

Social Media Apps Programming

jQuery Mobile/PhoneGap

1051SMAP08 TLMXM1A (8648) (M2143) (Fall 2016) (MIS MBA) (2 Credits, Elective) [Full English Course] Wed 8,9 (15:10-17:00) B310



Min-Yuh Day, Ph.D. Assistant Professor

<u>Department of Information Management</u>

Tamkang University

http://mail.tku.edu.tw/myday



Course Schedule (1/3)

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Week Date Subject/Topics
1 2016/09/14 Course Orientation and Introduction to
               Social Media and Mobile Apps Programming
2 2016/09/21 Introduction to Android / iOS Apps Programming
  2016/09/28 Developing Android Native Apps with Java
               (Eclipse) (MIT App Inventor)
4 2016/10/05 Developing iPhone / iPad Native Apps with Swift
               (XCode)
5 2016/10/12 Mobile Apps using HTML5/CSS3/JavaScript
6 2016/10/19 ¡Query Mobile
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Course Schedule (2/3)

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Week Date Subject/Topics
  2016/10/26 Create Hybrid Apps with PhoneGap
  2016/11/02 jQuery Mobile/PhoneGap
  2016/11/09 jQuery Mobile/PhoneGap
10 2016/11/16 Midterm Exam Week (Midterm Project Report)
   2016/11/23 Case Study on Social Media Apps Programming
                and Marketing in Google Play and App Store
12 2016/11/30 Invited Speaker: Prof. Yoshinobu Kano,
                Associate Professor, Faculty of Informatics,
                Shizuoka University
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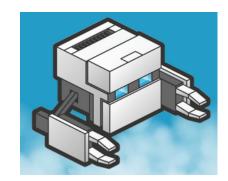
Course Schedule (3/3)

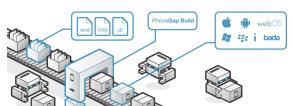
Outline

- jQuery Mobile/PhoneGap
 - HTML5, CSS3, JavaScript
 - jQuery Mobile
 - PhoneGap
 - PhoneGap Build
 - index.html, css, js, png
 - config.xml
- Demo
 - Create Hybrid Apps with PhoneGap
 - Testing iOS and Android Devices









Android /iOS Apps Programming

Native Apps

Hybrid Apps

Mobile Web Apps















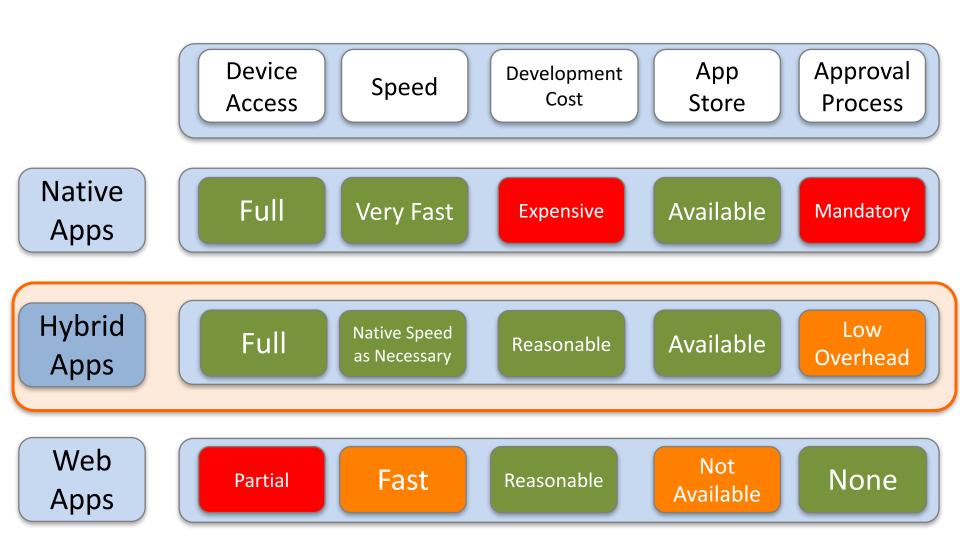




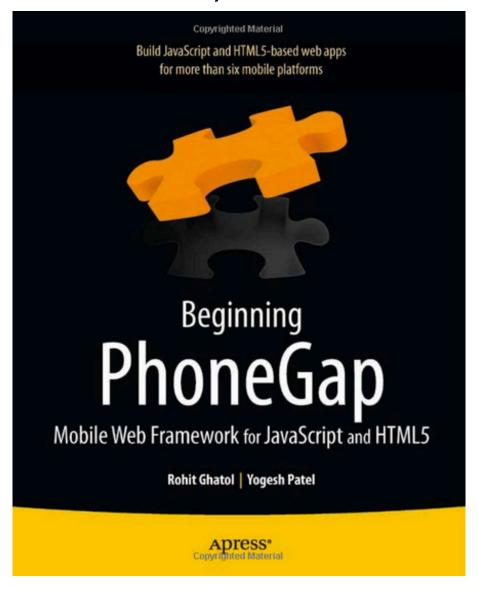




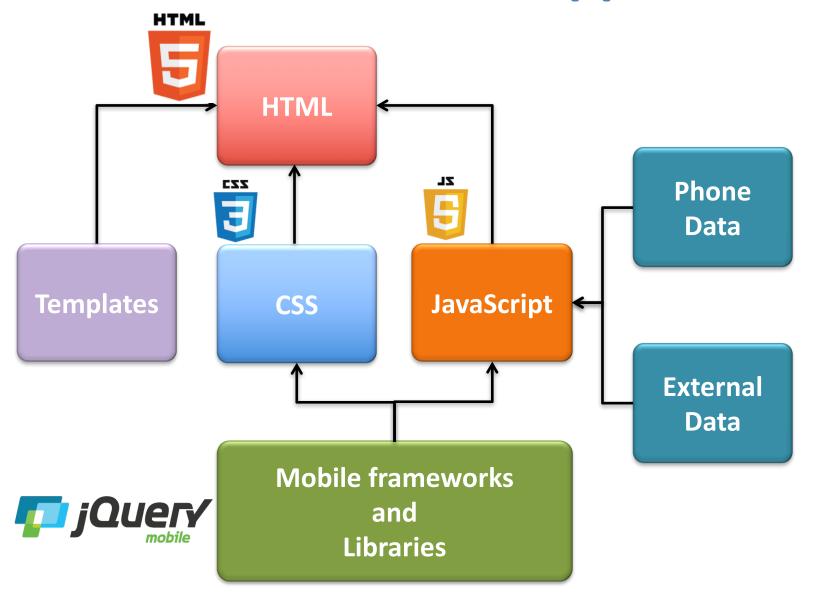
App Development Comparison



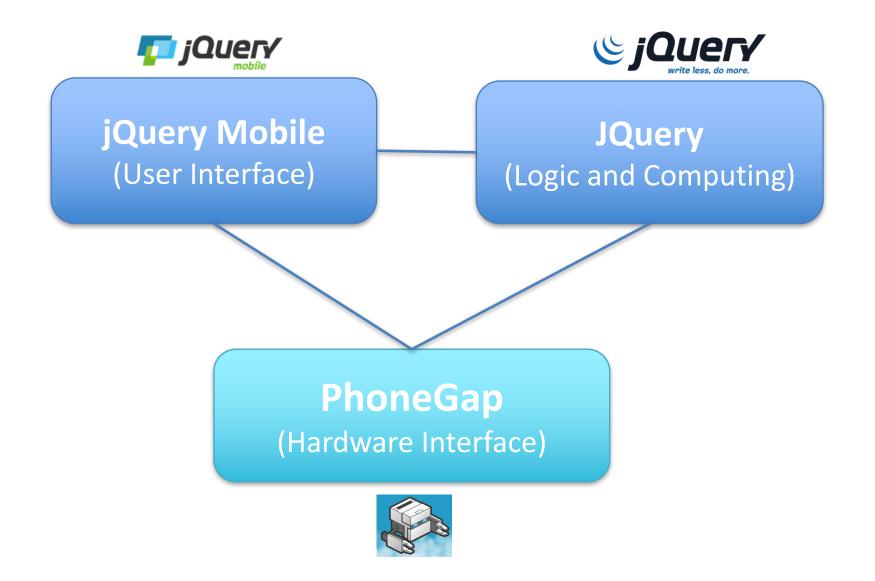
Beginning PhoneGap: Mobile Web Framework for JavaScript and HTML5, Rohit Ghatol & Yogesh Patel, Apress, 2012



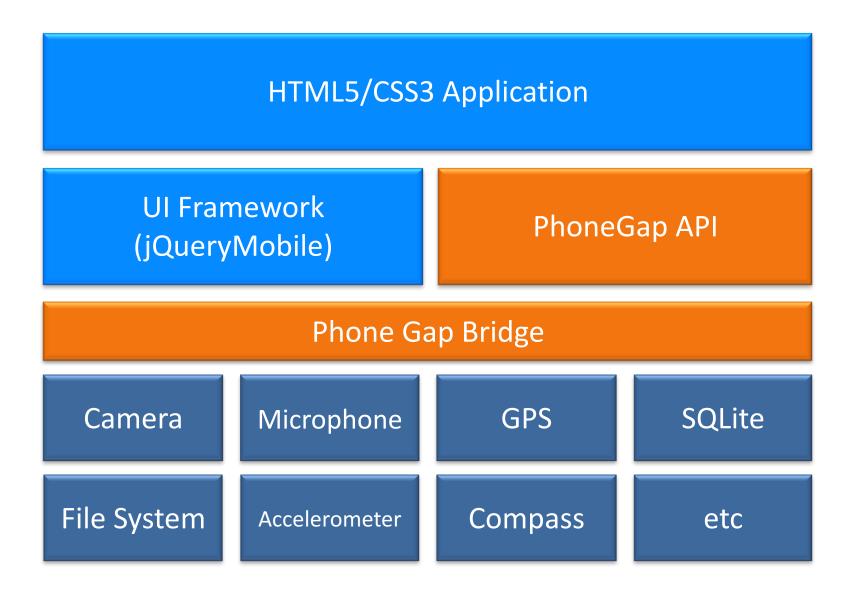
Mobile Web App



PhoneGap, jQuery Mobile, jQuery

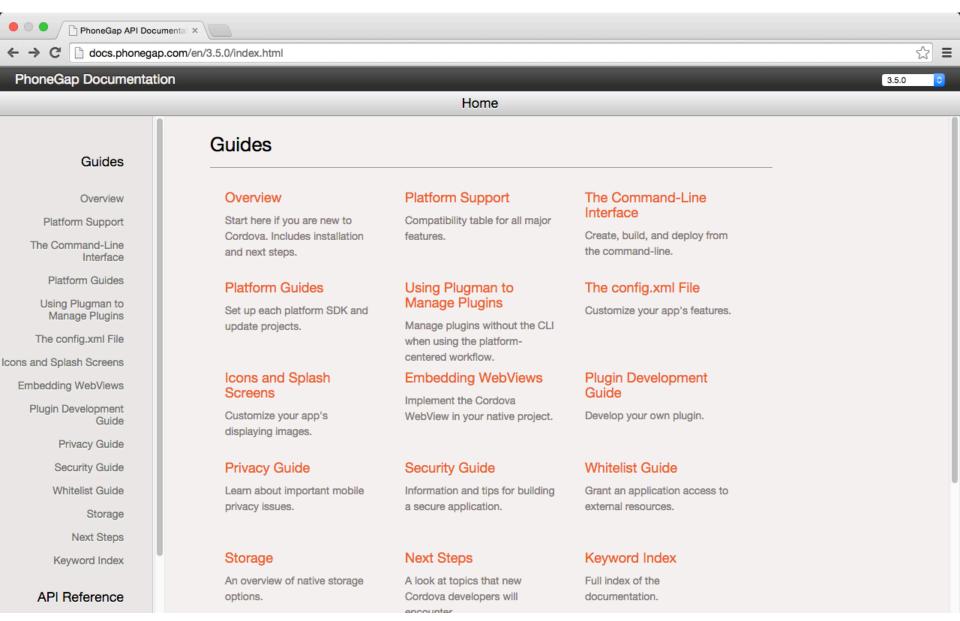


PhoneGap App Architecture

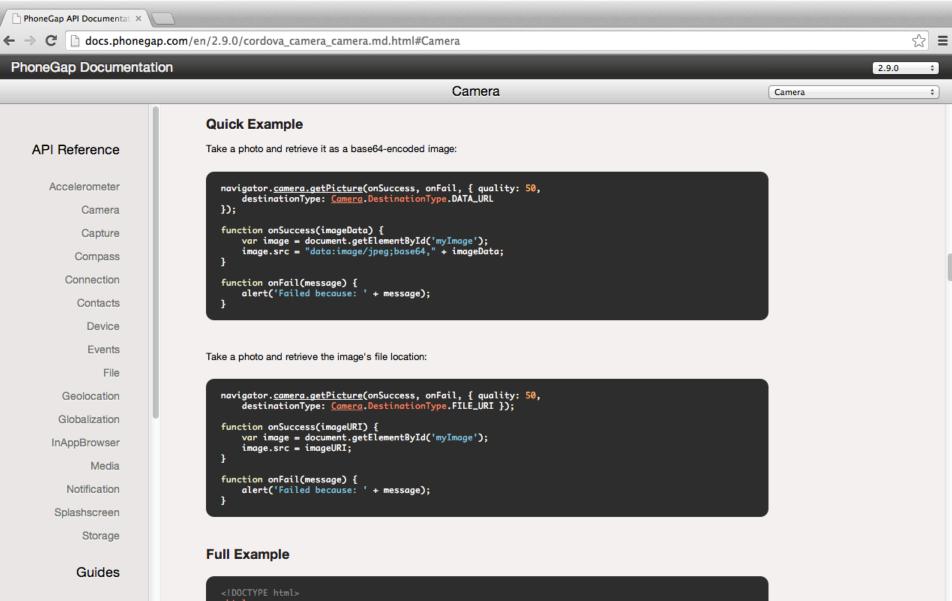




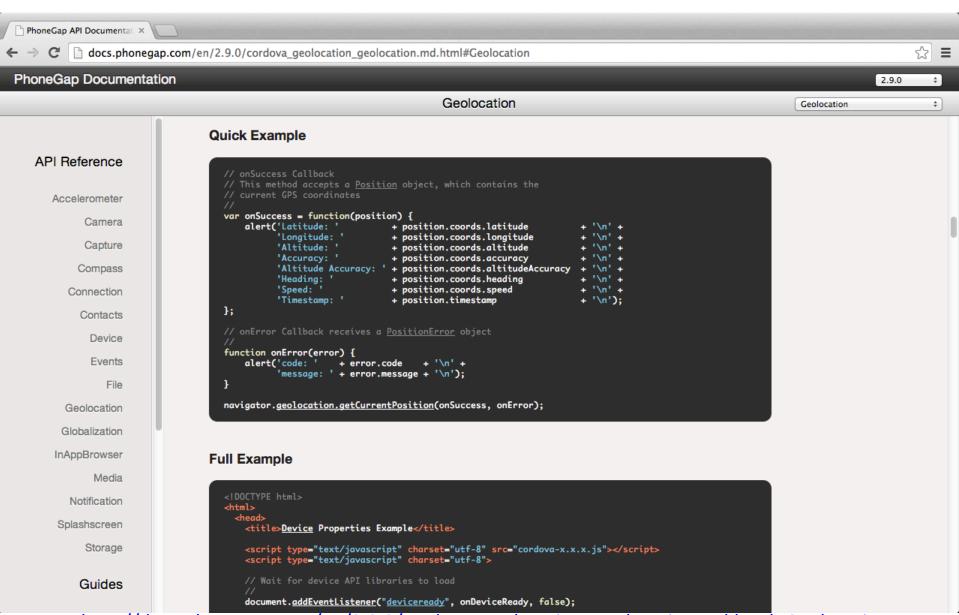
PhoneGap API Documentation



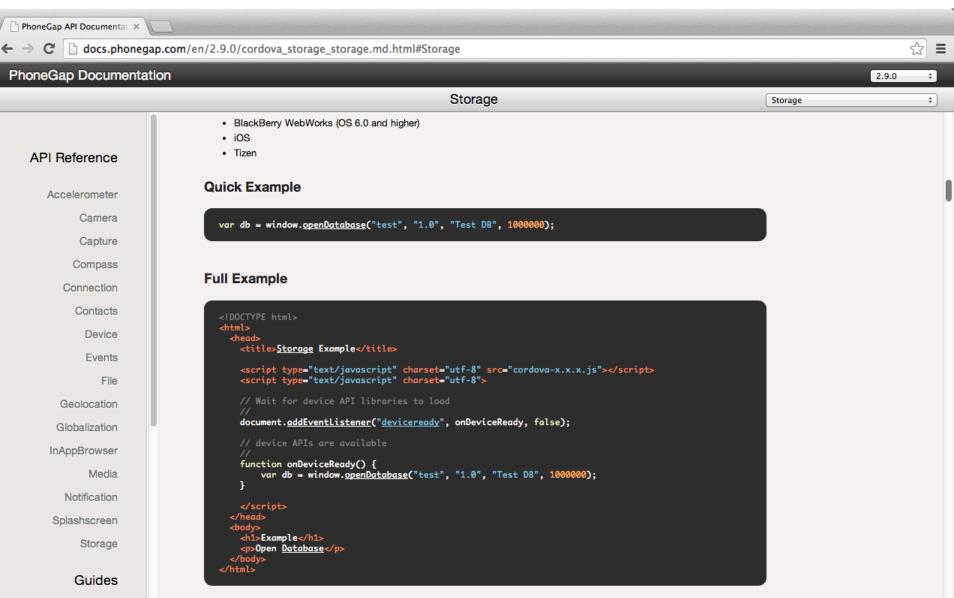
PhoneGap API: Camera



PhoneGap API: Geolocation

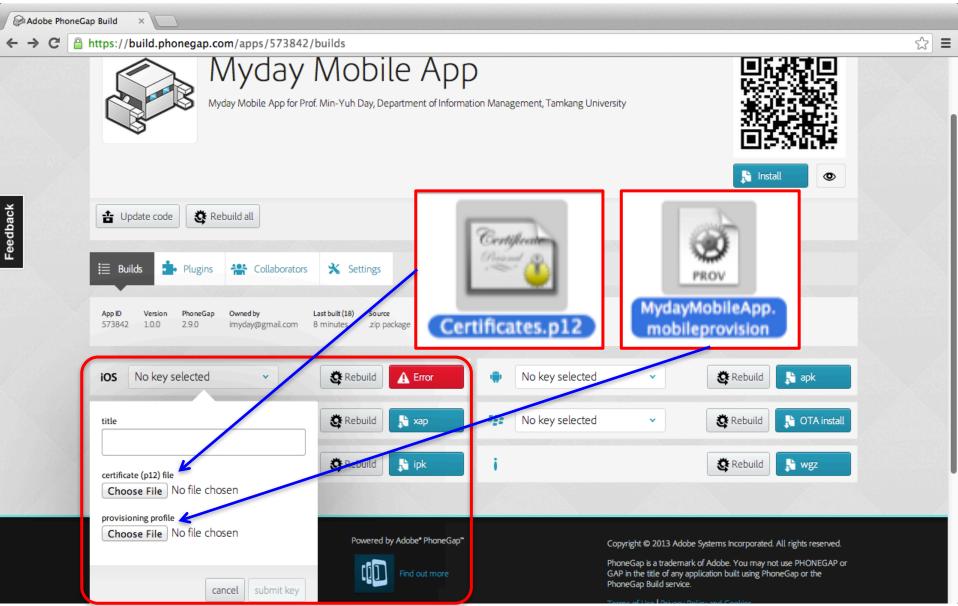


PhoneGap API: Storage

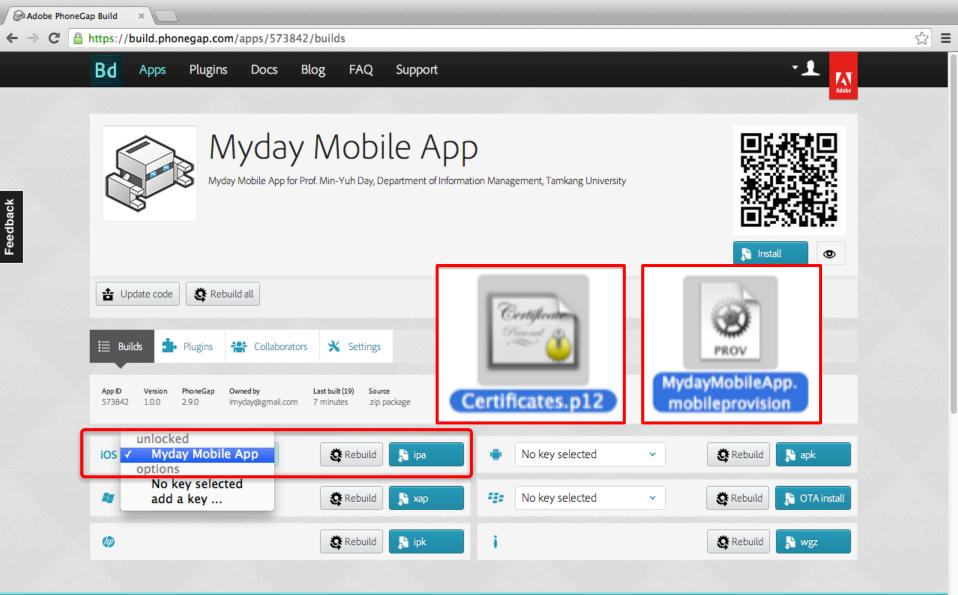


```
<!DOCTYPE html>
<html>
  <head>
   <title>Storage Example</title>
   <script type="text/javascript" charset="utf-8" src="cordova-x.x.x.js"></script>
   <script type="text/javascript" charset="utf-8">
   // Wait for device API libraries to load
   document.addEventListener("deviceready", onDeviceReady, false);
   // device APIs are available
   function onDeviceReady() {
       var db = window.openDatabase("Database", "1.0", "Cordova Demo", 200000);
       db.transaction(populateDB, errorCB, successCB);
   // Populate the database
   function populateDB(tx) {
       tx.executeSql('DROP TABLE IF EXISTS DEMO');
       tx.executeSql('CREATE TABLE IF NOT EXISTS DEMO (id unique, data)');
       tx.executeSql('INSERT INTO DEMO (id, data) VALUES (1, "First row")');
       tx.executeSql('INSERT INTO DEMO (id, data) VALUES (2, "Second row")');
   // Transaction error callback
   function errorCB(tx, err) {
        alert("Error processing SQL: "+err);
   // Transaction success callback
   function successCB() {
       alert("success!");
   </script>
  </head>
  <body>
   <h1>Example</h1>
   Database
 </body>
</html>
```

