

[XCUIAutomation](#) / [XCUIElementTypeQueryProvider](#)

Protocol

# XCUIElementTypeQueryProvider

A type that provides ready-made queries for locating descendant UI elements.

iOS | iPadOS | Mac Catalyst | macOS | tvOS | visionOS | watchOS | Xcode 16.3+

```
@MainActor
protocol XCUIElementTypeQueryProvider
```

## Overview

Accessing the properties to get queries for descendant elements on an instance of a conforming class (such as an [XCUIElement](#) or [XCUIElementQuery](#) instance) is equivalent to calling [descendants\(matching:\)](#) for the corresponding element type.

## Topics

### Finding the first matching element

`var firstMatch: XCUIElement`

The first element that matches the query.

Required

### Querying descendant elements

`var activityIndicators: XCUIElementQuery`

A query that matches activity-indicator view elements.

**Required**

`var alerts: XCUIElementQuery`

A query that matches alert view elements.

**Required**

`var browsers: XCUIElementQuery`

A query that matches browser elements.

**Required**

`var buttons: XCUIElementQuery`

A query that matches button control elements.

**Required**

`var cells: XCUIElementQuery`

A query that matches cell elements.

**Required**

`var checkBoxes: XCUIElementQuery`

A query that matches checkbox control elements.

**Required**

`var collectionViews: XCUIElementQuery`

A query that matches collection view elements.

**Required**

`var colorWells: XCUIElementQuery`

A query that matches color-well elements.

**Required**

`var comboBoxes: XCUIElementQuery`

A query that matches combo-box control elements.

**Required**

`var datePickers: XCUIElementQuery`

A query that matches date-picker control elements.

**Required**

`var decrementArrows: XCUIElementQuery`

A query that matches decrement-arrow control elements.

**Required**

`var dialogs: XCUIElementQuery`

A query that matches dialog view elements.

**Required**

var disclosureTriangles: XCUIElementQuery

A query that matches disclosure-triangle control elements.

**Required**

var disclosedChildRows: XCUIElementQuery

A query that matches disclosed child row elements.

**Required**

var dockItems: XCUIElementQuery

A query that matches dock-item control elements.

**Required**

var drawers: XCUIElementQuery

A query that matches drawer elements.

**Required**

var grids: XCUIElementQuery

A query that matches grid view elements.

**Required**

var groups: XCUIElementQuery

A query that matches group elements.

**Required**

var handles: XCUIElementQuery

A query that matches handle control elements.

**Required**

var helpTags: XCUIElementQuery

A query that matches help-tag elements.

**Required**

var icons: XCUIElementQuery

A query that matches icon elements.

**Required**

var images: XCUIElementQuery

A query that matches image-view elements.

**Required**

```
var incrementArrows: XCUIElementQuery
```

A query that matches increment-arrow control elements.

**Required**

```
var keyboards: XCUIElementQuery
```

A query that matches keyboard elements.

**Required**

```
var keys: XCUIElementQuery
```

A query that matches key elements.

**Required**

```
var layoutAreas: XCUIElementQuery
```

A query that matches layout-area elements.

**Required**

```
var layoutItems: XCUIElementQuery
```

A query that matches layout-item elements.

**Required**

```
var levelIndicators: XCUIElementQuery
```

A query that matches level-indicator elements.

**Required**

```
var links: XCUIElementQuery
```

A query that matches link elements.

**Required**

```
var maps: XCUIElementQuery
```

A query that matches map-view elements.

**Required**

```
var mattes: XCUIElementQuery
```

A query that matches matte elements.

**Required**

```
var menuBarItems: XCUIElementQuery
```

A query that matches menu bar item elements.

**Required**

```
var menuBars: XCUIElementQuery
```

A query that matches menu bar elements.

**Required**

```
var menuButtons: XCUIElementQuery
```

A query that matches menu button elements.

**Required**

```
var menuItems: XCUIElementQuery
```

A query that matches menu item elements.

**Required**

```
var menus: XCUIElementQuery
```

A query that matches menu elements.

**Required**

```
var navigationBars: XCUIElementQuery
```

A query that matches navigation bar elements.

**Required**

```
var otherElements: XCUIElementQuery
```

A query that matches other view or control elements.

**Required**

```
var outlineRows: XCUIElementQuery
```

A query that matches outline row elements.

**Required**

```
var outlines: XCUIElementQuery
```

A query that matches outline view elements.

