



Globant

iOS Locator
Strategies

iOS Selector Strategies

Strategy	Description
Accessibility ID	Read a unique identifier for a UI element. For XCTest it is the element's <code>accessibility-id</code> attribute. For Android it is the element's <code>content-desc</code> attribute.
Class name	For iOS it is the full name of the XCUI element and begins with <code>XCUIDElement</code> . For Android it is the full name of the <code>UIAutomator2</code> class (e.g.: <code>android.widget.TextView</code>)
ID	Native element identifier. <code>resource-id</code> for android; <code>name</code> for iOS.
Name	Name of element
XPath	Search the app XML source using xpath (not recommended, has performance issues)
Image	Locate an element by matching it with a base 64 encoded image file
iOS UIAutomation	When automating an iOS application, Apple's <code>Instruments</code> framework can be used to find elements

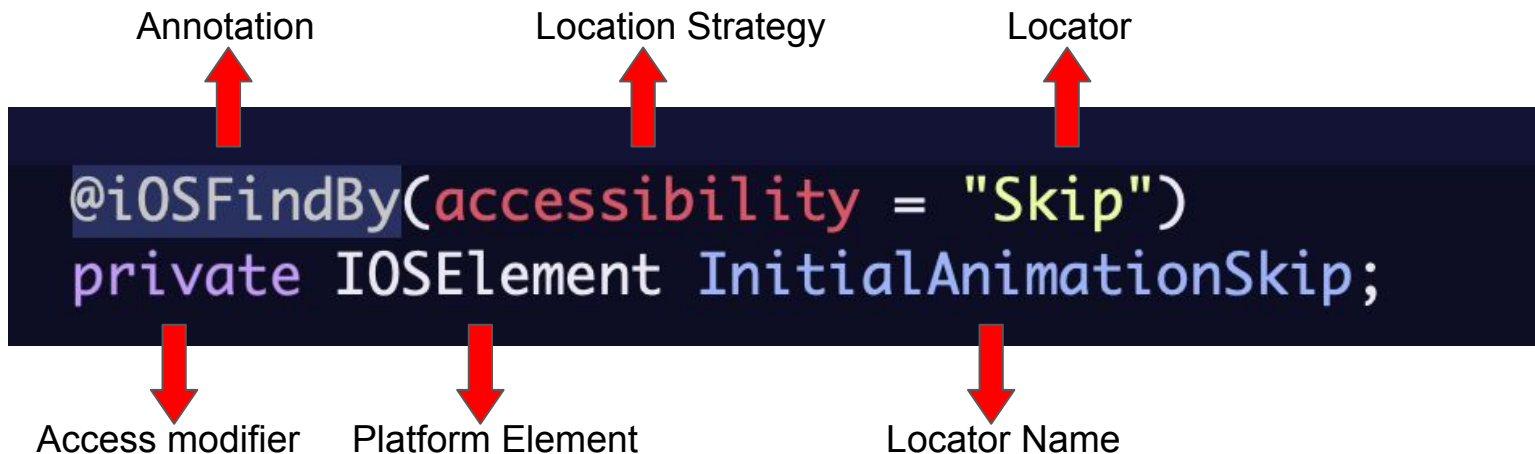
- 
- Predicate String (iOS)
 - Class Chain (iOS)



Annotations



@iOSFindBy - This Annotation supports: id, xpath, accessibility, ClassName, uiAutomator



@iOSXCUITFindBy - This Annotation supports: `iOSClassChain`, `iOSNsPredicate`, `xpaths`, `accessibility`, `ClassName`, `id`

Annotation Location Strategy

Locator

```
@iOSXCUITFindBy(iOSNsPredicate = "type = 'XCUIElementTypeButton' AND name = 'icon home discover ship')  
@iOSXCUITFindBy(accessibility = "icon home discover ship")  
private IOSElement homeDiscoverIcon;
```

Access modifier

Platform Element

Locator Name

```
@HowToUseLocators(iOSXCUITAutomation = LocatorGroupStrategy.ALL_POSSIBLE, androidAutomation = LocatorGroupStrategy.ALL_POSSIBLE)
```



Appium Interface



Appium Capabilities

Desired Capabilities

Saved Capability Sets 3

Attach to Session...

