

Client-Side Slice-to-MATLAB Mapping



The client-side Slice-to-MATLAB mapping defines how Slice data types are translated to MATLAB types, and how clients invoke operations, pass parameters, and handle errors. Much of the MATLAB mapping is intuitive. For example, Slice sequences map to MATLAB arrays, so there is essentially nothing new you have to learn in order to use Slice sequences in MATLAB.

Much of what appears in this chapter is reference material. We suggest that you skim the material on the initial reading and refer back to specific sections as needed. However, we recommend that you read at least the mappings for [exceptions](#), [interfaces](#), and [operations](#) in detail because these sections cover how to call operations from a client, pass parameters, and handle exceptions.



In order to use the MATLAB mapping, you should need no more than the Slice definition of your application and knowledge of the MATLAB mapping rules. In particular, looking through the generated code in order to discern how to use the MATLAB mapping is likely to be inefficient, due to the amount of detail. Of course, occasionally, you may want to refer to the generated code to confirm a detail of the mapping, but we recommend that you otherwise use the material presented here to see how to write your client-side code.



The Ice Module

All of the APIs for the Ice run time are nested in the `Ice` package, to avoid clashes with definitions for other libraries or applications. Some of the contents of the `Ice` package are generated from Slice definitions; other parts of the `Ice` package provide special-purpose definitions that do not have a corresponding Slice definition. We will incrementally cover the contents of the `Ice` package throughout the remainder of the chapter.

A MATLAB application can load the Ice run time using the `loadlibrary` function:

```
loadlibrary('ice', @iceproto);
```

or

```
loadlibrary('ice'); % requires a C/C++ compiler to build the generated "thunk" library
```

If the function executes without error, the Ice run time is loaded and available for use. You can determine the version of the Ice run time you have just loaded by calling the `stringVersion` function:

```
icever = Ice.stringVersion();
```

Topics

- [MATLAB Mapping for Identifiers](#)
- [MATLAB Mapping for Modules](#)
- [MATLAB Mapping for Basic Types](#)
- [MATLAB Mapping for Enumerations](#)
- [MATLAB Mapping for Structures](#)
- [MATLAB Mapping for Sequences](#)
- [MATLAB Mapping for Dictionaries](#)
- [MATLAB Mapping for Constants](#)
- [MATLAB Mapping for Exceptions](#)
- [MATLAB Mapping for Interfaces](#)
- [MATLAB Mapping for Operations](#)
- [MATLAB Mapping for Classes](#)
- [Asynchronous Method Invocation \(AMI\) in MATLAB](#)
- [slice2matlab Command-Line Options](#)
- [Customizing the MATLAB Mapping](#)