**Required**

```
var pageIndicators: XCUIElementQuery
```

A query that matches page-indicator control elements.

**Required**

```
var pickerWheels: XCUIElementQuery
```

A query that matches picker-wheel control elements.

**Required**

```
var pickers: XCUIElementQuery
```

A query that matches picker control elements.

**Required**

```
var popUpButtons: XCUIElementQuery
```

A query that matches popup-button control elements.

**Required**

```
var popovers: XCUIElementQuery
```

A query that matches popover view elements.

**Required**

```
var progressIndicators: XCUIElementQuery
```

A query that matches progress-indicator control elements.

**Required**

```
var radioButtons: XCUIElementQuery
```

A query that matches radio-button control elements.

**Required**

```
var radioGroups: XCUIElementQuery
```

A query that matches radio group elements.

**Required**

```
var ratingIndicators: XCUIElementQuery
```

A query that matches rating-indicator view elements.

**Required**

```
var relevanceIndicators: XCUIElementQuery
```

A query that matches relevance-indicator view elements.

**Required**

```
var rulerMarkers: XCUIElementQuery
```

A query that matches ruler marker elements.

**Required**

```
var rulers: XCUIElementQuery
```

A query that matches ruler view elements.

**Required**

```
var scrollBars: XCUIElementQuery
```

A query that matches scroll bar elements.

**Required**

```
var scrollViews: XCUIElementQuery
```

A query that matches scroll view elements.

**Required**

```
var searchFields: XCUIElementQuery
```

A query that matches search field elements.

**Required**

```
var secureTextFields: XCUIElementQuery
```

A query that matches secure text field elements.

**Required**

```
var segmentedControls: XCUIElementQuery
```

A query that matches segmented control elements.

**Required**

```
var sheets: XCUIElementQuery
```

A query that matches sheet elements.

**Required**

```
var sliders: XCUIElementQuery
```

A query that matches slider elements.

**Required**

```
var splitGroups: XCUIElementQuery
```

A query that matches split group elements.

**Required**

```
var splitters: XCUIElementQuery
```

A query that matches splitter elements.

**Required**

```
var staticTexts: XCUIElementQuery
```

A query that matches static-text view elements.

**Required**

```
var statusBars: XCUIElementQuery
```

A query that matches status bar elements.

**Required**

```
var statusItems: XCUIElementQuery
```

A query that matches status item elements.

**Required**

```
var steppers: XCUIElementQuery
```

A query that matches stepper elements.

**Required**

```
var switches: XCUIElementQuery
```

A query that matches switch control elements.

**Required**

```
var tabBar: XCUIElementQuery
```

A query that matches tab bar elements.

**Required**

```
var tabGroup: XCUIElementQuery
```

A query that matches tab group elements.

**Required**

```
var tableColumn: XCUIElementQuery
```

A query that matches table column elements.

**Required**

```
var tableRow: XCUIElementQuery
```

A query that matches table row elements.

**Required**

```
var table: XCUIElementQuery
```

A query that matches table elements.

**Required**

```
var tab: XCUIElementQuery
```

A query that matches tab elements.

**Required**

```
var textField: XCUIElementQuery
```

A query that matches text field elements.

**Required**

```
var textView: XCUIElementQuery
```

A query that matches text view elements.

**Required**

```
var timeline: XCUIElementQuery
```

A query that matches timeline view elements.

**Required**

```
var toggle: XCUIElementQuery
```

A query that matches toggle control elements.

**Required**

```
var toolbarButton: XCUIElementQuery
```

A query that matches toolbar button elements.

**Required**

```
var toolbars: XCUIElementQuery
```

A query that matches toolbar elements.

**Required**

```
var touchBars: XCUIElementQuery
```

A query that matches touch bar elements.

**Required**

```
var valueIndicators: XCUIElementQuery
```

A query that matches value indicator elements.

**Required**

```
var webViews: XCUIElementQuery
```

A query that matches web view elements.

**Required**

```
var windows: XCUIElementQuery
```

A query that matches window elements.

**Required**

---

## Relationships

### Conforming Types

[XCUIApplication](#)

[XCUIElement](#)

[XCUIElementQuery](#)

[XCUISiriService](#)

---

## See Also

### UI element queries

```
class XCUIElementQuery
```

An object that defines the search criteria a test uses to identify UI elements.