libqemu-cxx

Generated by Doxygen 1.8.13

Contents

Chapter 1

Main Page

Libqemu-cxx encapsulates QEMU as a C++ object, such that it can be instanced (for instance) within a SystemC simulation framework.

1.1 GreenSocs Build and make system

1.2 How to build

This project may be built using cmake

```
cmake -B build;pushd build; make -j; popd
```

cmake may ask for your git.greensocs.com credentials (see below for advice about passwords)

1.2.1 cmake version

cmake version 3.14 or newer is required. This can be downloaded and used as follows

```
curl -L https://github.com/Kitware/CMake/releases/download/v3.20.0-rc4/cmake-3.20.0-rc4-linux-x86_64.tar.gz
       | tar -zxf -
./cmake-3.20.0-rc4-linux-x86_64/bin/cmake
```

1.2.2 details

This project uses CPM https://github.com/cpm-cmake/CPM.cmake in order to find, and/or download missing components. In order to find locally installed SystemC, you may use the standards SystemC environment variables: SYSTEMC_HOME and CCI_HOME. CPM will use the standard CMAKE find_package mechanism to find installed packages https://cmake.org/cmake/help/latest/command/find_package.↩ html To specify a specific package location use <package>_ROOT CPM will also search along the CMAKE↩ _MODULE_PATH

Sometimes it is convenient to have your own sources used, in this case, use the CPM_<package>_SOUR↩ CE_DIR. Hence you may wish to use your own copy of SystemC CCI "bash cmake -B build -DCPM_↩ SystemCCCI_SOURCE=/path/to/your/cci/source

```
It may also be convenient to have all the source files downloaded, you may do this by running
```bash
cmake -B build -DCPM_SOURCE_CACHE=`pwd`/Packages
```

This will populate the directory Packages Note that the cmake file system will automatically use the directory called Packages as source, if it exists.

NB, CMake holds a cache of compiled modules in ~/.cmake/ Sometimes this can confuse builds. If you seem to be picking up the wrong version of a module, then it may be in this cache. It is perfectly safe to delete it.
```

1.2.2.1 Common CMake options

CMAKE_INSTALL_PREFIX : Install directory for the package and binaries. CMAKE_BUILD_TYPE : DEBUG or RELEASE

The library assumes the use of C++14, and is compatible with SystemC versions from SystemC 2.3.1a.

For a reference docker please use the following script from the top level of the Virtual Platform:

```
curl --header 'PRIVATE-TOKEN: W1Z9U8S_5BUEX1_Y29iS'
      'https://git.greensocs.com/api/v4/projects/65/repository/files/docker_vp.sh/raw?ref=master' -o docker_vp.sh
chmod +x ./docker_vp.sh
./docker_vp.sh
> cmake -B build;cd build; make -j
```

1.2.2.2 passwords for git.greensocs.com

To avoid using passwords for git.greensocs.com please add a ssh key to your git account. You may also use a key-chain manager. As a last resort, the following script will populate ∼/.git-credentials with your username and password (in plain text)

```
git config --global credential.helper store
```

1.2.3 More documentation

More documentation, including doxygen generated API documentation can be found in the /docs directory.

1.2.4 Information about building and using the libqemu-cxx library

The libgsutils library does not depend on any library.

The QEMU Library is dlopen'ed. In order to ensure that each instance is self contained, on Linux, a deep copy of the library is performed for every subsequent instance of the same library after the first. The copy is created in /tmp/qbox_lib.XXXXXX. The file is deleted once loaded. The result of this is that symbols from that library will not be accessible during debug.

If it proves necessary to debug the temporary libraries, then recompile with the flag DEBUG_TMP_LIBRARIES defined. A warning will be issued on stdio identifying the temporary library which should be deleted once used.