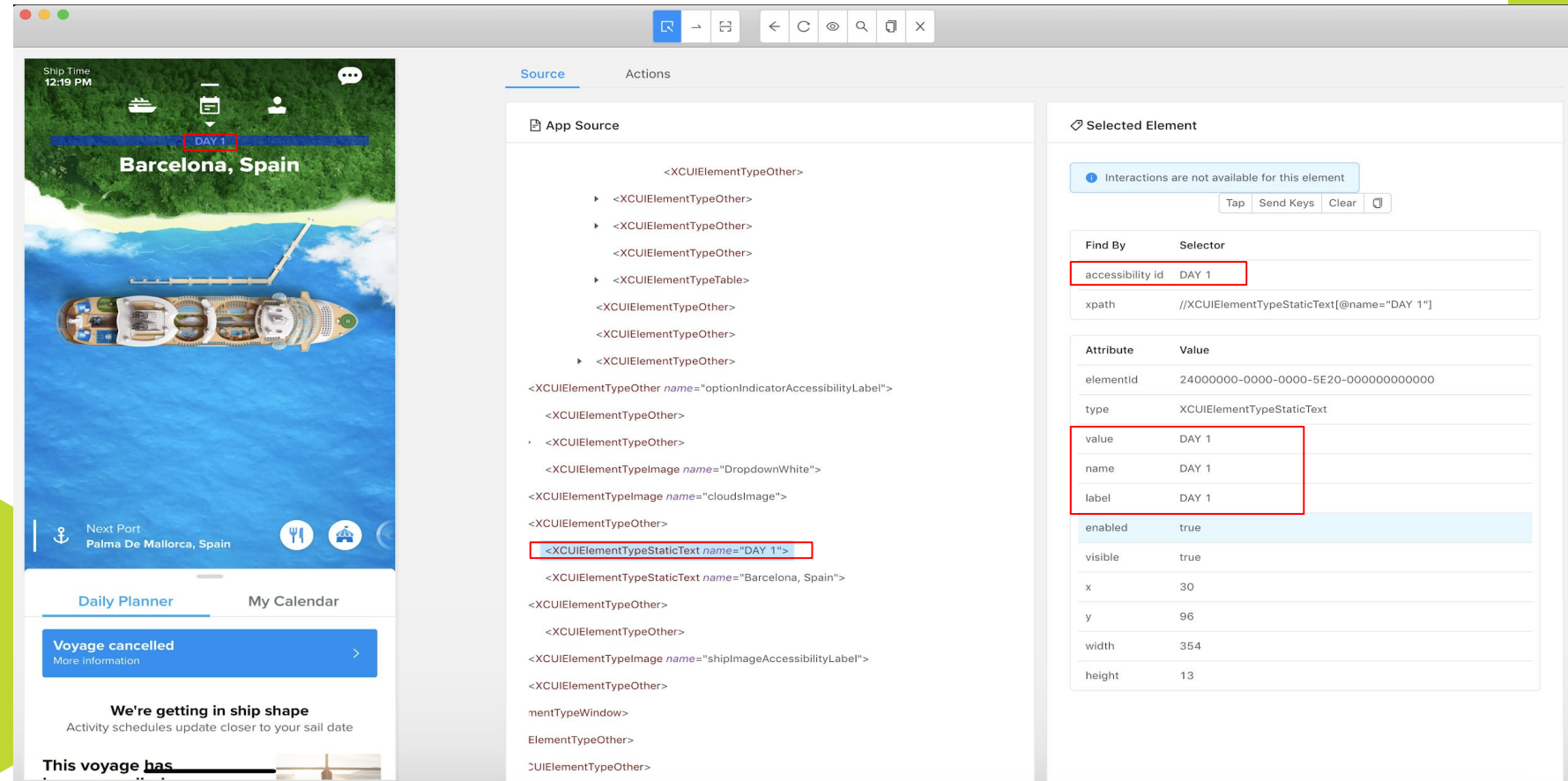
app	text	/Users/pablo.torres/Documents/roya	
waitForQuiescence	text	true	
noReset	text	true	
newCommandTimeout	text	3000	
realDeviceLogger	text	/usr/local/bin/	
automationName	text	XCUITest	
udid	text	1EFAA3F1-D322-463D-BE47-5C3	
platformName	text	iOS	
deviceName	text	iPhone 11 Pro Max	
simpleIsVisibleCheck	text	true	
platform	text	IOS	
platformVersion	text	13.3	
			+

