:mod:`xdrlib` --- Encode and decode XDR data

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

Unknown directive type "module".

```
.. module:: xdrlib
   :synopsis: Encoders and decoders for the External Data Representation (XDR).
   :deprecated:
```

Source code: :source:`Lib/xdrlib.py`

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 8); *backlink*

Unknown interpreted text role "source".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 10)

Unknown directive type "index".

```
.. index::
   single: XDR
   single: External Data Representation
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 14)

Unknown directive type "deprecated".

```
.. deprecated:: 3.11
   The :mod:`xdrlib` module is deprecated (see :pep:`594` for details).
```

The :mod:`xdrlib` module supports the External Data Representation Standard as described in RFC 1014, written by Sun Microsystems, Inc. June 1987. It supports most of the data types described in the RFC.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 19); *backlink*

Unknown interpreted text role "mod".

The :mod:`xdrlib` module defines two classes, one for packing variables into XDR representation, and another for unpacking from XDR representation. There are also two exception classes.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 23); *backlink*

Unknown interpreted text role "mod".

:class:`Packer` is the class for packing data into XDR representation. The :class:`Packer` class is instantiated with no arguments.

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Unknown interpreted text role "class".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 30); *backlink*

Unknown interpreted text role "class".

`Unpacker` is the complementary class which unpacks XDR data values from a string buffer. The input buffer is given as *data*.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 40)

Unknown directive type "seealso".

```
.. seealso::

   :rfc:`1014` - XDR: External Data Representation Standard
      This RFC defined the encoding of data which was XDR at the time this module was
      originally written.  It has apparently been obsoleted by :rfc:`1832`.

   :rfc:`1832` - XDR: External Data Representation Standard
      Newer RFC that provides a revised definition of XDR.
```

Packer Objects

:class:`Packer` instances have the following methods:

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 55); *backlink*

Unknown interpreted text role "class".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 58)

Unknown directive type "method".

```
.. method:: Packer.get_buffer()

   Returns the current pack buffer as a string.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 63)

Unknown directive type "method".

```
.. method:: Packer.reset()

   Resets the pack buffer to the empty string.
```

In general, you can pack any of the most common XDR data types by calling the appropriate `pack_type()` method. Each method takes a single argument, the value to pack. The following simple data type packing methods are supported: :meth:`pack_uint`, :meth:`pack_int`, :meth:`pack_enum`, :meth:`pack_bool`, :meth:`pack_uhyper`, and :meth:`pack_hyper`.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 67); *backlink*

Unknown interpreted text role "meth".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 67); *backlink*

Unknown interpreted text role "meth".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 67); *backlink*

Unknown interpreted text role "meth".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 67); *backlink*

Unknown interpreted text role "meth".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 67); *backlink*

Unknown interpreted text role "meth".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 67); *backlink*

Unknown interpreted text role "meth".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 74)

Unknown directive type "method".

```
.. method:: Packer.pack_float(value)

   Packs the single-precision floating point number *value*.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 79)

Unknown directive type "method".

```
.. method:: Packer.pack_double(value)

   Packs the double-precision floating point number *value*.
```

The following methods support packing strings, bytes, and opaque data:

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 86)

Unknown directive type "method".

```
.. method:: Packer.pack_fstring(n, s)

   Packs a fixed length string, *s*.  *n* is the length of the string but it is
   *not* packed into the data buffer.  The string is padded with null bytes if
   necessary to guaranteed 4 byte alignment.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 93)

Unknown directive type "method".

```
.. method:: Packer.pack_fopaque(n, data)

   Packs a fixed length opaque data stream, similarly to :meth:`pack_fstring`.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 98)

Unknown directive type "method".

```
.. method:: Packer.pack_string(s)
```

```
Packs a variable length string, *s*.  The length of the string is first packed
as an unsigned integer, then the string data is packed with
:meth:`pack_fstring`.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 105)

Unknown directive type "method".

```
.. method:: Packer.pack_opaque(data)

   Packs a variable length opaque data string, similarly to :meth:`pack_string`.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 110)

Unknown directive type "method".

```
.. method:: Packer.pack_bytes(bytes)

   Packs a variable length byte stream, similarly to :meth:`pack_string`.
```

The following methods support packing arrays and lists:

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 117)

Unknown directive type "method".

```
.. method:: Packer.pack_list(list, pack_item)

   Packs a *list* of homogeneous items.  This method is useful for lists with an
   indeterminate size; i.e. the size is not available until the entire list has
   been walked.  For each item in the list, an unsigned integer ``1`` is packed
   first, followed by the data value from the list.  *pack_item* is the function
   that is called to pack the individual item.  At the end of the list, an unsigned
   integer ``0`` is packed.

