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
bool	bool
short	int
int	int
long	long
float	double
double	double
string	string

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.

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.

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