

App Intents

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Entity queries

Help the system find the entities your app defines and use them to resolve parameters.

Overview

When the system needs to retrieve one or more specific instances of an app entity, it asks you to provide a relevant query type. The system uses queries during parameter resolution when the parameter of an intent contains an entity. The system also uses them to resolve information in a different format into one of your app’s entities. For example, it uses them to resolve natural spoken language into one of your app’s entities.

The system can sometimes determine which entities it needs and provide you with a list of corresponding identifiers. Provide an [EntityQuery](#) type to supply the entities for those identifiers. Provide additional query types to perform more advanced searches, such as a search that matches specific properties of the entity.

Topics

Identifier-based queries

protocol [EntityQuery](#)

An interface for locating entities using their identifiers.

protocol [EnumerableEntityQuery](#)

An interface you use to provide a short list of entities that are relatively small in size.

String-based queries

protocol [EntityStringQuery](#)

An interface that locates entities using arbitrary string input.

Property-matched queries

protocol [EntityPropertyQuery](#)

An interface for locating entities by matching values against one or more of their properties.

struct [EntityQueryProperties](#)

A type that provides the properties to include in a property-matched query.

class [EntityQueryProperty](#)

An object that provides the supported comparators you use to describe the different ways users can query against a property of an app entity.

Property comparators

Specify the type of comparison to perform during a property-matched query.

struct [EntityQuerySortingOptions](#)

The potential properties you can use to sort the results of a query.

struct [EntityQuerySortableByProperty](#)

Details about a specific property you use to sort the query results.

struct [EntityQuerySort](#)

The properties to use to sort the results when the query runs.

Unique entity queries

protocol [UniqueAppEntityQuery](#)

A query designed for only returning a single possible value, provided by `uniqueEntity`. Protocol extensions will provide the other required query methods based on that.

struct [UniqueAppEntityProvider](#)

A simplified query type conforming to `UniqueAppEntityQuery`. Use this as the value of the `defaultQuery` of an entity conforming to `UniqueAppEntity`.

See Also

Parameters, custom data types, and queries

[Adding parameters to an app intent](#)

Enable people to configure app intents with their custom input values.

[Integrating custom data types into your intents](#)

Provide the system with information about the types your app uses to model its data so that your intents can use those types as parameters.

[Parameter resolution](#)

Define the required parameters for your app intents and specify how to resolve those parameters at runtime.

[App entities](#)

Make core types or concepts discoverable to the system by declaring them as app entities.

[Resolvers](#)

Resolve the parameters of your app intents, and extend the standard resolution types to include your app’s custom types.

Platforms

iOS

iPadOS

macOS

tvOS

visionOS

watchOS

Tools

Swift

SwiftUI

Swift Playground

TestFlight

Xcode

Xcode Cloud

SF Symbols

Topics & Technologies

Accessibility

Accessories

App Extension

App Store

Audio & Video

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Certificates, IDs, & Profiles

Feedback Assistant

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Apple Developer Enterprise Program

App Store Small Business Program

MFi Program

News Partner Program

Video Partner Program

Security Bounty Program

Security Research Device Program

Events

Meet with Apple

Apple Developer Centers

App Store Awards

Apple Design Awards

Apple Developer Academies

WWDC