

Capsules

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

Unknown directive type "highlight".

```
.. highlight:: c
```

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

Unknown directive type "index".

```
.. index:: object: Capsule
```

Refer to [:ref:'using-capsules'](#) for more information on using these objects.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\cpython-main [Doc] [c-api] capsule.rst, line 10); [backlink](#)

Unknown interpreted text role "ref".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\cpython-main [Doc] [c-api] capsule.rst, line 12)

Unknown directive type "versionadded".

```
.. versionadded:: 3.1
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\cpython-main [Doc] [c-api] capsule.rst, line 15)

Unknown directive type "c:type".

```
.. c:type:: PyCapsule
```

This subtype of `:c:type:PyObject` represents an opaque value, useful for C extension modules who need to pass an opaque value (as a `:c:type:void*` pointer) through Python code to other C code. It is often used to make a C function pointer defined in one module available to other modules, so the regular import mechanism can be used to access C APIs defined in dynamically loaded modules.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\cpython-main [Doc] [c-api] capsule.rst, line 25)

Unknown directive type "c:type".

```
.. c:type:: PyCapsule_Destructor
```

The type of a destructor callback for a capsule. Defined as::

```
typedef void (*PyCapsule_Destructor)(PyObject *);
```

See `:c:func:PyCapsule_New` for the semantics of `PyCapsule_Destructor` callbacks.

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

Unknown directive type "c:function".

```
.. c:function:: int PyCapsule_CheckExact(PyObject *p)
```

Return true if its argument is a `:c:type:PyCapsule`. This function always succeeds.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]capsule.rst, line 41)

Unknown directive type "c:function".

```
.. c:function:: PyObject* PyCapsule_New(void *pointer, const char *name, PyCapsule_Destructor destruct
```

Create a `:c:type:PyCapsule` encapsulating the `*pointer*`. The `*pointer*` argument may not be `NULL`.

On failure, set an exception and return `NULL`.

The `*name*` string may either be `NULL` or a pointer to a valid C string. If non-`NULL`, this string must outlive the capsule. (Though it is permitted to free it inside the `*destructor*`.)

If the `*destructor*` argument is not `NULL`, it will be called with the capsule as its argument when it is destroyed.

If this capsule will be stored as an attribute of a module, the `*name*` should be specified as `module.name`. This will enable other modules to import the capsule using `:c:func:PyCapsule_Import`.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]capsule.rst, line 60)

Unknown directive type "c:function".

```
.. c:function:: void* PyCapsule_GetPointer(PyObject *capsule, const char *name)
```

Retrieve the `*pointer*` stored in the capsule. On failure, set an exception and return `NULL`.

The `*name*` parameter must compare exactly to the name stored in the capsule. If the name stored in the capsule is `NULL`, the `*name*` passed in must also be `NULL`. Python uses the C function `:c:func:strcmp` to compare capsule names.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]capsule.rst, line 71)

Unknown directive type "c:function".

```
.. c:function:: PyCapsule_Destructor PyCapsule_GetDestructor(PyObject *capsule)
```

Return the current destructor stored in the capsule. On failure, set an exception and return `NULL`.

It is legal for a capsule to have a `NULL` destructor. This makes a `NULL` return code somewhat ambiguous; use `:c:func:PyCapsule_IsValid` or `:c:func:PyErr_Occurred` to disambiguate.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]capsule.rst, line 81)

Unknown directive type "c:function".

```
.. c:function:: void* PyCapsule_GetContext(PyObject *capsule)
```

Return the current context stored in the capsule. On failure, set an exception and return `NULL`.

It is legal for a capsule to have a `NULL` context. This makes a `NULL` return code somewhat ambiguous; use `:c:func:PyCapsule_IsValid` or `:c:func:PyErr_Occurred` to disambiguate.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]capsule.rst, line 91)

Unknown directive type "c:function".

```
.. c:function:: const char* PyCapsule_GetName(PyObject *capsule)
```

Return the current name stored in the capsule. On failure, set an exception and return `NULL`.

It is legal for a capsule to have a ``NULL`` name. This makes a ``NULL`` return code somewhat ambiguous; use `:c:func:`PyCapsule_IsValid`` or `:c:func:`PyErr_Occurred`` to disambiguate.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api] capsule.rst, line 101)

Unknown directive type "c:function".

```
.. c:function:: void* PyCapsule_Import(const char *name, int no_block)

Import a pointer to a C object from a capsule attribute in a module. The
*name* parameter should specify the full name to the attribute, as in
``module.attribute``. The *name* stored in the capsule must match this
string exactly.

Return the capsule's internal *pointer* on success. On failure, set an
exception and return ``NULL``.

.. versionchanged:: 3.3
   *no_block* has no effect anymore.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api] capsule.rst, line 115)

Unknown directive type "c:function".

```
.. c:function:: int PyCapsule_IsValid(PyObject *capsule, const char *name)

Determines whether or not *capsule* is a valid capsule. A valid capsule is
non-``NULL``, passes :c:func:`PyCapsule_CheckExact`, has a non-``NULL`` pointer
stored in it, and its internal name matches the *name* parameter. (See
:c:func:`PyCapsule_GetPointer` for information on how capsule names are
compared.)

In other words, if :c:func:`PyCapsule_IsValid` returns a true value, calls to
any of the accessors (any function starting with :c:func:`PyCapsule_Get`) are
guaranteed to succeed.

Return a nonzero value if the object is valid and matches the name passed in.
Return ``0`` otherwise. This function will not fail.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api] capsule.rst, line 131)

Unknown directive type "c:function".

```
.. c:function:: int PyCapsule_SetContext(PyObject *capsule, void *context)

Set the context pointer inside *capsule* to *context*.

Return ``0`` on success. Return nonzero and set an exception on failure.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api] capsule.rst, line 138)

Unknown directive type "c:function".

```
.. c:function:: int PyCapsule_SetDestructor(PyObject *capsule, PyCapsule_Destructor destructor)

Set the destructor inside *capsule* to *destructor*.

Return ``0`` on success. Return nonzero and set an exception on failure.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api] capsule.rst, line 145)

Unknown directive type "c:function".

```
.. c:function:: int PyCapsule_SetName(PyObject *capsule, const char *name)
```

Set the name inside **capsule** to **name**. If non-```NULL```, the name must outlive the capsule. If the previous **name** stored in the capsule was not ```NULL```, no attempt is made to free it.

Return ```0``` on success. Return nonzero and set an exception on failure.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]capsule.rst, line 154)

Unknown directive type "c:function".

```
.. c:function:: int PyCapsule_SetPointer(PyObject *capsule, void *pointer)
```

Set the void pointer inside **capsule** to **pointer**. The pointer may not be ```NULL```.

Return ```0``` on success. Return nonzero and set an exception on failure.