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Chapter 3

Class Index

3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 4

Class Documentation

4.1 qemu::AddressSpace Class Reference

Public Types

- using **MemTxResult** = MemoryRegionOps::MemTxResult
- using **MemTxAttrs** = MemoryRegionOps::MemTxAttrs

Public Member Functions

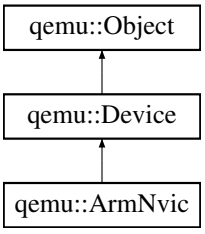
- **AddressSpace** (QemuAddressSpace *as, std::shared_ptr< LibQemuInternals > internals)
- **AddressSpace** (const AddressSpace &)=delete
- void **init** (MemoryRegion mr, const char *name)
- MemTxResult **read** (uint64_t addr, void *data, size_t size, MemTxAttrs attrs)
- MemTxResult **write** (uint64_t addr, const void *data, size_t size, MemTxAttrs attrs)

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/memory.cc

4.2 qemu::ArmNvic Class Reference

Inheritance diagram for qemu::ArmNvic:



Public Member Functions

- **ArmNvic** (const ArmNvic &)=default
- **ArmNvic** (const Object &o)
- void **add_cpu_link** ()

Static Public Attributes

- static constexpr const char *const **TYPE** = "armv7m_nvic"

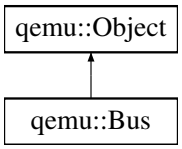
Additional Inherited Members

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/target/aarch64.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/target/aarch64.cc

4.3 qemu::Bus Class Reference

Inheritance diagram for qemu::Bus:



Public Member Functions

- **Bus** (const Bus &o)=default
- **Bus** (const Object &o)

Static Public Attributes

- static constexpr const char *const **TYPE** = "bus"

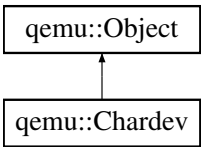
Additional Inherited Members

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h

4.4 qemu::Chardev Class Reference

Inheritance diagram for qemu::Chardev:



Public Member Functions

- **Chardev** (const Chardev &o)=default
- **Chardev** (const Object &o)

Static Public Attributes

- static constexpr const char ∗const **TYPE** = "chardev"

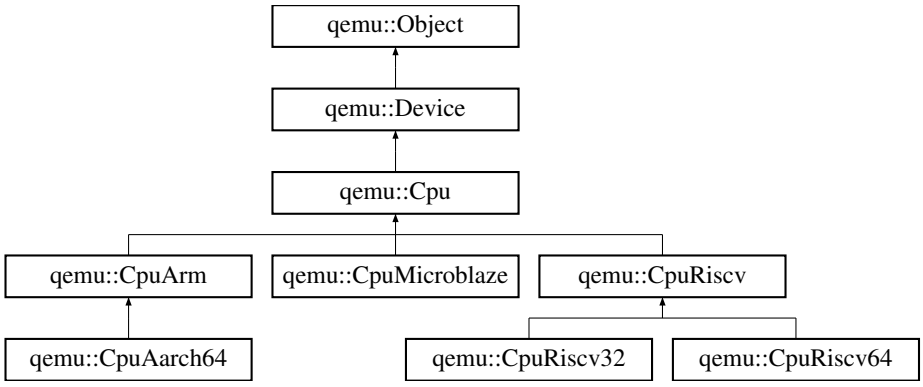
Additional Inherited Members

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h

4.5 qemu::Cpu Class Reference

Inheritance diagram for qemu::Cpu:



Public Types

- using **EndOfLoopCallbackFn** = std::function< void()>
- using **CpuKickCallbackFn** = std::function< void()>
- using **AsyncJobFn** = std::function< void()>

Public Member Functions

- **Cpu** (const Cpu &)=default
- **Cpu** (const Object &o)
- int **get_index** () const
- void **loop** ()
- bool **loop_is_busy** ()
- bool **can_run** ()
- void **set_soft_stopped** (bool stopped)
- void **halt** (bool halted)
- void **reset** ()
- void **set_unplug** (bool unplug)
- void **remove_sync** ()
- void **register_thread** ()
- Cpu **set_as_current** ()
- void **kick** ()
- void **exit_loop_from_io** ()
- void **async_run** (AsyncJobFn job)
- void **async_safe_run** (AsyncJobFn job)
- void **set_end_of_loop_callback** (EndOfLoopCallbackFn cb)
- void **set_kick_callback** (CpuKickCallbackFn cb)
- bool **is_in_exclusive_context** () const

