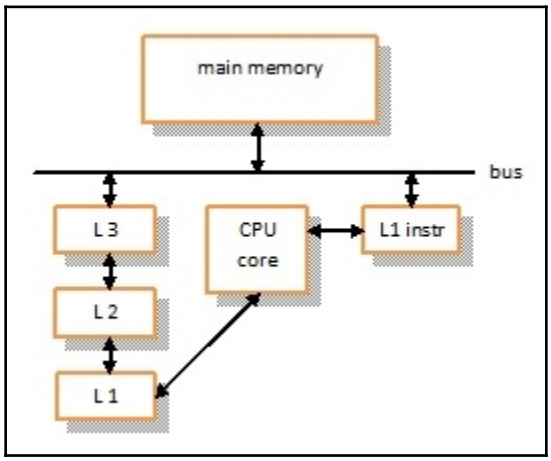
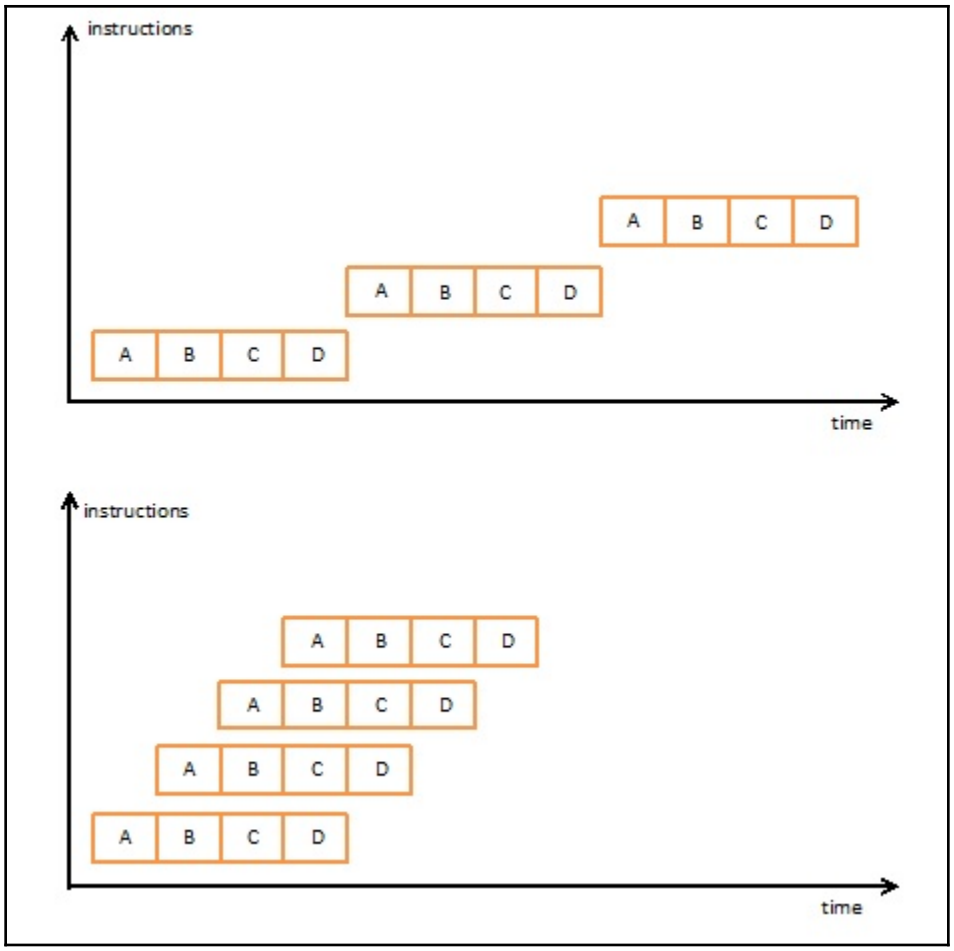
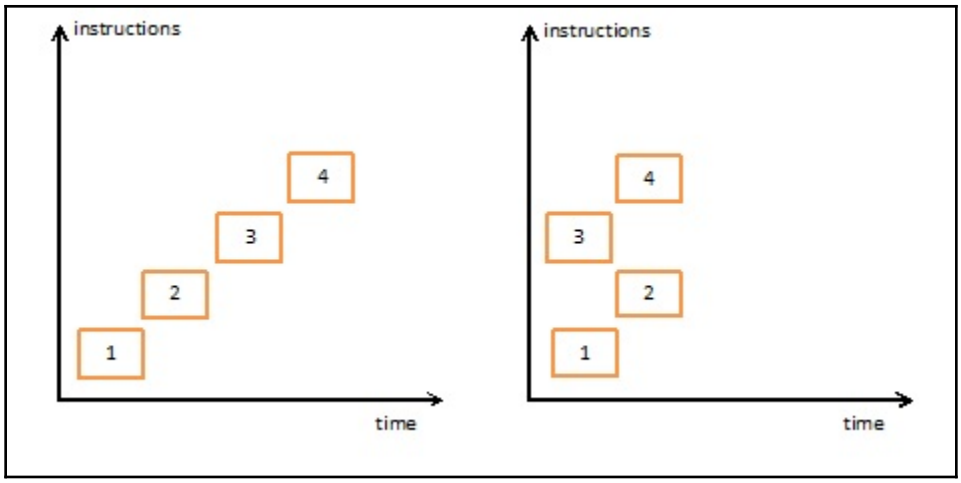
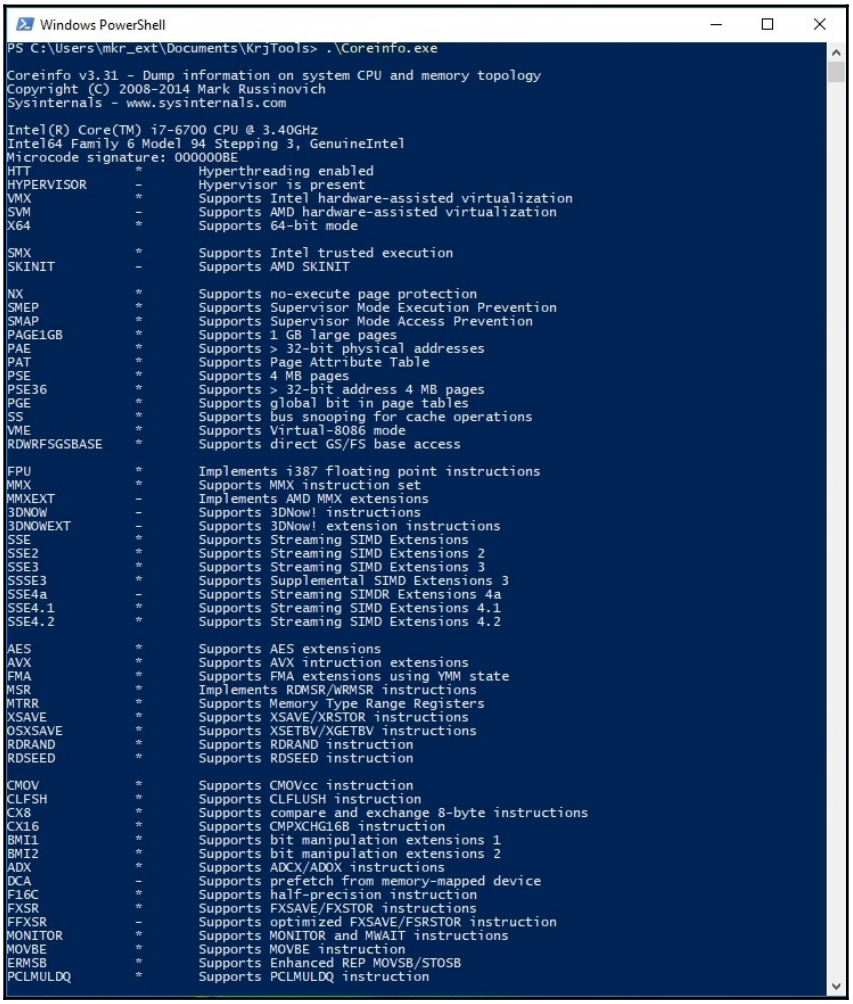
Chapter 1: Understanding Performant Programs

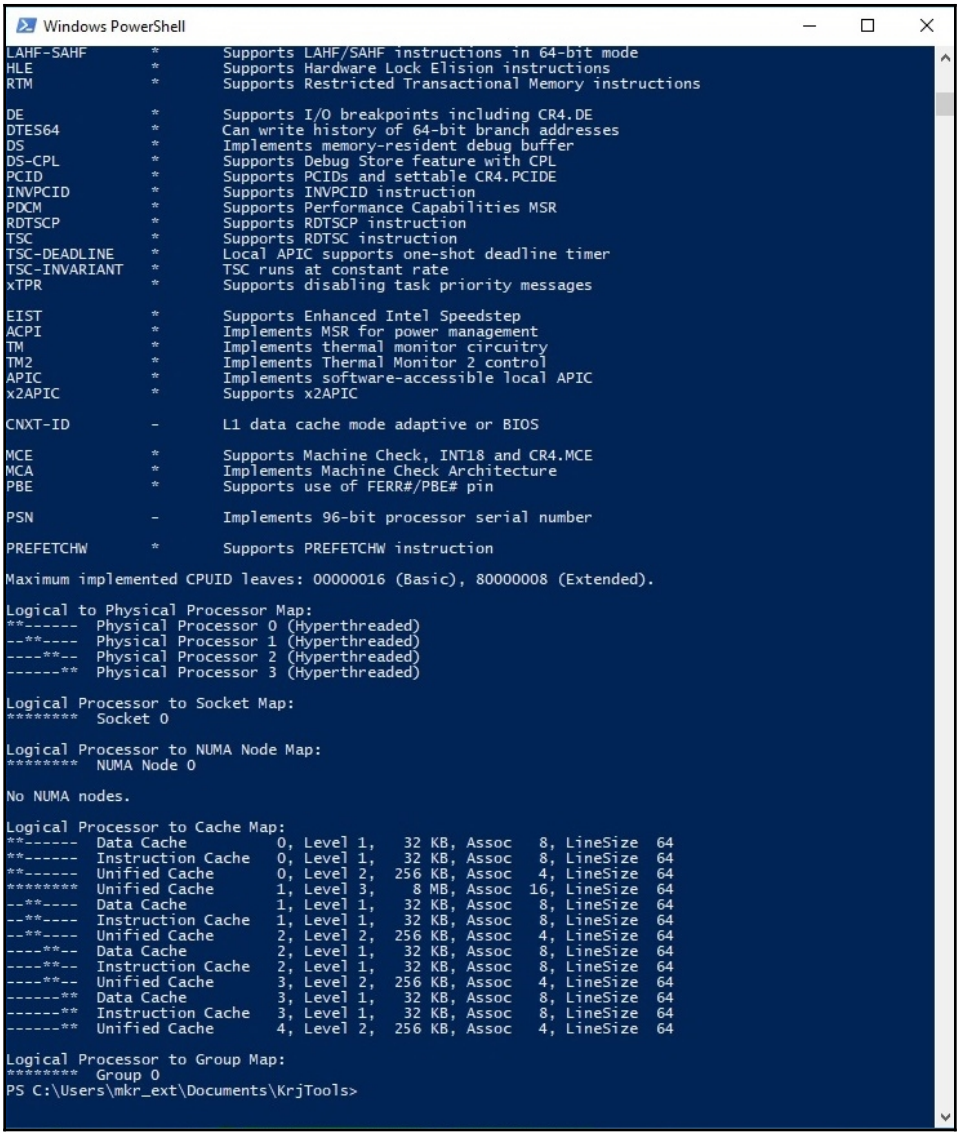


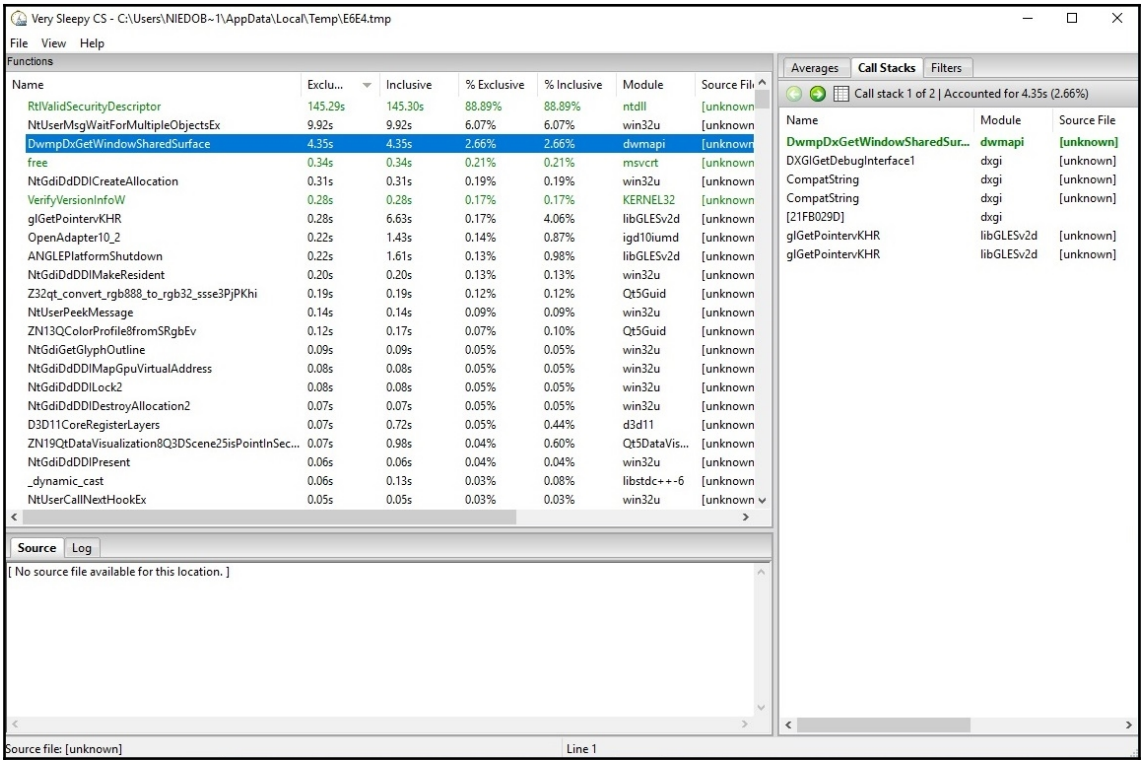

instructions
A B C D
A B C D
A B C D
time
instructions
A B C D
A B C D
A B C D
A B C D
time

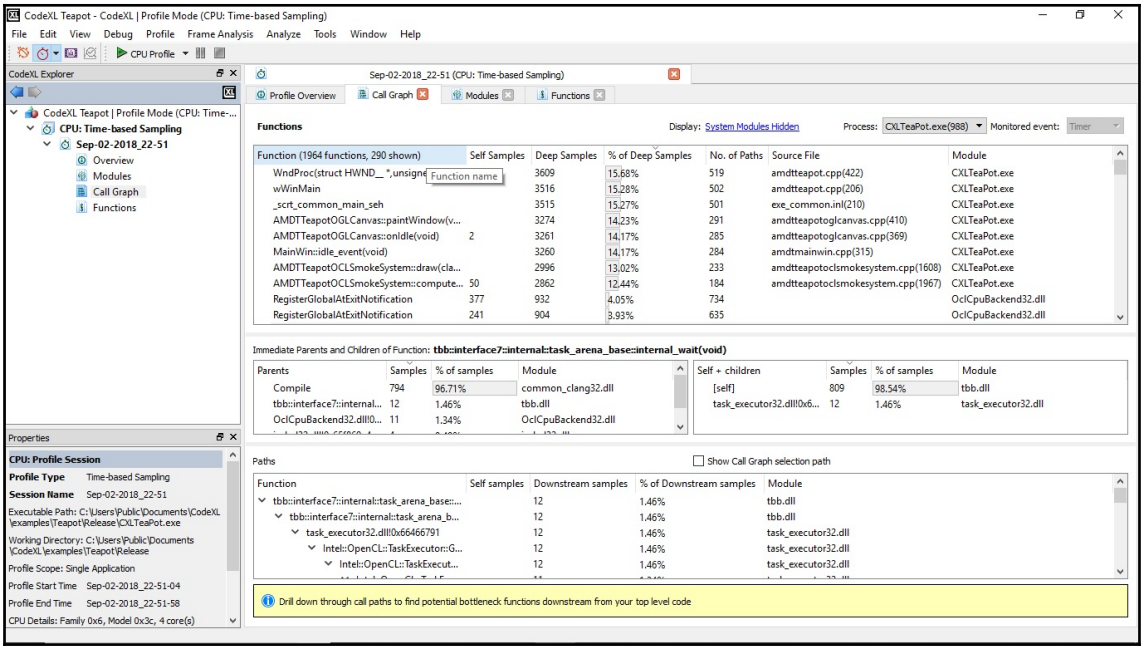

instructions
4
3
2
1
time
instructions
4
3
2
1
time

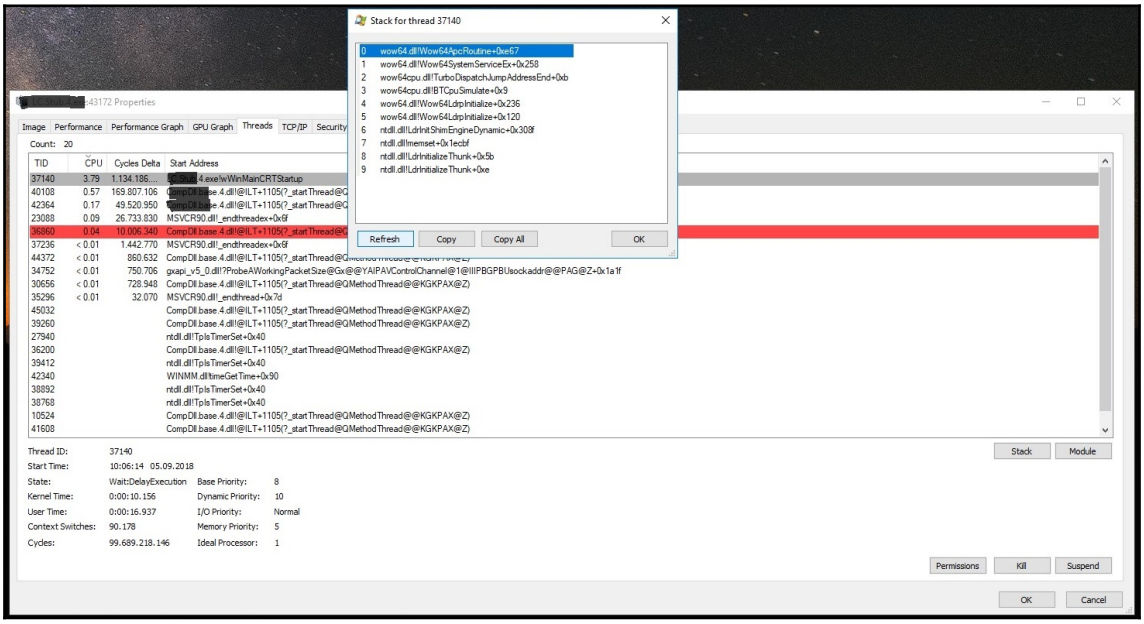
Chapter 2: Profiling to Find Bottlenecks



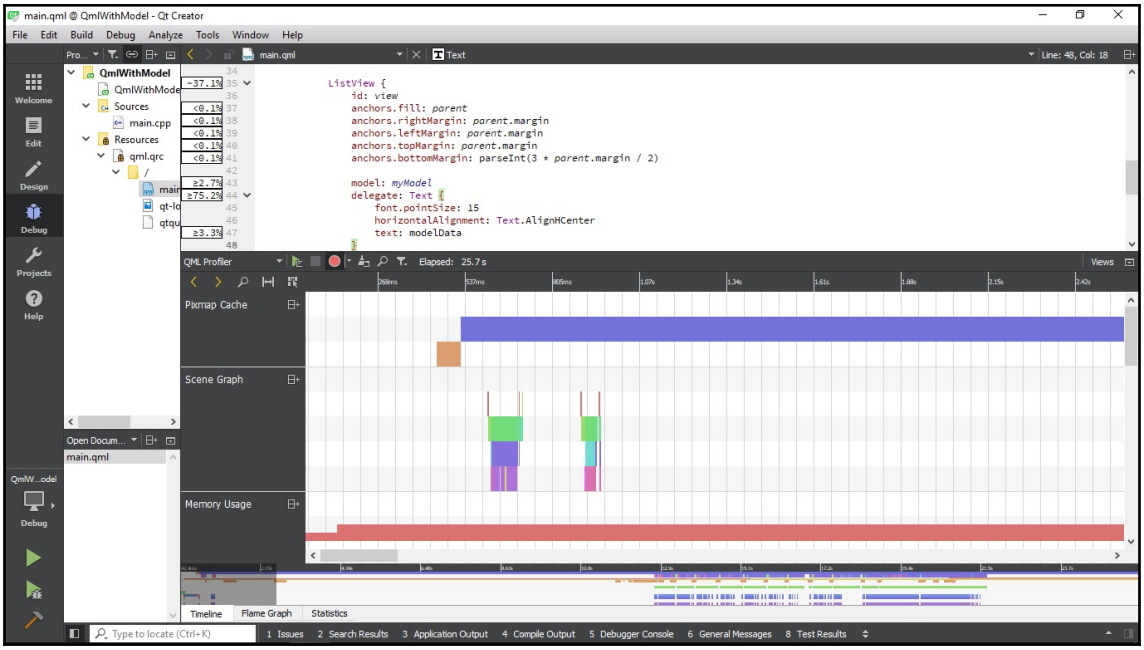

Windows PowerShell
LAHF-SAHF * Supports LAHF/SAHF instructions in 64-bit mode
HLE * Supports Hardware Lock Elision instructions
RTM * Supports Restricted Transactional Memory instructions
DE * Supports I/O breakpoints including CR4.DE
DTES64 * Can write history of 64-bit branch addresses
DS * Implements memory-resident debug buffer
DS-CPL * Supports Debug Store feature with CPL
PCID * Supports PCIDs and settable CR4.PCIDE
INVPCID * Supports INVPCID instruction
PDCM * Supports Performance Capabilities MSR
RDTSCP * Supports RDTSCP instruction
TSC * Supports RDTSC instruction
TSC-DEADLINE * Local APIC supports one-shot deadline timer
TSC-INVARIANT * TSC runs at constant rate
xTPR * Supports disabling task priority messages
EIST * Supports Enhanced Intel Speedstep
ACPI * Implements MSR for power management
TM * Implements thermal monitor circuitry
TM2 * Implements Thermal Monitor 2 control
APIC * Implements software-accessible local APIC
x2APIC * Supports x2APIC
CNXT-ID - L1 data cache mode adaptive or BIOS
MCE * Supports Machine Check, INT18 and CR4.MCE
MCA * Implements Machine Check Architecture
PBE * Supports use of FERR#/PBE# pin
PSN - Implements 96-bit processor serial number
PREFETCHW * Supports PREFETCHW instruction
Maximum implemented CPUID leaves: 00000016 (Basic), 80000008 (Extended).
Logical to Physical Processor Map:
**------ Physical Processor 0 (Hyperthreaded)
--**---- Physical Processor 1 (Hyperthreaded)
----**-- Physical Processor 2 (Hyperthreaded)
------** Physical Processor 3 (Hyperthreaded)
Logical Processor to Socket Map:
******** Socket 0
Logical Processor to NUMA Node Map:
******** NUMA Node 0
No NUMA nodes.
Logical Processor to Cache Map:
**------ Data Cache 0, Level 1, 32 KB, Assoc 8, LineSize 64
**------ Instruction Cache 0, Level 1, 32 KB, Assoc 8, LineSize 64
**------ Unified Cache 0, Level 2, 256 KB, Assoc 4, LineSize 64
******** Unified Cache 1, Level 3, 8 MB, Assoc 16, LineSize 64
--**---- Data Cache 1, Level 1, 32 KB, Assoc 8, LineSize 64
--**---- Instruction Cache 1, Level 1, 32 KB, Assoc 8, LineSize 64
--**---- Unified Cache 2, Level 2, 256 KB, Assoc 4, LineSize 64
----**-- Data Cache 2, Level 1, 32 KB, Assoc 8, LineSize 64
----**-- Instruction Cache 2, Level 1, 32 KB, Assoc 8, LineSize 64
----**-- Unified Cache 3, Level 2, 256 KB, Assoc 4, LineSize 64
------** Data Cache 3, Level 1, 32 KB, Assoc 8, LineSize 64
------** Instruction Cache 3, Level 1, 32 KB, Assoc 8, LineSize 64
------** Unified Cache 4, Level 2, 256 KB, Assoc 4, LineSize 64
Logical Processor to Group Map:
******** Group 0
PS C:\Users\mkr_ext\Documents\KrjTools>

