

Práctica 2

- **Sistema Operativo**

Microsoft Windows [Versión 10.0.14393]

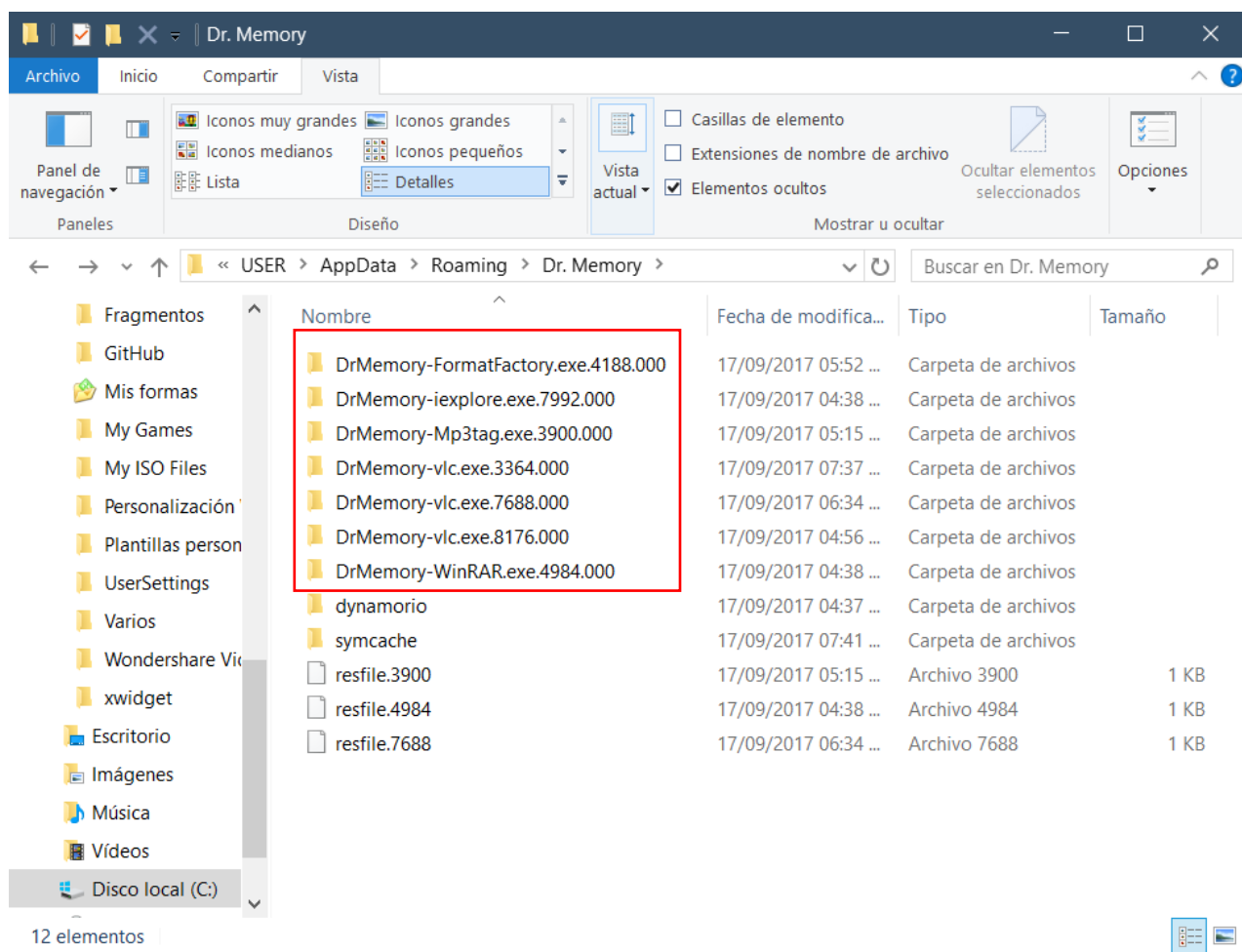
- **Programa utilizado para la traza**

Dr. Memory [versión 1.11.0]

- **Programa objetivo**

El programa objetivo fue: VLC media player [versión 2.2.4.0]

La razón por la que se escogió fue simplemente por ubicar un proceso que tuviera una interfaz gráfica lo más simple que se pudiera, también traté de ejecutar un proceso en 32 bits ya que drmemory no tiene soporte completo para 64 bits pero fue imposible. Aquí una imagen como prueba de los demás procesos en los que traté de ejecutar:



• Resultados

El programa Dr Memory entrega un archivo de texto que se guarda automáticamente en su carpeta de origen, creando un directorio distinto para cada proceso que se ejecuta como argumento de este. Por lo que lo incluiré al final solo como documentación.

