

# EasyBrowser

## Lesson 1

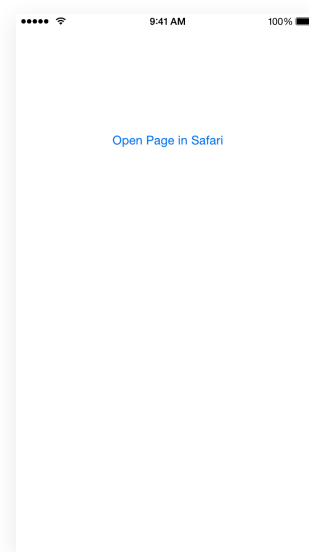


### Description

Add a button to the interface that causes Safari to enter the foreground.

### Learning Outcomes

- Practice using Interface Builder to add user interface elements to a view.
- Practice establishing IBAction connections between a view and its controller.
- Define URL, and relate URLs to the `NSURL` class.
- Discover the `UIApplication` class, and describe how it represents the app.
- Discover how to use iOS URL schemes to bring other apps, such as Safari, to the foreground.



### Vocabulary

@IBAction	URL	NSURL
UIApplication	optional binding	if let

### Materials

- **EasyBrowser Lesson 1** Xcode project

## Opening

Have you ever used an app that started a phone call, started an email, or opened a page in Safari?

## Agenda

- Using Interface Builder and the Object Library (⌘L), add a button and set its label to **Open in Safari**.
- Add constraints to center the button in the view.
- Using Interface Builder and the Assistant Editor (⌘⇧), create a connection from the button to a controller action called `openPageInSafari:`.

```
@IBAction func openPageInSafari(sender: UIButton) {  
    // open http://developer.apple.com  
}
```

- Implement the `openPageInSafari:` method.

```
@IBAction func openPageInSafari(sender: UIButton) {  
    if let url = NSURL(string: "http://developer.apple.com") {  
        UIApplication.sharedApplication().openURL(url)  
    }  
}
```

- Explain the creation of an `NSURL`, representing a URL or "the location of a resource": a web page that we wish to open.
- Discuss the optional binding used to unwrap the optional `NSURL?` returned by the `NSURL` initializer.
- Using the Xcode Documentation and API Reference (⌘0), explore the `UIApplication` class reference and the `openURL:` method.
- Explain how the call to `UIApplication.sharedApplication` returns a reference to the app instance itself.
- Run the app (⌘R), tap the button, and observe how Safari enters the foreground.

## Closing

What are the benefits and drawbacks of sending users to Safari from our app?

## Modifications And Extensions

- Describe the relationship between every app's inherent `UIApplication` object and the App Delegate.
- Pass an invalid URL string literal to the `NSURL` initializer, and display an alert when the optional binding fails.

## Resources

UIKit User Interface Catalog: Button <https://developer.apple.com/library/ios/documentation/UserExperience/Conceptual/UIKitUICatalog/UIButton.html>

Xcode Overview: Build a User Interface [https://developer.apple.com/library/ios/documentation/ToolsLanguages/Conceptual/Xcode\\_Overview/edit\\_user\\_interface.html](https://developer.apple.com/library/ios/documentation/ToolsLanguages/Conceptual/Xcode_Overview/edit_user_interface.html)

Creating an Action Connection [https://developer.apple.com/library/ios/recipes/xcode\\_help-IB\\_connections/chapters/CreatingAction.html](https://developer.apple.com/library/ios/recipes/xcode_help-IB_connections/chapters/CreatingAction.html)

Apple URL Scheme Reference [http://developer.apple.com/library/ios/featuredarticles/iPhoneURLScheme\\_Reference/Introduction/Introduction.html](http://developer.apple.com/library/ios/featuredarticles/iPhoneURLScheme_Reference/Introduction/Introduction.html)

NSURL Class Reference [http://developer.apple.com/library/ios/documentation/Cocoa/Reference/Foundation/Classes/NSURL\\_Class/Reference/Reference.html](http://developer.apple.com/library/ios/documentation/Cocoa/Reference/Foundation/Classes/NSURL_Class/Reference/Reference.html)

UIApplication Class Reference [https://developer.apple.com/library/ios/documentation/UIKit/Reference/UIApplication\\_Class/](https://developer.apple.com/library/ios/documentation/UIKit/Reference/UIApplication_Class/)

The Swift Programming Language: Optional Binding [https://developer.apple.com/library/ios/documentation/Swift/Conceptual/Swift\\_Programming\\_Language/TheBasics.html#//apple\\_ref/doc/uid/TP40014097-CH5-ID333](https://developer.apple.com/library/ios/documentation/Swift/Conceptual/Swift_Programming_Language/TheBasics.html#//apple_ref/doc/uid/TP40014097-CH5-ID333)