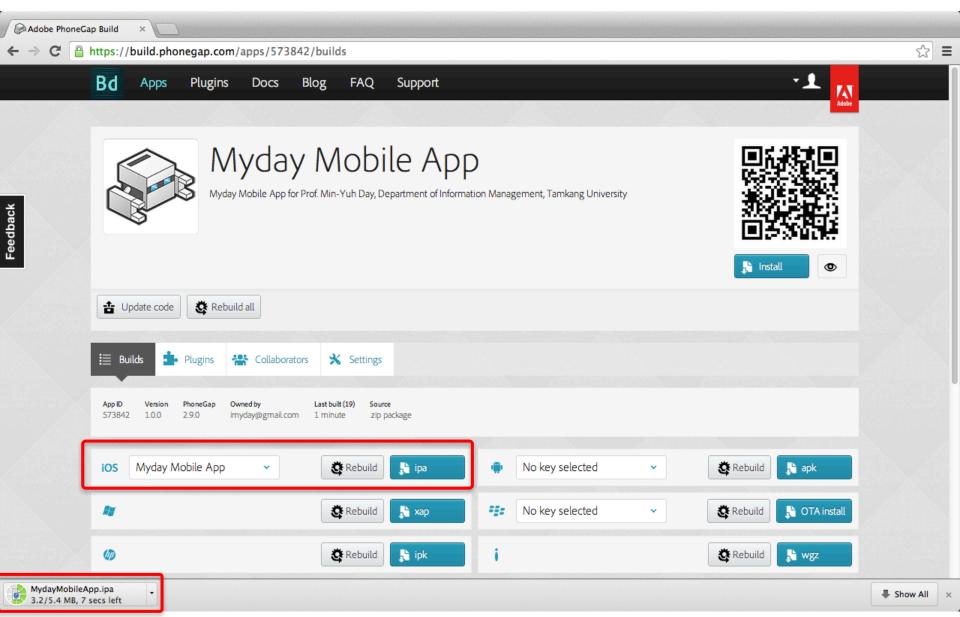
iOS Certificate (p12) file Provisioning profile



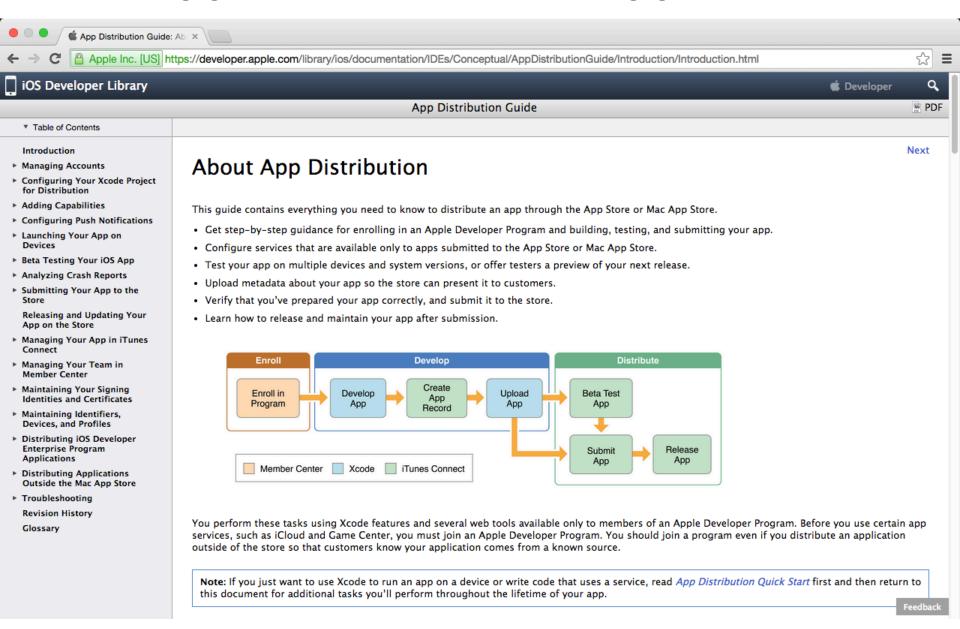
iOS Certificate (p12) file Provisioning profile



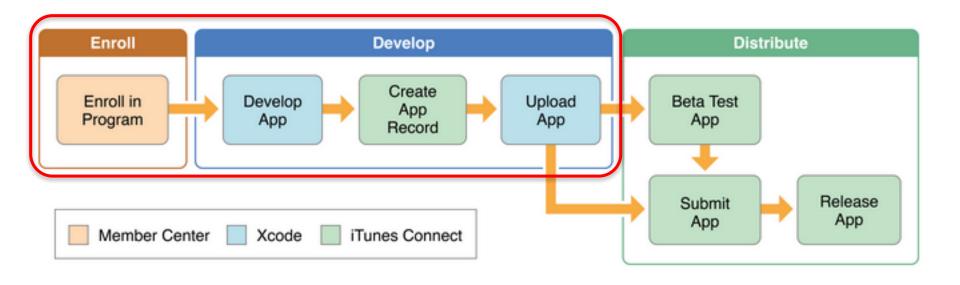
MydayMobileApp.ipa



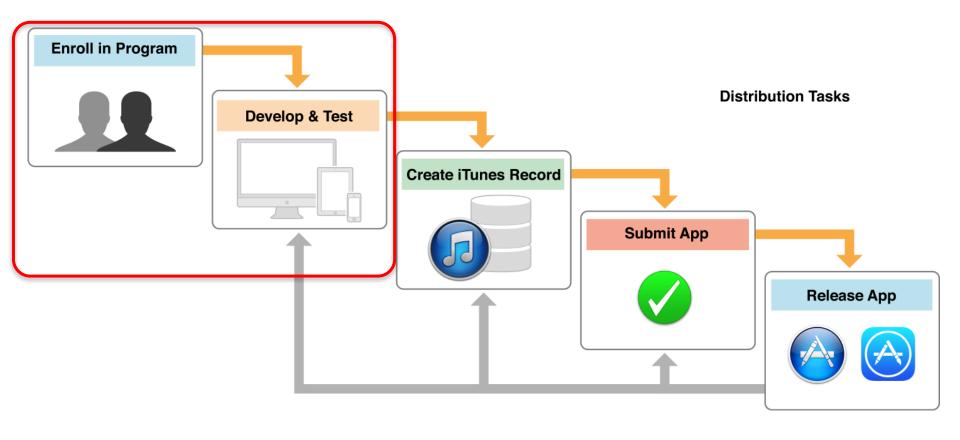
App Distribution on App Store



Test on iOS Devices (iPhone/iPAD)



Test on iOS Devices (iPhone/iPAD)



Testing iOS App



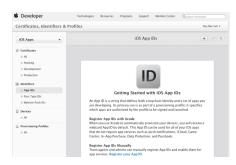
- Provisioning Profile
- Developer Portal
- Code Signing
- Bundle ID
- Keychain Access
- App ID
- Certificates
- Xcode Organizer

Basics of iOS Device Testing

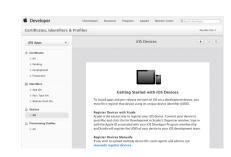
You have PERMISSION



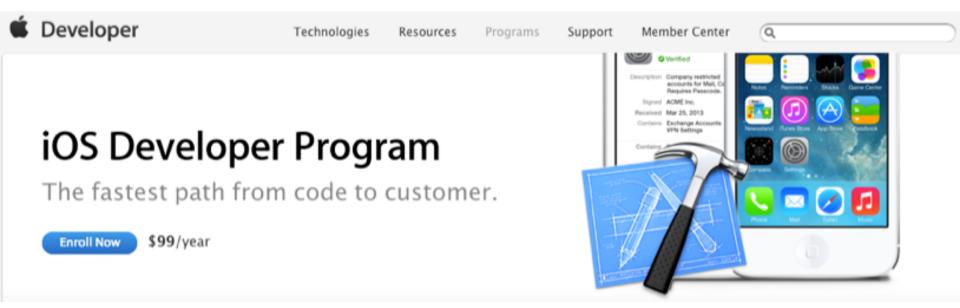
Your App has PERMISSION







You have PERMISSION









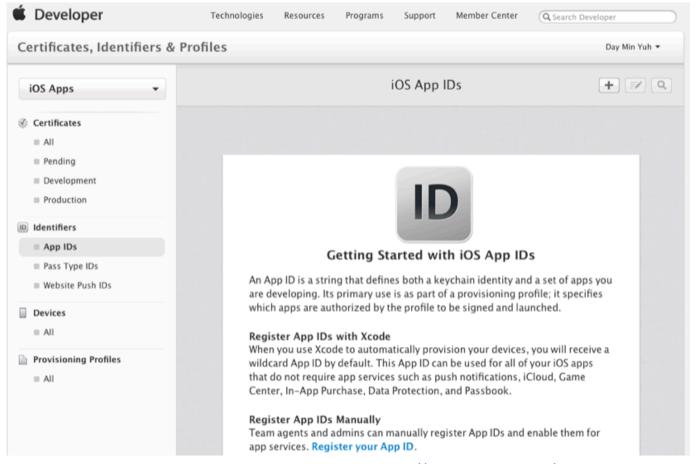
Keychain Access

Certificates



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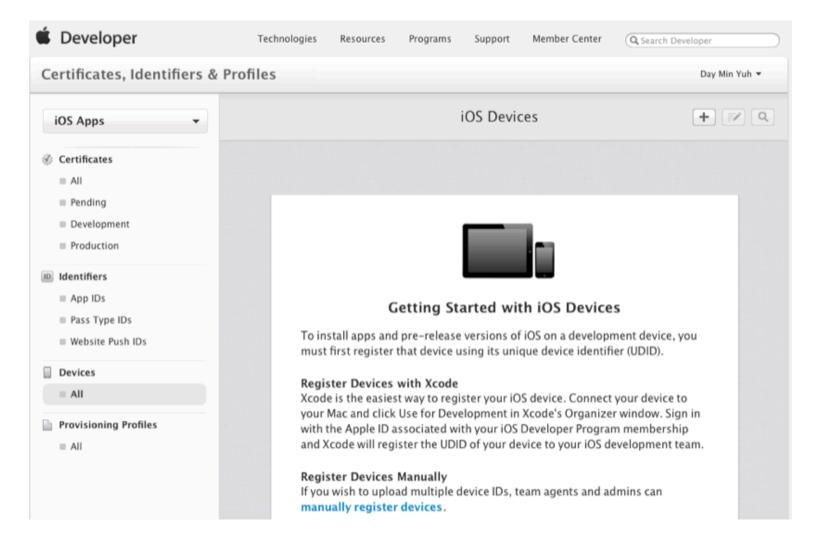
Your Device has PERMISSION







Your Device has PERMISSION

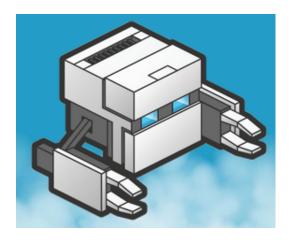


Demo

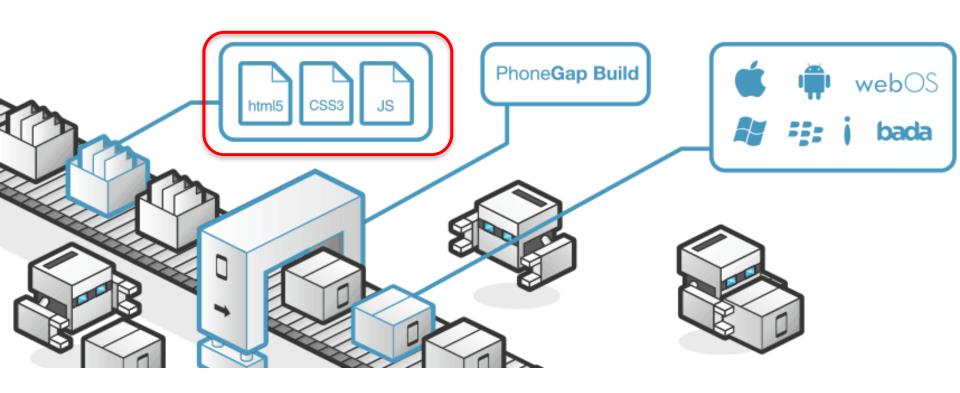
Create Hybrid Apps with PhoneGap Testing iOS and Android Devices

https://build.phonegap.com/





PhoneGap Build

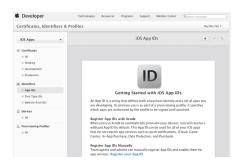


Basics of iOS Device Testing

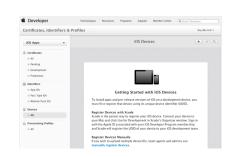
1 You have PERMISSION



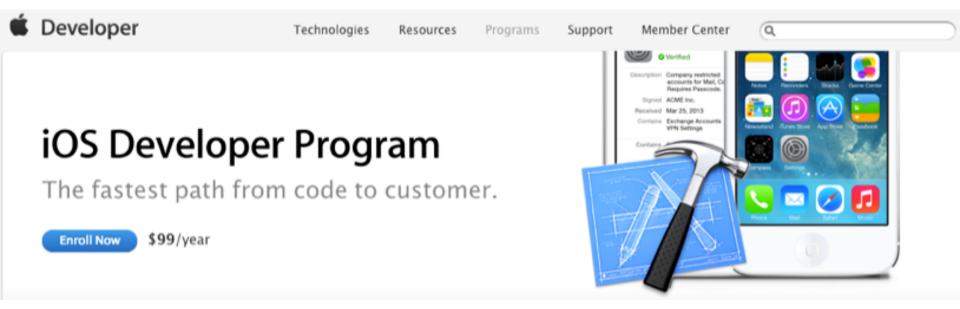
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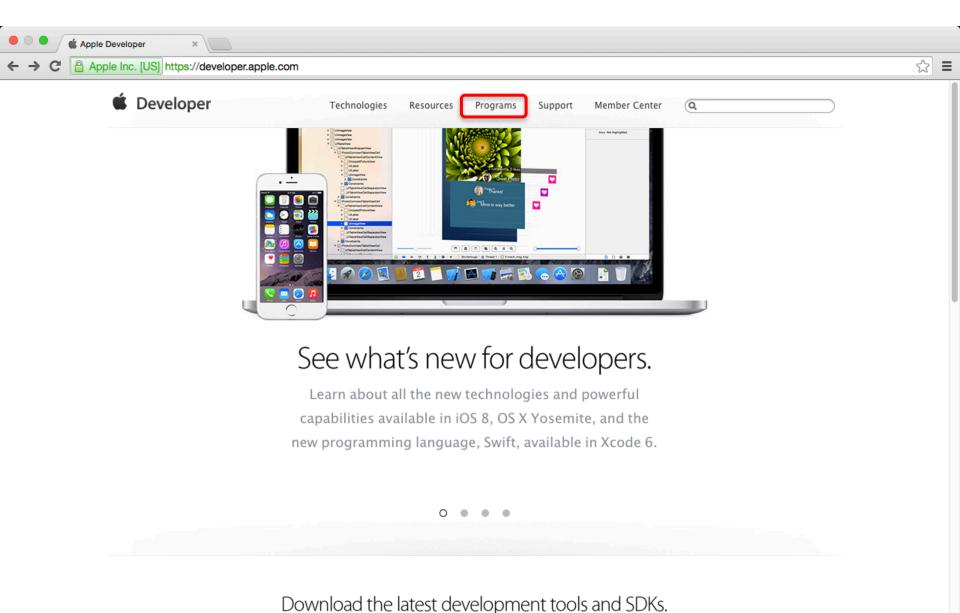




You have PERMISSION

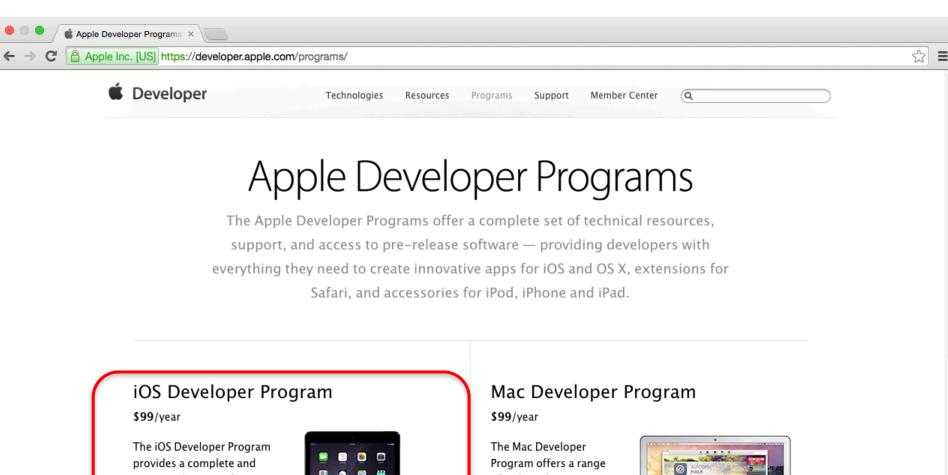


Apple iOS Developer Program



https://developer.apple.com/

Apple iOS Developer Program



provides a complete and integrated process for developing and distributing iOS apps on the App Store.

Learn more >

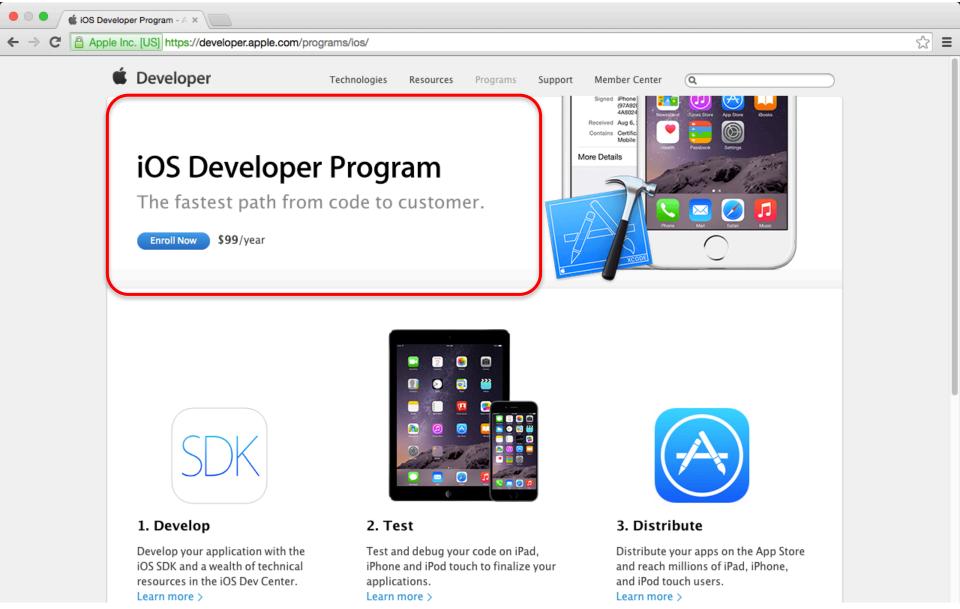


The Mac Developer Program offers a range of technical resources and support for distributing Mac apps on the Mac App Store.