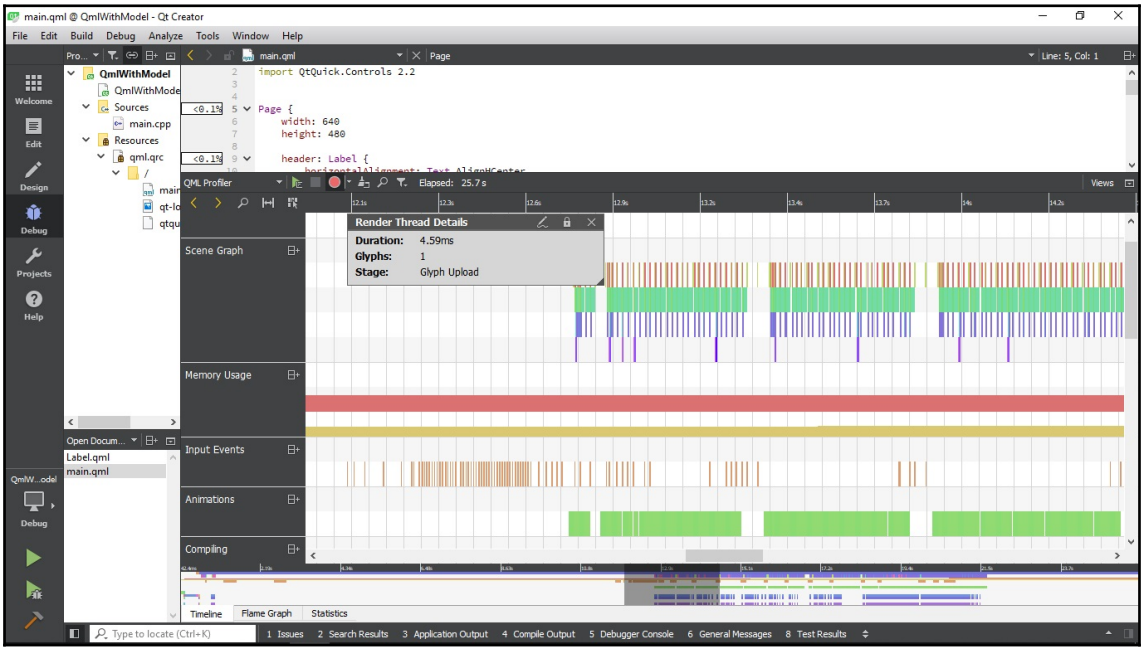

Very Sleepy CS - C:\Users\NIEDOB~1\AppData\Local\Temp\E6E4.tmp
File View Help
Functions
Name Exclu... Inclusive % Exclusive % Inclusive Module Source Fil
RtlValidSecurityDescriptor 145.29s 145.30s 88.89% 88.89% ntdll [unknown
NtUserMsgWaitForMultipleObjectsEx 9.92s 9.92s 6.07% 6.07% win32u [unknown
DwmpDxGetWindowSharedSurface 4.35s 4.35s 2.66% 2.66% dwmapi [unknown
free 0.34s 0.34s 0.21% 0.21% msvcrt [unknown
NtGdiDdDDICreateAllocation 0.31s 0.31s 0.19% 0.19% win32u [unknown
VerifyVersionInfoW 0.28s 0.28s 0.17% 0.17% KERNEL32 [unknown
glGetPointervKHR 0.28s 6.63s 0.17% 4.06% libGLESv2d [unknown
OpenAdapter10_2 0.22s 1.43s 0.14% 0.87% igd10iumd [unknown
ANGLEPlatformShutdown 0.22s 1.61s 0.13% 0.98% libGLESv2d [unknown
NtGdiDdDDIMakeResident 0.20s 0.20s 0.13% 0.13% win32u [unknown
Z32qt_convert_rgb888_to_rgb32_ssse3PjPKhi 0.19s 0.19s 0.12% 0.12% Qt5Guid [unknown
NtUserPeekMessage 0.14s 0.14s 0.09% 0.09% win32u [unknown
ZN13QColorProfile8fromSRgbEv 0.12s 0.17s 0.07% 0.10% Qt5Guid [unknown
NtGdiGetGlyphOutline 0.09s 0.09s 0.05% 0.05% win32u [unknown
NtGdiDdDDIMapGpuVirtualAddress 0.08s 0.08s 0.05% 0.05% win32u [unknown
NtGdiDdDDILock2 0.08s 0.08s 0.05% 0.05% win32u [unknown
NtGdiDdDDIDestroyAllocation2 0.07s 0.07s 0.05% 0.05% win32u [unknown
D3D11CoreRegisterLayers 0.07s 0.72s 0.05% 0.44% d3d11 [unknown
ZN19QtDataVisualization8Q3DScene25isPointInSec... 0.07s 0.98s 0.04% 0.60% Qt5DataVis... [unknown
NtGdiDdDDIPresent 0.06s 0.06s 0.04% 0.04% win32u [unknown
_dynamic_cast 0.06s 0.13s 0.03% 0.08% libstdc++-6 [unknown
NtUserCallNextHookEx 0.05s 0.05s 0.03% 0.03% win32u [unknown
Source Log
[No source file available for this location.]
Source file: [unknown]
Line 1
Averages Call Stacks Filters
Call stack 1 of 2 | Accounted for 4.35s (2.66%)
Name Module Source File
DwmpDxGetWindowSharedSur... dwmapi [unknown]
DXGIGetDebugInterface1 dxgi [unknown]
CompatString dxgi [unknown]
CompatString dxgi [unknown]
[21FB029D] dxgi
glGetPointervKHR libGLESv2d [unknown]
glGetPointervKHR libGLESv2d [unknown]

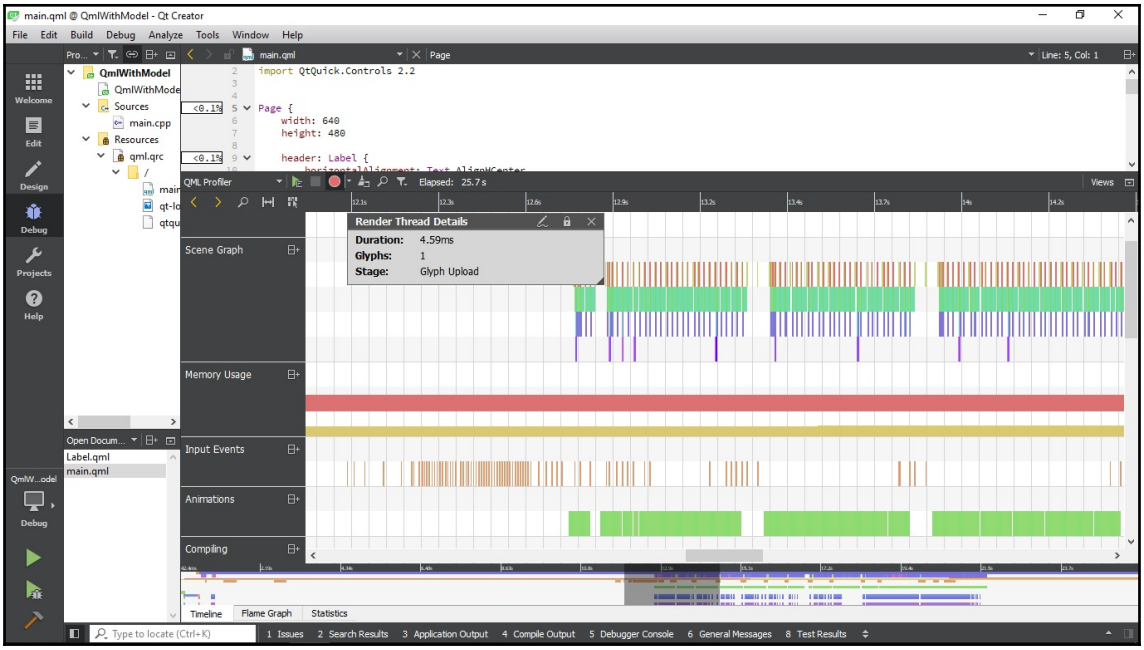

CodeXL Teapot - CodeXL | Profile Mode (CPU: Time-based Sampling)
File Edit View Debug Profile Frame Analysis Analyze Tools Window Help
CPU Profile
CodeXL Explorer
CodeXL Teapot | Profile Mode (CPU: Time-...
CPU: Time-based Sampling
Sep-02-2018_22-51
Overview
Modules
Call Graph
Functions
Sep-02-2018_22-51 (CPU: Time-based Sampling)
Profile Overview
Call Graph
Modules
Functions
Functions
Display: System Modules Hidden
Process: CXLTeaPot.exe(988)
Monitored event: Timer
Function (1964 functions, 290 shown)
Self Samples
Deep Samples
% of Deep Samples
No. of Paths
Source File
Module
WndProc(struct HWND__ *,unsigne
Function name
3609 15.68% 519 amdtteapot.cpp(422) CXLTeaPot.exe
wWinMain 3516 15.28% 502 amdtteapot.cpp(206) CXLTeaPot.exe
_scrt_common_main_seh 3515 15.27% 501 exe_common.inl(210) CXLTeaPot.exe
AMDTTeapotOGLCanvas::paintWindow(v... 3274 14.23% 291 amdtteapotoglcanvas.cpp(410) CXLTeaPot.exe
AMDTTeapotOGLCanvas::onIdle(void) 2 3261 14.17% 285 amdtteapotoglcanvas.cpp(369) CXLTeaPot.exe
MainWin::idle_event(void) 3260 14.17% 284 amdtmainwin.cpp(315) CXLTeaPot.exe
AMDTTeapotOCLSmokeSystem::draw(cla... 2996 13.02% 233 amdtteapotoclsmokesystem.cpp(1608) CXLTeaPot.exe
AMDTTeapotOCLSmokeSystem::compute... 50 2862 12.44% 184 amdtteapotoclsmokesystem.cpp(1967) CXLTeaPot.exe
RegisterGlobalAtExitNotification 377 932 4.05% 734 OclCpuBackend32.dll
RegisterGlobalAtExitNotification 241 904 3.93% 635 OclCpuBackend32.dll
Immediate Parents and Children of Function: tbb::interface7::internal::task_arena_base::internal_wait(void)
Parents
Samples
% of samples
Module
Compile 794 96.71% common_clang32.dll
tbb::interface7::internal... 12 1.46% tbb.dll
OclCpuBackend32.dll!0... 11 1.34% OclCpuBackend32.dll
Self + children
Samples
% of samples
Module
[self] 809 98.54% tbb.dll
task_executor32.dll!0x6... 12 1.46% task_executor32.dll
Properties
CPU: Profile Session
Profile Type Time-based Sampling
Session Name Sep-02-2018_22-51
Executable Path: C:\Users\Public\Documents\CodeXL\examples\Teapot\Release\CXLTeaPot.exe
Working Directory: C:\Users\Public\Documents\CodeXL\examples\Teapot\Release
Profile Scope: Single Application
Profile Start Time Sep-02-2018_22-51-04
Profile End Time Sep-02-2018_22-51-58
CPU Details: Family 0x6, Model 0x3c, 4 core(s)
Paths
Show Call Graph selection path
Function
Self samples
Downstream samples
% of Downstream samples
Module
tbb::interface7::internal::task_arena_base::... 12 1.46% tbb.dll
tbb::interface7::internal::task_arena_b... 12 1.46% tbb.dll
task_executor32.dll!0x66466791 12 1.46% task_executor32.dll
Intel::OpenCL::TaskExecutor::G... 12 1.46% task_executor32.dll
Intel::OpenCL::TaskExecut... 12 1.46% task_executor32.dll
Drill down through call paths to find potential bottleneck functions downstream from your top level code

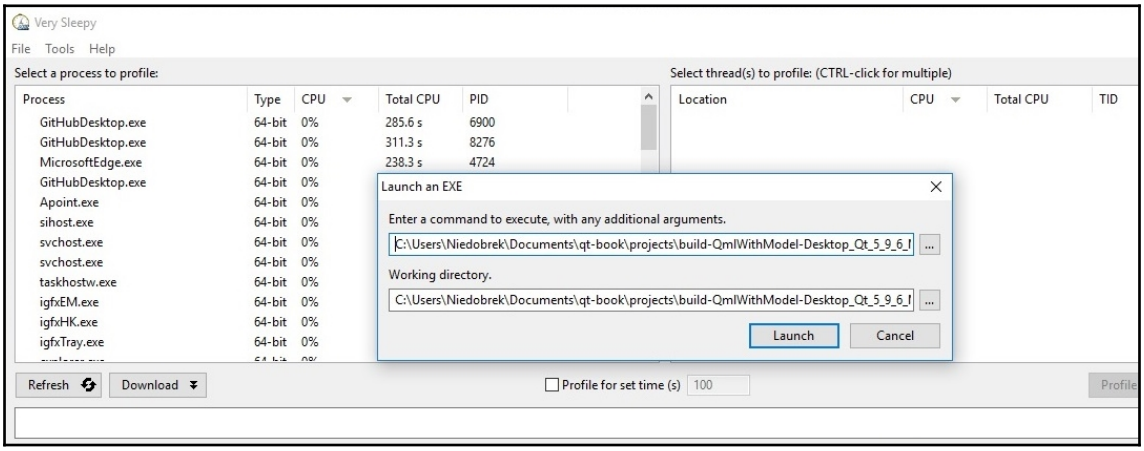

Stack for thread 37140
0 wow64.dll!Wow64ApcRoutine+0xe67
1 wow64.dll!Wow64SystemServiceEx+0x258
2 wow64cpu.dll!TurboDispatchJumpAddressEnd+0xb
3 wow64cpu.dll!BTCpuSimulate+0x9
4 wow64.dll!Wow64LdpInitialize+0x236
5 wow64.dll!Wow64LdpInitialize+0x120
6 ntdll.dll!LdrInitShimEngineDynamic+0x308f
7 ntdll.dll!memset+0x1ecbf
8 ntdll.dll!LdrInitializeThunk+0x5b
9 ntdll.dll!LdrInitializeThunk+0xe
Refresh
Copy
Copy All
OK
Image Performance Performance Graph GPU Graph Threads TCP/IP Security
Count: 20
TID CPU Cycles Delta Start Address
37140 3.79 1.134.186... 4.exe!wWinMainCRTStartup
40108 0.57 169.807.106 4.dll!@ILT+1105(?_startThread@Q
42364 0.17 49.520.950 4.dll!@ILT+1105(?_startThread@Q
23088 0.09 26.733.830 MSVCR90.dll!_endthreadex+0x6f
36860 0.04 10.006.340 CompDll.base.4.dll!@ILT+1105(?_startThread@Q
37236 < 0.01 1.442.770 MSVCR90.dll!_endthreadex+0x6f
44372 < 0.01 860.632 CompDll.base.4.dll!@ILT+1105(?_startThread@Q
34752 < 0.01 750.706 gxapi_v5_0.dll!?ProbeAWorkingPacketSize@Gx@@YAIPAVControlChannel@1@IIIPBGPBUsockaddr@@PAG@Z+0x1a1f
30656 < 0.01 728.948 CompDll.base.4.dll!@ILT+1105(?_startThread@QMethodThread@@KGKPAX@Z)
35296 < 0.01 32.070 MSVCR90.dll!_endthreadex+0x7d
45032 CompDll.base.4.dll!@ILT+1105(?_startThread@QMethodThread@@KGKPAX@Z)
39260 CompDll.base.4.dll!@ILT+1105(?_startThread@QMethodThread@@KGKPAX@Z)
27940 ntdll.dll!TpIsTimerSet+0x40
36200 CompDll.base.4.dll!@ILT+1105(?_startThread@QMethodThread@@KGKPAX@Z)
39412 ntdll.dll!TpIsTimerSet+0x40
42340 WINMM.dll!timeGetTime+0x90
38892 ntdll.dll!TpIsTimerSet+0x40
38768 ntdll.dll!TpIsTimerSet+0x40
10524 CompDll.base.4.dll!@ILT+1105(?_startThread@QMethodThread@@KGKPAX@Z)
41608 CompDll.base.4.dll!@ILT+1105(?_startThread@QMethodThread@@KGKPAX@Z)
Thread ID: 37140
Start Time: 10:06:14 05.09.2018
State: Wait:DelayExecution
Kernel Time: 0:00:10.156
User Time: 0:00:16.937
Context Switches: 90.178
Cycles: 99.689.218.146
Base Priority: 8
Dynamic Priority: 10
I/O Priority: Normal
Memory Priority: 5
Ideal Processor: 1
Stack
Module
Permissions
Kill
Suspend
OK
Cancel

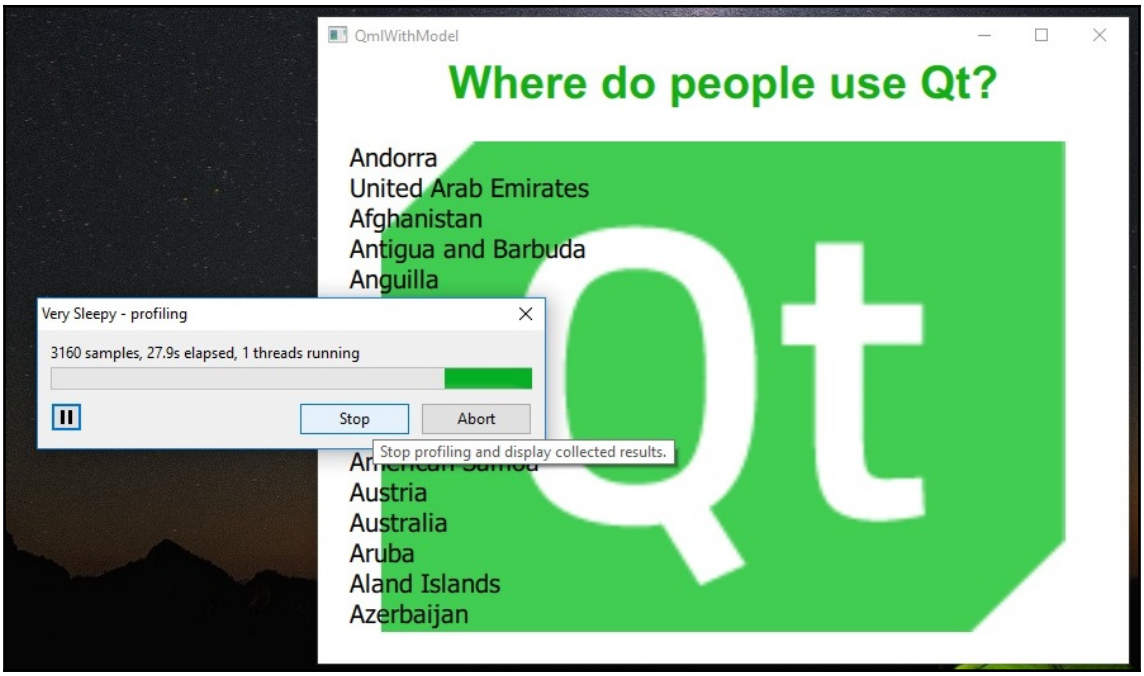

QmlWithModel
Where do people use Qt?
Afghanistan
Antigua and Barbuda
Anguilla
Albania
Armenia
Angola
Antarctica
Argentina
American Samoa
Austria
Australia
Aruba
Aland Islands
Azerbaijan
Bosnia and Herzegovina
Barbados
Bangladesh
Qt

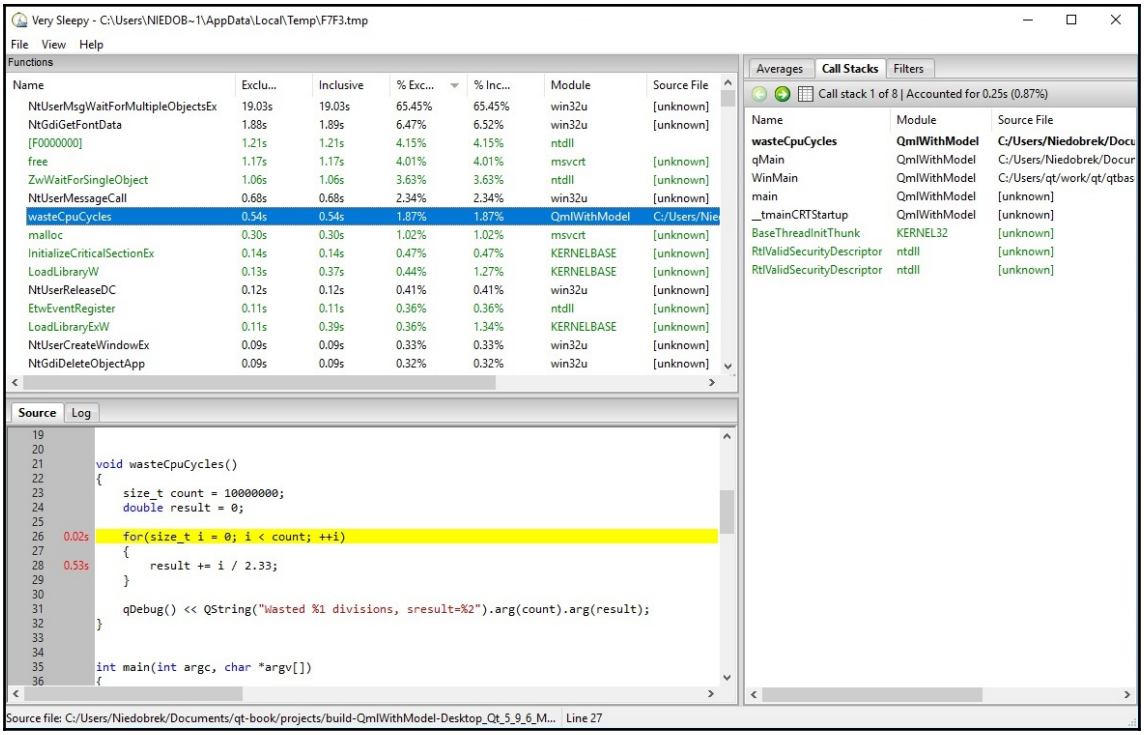

main.qml @ QmlWithModel - Qt Creator
File Edit Build Debug Analyze Tools Window Help
main.qml
Text
Line: 48, Col: 18
QmlWithModel
Sources
main.cpp
Resources
qml.qrc
ListView {
id: view
anchors.fill: parent
anchors.rightMargin: parent.margin
anchors.leftMargin: parent.margin
anchors.topMargin: parent.margin
anchors.bottomMargin: parent.margin / 2)
model: myModel
delegate: Text {
font.pointSize: 15
horizontalAlignment: Text.AlignHCenter
text: modelData
QML Profiler
Elapsed: 25.7 s
Views
Pixmap Cache
Scene Graph
Memory Usage
Timeline
Flame Graph
Statistics
Open Docum...
main.qml
Type to locate (Ctrl+K)
1 Issues
2 Search Results
3 Application Output
4 Compile Output
5 Debugger Console
6 General Messages
8 Test Results

