globus gsi openssl error Reference Manual

0.14

Generated by Doxygen 1.2.18

Tue Aug 11 22:19:02 2009

Contents

1 globus gsi openssl error Module Index

1.1 globus gsi openssl error Modules

Here is a list of all modules:

2 globus gsi openssl error Module Documentation

2.1 Globus OPENSSL Error API

Modules

> Activation
> Error Construction
> Error Helper Functions

2.1.1 Detailed Description

These globus openssl error functions provide a wrapper to error types de ned by OpenSSL

Any program that uses Globus OpenSSL Error functions must include "globus openssl.h".

2.2 Activation

De nes

> #de ne GLOBUS_GSI_OPENSSL_ERROR_MODULE

2.2.1 Detailed Description

Globus GSI OpenSSL Error uses standard Globus module activation and deactivation. Before any Globus GSI Open-SSL Error functions are called, the following function must be called:

> globus_module_activate(GLOBUS_GSI_OPENSSL_ERROR_MODULE)

This function returns GLOBUS_SUCCESS if Globus GSI OpenSSL Error was successfully initialized, and you are therefore allowed to subsequently call Globus GSI OpenSSL Error functions. Otherwise, an error code is returned, and Globus GSI OpenSSL Error functions should not be subsequently called. This function may be called multiple times.

To deactivate Globus GSI OpenSSL Error, the following function must be called:

    globus_module_deactivate(GLOBUS_GSI_OPENSSL_ERROR_MODULE)

This function should be called once for each time Globus GSI OpenSSL Error was activated.

2.2.2   De ne Documentation

2.2.2.1   #de ne GLOBUS_GSI_OPENSSL_ERROR_MODULE

Module descriptor.

2.3   Error Construction

Get Error Code

    unsigned long globus_openssl_error_handle_get_error_code(globus_openssl_error_handle_t handle)

Get Error Data

    const char globus_openssl_error_handle_get_data(globus_openssl_error_handle_t handle)

Get Error Data Flags

    int globus_openssl_error_handle_get_data_ags (globus_openssl_error_handle_t handle)

Get Filename

    const char globus_openssl_error_handle_get_ lename (globus_openssl_error_handle_t handle)

Get Linenumber

    int globus_openssl_error_handle_get_linenumber(globus_openssl_error_handle_t handle)

Get Library

    const char globus_openssl_error_handle_get_library (globus_openssl_error_handle_t handle)

Get Function

    const char globus_openssl_error_handle_get_function (globus_openssl_error_handle_t handle)

Get Reason

const char globus_openssl_error_handle_get_reason (globus_openssl_error_handle_t handle)

Construct Error

globus_object_t globus_error_construct_openssl_error (globus_module_descriptor_t base_source, globus_object_t base_cause)

Initialize Error

globus_object_t globus_error_initialize_openssl_error (globus_object_t error, globus_module_descriptor_t base_source, globus_object_t base_cause, globus_openssl_error_handle_t openssl_error_handle)

Get OpenSSL Filename

const char globus_error_openssl_error_get_filename (globus_object_t error)

Get OpenSSL Linenumber

int globus_error_openssl_error_get_linenumber (globus_object_t error)

Get OpenSSL Library

const char globus_error_openssl_error_get_library (globus_object_t error)

Get OpenSSL Function

const char globus_error_openssl_error_get_function (globus_object_t error)

Get OpenSSL Reason

const char globus_error_openssl_error_get_reason (globus_object_t error)

Get OpenSSL Error Data

const char globus_error_openssl_error_get_data (globus_object_t error)

Get OpenSSL Error Data Flags

int globus_error_openssl_error_get_data_flags (globus_object_t error)

Defines

#define GLOBUS_ERROR_TYPE_OPENSSL

2.3.1   Detailed Description

Create and initialize a Globus OpenSSL Error object.

This section de nes operations to create and initialize Globus OpenSSLError objects.

2.3.2   De ne Documentation

2.3.2.1   #de ne GLOBUS_ERROR_TYPE_OPENSSL

Error type de nition.

2.3.3   Function Documentation

2.3.3.1   unsigned long globus_opensslerror_handle_get_error_code (globus_opensslerror_handle_t handle)

Get the openssl error code which represents the openssl error from the openssl error handle

Parameters:
      handle The openssl error handle

Returns:
      The error code

2.3.3.2   const char globus_opensslerror_handle_get_data (globus_opensslerror_handle_t handle)

Get the openssl error data which contains additional data about the error from the openssl error handle

Parameters:
      handle The openssl error handle

Returns:
      The error data

2.3.3.3   int globus_opensslerror_handle_get_data_ags (globus_opensslerror_handle_t handle)

Get the openssl error data ags from the openssl error handle

Parameters:
      handle The openssl error handle

Returns:
      The error data ags

2.3.3.4   const char globus_opensslerror_handle_get_ lename (globus_opensslerror_handle_t handle)

Get the lename where the openssl error occurred from the openssl error handle

Parameters:
      handle The openssl error handle

Returns:
      The lename

2.3.3.5 int globus_opensslerror_handle_get_linenumber (globus_opensslerror_handle_t handle)

Get the linenumber on which the openssl error occurred from the openssl error handle

Parameters:
    handle The openssl error handle

Returns:
    The linenumber

2.3.3.6 const char globus_opensslerror_handle_get_library (globus_opensslerror_handle_t handle)

Get the library name where the openssl error occurred in from the openssl error handle

Parameters:
    handle The openssl error handle

Returns:
    The library name

2.3.3.7 const char globus_opensslerror_handle_get_function (globus_opensslerror_handle_t handle)

Get the function name where the openssl error occurred from the openssl error handle

Parameters:
    handle The openssl error handle

Returns:
    The function name

2.3.3.8 const char globus_opensslerror_handle_get_reason (globus_opensslerror_handle_t handle)

Get the reason string which caused the openssl error from the openssl error handle

Parameters:
    handle The openssl error handle

Returns:
    The reson string

2.3.3.9 globus_object_t globus_error_construct_opensslerror (globus_module_descriptor_t base_source, globus_object_t base_cause)

Allocate and initialize an error of type GLOBUS_ERROR_TYPE_OPENSSL This function, combined with globus_error_initialize_opensslerror() will recursively generate globus error objects (of type globus_object_t) from the errors on openssl's static error stack. The errors will be chained in a causal fashion to provide a path to the root cause of the actual error.

