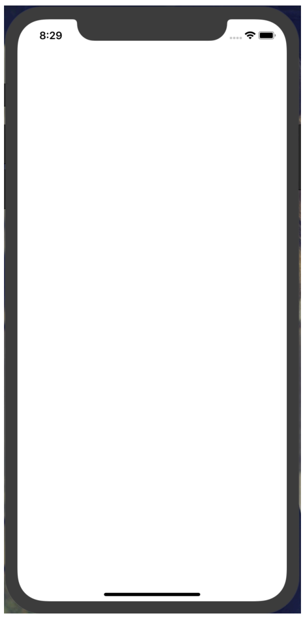
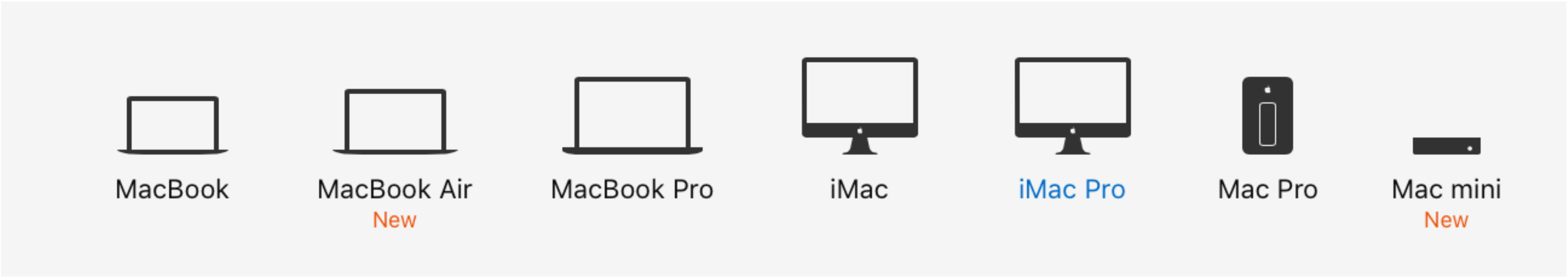
CHAPTER TWO : PREPARE FOR HELLO WORLD APP



I. WHAT HARDWARE DO I NEED?

In order to develop iOS apps, you have to have a Mac. You will need to get a Mac running on MacOS X version 10.12 (or later). However, if you have a PC, some people will use a virtual environment like Hackintosh instead of buying a Mac. This is highly discouraged for beginners (and for all serious Apple developers) because in order to learn and code in a stable environment, you should use an environment (both hardware and software) which is good enough to run all the iOS development tools smoothly.

So if you don't have a Mac yet, you can click the following link and get yourself one, I promise that you won't regret it!



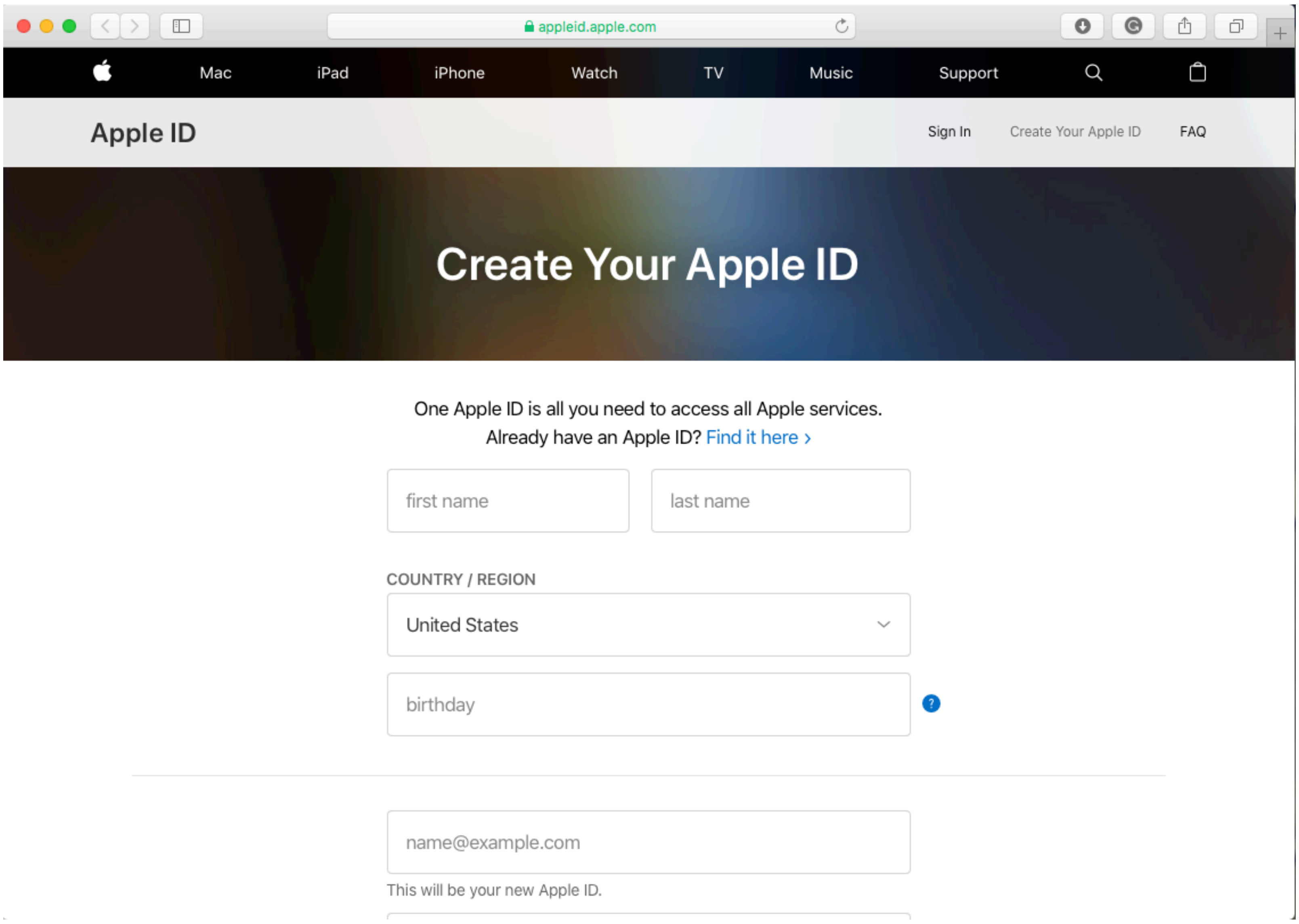
https://www.apple.com/mac/

II. GET AN APPLE ID

If you’ve already have an iPhone, iPad, or Mac, I’m pretty sure that you have an Apple ID.