Static Public Attributes

- static constexpr const char *const **TYPE** = "cpu"

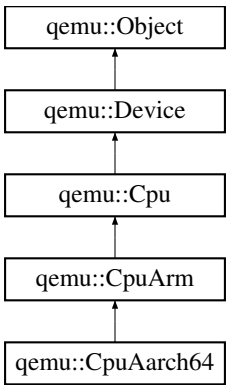
Additional Inherited Members

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/cpu.cc

4.6 qemu::CpuAarch64 Class Reference

Inheritance diagram for qemu::CpuAarch64:



Public Member Functions

- **CpuAarch64** (const CpuAarch64 &)=default
- **CpuAarch64** (const Object &o)
- void **set_aarch64_mode** (bool aarch64_mode)

Static Public Attributes

- static constexpr const char ∗const **TYPE** = "arm-cpu"

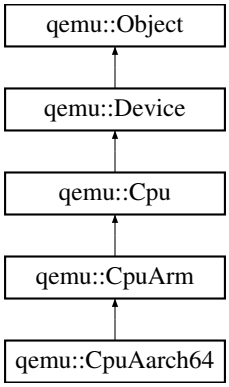
Additional Inherited Members

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/target/aarch64.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/target/aarch64.cc

4.7 qemu::CpuArm Class Reference

Inheritance diagram for qemu::CpuArm:



Public Member Functions

- **CpuArm** (const CpuArm &)=default
- **CpuArm** (const Object &o)
- void **set_cp15_cbar** (uint64_t cbar)
- void **add_nvic_link** ()
- uint64_t **get_exclusive_addr** () const
- uint64_t **get_exclusive_val** () const
- void **set_exclusive_val** (uint64_t val)

Static Public Attributes

- static constexpr const char ∗const **TYPE** = "arm-cpu"

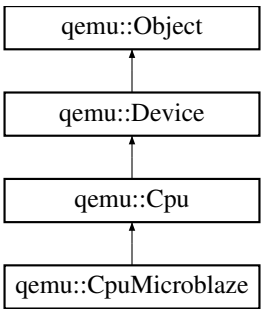
Additional Inherited Members

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/target/aarch64.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/target/aarch64.cc

4.8 qemu::CpuMicroblaze Class Reference

Inheritance diagram for qemu::CpuMicroblaze:



Public Member Functions

- **CpuMicroblaze** (const CpuMicroblaze &)=default
- **CpuMicroblaze** (const Object &o)

Static Public Attributes

- static constexpr const char ∗const **TYPE** = "microblaze-cpu"

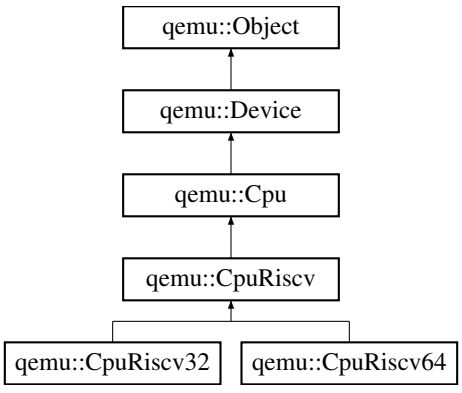
Additional Inherited Members

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/target/microblaze.h

4.9 qemu::CpuRiscv Class Reference

Inheritance diagram for qemu::CpuRiscv:



Public Types

- using **MipUpdateCallbackFn** = std::function< void(uint32_t)>

Public Member Functions

- **CpuRiscv** (const CpuRiscv &)=default
- **CpuRiscv** (const Object &o)
- void **set_mip_update_callback** (MipUpdateCallbackFn cb)

