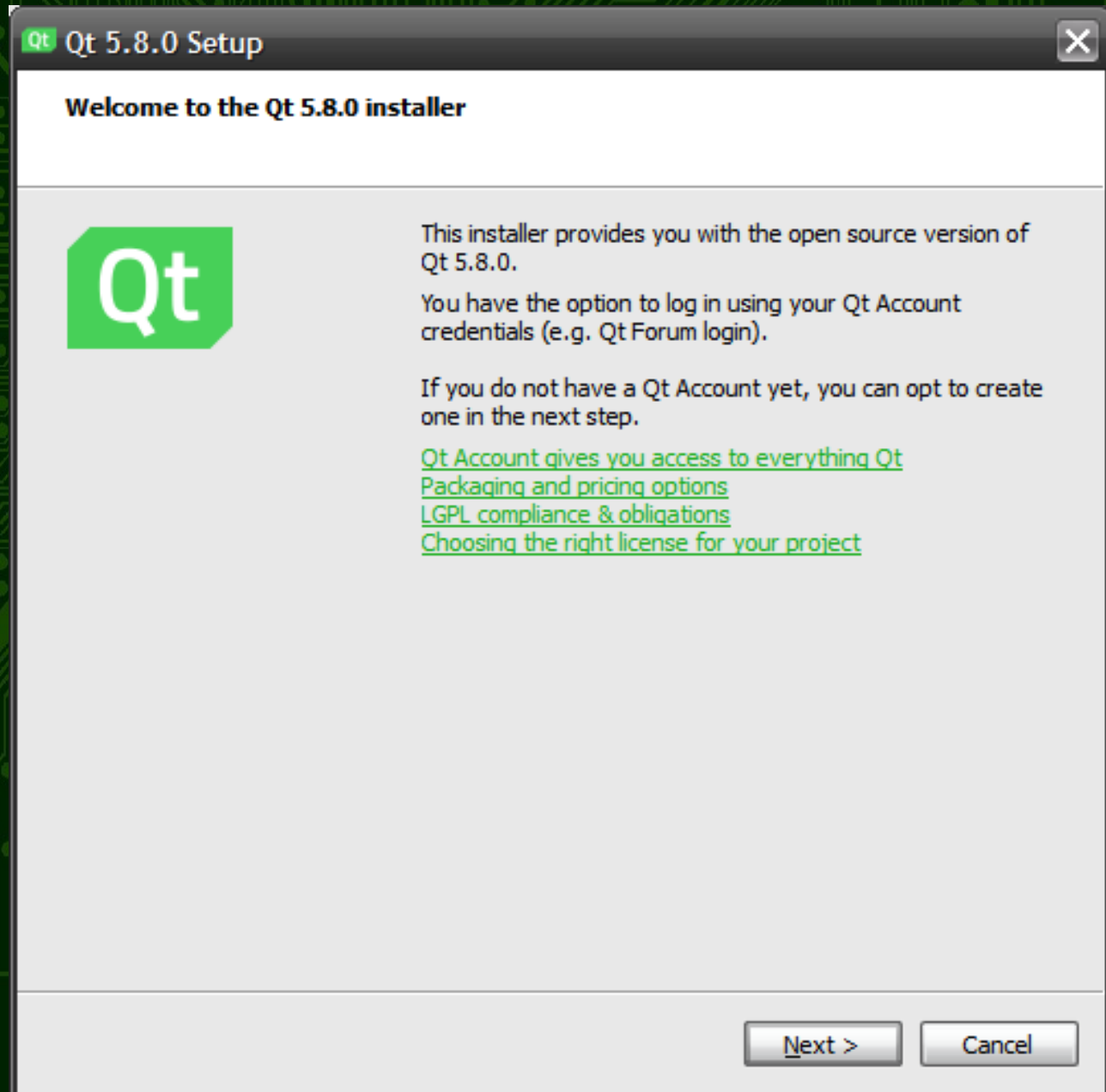
Installing CMake

- Extract the CMake ZIP file to any path somewhere on your local machine. (e.g C:\CMake)
- Add the URL to the “bin” folder located in the CMake installation to your PATH variable:



Installing QtSDK

- Open the installer
- Press “Next”



Installing QtSDK (cont.)

- Click the “Skip” button
- Press “Next”



The image shows a screenshot of the 'Qt 5.8.0 Setup' window. The window title is 'Qt 5.8.0 Setup'. The main heading is 'Qt Account – Your unified login to everything Qt'. On the left is the Qt logo. The right side has two sections: 'Please log in to Qt Account' with 'Login' fields for 'Email' and 'Password', and a link 'Forgot password?'. Below that is 'Need a Qt Account?' with 'Sign-up' fields for 'Valid email address', 'Password', and 'Confirm Password'. At the bottom of the sign-up section is a checkbox 'I accept the service terms.' and a link 'service terms.'. At the very bottom of the window are four buttons: 'Settings', '< Back', 'Skip', and 'Cancel'.

Qt 5.8.0 Setup

Qt Account – Your unified login to everything Qt

Qt

Please log in to Qt Account

Login

Email

Password

[Forgot password?](#)

Need a Qt Account?