For those who are new the the Apple ecosystem, you will need an Apple ID to download Xcode, access iOS SDK documentation, and other technical resources. Most importantly, it will allow you to deploy your app to a real iPhone/iPad for testing.

If you have downloaded an app from the App Store, it is quite sure that you already own an Apple ID. In case you haven't created your Apple ID before, you have to get one. Simply go to Apple's website (https://appleid.apple.com/account) and follow the procedures for registration.



Create Your Apple ID

One Apple ID is all you need to access all Apple services.
Already have an Apple ID? Find it here ›

first name
last name

COUNTRY / REGION
United States

birthday

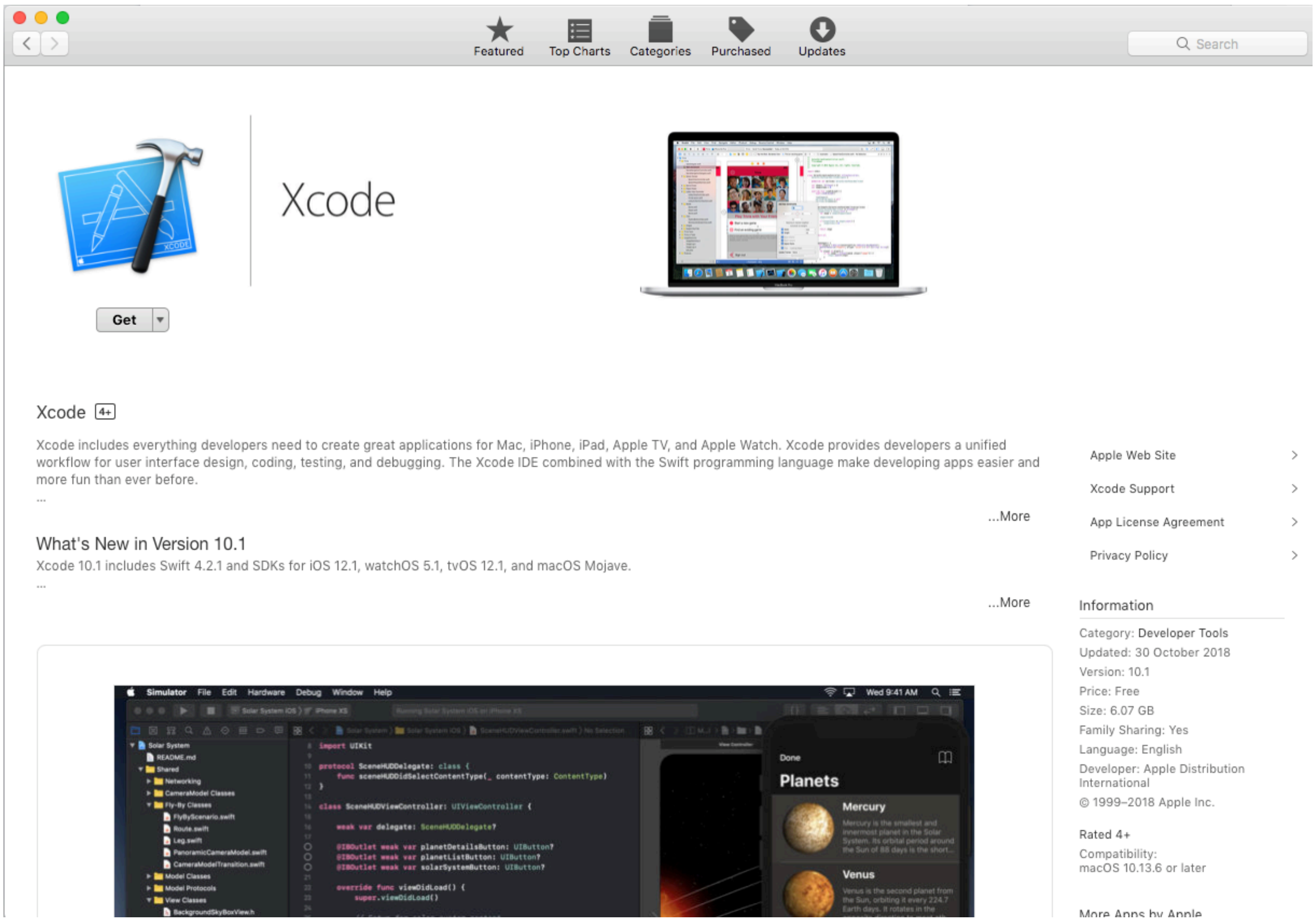
name@example.com
This will be your new Apple ID.

III. INSTALL & CONFIGURE XCODE

To start developing iOS apps, Xcode is the only tool you need to download. Xcode is an integrated development environment (IDE) provided by Apple. Xcode provides everything you need to kick start your app development.

So simply go to your dock and click App Store icon to enter the App Store.

In the Mac App Store, simply search "Xcode" and click the "Get" button to download it.



Xcode 4+

Xcode includes everything developers need to create great applications for Mac, iPhone, iPad, Apple TV, and Apple Watch. Xcode provides developers a unified workflow for user interface design, coding, testing, and debugging. The Xcode IDE combined with the Swift programming language make developing apps easier and more fun than ever before.
...

...More

What's New in Version 10.1

Xcode 10.1 includes Swift 4.2.1 and SDKs for iOS 12.1, watchOS 5.1, tvOS 12.1, and macOS Mojave.
...

...More

Apple Web Site >
Xcode Support >
App License Agreement >
Privacy Policy >

Information

Category: Developer Tools
Updated: 30 October 2018
Version: 10.1
Price: Free
Size: 6.07 GB
Family Sharing: Yes
Language: English
Developer: Apple Distribution International
© 1999–2018 Apple Inc.