Static Public Attributes

- static constexpr const char *const **TYPE** = "riscv-cpu"

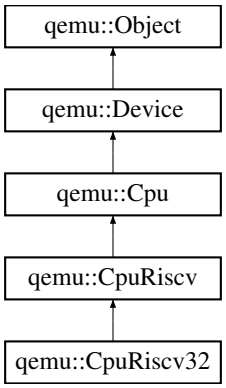
Additional Inherited Members

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/target/riscv.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/target/riscv.cc

4.10 qemu::CpuRiscv32 Class Reference

Inheritance diagram for qemu::CpuRiscv32:



Public Member Functions

- **CpuRiscv32** (const CpuRiscv32 &)=default
- **CpuRiscv32** (const Object &o)

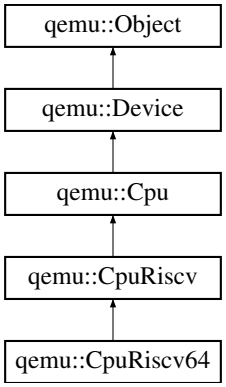
Additional Inherited Members

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/target/riscv.h

4.11 qemu::CpuRiscv64 Class Reference

Inheritance diagram for qemu::CpuRiscv64:



Public Member Functions

- **CpuRiscv64** (const CpuRiscv64 &)=default
- **CpuRiscv64** (const Object &o)

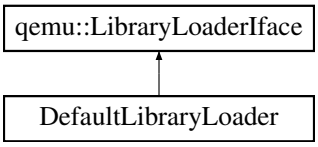
Additional Inherited Members

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/target/riscv.h

4.12 DefaultLibraryLoader Class Reference

Inheritance diagram for DefaultLibraryLoader:



Public Member Functions

- qemu::LibraryLoaderIface::LibraryIfacePtr **load_library** (const char *lib_name)
- const char * **get_lib_ext** ()
- const char * **get_last_error** ()

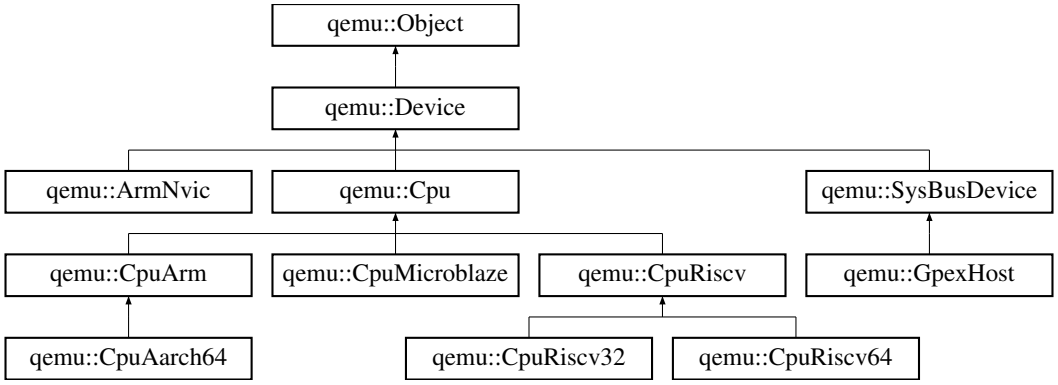
Additional Inherited Members

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/loader.cc

4.13 qemu::Device Class Reference

Inheritance diagram for qemu::Device:



Public Member Functions

- **Device** (const Device &)=default
- **Device** (const Object &o)
- void **connect_gpio_out** (int idx, Gpio gpio)
- void **connect_gpio_out_named** (const char *name, int idx, Gpio gpio)
- Gpio **get_gpio_in** (int idx)
- Gpio **get_gpio_in_named** (const char *name, int idx)
- Bus **get_child_bus** (const char *name)
- void **set_parent_bus** (Bus bus)
- void **set_prop_chardev** (const char *name, Chardev chr)

