# **DateTime Objects**

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 1)

Unknown directive type "highlight".

.. highlight:: c

Various date and time objects are supplied by the <a href="modi-datetime">modi-datetime</a> module. Before using any of these functions, the header file <a href="file:'datetime.h">file:'datetime.h</a> must be included in your source (note that this is not included by <a href="file:'Python.h">file:'Python.h</a>), and the macro <a href="macro:'PyDateTime\_IMPORT">must be invoked</a>, usually as part of the module initialisation function. The macro puts a pointer to a C structure into a static variable, <a href="macro:">ccatata:'PyDateTimeAPI</a>, that is used by the following macros.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 8); backlink

Unknown interpreted text role "mod".

Unknown interpreted text role "file".

 $System Message: ERROR/3 \ ( \verb|D:\onboarding-resources| sample-onboarding-resources| cpython-main| Doc| (c-api|) datetime.rst, line 8); backlink$ 

Unknown interpreted text role "file".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 8); backlink

Unknown interpreted text role "c:macro".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 8); backlink

Unknown interpreted text role "c:data".

Macro for access to the UTC singleton:

 $System\,Message: ERROR/3 \ (\c :\c sample-onboarding-resources \c python-main) Doc\c -api\ (\c python-main) \ (\c c-api) \ datetime.rst, line 18)$ 

Unknown directive type "c:var".

```
.. c:var:: PyObject* PyDateTime_TimeZone_UTC

Returns the time zone singleton representing UTC, the same object as :attr:`datetime.timezone.utc`.
```

### Type-check macros:

 $System\,Message: ERROR/3 \ (\c :\c sample-onboarding-resources \c python-main)Doc\c -api\ (\c python-main) \ (\c c-api) \ date time.rst, line 28)$ 

Unknown directive type "c:function".

.. c:function:: int PyDate\_Check(PyObject \*ob)

Return true if \*ob\* is of type :c:data:`PyDateTime\_DateType` or a subtype of :c:data:`PyDateTime\_DateType`. \*ob\* must not be ``\nabla NULL``. This function always succeeds.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 35)

Unknown directive type "c:function".

.. c:function:: int PyDate\_CheckExact(PyObject \*ob)

Return true if \*ob\* is of type :c:data:`PyDateTime\_DateType`. \*ob\* must not be
``NULL``. This function always succeeds.

 $System\,Message: ERROR/3\, (\mbox{D:\noboarding-resources}\scale-onboarding-resources\cpython-main)Doc\c-api\(cpython-main)\, (Doc)\, (c-api)\, datetime.rst, line\, 41)$ 

Unknown directive type "c:function".

.. c:function:: int PyDateTime\_Check(PyObject \*ob)

Return true if \*ob\* is of type :c:data:`PyDateTime\_DateTimeType` or a subtype of :c:data:`PyDateTime\_DateTimeType`. \*ob\* must not be ``NULL``. This function always succeeds.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 48)

.. c:function:: int PyDateTime\_CheckExact(PyObject \*ob)

Return true if \*ob\* is of type :c:data:`PyDateTime\_DateTimeType`. \*ob\* must not be ``NULL``. This function always succeeds.

 $System\,Message: ERROR/3\, (\mbox{$\mathbb{C}$-inhoarding-resources}) ample-onboarding-resources $$ \cpython-main\Doc\c-api\(\cpython-main\)\, (\mbox{$\mathbb{C}$-api\)} \datetime.rst, line 54) $$$ 

#### Unknown directive type "c:function".

.. c:function:: int PyTime\_Check(PyObject \*ob)

Return true if \*ob\* is of type :c:data:`PyDateTime\_TimeType` or a subtype of :c:data:`PyDateTime\_TimeType`. \*ob\* must not be ``NULL``. This function always succeeds.

System Message: ERROR/3 (p:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 61)

## Unknown directive type "c:function".

.. c:function:: int PyTime CheckExact(PyObject \*ob)

Return true if \*ob\* is of type :c:data:`PyDateTime\_TimeType`. \*ob\* must not be ``NULL``. This function always succeeds.

 $System\ Message: ERROR/3\ (\ D: \ \ \ \ \ ) \ (\ Co-api)\ (\ Co-$ 

#### Unknown directive type "c:function".

.. c:function:: int PyDelta Check(PyObject \*ob)

Return true if \*ob\* is of type :c:data:`PyDateTime\_DeltaType` or a subtype of :c:data:`PyDateTime\_DeltaType`. \*ob\* must not be ``NULL``. This function always succeeds.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 74)

#### Unknown directive type "c:function".

.. c:function:: int PyDelta\_CheckExact(PyObject \*ob)

Return true if \*ob\* is of type :c:data:`PyDateTime\_DeltaType`. \*ob\* must not be ``NULL``. This function always succeeds.