Lo que marca el programa en línea de comandos se resume en sólo errores (a excepción de las últimas 16 líneas del proceso), 16 para ser exactos y son errores del tipo LEAK:

```
Símbolo del sistema

C:\Program Files (x86)\Dr. Memory\bin>drmemory.exe -- "C:\Program Files\VideoLAN\VLC\vlc.exe"
~Dr.M~ Dr. Memory version 1.11.0
~Dr.M~ (Uninitialized read checking is not yet supported for 64-bit)
~Dr.M~ Running "'C:\Program Files\VideoLAN\VLC\vlc.exe'"
~2200~ WARNING: application is missing line number information.
~Dr.M~
~Dr.M~ Error #1: LEAK 44 direct bytes 0x000000008a6170-0x0000000008a619c + 0 indirect bytes
~Dr.M~ # 0 replace_malloc [d:\drmemory_package\common\alloc_replace.c:2576]
~Dr.M~ # 1 libqt4_plugin.dll! +0x0 (0x00000000743e1ba3 <libqt4_plugin.dll+0x4a1ba3>)
~Dr.M~ # 2 libqt4_plugin.dll! +0x0 (0x0000000074402131 <libqt4_plugin.dll+0x4c2131>)
~Dr.M~ # 3 libqt4_plugin.dll! +0x0 (0x00000000742bd70c <libqt4_plugin.dll+0x37d70c>)
~Dr.M~ # 4 libqt4_plugin.dll! +0x0 (0x00000000742bd601 <libqt4_plugin.dll+0x37d601>)
~Dr.M~ # 5 libqt4_plugin.dll! +0x0 (0x00000000744086b8 <libqt4_plugin.dll+0x4c86b8>)
~Dr.M~ # 6 libqt4_plugin.dll! +0x0 (0x00000000744086b8 <libqt4_plugin.dll+0x4c86b8>)
~Dr.M~ # 7 libqt4_plugin.dll! +0x0 (0x000000007466748b <libqt4_plugin.dll+0x72748b>)
~Dr.M~ # 8 libqt4_plugin.dll! +0x0 (0x0000000074667695 <libqt4_plugin.dll+0x727695>)
~Dr.M~ # 9 libqt4_plugin.dll! +0x0 (0x0000000074403599 <libqt4_plugin.dll+0x4c3599>)
~Dr.M~ #10 libqt4_plugin.dll! +0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
~Dr.M~ #11 libqt4_plugin.dll! +0x0 (0x00000000740080b6 <libqt4_plugin.dll+0xc80b6>)
~Dr.M~
~Dr.M~ Error #2: LEAK 112 direct bytes 0x000000008aa410-0x0000000008aa480 + 2122 indirect bytes
~Dr.M~ # 0 replace_malloc [d:\drmemory_package\common\alloc_replace.c:2576]
~Dr.M~ # 1 libqt4_plugin.dll! +0x0 (0x000000007449fe4b <libqt4_plugin.dll+0x55fe4b>)
~Dr.M~ # 2 libqt4_plugin.dll! +0x0 (0x00000000744b4238 <libqt4_plugin.dll+0x574238>)
~Dr.M~ # 3 libqt4_plugin.dll! +0x0 (0x00000000747a4e7e <libqt4_plugin.dll+0x864e7e>)
~Dr.M~ # 4 libqt4_plugin.dll! +0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
~Dr.M~ # 5 libqt4_plugin.dll! +0x0 (0x00000000745d2f89 <libqt4_plugin.dll+0x692f89>)
~Dr.M~ # 6 libqt4_plugin.dll! +0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
~Dr.M~ # 7 libqt4_plugin.dll! +0x0 (0x00000000745d3d4d <libqt4_plugin.dll+0x693d4d>)
```

```
Símbolo del sistema

~Dr.M~ Error #2: LEAK 112 direct bytes 0x000000008aa410-0x0000000008aa480 + 2122 indirect bytes
~Dr.M~ # 0 replace_malloc [d:\drmemory_package\common\alloc_replace.c:2576]
~Dr.M~ # 1 libqt4_plugin.dll! +0x0 (0x000000007449fe4b <libqt4_plugin.dll+0x55fe4b>)
~Dr.M~ # 2 libqt4_plugin.dll! +0x0 (0x00000000744b4238 <libqt4_plugin.dll+0x574238>)
~Dr.M~ # 3 libqt4_plugin.dll! +0x0 (0x00000000747a4e7e <libqt4_plugin.dll+0x864e7e>)
~Dr.M~ # 4 libqt4_plugin.dll! +0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
~Dr.M~ # 5 libqt4_plugin.dll! +0x0 (0x00000000745d2f89 <libqt4_plugin.dll+0x692f89>)
~Dr.M~ # 6 libqt4_plugin.dll! +0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
~Dr.M~ # 7 libqt4_plugin.dll! +0x0 (0x00000000745d3d4d <libqt4_plugin.dll+0x693d4d>)
~Dr.M~ # 8 libqt4_plugin.dll! +0x0 (0x00000000746a6223 <libqt4_plugin.dll+0x766223>)
~Dr.M~ # 9 libqt4_plugin.dll! +0x0 (0x00000000745e18ac <libqt4_plugin.dll+0x6a18ac>)
~Dr.M~ #10 libqt4_plugin.dll! +0x0 (0x00000000745d43cb <libqt4_plugin.dll+0x6943cb>)
~Dr.M~ #11 libqt4_plugin.dll! +0x0 (0x00000000744086b8 <libqt4_plugin.dll+0x4c86b8>)
~Dr.M~
~Dr.M~ Error #3: POSSIBLE LEAK 624 direct bytes 0x0000000008b5740-0x0000000008b59b0 + 2612 indirect bytes
~Dr.M~ # 0 replace_malloc [d:\drmemory_package\common\alloc_replace.c:2576]
~Dr.M~ # 1 libqt4_plugin.dll! +0x0 (0x00000000745d3d4d <libqt4_plugin.dll+0x693d4d>)
~Dr.M~ # 2 libqt4_plugin.dll! +0x0 (0x00000000745d4416 <libqt4_plugin.dll+0x694416>)
~Dr.M~ # 3 libqt4_plugin.dll! +0x0 (0x00000000746b16bb <libqt4_plugin.dll+0x7716bb>)
~Dr.M~ # 4 libqt4_plugin.dll! +0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
~Dr.M~ # 5 libqt4_plugin.dll! +0x0 (0x0000000074007f81 <libqt4_plugin.dll+0xc7f81>)
~Dr.M~ # 6 replace_native_xfer_stack_adjust [d:\drmemory_package\dynamorio\ext\drwrap\drwrap.c:1529]
~Dr.M~ # 7 libqt4_plugin.dll! +0x0 (0x000000007400852d <libqt4_plugin.dll+0xc852d>)
~Dr.M~ # 8 libqt4_plugin.dll! +0x0 (0x0000000074246722 <libqt4_plugin.dll+0x306722>)
~Dr.M~ # 9 libqt4_plugin.dll! +0x0 (0x00000000742412a2 <libqt4_plugin.dll+0x3012a2>)
~Dr.M~ #10 libqt4_plugin.dll! +0x0 (0x0000000073f590e1 <libqt4_plugin.dll+0x190e1>)
~Dr.M~ #11 libqt4_plugin.dll! +0x0 (0x0000000074764698 <libqt4_plugin.dll+0x824698>)
~Dr.M~
~Dr.M~ Error #4: LEAK 312 direct bytes 0x0000000008b5c40-0x0000000008b5d78 + 1788 indirect bytes
~Dr.M~ # 0 replace_malloc [d:\drmemory_package\common\alloc_replace.c:2576]
```