Learn more >



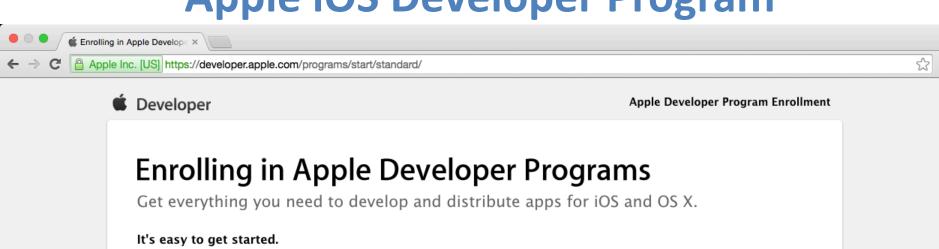
Apple iOS Developer Program



iOS Developer Program

The fastest path from code to customer.





✓ Choose an enrollment type.

Individual: choose this option if you are an individual or sole proprietor/single person business.

Company/Organization: choose this option if you are a company, non-profit organization, joint venture, partnership, or government organization.

✓ Submit your information.

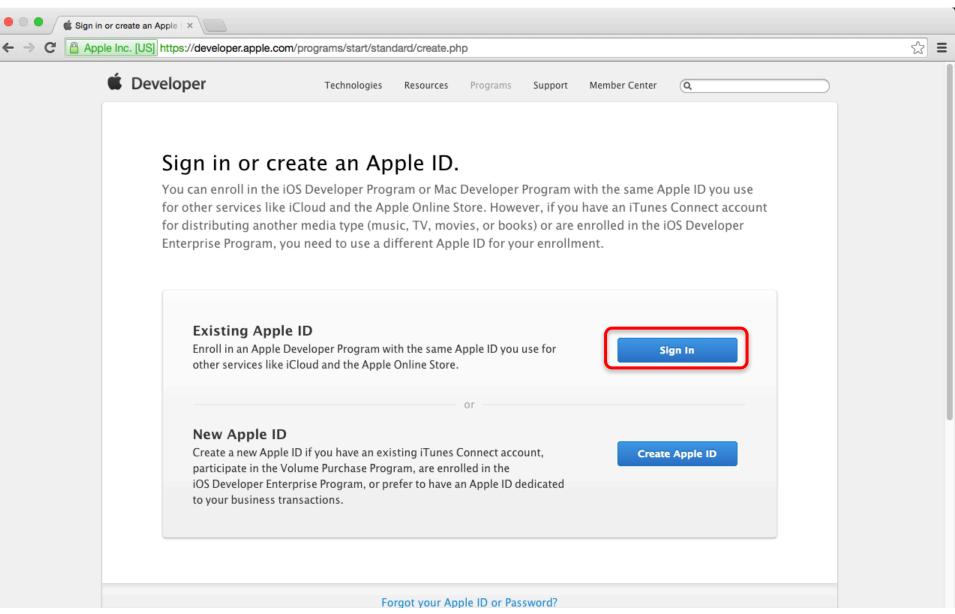
Provide basic personal information, including your legal name and address. If you're enrolling as a company/organization, we'll need a few more things, like your legal entity name and D-U-N-S® Number, as part of our verification process.

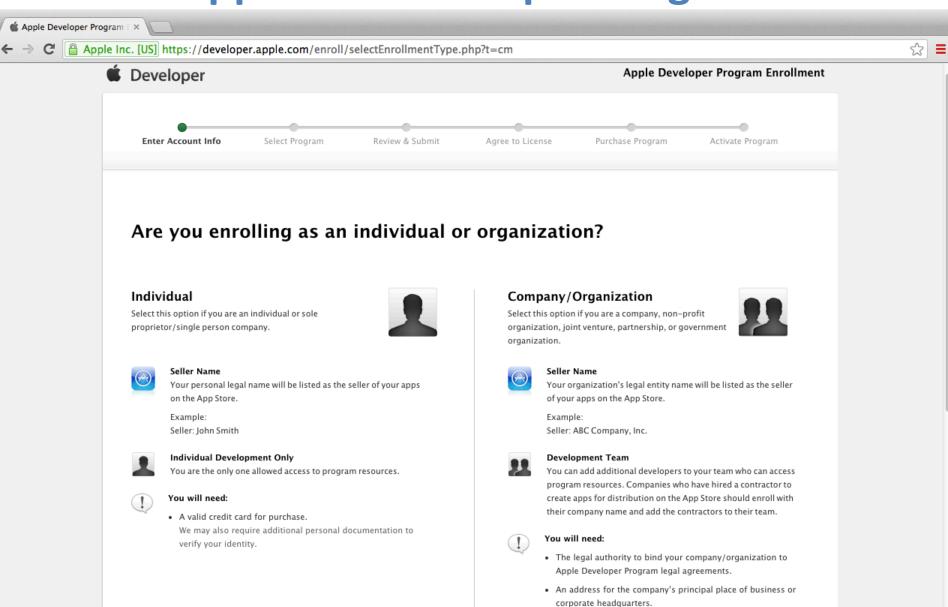
✓ Purchase and activate your program.

Once we verify your information, you can purchase your program on the Apple Online Store. After you have completed your purchase, we'll send you an email within 24 hours on how to activate your membership.











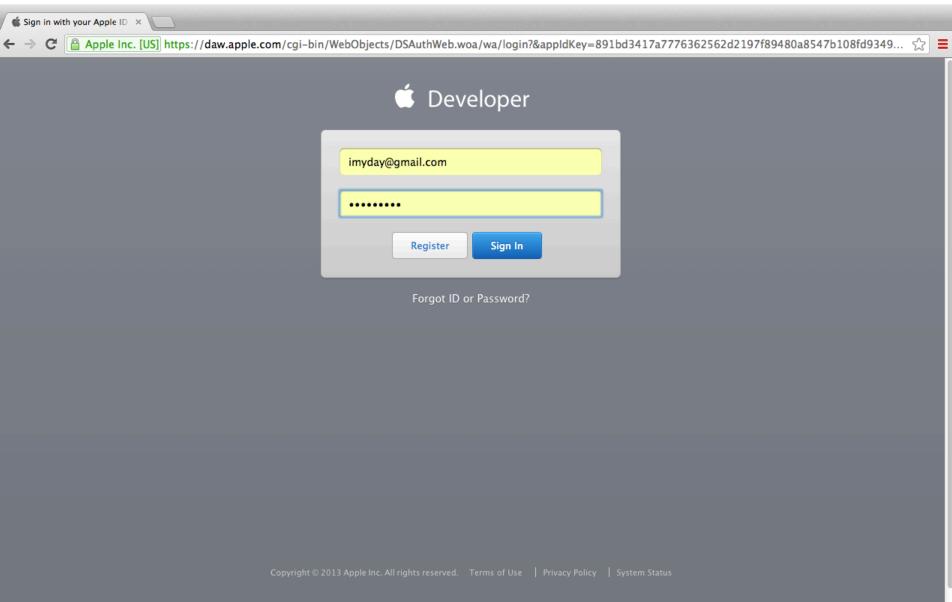
Individual

- D-U-N-S Numbers, available from D&B for free in most jurisdictions, are unique nine-digit numbers widely used as
- standard business identifiers. To learn more, read our FAQs. Before enrolling, check to see if D&B has assigned you a D-U-N-S Number. If not, please request one.

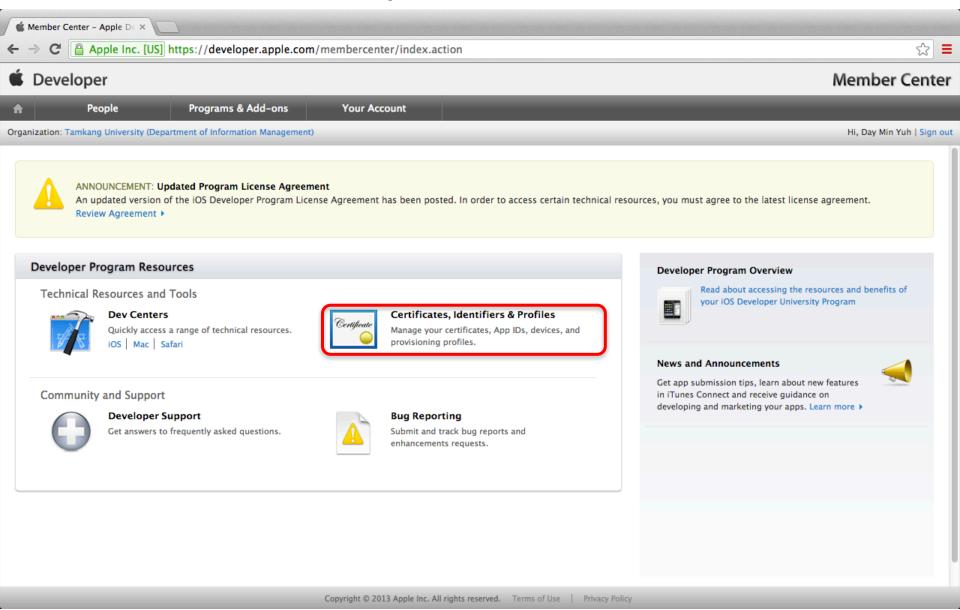
Note: We do not accept DBAs, Fictitious Business, Trade names, or branches at this time.

· A valid credit card for purchase.

Company



Certificates, Identifiers & Profiles



Certificates, Identifiers & Profiles

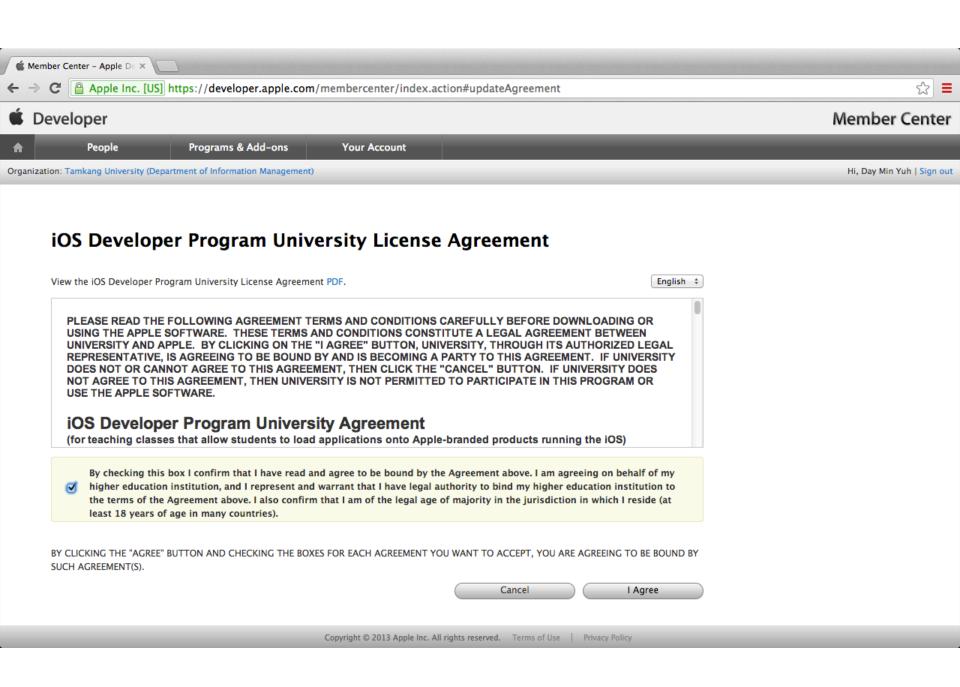




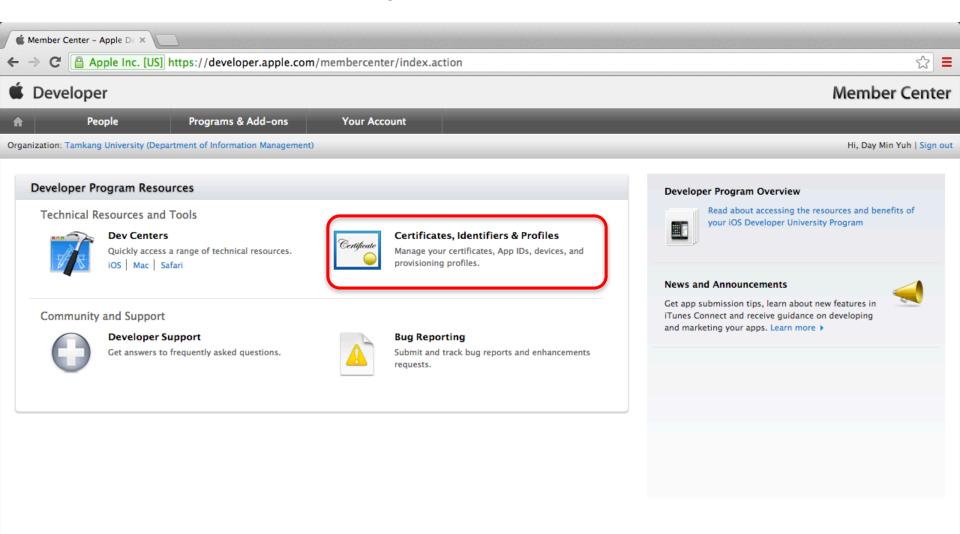


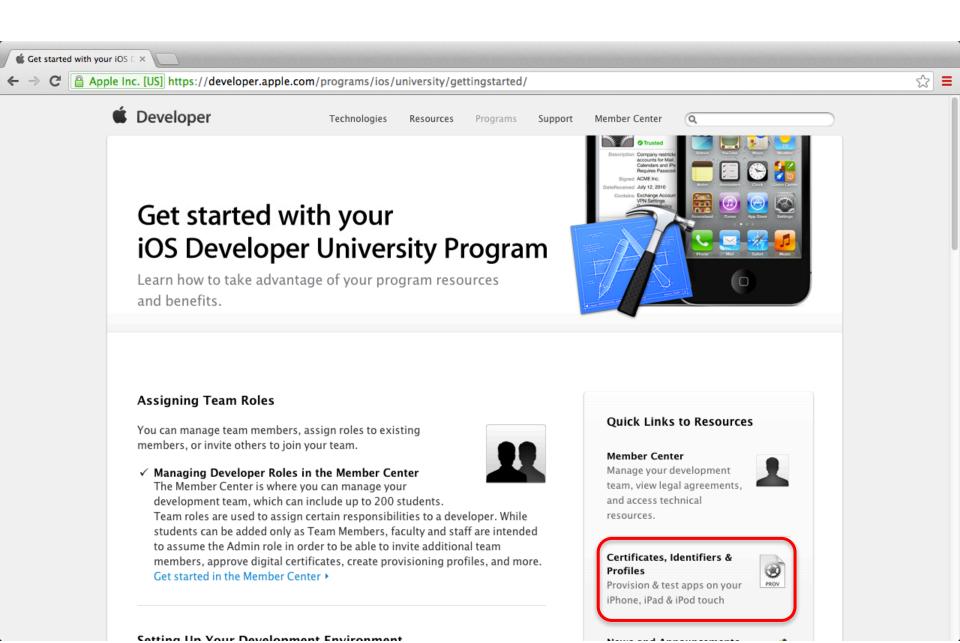
Certificates, Identifiers & Profiles

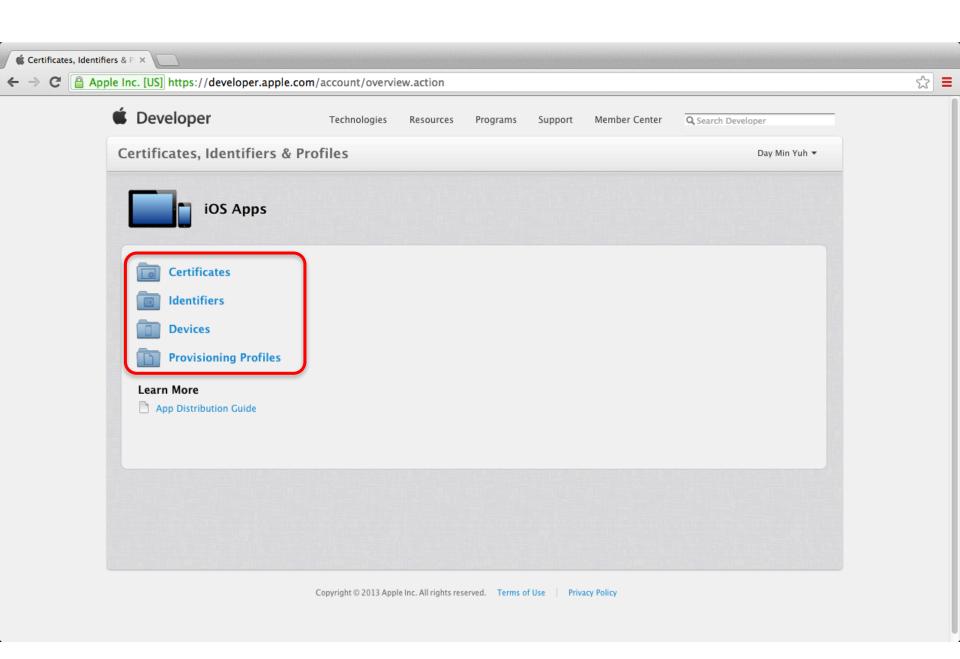
Manage your certificates, App IDs, devices, and provisioning profiles.