Sign-up

Valid email address

Password

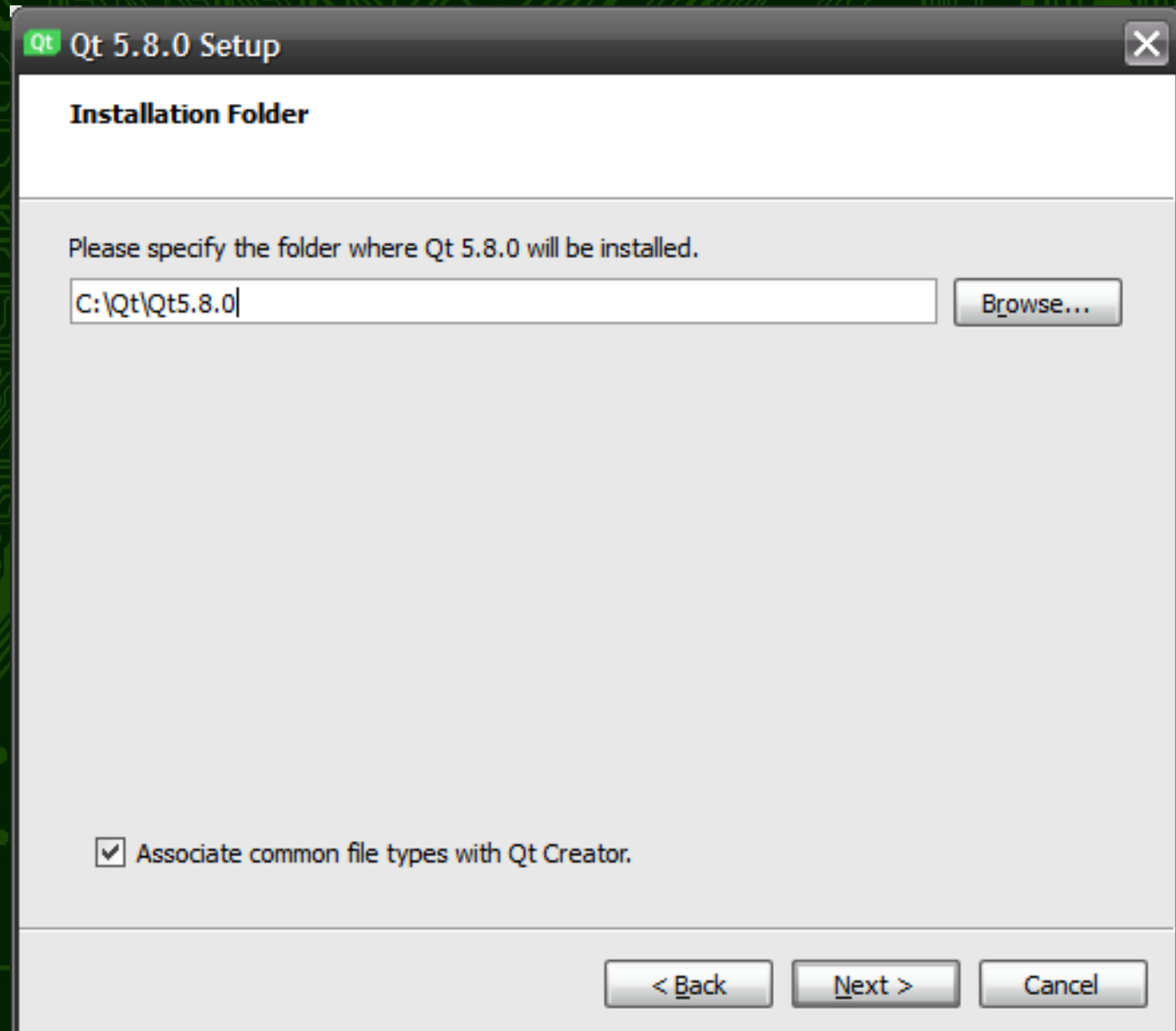
Confirm Password

☐ I accept the [service terms](#).

Settings < Back Skip Cancel

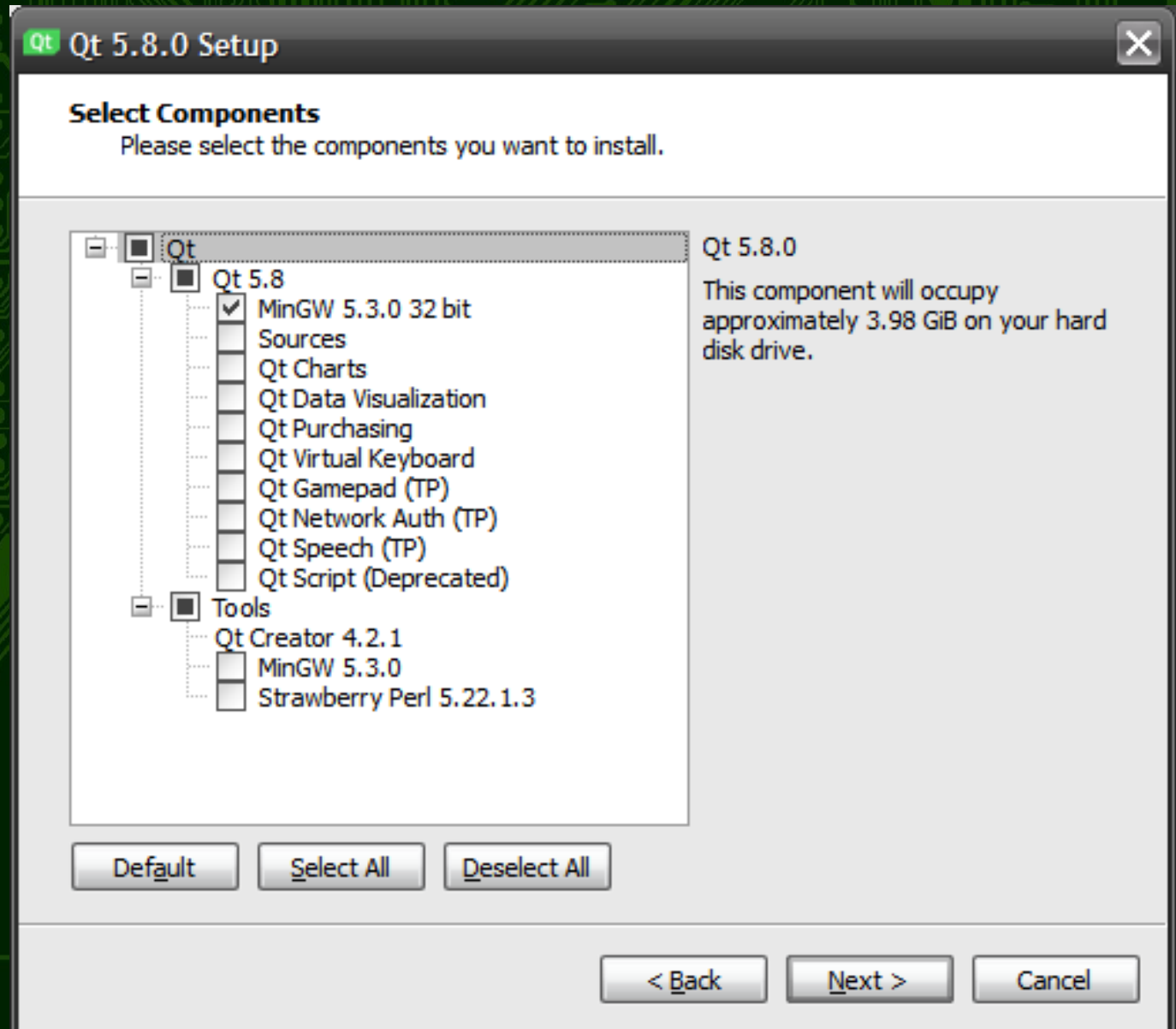
Installing QtSDK (cont.)

- Set the path where you would like to install QtSDK.
- Press “Next”