Rated 4+

Compatibility:
macOS 10.13.6 or later

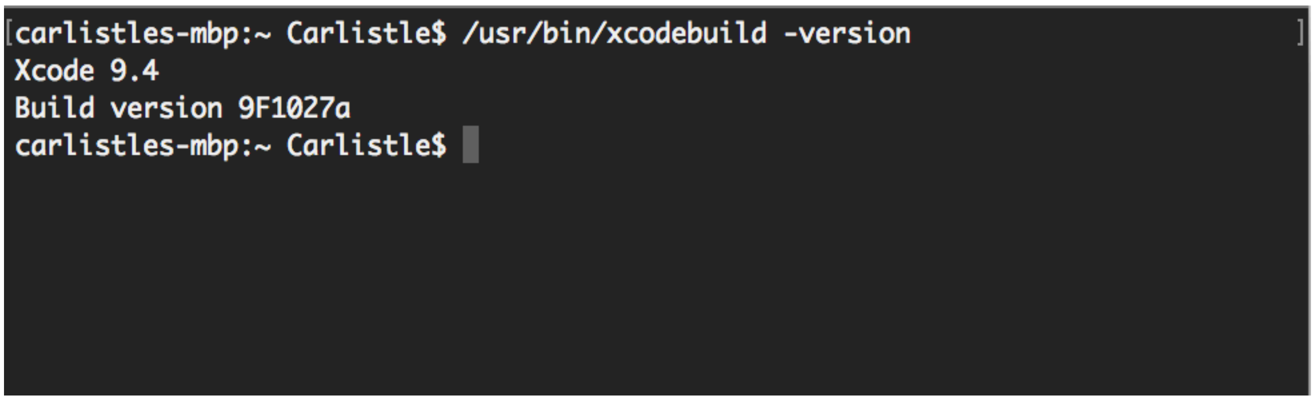
More Apps by Apple

```
import UIKit

protocol SceneHUDDelegate: class {
    func sceneHUDDidSelectContentType(_ contentType: ContentType)
}

class SceneHUDViewController: UIViewController {

    weak var delegate: SceneHUDDelegate?

    @IBOutlet weak var planetDetailsButton: UIButton?
    @IBOutlet weak var planetListButton: UIButton?
    @IBOutlet weak var solarSystemButton: UIButton?

    override func viewDidLoad() {
        super.viewDidLoad()
```

And in order to check if you have correctly installed Xcode, type in your terminal the following command:

```
/usr/bin/xcodebuild -version
```

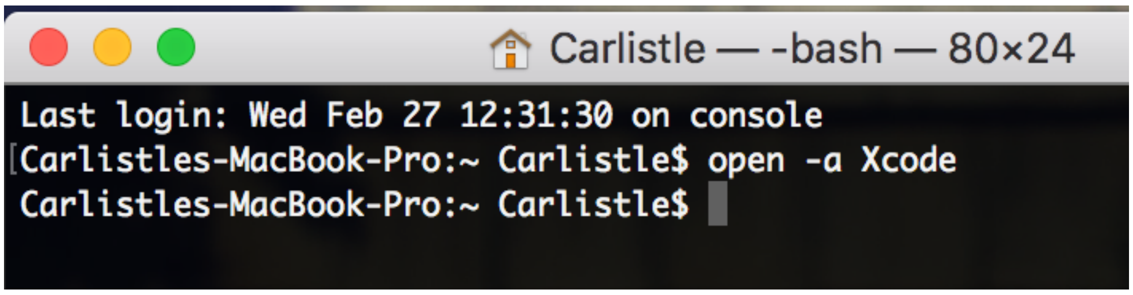
If your Xcode is ready to go, you will have the following result:



```
carlistles-mbp:~ Carlistle$ /usr/bin/xcodebuild -version
Xcode 9.4
Build version 9F1027a
carlistles-mbp:~ Carlistle$ 
```

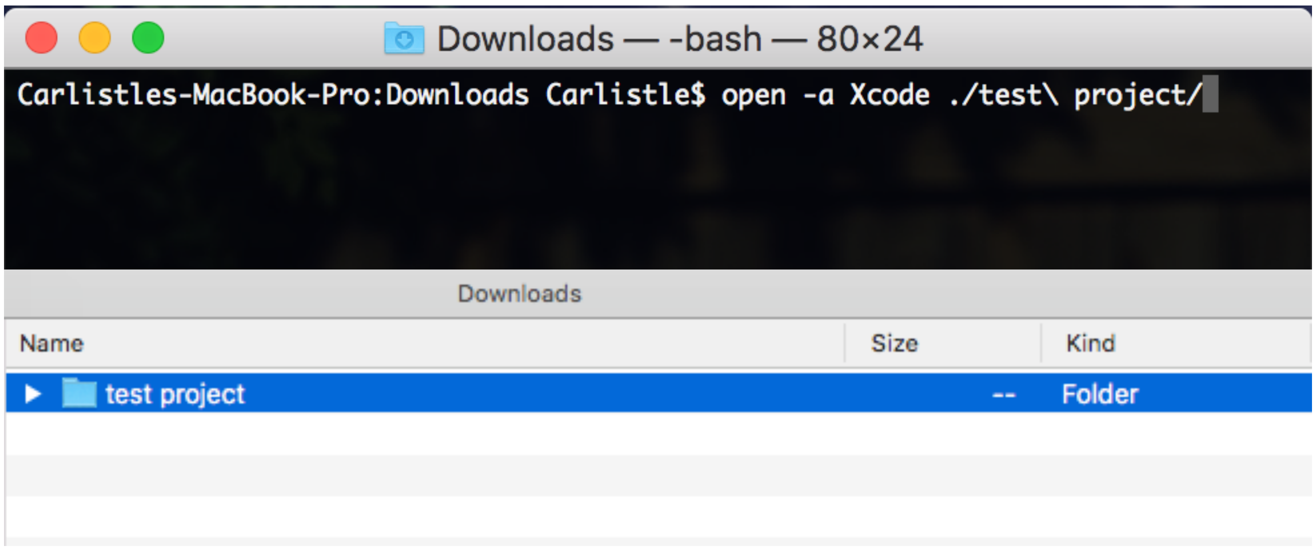
Here my Xcode version is 9.4, if your version or build version is different from mine, don't worry. However, if your Xcode version is the version 8 or older, you should update your Xcode to be able to develop in iOS 10 smoothly. In order to do so, go to App Store, choose the application Xcode, click update, and confirm when the prompt appears.

