

## C++ UTC Time Library

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# Chapter 1

## Namespace Index

### 1.1 Namespace List

Here is a list of all documented namespaces with brief descriptions:

<a href="#">utctime</a>	Namespace for UTCTime() class and associated functions . . . . .	<a href="#">7</a>
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## Chapter 2

# Class Index

### 2.1 Class Hierarchy

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

utctime::UTCTime . . . . .	11
utctime::UTCTimeException . . . . .	12
utctime::bad_time . . . . .	9
utctime::bad_time_init . . . . .	10
utctime::invalid_date . . . . .	11





## Chapter 3

# Class Index

### 3.1 Class List

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

<a href="#">utctime::bad_time</a>	
Thrown when the time cannot be obtained . . . . .	9
<a href="#">utctime::bad_time_init</a>	
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<a href="#">utctime::invalid_date</a>	
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## Chapter 4

# Namespace Documentation

### 4.1 utctime Namespace Reference

Namespace for `UTCTime()` class and associated functions.

#### Classes

- class [UTCTimeException](#)
- class [bad\\_time\\_init](#)  
*Thrown when the time cannot be initialized.*
- class [bad\\_time](#)  
*Thrown when the time cannot be obtained.*
- class [invalid\\_date](#)  
*Thrown when an invalid date is provided to the constructor.*
- class [UTCTime](#)

#### Functions

- bool **validate\_date** (const int year, const int month, const int day, const int hour, const int minute, const int second)
- time\_t **get\_day\_diff** ()
- time\_t **get\_hour\_diff** ()
- time\_t **get\_sec\_diff** ()
- int **tm\_compare** (const std::tm &first, const tm &second)
- int **tm\_intraday\_secs\_diff** (const tm &first, const tm &second)
- bool **is\_leap\_year** (const int year)
- std::tm \* **tm\_increment\_day** (std::tm \*changing\_tm, const int quantity=1)
- std::tm \* **tm\_increment\_hour** (std::tm \*changing\_tm, const int quantity=1)
- std::tm \* **tm\_increment\_minute** (std::tm \*changing\_tm, const int quantity=1)
- std::tm \* **tm\_increment\_second** (std::tm \*changing\_tm, const int quantity=1)
- std::tm \* **tm\_decrement\_day** (std::tm \*changing\_tm, const int quantity=1)
- std::tm \* **tm\_decrement\_hour** (std::tm \*changing\_tm, const int quantity=1)
- std::tm \* **tm\_decrement\_minute** (std::tm \*changing\_tm, const int quantity=1)
- std::tm \* **tm\_decrement\_second** (std::tm \*changing\_tm, const int quantity=1)
- bool **check\_utc\_timestamp** (const time\_t check\_time, int &secs\_diff, const int year, const int month, const int day, const int hour, const int minute, const int second)
- time\_t **get\_utc\_timestamp** (const int year, const int month, const int day, const int hour, const int minute, const int second)
- int **get\_utc\_timestamp\_sec\_diff** (const time\_t check\_time, const int year, const int month, const int day, const int hour, const int minute, const int second)



## Chapter 5

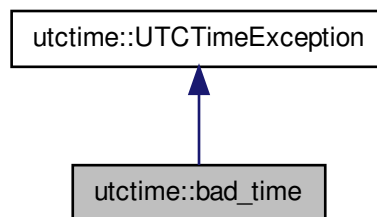
# Class Documentation

### 5.1 utctime::bad\_time Class Reference

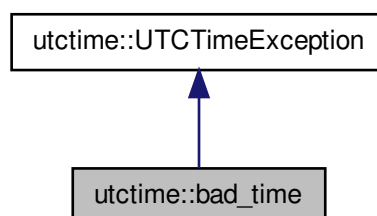
Thrown when the time cannot be obtained.

```
#include <utctime.h>
```

Inheritance diagram for utctime::bad\_time:



Collaboration diagram for utctime::bad\_time:



## Public Member Functions

- [bad\\_time](#) ()  
*Constructor.*

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

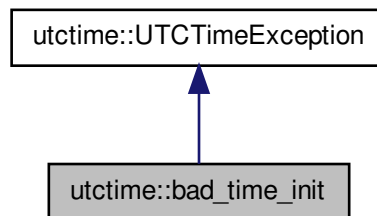
- utctime.h

## 5.2 utctime::bad\_time\_init Class Reference

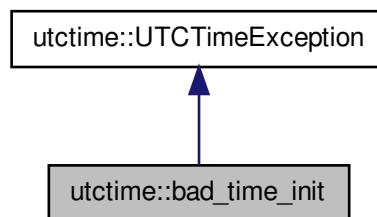
Thrown when the time cannot be initialized.

```
#include <utctime.h>
```

Inheritance diagram for utctime::bad\_time\_init:



Collaboration diagram for utctime::bad\_time\_init:



## Public Member Functions

- [bad\\_time\\_init](#) ()  
*Constructor.*

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

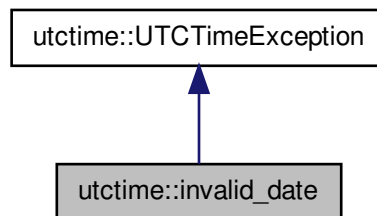
- utctime.h

## 5.3 utctime::invalid\_date Class Reference

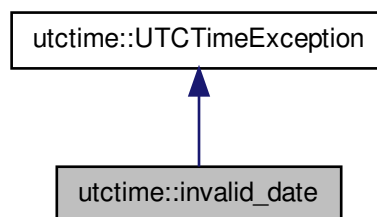
Thrown when an invalid date is provided to the constructor.

```
#include <utctime.h>
```

Inheritance diagram for utctime::invalid\_date:



Collaboration diagram for utctime::invalid\_date:



### Public Member Functions

- `invalid_date` (const std::string &msg)  
*Constructor.*

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

- `utctime.h`

## 5.4 utctime::UTCTime Class Reference

### Public Member Functions

- **UTCTime** (const std::tm &utc\_tm)
- **UTCTime** (const int year, const int month, const int day, const int hour, const int minute, const int second)

- `std::tm` **get\_tm** () const
- `std::string` **time\_string** () const
- `std::string` **time\_string\_inet** () const
- `time_t` **timestamp** () const
- `bool` **operator<** (const [UTCTime](#) &rhs) const
- `bool` **operator>=** (const [UTCTime](#) &rhs) const
- `bool` **operator>** (const [UTCTime](#) &rhs) const
- `bool` **operator<=** (const [UTCTime](#) &rhs) const
- `bool` **operator==** (const [UTCTime](#) &rhs) const
- `bool` **operator!=** (const [UTCTime](#) &rhs) const
- `double` **operator-** (const [UTCTime](#) &rhs) const

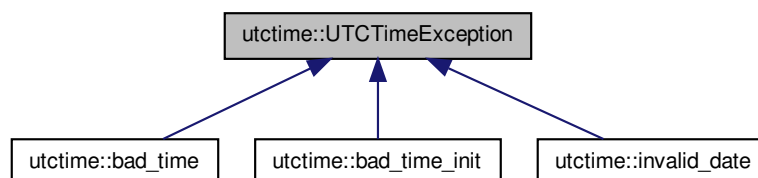
The documentation for this class was generated from the following files:

- `utctime.h`
- `utctime.cpp`

## 5.5 utctime::UTCTimeException Class Reference

```
#include <utctime.h>
```

Inheritance diagram for `utctime::UTCTimeException`:



### Public Member Functions

- [UTCTimeException](#) (const `std::string` msg="No error message")
  - virtual [~UTCTimeException](#) ()
- Destructor.*
- const `std::string` & [what](#) () const

#### 5.5.1 Detailed Description

Base exception class

All custom exceptions thrown by the `UTCTime()` class and associated functions are derived from [UTCTimeException](#).



## 5.5.2 Constructor & Destructor Documentation

5.5.2.1 `utctime::UTCTimeException::UTCTimeException ( const std::string msg = "No error message" )`  
[inline], [explicit]

Constructor

Parameters

<i>msg</i>	An error message to print when <code>what ()</code> is called.
------------	--

## 5.5.3 Member Function Documentation

5.5.3.1 `const std::string& utctime::UTCTimeException::what ( ) const` [inline]

Returns an error message.

Returns

A `std::string` containing the error message.

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

- `utctime.h`

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