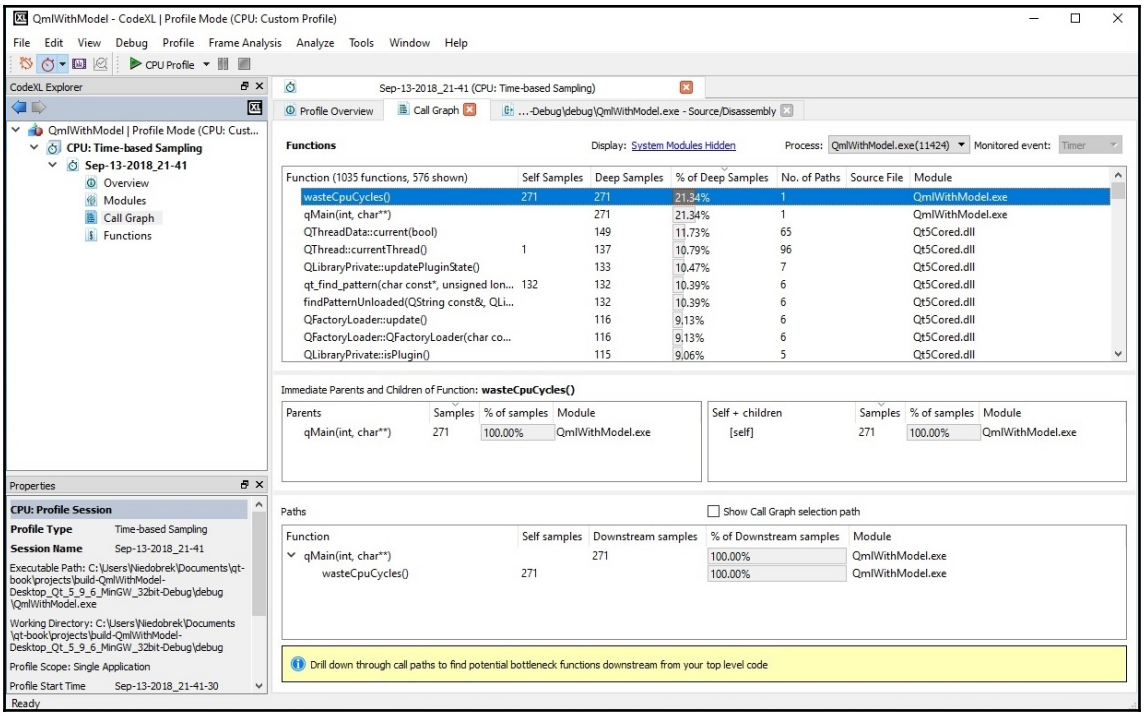

main.qml @ QmlWithModel - Qt Creator
File Edit Build Debug Analyze Tools Window Help
main.qml
Page
Line: 5, Col: 1
QmlWithModel
Sources
main.cpp
Resources
qml.qrc
import QtQuick.Controls 2.2
Page {
width: 640
height: 480
header: Label {
QML Profiler
Elapsed: 25.7 s
Views
Render Thread Details
Duration: 4.59ms
Glyphs: 1
Stage: Glyph Upload
Scene Graph
Memory Usage
Input Events
Animations
Compiling
Timeline
Flame Graph
Statistics
Open Docum...
Label.qml
main.qml
Type to locate (Ctrl+K)
1 Issues
2 Search Results
3 Application Output
4 Compile Output
5 Debugger Console
6 General Messages
8 Test Results

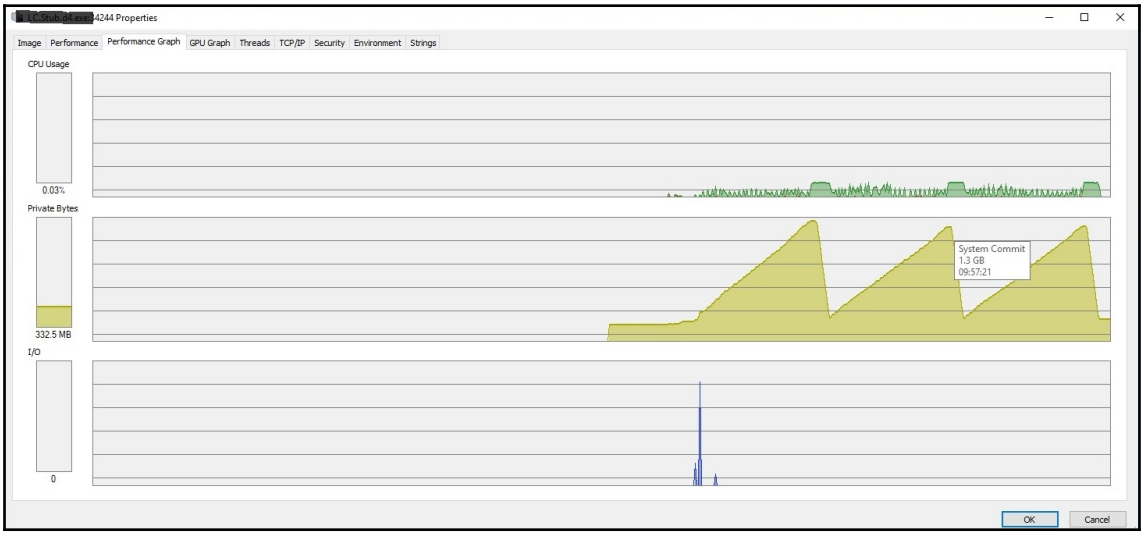

main.qml @ QmlWithModel - Qt Creator
File Edit Build Debug Analyze Tools Window Help
QmlWithModel
Sources
main.cpp
Resources
qml.qrc
import QtQuick.Controls 2.2
Page {
width: 640
height: 480
header: Label {
QML Profiler
Elapsed: 25.7 s
Render Thread Details
Duration: 4.59ms
Glyphs: 1
Stage: Glyph Upload
Scene Graph
Memory Usage
Input Events
Animations
Compiling
Timeline
Flame Graph
Statistics
Label.qml
main.qml
1 Issues 2 Search Results 3 Application Output 4 Compile Output 5 Debugger Console 6 General Messages 8 Test Results

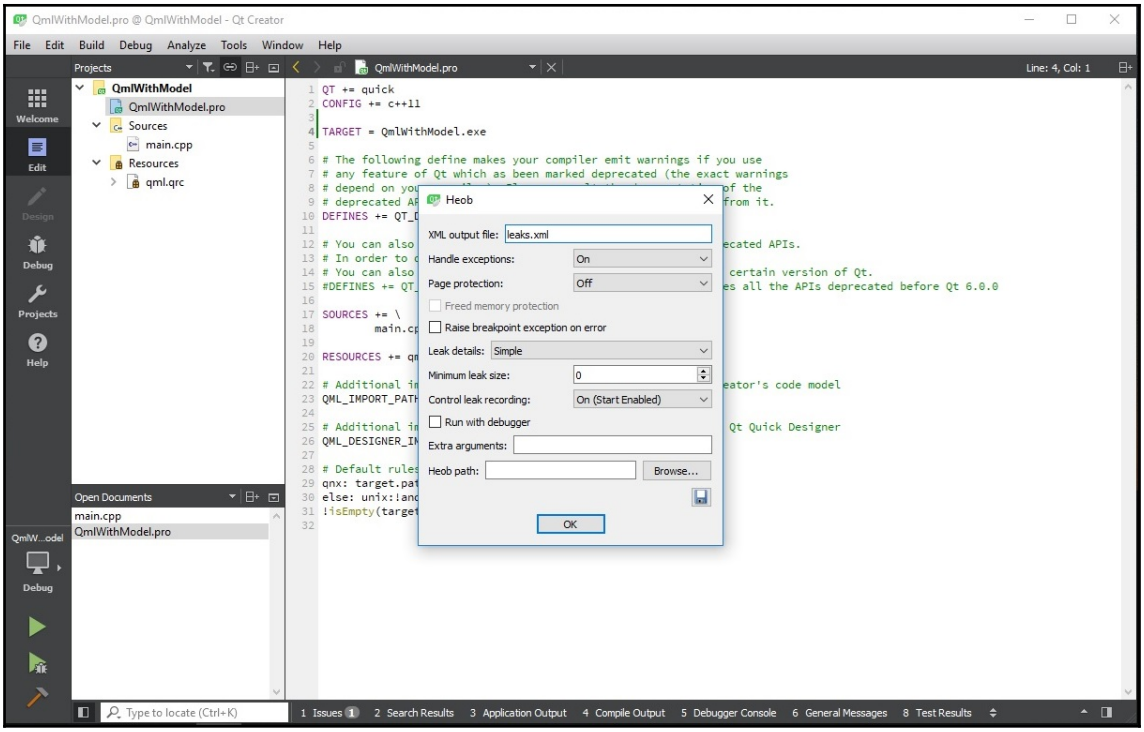

Very Sleepy
File Tools Help
Select a process to profile:
Process Type CPU Total CPU PID
GitHubDesktop.exe 64-bit 0% 285.6 s 6900
GitHubDesktop.exe 64-bit 0% 311.3 s 8276
MicrosoftEdge.exe 64-bit 0% 238.3 s 4724
GitHubDesktop.exe 64-bit 0%
Apoint.exe 64-bit 0%
sihost.exe 64-bit 0%
svchost.exe 64-bit 0%
svchost.exe 64-bit 0%
taskhostw.exe 64-bit 0%
igfxEM.exe 64-bit 0%
igfxHK.exe 64-bit 0%
igfxTray.exe 64-bit 0%
Select thread(s) to profile: (CTRL-click for multiple)
Location CPU Total CPU TID
Launch an EXE
Enter a command to execute, with any additional arguments.
C:\Users\Niedobrek\Documents\qt-book\projects\build-QmlWithModel-Desktop_Qt_5_9_6_I
Working directory.
C:\Users\Niedobrek\Documents\qt-book\projects\build-QmlWithModel-Desktop_Qt_5_9_6_I
Launch
Cancel
Refresh
Download
Profile for set time (s)
100
Profile

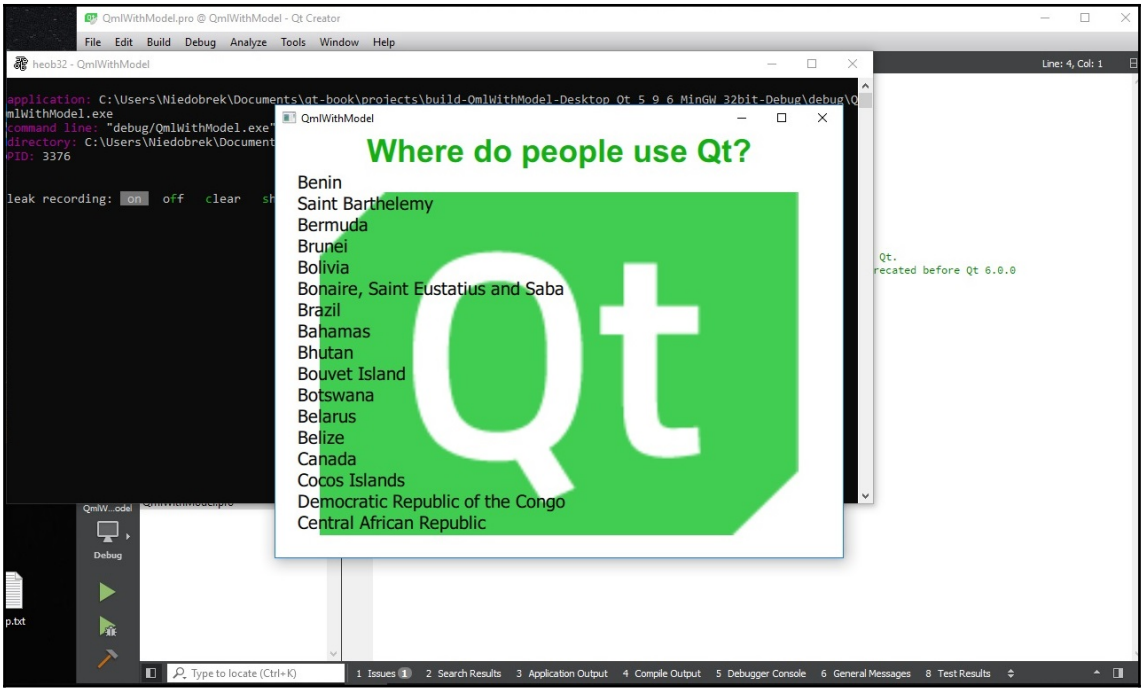

QmlWithModel
Where do people use Qt?
Andorra
United Arab Emirates
Afghanistan
Antigua and Barbuda
Anguilla
Austria
Australia
Aruba
Aland Islands
Azerbaijan
Very Sleepy - profiling
3160 samples, 27.9s elapsed, 1 threads running
Stop
Abort
Stop profiling and display collected results.

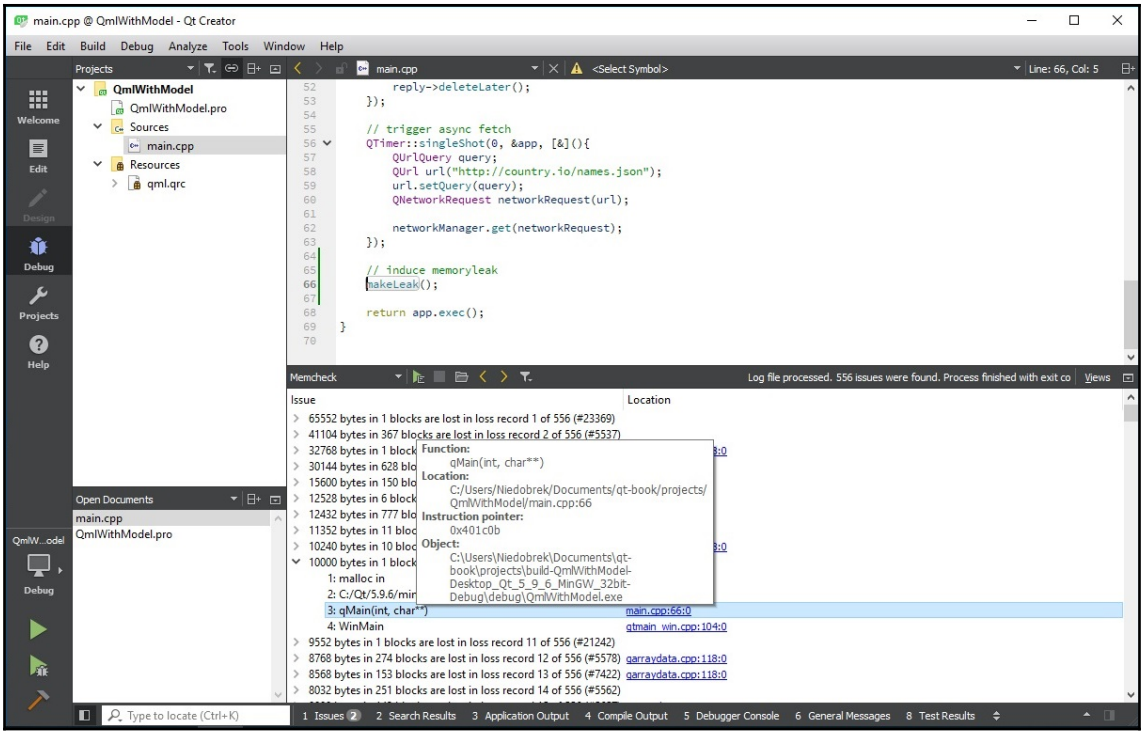

Very Sleepy - C:\Users\NIEDOB~1\AppData\Local\Temp\F7F3.tmp
File View Help
Functions
Name Exclu... Inclusive % Exc... % Inc... Module Source File
NtUserMsgWaitForMultipleObjectsEx 19.03s 19.03s 65.45% 65.45% win32u [unknown]
NtGdiGetFontData 1.88s 1.89s 6.47% 6.52% win32u [unknown]
[F0000000] 1.21s 1.21s 4.15% 4.15% ntdll
free 1.17s 1.17s 4.01% 4.01% msvcrt [unknown]
ZwWaitForSingleObject 1.06s 1.06s 3.63% 3.63% ntdll [unknown]
NtUserMessageCall 0.68s 0.68s 2.34% 2.34% win32u [unknown]
wasteCpuCycles 0.54s 0.54s 1.87% 1.87% QmlWithModel C:/Users/Nie
malloc 0.30s 0.30s 1.02% 1.02% msvcrt [unknown]
InitializeCriticalSectionEx 0.14s 0.14s 0.47% 0.47% KERNELBASE [unknown]
LoadLibraryW 0.13s 0.37s 0.44% 1.27% KERNELBASE [unknown]
NtUserReleaseDC 0.12s 0.12s 0.41% 0.41% win32u [unknown]
EtwEventRegister 0.11s 0.11s 0.36% 0.36% ntdll [unknown]
LoadLibraryExW 0.11s 0.39s 0.36% 1.34% KERNELBASE [unknown]
NtUserCreateWindowEx 0.09s 0.09s 0.33% 0.33% win32u [unknown]
NtGdiDeleteObjectApp 0.09s 0.09s 0.32% 0.32% win32u [unknown]
Averages Call Stacks Filters
Call stack 1 of 8 | Accounted for 0.25s (0.87%)
Name Module Source File
wasteCpuCycles QmlWithModel C:/Users/Niedobrek/Docu
qMain QmlWithModel C:/Users/Niedobrek/Docur
WinMain QmlWithModel C:/Users/qt/work/qt/qtbas
main QmlWithModel [unknown]
__tmainCRTStartup QmlWithModel [unknown]
BaseThreadInitThunk KERNEL32 [unknown]
RtlValidSecurityDescriptor ntdll [unknown]
RtlValidSecurityDescriptor ntdll [unknown]
Source Log
19
20
21 void wasteCpuCycles()
22 {
23 size_t count = 10000000;
24 double result = 0;
25
26 0.02s for(size_t i = 0; i < count; ++i)
27 {
28 0.53s result += i / 2.33;
29 }
30
31 qDebug() << QString("Wasted %1 divisions, sresult=%2").arg(count).arg(result);
32 }
33
34
35 int main(int argc, char *argv[])
36 {
Source file: C:/Users/Niedobrek/Documents/qt-book/projects/build-QmlWithModel-Desktop_Qt_5_9_6_M... Line 27

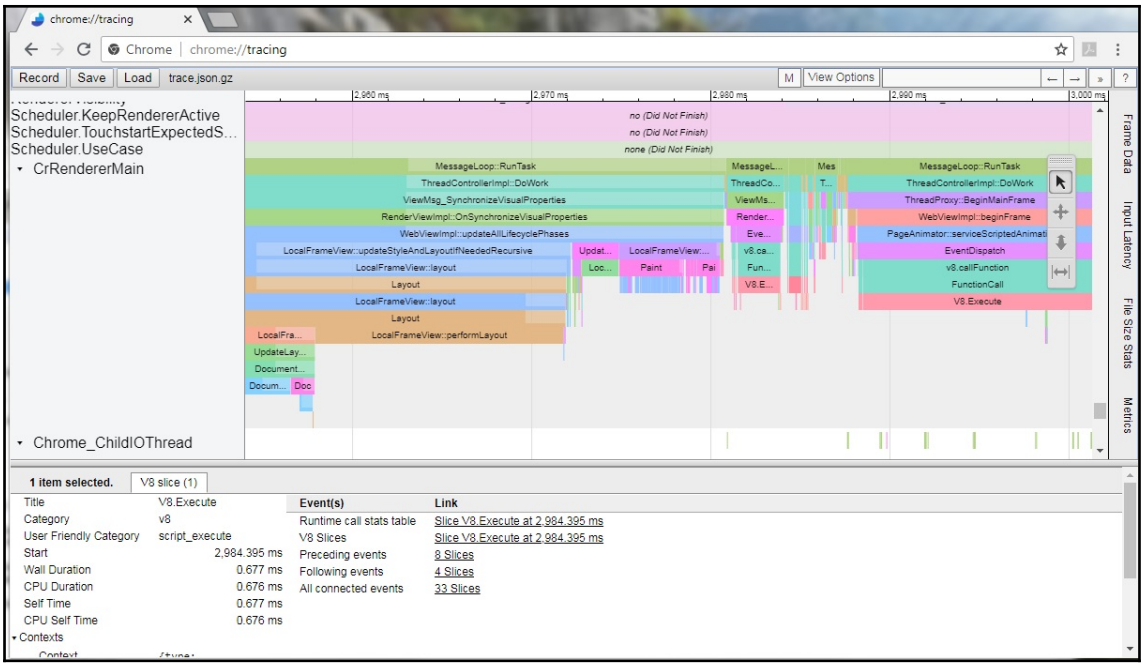

QmlWithModel - CodeXL | Profile Mode (CPU: Custom Profile)
File Edit View Debug Profile Frame Analysis Analyze Tools Window Help
CPU Profile
CodeXL Explorer
QmlWithModel | Profile Mode (CPU: Cust...
CPU: Time-based Sampling
Sep-13-2018_21-41
Overview
Modules
Call Graph
Functions
Sep-13-2018_21-41 (CPU: Time-based Sampling)
Profile Overview
Call Graph
...-Debug\debug\QmlWithModel.exe - Source/Disassembly
Functions
Display: System Modules Hidden
Process: QmlWithModel.exe(11424)
Monitored event: Timer
Function (1035 functions, 576 shown) | Self Samples | Deep Samples | % of Deep Samples | No. of Paths | Source File | Module
wasteCpuCycles() 271 271 21.34% 1 QmlWithModel.exe
qMain(int, char**) 271 21.34% 1 QmlWithModel.exe
QThreadData::current(bool) 149 11.73% 65 Qt5Cored.dll
QThread::currentThread() 1 137 10.79% 96 Qt5Cored.dll
QLibraryPrivate::updatePluginState() 133 10.47% 7 Qt5Cored.dll
qt_find_pattern(char const*, unsigned lon... 132 132 10.39% 6 Qt5Cored.dll
findPatternUnloaded(QString const&, QLi... 132 10.39% 6 Qt5Cored.dll
QFactoryLoader::update() 116 9.13% 6 Qt5Cored.dll
QFactoryLoader::QFactoryLoader(char co... 116 9.13% 6 Qt5Cored.dll
QLibraryPrivate::isPlugin() 115 9.06% 5 Qt5Cored.dll
Immediate Parents and Children of Function: wasteCpuCycles()
Parents | Samples | % of samples | Module
qMain(int, char**) 271 100.00% QmlWithModel.exe
Self + children | Samples | % of samples | Module
[self] 271 100.00% QmlWithModel.exe
Properties
CPU: Profile Session
Profile Type Time-based Sampling
Session Name Sep-13-2018_21-41
Executable Path: C:\Users\Niedobrek\Documents\qt-book\projects\build-QmlWithModel-Desktop_Qt_5_9_6_MinGW_32bit-Debug\debug\QmlWithModel.exe
Working Directory: C:\Users\Niedobrek\Documents\qt-book\projects\build-QmlWithModel-Desktop_Qt_5_9_6_MinGW_32bit-Debug\debug
Profile Scope: Single Application
Profile Start Time Sep-13-2018_21-41-30
Paths
Show Call Graph selection path
Function | Self samples | Downstream samples | % of Downstream samples | Module
qMain(int, char**) 271 100.00% QmlWithModel.exe
wasteCpuCycles() 271 100.00% QmlWithModel.exe
Drill down through call paths to find potential bottleneck functions downstream from your top level code
Ready

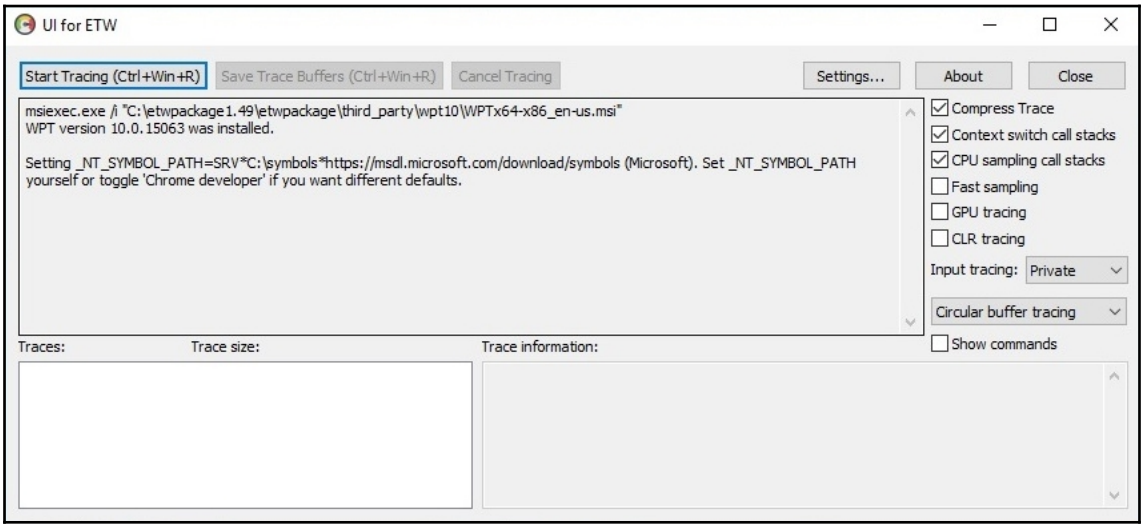

Properties
Image Performance Performance Graph GPU Graph Threads TCP/IP Security Environment Strings
CPU Usage
0.03%
Private Bytes
332.5 MB
System Commit
1.3 GB
09:57:21
I/O
0
OK
Cancel