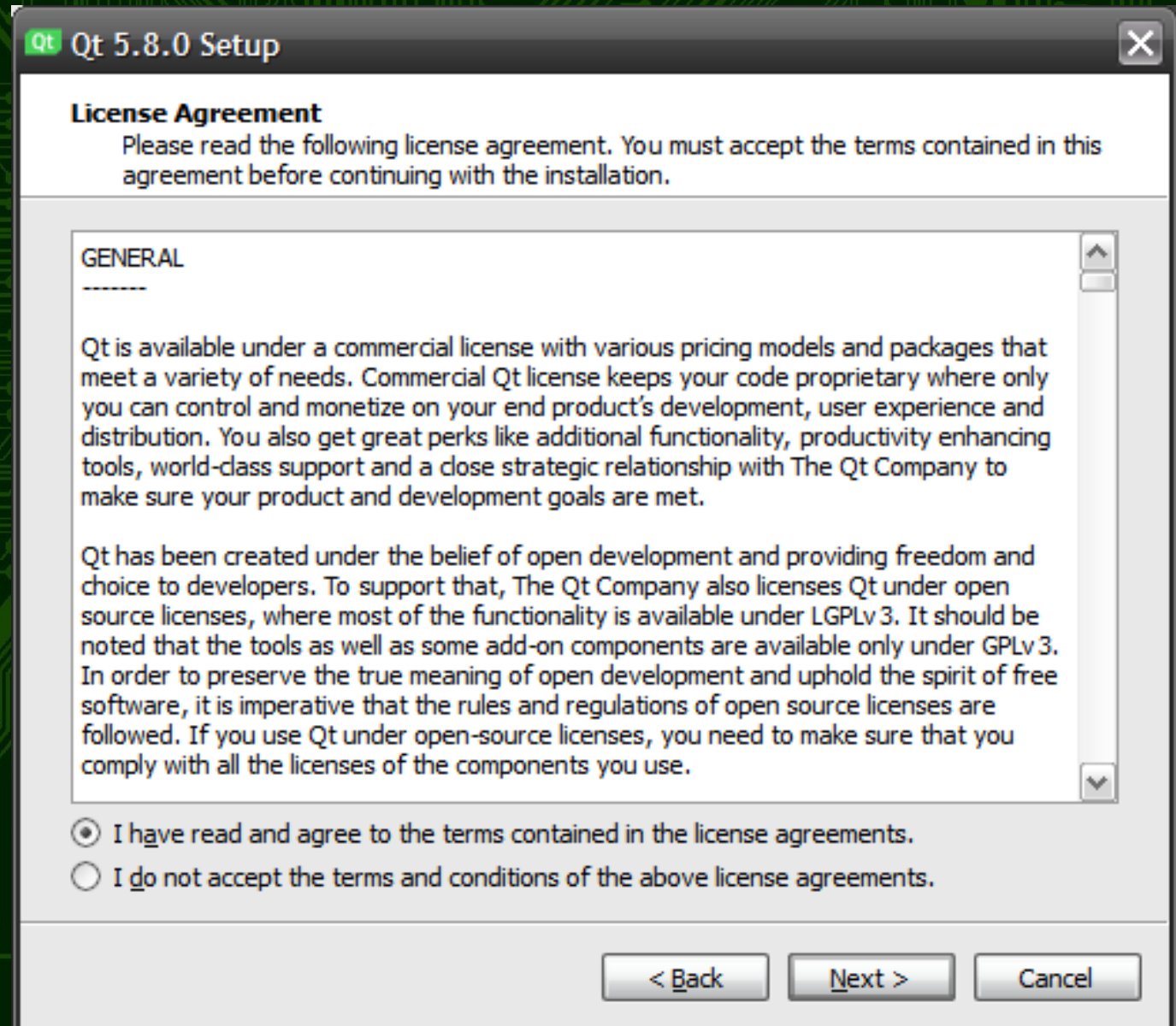
Installing QtSDK (cont.)

- Expand the “Qt 5.8” tree and un-check all the extra Qt components since they are not used by RAT-STATS 2017.
- Press “Next”



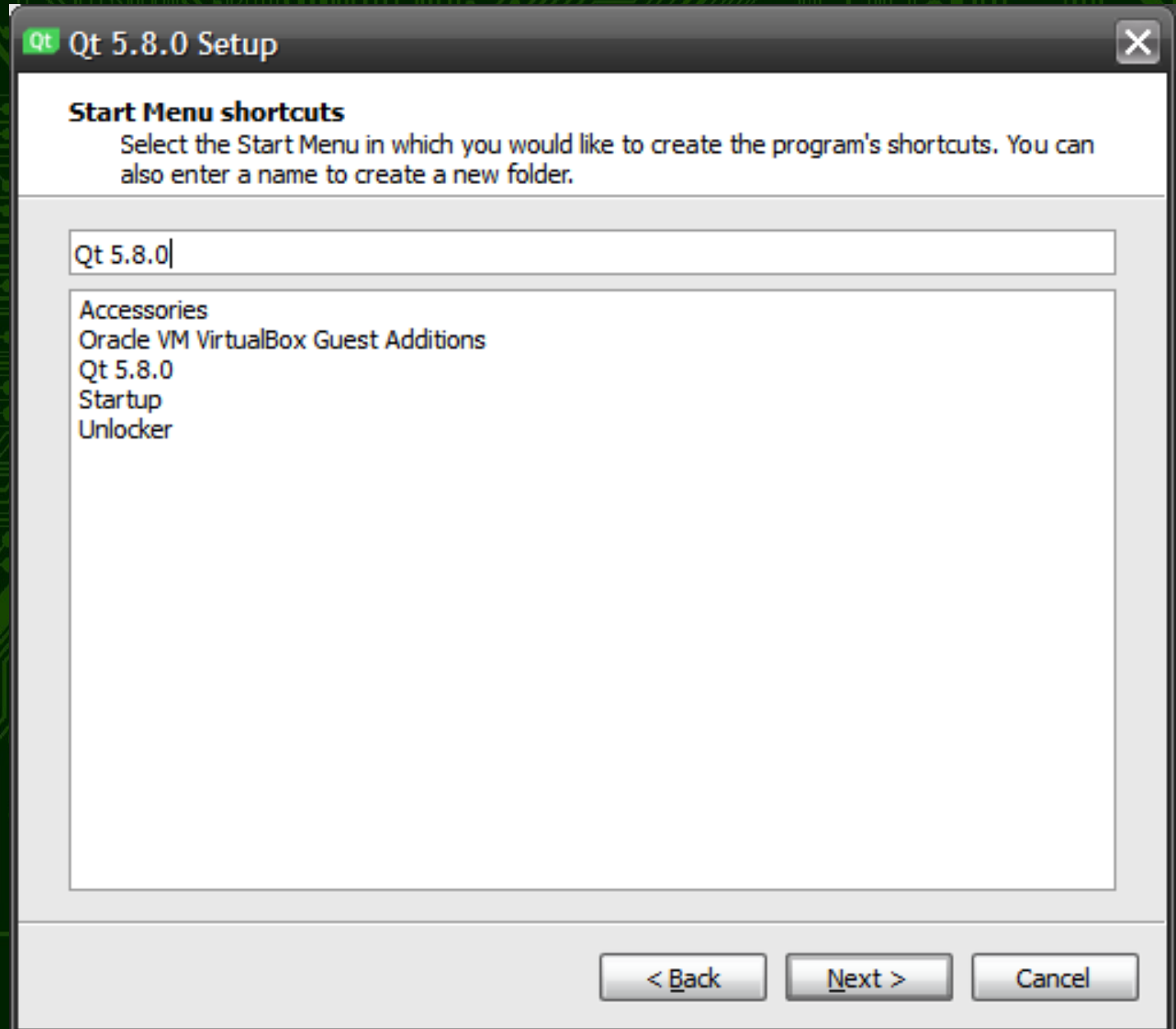
Installing QtSDK (cont.)

