```
[0xffff976e46e0]
 /home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example external/build linux-gnu/librt checked.so(malloc+0x18) [0xffff976e3d9c]
  /lib/aarch64-linux-gnu/libstdc++.so.6(_Znwm+0x1c) [0xffff975443ac]
   /lib/aarch64-linux-gnu/libstdc++.so.6(+0x17a44c) [0xffff9761a44c]
    /lib/aarch64-linux-gnu/libstdc++.so.6(_ZNSt10filesystem7__cxx114path14_M_split_cmptsEv+0x3a8) [0xffff9761a1f8]
     ./example_external(_ZNSt10filesystem7__cxx114pathC2IA13_cS1_EERKT_NS1_6formatE+0x84) [0xaaaabc289c04]
      ./example_external(_Z13get file sizev+0x38) [0xaaaabc2885a8]
Real-time violation: intercepted call to real-time unsafe function `free` in real-time context! Stack trace:
./example_external(_Z14get_stacktraceB5cxx11v+0x3c) [0xaaaabc289464]
/home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example external/build linux-gnu/librt checked.so( Z32log function if realtime contextPKc+0x58)
[0xffff976e46e0]
 /home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example_external/build_linux-gnu/librt_checked.so(free+0x18) [0xffff976e3e40]
  ./example_external(_ZNSt10unique_ptrINSt10filesystem7__cxx114path5_List5_ImplENS3_13_Impl_deleterEED1Ev+0x50) [0xaaaabc2899b8]
   ./example_external(_ZNSt10filesystem7__cxx114path5_ListD2Ev+0x14) [0xaaaabc2891d0]
    ./example_external(_ZNSt10filesystem7__cxx114pathD1Ev+0x18) [0xaaaabc2891f4]
     ./example_external(_Z13get_file_sizev+0x50) [0xaaaabc2885c0]
Real-time violation: intercepted call to real-time unsafe function `malloc` in real-time context! Stack trace:
./example_external(_Z14get_stacktraceB5cxx11v+0x3c) [0xaaaabc289464]
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  ./example_external(_Z14do malloc freev+0x1c) [0xaaaabc288628]
Real-time violation: intercepted call to real-time unsafe function `malloc` in real-time context! Stack trace:
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  /lib/aarch64-linux-gnu/libstdc++.so.6( Znwm+0x1c) [0xffff975443ac]
   ./example_external(_ZN9__gnu_cxx13new_allocatorIiE8allocateEmPKv+0x6c) [0xaaaabc28d210]
    ./example_external(_ZNSt16allocator_traitsISaIiEE8allocateERS0_m+0x50) [0xaaaabc28c87c]
     ./example_external(_ZNSt12_Vector_baseIiSaIiEE11_M_allocateEm+0x28) [0xaaaabc28bbf8]
      ./example_external(_ZNSt6vectorIiSaIiEE7reserveEm+0x80) [0xaaaabc289dcc]
       _/example_external(_Z17do_vector_reservev+0x34) [0xaaaabc288668]
Real-time violation: intercepted call to real-time unsafe function `free` in real-time context! Stack trace:
./example_external(_Z14get_stacktraceB5cxx11v+0x3c) [0xaaaabc289464]
/home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example_external/build_linux-gnu/librt_checked.so(_Z32log_function_if_realtime_contextPKc+0x58)
 /home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example_external/build_linux-gnu/librt_checked.so(free+0x18) [0xffff976e3e40]
  ./example_external(_ZN9__gnu_cxx13new_allocatorIiE10deallocateEPim+0x28) [0xaaaabc28d168]
   /example_external(_ZNSt16allocator_traitsISaIiEE10deallocateERS0_Pim+0x58) [0xaaaabc28c73c]
    ./example_external(_ZNSt12_Vector_baseIiSaIiEE13_M_deallocateEPim+0x30) [0xaaaabc28bb14]
     ./example_external(_ZNSt12_Vector_baseIiSaIiEED1Ev+0x3c) [0xaaaabc289ce8]
```

/home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example external/build linux-gnu/librt checked.so(Z32log function if realtime contextPKc+0x58)

Real-time violation: intercepted call to real-time unsafe function `malloc` in real-time context! Stack trace:

./example external(Z14get stacktraceB5cxx11v+0x3c) [0xaaaabc289464]

./example_external(_ZNSt6vectorIiSaIiEED1Ev+0x40) [0xaaaabc289d3c]