JSON Representation

```
{  "app": "/Users/pablo.torres/Documents/royal/olciIOSapps/SaveCard/Royal-Dev.app",  "waitForQuiescence": "true",  "noReset": "true",  "newCommandTimeout": "3000",  "realDeviceLogger": "/usr/local/bin/",  "automationName": "XCUITest",  "udid": "1EFAA3F1-D322-463D-BE47-5C353921B583",  "platformName": "iOS",  "deviceName": "iPhone 11 Pro Max",  "simpleIsVisibleCheck": "true",  "platform": "IOS",  "platformVersion": "13.3"}
```

[Desired Capabilities Documentation](#)

SaveSave As...Start Session



Type Of XCUITest Elements

- XCUIElementTypeImage
- XCUIElementTypeStaticText
- XCUIElementTypeButton
- XCUIElementTypeCell
- XCUIElementTypeCollectionView
- XCUIElementTypeTable
- XCUIElementTypeOther

```
driver.findElement(By.xpath("//XCUIElementTypeStaticText[@name='Day 1']"))
```



Accessibility ID



iOS Accessibility ID

The screenshot displays an iOS application interface on the left and its accessibility inspection in Xcode on the right.

App Interface (Left): The app shows a cruise itinerary for "7 Night Western Mediterranean Cruise" starting on "Day 1" at "Barcelona, Spain". The itinerary lists stops for Day 1 through Day 8, including Barcelona, Palma De Mallorca, Provence, Florence/Pisa, Rome, Naples, and At Sea. The date "May 10 - May 17, 2020" is shown at the bottom.

Xcode Interface (Right): The Xcode window shows the "Source" tab with the "App Source" view. The accessibility inspection panel on the right shows the "Selected Element" with the following details:

Find By	Selector
accessibility id	cruiseDescriptionAccessibilityLabel

The "Attribute" table shows the following values:

Attribute	Value
elementId	A1000000-0000-0000-5E20-000000000000
type	XCUIElementTypeStaticText
value	7 Night Western Mediterranean Cruise
name	cruiseDescriptionAccessibilityLabel
label	7 Night Western Mediterranean Cruise
enabled	true
visible	true
x	8
y	99
width	398
height	15

Structure Of Accessibility ID

```
@iOSXCUITFindBy(accessibility = "cruiseDescriptionAccessibilityLabel")  
private iOSElement cruiseDescription;
```




Predicates and Class Chain



Ship Time
12:54 PM

Day 1

7 Night Western Mediterranean Cruise

Allure of the Seas

Day 1
Barcelona, Spain

Day 2
Palma De Mallorca, Spain

Day 3
Provence (Marseille), France

Day 4
Florence/Pisa (Laspezia), Italy

Day 5
Rome (Civitavecchia), Italy

Day 6
Naples, Italy

Day 7
At Sea

Day 8
Barcelona, Spain

May 10 - May 17, 2020
Change Ship/Dates

Source Actions

App Source

```
<XCUIElementTypeApplication name="RCI Beta">
  <XCUIElementTypeWindow>
    <XCUIElementTypeOther>
      <XCUIElementTypeImage name="waterBackgroundAccessibilityLabel">
      <XCUIElementTypeOther>
        <XCUIElementTypeOther>
          <XCUIElementTypeStaticText name="cruiseDescriptionAccessibilityLa
          <XCUIElementTypeStaticText name="cruiseNameAccessibilityLabel">
        <XCUIElementTypeTable>
      <XCUIElementTypeOther>
        <XCUIElementTypeStaticText name="May 10 - May 17, 2020">
      <XCUIElementTypeButton name="Change Ship/Dates">
        <XCUIElementTypeStaticText name="Change Ship/Dates">
    <XCUIElementTypeWindow>
      <XCUIElementTypeOther>
        <XCUIElementTypeOther>
```

Selected Element

Tap Send Keys Clear

Find By	Selector
accessibility id	cruiseDescriptionAccessibilityLabel
xpath	//XCUIElementTypeStaticText[@name="cruiseDescriptionAccessibilityLabel"]