- Click to accept the license
- Press “Next”



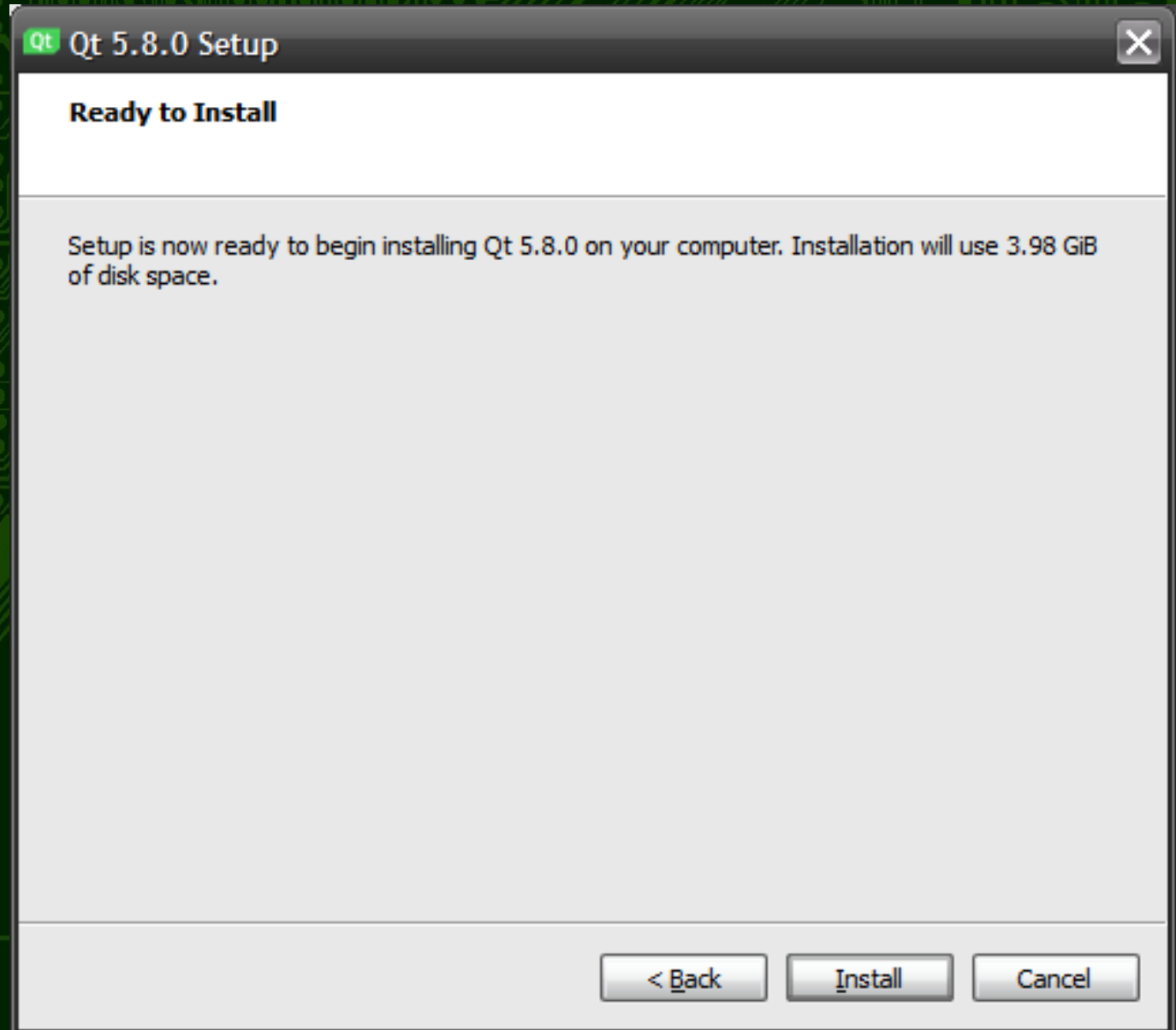
Installing QtSDK (cont.)

- Select Start Menu shortcut name
- Press “Next”



Installing QtSDK (cont.)

- Click the “Install” button to begin continue
- Installation should take between 5 and 10 minutes
- If you chose to install QtSDK to your user folder and don't have admin privileges, you may be presented with dialog asking for admin credentials. You should also be able to continue the install by clicking the “Ignore” button.

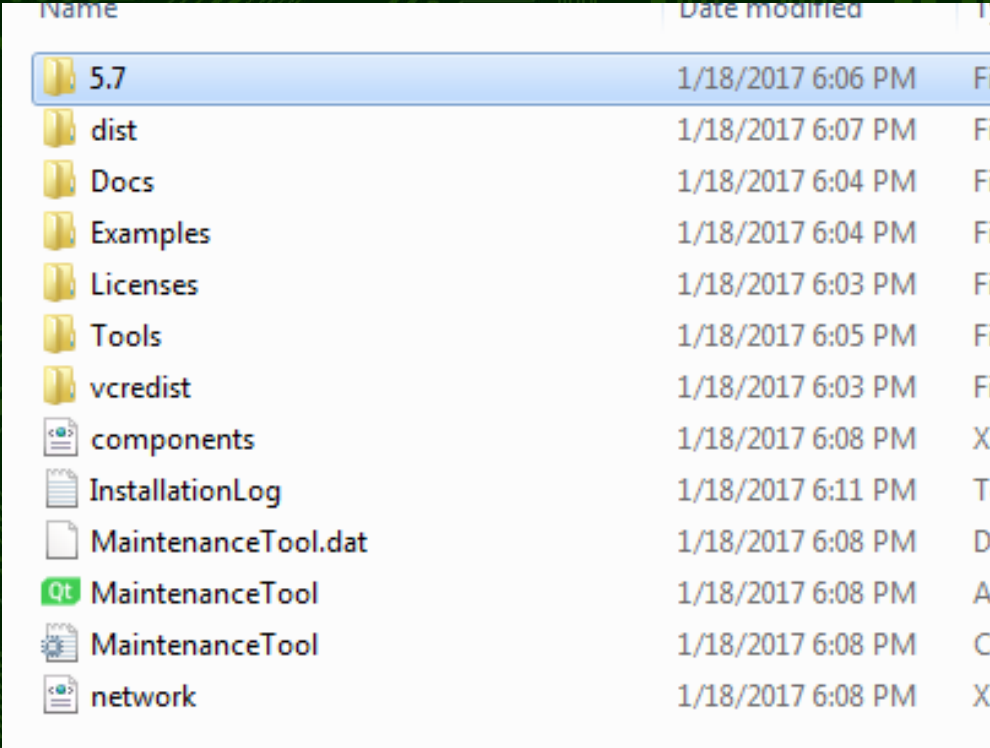


Configuring QtSDK

- When installation completes locate your installation directory (See the image on right. Note you may have a “5.8” folder instead of “5.7”)

There are three paths that need to be added to the PATH environment variable (e.g):