Static Public Attributes

- static constexpr const char *const **TYPE** = "device"

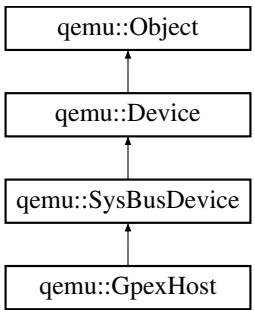
Additional Inherited Members

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/device.cc

4.14 qemu::GpexHost Class Reference

Inheritance diagram for qemu::GpexHost:



Public Member Functions

- **GpexHost** (const GpexHost &)=default
- **GpexHost** (const Object &o)
- void **set_irq_num** (int idx, int gic_irq)

Static Public Attributes

- static constexpr const char ∗const **TYPE** = "gpex-pcihost"

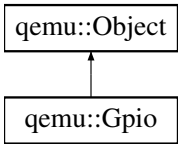
Additional Inherited Members

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/gpex.cc

4.15 qemu::Gpio Class Reference

Inheritance diagram for qemu::Gpio:



Classes

- class GpioProxy

Public Types

- typedef std::function< void(bool)> **GpioEventFn**

Public Member Functions

- **Gpio** (const Gpio &o)=default
- **Gpio** (const Object &o)
- void **set** (bool lvl)
- void **set_proxy** (std::shared_ptr< GpioProxy > proxy)
- void **set_event_callback** (GpioEventFn cb)

Static Public Attributes

- static constexpr const char *const **TYPE** = "irq"

Additional Inherited Members

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/gpio.cc

4.16 qemu::Gpio::GpioProxy Class Reference

Public Member Functions

- void **event** (bool level)
- void **set_callback** (GpioEventFn cb)

Protected Attributes

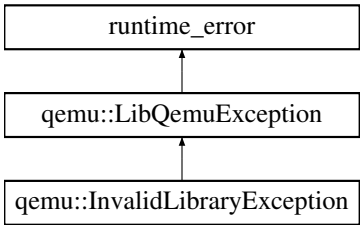
- bool **m_prev_valid** = false
- bool **m_prev**
- GpioEventFn **m_cb**

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h

4.17 qemu::InvalidLibraryException Class Reference

Inheritance diagram for qemu::InvalidLibraryException:



Public Member Functions

- **InvalidLibraryException** (const char *lib_name, const char *symbol)

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/exceptions.h

4.18 qemu::LibQemu Class Reference

Public Member Functions

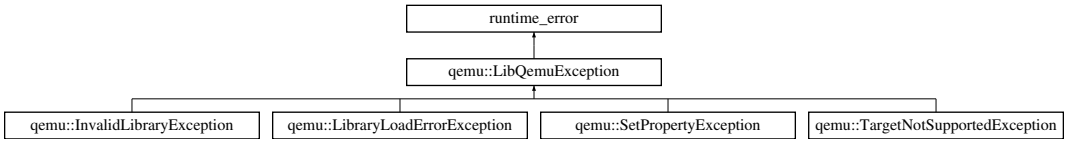
- **LibQemu** (LibraryLoaderIface &library_loader, const char *lib_path)
- **LibQemu** (LibraryLoaderIface &library_loader, Target t)
- void **push_qemu_arg** (const char *arg)
- void **push_qemu_arg** (std::initializer_list< const char *> args)
- const std::vector< char * > & **get_qemu_args** () const
- void **init** ()
- bool **is_inited** () const
- void **start_gdb_server** (std::string port)
- void **vm_start** ()
- void **vm_stop_paused** ()
- void **lock_iothread** ()
- void **unlock_iothread** ()
- void **coroutine_yield** ()
- template<class T >
  T **object_new** ()
- int64_t **get_virtual_clock** ()
- Object **object_new** (const char *type_name)
- std::shared_ptr< MemoryRegionOps > **memory_region_ops_new** ()
- std::shared_ptr< AddressSpace > **address_space_new** ()
- Gpio **gpio_new** ()
- std::shared_ptr< Timer > **timer_new** ()
- Chardev **chardev_new** (const char *label, const char *type)
- void **tb_invalidate_phys_range** (uint64_t start, uint64_t end)

