

[ARKit / ARKitSession](#)

Class

ARKitSession

The main entry point for receiving data from ARKit.

macOS 26.0+ | visionOS 1.0+

```
final class ARKitSession
```

Overview

Sessions in ARKit require either implicit or explicit authorization. To explicitly ask for permission for a particular kind of data and choose when a person is prompted for that permission, call [requestAuthorization\(for:\)](#) before [run\(_:\)](#).

The following shows a session that starts by requesting implicit authorization to use world sensing:

```
let planeData = PlaneDetectionProvider(alignment: [.horizontal, .vertical])  
  
Task {  
    do {  
        try await self.session.run([planeData])  
        // Update app based on the planeData.anchorUpdates async sequence.  
    } catch {  
        print("ARKitSession error:", error)  
    }  
}
```

Because a [PlaneDetectionProvider](#) instance's required authorizations include [ARKitSession.AuthorizationType.worldSensing](#), the system asks someone using your app to permit world sensing before ARKit supplies any of that kind of data.

Note

ARKit stops sessions when they're deinitialized; keep a reference to a session instance for as long as the session needs to run.

Topics

Starting and stopping a session

`convenience init()`

Creates a new session.

`func run([any DataProvider]) async throws`

Runs a session with the data providers you supply.

`func stop()`

Stops all data providers running in this session.

`struct Error`

An error that might occur when running data providers on an ARKit session.

Getting authorization

`func requestAuthorization(for: [ARKitSession.AuthorizationType]) async -> [ARKitSession.AuthorizationType : ARKitSession.AuthorizationStatus]`

Requests authorization from the user to use the specified kinds of ARKit data.

`enum AuthorizationType`

The authorization types you can request from ARKit.

`func queryAuthorization(for: [ARKitSession.AuthorizationType]) async -> [ARKitSession.AuthorizationType : ARKitSession.AuthorizationStatus]`

Checks whether the current session is authorized for particular authorization types without requesting authorization.

`enum AuthorizationStatus`

The authorization states for a type of ARKit data.

Observing a session

```
var events: ARKitSession.Events
```

An asynchronous sequence of events that provide updates to the current authorization status of the session.

```
struct Events
```

A sequence of events.

```
enum Event
```

Enumeration of possible session events.

```
var description: String
```

A textual representation of this session.

Initializers

```
convenience init(device: RemoteDeviceIdentifier)
```

Create a new session connected to the specified device.

Instance Properties

```
var dataProviders: [any DataProvider]
```

A list of all data providers on this session.

Relationships

Conforms To

CustomStringConvertible, Sendable, SendableMetatype

See Also

visionOS

 Setting up access to ARKit data

Check whether your app can use ARKit and respect people's privacy.

```
protocol DataProvider
```

A source of live data from ARKit.

```
protocol Anchor
```

The identity, location, and orientation of an object in world space.

```
:≡ ARKit in visionOS
```

Create immersive augmented reality experiences.