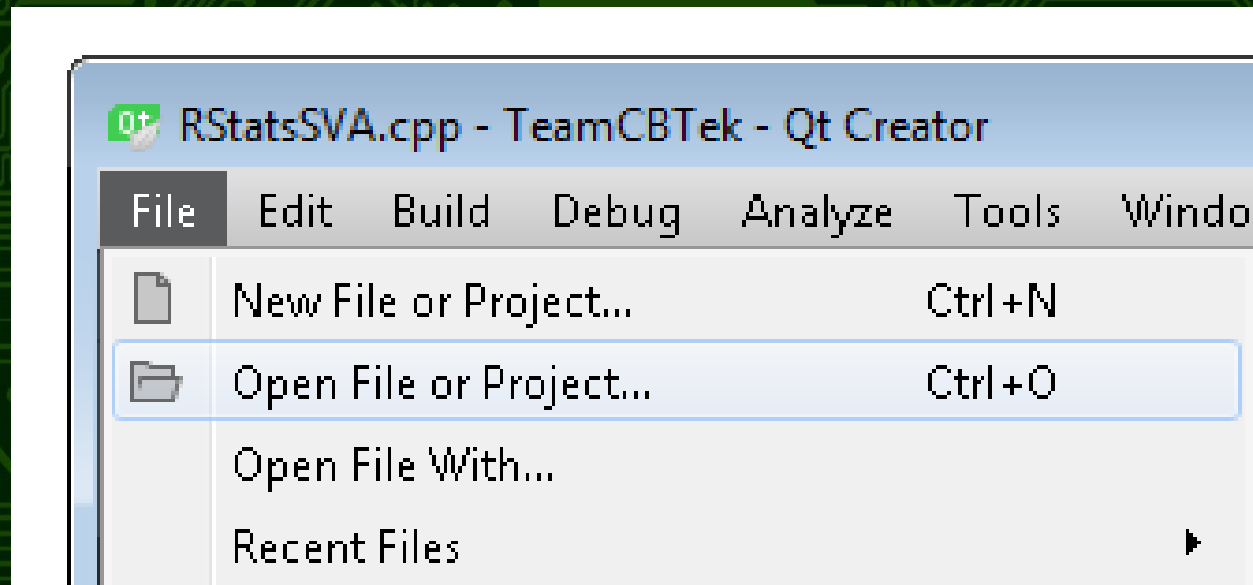
- (1) Path to QtSDK bin folder
 - C:/Qt/QtSDK5.7.0/5.7/mingw_53_32/bin
- (2) Path to MinGW bin folder
 - C:/Qt/QtSDK5.7.0/tools/mingw_530_32/bin
- (3) Path to QtCreator bin folder
 - C:/Qt/QtSDK5.7.0/tools/QtCreator/bin
- (4) Add your paths to PATH and (re)start QtCreator and any open command prompts.



Name	Date modified	Type
5.7	1/18/2017 6:06 PM	Folder
dist	1/18/2017 6:07 PM	Folder
Docs	1/18/2017 6:04 PM	Folder
Examples	1/18/2017 6:04 PM	Folder
Licenses	1/18/2017 6:03 PM	Folder
Tools	1/18/2017 6:05 PM	Folder
vcredist	1/18/2017 6:03 PM	Folder
components	1/18/2017 6:08 PM	Folder
InstallationLog	1/18/2017 6:11 PM	Text Document
MaintenanceTool.dat	1/18/2017 6:08 PM	Data File
MaintenanceTool	1/18/2017 6:08 PM	Application Extension
MaintenanceTool	1/18/2017 6:08 PM	Application Extension
network	1/18/2017 6:08 PM	Folder

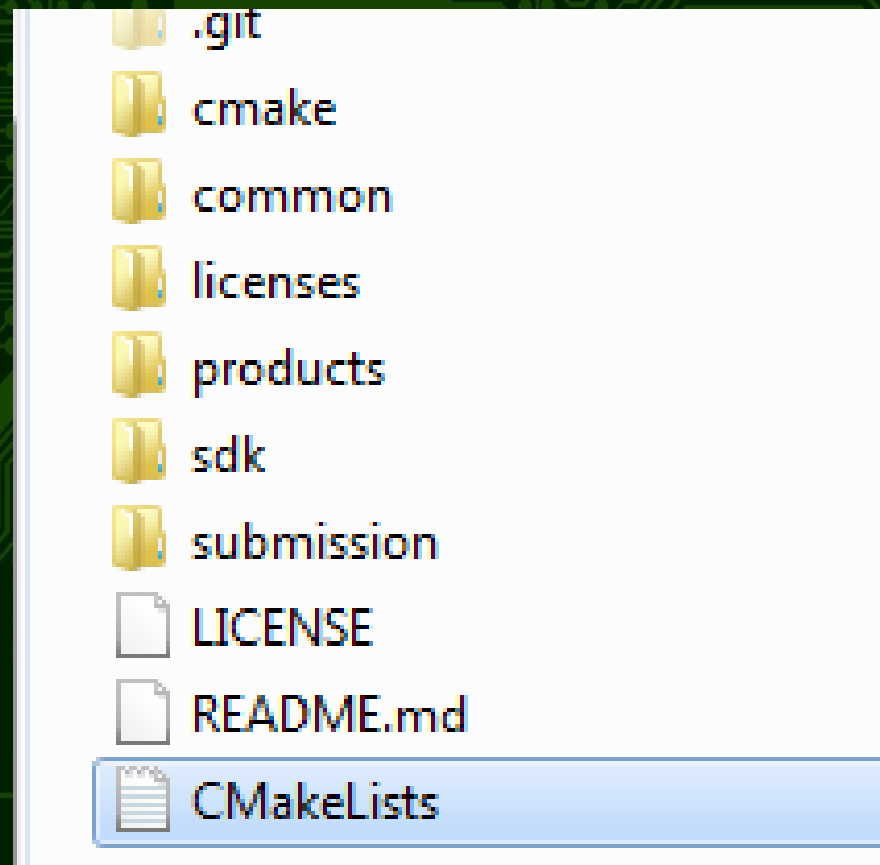
Configuring QtSDK (cont.)

- Once QtCreator restarts select File → Open File or Project...



