

[Metal](#) / MTLPipelineBufferDescriptor

## Class

# MTLPipelineBufferDescriptor

The mutability options for a buffer that a render or compute pipeline uses.

iOS 11.0+ | iPadOS 11.0+ | Mac Catalyst 13.1+ | macOS 10.13+ | tvOS 11.0+ | visionOS 1.0+

```
class MTLPipelineBufferDescriptor
```

## Overview

Metal can perform additional optimizations if you guarantee that neither the CPU nor the GPU modify a buffer's contents before starting a pass. Use immutable buffers as much as possible to take advantage of Metal optimizations.

To declare that a buffer is immutable, set the mutability property of their associated MTLPipelineBufferDescriptor object to MTLMutability.immutable.

## Topics

### Setting buffer mutability

```
var mutability: MTLMutability
```

A mutability option that determines whether you can update a buffer's contents before related commands use the buffer.

```
enum MTLMutability
```

The options that determine the mutability of a buffer's contents.

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## Relationships

### Inherits From

NSObject

### Conforms To

CVarArg

CustomDebugStringConvertible

CustomStringConvertible

Equatable

Hashable

NSCopying

NSObjectProtocol

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## See Also

### Configuring a compute pipeline state

`class MTL4ComputePipelineDescriptor`

Describes a compute pipeline state.

`class MTLComputePipelineDescriptor`

An instance describing the desired GPU state for a kernel call in a compute pass.

`protocol MTLComputePipelineState`

An interface that represents a GPU pipeline configuration for running kernels in a compute pass.

`class MTLStageInputOutputDescriptor`

A description of the input and output data of a function.

`class MTLPipelineBufferDescriptorArray`

An array of pipeline buffer descriptors.

```
struct MTLPipelineOption
```

Options that determine how Metal prepares the pipeline.