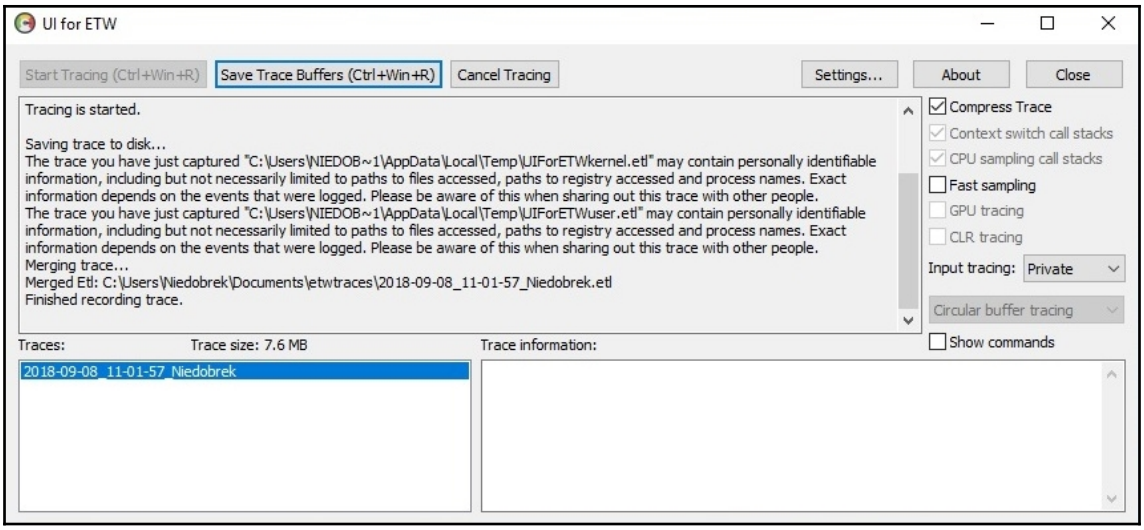

QmlWithModel.pro @ QmlWithModel - Qt Creator
File Edit Build Debug Analyze Tools Window Help
Projects
QmlWithModel
QmlWithModel.pro
Sources
main.cpp
Resources
qml.qrc
Welcome
Edit
Design
Debug
Projects
Help
Open Documents
main.cpp
QmlWithModel.pro
Debug
Line: 4, Col: 1
QT += quick
CONFIG += c++11
TARGET = QmlWithModel.exe
# The following define makes your compiler emit warnings if you use
# any feature of Qt which as been marked deprecated (the exact warnings
# depend on your
# deprecated AP
DEFINES += QT_D
You can also
In order to
You can also
#DEFINES += QT_
SOURCES += \
main.cp
RESOURCES += qm
Additional i
QML_IMPORT_PATH
Additional i
QML_DESIGNER_IN
Default rules
qnx: target.pat
else: unix:!anc
!isEmpty(target
Heob
XML output file: leaks.xml
Handle exceptions: On
Page protection: Off
Freed memory protection
Raise breakpoint exception on error
Leak details: Simple
Minimum leak size: 0
Control leak recording: On (Start Enabled)
Run with debugger
Extra arguments:
Heob path:
Browse...
OK
Type to locate (Ctrl+K)
1 Issues 1
2 Search Results
3 Application Output
4 Compile Output
5 Debugger Console
6 General Messages
8 Test Results

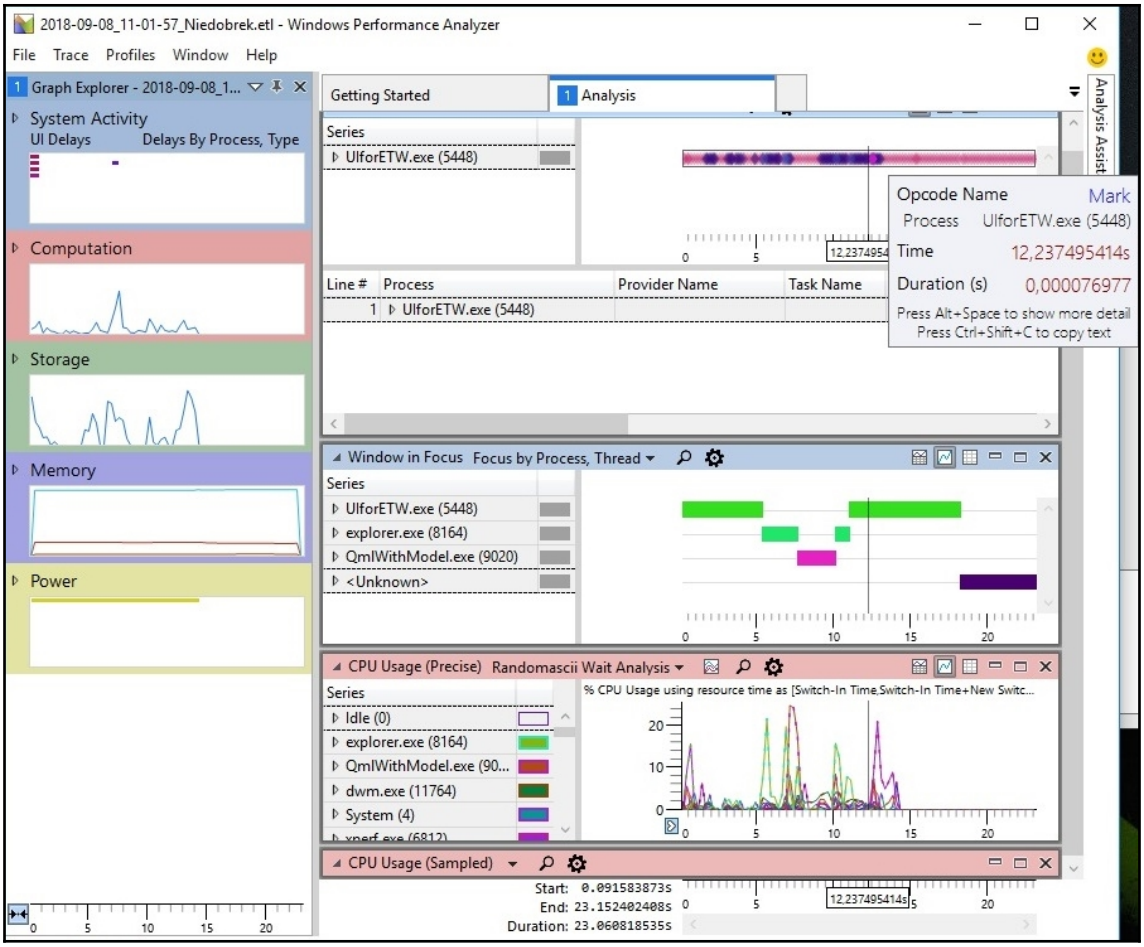

QmlWithModel.pro @ QmlWithModel - Qt Creator
File Edit Build Debug Analyze Tools Window Help
QmlWithModel
Where do people use Qt?
Benin
Saint Barthelemy
Bermuda
Brunei
Bolivia
Bonaire, Saint Eustatius and Saba
Brazil
Bahamas
Bhutan
Bouvet Island
Botswana
Belarus
Belize
Canada
Cocos Islands
Democratic Republic of the Congo
Central African Republic
Debug
Type to locate (Ctrl+K)
1 Issues
2 Search Results
3 Application Output
4 Compile Output
5 Debugger Console
6 General Messages
8 Test Results

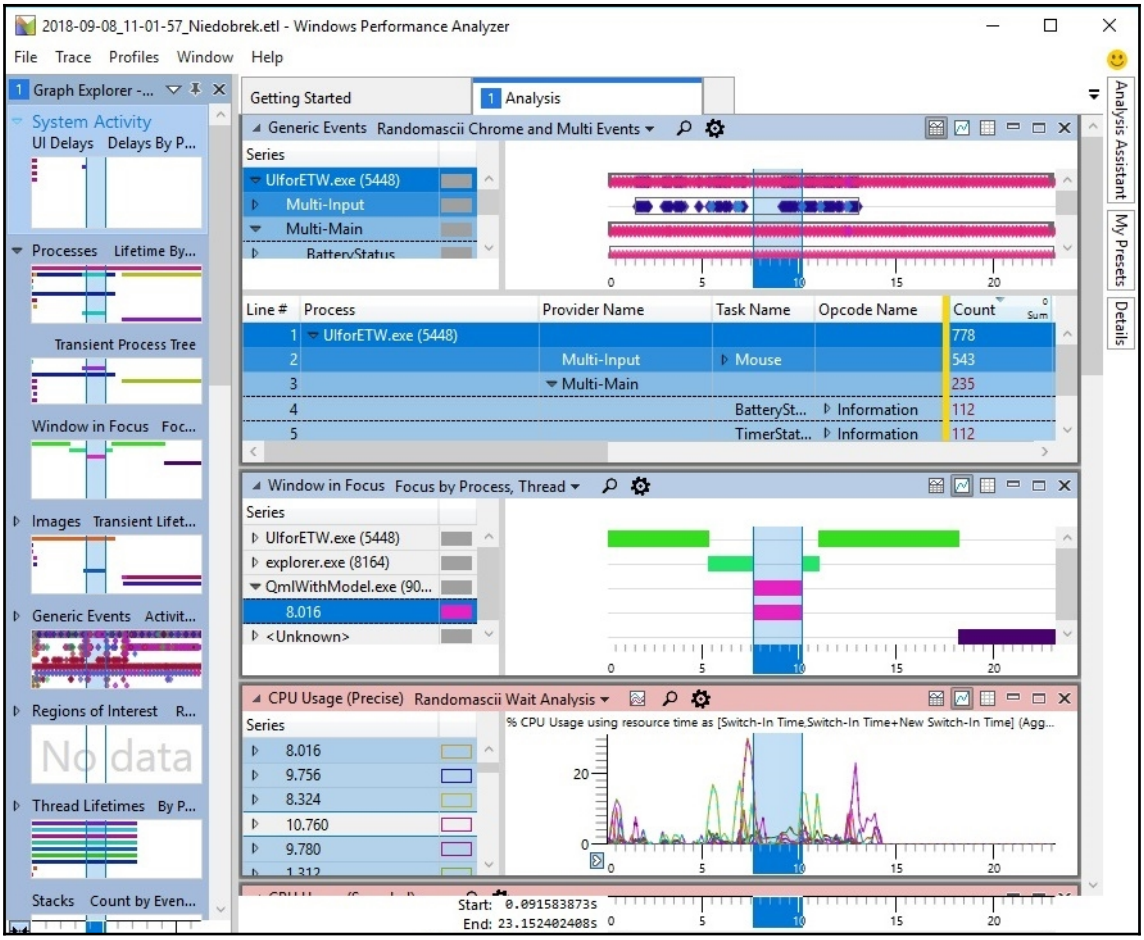

main.cpp @ QmlWithModel - Qt Creator
File Edit Build Debug Analyze Tools Window Help
Projects
QmlWithModel
QmlWithModel.pro
Sources
main.cpp
Resources
qml.qrc
Welcome
Edit
Design
Debug
Projects
Help
Open Documents
main.cpp
QmlWithModel.pro
QmlW...odel
Debug
main.cpp
<Select Symbol>
Line: 66, Col: 5
reply->deleteLater();
});
// trigger async fetch
QTimer::singleShot(0, &app, [&](){
QUrlQuery query;
QUrl url("http://country.io/names.json");
url.setQuery(query);
QNetworkRequest networkRequest(url);
networkManager.get(networkRequest);
});
// induce memoryleak
makeLeak();
return app.exec();
}
Memcheck
Log file processed. 556 issues were found. Process finished with exit co
Views
Issue
Location
65552 bytes in 1 blocks are lost in loss record 1 of 556 (#23369)
41104 bytes in 367 blocks are lost in loss record 2 of 556 (#5537)
32768 bytes in 1 block
30144 bytes in 628 blo
15600 bytes in 150 blo
12528 bytes in 6 block
12432 bytes in 777 blo
11352 bytes in 11 bloc
10240 bytes in 10 bloc
10000 bytes in 1 block
Function:
qMain(int, char**)
Location:
C:/Users/Niedobrek/Documents/qt-book/projects/QmlWithModel/main.cpp:66
Instruction pointer:
0x401c0b
Object:
C:\Users\Niedobrek\Documents\qt-book\projects\build-QmlWithModel-Desktop_Qt_5_9_6_MinGW_32bit-Debug\debug\QmlWithModel.exe
1: malloc in
2: C:/Qt/5.9.6/mir
3: qMain(int, char**)
main.cpp:66:0
4: WinMain
qtmain_win.cpp:104:0
9552 bytes in 1 blocks are lost in loss record 11 of 556 (#21242)
8768 bytes in 274 blocks are lost in loss record 12 of 556 (#5578)
qarraydata.cpp:118:0
8568 bytes in 153 blocks are lost in loss record 13 of 556 (#7422)
qarraydata.cpp:118:0
8032 bytes in 251 blocks are lost in loss record 14 of 556 (#5562)
Type to locate (Ctrl+K)
1 Issues 2
2 Search Results
3 Application Output
4 Compile Output
5 Debugger Console
6 General Messages
8 Test Results

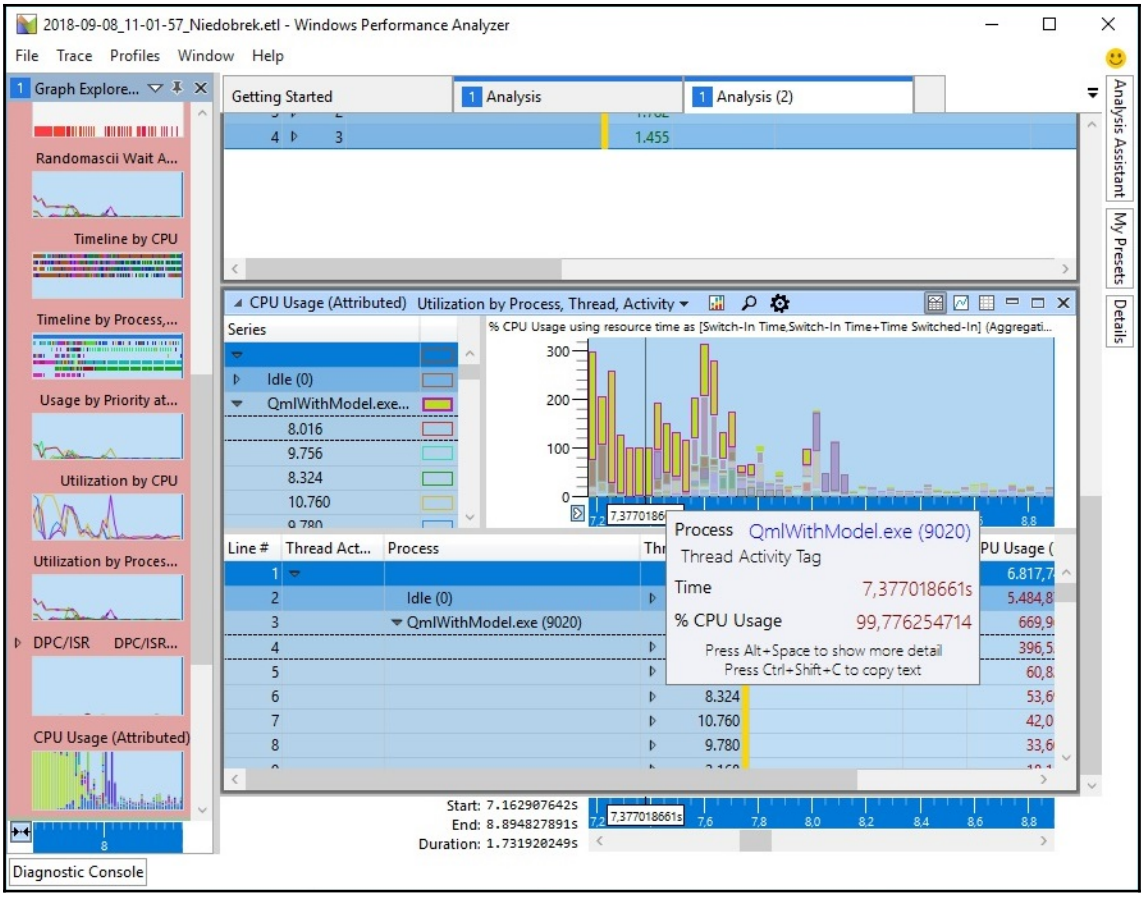

chrome://tracing
Chrome | chrome://tracing
Record
Save
Load
trace.json.gz
View Options
Scheduler.KeepRendererActive
Scheduler.TouchstartExpectedS...
Scheduler.UseCase
CrRendererMain
Chrome_ChildIOThread
Frame Data
Input Latency
File Size Stats
Metrics
1 item selected.
V8 slice (1)
Title
V8.Execute
Category
v8
User Friendly Category
script_execute
Start
2,984.395 ms
Wall Duration
0.677 ms
CPU Duration
0.676 ms
Self Time
0.677 ms
CPU Self Time
0.676 ms
Contexts
Event(s)
Link
Runtime call stats table
Slice V8.Execute at 2,984.395 ms
V8 Slices
Slice V8.Execute at 2,984.395 ms
Preceding events
8 Slices
Following events
4 Slices
All connected events
33 Slices

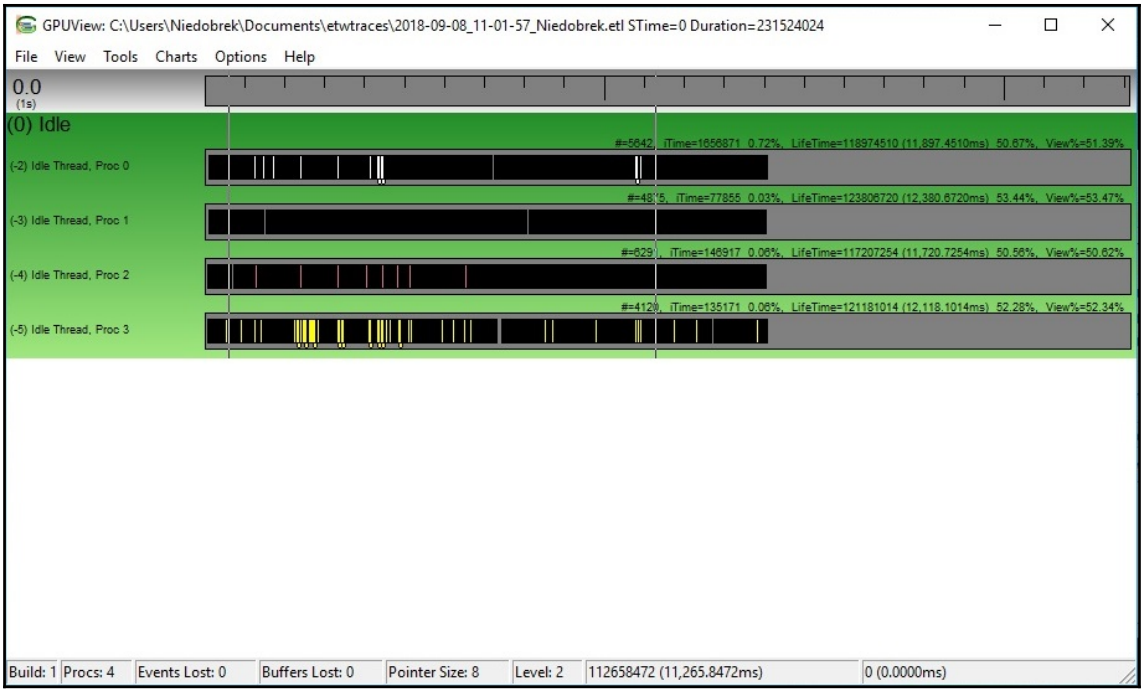

UI for ETW
Start Tracing (Ctrl+Win+R)
Save Trace Buffers (Ctrl+Win+R)
Cancel Tracing
Settings...
About
Close
msiexec.exe /i "C:\etwpackage1.49\etwpackage\third_party\wpt10\WPTx64-x86_en-us.msi"
WPT version 10.0.15063 was installed.
Setting _NT_SYMBOL_PATH=SRV*C:\symbols*https://msdl.microsoft.com/download/symbols (Microsoft). Set _NT_SYMBOL_PATH yourself or toggle 'Chrome developer' if you want different defaults.
Compress Trace
Context switch call stacks
CPU sampling call stacks
Fast sampling
GPU tracing
CLR tracing
Input tracing:
Private
Circular buffer tracing
Show commands
Traces:
Trace size:
Trace information:

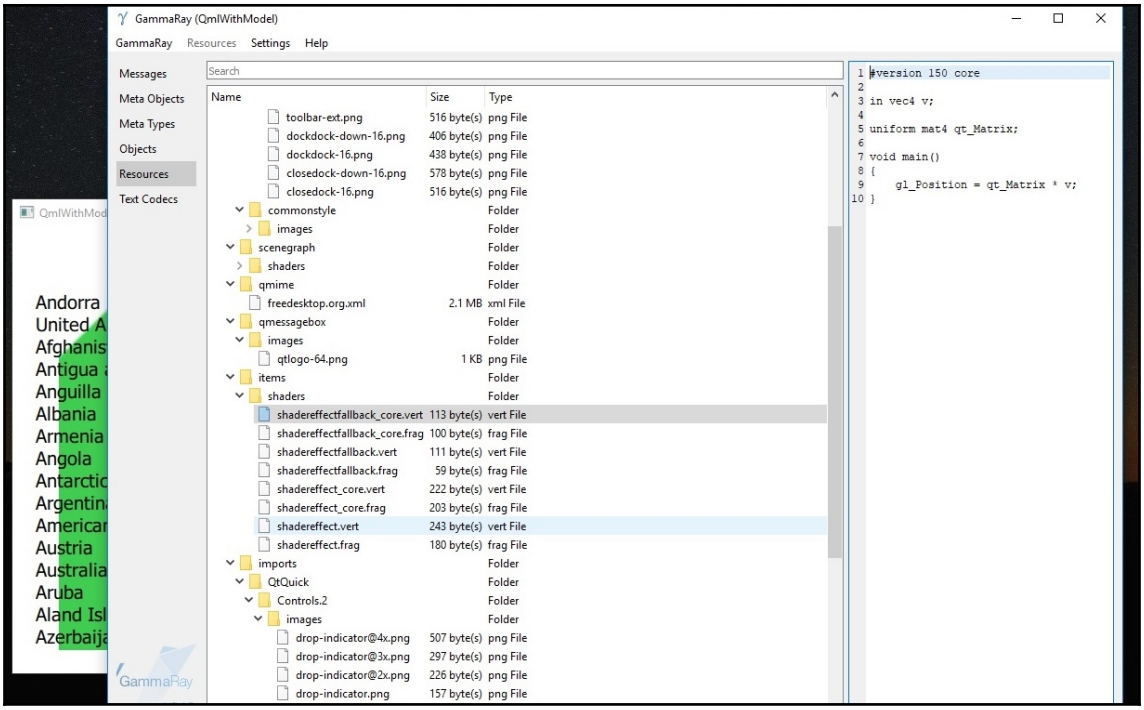

UI for ETW
Start Tracing (Ctrl+Win+R)
Save Trace Buffers (Ctrl+Win+R)
Cancel Tracing
Settings...
About
Close
Tracing is started.
Saving trace to disk...
The trace you have just captured "C:\Users\NIEDOB~1\AppData\Local\Temp\UIForETWkernel.etl" may contain personally identifiable information, including but not necessarily limited to paths to files accessed, paths to registry accessed and process names. Exact information depends on the events that were logged. Please be aware of this when sharing out this trace with other people.
The trace you have just captured "C:\Users\NIEDOB~1\AppData\Local\Temp\UIForETWuser.etl" may contain personally identifiable information, including but not necessarily limited to paths to files accessed, paths to registry accessed and process names. Exact information depends on the events that were logged. Please be aware of this when sharing out this trace with other people.
Merging trace...
Merged Etl: C:\Users\Niedobrek\Documents\etwtraces\2018-09-08_11-01-57_Niedobrek.etl
Finished recording trace.
Compress Trace
Context switch call stacks
CPU sampling call stacks
Fast sampling
GPU tracing
CLR tracing
Input tracing:
Private
Circular buffer tracing
Show commands
Traces:
Trace size: 7.6 MB
Trace information:
2018-09-08_11-01-57_Niedobrek

