:mod:`marshal` --- Internal Python object serialization

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]marshal.rst, line 1); *backlink*

Unknown interpreted text role "mod".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]marshal.rst, line 4)

Unknown directive type "module".

```
.. module:: marshal
   :synopsis: Convert Python objects to streams of bytes and back (with different
              constraints).
```

This module contains functions that can read and write Python values in a binary format. The format is specific to Python, but independent of machine architecture issues (e.g., you can write a Python value to a file on a PC, transport the file to a Sun, and read it back there). Details of the format are undocumented on purpose; it may change between Python versions (although it rarely does). [1]

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]marshal.rst, line 17)

Unknown directive type "index".

```
.. index::
   module: pickle
   module: shelve
```

This is not a general "persistence" module. For general persistence and transfer of Python objects through RPC calls, see the modules :mod:`pickle` and :mod:`shelve`. The :mod:`marshal` module exists mainly to support reading and writing the "pseudo-compiled" code for Python modules of :file:`.pyc` files. Therefore, the Python maintainers reserve the right to modify the marshal format in backward incompatible ways should the need arise. If you're serializing and de-serializing Python objects, use the :mod:`pickle` module instead -- the performance is comparable, version independence is guaranteed, and pickle supports a substantially wider range of objects than marshal.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]marshal.rst, line 21); *backlink*

Unknown interpreted text role "mod".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]marshal.rst, line 21); *backlink*

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System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]marshal.rst, line 21); *backlink*

Unknown interpreted text role "mod".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]marshal.rst, line 21); *backlink*

Unknown interpreted text role "file".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]marshal.rst, line 21); *backlink*

Unknown interpreted text role "mod".

Warning

The :mod:`marshal` module is not intended to be secure against erroneous or maliciously constructed data. Never unmarshal data received from an untrusted or unauthenticated source.

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Unknown interpreted text role "mod".

System Message: ERROR/3 (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]marshal.rst`, line 37)

Unknown directive type "index".

```
.. index:: object; code, code object
```

Not all Python object types are supported; in general, only objects whose value is independent from a particular invocation of Python can be written and read by this module. The following types are supported: booleans, integers, floating point numbers, complex numbers, strings, bytes, bytearrays, tuples, lists, sets, frozensets, dictionaries, and code objects, where it should be understood that tuples, lists, sets, frozensets and dictionaries are only supported as long as the values contained therein are themselves supported. The singletons :const:`None`, :const:`Ellipsis` and :exc:`StopIteration` can also be marshalled and unmarshalled. For format *version* lower than 3, recursive lists, sets and dictionaries cannot be written (see below).

System Message: ERROR/3 (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]marshal.rst`, line 39); *backlink*

Unknown interpreted text role "const".

System Message: ERROR/3 (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]marshal.rst`, line 39); *backlink*

Unknown interpreted text role "const".

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There are functions that read/write files as well as functions operating on bytes-like objects.

The module defines these functions:

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Unknown directive type "function".

```
.. function:: dump(value, file[, version])

   Write the value on the open file.  The value must be a supported type.  The
   file must be a writeable :term:`binary file`.

   If the value has (or contains an object that has) an unsupported type, a
   :exc:`ValueError` exception is raised --- but garbage data will also be written
   to the file.  The object will not be properly read back by :func:`load`.

   The *version* argument indicates the data format that ``dump`` should use
   (see below).

   .. audit-event:: marshal.dumps value,version marshal.dump
```

System Message: ERROR/3 (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]marshal.rst`, line 72)

Unknown directive type "function".

```
.. function:: load(file)

   Read one value from the open file and return it.  If no valid value is read
   (e.g. because the data has a different Python version's incompatible marshal
   format), raise :exc:`EOFError`, :exc:`ValueError` or :exc:`TypeError`.  The
   file must be a readable :term:`binary file`.

   .. audit-event:: marshal.load "" marshal.load

   .. note::

      If an object containing an unsupported type was marshalled with :func:`dump`,
      :func:`load` will substitute ``None`` for the unmarshallable type.

   .. versionchanged:: 3.10

      This call used to raise a ``code.__new__`` audit event for each code object. Now
      it raises a single ``marshal.load`` event for the entire load operation.
```

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Unknown directive type "function".

```
.. function:: dumps(value[, version])

   Return the bytes object that would be written to a file by ``dump(value, file)``.  The
   value must be a supported type.  Raise a :exc:`ValueError` exception if value
   has (or contains an object that has) an unsupported type.

   The *version* argument indicates the data format that ``dumps`` should use
   (see below).

   .. audit-event:: marshal.dumps value,version marshal.dump
```

System Message: ERROR/3 (`D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]marshal.rst`, line 104)

Unknown directive type "function".

```
.. function:: loads(bytes)

   Convert the :term:`bytes-like object` to a value.  If no valid value is found, raise
   :exc:`EOFError`, :exc:`ValueError` or :exc:`TypeError`.  Extra bytes in the
   input are ignored.

   .. audit-event:: marshal.loads bytes marshal.load

   .. versionchanged:: 3.10

      This call used to raise a ``code.__new__`` audit event for each code object. Now
      it raises a single ``marshal.loads`` event for the entire load operation.
```

In addition, the following constants are defined:

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Unknown directive type "data".

```
.. data:: version

   Indicates the format that the module uses. Version 0 is the historical
   format, version 1 shares interned strings and version 2 uses a binary format
   for floating point numbers.
   Version 3 adds support for object instancing and recursion.
   The current version is 4.
```

Footnotes

[1] The name of this module stems from a bit of terminology used by the designers of Modula-3 (amongst others), who use the term "marshalling" for shipping of data around in a self-contained form. Strictly speaking, "to marshal" means to convert some data from internal to external form (in an RPC buffer for instance) and "unmarshalling" for the reverse process.