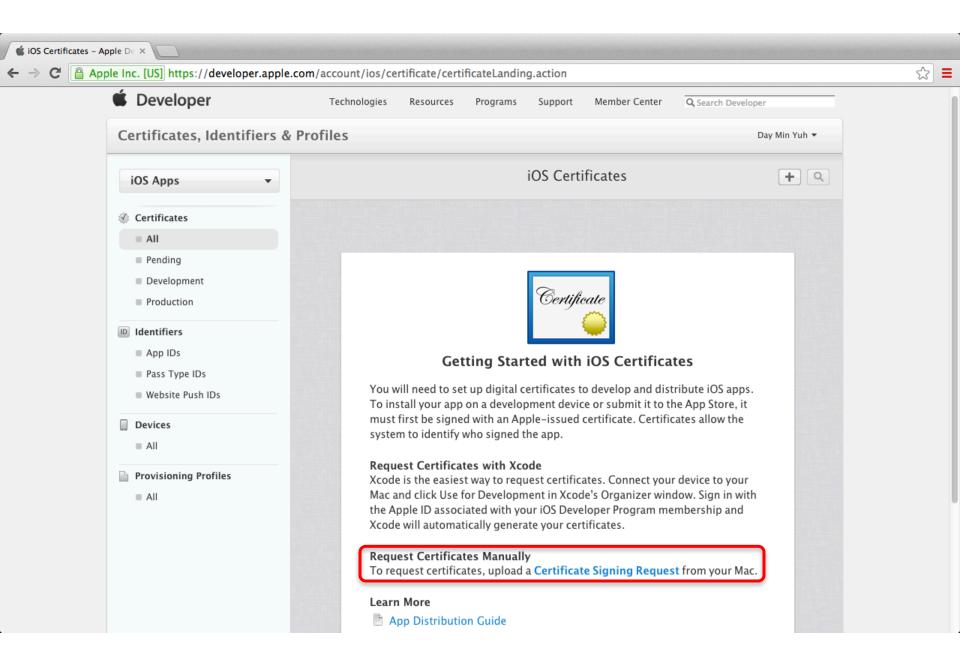


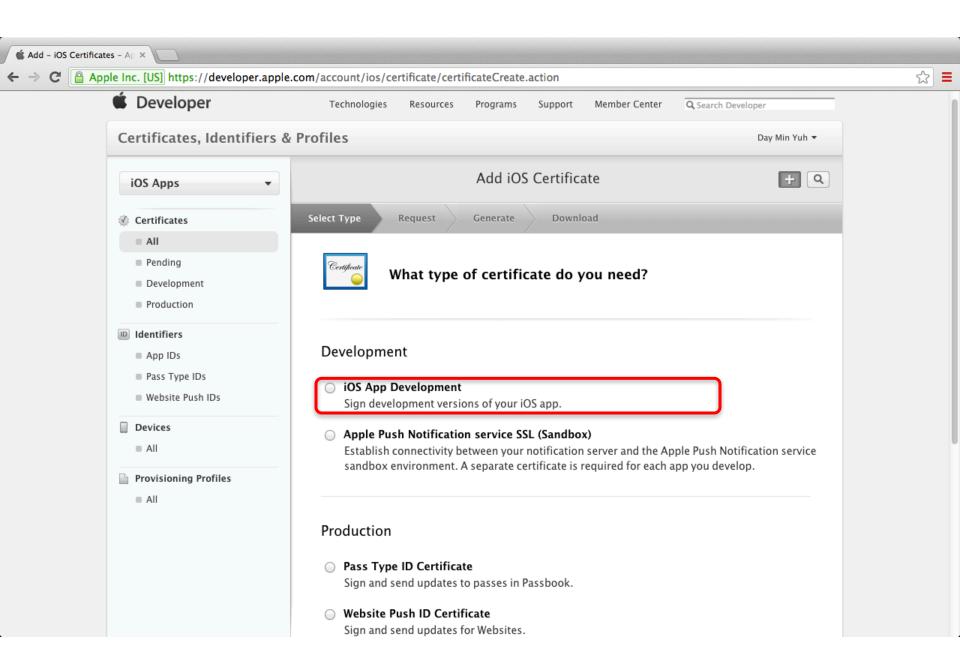
Certificates, Identifiers & Profiles

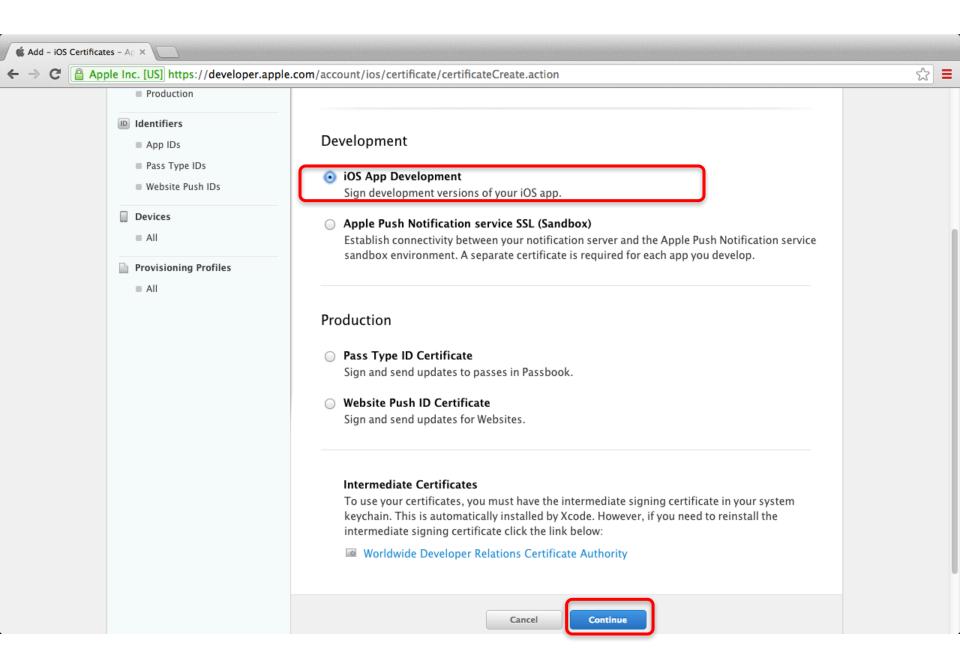




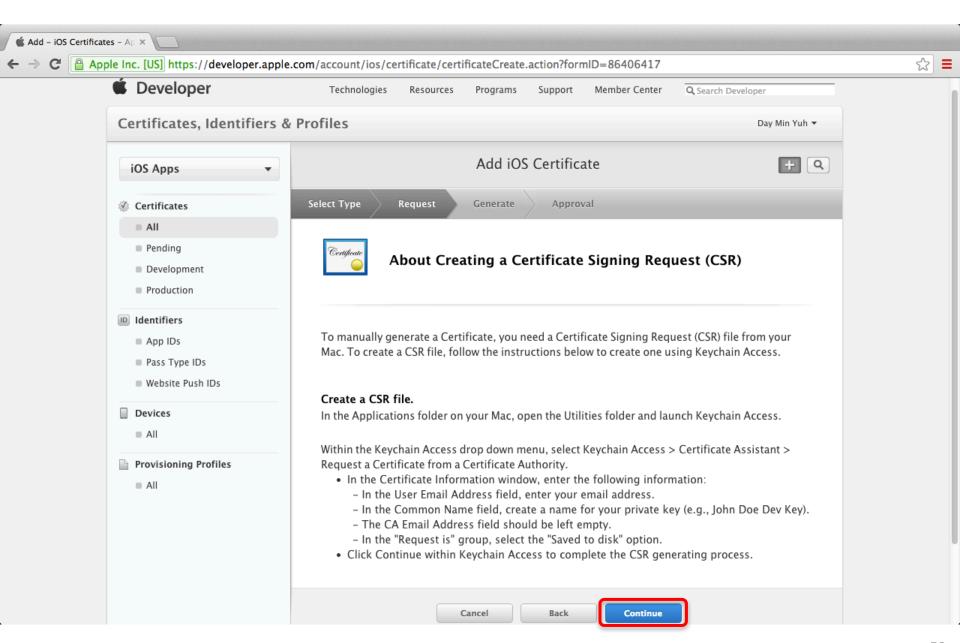




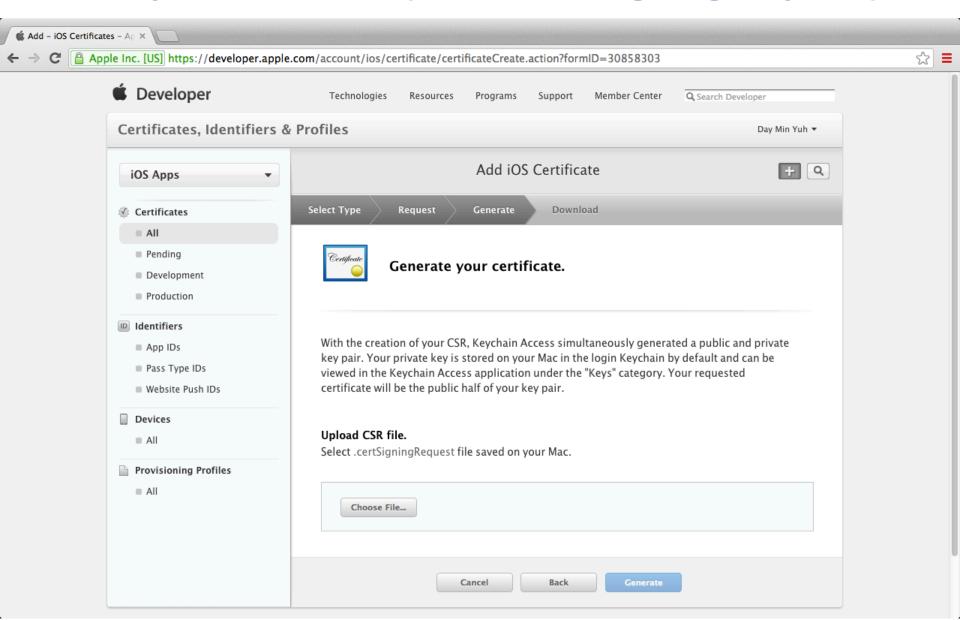




Certificate Signing Request (CSR)



Upload CSR file (CertificateSigningRequest)



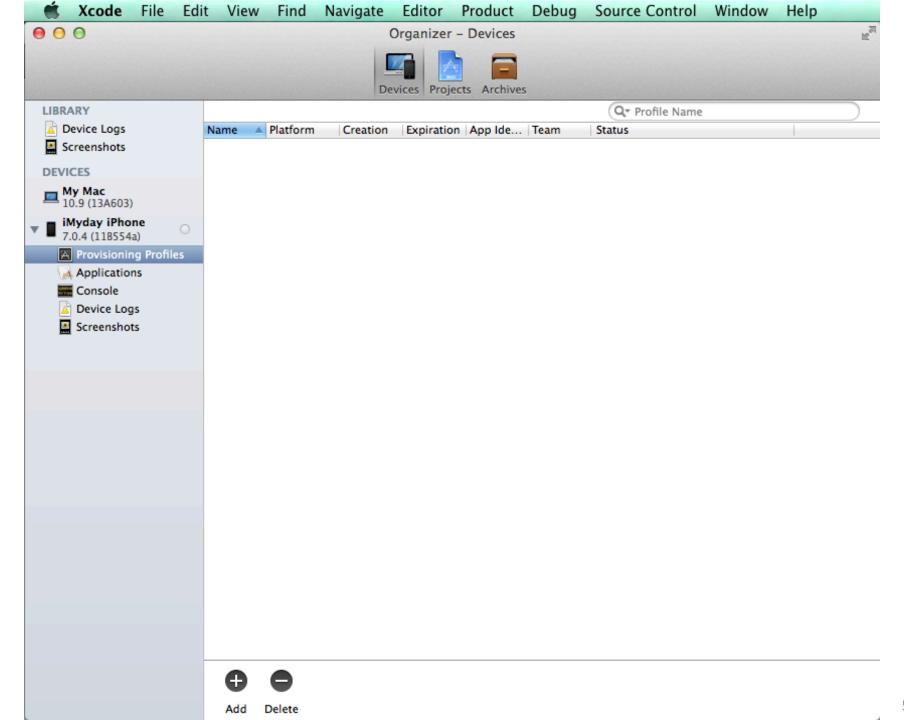






Keychain Access

Certificates



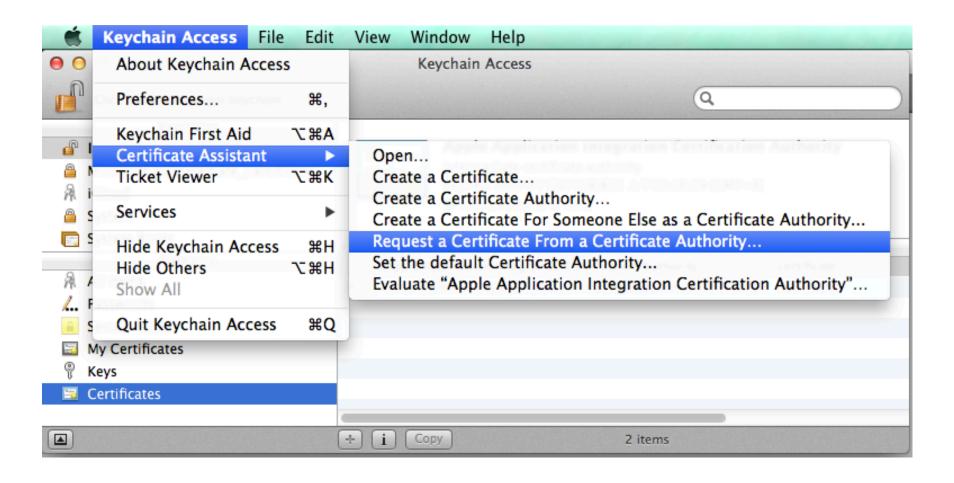
Applications\Utilities\Keychain Access



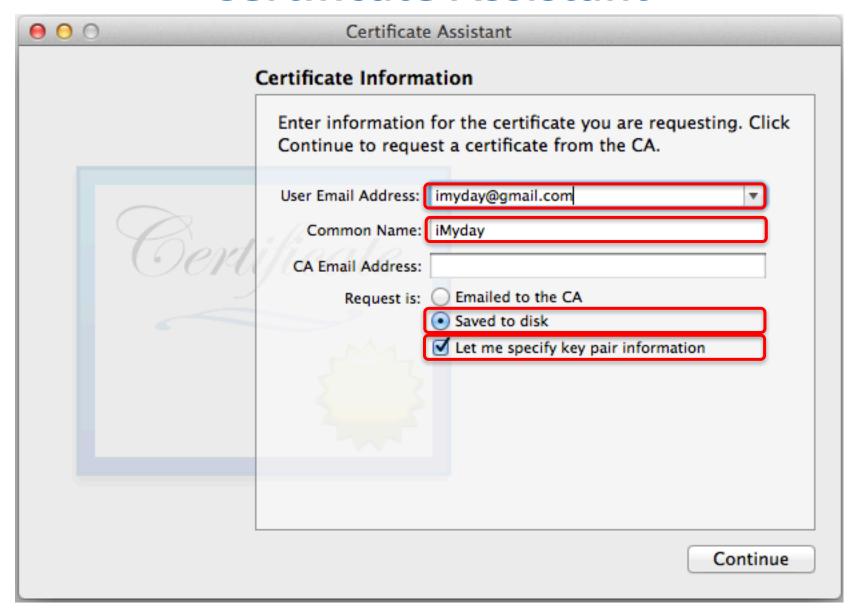




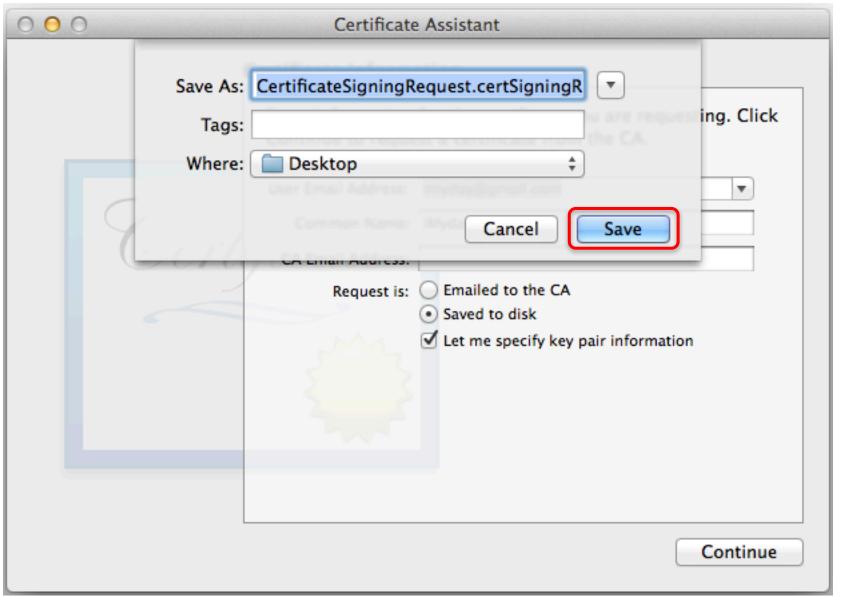
Request a Certificate From a Certificate Authority

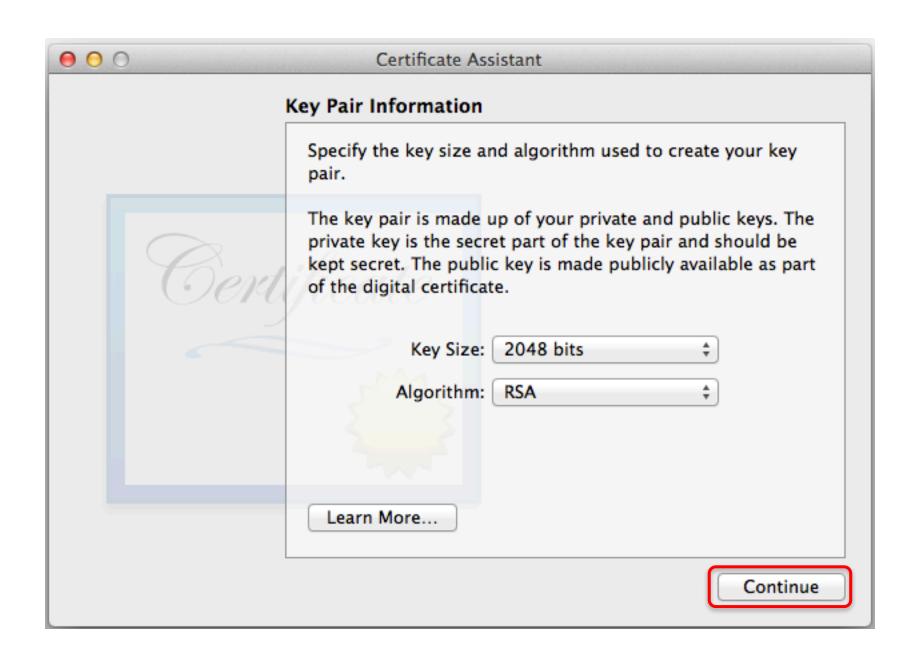


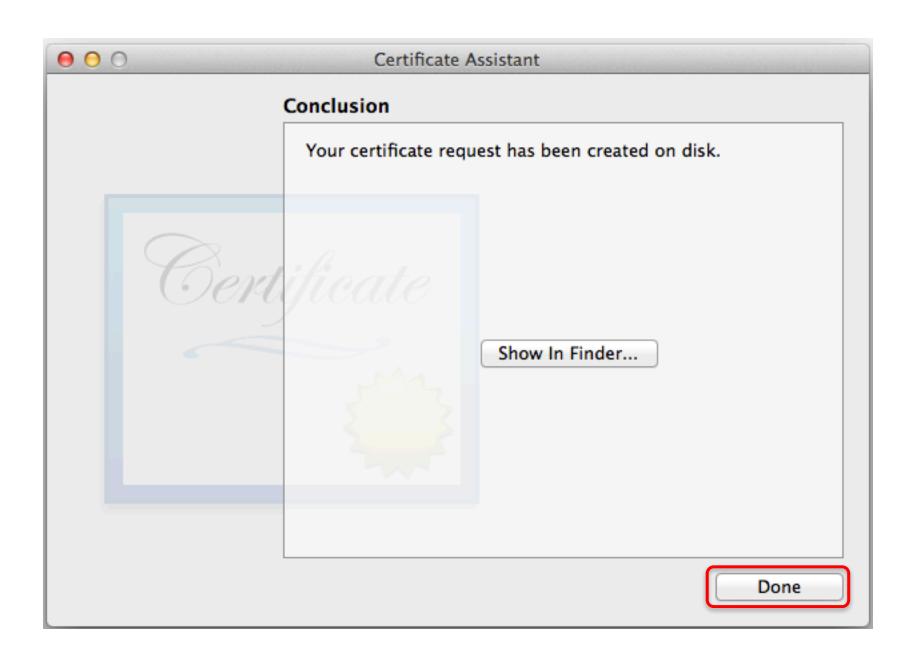
Certificate Assistant



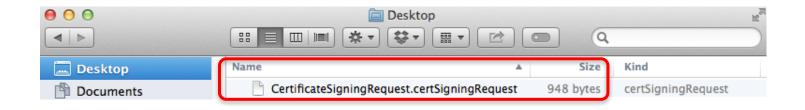
Request a Certificate From a Certificate Authority