So it is time to fire up your Xcode for the first time! You can double click the app icon in your dash board or the Xcode.app in your application folder. Just to let you know, you can open your Xcode IDE with a terminal command as well:



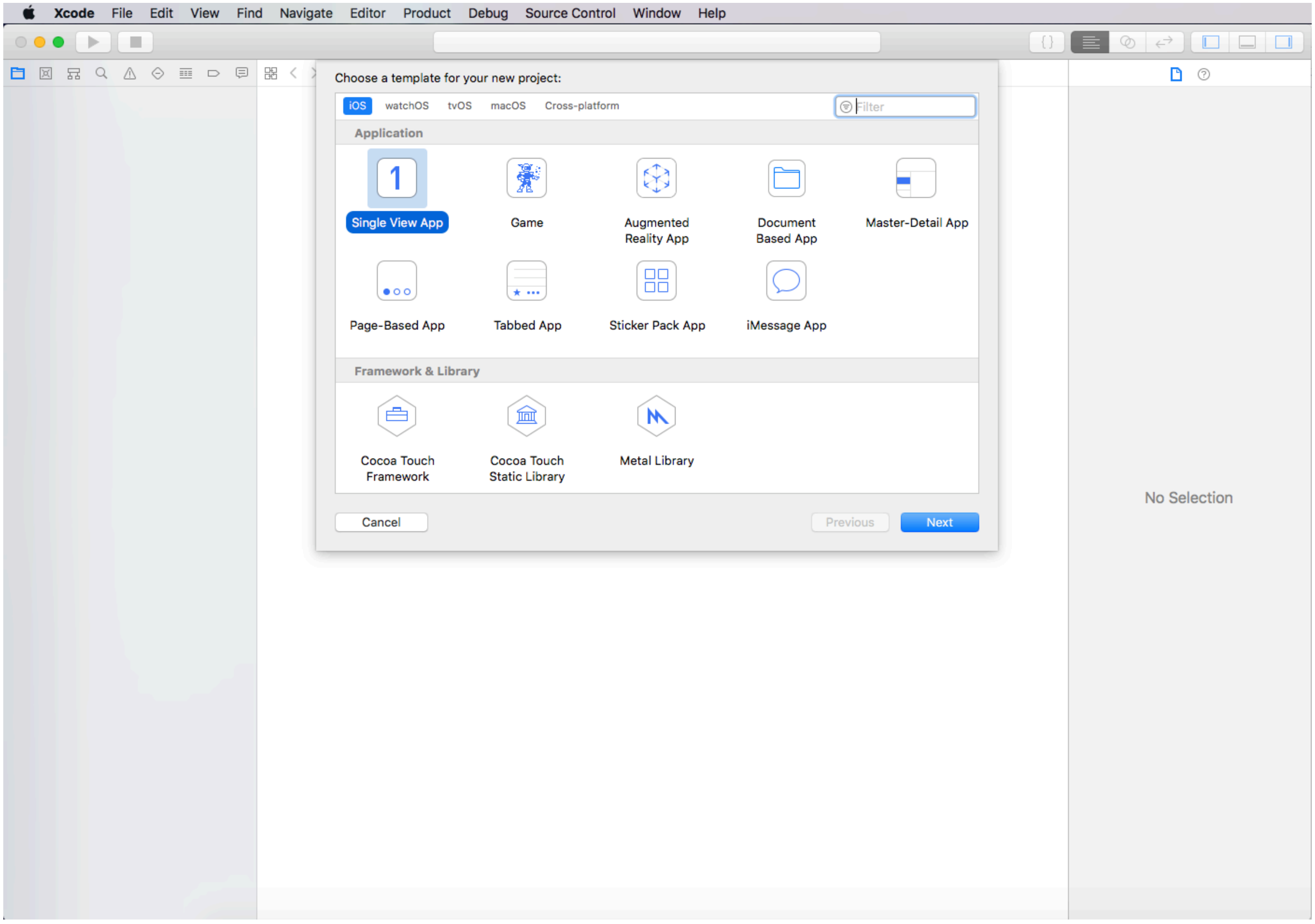
```
Last login: Wed Feb 27 12:31:30 on console
Carlistles-MacBook-Pro:~ Carlistle$ open -a Xcode
Carlistles-MacBook-Pro:~ Carlistle$ 
```

The command open with option –a allows you to open a certain application. Moreover, this command is more useful when you want to open a certain folder in Xcode. To do so, just add your directory path after your first option:

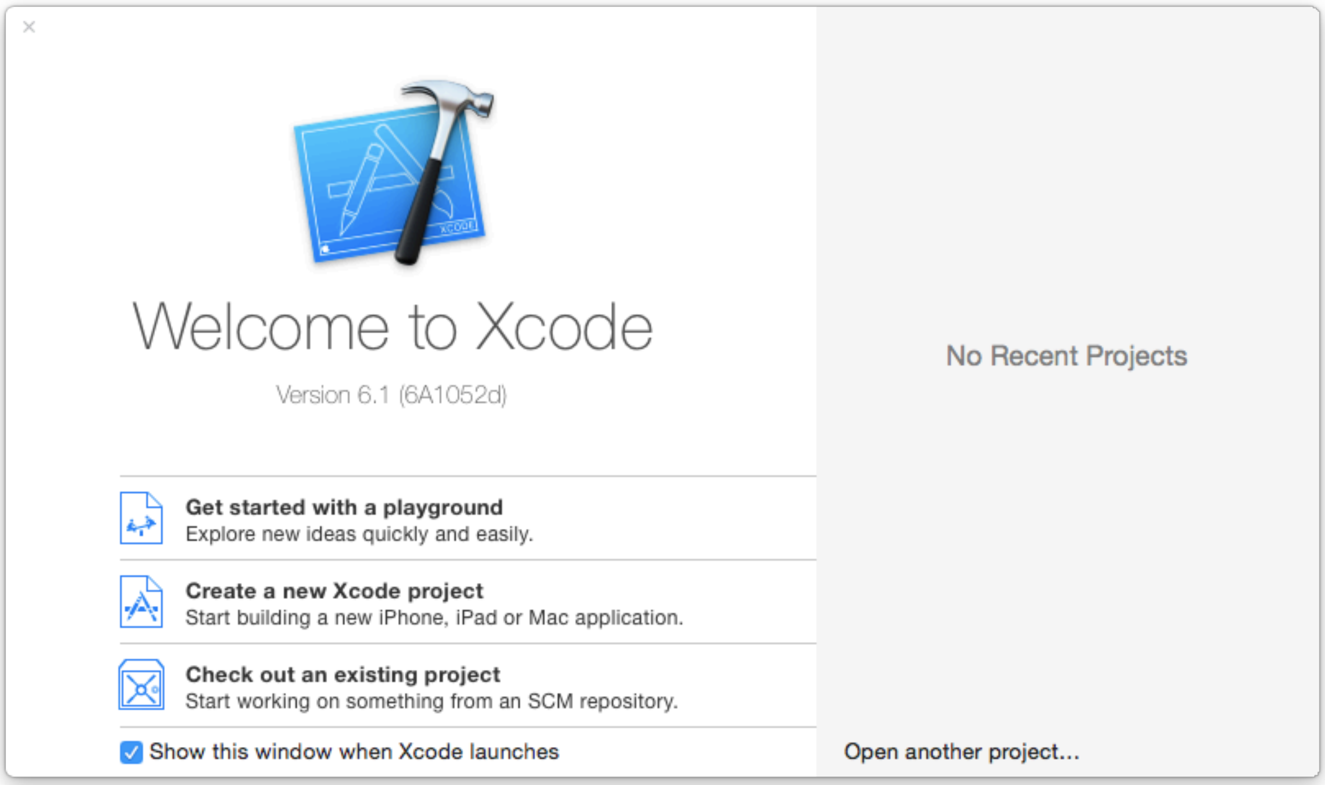


```
Carlistles-MacBook-Pro:Downloads Carlistle$ open -a Xcode ./test\ project/
```