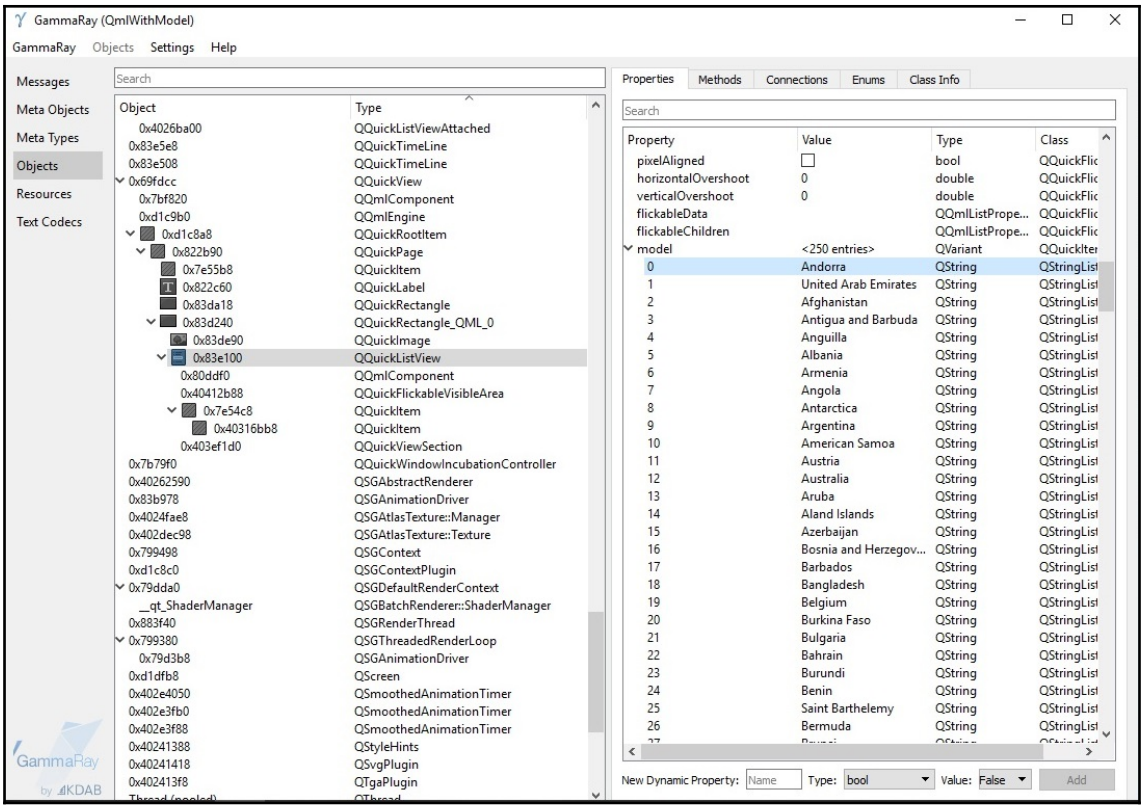

2018-09-08_11-01-57_Niedobrek.etl - Windows Performance Analyzer
File Trace Profiles Window Help
Graph Explorer - 2018-09-08_1...
System Activity
UI Delays
Delays By Process, Type
Computation
Storage
Memory
Power
Getting Started
Analysis
Series
UlforETW.exe (5448)
Opcode Name
Mark
Process
UlforETW.exe (5448)
Time
12,237495414s
Duration (s)
0,000076977
Press Alt+Space to show more detail
Press Ctrl+Shift+C to copy text
Line #
Process
Provider Name
Task Name
1
UlforETW.exe (5448)
Window in Focus
Focus by Process, Thread
Series
UlforETW.exe (5448)
explorer.exe (8164)
QmlWithModel.exe (9020)
<Unknown>
CPU Usage (Precise)
Randomascii Wait Analysis
Series
% CPU Usage using resource time as [Switch-In Time,Switch-In Time+New Switc...
Idle (0)
explorer.exe (8164)
QmlWithModel.exe (90...
dwm.exe (11764)
System (4)
CPU Usage (Sampled)
Start: 0.091583873s
End: 23.152402408s
Duration: 23.060818535s

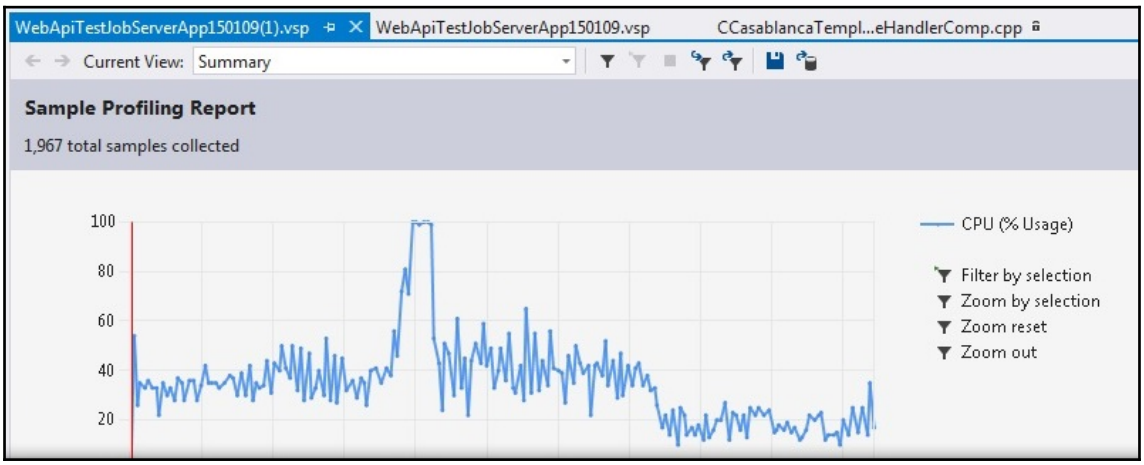

2018-09-08_11-01-57_Niedobrek.etl - Windows Performance Analyzer
File Trace Profiles Window Help
Graph Explorer -...
System Activity
UI Delays Delays By P...
Processes Lifetime By...
Transient Process Tree
Window in Focus Foc...
Images Transient Lifet...
Generic Events Activit...
Regions of Interest R...
No data
Thread Lifetimes By P...
Stacks Count by Even...
Getting Started
Analysis
Generic Events Randomascii Chrome and Multi Events
Series
UlforETW.exe (5448)
Multi-Input
Multi-Main
BatteryStatus
Line # Process Provider Name Task Name Opcode Name Count
1 UlforETW.exe (5448) 778
2 Multi-Input Mouse 543
3 Multi-Main 235
4 BatterySt... Information 112
5 TimerStat... Information 112
Window in Focus Focus by Process, Thread
Series
UlforETW.exe (5448)
explorer.exe (8164)
QmlWithModel.exe (90...
8.016
<Unknown>
CPU Usage (Precise) Randomascii Wait Analysis
Series
% CPU Usage using resource time as [Switch-In Time,Switch-In Time+New Switch-In Time] (Agg...
8.016
9.756
8.324
10.760
9.780
Start: 0.091583873s
End: 23.152402408s
Analysis Assistant
My Presets
Details


2018-09-08_11-01-57_Niedobrek.etl - Windows Performance Analyzer
File Trace Profiles Window Help
Graph Explore...
Randomascii Wait A...
Timeline by CPU
Timeline by Process,...
Usage by Priority at...
Utilization by CPU
Utilization by Proces...
DPC/ISR DPC/ISR...
CPU Usage (Attributed)
Diagnostic Console
Getting Started
Analysis
Analysis (2)
1.455
CPU Usage (Attributed) Utilization by Process, Thread, Activity
Series
Idle (0)
QmlWithModel.exe...
8.016
9.756
8.324
10.760
% CPU Usage using resource time as [Switch-In Time,Switch-In Time+Time Switched-In] (Aggregati...
Line # Thread Act... Process
Idle (0)
QmlWithModel.exe (9020)
Process QmlWithModel.exe (9020)
Thread Activity Tag
Time 7,377018661s
% CPU Usage 99,776254714
Press Alt+Space to show more detail
Press Ctrl+Shift+C to copy text
Start: 7.162907642s
End: 8.894827891s
Duration: 1.731920249s
Analysis Assistant
My Presets
Details

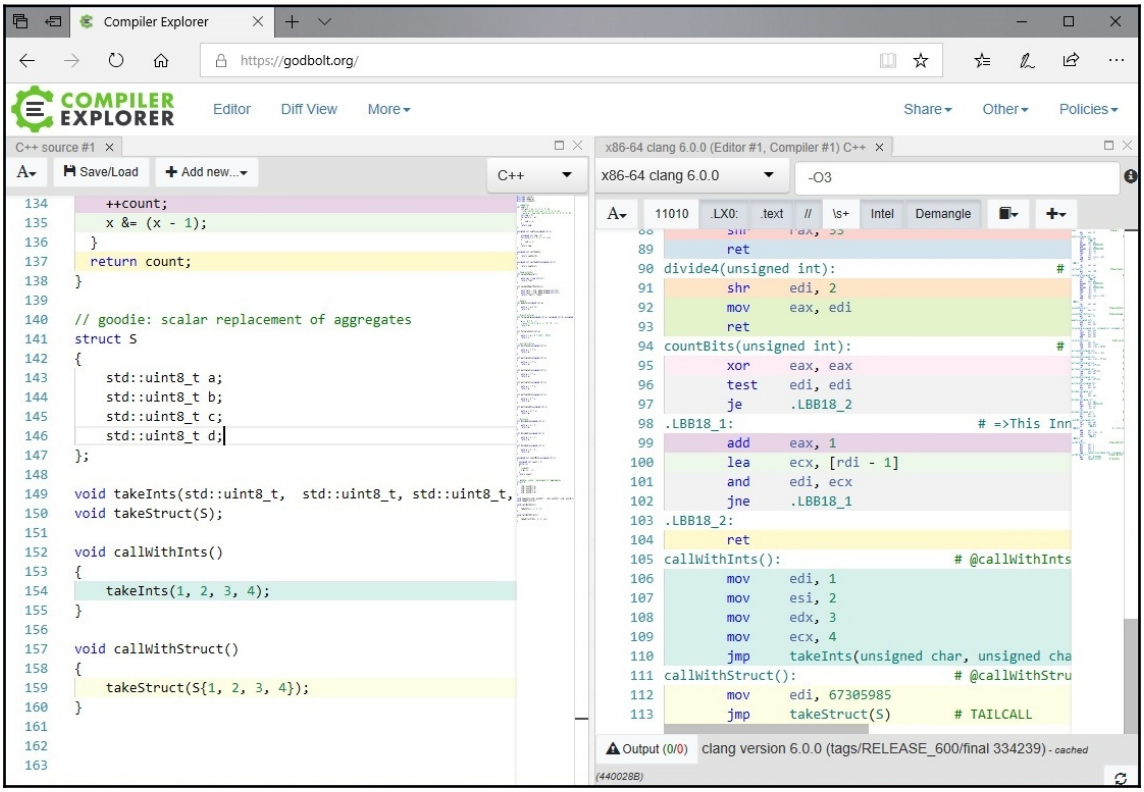

GPUView: C:\Users\Niedobrek\Documents\etwtraces\2018-09-08_11-01-57_Niedobrek.etl STime=0 Duration=231524024
File View Tools Charts Options Help
0.0
(1s)
(0) Idle
#=5642, iTime=1656871 0.72%, LifeTime=118974510 (11,897.4510ms) 50.67%, View%=51.39%
(-2) Idle Thread, Proc 0
#=48'5, iTime=77855 0.03%, LifeTime=123806720 (12,380.6720ms) 53.44%, View%=53.47%
(-3) Idle Thread, Proc 1
#=629, iTime=146917 0.06%, LifeTime=117207254 (11,720.7254ms) 50.56%, View%=50.62%
(-4) Idle Thread, Proc 2
#=412, iTime=135171 0.06%, LifeTime=121181014 (12,118.1014ms) 52.28%, View%=52.34%
(-5) Idle Thread, Proc 3
Build: 1
Procs: 4
Events Lost: 0
Buffers Lost: 0
Pointer Size: 8
Level: 2
112658472 (11,265.8472ms)
0 (0.0000ms)


GammaRay (QmlWithModel)
GammaRay Resources Settings Help
Messages
Meta Objects
Meta Types
Objects
Resources
Text Codecs
Search
Name Size Type
toolbar-ext.png 516 byte(s) png File
dockdock-down-16.png 406 byte(s) png File
dockdock-16.png 438 byte(s) png File
closedock-down-16.png 578 byte(s) png File
closedock-16.png 516 byte(s) png File
commonstyle Folder
images Folder
scenegraph Folder
shaders Folder
qmime Folder
freedesktop.org.xml 2.1 MB xml File
qmessagebox Folder
images Folder
qtlogo-64.png 1 KB png File
items Folder
shaders Folder
shadereffectfallback_core.vert 113 byte(s) vert File
shadereffectfallback_core.frag 100 byte(s) frag File
shadereffectfallback.vert 111 byte(s) vert File
shadereffectfallback.frag 59 byte(s) frag File
shadereffect_core.vert 222 byte(s) vert File
shadereffect_core.frag 203 byte(s) frag File
shadereffect.vert 243 byte(s) vert File
shadereffect.frag 180 byte(s) frag File
imports Folder
QtQuick Folder
Controls.2 Folder
images Folder
drop-indicator@4x.png 507 byte(s) png File
drop-indicator@3x.png 297 byte(s) png File
drop-indicator@2x.png 226 byte(s) png File
drop-indicator.png 157 byte(s) png File
#version 150 core
in vec4 v;
uniform mat4 qt_Matrix;
void main()
{
gl_Position = qt_Matrix * v;
}
Andorra
Afghanis
Antigua
Anguilla
Albania
Armenia
Angola
Antarctic
Argentin
Austria
Australia
Aruba
Aland Isl
Azerbaija
GammaRay

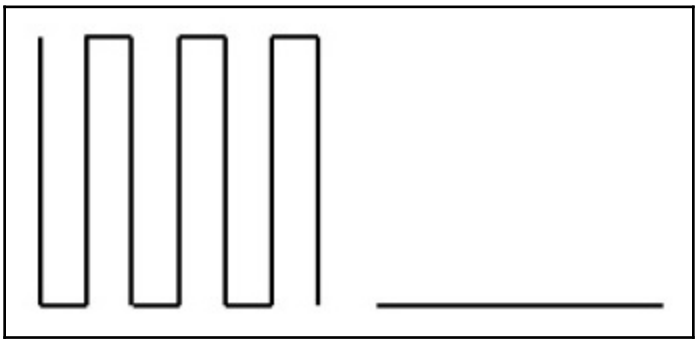

GammaRay (QmlWithModel)
GammaRay Objects Settings Help
Messages
Meta Objects
Meta Types
Objects
Resources
Text Codecs
Search
Object
Type
0x4026ba00 QQuickListViewAttached
0x83e5e8 QQuickTimeLine
0x83e508 QQuickTimeLine
0x69fdcc QQuickView
0x7bf820 QQmlComponent
0xd1c9b0 QQmlEngine
0xd1c8a8 QQuickRootItem
0x822b90 QQuickPage
0x7e55b8 QQuickItem
0x822c60 QQuickLabel
0x83da18 QQuickRectangle
0x83d240 QQuickRectangle_QML_0
0x83de90 QQuickImage
0x83e100 QQuickListView
0x80ddf0 QQmlComponent
0x40412b88 QQuickFlickableVisibleArea
0x7e54c8 QQuickItem
0x40316bb8 QQuickItem
0x403ef1d0 QQuickViewSection
0x7b79f0 QQuickWindowIncubationController
0x40262590 QSGAbstractRenderer
0x83b978 QSGAnimationDriver
0x4024fae8 QSGAtlasTexture::Manager
0x402dec98 QSGAtlasTexture::Texture
0x799498 QSGContext
0xd1c8c0 QSGContextPlugin
0x79dda0 QSGDefaultRenderContext
__qt_ShaderManager QSGBatchRenderer::ShaderManager
0x883f40 QSGRenderThread
0x799380 QSGThreadedRenderLoop
0x79d3b8 QSGAnimationDriver
0xd1dfb8 QScreen
0x402e4050 QSmoothedAnimationTimer
0x402e3fb0 QSmoothedAnimationTimer
0x402e3f88 QSmoothedAnimationTimer
0x40241388 QStyleHints
0x40241418 QSvgPlugin
0x402413f8 QTgaPlugin
GammaRay by KDAB
Properties
Methods
Connections
Enums
Class Info
Search
Property
Value
Type
Class
pixelAligned bool
horizontalOvershoot 0 double
verticalOvershoot 0 double
flickableData QQmlListPrope...
flickableChildren QQmlListPrope...
model <250 entries> QVariant
0 Andorra QString
1 United Arab Emirates QString
2 Afghanistan QString
3 Antigua and Barbuda QString
4 Anguilla QString
5 Albania QString
6 Armenia QString
7 Angola QString
8 Antarctica QString
9 Argentina QString
10 American Samoa QString
11 Austria QString
12 Australia QString
13 Aruba QString
14 Aland Islands QString
15 Azerbaijan QString
16 Bosnia and Herzegov... QString
17 Barbados QString
18 Bangladesh QString
19 Belgium QString
20 Burkina Faso QString
21 Bulgaria QString
22 Bahrain QString
23 Burundi QString
24 Benin QString
25 Saint Barthelemy QString
26 Bermuda QString
New Dynamic Property:
Name
Type:
bool
Value:
False
Add

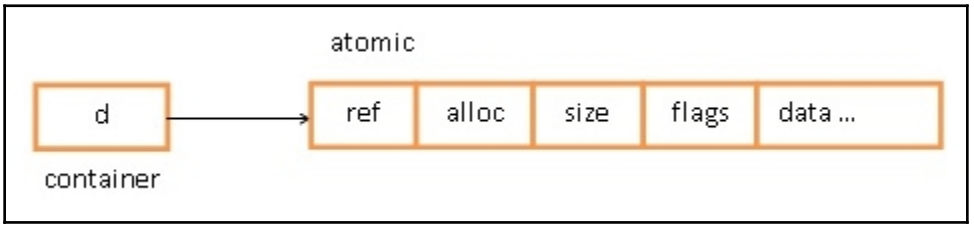

WebApiTestJobServerApp150109(1).vsp
WebApiTestJobServerApp150109.vsp
CCasablancaTempl...eHandlerComp.cpp
Current View:
Summary
Sample Profiling Report
1,967 total samples collected
100
80
60
40
20
CPU (% Usage)
Filter by selection
Zoom by selection
Zoom reset
Zoom out

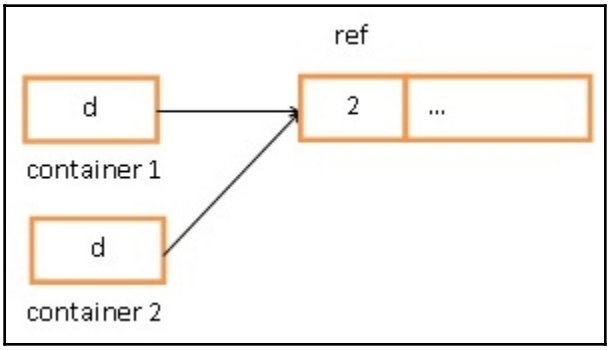
Chapter 3: Deep Dive into C++ and Performance