Attribute	Value
elementId	A1000000-0000-0000-5E20-000000000000
type	XCUIElementTypeStaticText
value	7 Night Western Mediterranean Cruise
name	cruiseDescriptionAccessibilityLabel
label	7 Night Western Mediterranean Cruise
enabled	true
visible	true
x	8
y	99
width	398
height	15

Structure of Predicate

```
@iOSXCUITFindBy(iOSNsPredicate =  
"type == 'XCUIElementTypeStaticText' AND name CONTAINS 'cruiseDescriptionAccessibilityLabel')  
private iOSElement cruiseDescription;
```

One or more elements

```
"type == 'XCUIElementTypeOther' AND (name CONTAINS 'AM' OR name CONTAINS 'PM')"
```

Visible attribute for many elements

```
"type == 'XCUIElementTypeStaticText' AND label CONTAINS[cd] 'tOdAY' AND visible == 1"
```



Predicate and Class Chain

The screenshot displays the Xcode IDE with three main panels:

- Left Panel (Ticket Details):** Shows a mobile app interface for a "1 Park Per Day Ticket". It includes a description, a warning about park reservation availability, a "View Calendar" button, and a section to "Select the Number of Days" with radio buttons for 1, 2, 3, 4, and 5 days. The "1" option is selected, showing a price of \$109 per day.
- Middle Panel (App Source):** Displays the XML structure of the app. The selected element is a `<XCUIElementTypeCell>` with the following structure:

```
<XCUIElementTypeCell>
  <XCUIElementTypeOther>
    <XCUIElementTypeOther>
      <XCUIElementTypeOther>
        <XCUIElementTypeOther>
          <XCUIElementTypeStaticText name="Check Park Reservation Availability Before Purchasing">
            <XCUIElementTypeImage>
              <XCUIElementTypeStaticText name="Check the Disney Park Pass system to see if your desired theme park reservation is available before purchasing your ticket or Annual Pass.">
            <XCUIElementTypeButton name="View Calendar">
              <XCUIElementTypeStaticText name="View Calendar">
            <XCUIElementTypeOther>
          <XCUIElementTypeOther name="sectionHeaderTitleValue">
        <XCUIElementTypeCell>
          <XCUIElementTypeOther>
            <XCUIElementTypeCollectionView>
              <XCUIElementTypeCell name="1 day, starting from $109 per day, per ticket, Ages 10+>
              <XCUIElementTypeCell name="2 day, starting from $107 per day, per ticket, Ages 10+>
              <XCUIElementTypeCell name="3 day, starting from $105 per day, per ticket, Ages 10+>
              <XCUIElementTypeCell name="4 day, starting from $103 per day, per ticket, Ages 10+>
              <XCUIElementTypeCell name="5 day, starting from $88 per day, per ticket, Ages 10+>
            <XCUIElementTypeOther name="Vertical scroll bar, 1 page">
          <XCUIElementTypeOther name="Horizontal scroll bar, 1 page">
        <XCUIElementTypeWindow>
```
- Right Panel (Selected Element):** Shows the details of the selected element. It includes a table of attributes and values:

Attribute	Value
elementId	2E020000-0000-0000-BC21-000000000000
type	XCUIElementTypeCell
name	1 day, starting from \$109 per day, per ticket, Ages 10+
label	1 day, starting from \$109 per day, per ticket, Ages 10+
enabled	true
visible	true
x	0
y	563
width	85
height	135

Structure of Class Chain

```
@iOSXCUITFindBy(iOSNsPredicate =  
    "**/XCUIElementTypeCollectionView/XCUIElementTypeCell[`name CONTAINS[cd] 'day, '`][1]")  
private iOSElement cruiseDescription;
```

```
@iOSXCUITFindBy(iOSNsPredicate =  
    "type == 'XCUIElementTypeApplication' AND name == 'SmileDirectClub'")  
private iOSElement screenElement;
```





XPath



iOS XPath

The screenshot displays an iOS application interface on the left and its XPath inspection tool on the right. The app interface shows a cruise schedule for "Allure of the Seas" with days 1 through 8 listed. The selected element in the XPath tool is a static text element with the name "cruiseDescriptionAccessibilityLabel".

