

Python Mapping for Built-In Types



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Mapping of Slice Built-In Types to Python Types

The Slice [built-in types](#) are mapped to Python types as shown in this table:

Slice	Python
<code>bool</code>	<code>bool</code>
<code>short</code>	<code>int</code>
<code>int</code>	<code>int</code>
<code>long</code>	<code>long</code>
<code>float</code>	<code>double</code>
<code>double</code>	<code>double</code>
<code>string</code>	<code>string</code>

Although Python supports arbitrary precision in its integer types, the Ice run time validates integer values to ensure they have valid ranges for their declared Slice types.

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String Mapping in Python 2

String values returned as the result of a Slice operation (including return values, out parameters, and data members) are always represented as instances of Python's 8-bit `string` type. These string values contain UTF-8 encoded strings unless the program has installed a [string converter](#), in which case string values use the converter's native encoding instead.

Legal string input values for a remote Slice operation are shown below:

- `None`
Ice marshals an empty string whenever `None` is encountered.
- 8-bit string objects
Ice assumes that all 8-bit string objects contain valid UTF-8 encoded strings unless the program has installed a string converter, in which case Ice assumes that 8-bit string objects use the native encoding expected by the converter.
- Unicode objects
Ice converts a Unicode object into UTF-8 and marshals it directly. If a string converter is installed, it is not invoked for Unicode objects.

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String Mapping in Python 3

String values returned as the result of a Slice operation (including return values, out parameters, and data members) are always represented as instances of Python's Unicode-based `str` type. These string values contain UTF-8 encoded strings. The [string converter](#) facility is not used in Python 3.

Legal string input values for a remote Slice operation are shown below:

- `None`
Ice marshals an empty string whenever `None` is encountered.
- String objects
Ice converts strings to UTF-8 (if necessary) prior to marshaling.

See Also

- [Basic Types](#)
- [Python Mapping for Identifiers](#)
- [Python Mapping for Modules](#)
- [Python Mapping for Enumerations](#)
- [Python Mapping for Structures](#)
- [Python Mapping for Sequences](#)
- [Python Mapping for Dictionaries](#)
- [Python Mapping for Constants](#)
- [Python Mapping for Exceptions](#)
- [C++98 Strings and Character Encoding](#)



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