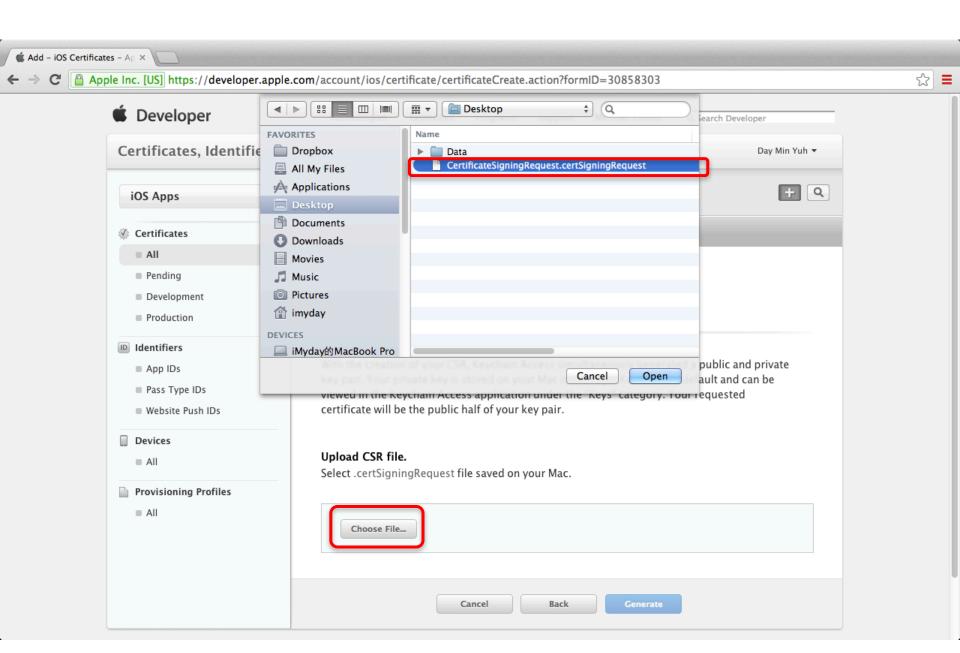


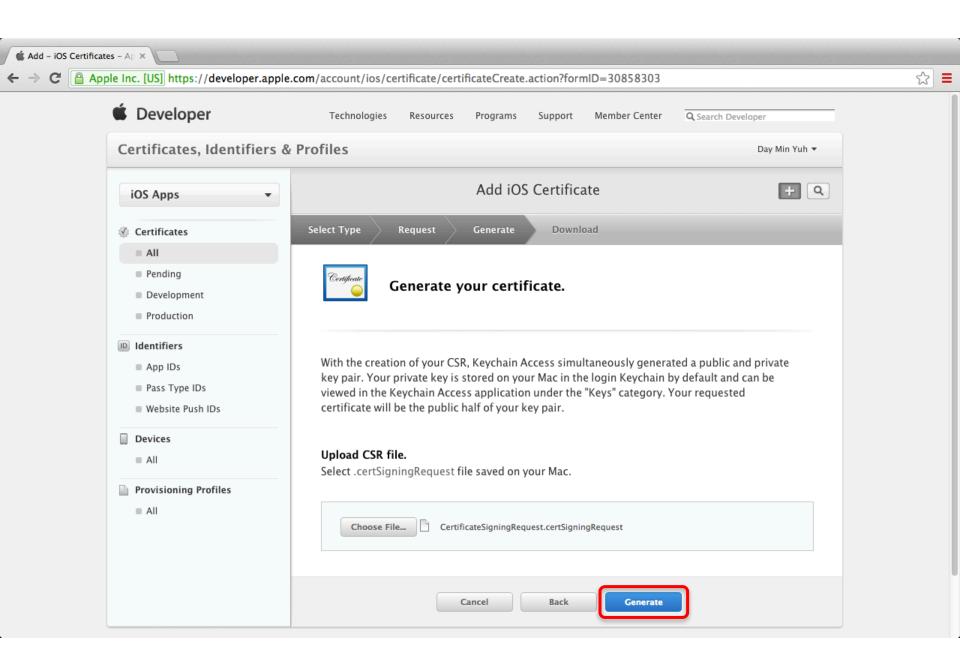


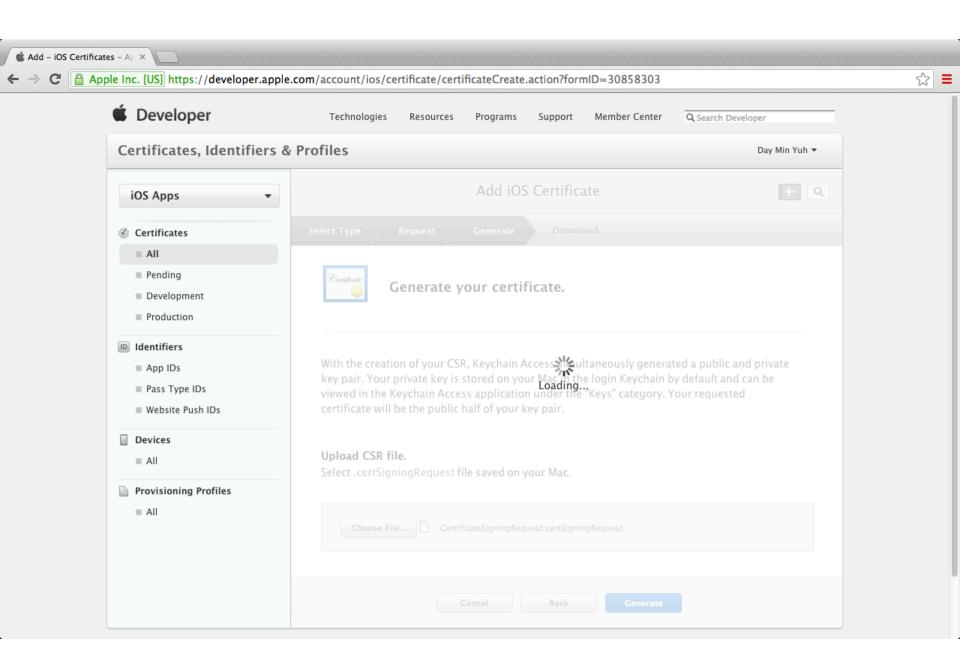


CertificateSigningRequest CSR

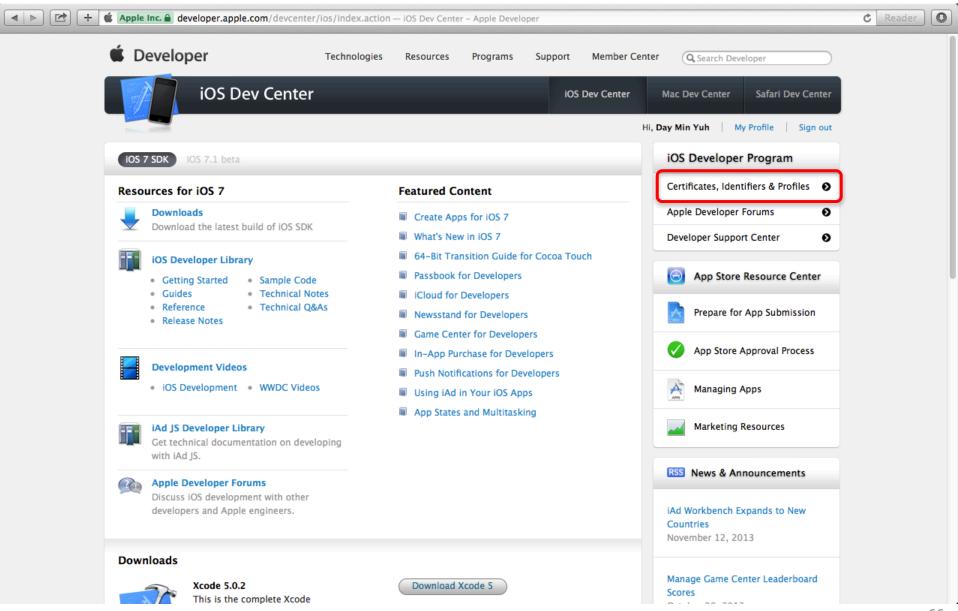


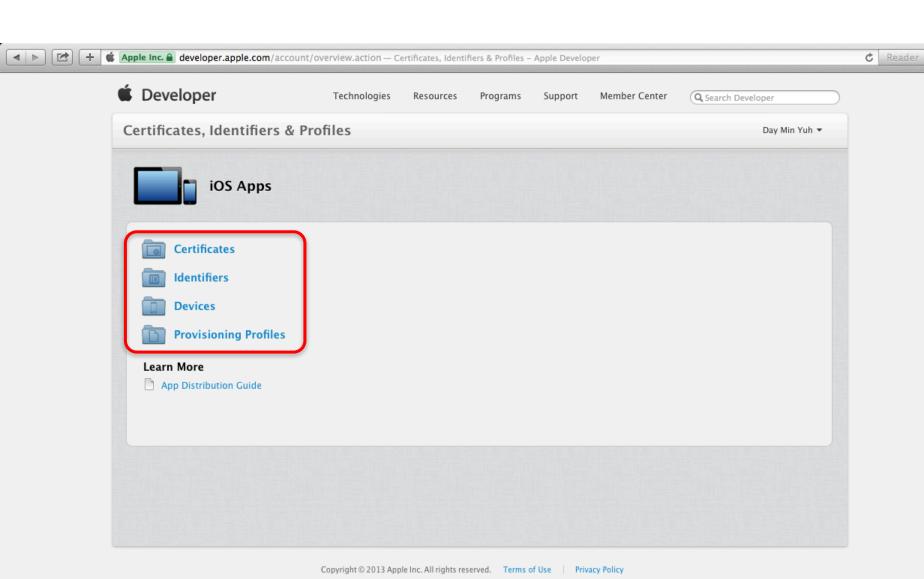


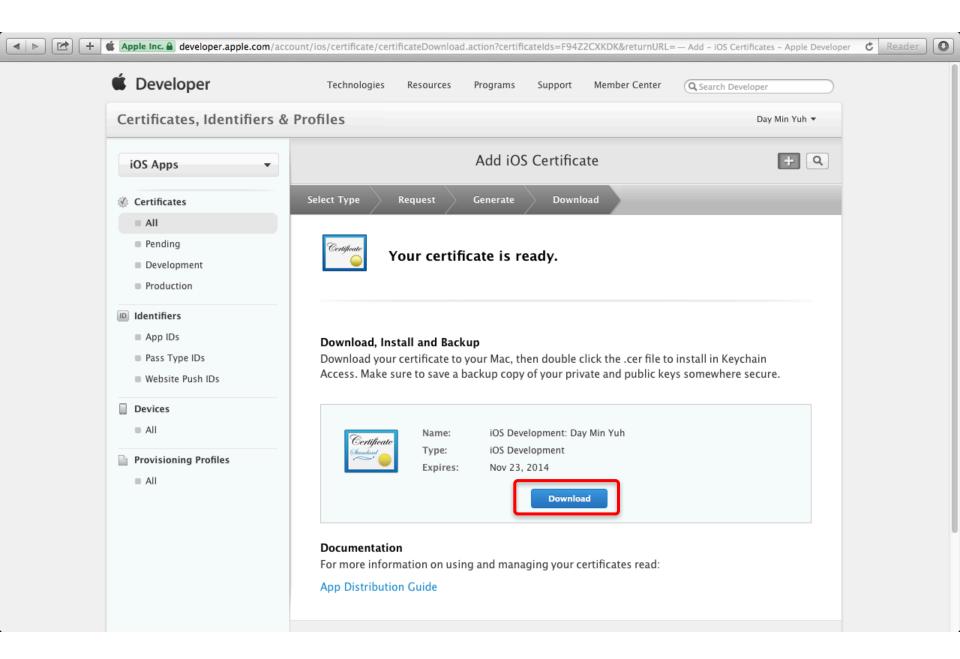




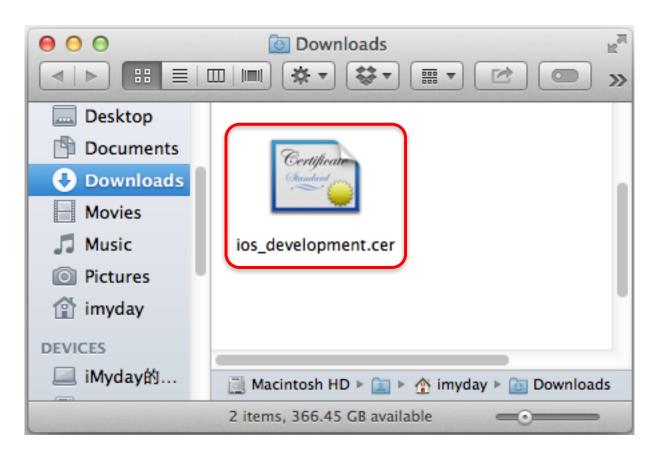
iOS Dev Center Certificate, Identifiers & Profiles

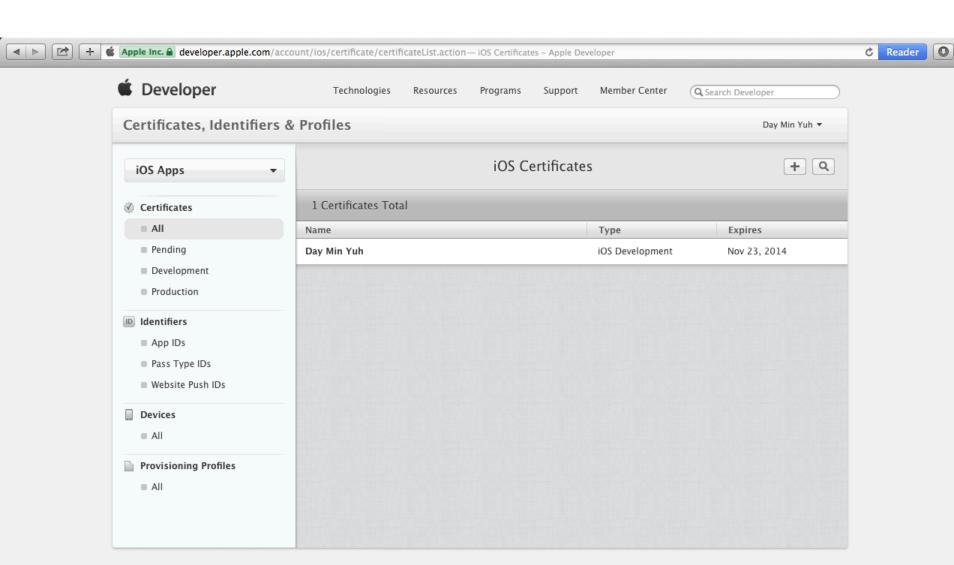






Your iOS Certificate: ios_development.cer



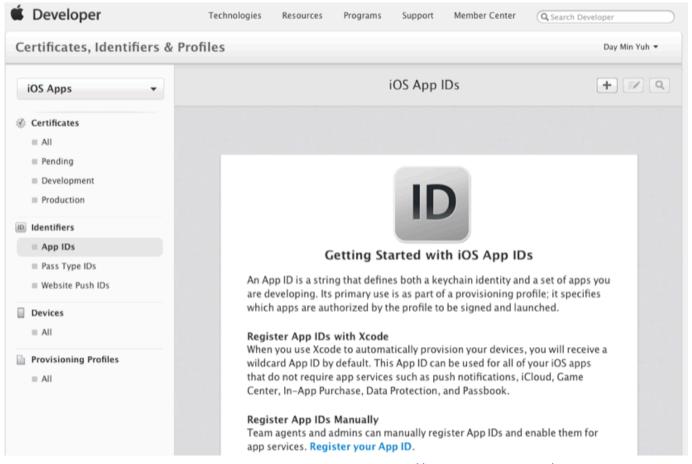


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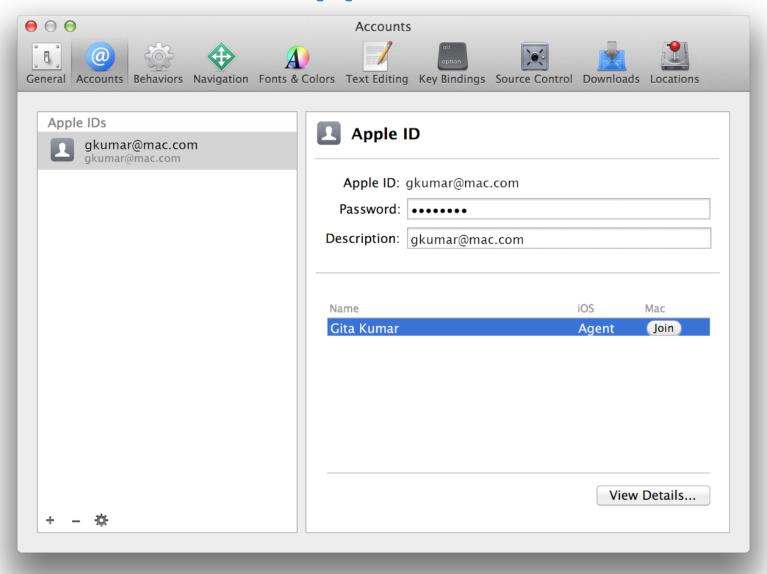