App Source

```
<XCUIElementTypeApplication name="RCI Beta">
  <XCUIElementTypeWindow>
    <XCUIElementTypeOther>
      <XCUIElementTypeOther>
        <XCUIElementTypeImage name="waterBackgroundAccessibilityLabel">
          <XCUIElementTypeOther>
            <XCUIElementTypeOther>
              <XCUIElementTypeStaticText name="cruiseDescriptionAccessibilityLa
                <XCUIElementTypeStaticText name="cruiseNameAccessibilityLabel">
              <XCUIElementTypeTable>
            <XCUIElementTypeOther>
              <XCUIElementTypeStaticText name="May 10 - May 17, 2020">
              <XCUIElementTypeButton name="Change Ship/Dates">
                <XCUIElementTypeStaticText name="Change Ship/Dates">
          <XCUIElementTypeWindow>
            <XCUIElementTypeOther>
              <XCUIElementTypeOther>
```

Selected Element

Find By: accessibility id
Selector: `cruiseDescriptionAccessibilityLabel`

Xpath: `//XCUIElementTypeStaticText[@name="cruiseDescriptionAccessibilityLabel"]`

Attribute	Value
elementId	A1000000-0000-0000-5E20-000000000000
type	XCUIElementTypeStaticText
value	7 Night Western Mediterranean Cruise
name	cruiseDescriptionAccessibilityLabel
label	7 Night Western Mediterranean Cruise
enabled	true
visible	true
x	8
y	99
width	398
height	15

Structure of XPath

```
@iOSXCUIFindBy(xpath = "//XCUIElementTypeStaticText[@name='cruiseDescriptionAccessibilityLabel']")  
private iOSElement cruiseDescription;
```

Contains:

```
"//XCUIElementTypeStaticText[contains(@name, 'Something')]"
```

Change to parent node:

```
"//XCUIElementTypeImage[@name='Something']/.."
```

Change to child node:

```
"//XCUIElementTypeImage[@name='Something']/"
```



iOS XPath

Ship Time
2:01 PM

Daily Planner

My Calendar

We're getting in ship shape

Activity schedules update closer to your sail date

Filter: Show All

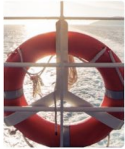
Filter

Refresh

6 AM

This voyage has been cancelled

6:00 am



Medical & Emergencies

Day 1

Day 2

Day 3

Day 4

Day 5

Source

Actions

App Source

<XCUIElementTypeOther>

>

<XCUIElementTypeCollectionView>

>

<XCUIElementTypeCell>

>

<XCUIElementTypeCell>

>

<XCUIElementTypeOther>

>

<XCUIElementTypeOther>

>

<XCUIElementTypeStaticText name="Day">

>

<XCUIElementTypeStaticText name="2">

>

<XCUIElementTypeStaticText>

>

<XCUIElementTypeCell>

>

<XCUIElementTypeOther>

>

<XCUIElementTypeOther>

>

<XCUIElementTypeStaticText name="Day">

>

<XCUIElementTypeStaticText name="3">

>

<XCUIElementTypeStaticText>

>

<XCUIElementTypeCell>

>

<XCUIElementTypeCell>

>

<XCUIElementTypeCell>

>

<XCUIElementTypeOther>

>

<XCUIElementTypeOther>

>

<XCUIElementTypeImage name="cloudsImage">

>

<XCUIElementTypeOther>

>


<XCUIElementTypeImage name="shipImageAccessibilityLabel">

Selected Element

Tap

Send Keys

Clear



Find By

Selector

accessibility id

3

xpath

//XCUIElementTypeStaticText[@name="3"]

Attribute

Value

elementId

71000000-0000-0000-6F25-000000000000

type

XCUIElementTypeStaticText

value

3

name

3

label

3

enabled

true

visible

true

x

172

y

842

width

61

height

20

XPath Axes

```
@iOSXCUIFindBy(xpath =  
"//XCUIElementTypeStaticText[@name='Day']/preceding-sibling::XCUIElementTypeOther[@visible='true']/following-sibling::XCUIElementTypeStaticText[2]")  
private iOSElement cruiseDescription;
```

Look at my previous brother node
preceding-sibling::

Look at my next brother node
following-sibling::





**THANKS FOR
YOUR ATTENTION!**