NOTE: the static stack openssl implements for its errors currently only supports at most 16 errors, so if more are added, the errors that were added rst will be wiped out. If 16 errors are counted in the chain of openssl errors, its possible that some errors (including the original error) are missing.

Parameters:

basesource Pointer to the originating globus module.

basecause The error object causing the error. This parameter should be NULL in nearly all cases, as the root cause of an error will most likely be in the openssl code itself. The actual cause of the error is determined from the static stack of openssl errors.

Returns:

The resulting error object. It is the user's responsibility to eventually free this object using globus_object_free(). A globus_result_t may be obtained by calling globus_error_put() on this object.

2.3.3.10   globus_object_t ∗ globus_error _initialize _openssl_error (globus_object_t ∗ error, globus_module_-descriptor_t ∗ basesource, globus_object_t ∗ basecause, globus_openssl_error _handle_t openssl_error_handle)

Initialize a previously allocated error of type GLOBUS_ERROR_TYPE_OPENSSL.

Parameters:

error The previously allocated error object.

basesource Pointer to the originating module.

basecause The error object causing the error. If this is the original error this paramater may be NULL.

openssl_error_handle The openssl error handle associated with this error, this parameter should already be initialized to contain the openssl error code associated with the error.

Returns:

The resulting error object. You may have to call globus_error_put() on this object before passing it on.

2.3.3.11   const char∗ globus_error _openssl_error _get_ lename (globus_object_t ∗ error)

Get the OpenSSL lename where the error occurred.

Parameters:

error The globus object that represents the error

Returns:

The lename where the openssl error occurred

2.3.3.12   int globus_error _openssl_error _get_linenumber (globus_object_t ∗ error)

Get the OpenSSL linenumber where the error occurred.

Parameters:

error The globus object that represents the error

Returns:

The linenumber where the openssl error occurred

2.3.3.13 const char globus_error _opensslerror _get_library (globus _object_t error)

Get the OpenSSL libraray the error occurred in.

Parameters:
    error The globus object that represents the error

Returns:
    The library name where the openssl error occurred

2.3.3.14 const char globus_error _opensslerror _get_function (globus_object_t error)

Get the OpenSSL lename where the error occurred.

Parameters:
    error The globus object that represents the error

Returns:
    The function name where the openssl error occurred

2.3.3.15 const char globus_error _opensslerror _get_reason (globusobject_t error)

Get the OpenSSL reason for the error.

Parameters:
    error The globus object that represents the error

Returns:
    The reason for the openssl error

2.3.3.16 const char globus_error _opensslerror _get_data (globus_object_t error)

Get the OpenSSL Error Data.

Parameters:
    error The globus object that represents the error

Returns:
    The error data for the openssl error

2.3.3.17 int globuserror _opensslerror _get_data_ ags (globus_object_t error)

Get the OpenSSL Error Data Flags.

Parameters:
    error The globus object that represents the error

Returns:
    The error data ags for the openssl error

2.4   Error Helper Functions

OpenSSL Error Match

globus_bool_t globus_error_match_openssl_error (globus_object_t error, unsigned long library, unsigned long function, unsigned long reason)

Wrap OpenSSL Error

globus_object_t   globus_error_wrap_openssl_error (globus_module_descriptor_t base_source, int error_type, const char source_file, const char source_func, int source_line, const char format,...)

2.4.1   Detailed Description

Utility functions that deal with Globus OpenSSL Error objects

This section de nes utility function for Globus OpenSSL Error objects.

2.4.2   Function Documentation

2.4.2.1   globus_bool_t globus_error_match_openssl_error (globus_object_t error, unsigned long library, unsigned long function, unsigned long reason)

Check whether the error originated from a speci c library, from a speci c function and is of a speci c type.

This function checks whether the error or any of it's causative errors originated from a speci c library, speci c function and is of a speci c type.

Parameters:
    error The error object for which to perform the check

    library The library to check for

    function The function to check for

    reason The type to check for

Returns:
    GLOBUS_TRUE - the error matched GLOBUS_FALSE - the error failed to match

2.4.2.2   globus_object_t globus_error_wrap_openssl_error (globus_module_descriptor_t   base_source, int error_type, const char source_file , const char source_func, int source_line, const char format, ...)

Wrap the OpenSSL error and create a wrapped globus error object from the error.

This function gets all the openssl errors from the error list, and chains them using the globus error string object. The resulting globus error object is a wrapper to the openssl error at the end of the chain.

Parameters:
    base_source The module that the error was generated from

    error_type The type of error encapsulating the openssl error

    source_file Name of le. Use __FILE__

    source_func Name of function. Use globus_func_name and declare your func with GlobusFuncName(name)

    source_line Line number. Use __LINE__

format format string for the description of the error entry point where the openssl error occurred, should be followed by parameters to ll the format string (like in printf).

Returns:

The globus error object. A globus result t object can be created using the globus error put function

See also:

globus error put()

Index