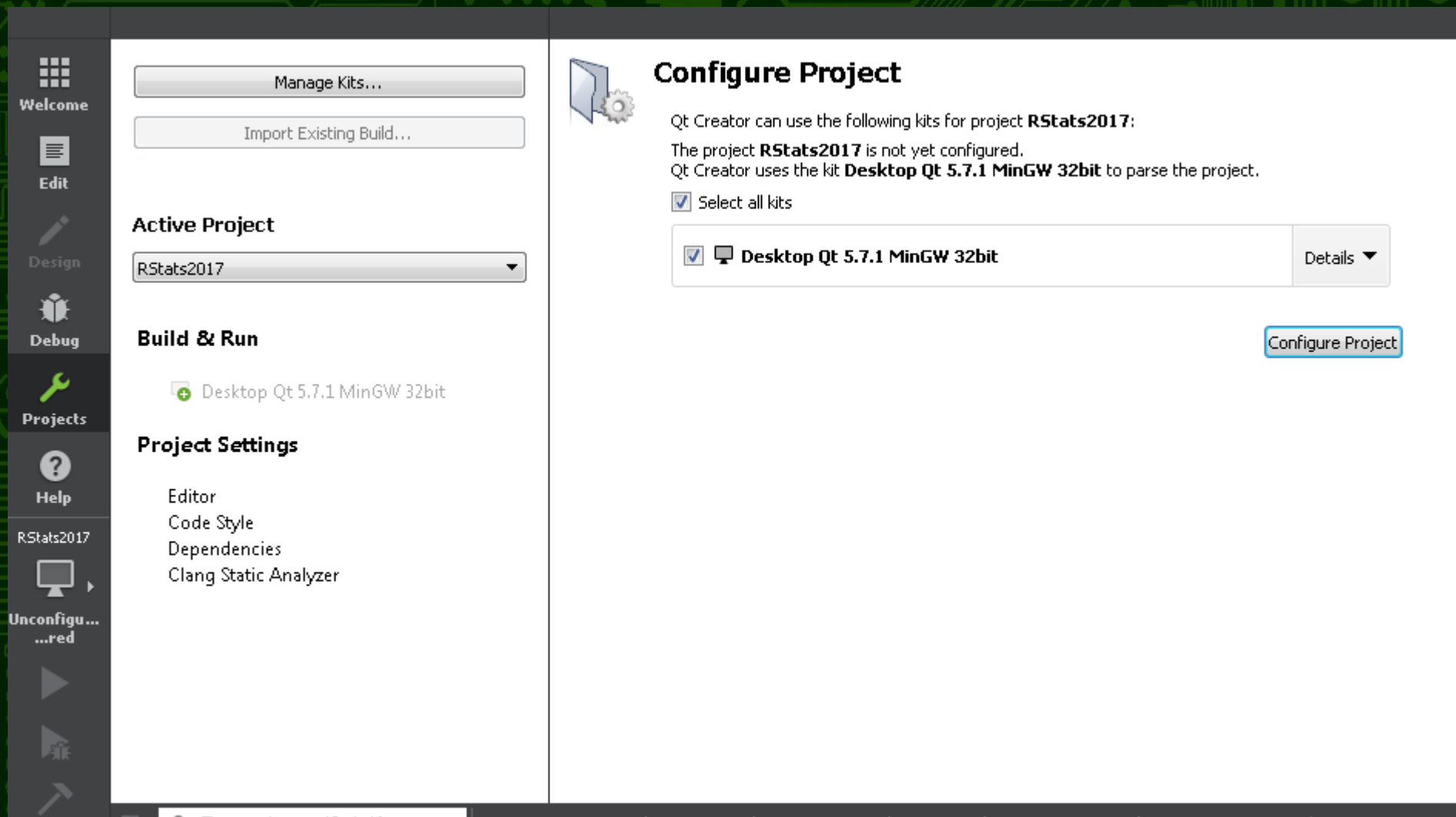
Configuring QtSDK (cont.)

- Navigate to the “rstats_source” folder and select “CMakeLists.txt” or “CmakeLists”



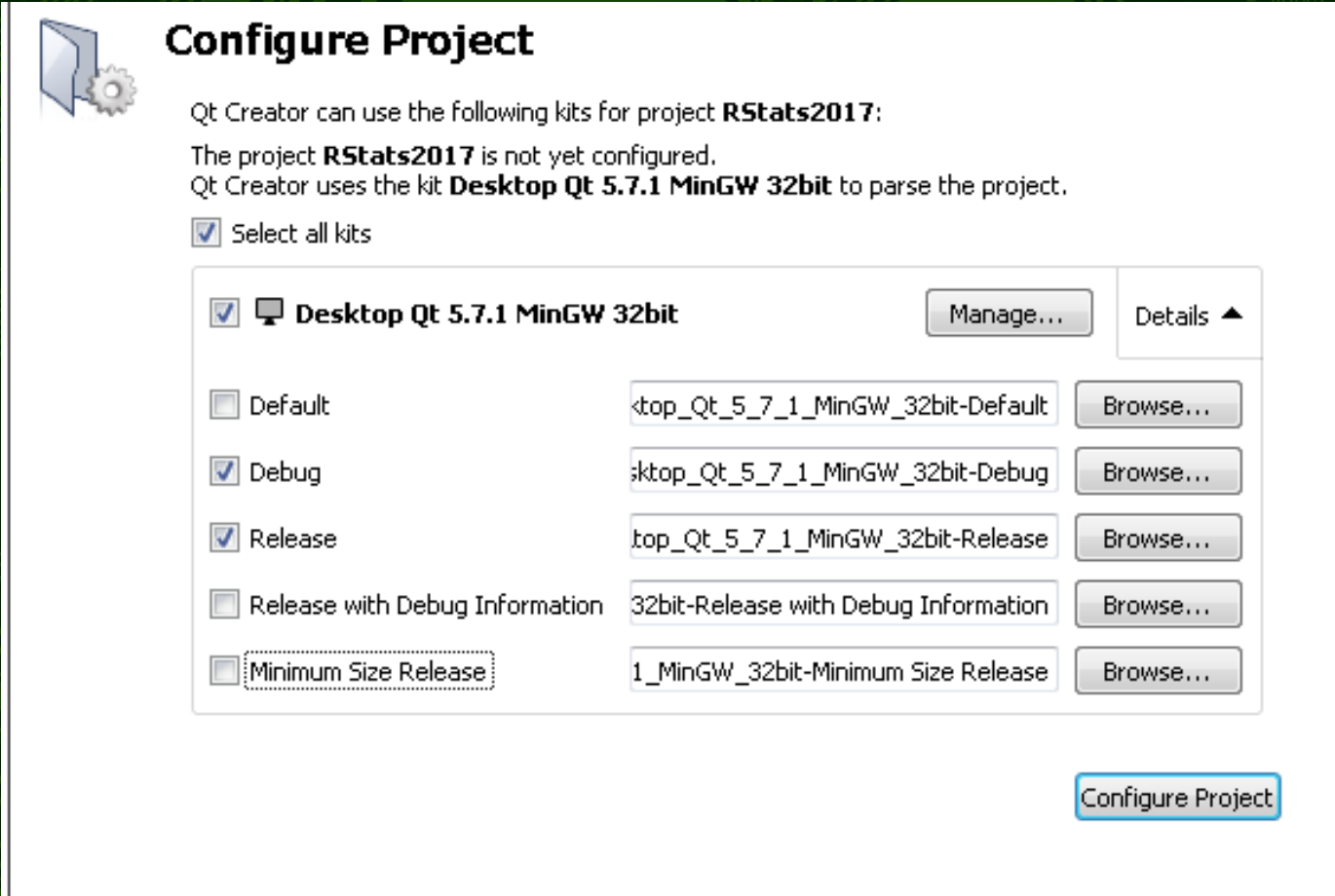
Configuring QtSDK (cont.)

- Click the “Details” drop down on the far right:



Configuring QtSDK (cont.)

- Make sure you only select the “Debug” and “Release” configurations.
- Click Configure Project to continue




Configure Project

Qt Creator can use the following kits for project **RStats2017**:

The project **RStats2017** is not yet configured.
Qt Creator uses the kit **Desktop Qt 5.7.1 MinGW 32bit** to parse the project.