Your App has PERMISSION

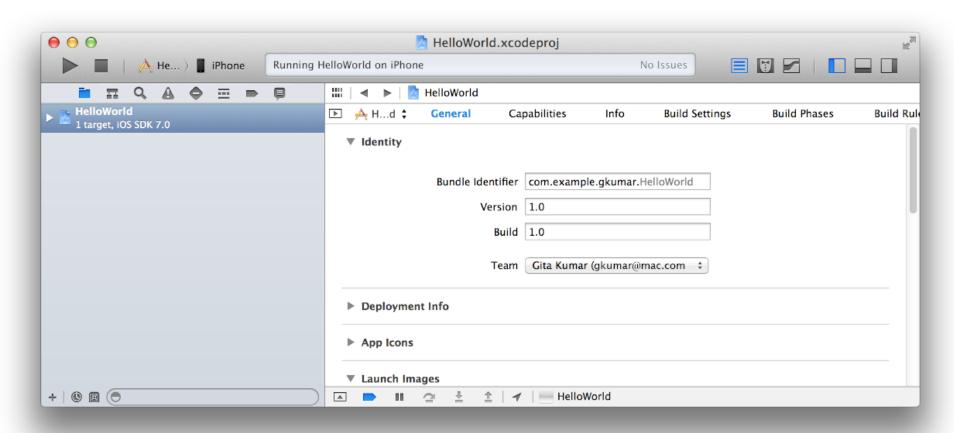
com.myDomain.myApp



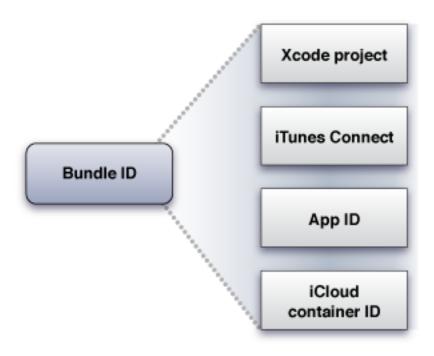
Apple ID



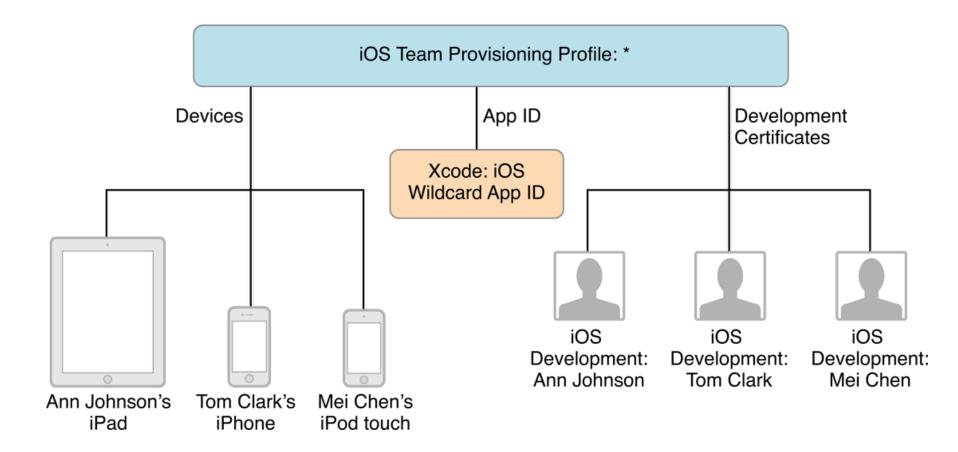
Bundle ID



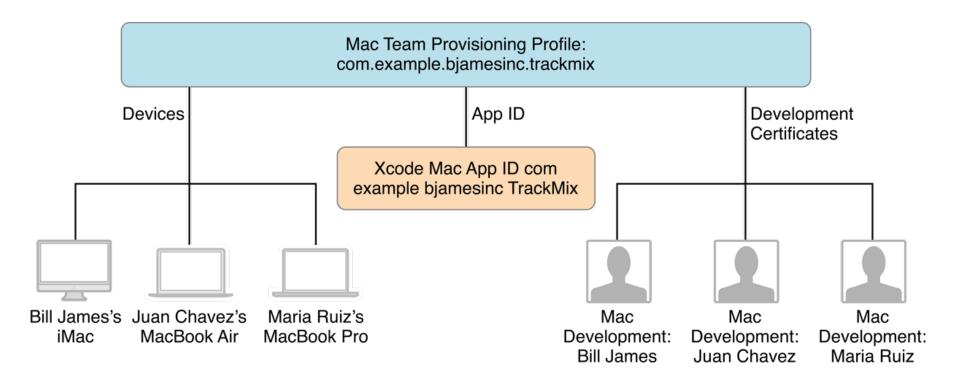
Bundle ID vs. App ID



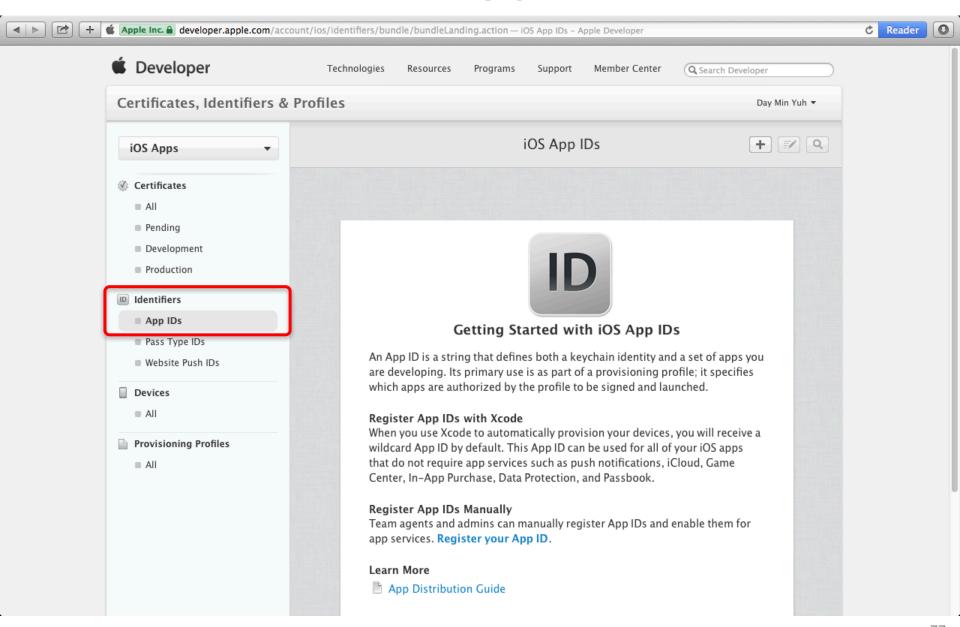
App ID, Device ID

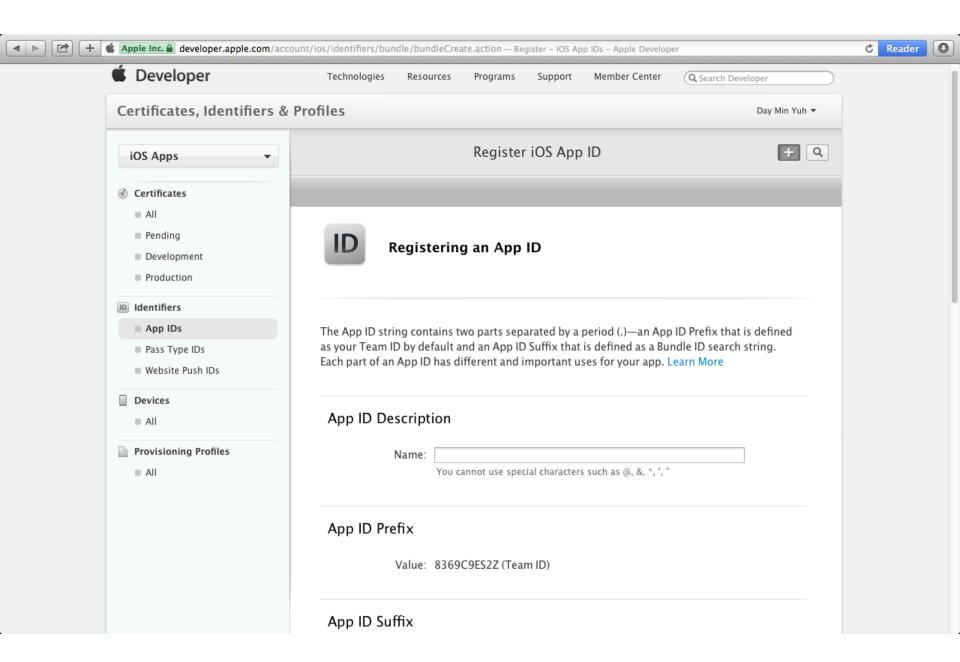


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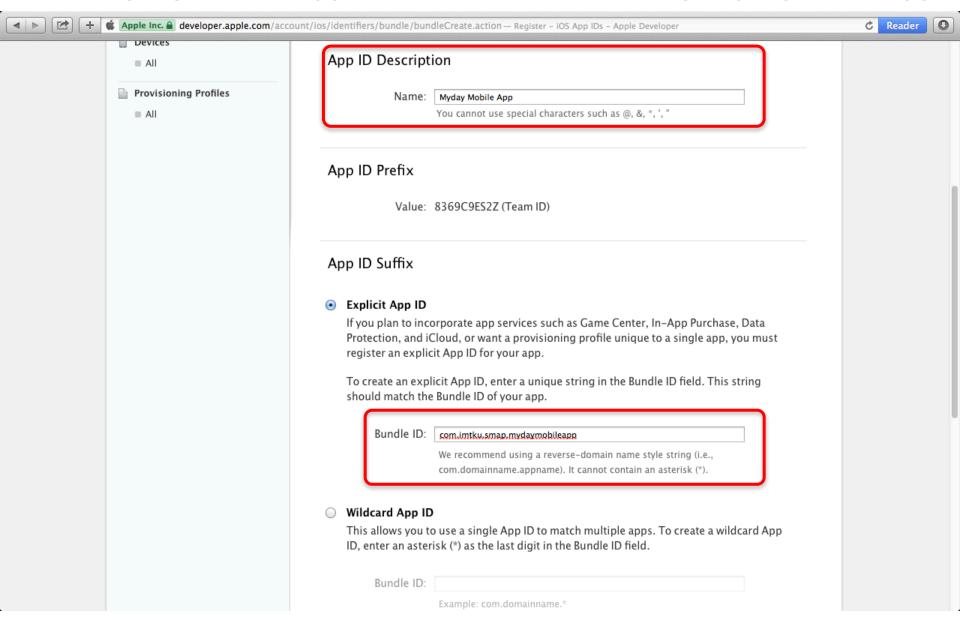
iOS App ID

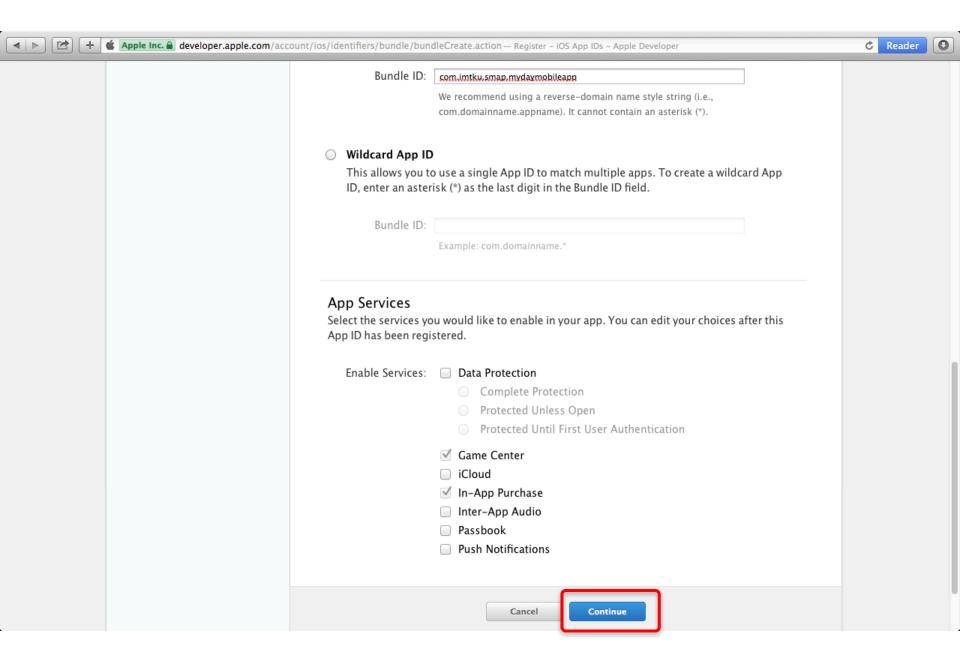


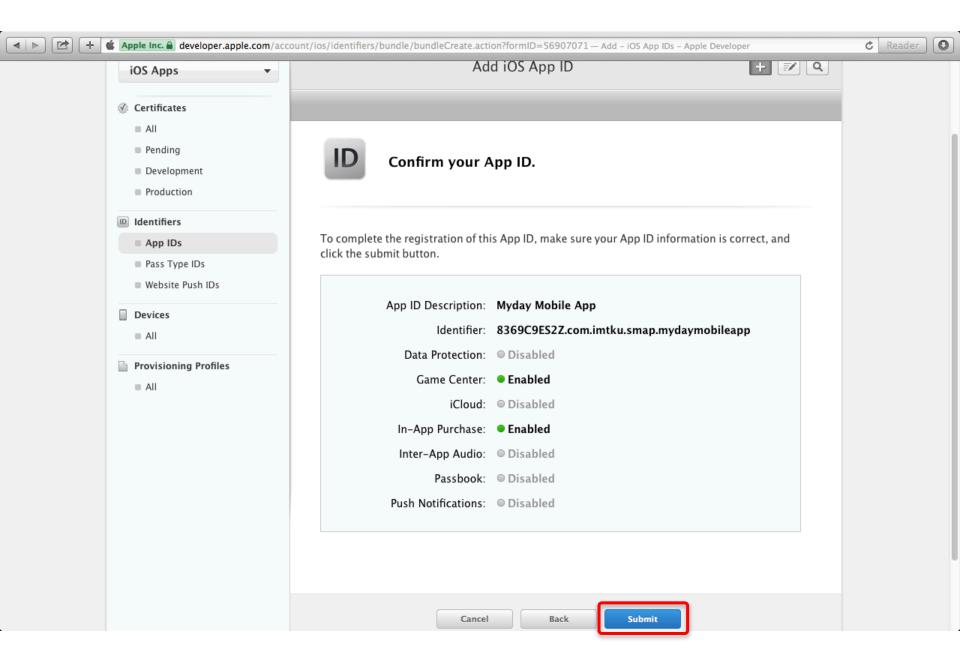


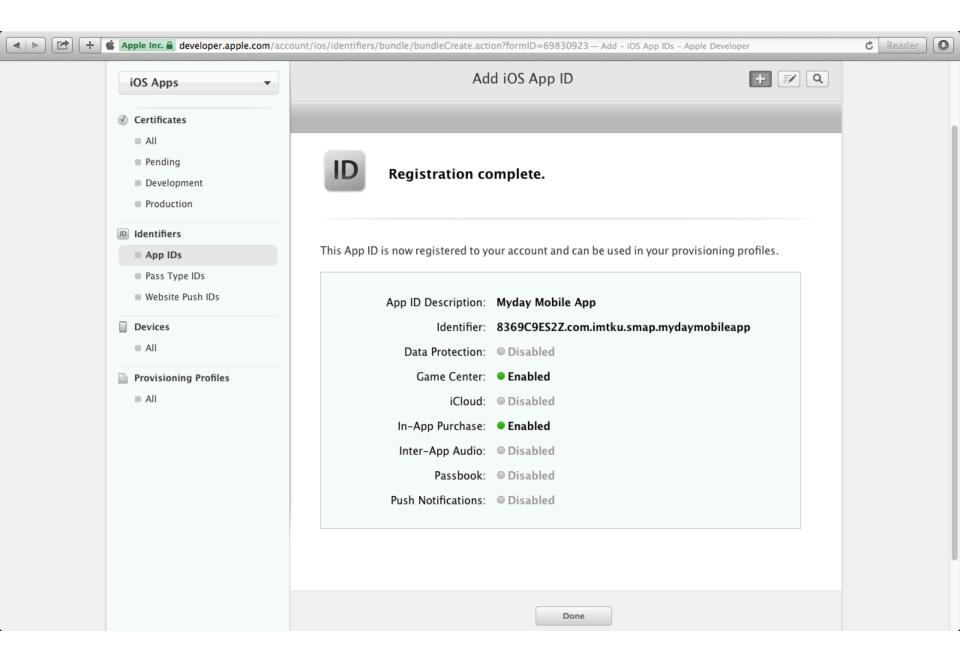
Myday Mobile App

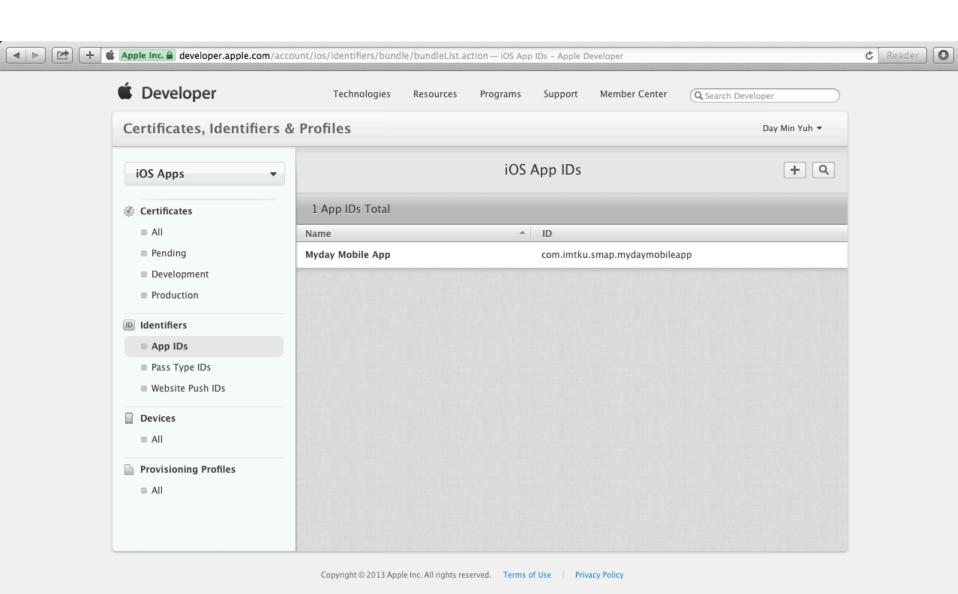
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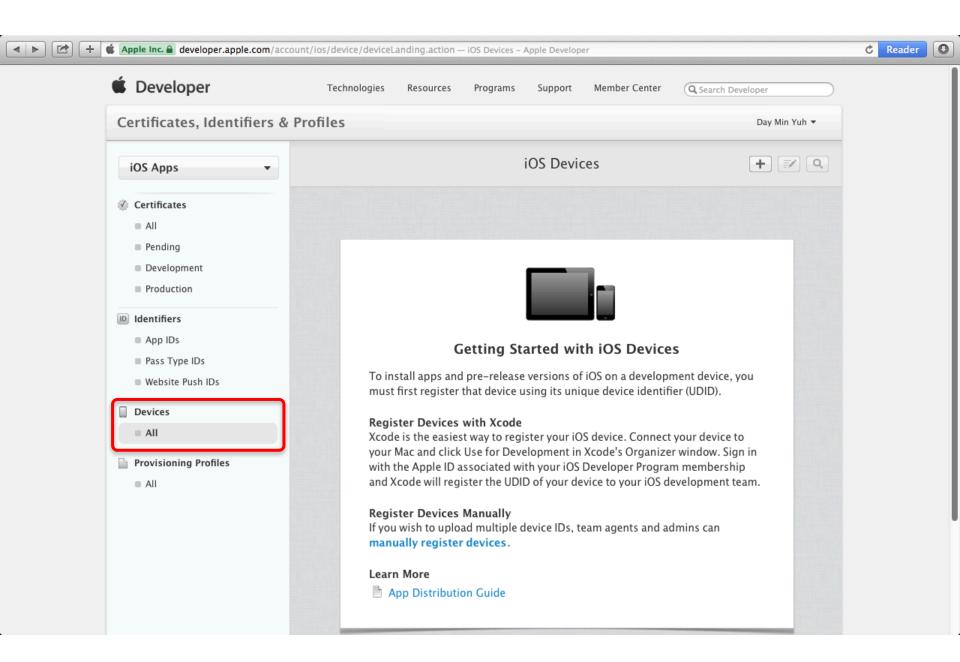




