# Basic Exercises Part 4.1 Passing data

## A  B

* If your app has multiple User Interfaces (UIs) or is just has multiple flows, you’ll want to move data from one UI to the next. How do you pass data between view controllers?
* Passing data between vie controllers in an important part of iOS development. You can use several ways to do so, an all of them have certain advantages and drawbacks.
* The ability to pass data between view controllers with ease is affected by your choice of app architecture. App architecture affects how you work with view controllers, and vice versa.
* Learn 6 different methods of passing data between view controllers. Starting with the easiest approach, then move on to more complicated practices.
  + Passing data between view controllers with properties (A  B).
  + Passing data between view controllers using Segues (AB).
  + Passing data back with properties and functions (AB).
  + Passing data back with Delegation.
  + Passing data back with a Closure.
  + Passing data between view controllers with NotificationCenter.
* Some of these approaches are *one-way*, so you can send some data one way, but not the other way around. They’re not *bilateral*, so to speak. But that’s ok, in most cases you only need one way communication.

## Using a property (AB). Forward.

### **1.1 Create a new project**

Create a basic Single View. We will create a new project on each approach, so we only going to write the steps once.

### **1.2 Add the Switch to the view**

Open the Library (also: Shift + Cmd + L) and search for: View Controller. Click and drag it onto your view. Next, do the same thing with a second View Controller. Search for it and then drag it onto your view.

### **1.3 Create their classes**

Create a new file (File →New →File… →Cocoa Touch Class →Next →choose UIViewController in Subclass of: → name it whatever you like for example ViewControllerA →Next →Create) for your second view controller. Do the same for the second view controller.

Assign each file to the respective view controller we just created in the Identity Inspector

A screenshot of a cell phone

Description automatically generated

Additionally, add three labels and a button to make it easier to distinguish the two controllers. Create the outlets and actions.

### **1.4 Storyboard ID**

Remember the Identity Inspector where we assign the new file to the view controller we create? Set the Storyboard ID in the inspector section. For example:

A screenshot of a cell phone

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Do the same for both View controllers. Now, in the second view controller add a property:

**var** passText = String?

From here we don’t need the Storyboard anymore.

### **1.5 Pass data**

Back to the main/root/initial/first view controller, and enter the next code in the button action:

**@IBAction** **func** onButtonTap() {

**let** vc = storyboard?.instantiateViewController(withIdentifier: "viewController2") **as**! ViewControllerB

vc.passText = "Hello World"

present(vc, animated: **true**, completion: **nil**)

}

Here we initial a constant “vc” and create an instance of the second view controller. To achieve this, remember that we need the ID and cast the instance to the class from which the view inherits.

Put the new text in the label of the second view controller.

**override** **func** viewDidLoad() {

**super**.viewDidLoad()

textLabel?.text = textProperty

}

Congratulations!! We have already finished passing the string “Hello world” to the second/next view controller with just a few lines of code.

### **1.6 Reflection moment**

Could it be that we can only pass basic information? Question: What kind of information can we pass on? (Remember that this approach is using properties)

It’s possible to pass almost any information, I mean, paths stored in variables, that kind of information, but pictures itself cant be passed, just the reference to them. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

### **1.7 Switch language**

We always need to try the same behavior on Objective C.