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/callbacks.cc
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/libqemu-cxx.cc

4.19 qemu::LibQemuException Class Reference

Inheritance diagram for qemu::LibQemuException:



Public Member Functions

- **LibQemuException** (const char *what)
- **LibQemuException** (const std::string &what)

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/exceptions.h

4.20 qemu::LibQemuInternals Class Reference

Public Member Functions

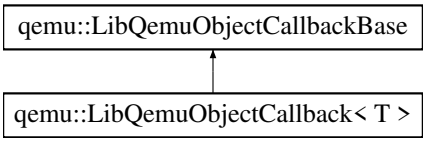
- **LibQemuInternals** (LibQemu &inst, LibQemuExports *exports)
- const LibQemuExports & **exports** () const
- LibQemu & **get_inst** ()
- void **clear_callbacks** (Object obj)
- LibQemuObjectCallback< Cpu::EndOfLoopCallbackFn > & **get_cpu_end_of_loop_cb** ()
- LibQemuObjectCallback< Cpu::CpuKickCallbackFn > & **get_cpu_kick_cb** ()
- LibQemuObjectCallback< CpuRiscv64::MipUpdateCallbackFn > & **get_cpu_riscv_mip_update_cb** ()

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/internals.h

4.21 qemu::LibQemuObjectCallback< T > Class Template Reference

Inheritance diagram for qemu::LibQemuObjectCallback< T >:



Public Member Functions

- void **register_cb** (Object obj, T cb)
- void **clear** (Object obj)
- template<typename... Args>
  void **call** (QemuObject *obj, Args... args) const

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/internals.h

4.22 qemu::LibQemuObjectCallbackBase Class Reference

Inheritance diagram for qemu::LibQemuObjectCallbackBase:

Public Member Functions

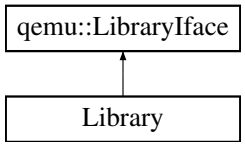
- virtual void **clear** (Object obj)=0

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/internals.h

4.23 Library Class Reference

Inheritance diagram for Library:



Public Member Functions

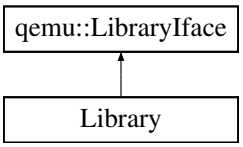
- **Library** (void *lib)
- bool **symbol_exists** (const char *name)
- void * **get_symbol** (const char *name)

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/loader.cc

4.24 qemu::LibraryIface Class Reference

Inheritance diagram for qemu::LibraryIface:



Public Member Functions

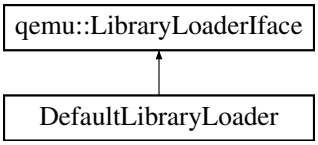
- virtual bool **symbol_exists** (const char ∗symbol)=0
- virtual void ∗ **get_symbol** (const char ∗symbol)=0

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/loader.h

4.25 qemu::LibraryLoaderIface Class Reference

Inheritance diagram for qemu::LibraryLoaderIface:



Public Types

- using **LibraryIfacePtr** = std::shared_ptr< LibraryIface >

Public Member Functions

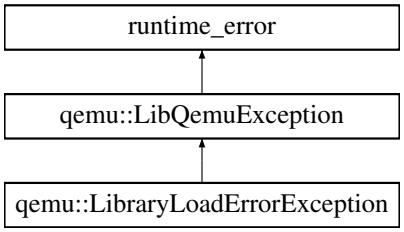
- virtual LibraryIfacePtr **load_library** (const char ∗lib_name)=0
- virtual const char ∗ **get_lib_ext** ()=0
- virtual const char ∗ **get_last_error** ()=0

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/loader.h

4.26 qemu::LibraryLoadErrorException Class Reference

Inheritance diagram for qemu::LibraryLoadErrorException:



