

[Apple CryptoKit](#) / SymmetricKey

## Structure

# SymmetricKey

A symmetric cryptographic key.

iOS 13.0+ | iPadOS 13.0+ | Mac Catalyst 13.0+ | macOS 10.15+ | tvOS 13.0+ | visionOS 1.0+ | watchOS 6.0+

```
struct SymmetricKey
```

## Overview

You typically derive a symmetric key from an instance of a shared secret ([SharedSecret](#)) that you obtain through key agreement. You use a symmetric key to compute a message authentication code like [HMAC](#), or to open and close a sealed box ([ChaChaPoly.SealedBox](#) or [AES.GCM.SealedBox](#)) using a cipher like [ChaChaPoly](#) or [AES](#).

## Topics

### Creating a key

```
init<D>(data: D)
```

Creates a key from the given data.

```
init(size: SymmetricKeySize)
```

Generates a new random key of the given size.

### Getting the key length

```
var bitCount: Int
```

The number of bits in the key.

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## Relationships

### Conforms To

ContiguousBytes

Copyable

Equatable

Sendable

SendableMetatype

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## See Also

### Message authentication codes

```
struct HMAC
```

A hash-based message authentication algorithm.

```
struct SymmetricKeySize
```

The sizes that a symmetric cryptographic key can take.