

# Data Encoding for Interfaces

Interfaces can be [marshaled by value](#). For an interface marshaled by value (as opposed to a class instance derived from that interface), only the [type ID](#) of the most-derived interface is encoded. Here are the Slice definitions once more:

## Slice

```
interface Base { /* ... */ };

interface Derived extends Base { /* ... */ };

interface Example {
    void doSomething(Base b);
};
```

If the client passes a class instance to `doSomething` that does not have a Slice definition (but derives from `Derived`), the on-the-wire representation of the interface is as follows:

| Marshaled Value                           | Size in Bytes | Type   | Byte offset |
|-------------------------------------------|---------------|--------|-------------|
| 1 ( <i>identity</i> )                     | 4             | int    | 0           |
| 0 ( <i>marker for class type ID</i> )     | 1             | bool   | 4           |
| "::Derived" ( <i>class type ID</i> )      | 10            | string | 5           |
| 4 ( <i>byte count for slice</i> )         | 4             | int    | 15          |
| 0 ( <i>marker for class type ID</i> )     | 1             | bool   | 19          |
| "::Ice::Object" ( <i>class type ID</i> )  | 14            | string | 20          |
| 5 ( <i>byte count for slice</i> )         | 4             | int    | 34          |
| 0 ( <i>number of dictionary entries</i> ) | 1             | size   | 38          |

## See Also

- [Passing Interfaces by Value](#)
- [Type IDs](#)
- [Data Encoding for Classes](#)