Tomando como punto de partida el error número 1, el cuál es (tomando del archivo de texto generado por el programa):

Error #1: LEAK 44 direct bytes 0x0000000008a6170-0x0000000008a619c + 0 indirect bytes

```
# 0 replace_malloc      [d:\drmmemory_package\common\alloc_replace.c:2576]
# 1 libqt4_plugin.dll!?  +0x0    (0x00000000743e1ba3 <libqt4_plugin.dll+0x4a1ba3>)
# 2 libqt4_plugin.dll!?  +0x0    (0x0000000074402131 <libqt4_plugin.dll+0x4c2131>)
# 3 libqt4_plugin.dll!?  +0x0    (0x00000000742bd70c <libqt4_plugin.dll+0x37d70c>)
# 4 libqt4_plugin.dll!?  +0x0    (0x00000000742bd601 <libqt4_plugin.dll+0x37d601>)
# 5 libqt4_plugin.dll!?  +0x0    (0x00000000744086b8 <libqt4_plugin.dll+0x4c86b8>)
# 6 libqt4_plugin.dll!?  +0x0    (0x00000000744086b8 <libqt4_plugin.dll+0x4c86b8>)
# 7 libqt4_plugin.dll!?  +0x0    (0x000000007466748b <libqt4_plugin.dll+0x72748b>)
# 8 libqt4_plugin.dll!?  +0x0    (0x0000000074667695 <libqt4_plugin.dll+0x727695>)
# 9 libqt4_plugin.dll!?  +0x0    (0x0000000074403599 <libqt4_plugin.dll+0x4c3599>)
#10 libqt4_plugin.dll!?  +0x0    (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
#11 libqt4_plugin.dll!?  +0x0    (0x00000000740080b6 <libqt4_plugin.dll+0xc80b6>)
```

Basándome en la documentación del programa, la línea uno nos hace señalamiento de un error, tipo LEAK (fuga), y específicamente un MEMORY LEAK, que es distinto a un HANDLE LEAK o a un POSSIBLE LEAK. Esto quiere decir que tenemos un segmento de memoria que definitivamente no puede ser accedido por la aplicación.

Según la documentación también divide dichos leaks en directos e indirectos. Una *indirect leak* (fuga indirecta) es un *heap object* (objeto montón), que puede ser accesible por un puntero a su dirección de memoria donde inicia. Pero con punteros que a su vez se originan en *leaked objects* (objetos filtrados). Los leaks pueden verse como árboles, el objeto que se encuentra en el nivel superior será el *direct leak*, y las ramas por consiguiente serán *indirect leaks*.

Dr. Memory indica el tamaño de todas las fugas indirectas, por cada fuga directa. Por eso tenemos un rango de memoria en la primera línea: 0x0000000008a6170-0x0000000008a619.

Y después de ello una lista de detalles del segmento del proceso más su dirección de memoria, todo enumerado.

Y así podríamos resumir las 100 líneas aproximadamente de entradas y salidas del sistema que marcó Dr Memory. Sin embargo, voy a analizar las últimas 16 líneas ya que marco algo distinto:

```
Símbolo del sistema
~Dr.M~
~Dr.M~ ERRORS FOUND:
~Dr.M~      0 unique,      0 total unaddressable access(es)
~Dr.M~      0 unique,      0 total invalid heap argument(s)
~Dr.M~      0 unique,      0 total GDI usage error(s)
~Dr.M~      0 unique,      0 total handle leak(s)
~Dr.M~      0 unique,      0 total warning(s)
~Dr.M~     14 unique,     15 total, 16254 byte(s) of leak(s)
~Dr.M~      2 unique,     14 total,  4692 byte(s) of possible leak(s)
~Dr.M~ ERRORS IGNORED:
~Dr.M~     489 potential error(s) (suspected false positives)
~Dr.M~       (details: C:\Users\USER\AppData\Roaming\Dr. Memory\DrMemory-vlc.exe.3364.000\potential_errors.txt)
~Dr.M~      73 potential leak(s) (suspected false positives)
~Dr.M~       (details: C:\Users\USER\AppData\Roaming\Dr. Memory\DrMemory-vlc.exe.3364.000\potential_errors.txt)
~Dr.M~    1979 unique, 4398 total, 2516558 byte(s) of still-reachable allocation(s)
~Dr.M~       (re-run with "-show_reachable" for details)
~Dr.M~ Details: C:\Users\USER\AppData\Roaming\Dr. Memory\DrMemory-vlc.exe.3364.000\results.txt

C:\Program Files (x86)\Dr. Memory\bin>
C:\Program Files (x86)\Dr. Memory\bin>
C:\Program Files (x86)\Dr. Memory\bin>l
"l" no se reconoce como un comando interno o externo,
programa o archivo por lotes ejecutable.

C:\Program Files (x86)\Dr. Memory\bin>
C:\Program Files (x86)\Dr. Memory\bin>
C:\Program Files (x86)\Dr. Memory\bin>
C:\Program Files (x86)\Dr. Memory\bin>
C:\Program Files (x86)\Dr. Memory\bin>
C:\Program Files (x86)\Dr. Memory\bin>
```

Primero nos da detalles de los errores encontrados, en ERRORS FOUND. Que de hecho son todos los errores que se pueden encontrar detallados en la documentación de Dr. Memory:

1. Unaddressable access(es)
2. Invalid heap argument(s)
3. GDI usage error(s)
4. Handle leak(s)
5. Warning(s): no son errores, solo advertencias.