Here I opened the (relative)directory `./test\ project/` using Xcode. You should pay attention that in the finder the name of the folder is test project, but I used `./test\ project/` in my terminal.



IV. START YOUR FIRST XCODE PROJECT

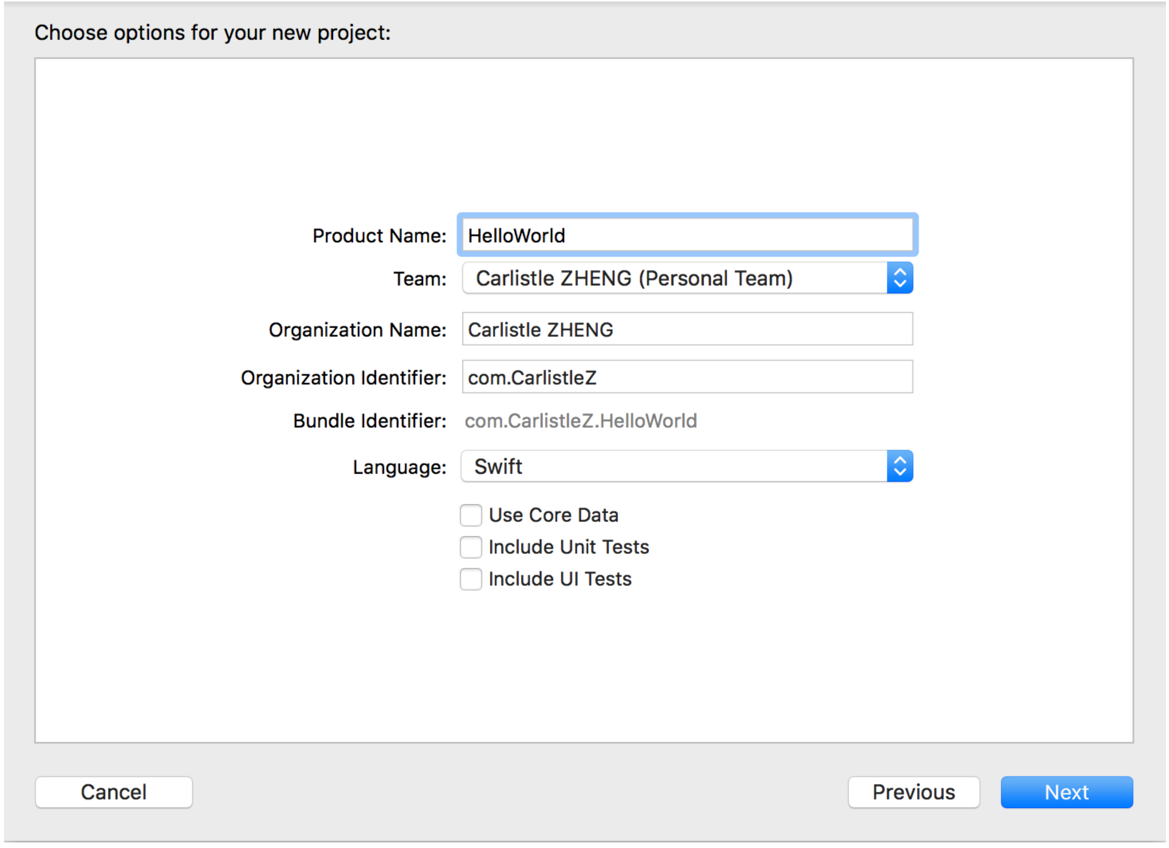

Welcome to Xcode
Version 6.1 (6A1052d)
Get started with a playground
Explore new ideas quickly and easily.
Create a new Xcode project
Start building a new iPhone, iPad or Mac application.
Check out an existing project
Start working on something from an SCM repository.
☑ Show this window when Xcode launches
No Recent Projects
Open another project…

If you have done everything correctly so far, you will see this welcome dialog. Here are your options:

- The playground is a great place for beginners to learn basic swift syntax. However, you can't really build an app with playground.
- For the most of the time, you will choose "Create a new Xcode project", you can also open recent projects that you created or opened from the Recent Project List on the right.
- If you are working with others and you use a version control like Git or SVN in your team, choose this to pull from the remote repository.

For now, let's just choose the second option "Create a new Xcode project" to move on. For our first app, choose Single View App(which is almost always the one we choose) under the tab iOS. In the second half of this book, we are going to use "Document Based App", "Master-Detail App", and "Page Based App". But for now, let's keep everything nice and simple with the model "**Single View App**".

Then you will see the following window to let you choose options for your new project:



Choose options for your new project:

Product Name: HelloWorld
Team: Carlistle ZHENG (Personal Team)
Organization Name: Carlistle ZHENG
Organization Identifier: com.CarlistleZ
Bundle Identifier: com.CarlistleZ.HelloWorld
Language: Swift
☐ Use Core Data
☐ Include Unit Tests
☐ Include UI Tests

In the field **Product**

Name, type the name of your project(in this case HelloWorld). Why do I use `HelloWorld` instead of `Hello World`? If you use the latter, Xcode will automatically add a `-` to make the name like this: `Hello-World`. So for beginners, spaces are discouraged here. This small habit will save you a lot of headaches later on.