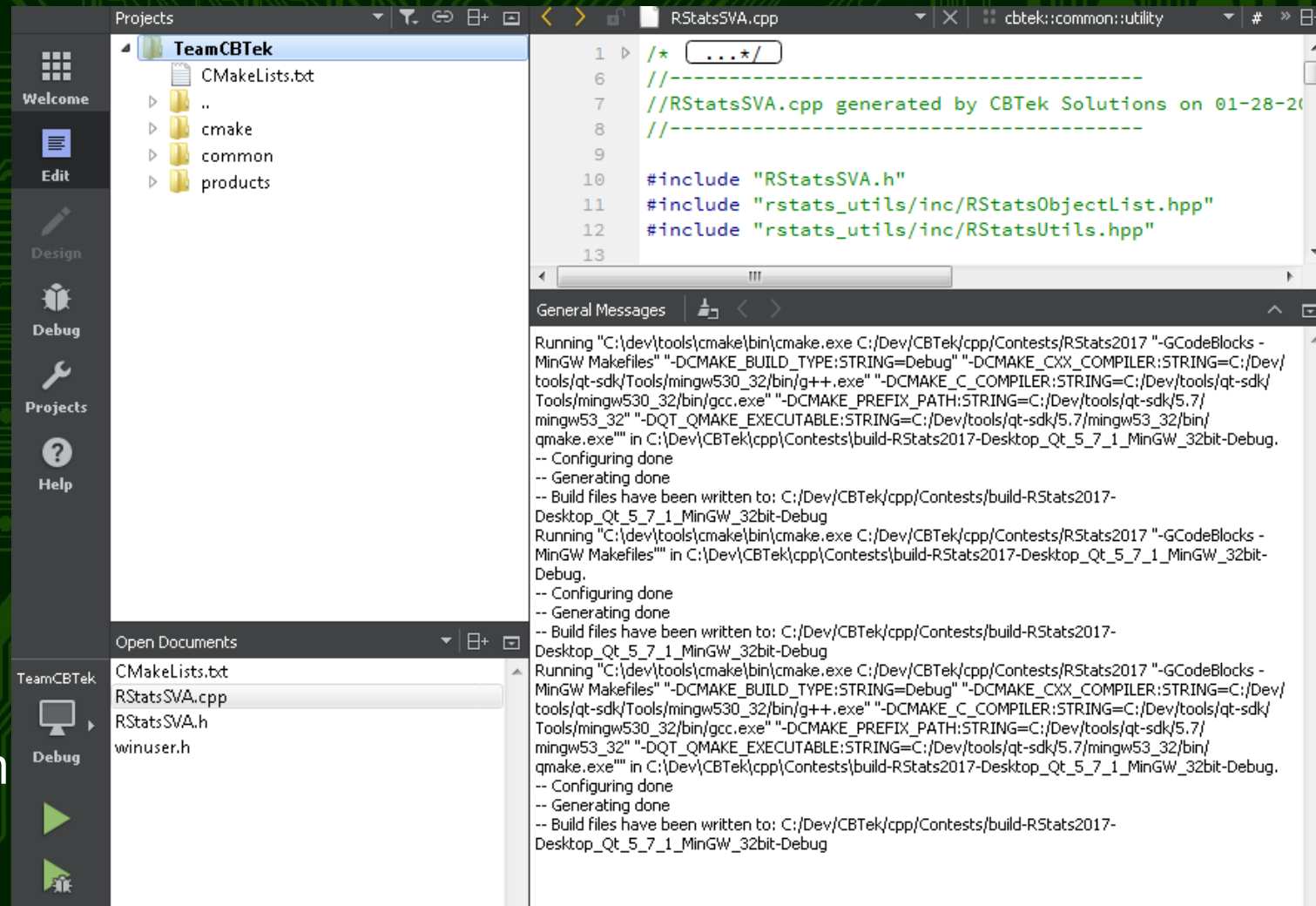
☒ Select all kits

<input checked="" type="checkbox"/>  Desktop Qt 5.7.1 MinGW 32bit	Manage...	Details ▲
<input type="checkbox"/> Default	ktop_Qt_5_7_1_MinGW_32bit-Default	Browse...
<input checked="" type="checkbox"/> Debug	ktop_Qt_5_7_1_MinGW_32bit-Debug	Browse...
<input checked="" type="checkbox"/> Release	ktop_Qt_5_7_1_MinGW_32bit-Release	Browse...
<input type="checkbox"/> Release with Debug Information	32bit-Release with Debug Information	Browse...
<input type="checkbox"/> Minimum Size Release	1_MinGW_32bit-Minimum Size Release	Browse...

Configure Project

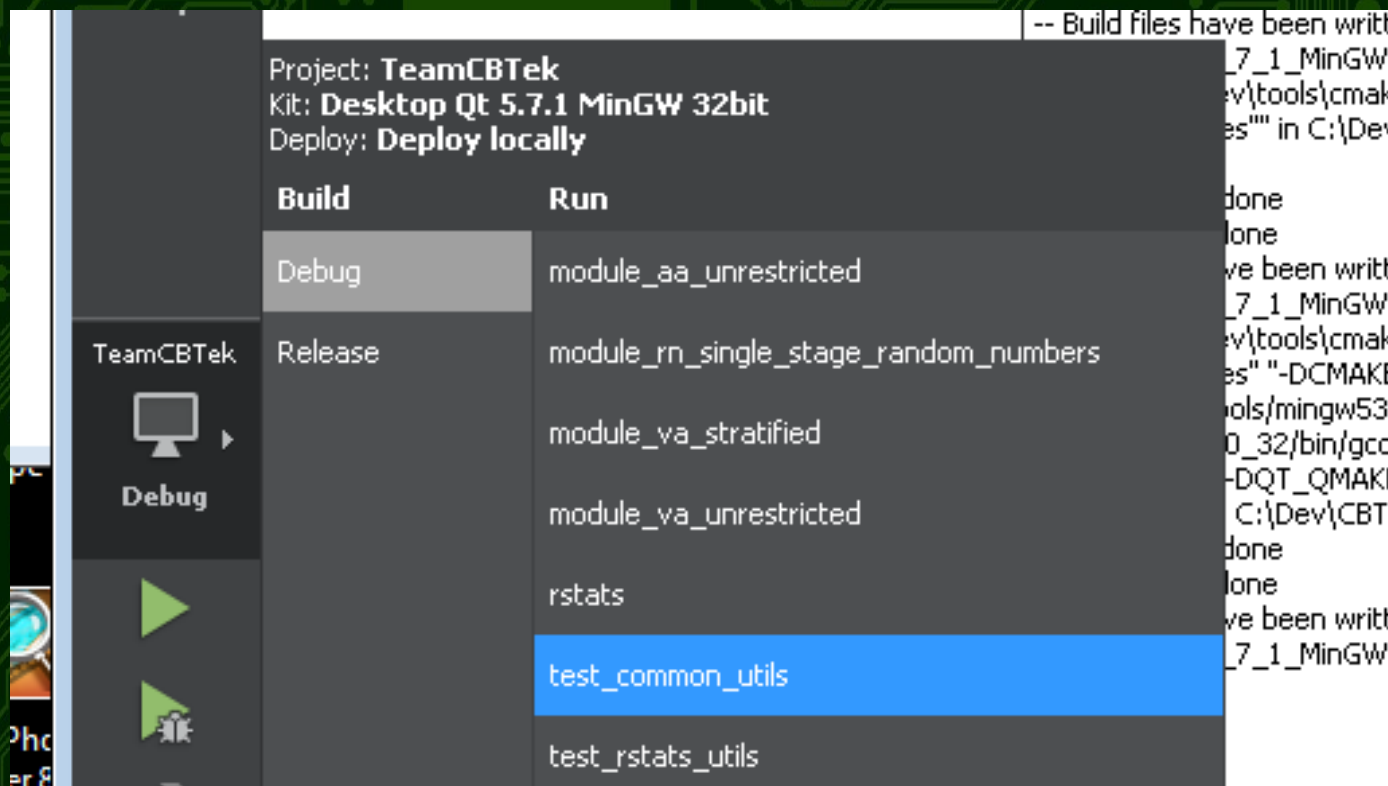
Configuring QtSDK (cont.)