 $System\ Message: ERROR/3\ (\mbox{D:\noboarding-resources}\ \ \mbox{cample-onboarding-resources}\ \ \mbox{c$ 

## Unknown directive type "c:function".

.. c:function:: int PyTZInfo\_Check(PyObject \*ob)

Return true if \*ob\* is of type :c:data: PyDateTime\_TZInfoType` or a subtype of :c:data: PyDateTime\_TZInfoType`. \*ob\* must not be ``NULL``. This function always succeeds.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 87)

### Unknown directive type "c:function".

.. c:function:: int PyTZInfo CheckExact(PyObject \*ob)

Return true if \*ob\* is of type :c:data:`PyDateTime\_TZInfoType`. \*ob\* must not be ``NULL``. This function always succeeds.

## Macros to create objects:

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 95)

## Unknown directive type "c:function".

.. c:function:: PyObject\* PyDate\_FromDate(int year, int month, int day)

Return a :class: `datetime.date` object with the specified year, month and day.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 100)

### Unknown directive type "c:function".

.. c:function:: PyObject\* PyDateTime\_FromDateAndTime(int year, int month, int day, int hour, int minute, int second, int was Return a :class:'datetime.datetime' object with the specified year, month, day, hour,

Return a :class:`datetime.datetime` object with the specified year, month, day, hour, minute, second and microsecond.

### main\Doc\c-api\(cpython-main) (Doc) (c-api) datetime.rst, line 106)

#### Unknown directive type "c:function".

- .. c:function:: PyObject\* PyDateTime\_FromDateAndTimeAndFold(int year, int month, int day, int hour, int minute, int second
  - Return a :class:`datetime.datetime` object with the specified year, month, day, hour, minute, second, microsecond and fold.
  - .. versionadded:: 3.6

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 114)

#### Unknown directive type "c:function".

- .. c:function:: PyObject\* PyTime\_FromTime(int hour, int minute, int second, int usecond
  - Return a :class: `datetime.time` object with the specified hour, minute, second and microsecond.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 120)

#### Unknown directive type "c:function".

- .. c:function:: PyObject\* PyTime\_FromTimeAndFold(int hour, int minute, int second, int usecond, int fold)
  - Return a :class: `datetime.time` object with the specified hour, minute, second, microsecond and fold.
  - .. versionadded:: 3.6

#### Unknown directive type "c:function".

- .. c:function:: PyObject\* PyDelta\_FromDSU(int days, int seconds, int useconds)
  - Return a :class:`datetime.timedelta` object representing the given number of days, seconds and microseconds. Normalization is performed so that the resulting number of microseconds and seconds lie in the ranges documented for :class:`datetime.timedelta` objects.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 135)

## Unknown directive type "c:function".

- $\dots \texttt{ c:function:: PyObject* PyTimeZone\_FromOffset(PyDateTime\_DeltaType* offset)}$ 
  - Return a :class: 'datetime.timezone' object with an unnamed fixed offset represented by the \*offset\* argument.
  - .. versionadded:: 3.7

 $System\,Message:\,ERROR/3\, (\mboarding-resources\spaces) sample-onboarding-resources\spaces\spaces(cpython-main)\spaces(c-api)\s$ 

### Unknown directive type "c:function".

- .. c:function:: PyObject\* PyTimeZone\_FromOffsetAndName(PyDateTime\_DeltaType\* offset, PyUnicode\* name)
  - Return a :class: `datetime.timezone` object with a fixed offset represented by the \*offset\* argument and with tzname \*name\*.
  - .. versionadded:: 3.7

Macros to extract fields from date objects. The argument must be an instance of <code>cxdata</code>: <code>PyDateTime\_Date</code>, including subclasses (such as <code>cxdata</code>: <code>PyDateTime\_DateTime</code>). The argument must not be <code>NULL</code>, and the type is not checked:

Unknown interpreted text role "c:data".

 $System\,Message: ERROR/3~(\texttt{D:}\colored) are sources \colored) in Pocarding-resources \colored) (cpython-main)~(Doc)~(\texttt{c-api})~(\texttt{datetime.rst}, line~150); \textit{backlink}$ 

Unknown interpreted text role "c:data".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 155)

## Unknown directive type "c:function".

- .. c:function:: int PyDateTime\_GET\_YEAR(PyDateTime\_Date \*o)
  - Return the year, as a positive int.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 160)

```
.. c:function:: int PyDateTime_GET_MONTH(PyDateTime_Date *o)

Return the month, as an int from 1 through 12.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 165)

Unknown directive type "c:function".