   For example, to pack a list of integers, the code might appear like this::

      import xdrlib
      p = xdrlib.Packer()
      p.pack_list([1, 2, 3], p.pack_int)
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 133)

Unknown directive type "method".

```
.. method:: Packer.pack_farray(n, array, pack_item)

   Packs a fixed length list (*array*) of homogeneous items.  *n* is the length of
   the list; it is *not* packed into the buffer, but a :exc:`ValueError` exception
   is raised if ``len(array)`` is not equal to *n*.  As above, *pack_item* is the
   function used to pack each element.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 141)

Unknown directive type "method".

```
.. method:: Packer.pack_array(list, pack_item)

   Packs a variable length *list* of homogeneous items.  First, the length of the
   list is packed as an unsigned integer, then each element is packed as in
   :meth:`pack_farray` above.
```

Unpacker Objects

The :class:`Unpacker` class offers the following methods:

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 153); *backlink*

Unknown interpreted text role "class".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 156)

Unknown directive type "method".

```
.. method:: Unpacker.reset(data)

   Resets the string buffer with the given *data*.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 161)

Unknown directive type "method".

```
.. method:: Unpacker.get_position()

   Returns the current unpack position in the data buffer.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 166)

Unknown directive type "method".

```
.. method:: Unpacker.set_position(position)

   Sets the data buffer unpack position to *position*.  You should be careful about
   using :meth:`get_position` and :meth:`set_position`.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 172)

Unknown directive type "method".

```
.. method:: Unpacker.get_buffer()

   Returns the current unpack data buffer as a string.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 177)

Unknown directive type "method".

```
.. method:: Unpacker.done()

   Indicates unpack completion.  Raises an :exc:`Error` exception if all of the
   data has not been unpacked.
```

In addition, every data type that can be packed with a :class:`Packer`, can be unpacked with an :class:`Unpacker`. Unpacking methods are of the form `unpack_type()`, and take no arguments. They return the unpacked object.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 182); *backlink*

Unknown interpreted text role "class".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 182); *backlink*

Unknown interpreted text role "class".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 187)

Unknown directive type "method".

```
.. method:: Unpacker.unpack_float()

   Unpacks a single-precision floating point number.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 192)

Unknown directive type "method".

```
.. method:: Unpacker.unpack_double()

   Unpacks a double-precision floating point number, similarly to
   :meth:`unpack_float`.
```

In addition, the following methods unpack strings, bytes, and opaque data:

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 200)

Unknown directive type "method".

```
.. method:: Unpacker.unpack_fstring(n)

   Unpacks and returns a fixed length string.  *n* is the number of characters
   expected.  Padding with null bytes to guaranteed 4 byte alignment is assumed.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 206)

Unknown directive type "method".

```
.. method:: Unpacker.unpack_fopaque(n)

   Unpacks and returns a fixed length opaque data stream, similarly to
   :meth:`unpack_fstring`.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 212)

Unknown directive type "method".

```
.. method:: Unpacker.unpack_string()

   Unpacks and returns a variable length string.  The length of the string is first
   unpacked as an unsigned integer, then the string data is unpacked with
   :meth:`unpack_fstring`.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 219)

Unknown directive type "method".

```
.. method:: Unpacker.unpack_opaque()

   Unpacks and returns a variable length opaque data string, similarly to
   :meth:`unpack_string`.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 225)

Unknown directive type "method".

```
.. method:: Unpacker.unpack_bytes()

   Unpacks and returns a variable length byte stream, similarly to
   :meth:`unpack_string`.
```

The following methods support unpacking arrays and lists:

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 233)

Unknown directive type "method".

```
.. method:: Unpacker.unpack_list(unpack_item)

   Unpacks and returns a list of homogeneous items.  The list is unpacked one
   element at a time by first unpacking an unsigned integer flag.  If the flag is
   ``1``, then the item is unpacked and appended to the list.  A flag of ``0``
   indicates the end of the list.  *unpack_item* is the function that is called to
   unpack the items.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 242)

Unknown directive type "method".

```
.. method:: Unpacker.unpack_farray(n, unpack_item)

   Unpacks and returns (as a list) a fixed length array of homogeneous items.  *n*
   is number of list elements to expect in the buffer. As above, *unpack_item* is
   the function used to unpack each element.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 249)

Unknown directive type "method".

```
.. method:: Unpacker.unpack_array(unpack_item)

   Unpacks and returns a variable length *list* of homogeneous items. First, the
   length of the list is unpacked as an unsigned integer, then each element is
   unpacked as in :meth:`unpack_farray` above.
```

Exceptions

Exceptions in this module are coded as class instances:

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 264)

Unknown directive type "exception".

```
.. exception:: Error

   The base exception class.  :exc:`Error` has a single public attribute
   :attr:`msg` containing the description of the error.
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main][Doc][library]xdrlib.rst, line 270)

Unknown directive type "exception".

```
.. exception:: ConversionError

   Class derived from :exc:`Error`.  Contains no additional instance variables.
```

Here is an example of how you would catch one of these exceptions:

```
import xdrlib
p = xdrlib.Packer()
try:
    p.pack_double(8.01)
except xdrlib.ConversionError as instance:
    print('packing the double failed:', instance.msg)
```