- If everything is setup correctly you should see a window similar to the one on the right.
- You are now ready to build RAT-STATS 2017
- Just press <CTRL+B> or click the “Play” icon in the bottom left.



Configuring QtSDK (cont.)

- Clicking the Computer Icon under “TeamCBTek” allows you to select a “debug” or “release” build as well as which module/executable you want to run:



Configuring QtSDK (cont.)

- Clicking the “Projects” icon on the far left, takes you to advanced configuration settings for the project. Note the “Build Steps” section on the right. Click the “Details” drop down:

The screenshot shows the Qt Creator IDE interface. On the left sidebar, the 'Projects' icon is selected. The main window displays the 'Project Settings' dialog for 'Desktop Qt 5.7.1 MinGW 32bit'. The 'Build' step is selected, and the 'Details' dropdown is open, showing the build command 'cmake.exe --build . --target ""'. The 'Build Steps' section is visible, and the 'Clean Steps' section is partially visible at the bottom.

Project Settings

Editor
Code Style
Dependencies
Clang Static Analyzer

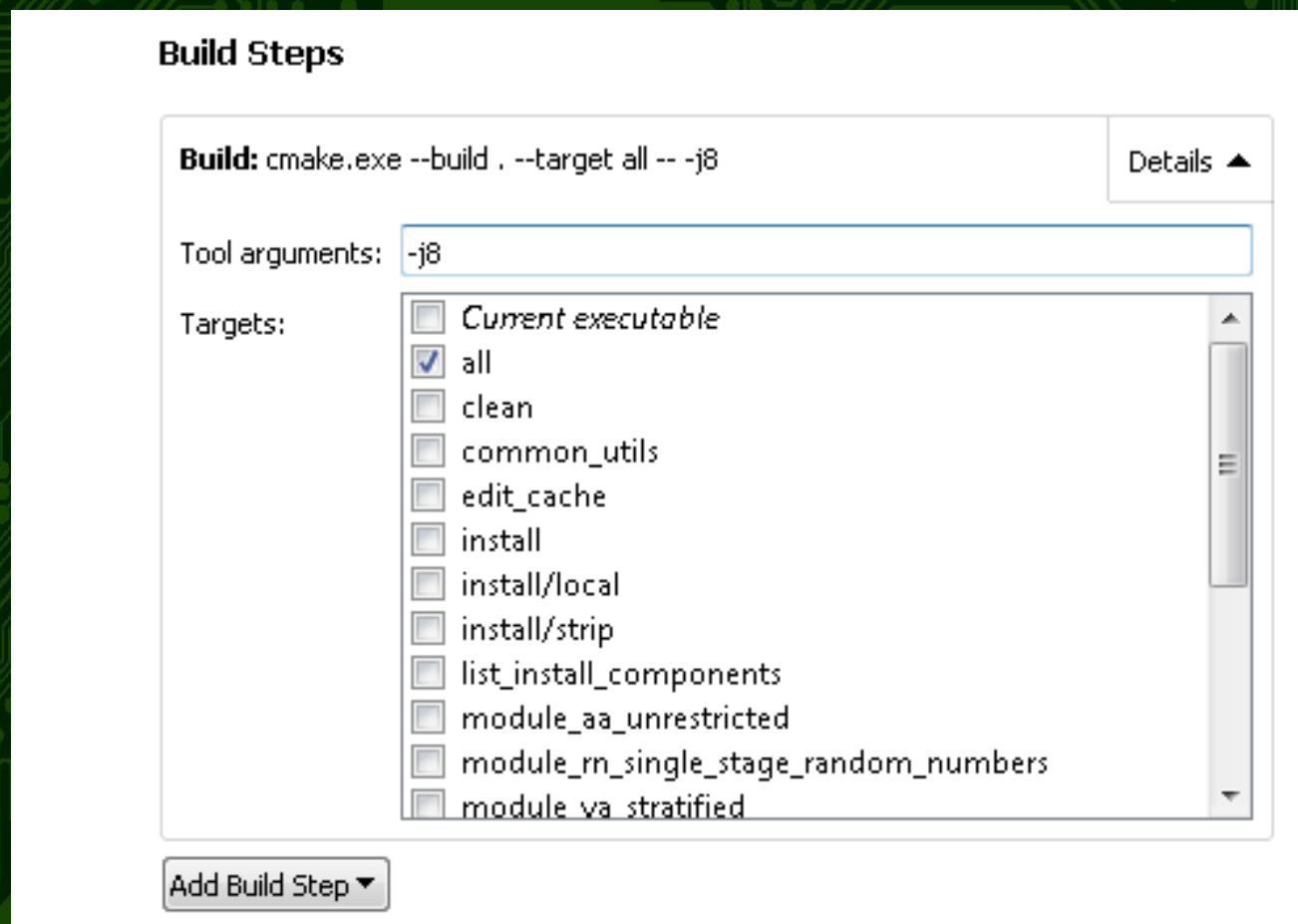
Build Steps

Build: cmake.exe --build . --target ""

Clean Steps

Configuring QtSDK (cont.)

- The “Targets” list allows you to select an individual module / executable to build. I usually always just leave the “all” check box checked.
- Also notice the “Tool Arguments” text box. yours will probably be empty initially The “-j8” tells the compiler to use 8 parallel cores to build the project. This results in a much faster build depending on how many cores your CPU has. I highly recommend using this if you can. Just set it to how ever many cores your machine has:



Configuring QtSDK (cont.)

- Just continue playing around with QtCreator and set it up to your liking.
- If you have any issues / problems / suggestions I can be reached via email at corey.berry@cbtek.net

Build artifacts and deployment

- All builds are automatically copied to the “bin” folder at the same level as “rstats_source”. They are separated between “Debug” and “Release” builds.
- The following files are required from the QtSDK in order to ship / deploy modules / executables with Qt forms:
 - (1) Qt5Widgets.dll
 - (2) Qt5Core.dll
 - (3) Qt5Gui.dll
 - (4) libgcc_s_dw2-1.dll
 - (5) libstdc++-6.dll
 - (6) libwinpthread-1.dll
 - (7) platforms/qminimal.dll
 - (8) platforms/qoffscreen.dll
 - (9) platforms/qwindows.dll
- This are all provided for you in the rstats_binary folder