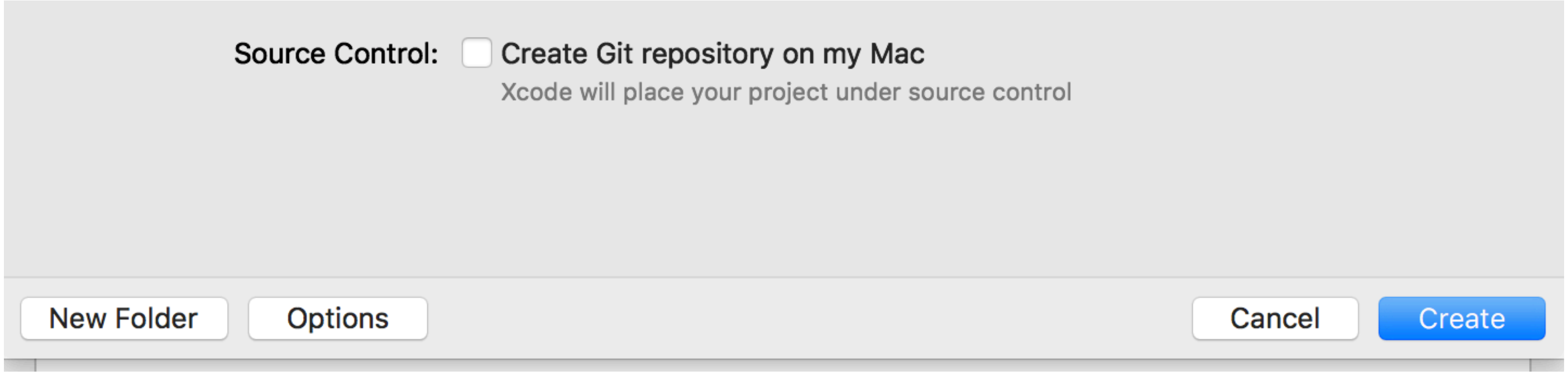
In the field **Organization Identifier**, use `com.` and your `user id` to make a unique identifier. If you leave this field blank, you won't be able to test your app out on a real device. In my Xcode I chose `com.CarlistleZ` as my Organization Identifier, you should(and have to) change it to your own ID.

Now leave everything else intact. If you wonder what "Core Data", "Unit Tests", and "UI Tests" are, I highly encourage you to check them out in the Apple official documentation in following links:

- https://developer.apple.com/documentation/coredata
- https://developer.apple.com/documentation/xctest
- https://developer.apple.com/documentation/xctest/user_interface_tests

Then choose where you want to put your project root folder on your disk. This directory is the origin point for your entire app. So for any relative path you use, you just need to add this before your relative path to form a full path.

If you have some project experience, you probably have used Git before. So here is where you create a `.git` folder for your project. If you don't know what Git is, don't worry! We don't really need a Git for now, so keep it unchecked and click **Create.**

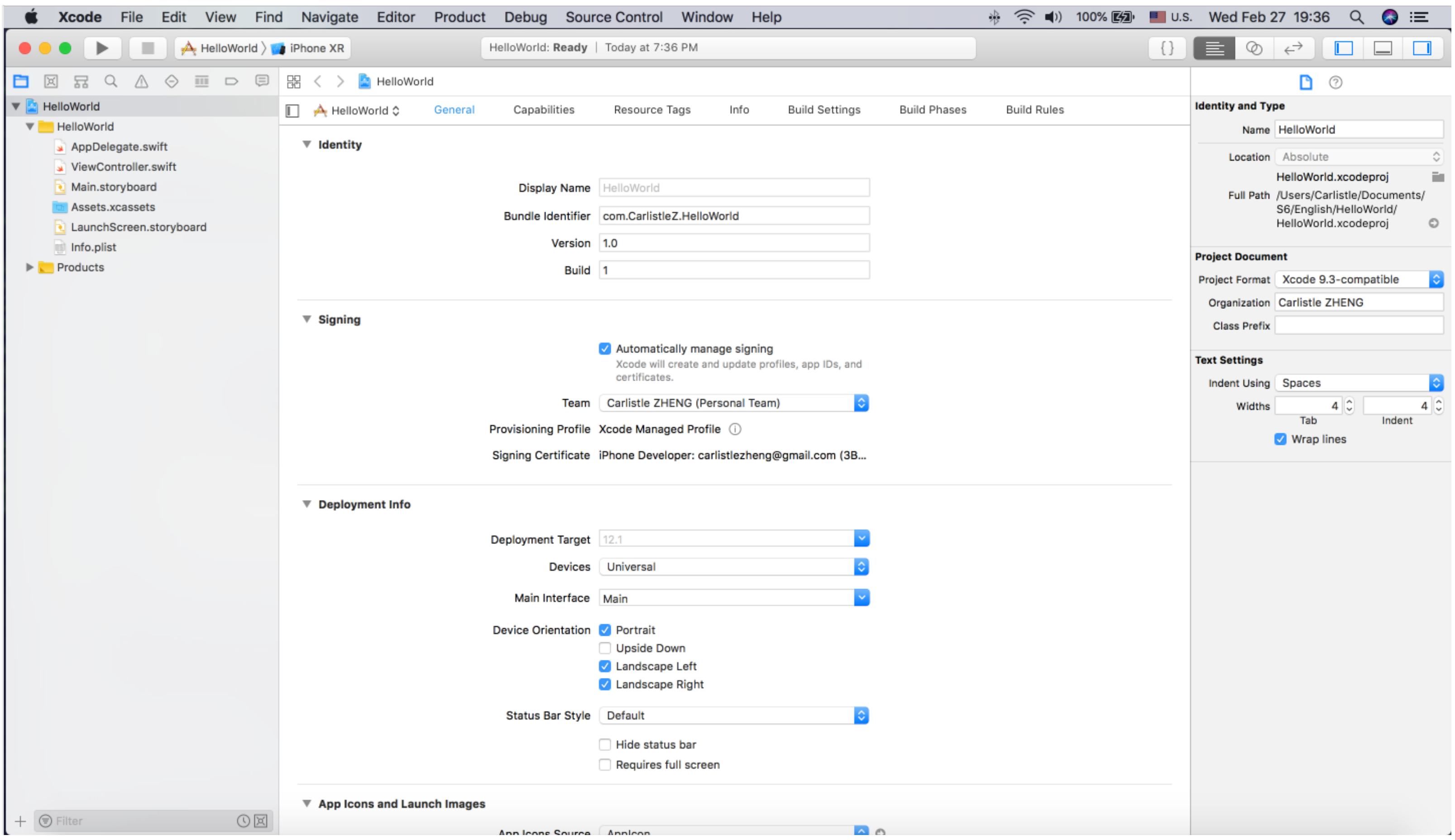


Source Control: □ Create Git repository on my Mac

Xcode will place your project under source control

V. GET TO KNOW THE WORKING INTERFACE

If you’ve done everything properly, you should see our main working window like this:



Identity

Display Name: HelloWorld
Bundle Identifier: com.CarlistleZ.HelloWorld
Version: 1.0
Build: 1

Signing

☑ Automatically manage signing
Xcode will create and update profiles, app IDs, and certificates.
Team: Carlistle ZHENG (Personal Team)
Provisioning Profile: Xcode Managed Profile
Signing Certificate: iPhone Developer: carlistlezheng@gmail.com (3B...