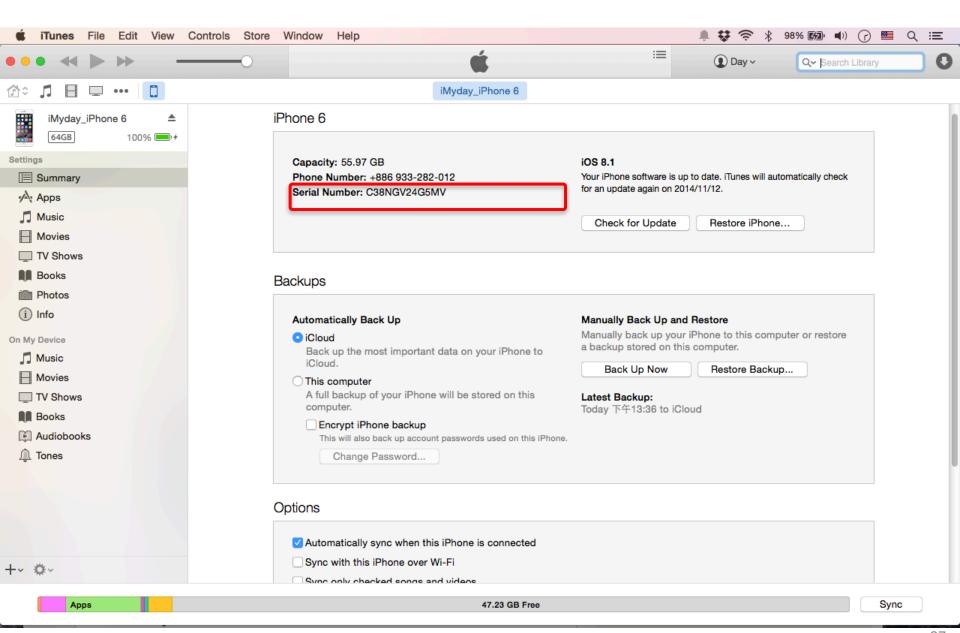
Your Device has PERMISSION

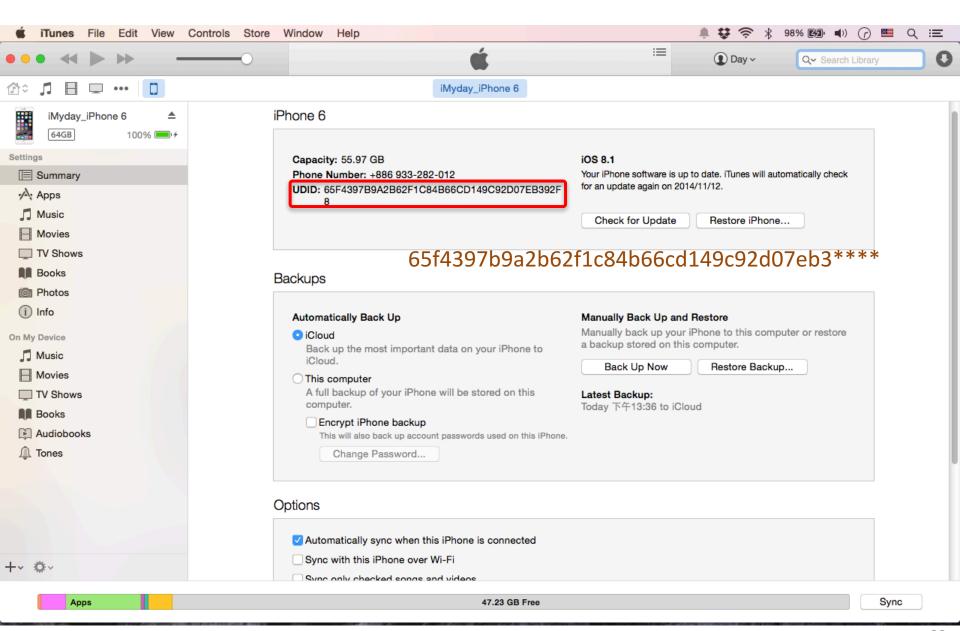


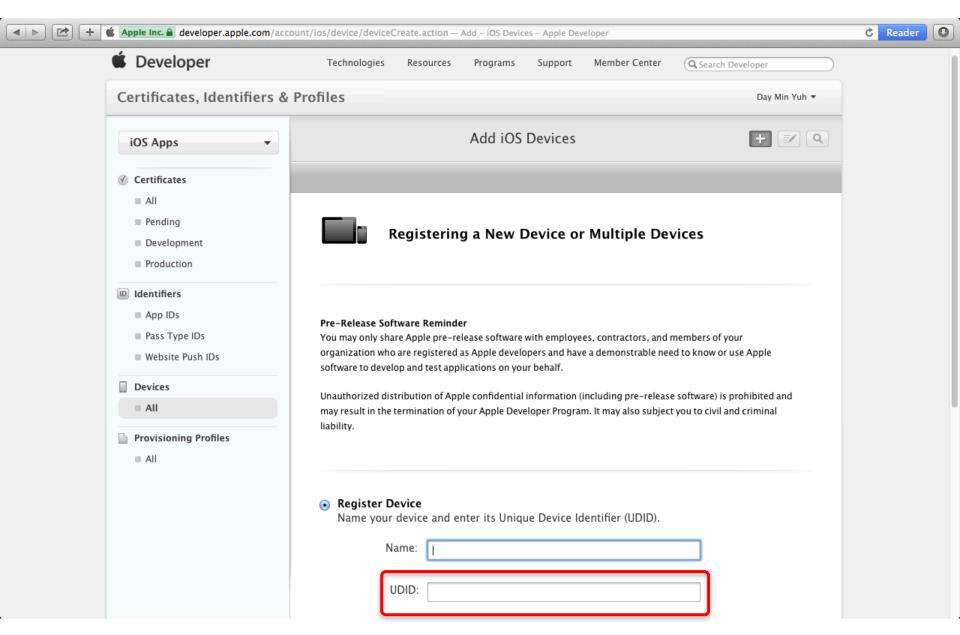


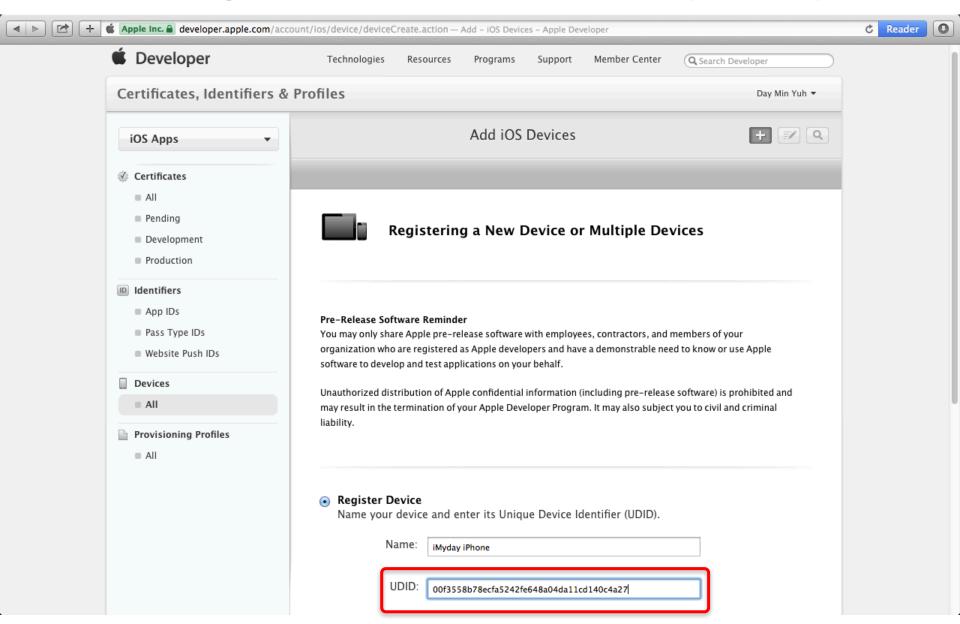


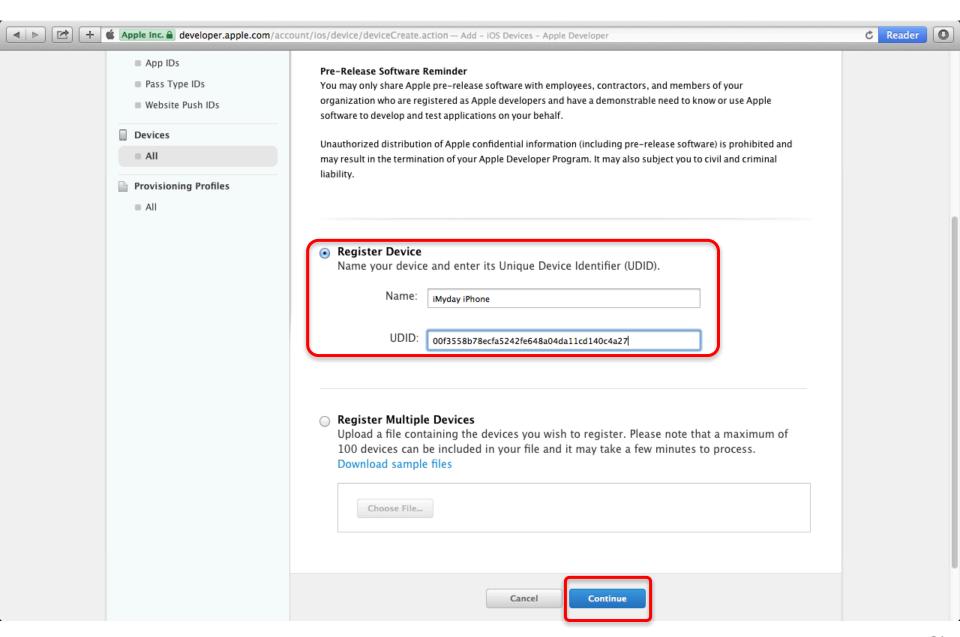


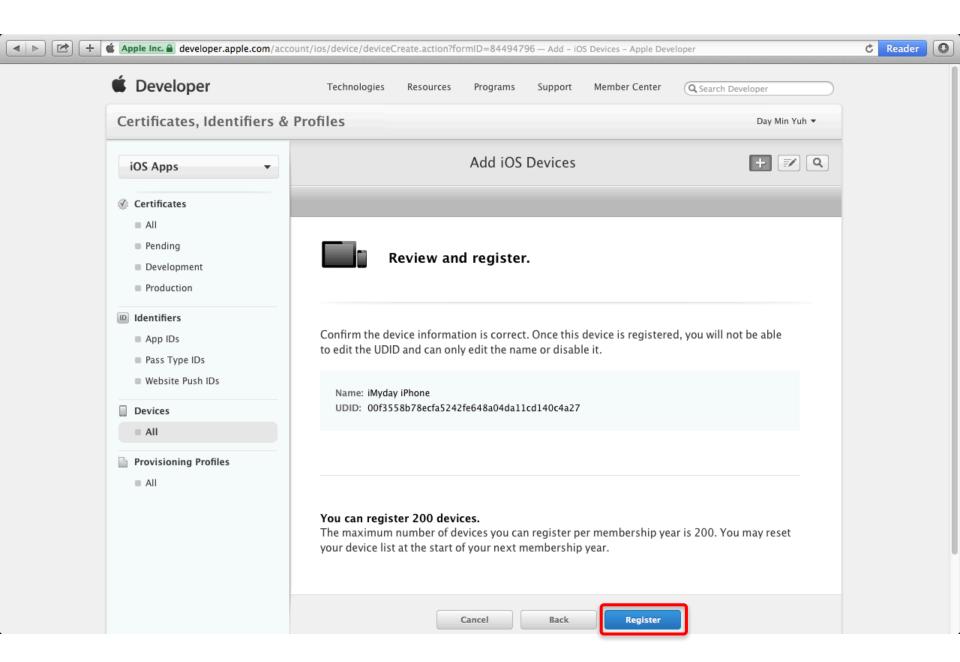


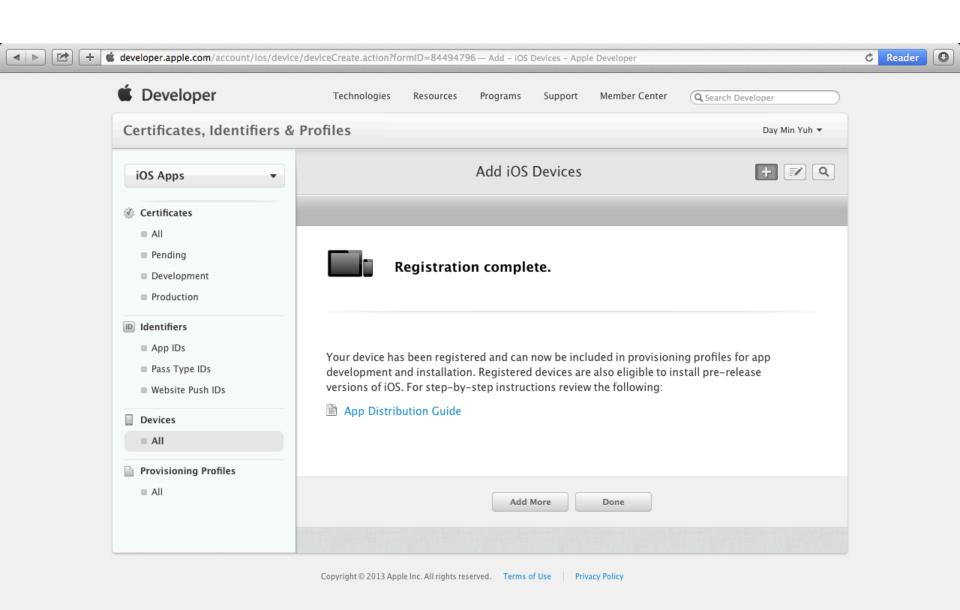


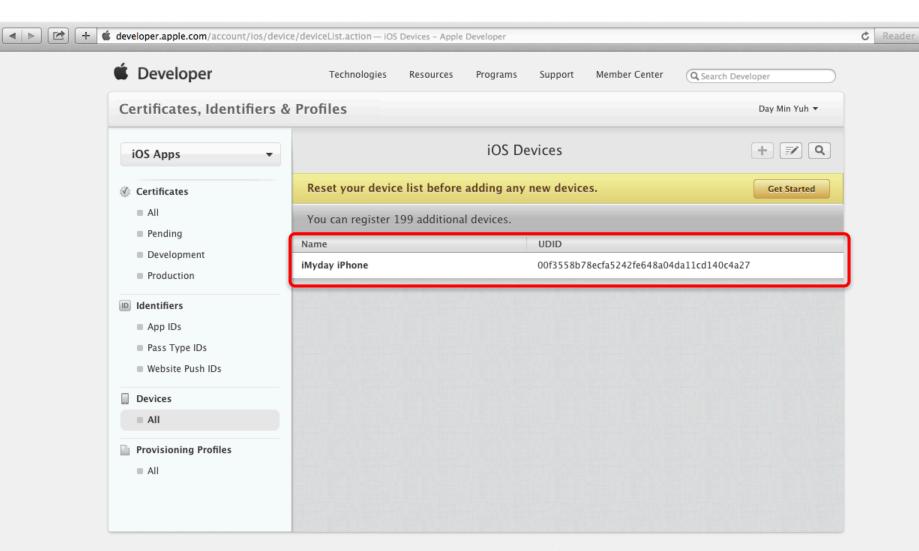




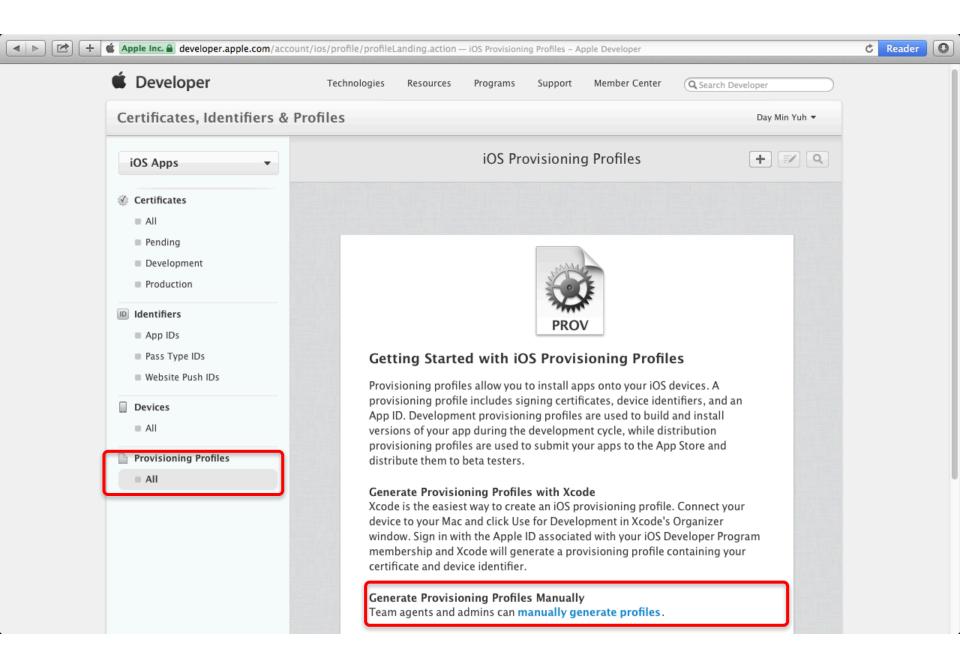


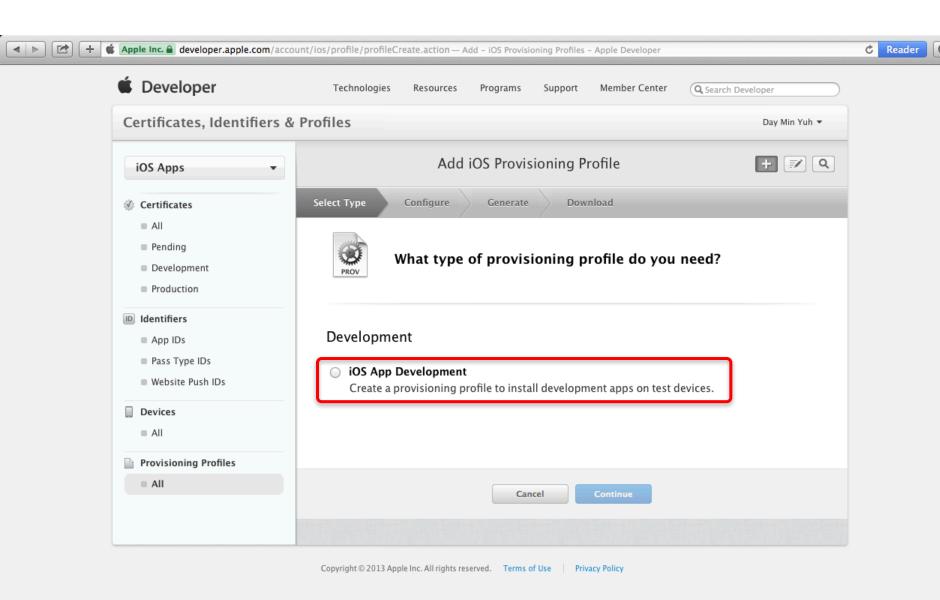


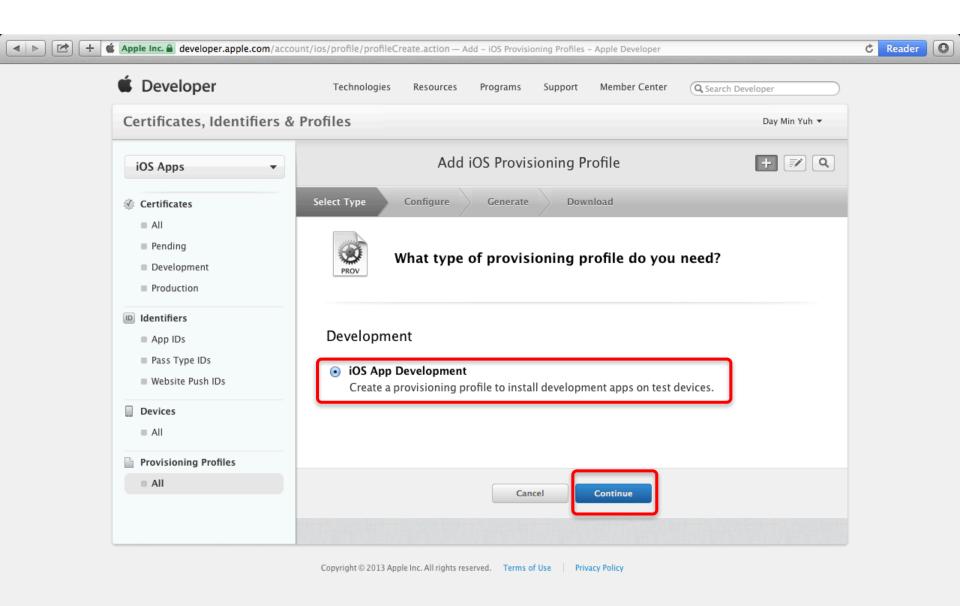


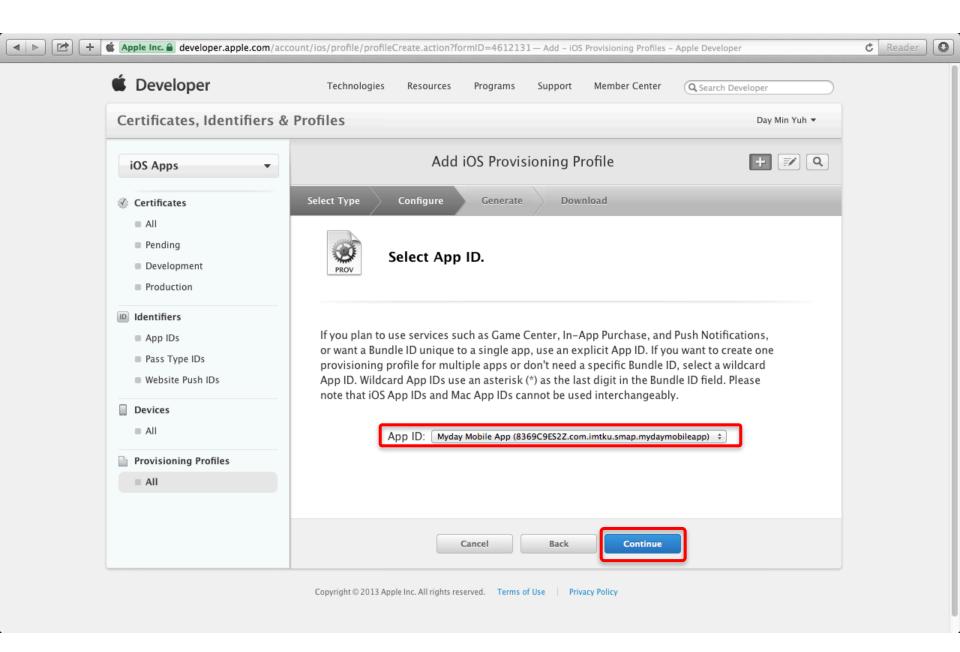


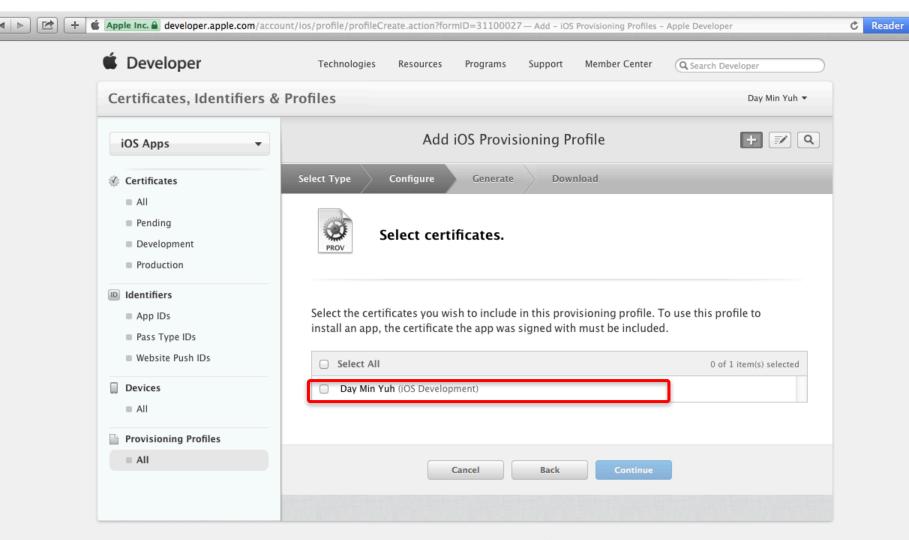
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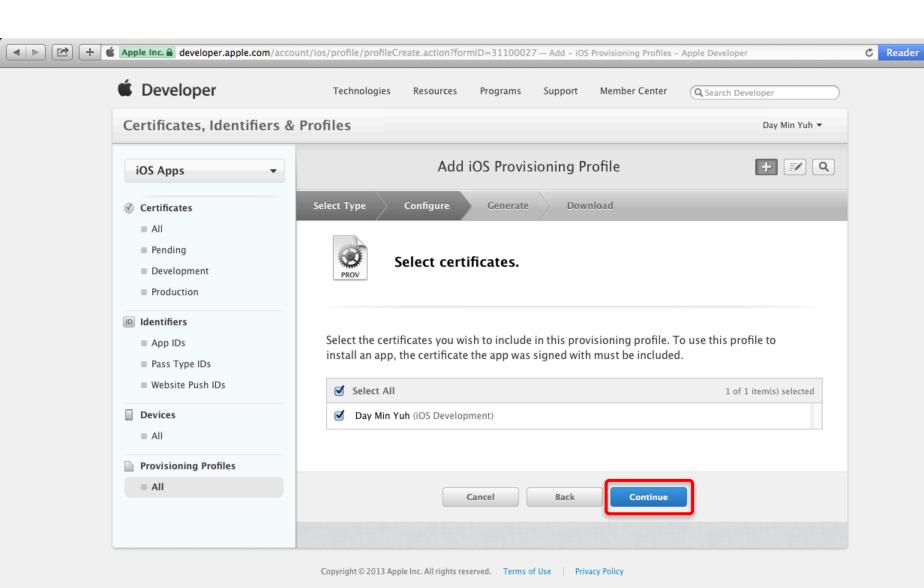