Después nos da los detalles de los errores que sí encontró, ya que todos los demás aparecen en 0. Que fueron los de LEAKS, 14 en total, con 16254 bytes que ocuparon en la memoria dichos errores. Y los POSSIBLE LEAKS, con 2 errores de este tipo y 4692 bytes que ocuparon en la memoria.

Y por último aparecen los ERRORS IGNORED (errores ignorados). Primero nos da el número de POTENTIAL ERRORS, y la dirección en donde se encuentra el archivo donde guardó los detalles. Después los POTENTIAL LEAKS con la respectiva dirección del archivo de texto donde se guardaron los detalles.

Y las últimas 3 líneas son detalles acerca de la cantidad de bytes que aún son locaciones de memoria accesibles. Un comando `-show_reachable` con el que podemos correr el programa nuevamente para que nos muestre detalles acerca de dichas locaciones. Y por último, como ya había mencionado, la dirección del archivo de texto donde se guarda todo lo mostrado en el shell. El cual incluyo a continuación y con lo que finalizó.

Dr. Memory version 1.11.0 build 2 built on Aug 29 2016 02:41:18

Dr. Memory results for pid 3364: "vlc.exe"

Application cmdline: ""C:\Program Files\VideoLAN\VLC\vlc.exe""

Recorded 115 suppression(s) from default C:\Program Files (x86)\Dr. Memory\bin64\suppress-default.txt

WARNING: application is missing line number information.

Error #1: LEAK 44 direct bytes 0x00000000008a6170-0x00000000008a619c + 0 indirect bytes

# 0	replace_malloc	[d:\drmemory_package\common\alloc_replace.c:2576]
# 1	libqt4_plugin.dll!?	+0x0 (0x00000000743e1ba3 <libqt4_plugin.dll+0x4a1ba3>)
# 2	libqt4_plugin.dll!?	+0x0 (0x0000000074402131 <libqt4_plugin.dll+0x4c2131>)
# 3	libqt4_plugin.dll!?	+0x0 (0x00000000742bd70c <libqt4_plugin.dll+0x37d70c>)
# 4	libqt4_plugin.dll!?	+0x0 (0x00000000742bd601 <libqt4_plugin.dll+0x37d601>)
# 5	libqt4_plugin.dll!?	+0x0 (0x00000000744086b8 <libqt4_plugin.dll+0x4c86b8>)
# 6	libqt4_plugin.dll!?	+0x0 (0x00000000744086b8 <libqt4_plugin.dll+0x4c86b8>)
# 7	libqt4_plugin.dll!?	+0x0 (0x000000007466748b <libqt4_plugin.dll+0x72748b>)
# 8	libqt4_plugin.dll!?	+0x0 (0x0000000074667695 <libqt4_plugin.dll+0x727695>)
# 9	libqt4_plugin.dll!?	+0x0 (0x0000000074403599 <libqt4_plugin.dll+0x4c3599>)
#10	libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
#11	libqt4_plugin.dll!?	+0x0 (0x00000000740080b6 <libqt4_plugin.dll+0xc80b6>)

Error #2: LEAK 112 direct bytes 0x00000000008aa410-0x00000000008aa480 + 2122 indirect bytes

# 0	replace_malloc	[d:\drmemory_package\common\alloc_replace.c:2576]
# 1	libqt4_plugin.dll!?	+0x0 (0x000000007449fe4b <libqt4_plugin.dll+0x55fe4b>)
# 2	libqt4_plugin.dll!?	+0x0 (0x00000000744b4238 <libqt4_plugin.dll+0x574238>)
# 3	libqt4_plugin.dll!?	+0x0 (0x00000000747a4e7e <libqt4_plugin.dll+0x864e7e>)
# 4	libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 5	libqt4_plugin.dll!?	+0x0 (0x00000000745d2f89 <libqt4_plugin.dll+0x692f89>)
# 6	libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 7	libqt4_plugin.dll!?	+0x0 (0x00000000745d3d4d <libqt4_plugin.dll+0x693d4d>)

# 8 libqt4_plugin.dll!?	+0x0	(0x00000000746a6223 <libqt4_plugin.dll+0x766223>)
# 9 libqt4_plugin.dll!?	+0x0	(0x00000000745e18ac <libqt4_plugin.dll+0x6a18ac>)
#10 libqt4_plugin.dll!?	+0x0	(0x00000000745d43cb <libqt4_plugin.dll+0x6943cb>)
#11 libqt4_plugin.dll!?	+0x0	(0x00000000744086b8 <libqt4_plugin.dll+0x4c86b8>)

Error #3: POSSIBLE LEAK 624 direct bytes 0x00000000008b5740-0x00000000008b59b0 + 2612 indirect bytes