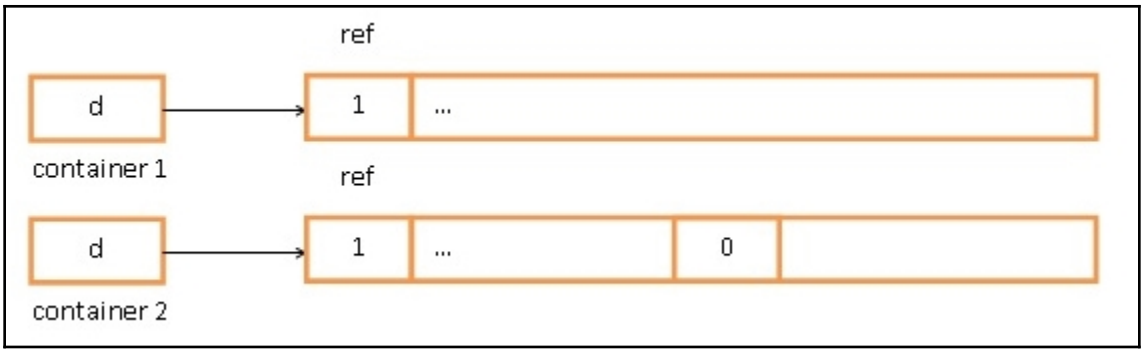


Chapter 4: Using Data Structures and Algorithms Efficiently

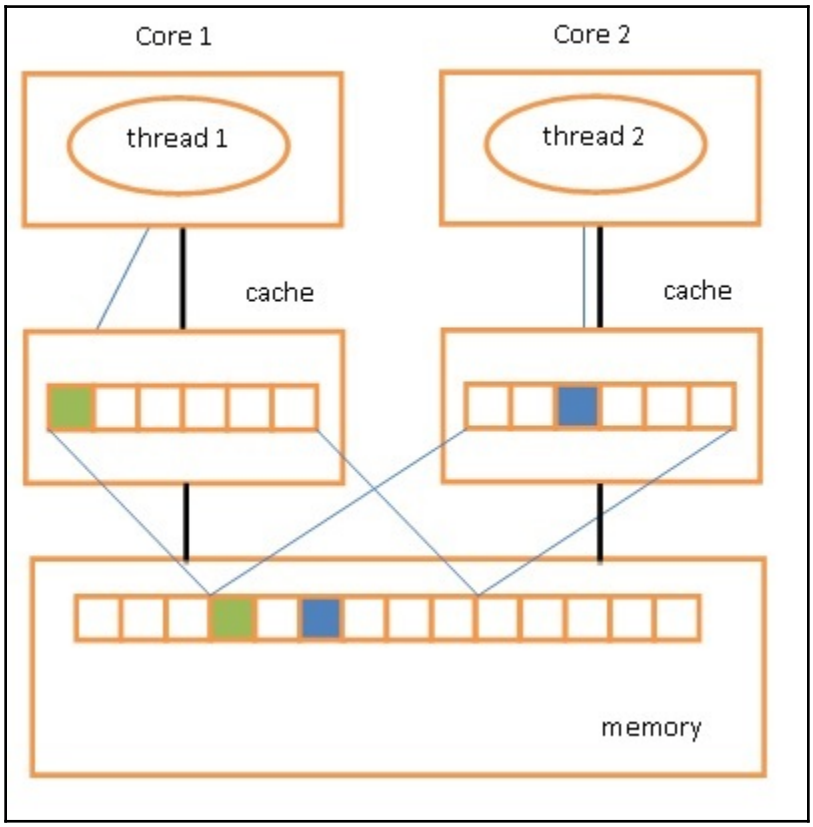


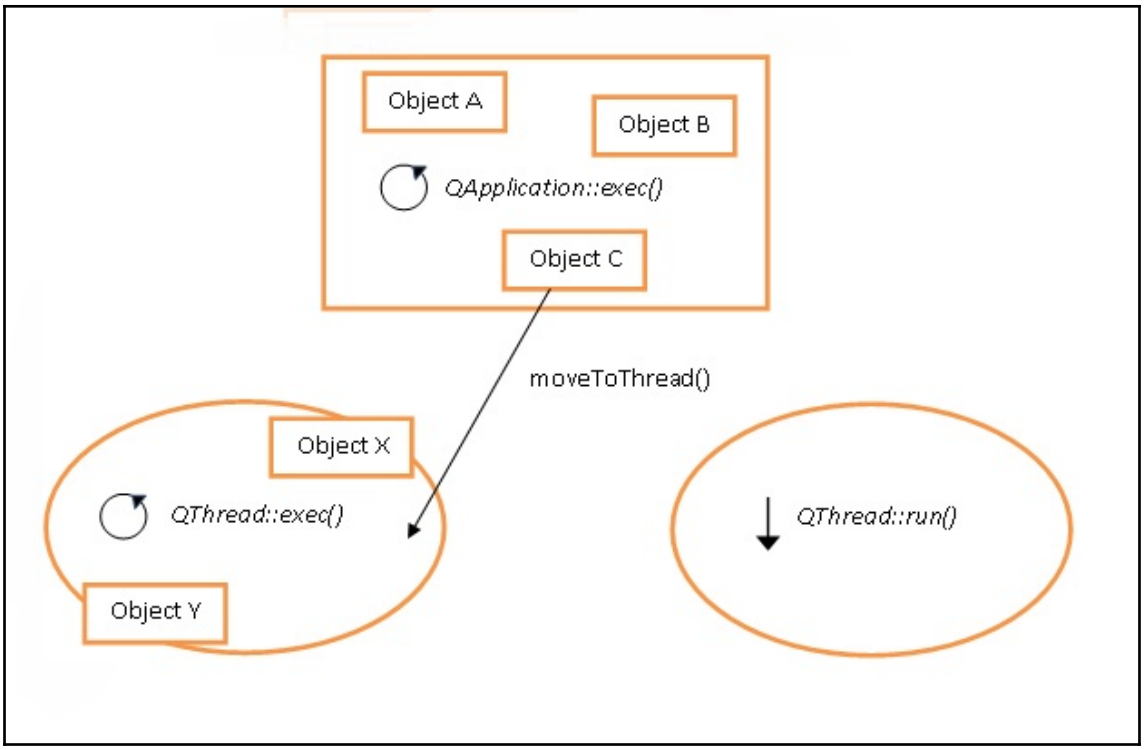


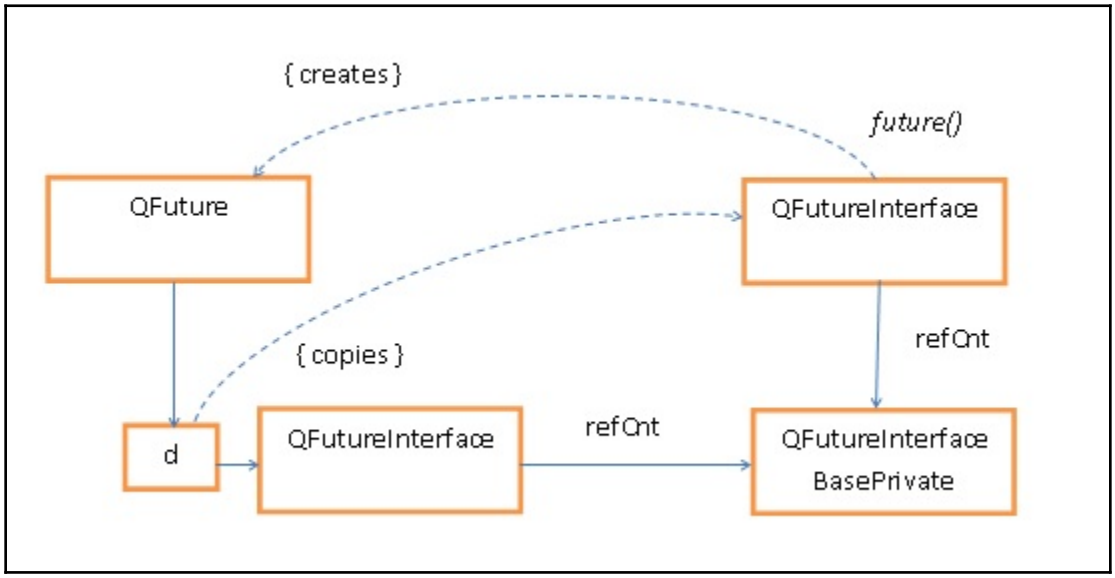



ref
d
1
...
container 1
ref
d
1
...
0
container 2

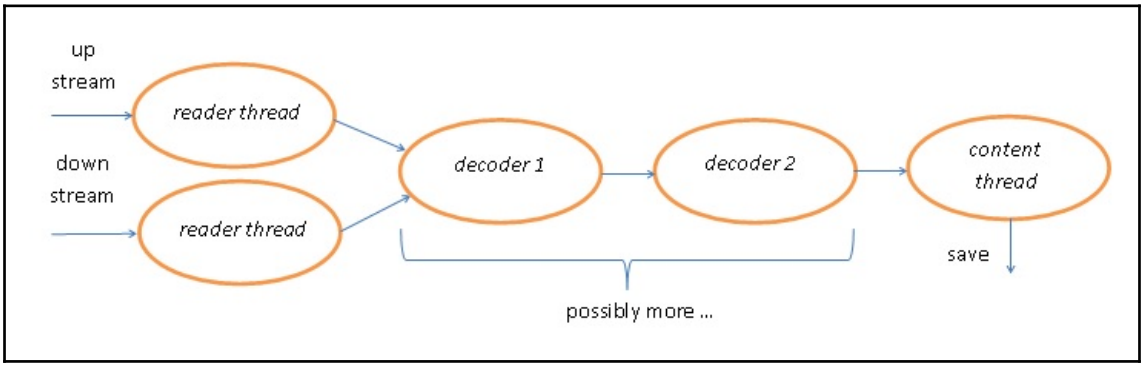
Chapter 5: An In-Depth Guide to Concurrency and Multithreading

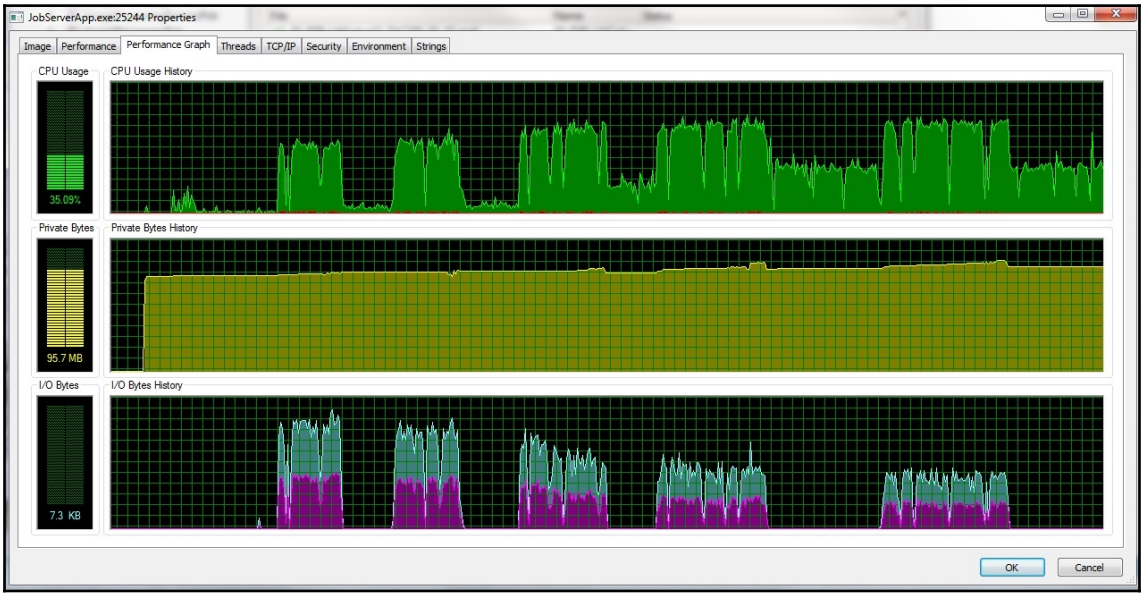



Object A
Object B
QApplication::exec()
Object C
moveToThread()
Object X
QThread::exec()
Object Y
QThread::run()

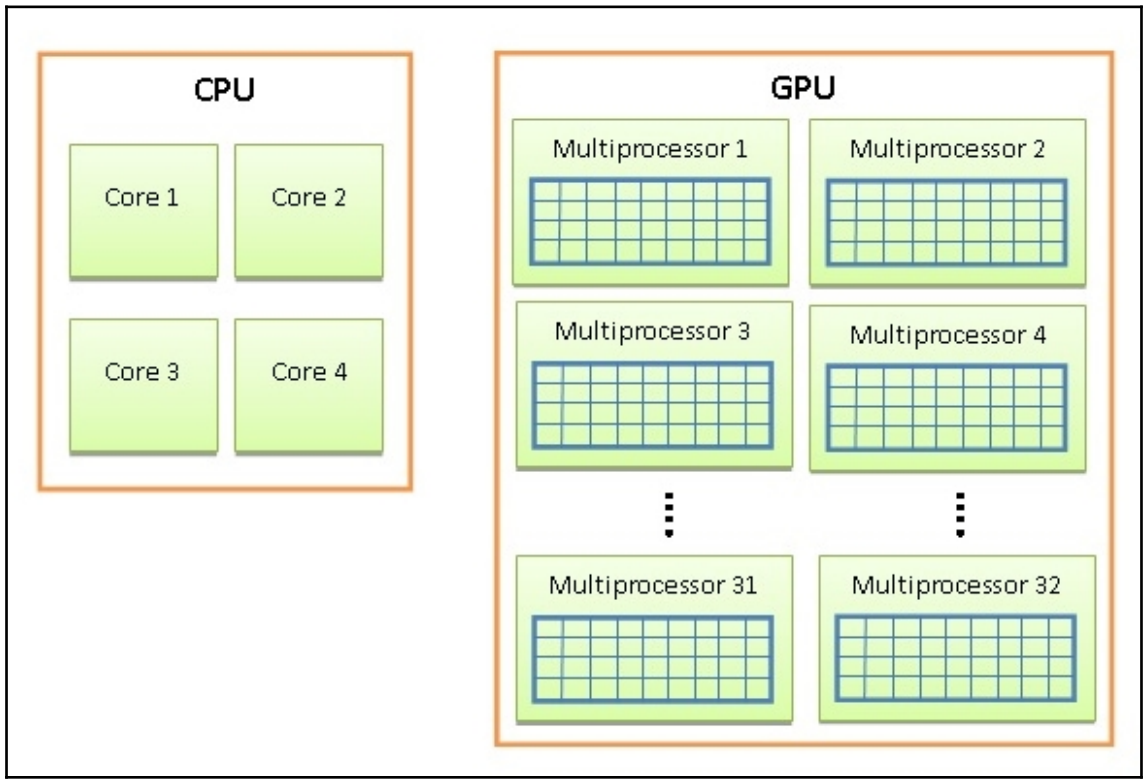

{ creates }
future()
QFuture
QFutureInterface
refCnt
{ copies }
d
QFutureInterface
refCnt
QFutureInterface
BasePrivate

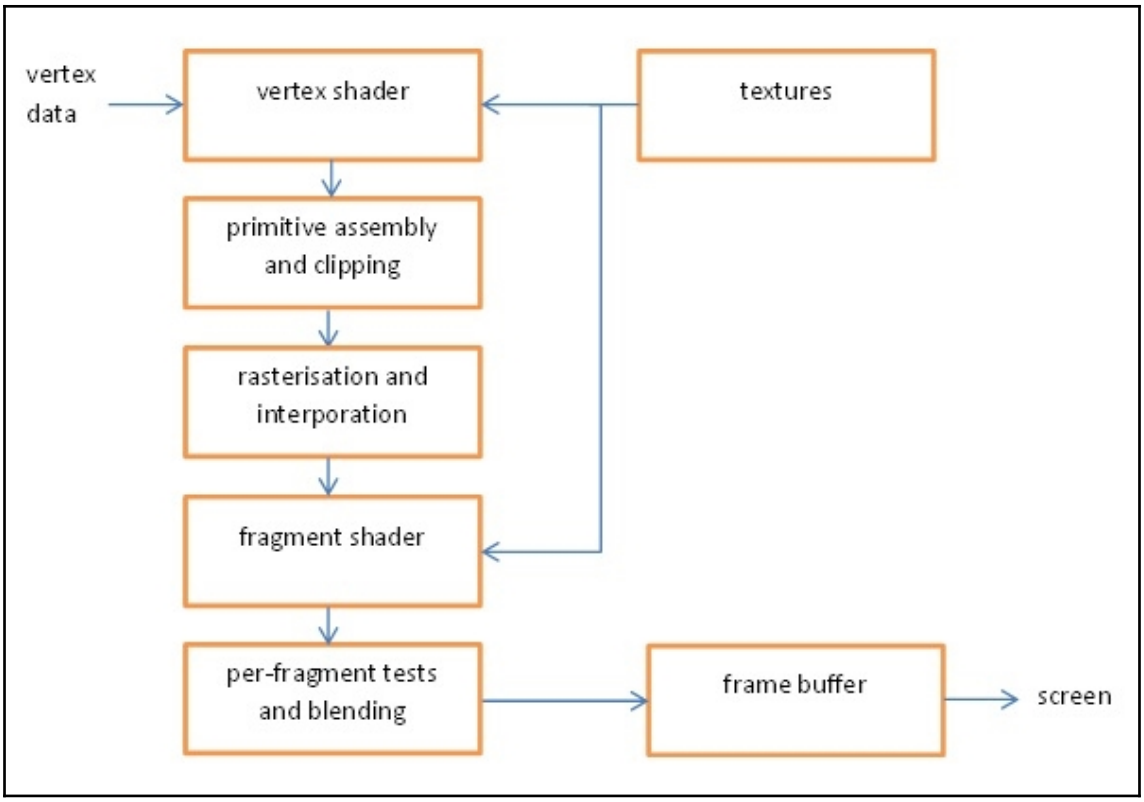
Chapter 6: Performance Failures and How to Overcome Them

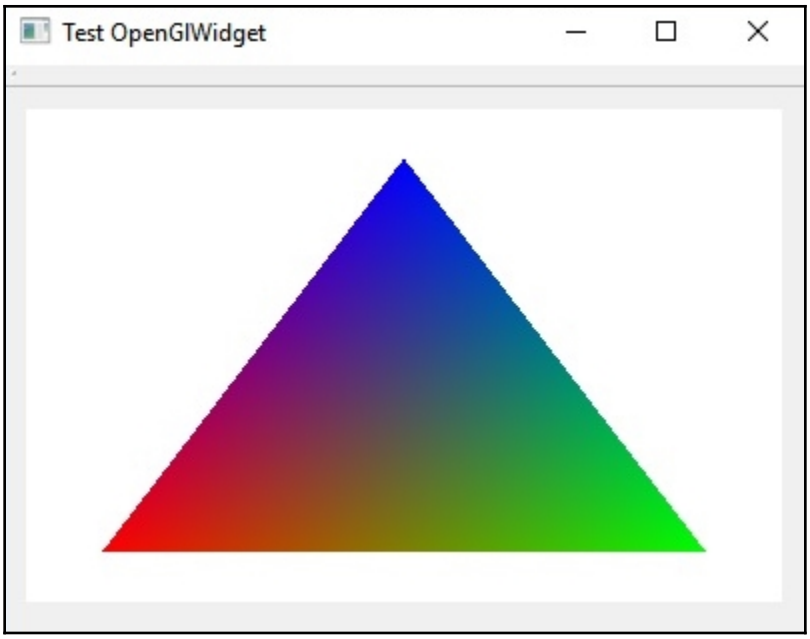


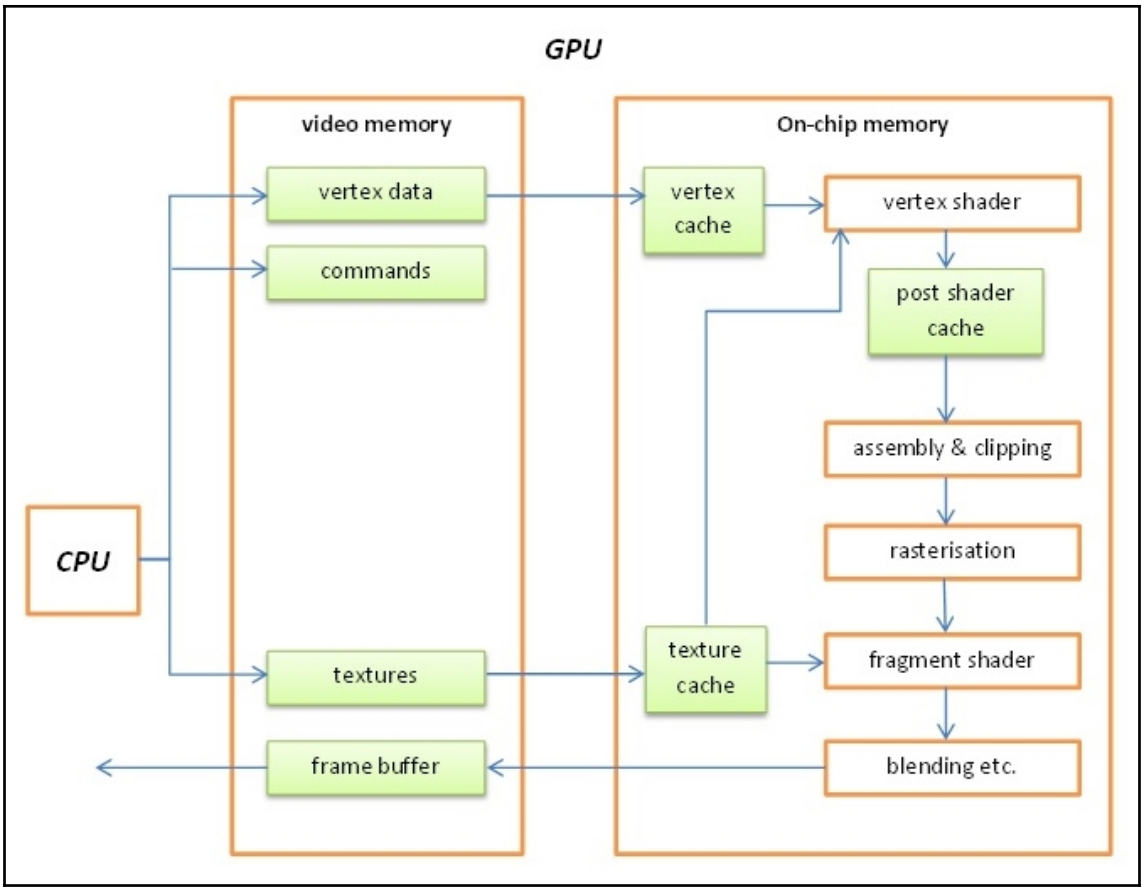


Chapter 8: Optimizing Graphical Performance




vertex
data
vertex shader
textures
primitive assembly
and clipping
rasterisation and
interporation
fragment shader
per-fragment tests
and blending
frame buffer
screen

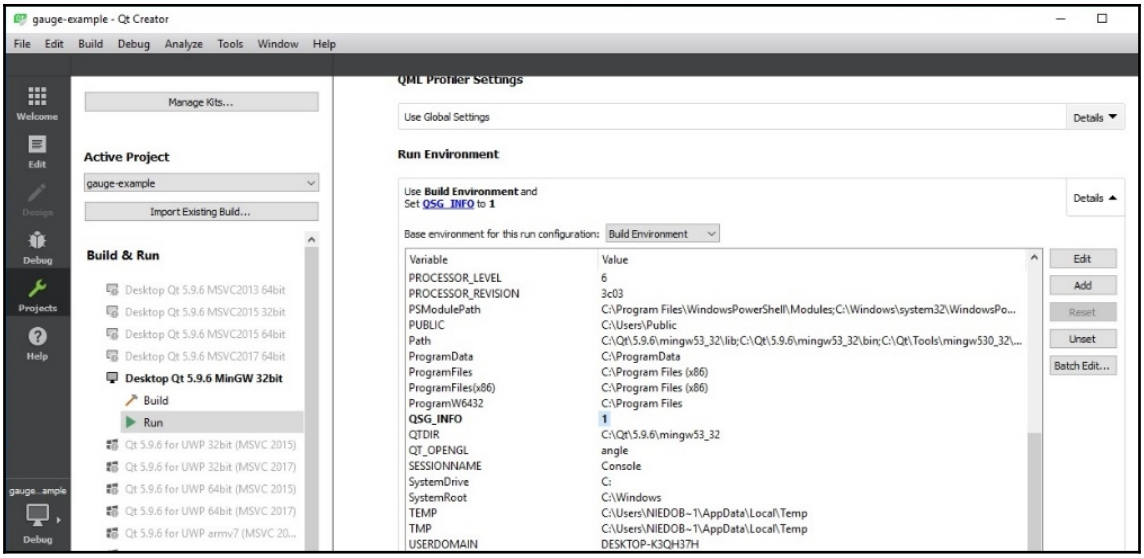

Test OpenGlWidget

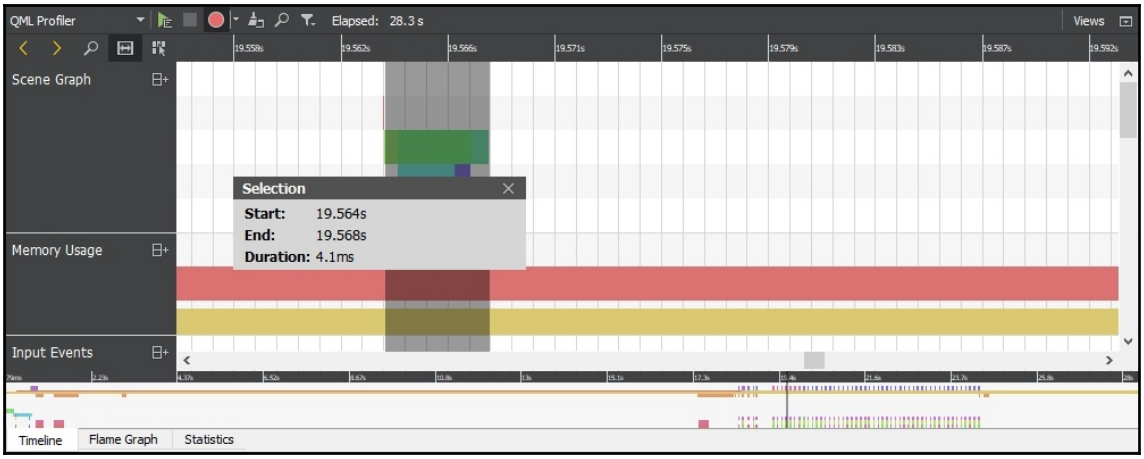


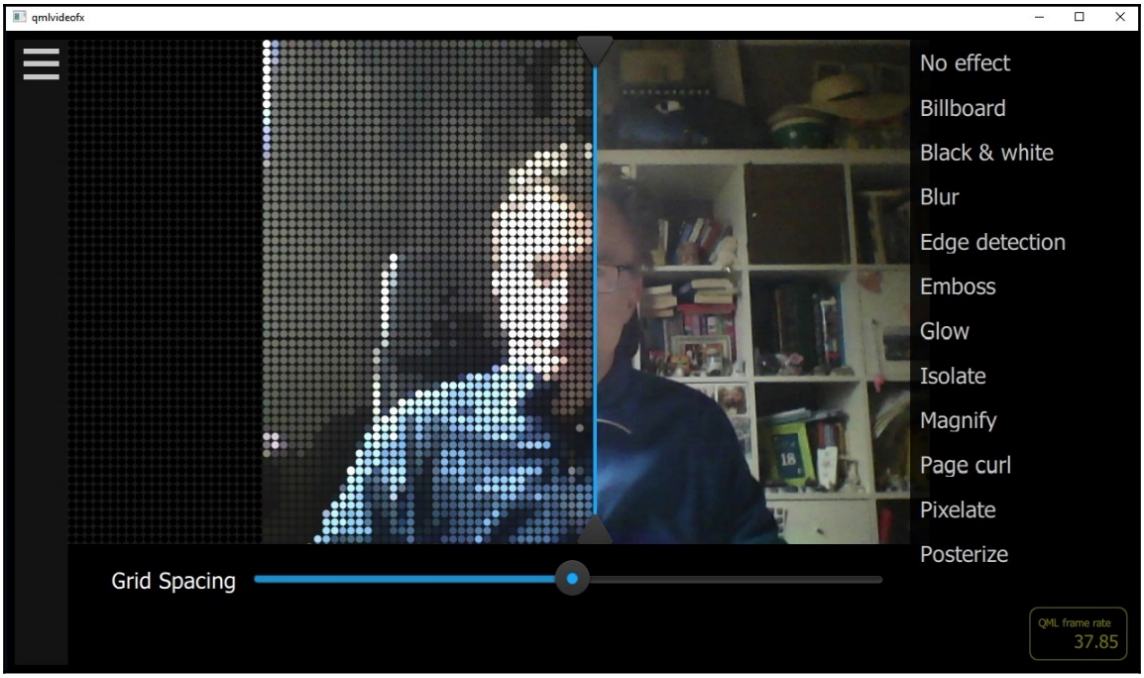
DebugView on \\DESKTOP-K3QH37H (local)