Deployment Info

Deployment Target: 12.1
Devices: Universal
Main Interface: Main
Device Orientation: ☑ Portrait
□ Upside Down
☑ Landscape Left
☑ Landscape Right
Status Bar Style: Default
□ Hide status bar
□ Requires full screen

App Icons and Launch Images

App Icons Source: AppIcon

Identity and Type

Name: HelloWorld
Location: Absolute
HelloWorld.xcodeproj
Full Path: /Users/Carlistle/Documents/S6/English/HelloWorld/HelloWorld.xcodeproj

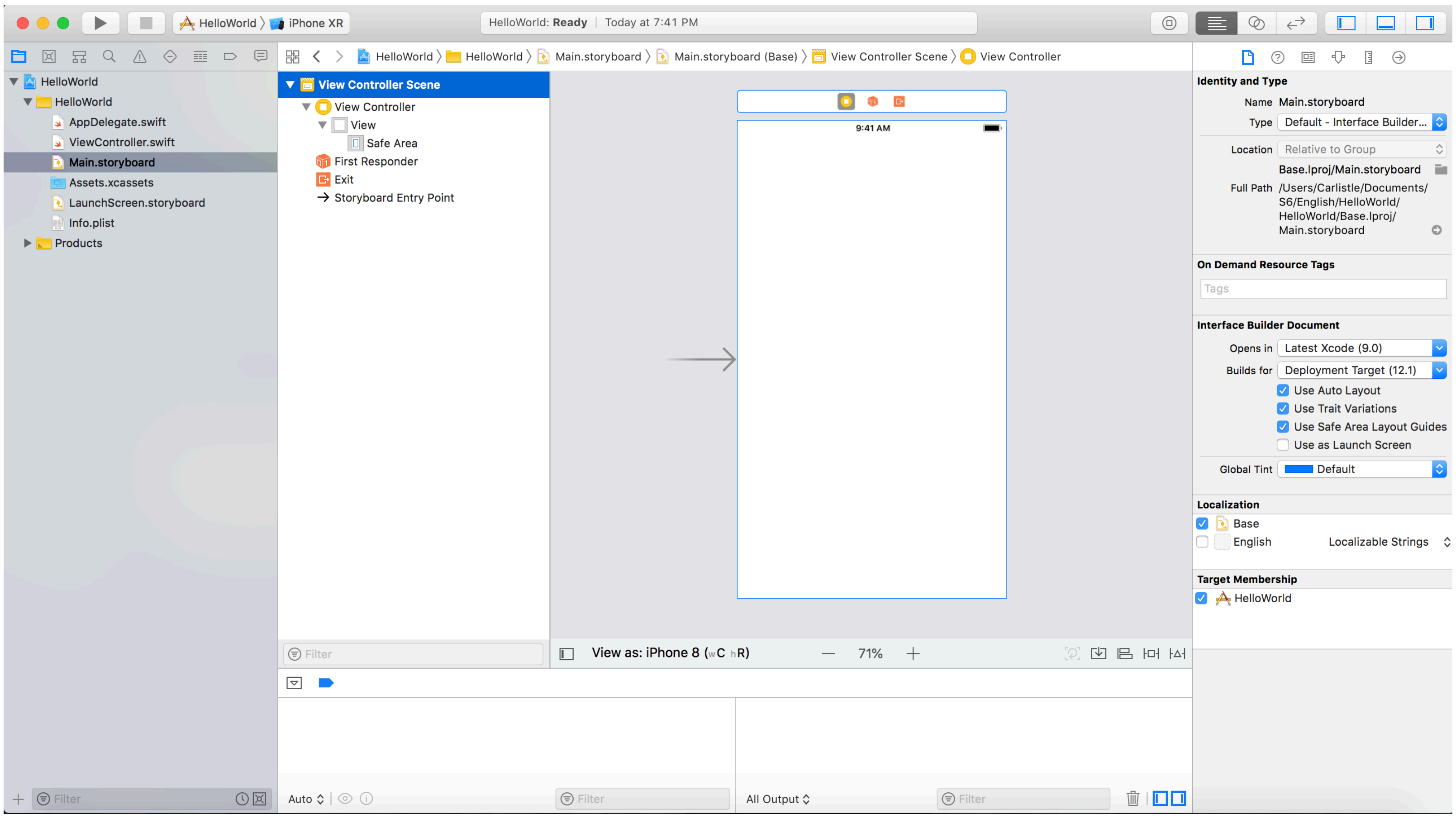
Project Document

Project Format: Xcode 9.3-compatible
Organization: Carlistle ZHENG
Class Prefix:

Text Settings

Indent Using: Spaces
Widths: 4 Tab, 4 Indent
☑ Wrap lines

Great! Now the preparation is done and we will code our app in this interface. In this **“General”** tab, you will see your project information. Select `Main.storyboard` on the left file tree to see your app UI.



Identity and Type

Name: Main.storyboard
Type: Default - Interface Builder...
Location: Relative to Group
Base.lproj/Main.storyboard
Full Path: /Users/Carlistle/Documents/S6/English/HelloWorld/HelloWorld/Base.lproj/Main.storyboard

On Demand Resource Tags

Tags

Interface Builder Document

Opens in: Latest Xcode (9.0)
Builds for: Deployment Target (12.1)
☑ Use Auto Layout
☑ Use Trait Variations
☑ Use Safe Area Layout Guides
□ Use as Launch Screen
Global Tint: Default

