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**iOS DESIGN
PATTERNS**
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HANDS-ON CHALLENGES

iOS Design Patterns

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2 Project Setup - Challenge

By Joshua Greene

The "App" group still knows a lot about the "Cleaning Services" and "Home Info" groups, such as how to instantiate the initial scene for each. Consequently, it's *tightly coupled* to how each of these is currently setup.

Wouldn't it be nice if there was a "Builder" object that set up the entry "Cleaning Services" controller and likewise for "Home Info?" You bet it would!

Challenge

Open **MenuTableViewController** and find **showCleaningServicesController()**, which is the method that instantiates the initial "Cleaning Services" scene.

Create a new class called **CleaningServicesBuilder.swift** added to the **Cleaning Services** group. Add a single class method called **instantiateNavigationController()**, move the instantiation logic from **MenuTableViewController \ showCleaningServicesController()** into this method and return the resulting **UINavigationController**.

Lastly, update **MenuTableViewController** to use this new builder class.

Challenge Solution

Add a new file called **CleaningServicesBuilder.swift** to the **Cleaning Services** group, and replace its contents with the following:

```
import UIKit

public class CleaningServicesBuilder {

    public class func instantiateNavigationController() ->
    UINavigationController {
        let bundle = Bundle(for: self)
        let storyboard = UIStoryboard(name: "CleaningServices", bundle:
        bundle)
        let navigationController =
        storyboard.instantiateInitialViewController() as! UINavigationController
        return navigationController
    }
}
```

Open **MenuTableViewController.swift** and replace **showCleaningServicesController()** with the following:

```
fileprivate func showCleaningServicesController() {
    let viewController =
    CleaningServicesBuilder.instantiateNavigationController()
    splitViewController!.showDetailViewController(viewController, sender:
    nil)
}
```

Über challenge

You'll find another method called **showHomeInfoController()** inside **MenuTableViewController** that instantiates the initial "Home Info" scene.

Create a new class called **HomeInfoBuilder** added to the **Home Info** group. Add a new class method with this signature:

```
public class func instantiateNavigationController(****
    delegate: HomeInfoBuilderDelegate)
    -> UINavigationController`
```

Move the instantiation logic from **MenuTableViewController \ showHomeInfoController()** into this method; and return the resulting **UINavigationController**.

Move the **protocol HomeInfoBuilderDelegate** declaration from **HomeInfoViewController** to **HomeInfoBuilder.swift** instead.

Lastly, update **MenuTableViewController** to use this new builder class.

If you get stuck, check out the completed challenge in the resources for this video.