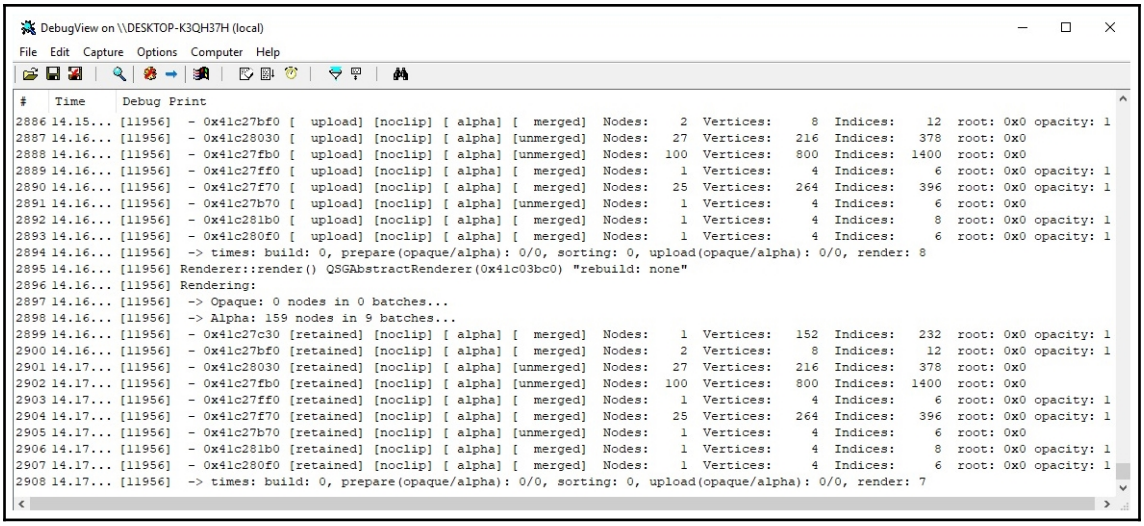
File Edit Capture Options Computer Help

#	Time	Debug Print
1	0.00000000	[8904] QML debugging is enabled. Only use this in a safe environment.
2	0.51814717	[8904] qt.scenegraph.general: windows render loop
3	0.51826757	[8904] qt.scenegraph.general: Using sg animation driver
4	0.51838285	[8904] qt.scenegraph.general: Animation Driver: using vsync: 16.67 ms
5	0.95331609	[8904] qt.scenegraph.general: texture atlas dimensions: 1024x1024
6	0.95346451	[8904] qt.scenegraph.general: R/G/B/A Buffers: 8 8 8 8
7	0.95354861	[8904] qt.scenegraph.general: Depth Buffer: 24
8	0.95361531	[8904] qt.scenegraph.general: Stencil Buffer: 8
9	0.95368165	[8904] qt.scenegraph.general: Samples: 0
10	0.95374876	[8904] qt.scenegraph.general: GL_VENDOR: Google Inc.
11	0.95381624	[8904] qt.scenegraph.general: GL_RENDERER: ANGLE (Intel(R) HD Graphics 4600 Direct3D11 vs 5 0 ps 5 0)
12	0.95396668	[8904] qt.scenegraph.general: GL_VERSION: OpenGL ES 2.0 (ANGLE 2.1.0.8613f4946861)
13	0.95416522	[8904] qt.scenegraph.general: GL_EXTENSIONS: GL_ANGLE_texture_compression_dxt5 GL_EXT_unpack_subimage GL_ANGLE_fram
14	0.95432156	[8904] qt.scenegraph.general: Max Texture Size: 16384
15	0.95446324	[8904] qt.scenegraph.general: Debug context: false

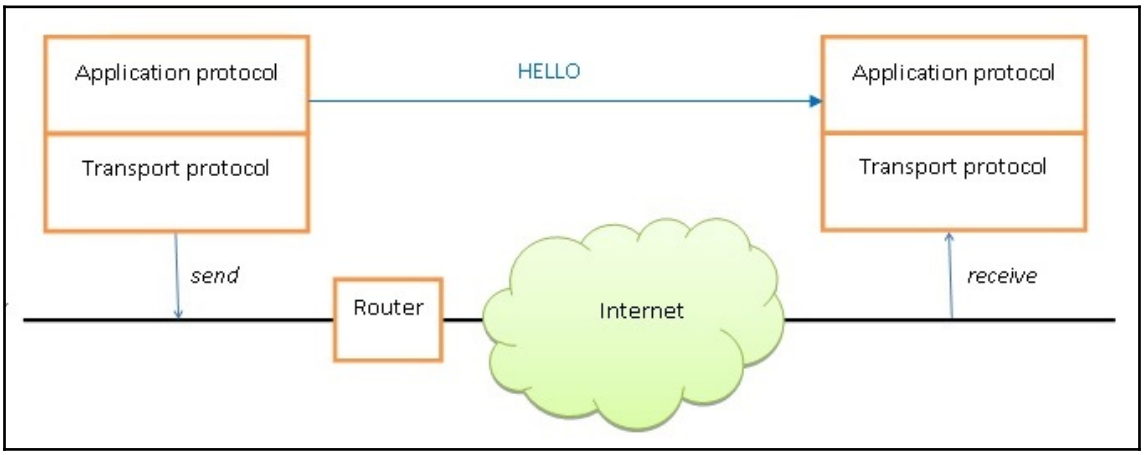

gauge-example - Qt Creator
File Edit Build Debug Analyze Tools Window Help
Welcome
Edit
Design
Debug
Projects
Help
Manage Kits...
Active Project
gauge-example
Import Existing Build...
Build & Run
Desktop Qt 5.9.6 MSVC2013 64bit
Desktop Qt 5.9.6 MSVC2015 32bit
Desktop Qt 5.9.6 MSVC2015 64bit
Desktop Qt 5.9.6 MSVC2017 64bit
Desktop Qt 5.9.6 MinGW 32bit
Build
Run
Qt 5.9.6 for UWP 32bit (MSVC 2015)
Qt 5.9.6 for UWP 32bit (MSVC 2017)
Qt 5.9.6 for UWP 64bit (MSVC 2015)
Qt 5.9.6 for UWP 64bit (MSVC 2017)
Qt 5.9.6 for UWP armv7 (MSVC 20...
gauge...ample
Debug
QML Profiler Settings
Use Global Settings
Details
Run Environment
Use Build Environment and
Set QSG_INFO to 1
Details
Base environment for this run configuration:
Build Environment
Variable
Value
PROCESSOR_LEVEL 6
PROCESSOR_REVISION 3c03
PSModulePath C:\Program Files\WindowsPowerShell\Modules;C:\Windows\system32\WindowsPo...
PUBLIC C:\Users\Public
Path C:\Qt\5.9.6\mingw53_32\lib;C:\Qt\5.9.6\mingw53_32\bin;C:\Qt\Tools\mingw530_32\...
ProgramData C:\ProgramData
ProgramFiles C:\Program Files (x86)
ProgramFiles(x86) C:\Program Files (x86)
ProgramW6432 C:\Program Files
QSG_INFO 1
QTDIR C:\Qt\5.9.6\mingw53_32
QT_OPENGL angle
SESSIONNAME Console
SystemDrive C:
SystemRoot C:\Windows
TEMP C:\Users\NIEDOB~1\AppData\Local\Temp
TMP C:\Users\NIEDOB~1\AppData\Local\Temp
USERDOMAIN DESKTOP-K3QH37H
Edit
Add
Reset
Unset
Batch Edit...

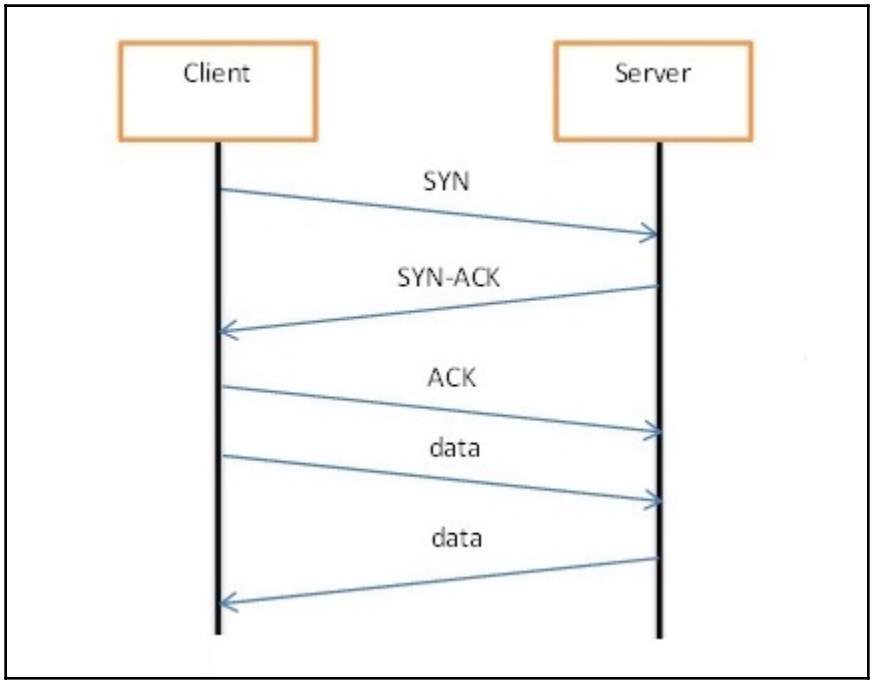

QML Profiler
Elapsed: 28.3 s
Views
Scene Graph
Selection
Start: 19.564s
End: 19.568s
Duration: 4.1ms
Memory Usage
Input Events
Timeline
Flame Graph
Statistics

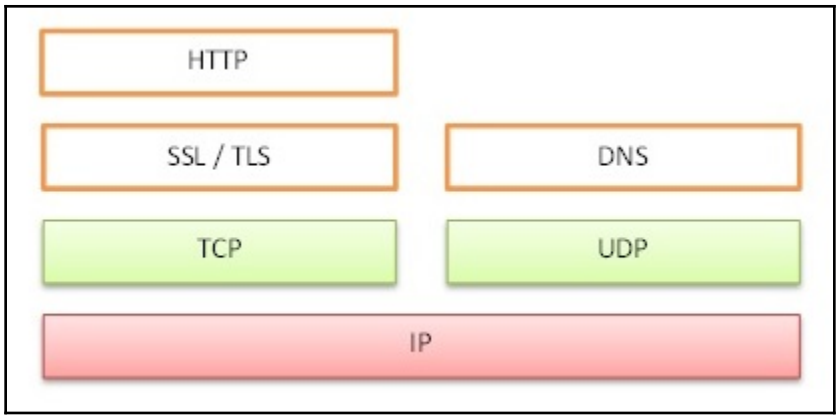

qmlvideofx
No effect
Billboard
Black & white
Blur
Edge detection
Emboss
Glow
Isolate
Magnify
Page curl
Pixelate
Posterize
Grid Spacing
QML frame rate
37.85


DebugView on \\DESKTOP-K3QH37H (local)
File Edit Capture Options Computer Help
Time Debug Print
2886 14.15... [11956] - 0x41c27bf0 [upload] [noclip] [alpha] [merged] Nodes: 2 Vertices: 8 Indices: 12 root: 0x0 opacity: 1
2887 14.16... [11956] - 0x41c28030 [upload] [noclip] [alpha] [unmerged] Nodes: 27 Vertices: 216 Indices: 378 root: 0x0
2888 14.16... [11956] - 0x41c27fb0 [upload] [noclip] [alpha] [unmerged] Nodes: 100 Vertices: 800 Indices: 1400 root: 0x0
2889 14.16... [11956] - 0x41c27ff0 [upload] [noclip] [alpha] [merged] Nodes: 1 Vertices: 4 Indices: 6 root: 0x0 opacity: 1
2890 14.16... [11956] - 0x41c27f70 [upload] [noclip] [alpha] [merged] Nodes: 25 Vertices: 264 Indices: 396 root: 0x0 opacity: 1
2891 14.16... [11956] - 0x41c27b70 [upload] [noclip] [alpha] [unmerged] Nodes: 1 Vertices: 4 Indices: 6 root: 0x0
2892 14.16... [11956] - 0x41c281b0 [upload] [noclip] [alpha] [merged] Nodes: 1 Vertices: 4 Indices: 8 root: 0x0 opacity: 1
2893 14.16... [11956] - 0x41c280f0 [upload] [noclip] [alpha] [merged] Nodes: 1 Vertices: 4 Indices: 6 root: 0x0 opacity: 1
2894 14.16... [11956] -> times: build: 0, prepare(opaque/alpha): 0/0, sorting: 0, upload(opaque/alpha): 0/0, render: 8
2895 14.16... [11956] Renderer::render() QSGAbstractRenderer(0x41c03bc0) "rebuild: none"
2896 14.16... [11956] Rendering:
2897 14.16... [11956] -> Opaque: 0 nodes in 0 batches...
2898 14.16... [11956] -> Alpha: 159 nodes in 9 batches...
2899 14.16... [11956] - 0x41c27c30 [retained] [noclip] [alpha] [merged] Nodes: 1 Vertices: 152 Indices: 232 root: 0x0 opacity: 1
2900 14.16... [11956] - 0x41c27bf0 [retained] [noclip] [alpha] [merged] Nodes: 2 Vertices: 8 Indices: 12 root: 0x0 opacity: 1
2901 14.17... [11956] - 0x41c28030 [retained] [noclip] [alpha] [unmerged] Nodes: 27 Vertices: 216 Indices: 378 root: 0x0
2902 14.17... [11956] - 0x41c27fb0 [retained] [noclip] [alpha] [unmerged] Nodes: 100 Vertices: 800 Indices: 1400 root: 0x0
2903 14.17... [11956] - 0x41c27ff0 [retained] [noclip] [alpha] [merged] Nodes: 1 Vertices: 4 Indices: 6 root: 0x0 opacity: 1
2904 14.17... [11956] - 0x41c27f70 [retained] [noclip] [alpha] [merged] Nodes: 25 Vertices: 264 Indices: 396 root: 0x0 opacity: 1
2905 14.17... [11956] - 0x41c27b70 [retained] [noclip] [alpha] [unmerged] Nodes: 1 Vertices: 4 Indices: 6 root: 0x0
2906 14.17... [11956] - 0x41c281b0 [retained] [noclip] [alpha] [merged] Nodes: 1 Vertices: 4 Indices: 8 root: 0x0 opacity: 1
2907 14.17... [11956] - 0x41c280f0 [retained] [noclip] [alpha] [merged] Nodes: 1 Vertices: 4 Indices: 6 root: 0x0 opacity: 1
2908 14.17... [11956] -> times: build: 0, prepare(opaque/alpha): 0/0, sorting: 0, upload(opaque/alpha): 0/0, render: 7

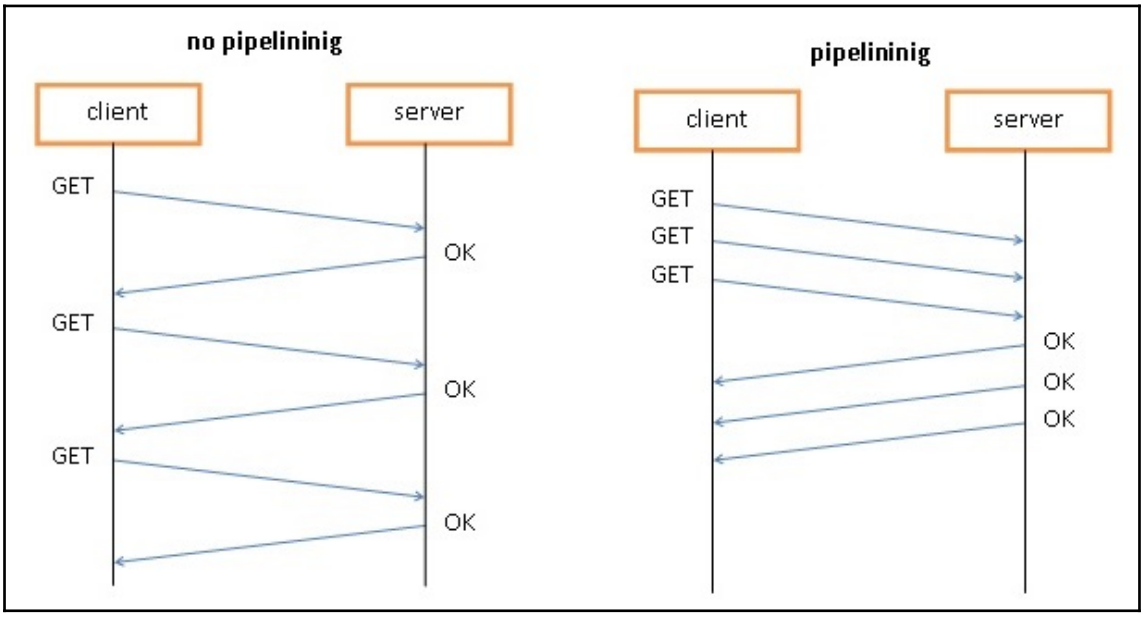
Chapter 9: Optimizing Network Performance

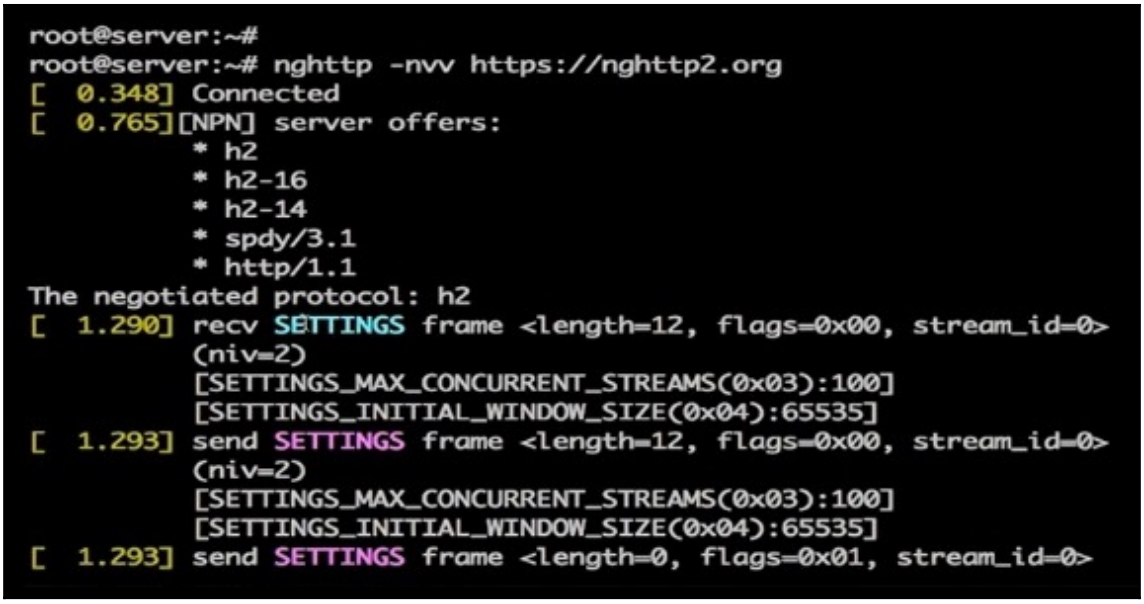




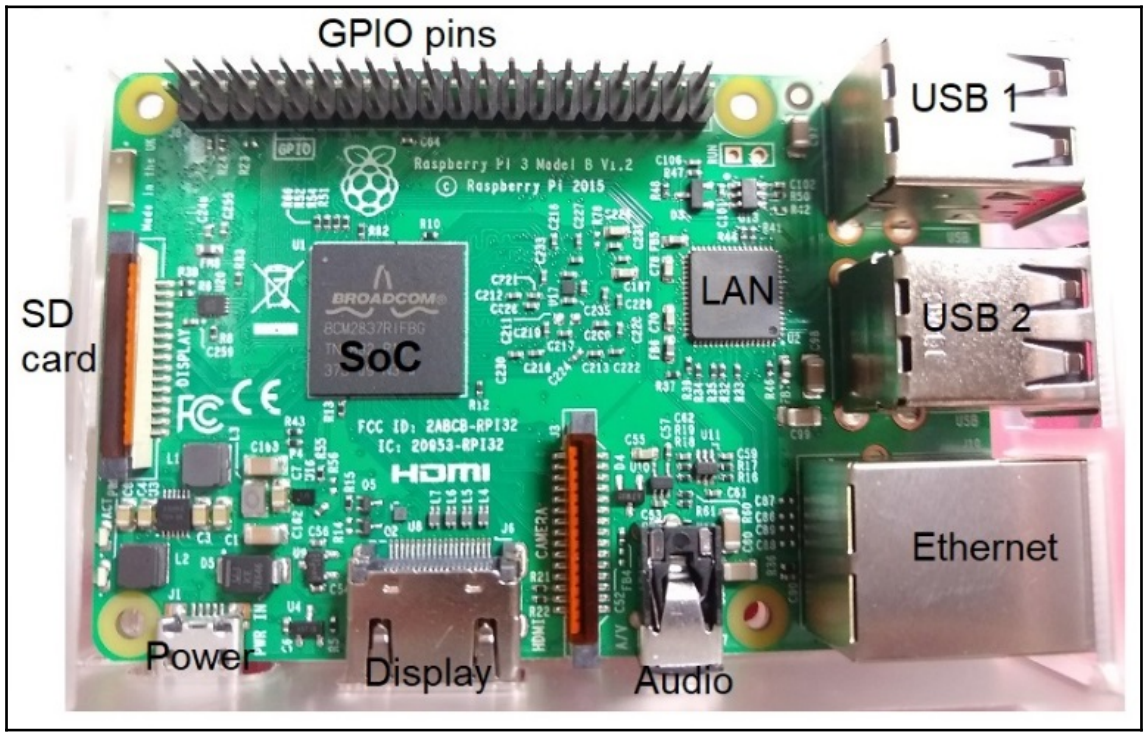

HTTP
SSL / TLS
DNS
TCP
UDP
IP

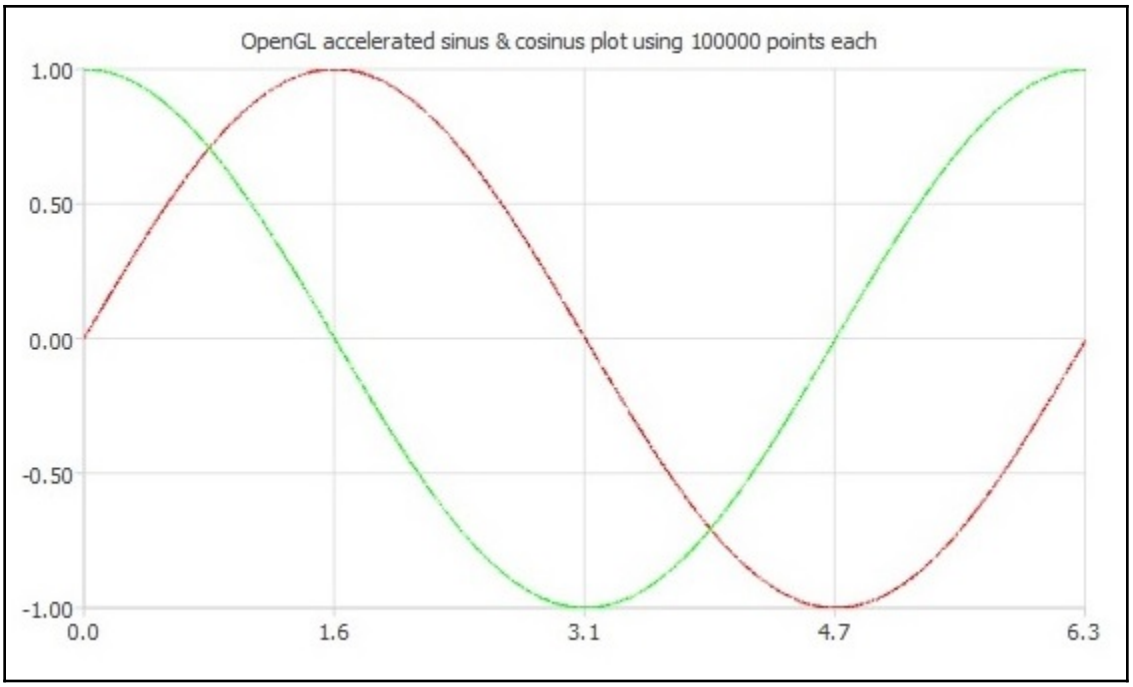

DNS lookup
TCP handshake
SSL handshake
HTTP request

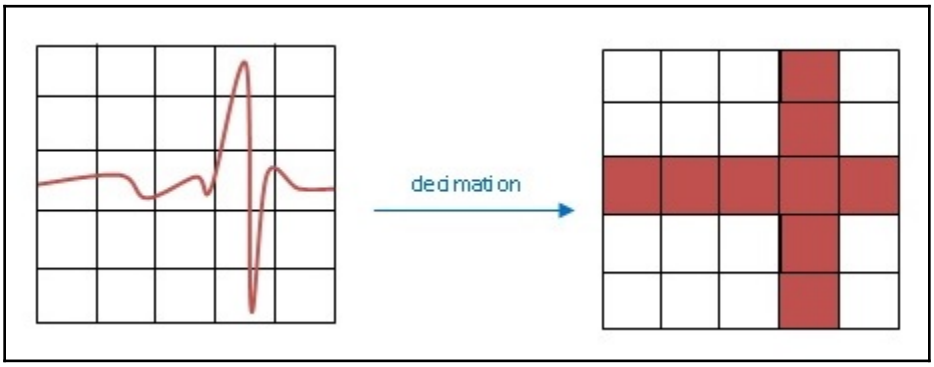

no pipelininig
client
server
GET
OK
GET
OK
GET
OK
pipelininig
client
server
GET
GET
GET
OK
OK
OK

