

[Foundation](#) / Object Runtime

API Collection

# Object Runtime

Get low-level support for basic Objective-C features, Cocoa design patterns, and Swift integration.

## Topics

### Object Basics

`class NSObject`

The root class of most Objective-C class hierarchies, from which subclasses inherit a basic interface to the runtime system and the ability to behave as Objective-C objects.

`protocol NSObjectProtocol`

The group of methods that are fundamental to all Objective-C objects.

 [NSKeyValueCoding](#)

A mechanism by which you can access the properties of an object indirectly by name or key.

### Copying

`protocol NSCopying`

A protocol that objects adopt to provide functional copies of themselves.

`protocol NSMutableCopying`

A protocol that mutable objects adopt to provide functional copies of themselves.

### Value Wrappers and Transformations

```
class NSNumber
```

An object wrapper for primitive scalar numeric values.

```
class NSValue
```

A simple container for a single C or Objective-C data item.

```
class ValueTransformer
```

An abstract class used to transform values from one representation to another.

## Swift Support

SupportedLanguage(swift)

```
protocol ReferenceConvertible
```

A decoration applied to types that are backed by a Foundation reference type.

☰ Classes Bridged to Swift Standard Library Value Types

Use bridged reference types when you need reference semantics or Foundation-specific behavior.

## Remote Objects

```
class NSProxy
```

An abstract superclass defining an API for objects that act as stand-ins for other objects or for objects that don't exist yet.

## Memory Management

☰ Memory Management Functions

Perform low-level memory management tasks.

## Objective-C Runtime

☰ Objective-C Runtime Utilities

Interact with the Objective-C runtime.

## Versions and API Availability

☰ Foundation Framework Version Numbers

Recognize the constants for comparing the current running version of Foundation against known OS version numbers.

## Legacy

SupportedLanguage(swift)

- ☰ Distributed Objects Support

Enable communication among objects in different processes, both locally and on remote systems.

- ☰ Objective-C Garbage Collection

Interface with the legacy garbage collection system.

## See Also

### Low-Level Utilities

- ☰ XPC

Manage secure interprocess communication.

- ☰ Processes and Threads

Manage your app's interaction with the host operating system and other processes, and implement low-level concurrency features.

- ☰ Streams, Sockets, and Ports

Use low-level Unix features to manage input and output among files, processes, and the network.