

[Apple CryptoKit](#) / DiffieHellmanKeyAgreement

## Protocol

# DiffieHellmanKeyAgreement

## A Diffie-Hellman Key Agreement Key

iOS 17.0+ | iPadOS 17.0+ | Mac Catalyst 17.0+ | macOS 14.0+ | tvOS 17.0+ | visionOS 1.0+ | watchOS 10.0+

```
@preconcurrency
protocol DiffieHellmanKeyAgreement : Sendable
```

## Topics

## Associated Types

```
associatedtype PublicKey : Sendable
```

The public key share type to perform the DH Key Agreement

Required

## Instance Properties

```
var publicKey: Self.PublicKey
```

Required

## Instance Methods

```
func sharedSecretFromKeyAgreement(with: Self.PublicKey) throws ->
SharedSecret
```

Performs a Diffie-Hellman Key Agreement.

# Relationships

## Inherits From

Sendable, SendableMetatype

## Inherited By

HPKEDiffieHellmanPrivateKey, HPKEDiffieHellmanPrivateKeyGeneration

## Conforming Types

Curve25519.KeyAgreement.PrivateKey  
P256.KeyAgreement.PrivateKey  
P384.KeyAgreement.PrivateKey  
P521.KeyAgreement.PrivateKey  
SecureEnclave.P256.KeyAgreement.PrivateKey