# 0 replace_malloc		[d:\drmmemory_package\common\alloc_replace.c:2576]
# 1 libqt4_plugin.dll!?	+0x0	(0x00000000745d3d4d <libqt4_plugin.dll+0x693d4d>)
# 2 libqt4_plugin.dll!?	+0x0	(0x00000000745d4416 <libqt4_plugin.dll+0x694416>)
# 3 libqt4_plugin.dll!?	+0x0	(0x00000000746b16bb <libqt4_plugin.dll+0x7716bb>)
# 4 libqt4_plugin.dll!?	+0x0	(0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 5 libqt4_plugin.dll!?	+0x0	(0x0000000074007f81 <libqt4_plugin.dll+0xc7f81>)
# 6 replace_native_xfer_stack_adjust		[d:\drmmemory_package\dynamorio\ext\drwrap\drwrap.c:1529]
# 7 libqt4_plugin.dll!?	+0x0	(0x000000007400852d <libqt4_plugin.dll+0xc852d>)
# 8 libqt4_plugin.dll!?	+0x0	(0x0000000074246722 <libqt4_plugin.dll+0x306722>)
# 9 libqt4_plugin.dll!?	+0x0	(0x00000000742412a2 <libqt4_plugin.dll+0x3012a2>)
#10 libqt4_plugin.dll!?	+0x0	(0x0000000073f590e1 <libqt4_plugin.dll+0x190e1>)
#11 libqt4_plugin.dll!?	+0x0	(0x0000000074764698 <libqt4_plugin.dll+0x824698>)

Error #4: LEAK 312 direct bytes 0x00000000008b5c40-0x00000000008b5d78 + 1788 indirect bytes

# 0 replace_malloc		[d:\drmmemory_package\common\alloc_replace.c:2576]
# 1 libqt4_plugin.dll!?	+0x0	(0x00000000745d3d4d <libqt4_plugin.dll+0x693d4d>)
# 2 libqt4_plugin.dll!?	+0x0	(0x00000000745d4416 <libqt4_plugin.dll+0x694416>)
# 3 libvlccore.dll!?	+0x0	(0x000000007578accb <libvlccore.dll+0x9accb>)
# 4 libqt4_plugin.dll!?	+0x0	(0x00000000745c77d1 <libqt4_plugin.dll+0x6877d1>)
# 5 libqt4_plugin.dll!?	+0x0	(0x000000007460795f <libqt4_plugin.dll+0x6c795f>)
# 6 libqt4_plugin.dll!?	+0x0	(0x0000000073f41e79 <libqt4_plugin.dll+0x1e79>)
# 7 libvlccore.dll!?	+0x0	(0x000000007578b2f3 <libvlccore.dll+0x9b2f3>)
# 8 msvcrt.dll!beginthreadex		
# 9 msvcrt.dll!endthreadex		

#10 KERNEL32.dll!BaseThreadInitThunk +0x13 (0x00007ffba2428364 <KERNEL32.dll+0x8364>)

Error #5: LEAK 328 direct bytes 0x00000000008b6020-0x00000000008b6168 + 328 indirect bytes

# 0	replace_malloc	[d:\drmmemory_package\common\alloc_replace.c:2576]
# 1	libqt4_plugin.dll!?	+0x0 (0x00000000744c4c90 <libqt4_plugin.dll+0x584c90>)
# 2	libqt4_plugin.dll!?	+0x0 (0x0000000074408a76 <libqt4_plugin.dll+0x4c8a76>)
# 3	libqt4_plugin.dll!?	+0x0 (0x00000000745d600d <libqt4_plugin.dll+0x69600d>)
# 4	libqt4_plugin.dll!?	+0x0 (0x0000000074212c7e <libqt4_plugin.dll+0x2d2c7e>)
# 5	libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 6	libqt4_plugin.dll!?	+0x0 (0x00000000742135ea <libqt4_plugin.dll+0x2d35ea>)
# 7	libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 8	libqt4_plugin.dll!?	+0x0 (0x0000000074008566 <libqt4_plugin.dll+0xc8566>)
# 9	libqt4_plugin.dll!?	+0x0 (0x0000000074246722 <libqt4_plugin.dll+0x306722>)
#10	libqt4_plugin.dll!?	+0x0 (0x00000000742412a2 <libqt4_plugin.dll+0x3012a2>)
#11	libqt4_plugin.dll!?	+0x0 (0x0000000073f590e1 <libqt4_plugin.dll+0x190e1>)

Error #6: LEAK 112 direct bytes 0x00000000008e8ee0-0x00000000008e8f50 + 7072 indirect bytes

# 0	replace_malloc	[d:\drmmemory_package\common\alloc_replace.c:2576]
# 1	libqt4_plugin.dll!?	+0x0 (0x00000000743df814 <libqt4_plugin.dll+0x49f814>)
# 2	libqt4_plugin.dll!?	+0x0 (0x00000000744c4c90 <libqt4_plugin.dll+0x584c90>)
# 3	libqt4_plugin.dll!?	+0x0 (0x0000000074412219 <libqt4_plugin.dll+0x4d2219>)
# 4	libqt4_plugin.dll!?	+0x0 (0x00000000744035fd <libqt4_plugin.dll+0x4c35fd>)
# 5	libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 6	libqt4_plugin.dll!?	+0x0 (0x00000000743ff233 <libqt4_plugin.dll+0x4bf233>)
# 7	libqt4_plugin.dll!?	+0x0 (0x00000000743df3f8 <libqt4_plugin.dll+0x49f3f8>)
# 8	libqt4_plugin.dll!?	+0x0 (0x000000007443b5b7 <libqt4_plugin.dll+0x4fb5b7>)
# 9	libqt4_plugin.dll!?	+0x0 (0x000000007440896b <libqt4_plugin.dll+0x4c896b>)
#10	libqt4_plugin.dll!?	+0x0 (0x0000000074402131 <libqt4_plugin.dll+0x4c2131>)
#11	libqt4_plugin.dll!?	+0x0 (0x00000000747912ab <libqt4_plugin.dll+0x8512ab>)

Error #7: LEAK 128 direct bytes 0x00000000008e9c10-0x00000000008e9c90 + 0 indirect bytes