Localization

☑ Base
□ English Localizable Strings

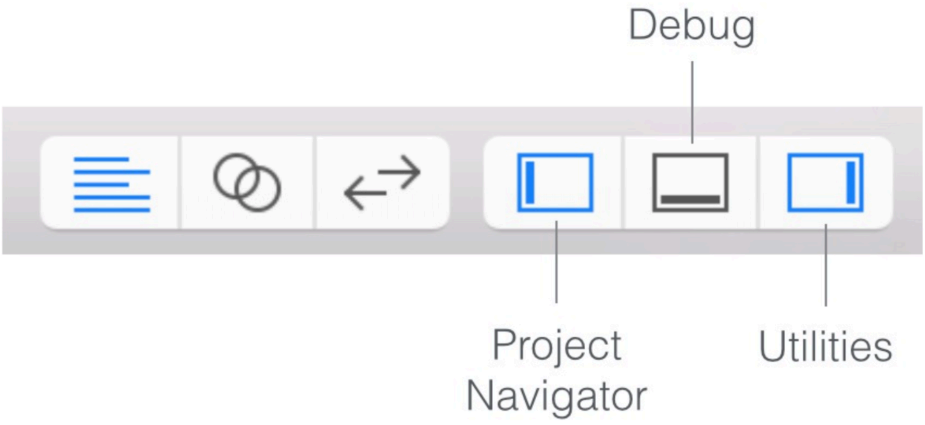
Target Membership

☑ HelloWorld

You can see the screen of our app(nothing for now…) in the middle area. In the left(**project navigator**) area, you can see all the files in your project, you can also see the navigators for source control, symbol, find, issue, test, debug, break point, and report.

In the right(**Utilities**) area, you can change the settings and parameters of the file in the middle area, this is the area that we use the most often.

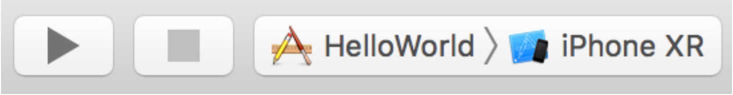
In the bottom(**Debug**) area, you can see the console output, debug info, and a terminal of your project. Just like every IDE(Integrated Development Environment), this is the part where you visualize the result without any GUI(Graphic User Interface).



If you have a MacBook Air, a MacBook, or a 13 inch MacBook Pro, your screen space might not be enough for you to work freely on your main editing area. On the upper right corner, you can toggle very easily these three areas, or use `cmd+0`, `cmd+option+0`, `cmd+shift+y`.

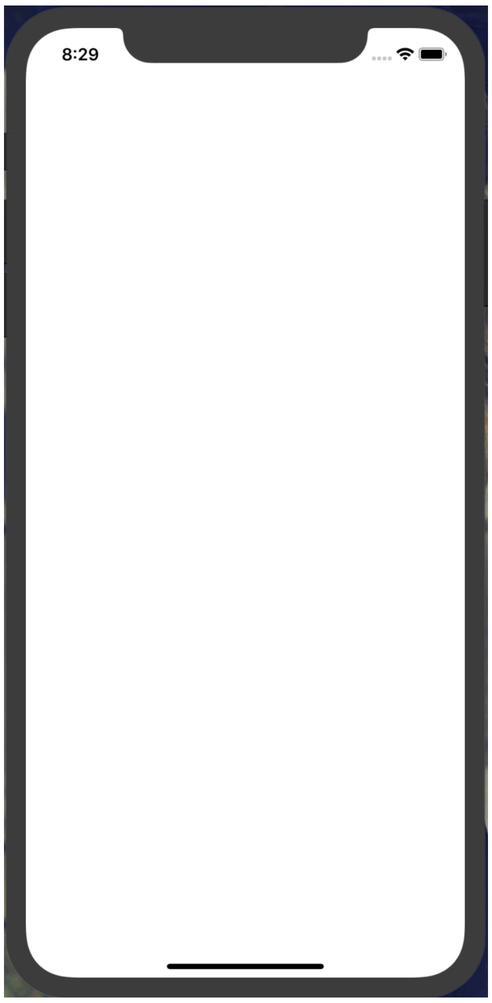
VI. RUN YOUR APP FOR THE FIRST TIME

Can't wait to test out your very first app? On the upper left corner, you can choose to run your app on a simulator, a generic iOS device, or on a real device connected to your Mac.



In order to run a simulator, you need a lot of extra memory and system resources. If your Mac has 16Gb or 32Gb memory, your simulator is very likely to run smoothly. However, if your machine is an old model with only has 8Gb memory, you should close some apps that you don't currently need before going to the simulator. In order to save system resources, you should never keep two simulators running at the same time(even you have 32Gb DDR4 in your Mac)!

Now click run, you will see a simulator like this:



Awesome! Since we haven't designed and coded our UI, we only have a blank screen in our app. In the next chapter, you will build your UI little by little and you will learn more about Xcode and Swift.

EXERCISE #1

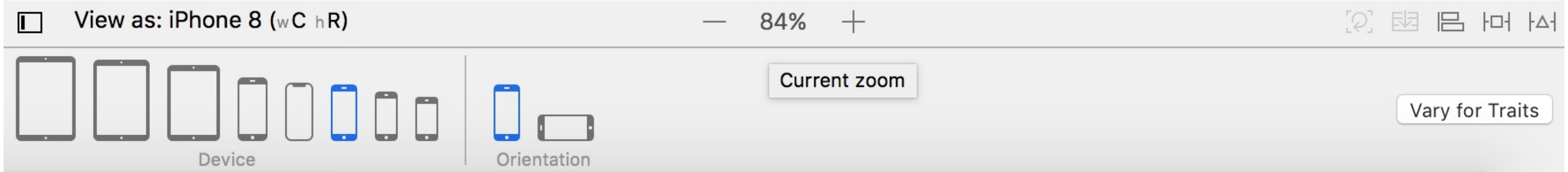
You have started this HelloWorld app in this chapter. Now try to start a new project of your own. You can choose any name you want with the suggested naming convention. If you don't know what that is, go to **Part IV** to give it another look. If you are also comfortable with Git, try to use Git for this app and experiment how to use Git in Xcode

Hint: Navigator/Source Control Navigator

EXERCISE #2

You have seen me running the demo app on an iPhone XR. Now try to run your app on a different device, an "iPad Pro 12.9 inch 2nd generation" for instance. Do you see any difference between them? Think about how these differences can influence our app. Do we need to write many versions for different devices to adapt to different hardwares?

Hint: Screen sizes, Home button, Touch ID, Face ID…



View as: iPhone 8 (wC hR)

SUMMARY

In this chapter, we have worked on these topics:

- set up our development environment Xcode
- learnt how to start a project in Xcode
- got familiar with Xcode UI
- ran an app on a simulator or a real device

If any of these is unclear to you, please make sure to go back and read the related part or parts before moving on the the next chapter.

For reference, you can download the complete Xcode project from

https://github.com/CarlistleZ/MyiOSTutorial/blob/master/ChapterTwo_HelloWorld.zip