```
.. c:function:: int PyDateTime_GET_DAY(PyDateTime_Date *o)

Return the day, as an int from 1 through 31.
```

Macros to extract fields from datetime objects. The argument must be an instance of <code>cxdata:'PyDateTime\_DateTime'</code>, including subclasses. The argument must not be <code>NULL</code>, and the type is not checked:

Unknown interpreted text role "c:data".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 174)

Unknown directive type "c:function".

```
.. c:function:: int PyDateTime_DATE_GET_HOUR(PyDateTime_DateTime *o)

Return the hour, as an int from 0 through 23.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 179)

Unknown directive type "c:function".

```
.. c:function:: int PyDateTime_DATE_GET_MINUTE(PyDateTime_DateTime *o)

Return the minute, as an int from 0 through 59.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main)\ (Doc)\ (c-api)\ datetime.rst, line 184)

Unknown directive type "c:function".

```
.. c:function:: int PyDateTime_DATE_GET_SECOND(PyDateTime_DateTime *0)

Return the second, as an int from 0 through 59.
```

 $System\ Message: ERROR/3\ (b:\noboarding-resources\spaces) ample-onboarding-resources\spaces\spaces(python-main)\ (Doc)\ (c-api)\ (atetime.rst,\ line\ 189)$ 

Unknown directive type "c:function".

```
.. c:function:: int PyDateTime_DATE_GET_MICROSECOND(PyDateTime_DateTime *o)

Return the microsecond, as an int from 0 through 999999.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 193)

Unknown directive type "c:function".

```
.. c:function:: PyObject* PyDateTime_DATE_GET_TZINFO(PyDateTime_DateTime *o)

Return the tzinfo (which may be ``None``).

.. versionadded:: 3.10
```

Macros to extract fields from time objects. The argument must be an instance of x:data: PyDateTime\_Time', including subclasses. The argument must not be NULL, and the type is not checked:

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 199); backlink

Unknown interpreted text role "c:data".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 203)

Unknown directive type "c:function".

```
.. c:function:: int PyDateTime_TIME_GET_HOUR(PyDateTime_Time *o)

Return the hour, as an int from 0 through 23.
```

 $System\,Message: ERROR/3~(\texttt{D:}\colored) are sources \colored) and the property of the colored of the colored$ 

```
.. c:function:: int PyDateTime_TIME_GET_MINUTE(PyDateTime_Time *o)
```

Return the minute, as an int from 0 through 59.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 213)

Unknown directive type "c:function".

.. c:function:: int PyDateTime\_TIME\_GET\_SECOND(PyDateTime\_Time \*o)

Return the second, as an int from 0 through 59.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 218)

Unknown directive type "c:function".

.. c:function:: int PyDateTime\_TIME\_GET\_MICROSECOND(PyDateTime\_Time \*o)

Return the microsecond, as an int from 0 through 999999.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 222)

Unknown directive type "c:function".

```
.. c:function:: PyObject* PyDateTime_TIME_GET_TZINFO(PyDateTime_Time *o)

Return the tzinfo (which may be ``None``).

.. versionadded:: 3.10
```

Macros to extract fields from time delta objects. The argument must be an instance of <a href="mailto:cdata:">cdata: PyDateTime\_Delta</a>', including subclasses. The argument must not be <a href="mailto:null.">NULL</a>, and the type is not checked:

Unknown interpreted text role "c:data".

 $System Message: ERROR/3 \ (\c \c on boarding-resources \c on boarding$ 

Unknown directive type "c:function".

```
.. c:function:: int PyDateTime_DELTA_GET_DAYS(PyDateTime_Delta *o)

Return the number of days, as an int from -999999999 to 999999999.

.. versionadded:: 3.3
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 240)

Unknown directive type "c:function".

```
.. c:function:: int PyDateTime_DELTA_GET_SECONDS(PyDateTime_Delta *o)

Return the number of seconds, as an int from 0 through 86399.

.. versionadded:: 3.3
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 247)

Unknown directive type "c:function".

```
.. c:function:: int PyDateTime_DELTA_GET_MICROSECONDS(PyDateTime_Delta *o)

Return the number of microseconds, as an int from 0 through 999999.

.. versionadded:: 3.3
```

Macros for the convenience of modules implementing the DB API:

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main) (Doc) (c-api) datetime.rst, line 256)

Unknown directive type "c:function".

```
.. c:function:: PyObject* PyDateTime_FromTimestamp(PyObject *args)

Create and return a new :class:`datetime.datetime` object given an argument tuple suitable for passing to :meth:`datetime.datetime.fromtimestamp()`.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\(cpython-main\) (Doc) (c-api) datetime.rst, line 262)

```
.. c:function:: PyObject* PyDate_FromTimestamp(PyObject *args)

Create and return a new :class:`datetime.date` object given an argument
```

tuple suitable for passing to :meth: `datetime.date.fromtimestamp()  $\dot{}$  .