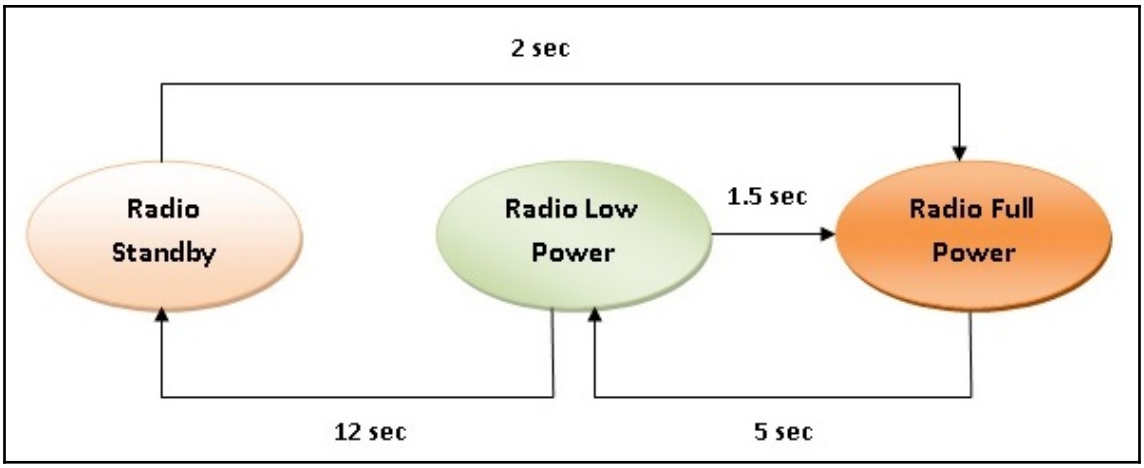

root@server:~#
root@server:~# nghttp -nvv https://nghttp2.org
[0.348] Connected
[0.765][NPN] server offers:
* h2
* h2-16
* h2-14
* spdy/3.1
* http/1.1
The negotiated protocol: h2
[1.290] recv SETTINGS frame <length=12, flags=0x00, stream_id=0>
(niv=2)
[SETTINGS_MAX_CONCURRENT_STREAMS(0x03):100]
[SETTINGS_INITIAL_WINDOW_SIZE(0x04):65535]
[1.293] send SETTINGS frame <length=12, flags=0x00, stream_id=0>
(niv=2)
[SETTINGS_MAX_CONCURRENT_STREAMS(0x03):100]
[SETTINGS_INITIAL_WINDOW_SIZE(0x04):65535]
[1.293] send SETTINGS frame <length=0, flags=0x01, stream_id=0>

Chapter 10: Qt Performance on Embedded and Mobile Platforms

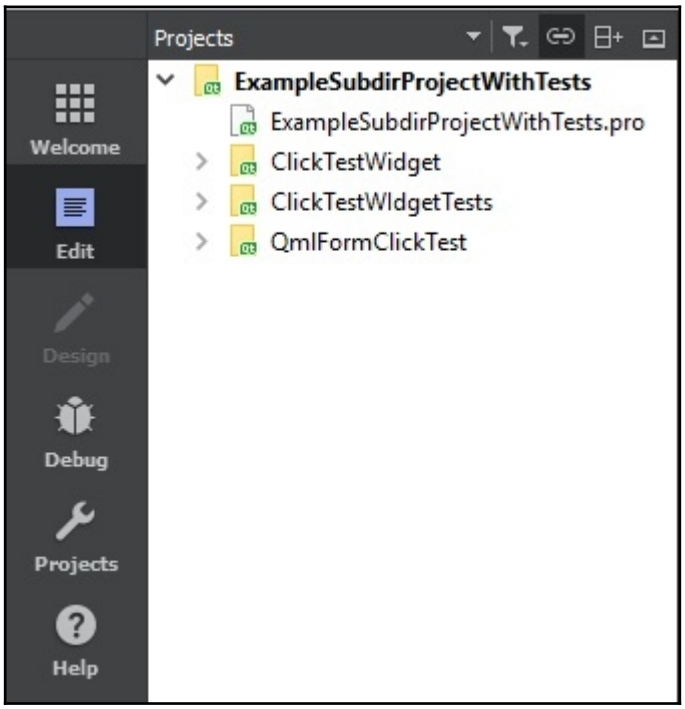


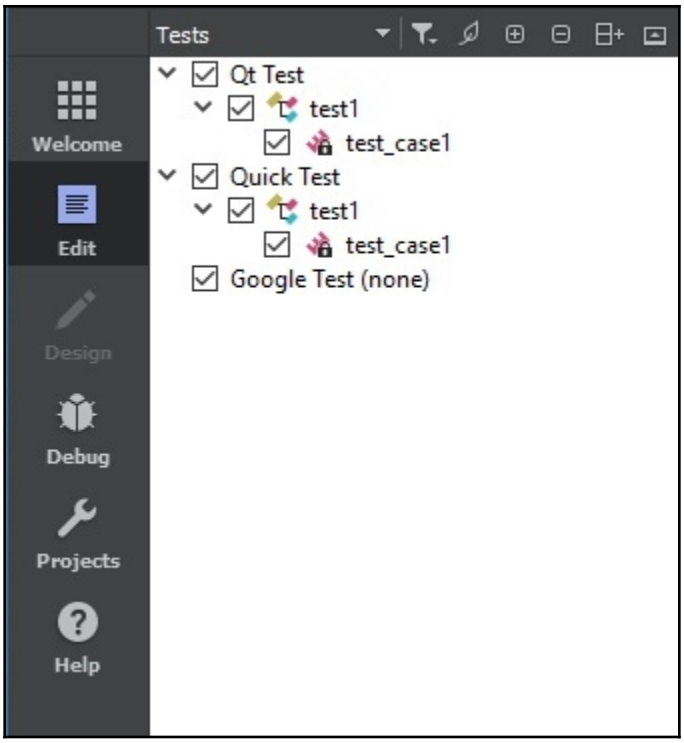

OpenGL accelerated sinus & cosinus plot using 100000 points each
1.00
0.50
0.00
-0.50
-1.00
0.0
1.6
3.1
4.7
6.3

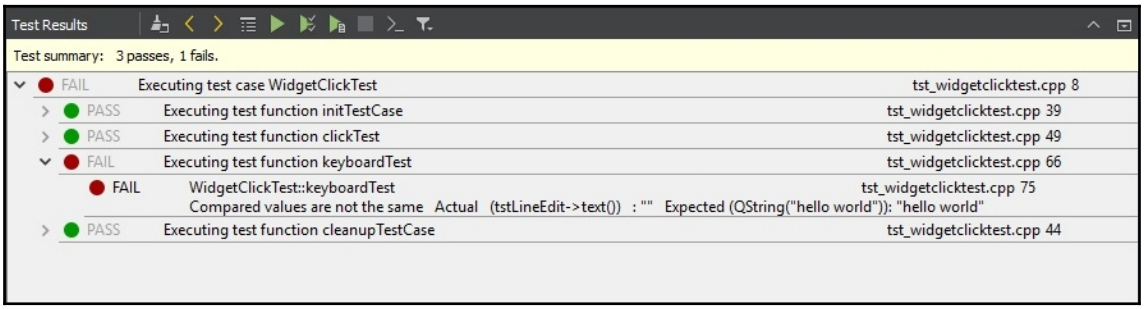

decimation

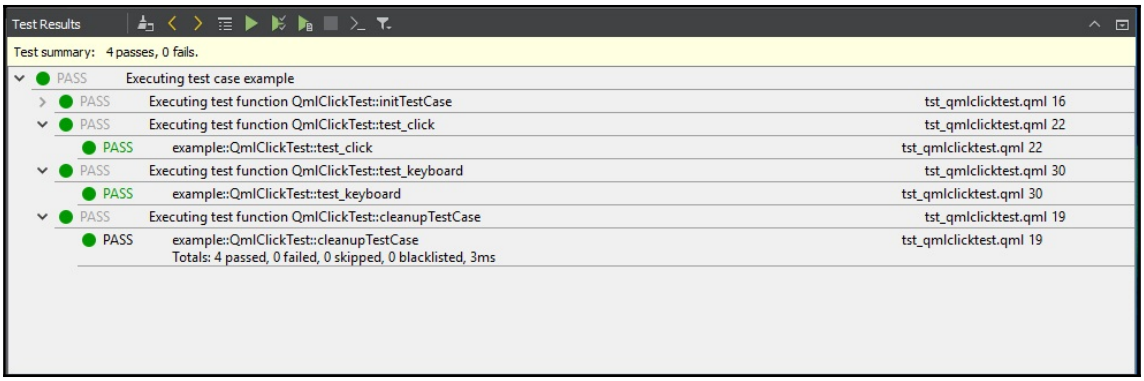

2 sec
Radio
Standby
Radio Low
Power
1.5 sec
Radio Full
Power
12 sec
5 sec

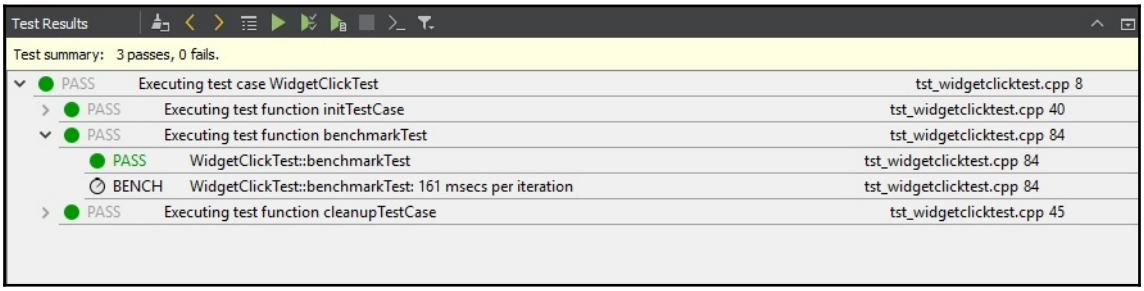
Chapter 11: Testing and Deploying Qt Applications

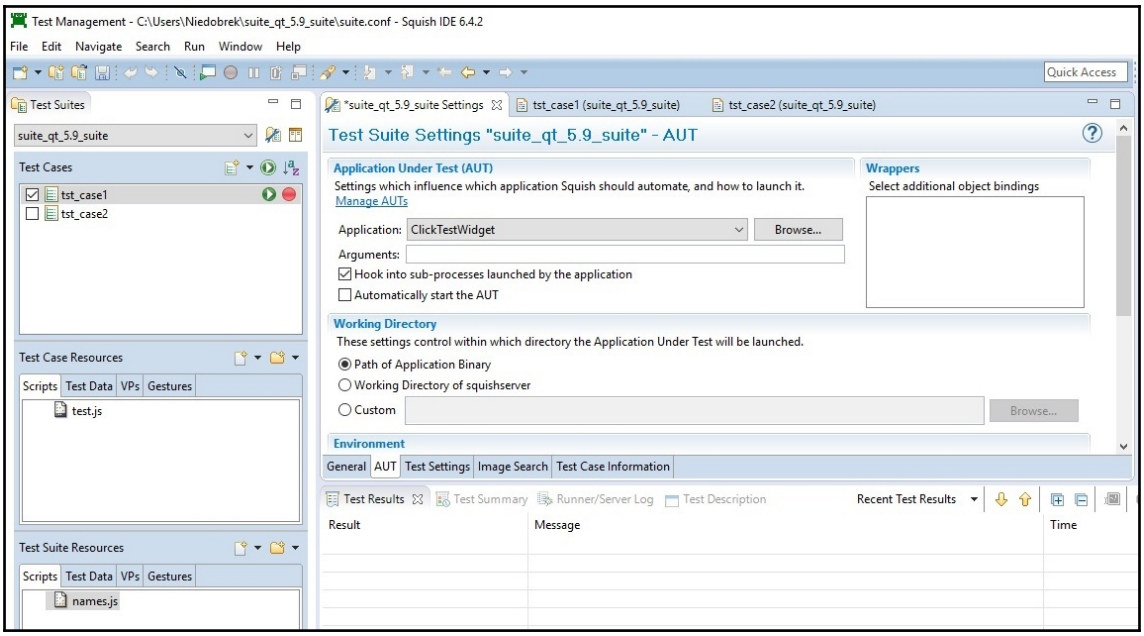


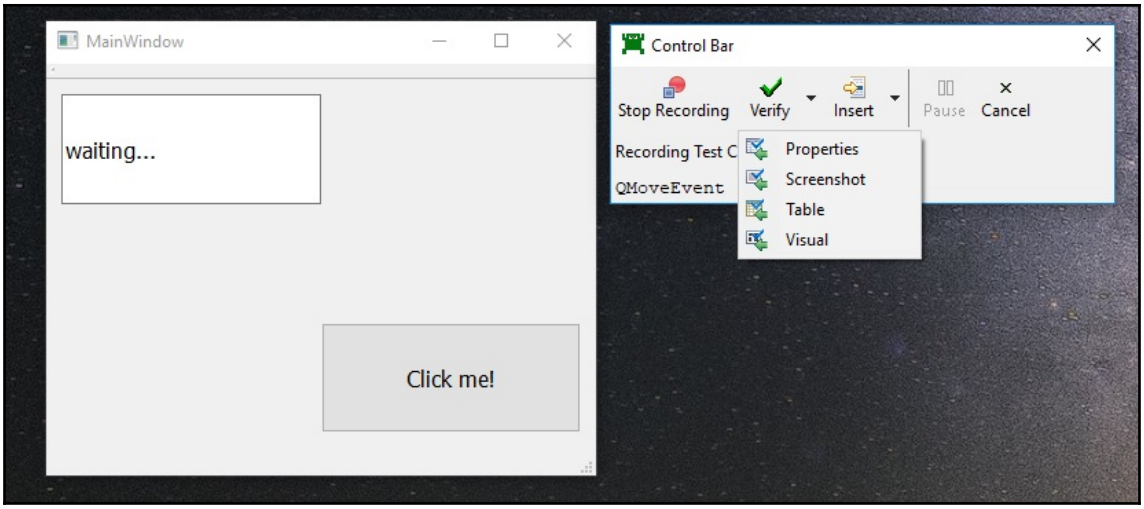

Tests
Welcome
Edit
Design
Debug
Projects
Help
Qt Test
test1
test_case1
Quick Test
test1
test_case1
Google Test (none)

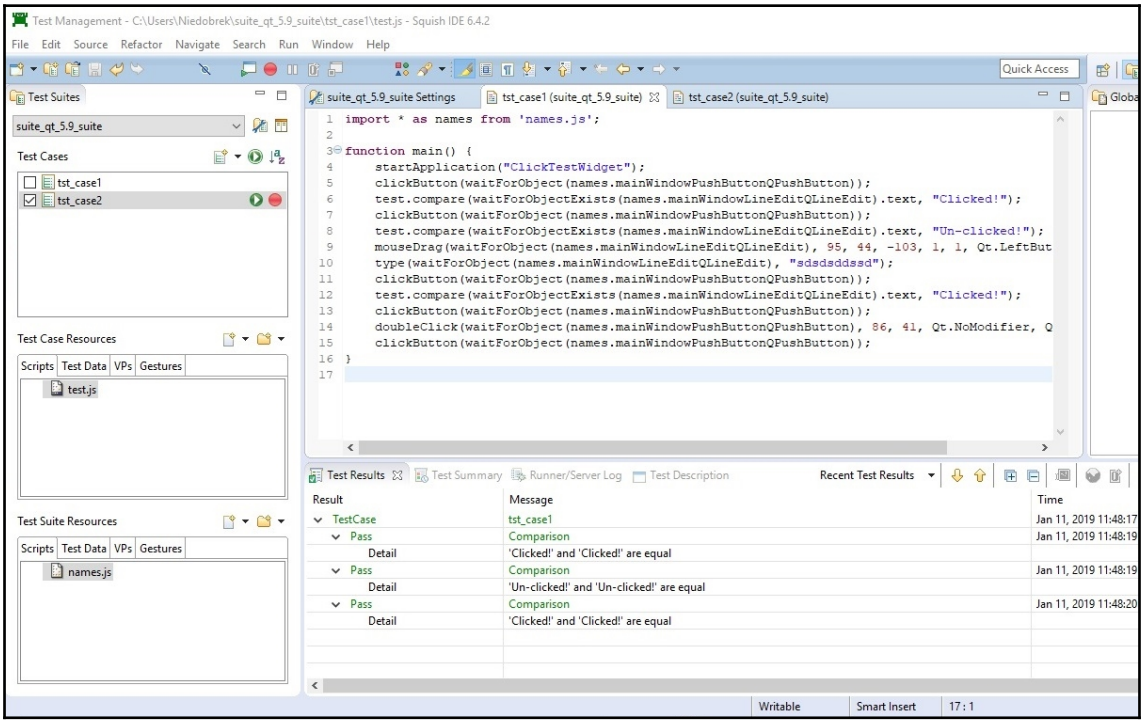

Test Results
Test summary: 3 passes, 1 fails.
FAIL Executing test case WidgetClickTest tst_widgetclicktest.cpp 8
PASS Executing test function initTestCase tst_widgetclicktest.cpp 39
PASS Executing test function clickTest tst_widgetclicktest.cpp 49
FAIL Executing test function keyboardTest tst_widgetclicktest.cpp 66
FAIL WidgetClickTest::keyboardTest tst_widgetclicktest.cpp 75
Compared values are not the same Actual (tstLineEdit->text()) : "" Expected (QString("hello world")): "hello world"
PASS Executing test function cleanupTestCase tst_widgetclicktest.cpp 44


Test Results
Test summary: 4 passes, 0 fails.
PASS Executing test case example
PASS Executing test function QmlClickTest::initTestCase tst_qmlclicktest.qml 16
PASS Executing test function QmlClickTest::test_click tst_qmlclicktest.qml 22
PASS example::QmlClickTest::test_click tst_qmlclicktest.qml 22
PASS Executing test function QmlClickTest::test_keyboard tst_qmlclicktest.qml 30
PASS example::QmlClickTest::test_keyboard tst_qmlclicktest.qml 30
PASS Executing test function QmlClickTest::cleanupTestCase tst_qmlclicktest.qml 19
PASS example::QmlClickTest::cleanupTestCase tst_qmlclicktest.qml 19
Totals: 4 passed, 0 failed, 0 skipped, 0 blacklisted, 3ms


Test Results
Test summary: 3 passes, 0 fails.
PASS Executing test case WidgetClickTest tst_widgetclicktest.cpp 8
PASS Executing test function initTestCase tst_widgetclicktest.cpp 40
PASS Executing test function benchmarkTest tst_widgetclicktest.cpp 84
PASS WidgetClickTest::benchmarkTest tst_widgetclicktest.cpp 84
BENCH WidgetClickTest::benchmarkTest: 161 msecs per iteration tst_widgetclicktest.cpp 84
PASS Executing test function cleanupTestCase tst_widgetclicktest.cpp 45


Test Management - C:\Users\Niedobrek\suite_qt_5.9_suite\suite.conf - Squish IDE 6.4.2
File Edit Navigate Search Run Window Help
Quick Access
Test Suites
suite_qt_5.9_suite
Test Cases
tst_case1
tst_case2
Test Case Resources
Scripts Test Data VPs Gestures
test.js
Test Suite Resources
Scripts Test Data VPs Gestures
names.js
*suite_qt_5.9_suite Settings
tst_case1 (suite_qt_5.9_suite)
tst_case2 (suite_qt_5.9_suite)
Test Suite Settings "suite_qt_5.9_suite" - AUT
Application Under Test (AUT)
Settings which influence which application Squish should automate, and how to launch it.
Manage AUTs
Application: ClickTestWidget
Browse...
Arguments:
Hook into sub-processes launched by the application
Automatically start the AUT
Wrappers
Select additional object bindings
Working Directory
These settings control within which directory the Application Under Test will be launched.
Path of Application Binary
Working Directory of squishserver
Custom
Browse...
Environment
General AUT Test Settings Image Search Test Case Information
Test Results
Test Summary
Runner/Server Log
Test Description
Recent Test Results
Result
Message
Time


MainWindow
waiting...
Click me!
Control Bar
Stop Recording
Verify
Insert
Pause
Cancel
Recording Test C
QMoveEvent
Properties
Screenshot
Table
Visual


Test Management - C:\Users\Niedobrek\suite_qt_5.9_suite\tst_case1\test.js - Squish IDE 6.4.2
File Edit Source Refactor Navigate Search Run Window Help
Quick Access
Test Suites
suite_qt_5.9_suite
Test Cases
tst_case1
tst_case2
Test Case Resources
Scripts Test Data VPs Gestures
test.js
Test Suite Resources
Scripts Test Data VPs Gestures
names.js
suite_qt_5.9_suite Settings
tst_case1 (suite_qt_5.9_suite)
tst_case2 (suite_qt_5.9_suite)
import * as names from 'names.js';
function main() {
startApplication("ClickTestWidget");
clickButton(waitForObject(names.mainWindowPushButtonQPushButton));
test.compare(waitForObjectExists(names.mainWindowLineEditQLineEdit).text, "Clicked!");
clickButton(waitForObject(names.mainWindowPushButtonQPushButton));
test.compare(waitForObjectExists(names.mainWindowLineEditQLineEdit).text, "Un-clicked!");
mouseDrag(waitForObject(names.mainWindowLineEditQLineEdit), 95, 44, -103, 1, 1, Qt.LeftBut
type(waitForObject(names.mainWindowLineEditQLineEdit), "sdsdsddssd");
clickButton(waitForObject(names.mainWindowPushButtonQPushButton));
test.compare(waitForObjectExists(names.mainWindowLineEditQLineEdit).text, "Clicked!");
clickButton(waitForObject(names.mainWindowPushButtonQPushButton));
doubleClick(waitForObject(names.mainWindowPushButtonQPushButton), 86, 41, Qt.NoModifier, Q
clickButton(waitForObject(names.mainWindowPushButtonQPushButton));
}
Test Results
Test Summary
Runner/Server Log
Test Description
Recent Test Results
Result
Message
Time
TestCase
tst_case1
Jan 11, 2019 11:48:17
Pass
Comparison
Jan 11, 2019 11:48:19
Detail
'Clicked!' and 'Clicked!' are equal
Pass
Comparison
Jan 11, 2019 11:48:19
Detail
'Un-clicked!' and 'Un-clicked!' are equal
Pass
Comparison
Jan 11, 2019 11:48:20
Detail
'Clicked!' and 'Clicked!' are equal
Writable
Smart Insert
17 : 1