Public Member Functions

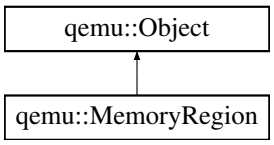
- **LibraryLoadErrorException** (const char ∗lib_name, const char ∗error)

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/exceptions.h

4.27 qemu::MemoryRegion Class Reference

Inheritance diagram for qemu::MemoryRegion:



Public Types

- using **MemTxResult** = MemoryRegionOps::MemTxResult
- using **MemTxAttrs** = MemoryRegionOps::MemTxAttrs

Public Member Functions

- **MemoryRegion** (const MemoryRegion &)=default
- **MemoryRegion** (const Object &o)
- uint64_t **get_size** ()
- void **init_io** (Object owner, const char ∗name, uint64_t size, MemoryRegionOpsPtr ops)
- void **init_ram_ptr** (Object owner, const char ∗name, uint64_t size, void ∗ptr)
- void **init_alias** (Object owner, const char ∗name, const MemoryRegion &root, uint64_t offset, uint64_t size)
- void **add_subregion** (MemoryRegion &mr, uint64_t offset)
- void **del_subregion** (const MemoryRegion &mr)
- MemTxResult **dispatch_read** (uint64_t addr, uint64_t ∗data, uint64_t size, MemTxAttrs attrs)
- MemTxResult **dispatch_write** (uint64_t addr, uint64_t data, uint64_t size, MemTxAttrs attrs)
- bool **operator**< (const MemoryRegion &mr) const

Public Attributes

- MemoryRegion * **container**

Static Public Attributes

- static constexpr const char *const **TYPE** = "qemu:memory-region"

Additional Inherited Members

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/memory.cc

4.28 qemu::MemoryRegionOps Class Reference

Classes

- struct MemTxAttrs

Public Types

- enum **MemTxResult** { **MemTxOK**, **MemTxError**, **MemTxDecodeError**, **MemTxOKExitTB** }
- typedef std::function< MemTxResult(uint64_t, uint64_t *, unsigned int, MemTxAttrs)> **ReadCallback**
- typedef std::function< MemTxResult(uint64_t, uint64_t, unsigned int, MemTxAttrs)> **WriteCallback**

Public Member Functions

- **MemoryRegionOps** (QemuMemoryRegionOps *ops, std::shared_ptr< LibQemuInternals > internals)
- void **set_read_callback** (ReadCallback cb)
- void **set_write_callback** (WriteCallback cb)
- void **set_max_access_size** (unsigned size)
- ReadCallback **get_read_callback** ()
- WriteCallback **get_write_callback** ()
- QemuMemoryRegionOps * **get_qemu_mr_ops** ()

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/memory.cc

4.29 qemu::MemoryRegionOps::MemTxAttrs Struct Reference

Public Member Functions

- **MemTxAttrs** (const ::MemTxAttrs &qemu_attrs)

Public Attributes

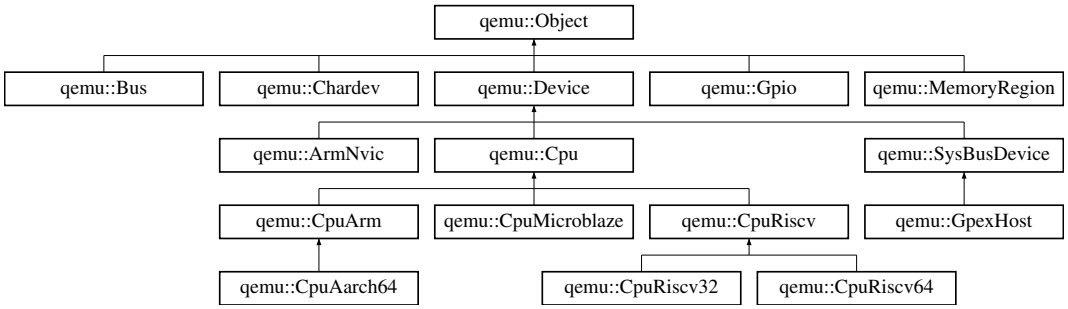
- bool **secure** = false
- bool **exclusive** = false
- bool **debug** = false