./example_external(_Z17do_vector_reservev+0x3c) [0xaaaabc288670]

```
realtime_context rc;

get_file_size();
do_malloc_free();
do_vector_reserve();
});
```

```
Real-time violation: intercepted call to real-time unsafe function `malloc` in real-time context! Stack trace:
./example_external(_Z14get_stacktraceB5cxx11v+0x3c) [0xaaaabc289464]
/home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example external
[0xffff976e46e0]
 /home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example_externa
  /lib/aarch64-linux-gnu/libstdc++.so.6( Znwm+0x1c) [0xffff975443ac]
   /lib/aarch64-linux-gnu/libstdc++.so.6(+0x17a44c) [0xffff9761a44c]
    /lib/aarch64-linux-gnu/libstdc++.so.6(_ZNSt10filesystem7__cxx114path14_M_split_cmptsEv+0x3a8) [0xffff9761a1f8]
     ./example_external(_ZNSt10filesystem7__cxx114pathC2IA13_cS1_EERKT_NS1_6formatE+0x84) [0xaaaabc289c04]
       ./example_external(_Z13get_file_sizev+0x38) [0xaaaabc2885a8]
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./example_external(_Z14get_stacktraceB5cxx11v+0x3c) [0xaaaabc289464]
/home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example_external
[0xffff976e46e0]
  /home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example_externa
   ./example_external(_ZNSt10unique_ptrINSt10filesystem7__cxx114path5_List5_ImplENS3_13_Impl_deleterEED1Ev+0x50) [0xa
   /example_external(_ZNSt10filesystem7__cxx114path5_ListD2Ev+0x14) [0xaaaabc2891d0]
     ./example_external(_ZNSt10filesystem7__cxx114pathD1Ev+0x18) [0xaaaabc2891f4]
     ./example_external(_Z13get_file_sizev+0x50) [0xaaaabc2885c0]
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 /home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example external
[0xffff976e46e0]
 /home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example_externa
  ./example_external(_Z14do malloc freev+0x10) [0xaaaabc28861c]
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/home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example external
[0xffff976e46e0]
 /home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example_externa
  ./example_external(_Z14do_malloc_freev+0x1c) [0xaaaabc288628]
Real-time violation: intercepted call to real-time unsafe function `malloc` in real-time context! Stack trace:
./example_external(_Z14get_stacktraceB5cxx11v+0x3c) [0xaaaabc289464]
/home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example_external
[0xffff976e46e0]
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  /lib/aarch64-linux-gnu/libstdc++.so.6(_Znwm+0x1c) [0xffff975443ac]
    ./example_external(_ZN9__gnu_cxx13new_allocatorIiE8allocateEmPKv+0x6c) [0xaaaabc28d210]
     ./example_external(_ZNSt16allocator_traitsISaIiEE8allocateERS0_m+0x50) [0xaaaabc28c87c]
     ./example_external(_ZNSt12_Vector_baseIiSaIiEE11_M_allocateEm+0x28) [0xaaaabc28bbf8]
       ./example_external(_ZNSt6vectorIiSaIiEE7reserveEm+0x80) [0xaaaabc289dcc]
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/home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example external
[0xffff976e46e0]
  /home/parallels/Desktop/Parallels Shared Folders/Home/Documents/Developement/Lectures/CppOnSea 2024/example_externa
   ./example_external(_ZN9__gnu_cxx13new_allocatorIiE10deallocateEPim+0x28) [0xaaaabc28d168]
   ./example_external(_ZNSt16allocator_traitsISaIiEE10deallocateERS0_Pim+0x58) [0xaaaabc28c73c]
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     ./example external( ZNSt12 Vector baseIiSaIiEED1Ev+0x3c) [0xaaaabc289ce8]
       ./example_external(_ZNSt6vectorIiSaIiEED1Ev+0x40) [0xaaaabc289d3c]
       _/example_external(_Z17do vector reservev+0x3c) [0xaaaabc288670]
```

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```
realtime_context rc;

get_file_size();
do_malloc_free();
do_vector_reserve();
});
```

```
extern "C" int pthread_mutex_lock(pthread_mutex_t *mutex)
{
    log_function_if_realtime_context (__func__);
    static auto real_pthread_mutex_lock = (int (*)(pthread_mutex_t *))dlsym(RTLD_NEXT, "pthread_mutex_lock");
    return real_pthread_mutex_lock(mutex);
}

extern "C" int pthread_mutex_unlock(pthread_mutex_t *mutex)
{
    log_function_if_realtime_context (__func__);
    static auto real_pthread_mutex_unlock = (int (*)(pthread_mutex_t *))dlsym(RTLD_NEXT, "pthread_mutex_unlock");
    return real_pthread_mutex_unlock(mutex);
}
```