# 0	replace_realloc	[d:\drmmemory_package\common\alloc_replace.c:2668]
# 1	KERNELBASE.dll!WideCharToMultiByte	+0x2d0 (0x00007ffb9feb8ed1 <KERNELBASE.dll+0x18ed1>)
# 2	libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 3	libqt4_plugin.dll!?	+0x0 (0x00000000741dfd40 <libqt4_plugin.dll+0x29fd40>)
# 4	libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 5	libqt4_plugin.dll!?	+0x0 (0x0000000074007f81 <libqt4_plugin.dll+0xc7f81>)
# 6	replace_native_xfer_stack_adjust	[d:\drmmemory_package\dynamorio\ext\drwrap\drwrap.c:1529]
# 7	libqt4_plugin.dll!?	+0x0 (0x000000007400852d <libqt4_plugin.dll+0xc852d>)
# 8	libqt4_plugin.dll!?	+0x0 (0x0000000074246722 <libqt4_plugin.dll+0x306722>)
# 9	libqt4_plugin.dll!?	+0x0 (0x00000000742412a2 <libqt4_plugin.dll+0x3012a2>)
#10	libqt4_plugin.dll!?	+0x0 (0x0000000073f590e1 <libqt4_plugin.dll+0x190e1>)
#11	libqt4_plugin.dll!?	+0x0 (0x0000000074764698 <libqt4_plugin.dll+0x824698>)

Error #8: LEAK 64 direct bytes 0x00000000008f20c0-0x00000000008f2100 + 0 indirect bytes

# 0	replace_malloc	[d:\drmmemory_package\common\alloc_replace.c:2576]
# 1	USER32.dll!CallWindowProcW	+0x6ed (0x00007ffba2221e1e <USER32.dll+0x11e1e>)
# 2	libqt4_plugin.dll!?	+0x0 (0x00000000745e18ac <libqt4_plugin.dll+0x6a18ac>)
# 3	libqt4_plugin.dll!?	+0x0 (0x00000000745d2f89 <libqt4_plugin.dll+0x692f89>)
# 4	libqt4_plugin.dll!?	+0x0 (0x0000000074413499 <libqt4_plugin.dll+0x4d3499>)
# 5	libqt4_plugin.dll!?	+0x0 (0x00000000746a6223 <libqt4_plugin.dll+0x766223>)
# 6	libqt4_plugin.dll!?	+0x0 (0x00000000743fe79f <libqt4_plugin.dll+0x4be79f>)
# 7	libqt4_plugin.dll!?	+0x0 (0x00000000745dc209 <libqt4_plugin.dll+0x69c209>)
# 8	libqt4_plugin.dll!?	+0x0 (0x0000000074216e20 <libqt4_plugin.dll+0x2d6e20>)
# 9	libqt4_plugin.dll!?	+0x0 (0x00000000742bd601 <libqt4_plugin.dll+0x37d601>)
#10	libqt4_plugin.dll!?	+0x0 (0x0000000074404d91 <libqt4_plugin.dll+0x4c4d91>)
#11	libqt4_plugin.dll!?	+0x0 (0x0000000074412248 <libqt4_plugin.dll+0x4d2248>)

Error #9: LEAK 24 direct bytes 0x00000000008f3aa0-0x00000000008f3ab8 + 80 indirect bytes

# 0	replace_malloc	[d:\drmmemory_package\common\alloc_replace.c:2576]
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# 1 libqt4_plugin.dll!?	+0x0	(0x0000000074710e51 <libqt4_plugin.dll+0x7d0e51>)
# 2 libqt4_plugin.dll!?	+0x0	(0x0000000074288021 <libqt4_plugin.dll+0x348021>)
# 3 libqt4_plugin.dll!?	+0x0	(0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 4 libqt4_plugin.dll!?	+0x0	(0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 5 libqt4_plugin.dll!?	+0x0	(0x00000000745d7bca <libqt4_plugin.dll+0x697bca>)
# 6 libqt4_plugin.dll!?	+0x0	(0x00000000745c6f20 <libqt4_plugin.dll+0x686f20>)
# 7 libqt4_plugin.dll!?	+0x0	(0x00000000742807cb <libqt4_plugin.dll+0x3407cb>)
# 8 libqt4_plugin.dll!?	+0x0	(0x000000007428e6ca <libqt4_plugin.dll+0x34e6ca>)
# 9 libqt4_plugin.dll!?	+0x0	(0x0000000074710e51 <libqt4_plugin.dll+0x7d0e51>)
#10 libqt4_plugin.dll!?	+0x0	(0x000000007428e839 <libqt4_plugin.dll+0x34e839>)
#11 libqt4_plugin.dll!?	+0x0	(0x00000000745e18ac <libqt4_plugin.dll+0x6a18ac>)

Error #10: POSSIBLE LEAK 112 direct bytes 0x0000000002c34d20-0x0000000002c34d90 + 0 indirect bytes

# 0 replace_RtlAllocateHeap	[d:\drmmemory_package\common\alloc_replace.c:3770]
# 1 msvcrt.dll!read	
# 2 KERNELBASE.dll!LoadLibraryExW	+0x16e (0x00007ffb9fec484f <KERNELBASE.dll+0x2484f>)
# 3 libvlccore.dll!?	+0x0 (0x000000007578a1fc <libvlccore.dll+0x9a1fc>)
# 4 libvlccore.dll!?	+0x0 (0x000000007576c1ea <libvlccore.dll+0x7c1ea>)
# 5 libvlccore.dll!?	+0x0 (0x0000000075769e45 <libvlccore.dll+0x79e45>)
# 6 libvlccore.dll!?	+0x0 (0x000000007576a1ba <libvlccore.dll+0x7a1ba>)
# 7 libvlccore.dll!?	+0x0 (0x000000007576a67e <libvlccore.dll+0x7a67e>)
# 8 libvlccore.dll!?	+0x0 (0x000000007570518d <libvlccore.dll+0x1518d>)
# 9 libvlccore.dll!?	+0x0 (0x000000007578b2f3 <libvlccore.dll+0x9b2f3>)
#10 msvcrt.dll!beginthreadex	
#11 msvcrt.dll!endthreadex	