The documentation for this struct was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/memory.cc

4.30 qemu::Object Class Reference

Inheritance diagram for qemu::Object:



Public Member Functions

- **Object** (QemuObject ∗obj, std::shared_ptr< LibQemuInternals > &internals)
- **Object** (const Object &o)
- **Object** (Object &&o)
- Object & **operator=** (Object o)
- bool **valid** () const
- void **set_prop_bool** (const char ∗name, bool val)
- void **set_prop_int** (const char ∗name, int64_t val)
- void **set_prop_str** (const char ∗name, const char ∗val)
- void **set_prop_link** (const char ∗name, const Object &link)
- void **set_prop_parse** (const char ∗name, const char ∗value)
- QemuObject ∗ **get_qemu_obj** ()
- LibQemu & **get_inst** ()
- uintptr_t **get_inst_id** () const
- bool **same_inst_as** (const Object &o) const
- template<class T >
  bool **check_cast** () const
- void **clear_callbacks** ()

Protected Member Functions

- bool **check_cast_by_type** (const char *type_name) const

Protected Attributes

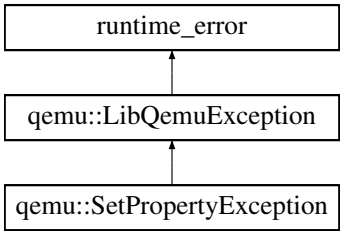
- QemuObject * **m_obj** = nullptr
- std::shared_ptr< LibQemuInternals > **m_int**

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/object.cc

4.31 qemu::SetPropertyException Class Reference

Inheritance diagram for qemu::SetPropertyException:



Public Member Functions

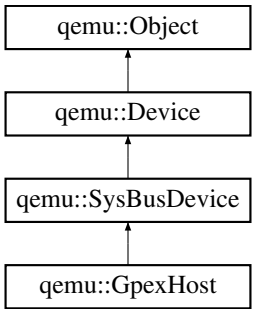
- **SetPropertyException** (const char *type, const char *name)

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/exceptions.h

4.32 qemu::SysBusDevice Class Reference

Inheritance diagram for qemu::SysBusDevice:



Public Member Functions

- **SysBusDevice** (const SysBusDevice &)=default
- **SysBusDevice** (const Object &o)
- MemoryRegion **mmio_get_region** (int id)
- void **connect_gpio_out** (int idx, Gpio gpio)

Static Public Attributes

- static constexpr const char ∗const **TYPE** = "sys-bus-device"

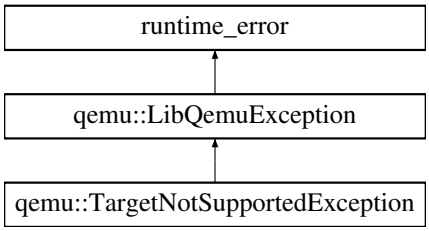
Additional Inherited Members

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/sysbus.cc

4.33 qemu::TargetNotSupportedException Class Reference

Inheritance diagram for qemu::TargetNotSupportedException:



Public Member Functions

- **TargetNotSupportedException** (Target t)

The documentation for this class was generated from the following file:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/exceptions.h

4.34 qemu::Timer Class Reference

Public Types

- typedef std::function< void()> **TimerCallbackFn**

Public Member Functions

- **Timer** (std::shared_ptr< LibQemuInternals > internals)
- void **set_callback** (TimerCallbackFn cb)
- void **mod** (int64_t deadline)
- void **del** ()

The documentation for this class was generated from the following files:

- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/include/libqemu-cxx/libqemu-cxx.h
- /home/thomas/Documents/GreenSocs/build-lib/libqemu-cxx/src/timer.cc

Index