

[Metal](#) / MTLStageInputOutputDescriptor

## Class

# MTLStageInputOutputDescriptor

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

iOS 10.0+ | iPadOS 10.0+ | Mac Catalyst 13.1+ | macOS 10.12+ | tvOS 10.0+ | visionOS 1.0+

```
class MTLStageInputOutputDescriptor
```

## Topics

### Describing argument layouts

```
var attributes: MTLAttributeDescriptorArray
```

An array that describes where and how to fetch data for the function.

```
var layouts: MTLBufferLayoutDescriptorArray
```

An array that describes how the function fetches data.

### Declaring index buffers for indirect compute commands

```
var indexBufferIndex: Int
```

The location of the index buffer for a compute function using indexed thread addressing.

```
var indexType: MTLIndexType
```

The data type of the indices stored in the index buffer.

### Resetting the descriptor

```
func reset()
```

Resets the default state for the descriptor.

---

## Relationships

### Inherits From

NSObject

### Conforms To

CVarArg

CustomDebugStringConvertible

CustomStringConvertible

Equatable

Hashable

NSCopying

NSObjectProtocol

---

## 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 MTLPipelineBufferDescriptor
```

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

`class MTLPipelineBufferDescriptorArray`

An array of pipeline buffer descriptors.

`struct MTLPipelineOption`

Options that determine how Metal prepares the pipeline.