Error #11: LEAK 1128 direct bytes 0x0000000002d701c0-0x0000000002d70628 + 564 indirect bytes

# 0 replace_RtlAllocateHeap	[d:\drmmemory_package\common\alloc_replace.c:3770]
# 1 libqt4_plugin.dll!?	+0x0 (0x0000000074310f31 <libqt4_plugin.dll+0x3d0f31>)
# 2 libqt4_plugin.dll!?	+0x0 (0x0000000074312db3 <libqt4_plugin.dll+0x3d2db3>)

# 3 Windows.Storage.dll!AssocCreateForClasses	+0x2ade	(0x00007ffb9f85b58f <Windows.Storage.dll+0x10b58f>)
# 4 Windows.Storage.dll!SHGetSpecialFolderPathA	+0x14a9	(0x00007ffb9f90c5ba <Windows.Storage.dll+0x1bc5ba>)
# 5 Windows.Storage.dll!CShellItemArrayAsCollection_CreateInstance	+0x1dce	(0x00007ffb9f82d09f <Windows.Storage.dll+0xdd09f>)
# 6 KERNELBASE.dll!GetVersionExW	+0x54	(0x00007ffb9fefcd85 <KERNELBASE.dll+0x5cd85>)
# 7 KERNELBASE.dll!SHCoCreateInstance	+0x44	(0x00007ffb9ff01cf5 <KERNELBASE.dll+0x61cf5>)
# 8 KERNELBASE.dll!QISearch	+0x82	(0x00007ffb9fee7523 <KERNELBASE.dll+0x47523>)
# 9 Windows.Storage.dll!SHGetFolderPathW	+0x6e9a	(0x00007ffb9f7d2bab <Windows.Storage.dll+0x82bab>)
#10 Windows.Storage.dll!SHGetFolderPathW	+0x6eb5	(0x00007ffb9f7d2bc6 <Windows.Storage.dll+0x82bc6>)
#11 Windows.Storage.dll!SHGetFolderPathW	+0x111a7	(0x00007ffb9f7dceb8 <Windows.Storage.dll+0x8ceb8>)

Error #12: LEAK 32 direct bytes 0x0000000003072850-0x0000000003072870 + 96 indirect bytes

# 0 replace_malloc	[d:\drmmemory_package\common\alloc_replace.c:2576]
# 1 libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 2 libqt4_plugin.dll!?	+0x0 (0x00000000745d2faa <libqt4_plugin.dll+0x692faa>)
# 3 libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 4 libqt4_plugin.dll!?	+0x0 (0x00000000745d3d4d <libqt4_plugin.dll+0x693d4d>)
# 5 libqt4_plugin.dll!?	+0x0 (0x00000000746a6223 <libqt4_plugin.dll+0x766223>)
# 6 libqt4_plugin.dll!?	+0x0 (0x00000000745d43cb <libqt4_plugin.dll+0x6943cb>)
# 7 libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 8 libqt4_plugin.dll!?	+0x0 (0x00000000744086b8 <libqt4_plugin.dll+0x4c86b8>)
# 9 libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
#10 libqt4_plugin.dll!?	+0x0 (0x0000000074280684 <libqt4_plugin.dll+0x340684>)
#11 libqt4_plugin.dll!?	+0x0 (0x00000000746891f7 <libqt4_plugin.dll+0x7491f7>)

Error #13: LEAK 32 direct bytes 0x00000000030cb030-0x00000000030cb050 + 1096 indirect bytes

# 0	replace_malloc	[d:\drmmemory_package\common\alloc_replace.c:2576]
# 1	libqt4_plugin.dll!?	+0x0 (0x000000007449fe4b <libqt4_plugin.dll+0x55fe4b>)
# 2	libqt4_plugin.dll!?	+0x0 (0x000000007449fe4b <libqt4_plugin.dll+0x55fe4b>)
# 3	libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 4	libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 5	libqt4_plugin.dll!?	+0x0 (0x00000000745d2faa <libqt4_plugin.dll+0x692faa>)
# 6	libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 7	libqt4_plugin.dll!?	+0x0 (0x00000000745d3d4d <libqt4_plugin.dll+0x693d4d>)
# 8	libqt4_plugin.dll!?	+0x0 (0x00000000746a6223 <libqt4_plugin.dll+0x766223>)
# 9	libqt4_plugin.dll!?	+0x0 (0x00000000745e18ac <libqt4_plugin.dll+0x6a18ac>)
#10	libqt4_plugin.dll!?	+0x0 (0x00000000745d43cb <libqt4_plugin.dll+0x6943cb>)
#11	libqt4_plugin.dll!?	+0x0 (0x00000000744086b8 <libqt4_plugin.dll+0x4c86b8>)

Error #14: LEAK 32 direct bytes 0x00000000030e3660-0x00000000030e3680 + 80 indirect bytes

# 0	replace_malloc	[d:\drmmemory_package\common\alloc_replace.c:2576]
# 1	libqt4_plugin.dll!?	+0x0 (0x0000000074662f40 <libqt4_plugin.dll+0x722f40>)
# 2	libqt4_plugin.dll!?	+0x0 (0x00000000745f93a8 <libqt4_plugin.dll+0x6b93a8>)
# 3	libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 4	libqt4_plugin.dll!?	+0x0 (0x00000000745f993d <libqt4_plugin.dll+0x6b993d>)
# 5	libqt4_plugin.dll!?	+0x0 (0x0000000074628c63 <libqt4_plugin.dll+0x6e8c63>)
# 6	libqt4_plugin.dll!?	+0x0 (0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 7	libqt4_plugin.dll!?	+0x0 (0x00000000743d8c4a <libqt4_plugin.dll+0x498c4a>)
# 8	libqt4_plugin.dll!?	+0x0 (0x00000000745e18ac <libqt4_plugin.dll+0x6a18ac>)
# 9	libqt4_plugin.dll!?	+0x0 (0x00000000743d8dba <libqt4_plugin.dll+0x498dba>)
#10	libqt4_plugin.dll!?	+0x0 (0x0000000074403599 <libqt4_plugin.dll+0x4c3599>)
#11	libqt4_plugin.dll!?	+0x0 (0x00000000740080f6 <libqt4_plugin.dll+0xc80f6>)

Error #15: LEAK 112 direct bytes 0x0000000003108620-0x0000000003108690 + 64 indirect bytes

# 0	replace_malloc	[d:\drmmemory_package\common\alloc_replace.c:2576]
# 1	libqt4_plugin.dll!?	+0x0 (0x00000000743df814 <libqt4_plugin.dll+0x49f814>)

# 2 libqt4_plugin.dll!?	+0x0	(0x000000007478bafb <libqt4_plugin.dll+0x84bafb>)
# 3 libqt4_plugin.dll!?	+0x0	(0x00000000747c1d5c <libqt4_plugin.dll+0x881d5c>)
# 4 libqt4_plugin.dll!?	+0x0	(0x00000000743ff233 <libqt4_plugin.dll+0x4bf233>)
# 5 libqt4_plugin.dll!?	+0x0	(0x00000000743df3f8 <libqt4_plugin.dll+0x49f3f8>)
# 6 libqt4_plugin.dll!?	+0x0	(0x000000007443b5b7 <libqt4_plugin.dll+0x4fb5b7>)
# 7 libqt4_plugin.dll!?	+0x0	(0x000000007440896b <libqt4_plugin.dll+0x4c896b>)
# 8 libqt4_plugin.dll!?	+0x0	(0x0000000074402131 <libqt4_plugin.dll+0x4c2131>)
# 9 libqt4_plugin.dll!?	+0x0	(0x00000000744091e7 <libqt4_plugin.dll+0x4c91e7>)
#10 libqt4_plugin.dll!?	+0x0	(0x00000000744086b8 <libqt4_plugin.dll+0x4c86b8>)
#11 libqt4_plugin.dll!?	+0x0	(0x00000000744097a7 <libqt4_plugin.dll+0x4c97a7>)

Error #16: LEAK 400 direct bytes 0x00000000093a0f10-0x00000000093a10a0 + 0 indirect bytes

# 0 replace_RtlAllocateHeap	[d:\drmmemory_package\common\alloc_replace.c:3770]
# 1 combase.dll!RoGetAgileReference	+0xf0d (0x00007ffba010878e <combase.dll+0x4878e>)
# 2 combase.dll!WindowsCompareStringOrdinal	+0x7ca2 (0x00007ffba0106e83 <combase.dll+0x46e83>)
# 3 libqt4_plugin.dll!?	+0x0 (0x00000000743e29c5 <libqt4_plugin.dll+0x4a29c5>)
# 4 libqt4_plugin.dll!?	+0x0 (0x00000000743e29de <libqt4_plugin.dll+0x4a29de>)
# 5 libqt4_plugin.dll!?	+0x0 (0x00000000743df113 <libqt4_plugin.dll+0x49f113>)
# 6 libqt4_plugin.dll!?	+0x0 (0x00000000744f12d1 <libqt4_plugin.dll+0x5b12d1>)
# 7 libqt4_plugin.dll!?	+0x0 (0x00000000743df41b <libqt4_plugin.dll+0x49f41b>)
# 8 libqt4_plugin.dll!?	+0x0 (0x000000007440896b <libqt4_plugin.dll+0x4c896b>)
# 9 libqt4_plugin.dll!?	+0x0 (0x0000000074409230 <libqt4_plugin.dll+0x4c9230>)
#10 libqt4_plugin.dll!?	+0x0 (0x00000000743e1073 <libqt4_plugin.dll+0x4a1073>)
#11 libqt4_plugin.dll!?	+0x0 (0x00000000745e18ac <libqt4_plugin.dll+0x6a18ac>)

=====

FINAL SUMMARY:

DUPLICATE ERROR COUNTS:

Error # 9: 2

SUPPRESSIONS USED:

ERRORS FOUND:

0 unique, 0 total unaddressable access(es)

0 unique, 0 total invalid heap argument(s)

0 unique, 0 total GDI usage error(s)

0 unique, 0 total handle leak(s)

0 unique, 0 total warning(s)

14 unique, 15 total, 16254 byte(s) of leak(s)

2 unique, 14 total, 4692 byte(s) of possible leak(s)

ERRORS IGNORED:

489 potential error(s) (suspected false positives)

(details: C:\Users\USER\AppData\Roaming\Dr. Memory\DrMemory-vlc.exe.3364.000\potential_errors.txt)

73 potential leak(s) (suspected false positives)

(details: C:\Users\USER\AppData\Roaming\Dr. Memory\DrMemory-vlc.exe.3364.000\potential_errors.txt)

1979 unique, 4398 total, 2516558 byte(s) of still-reachable allocation(s)

(re-run with "-show_reachable" for details)

Details: C:\Users\USER\AppData\Roaming\Dr. Memory\DrMemory-vlc.exe.3364.000\results.txt