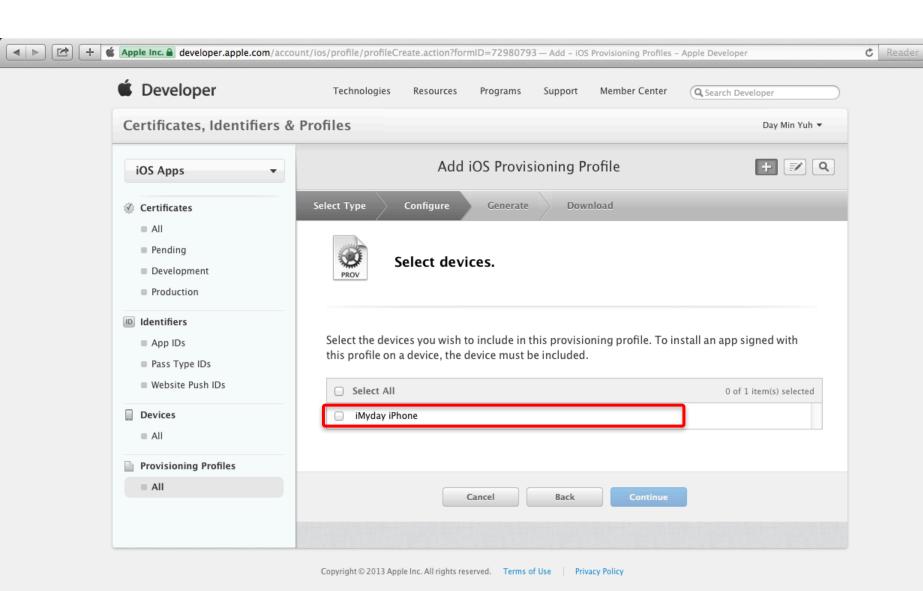


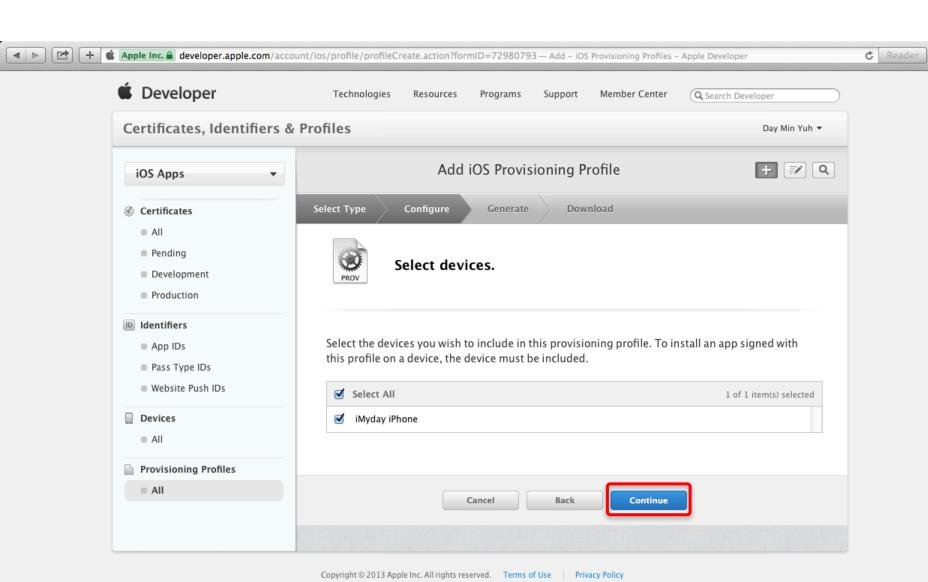


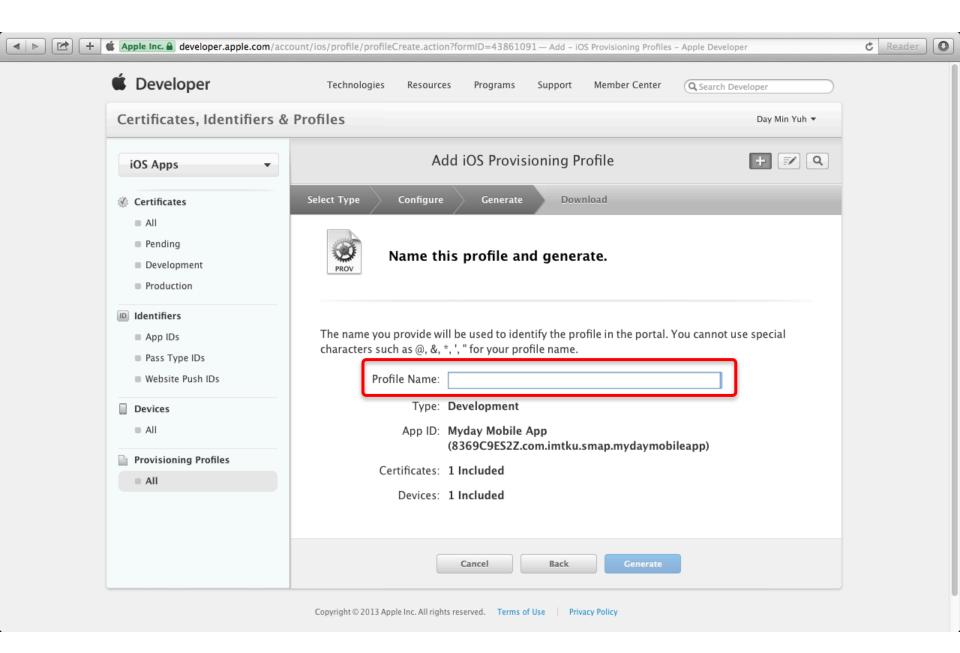


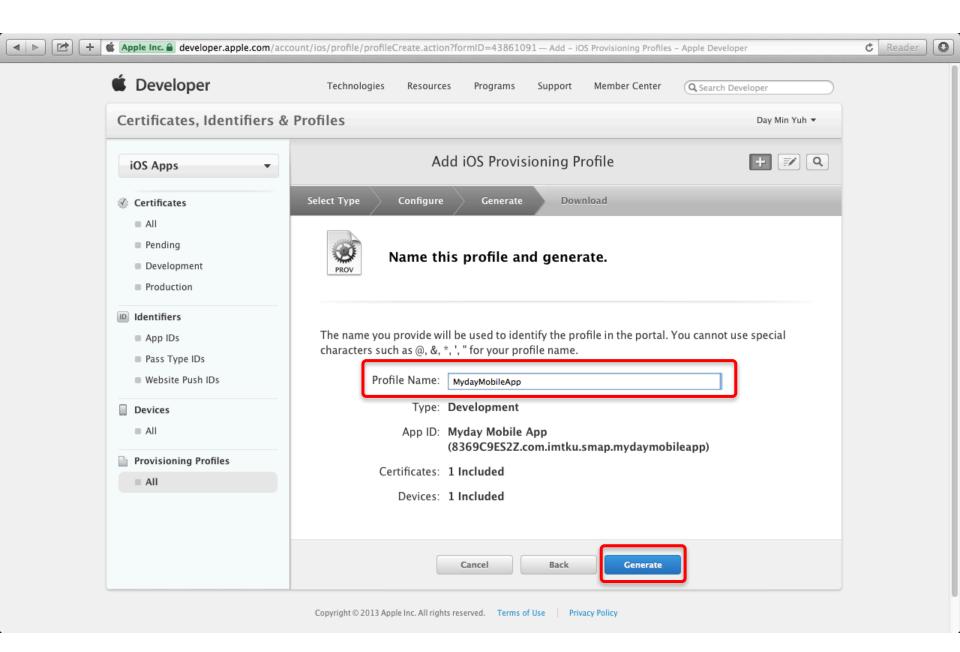
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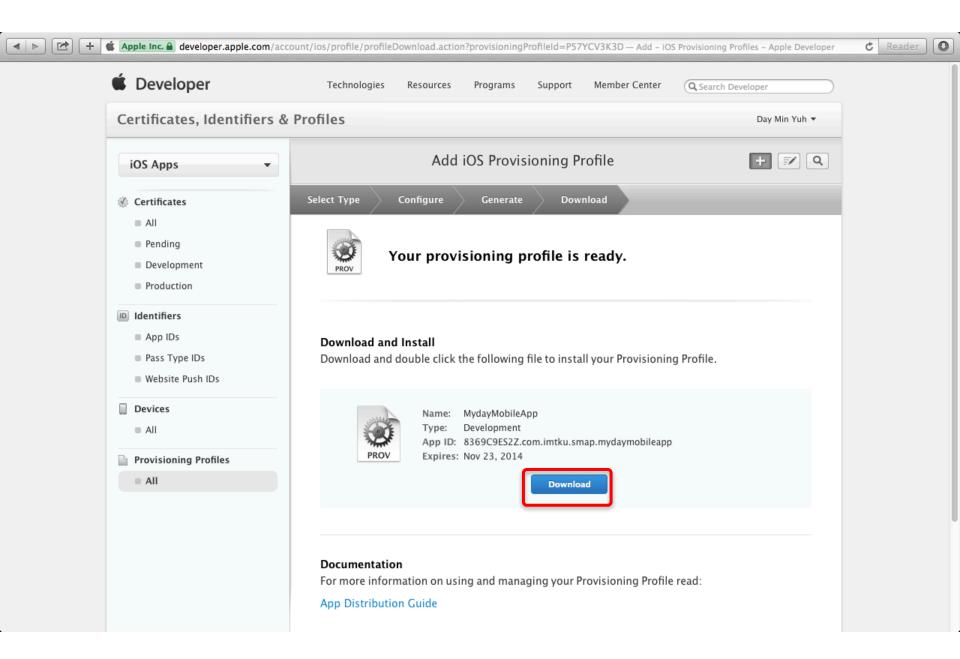




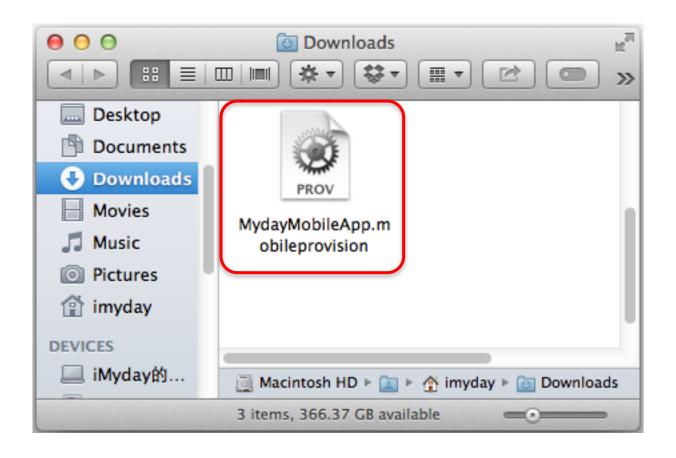


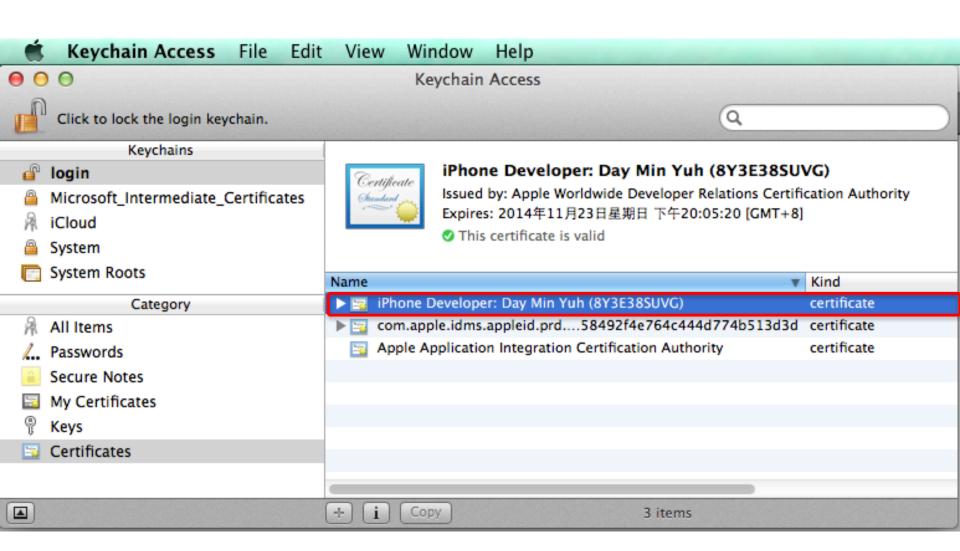


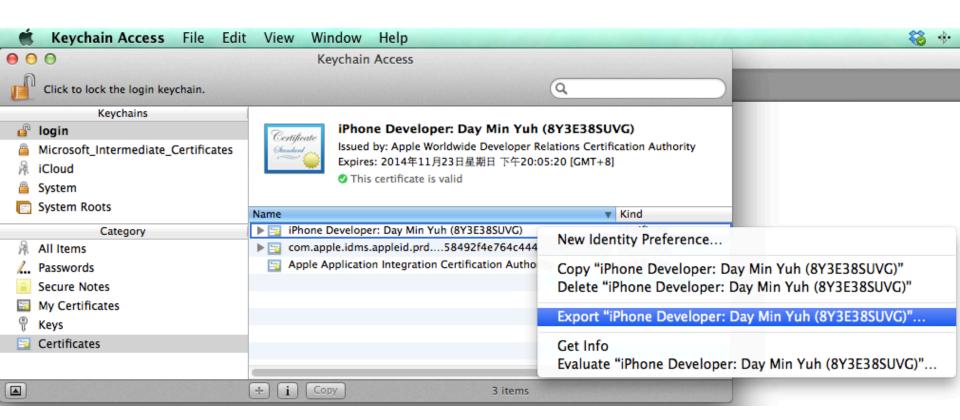




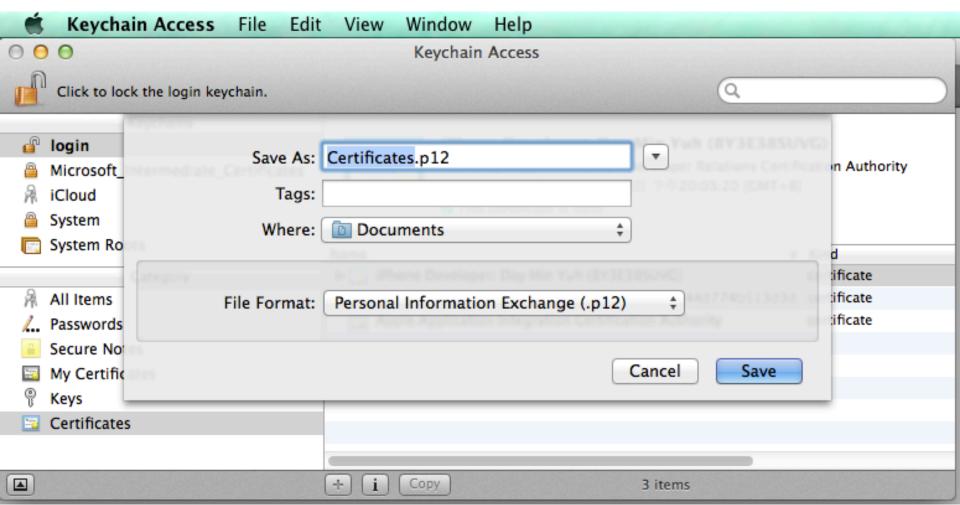
MydayMobileApp.mobileprovision







Certificates.p12

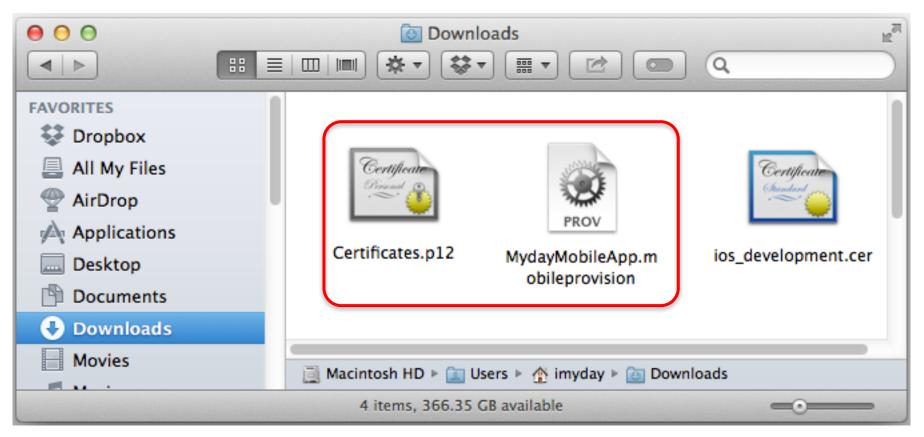


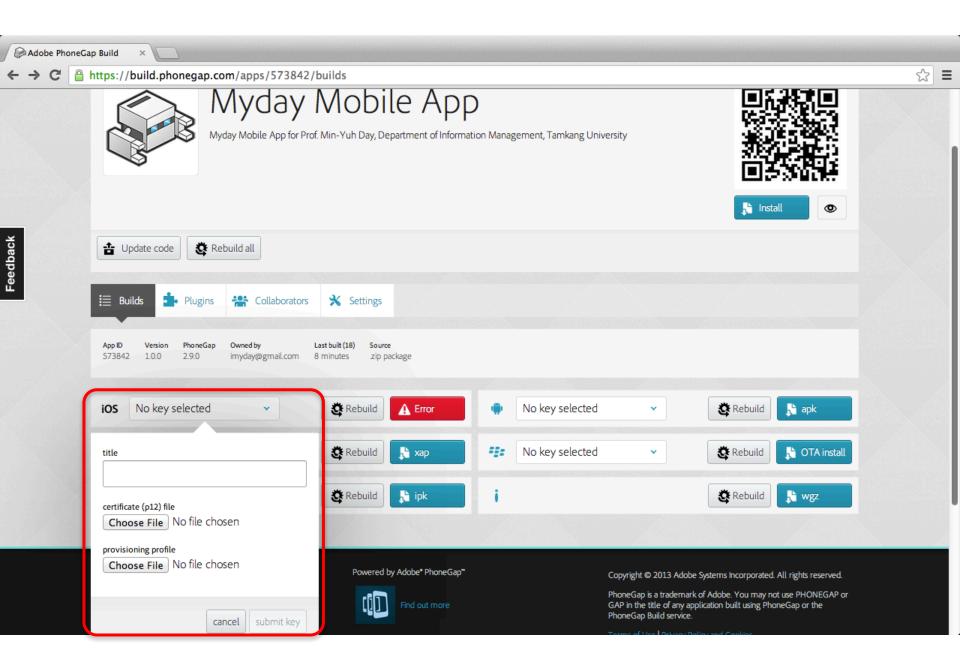




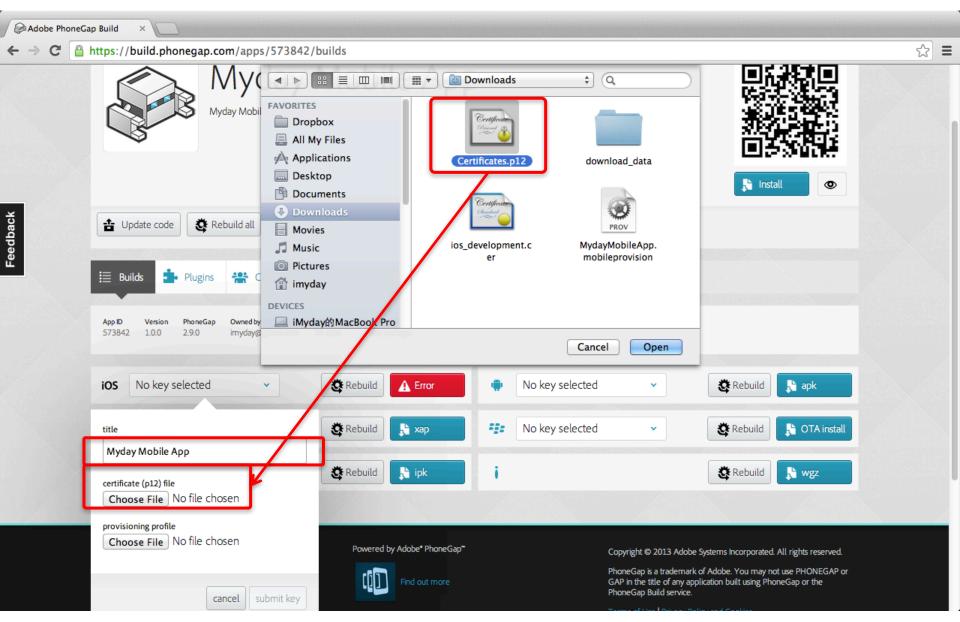


Certificates.p12 MydayMobileApp.mobileprovision

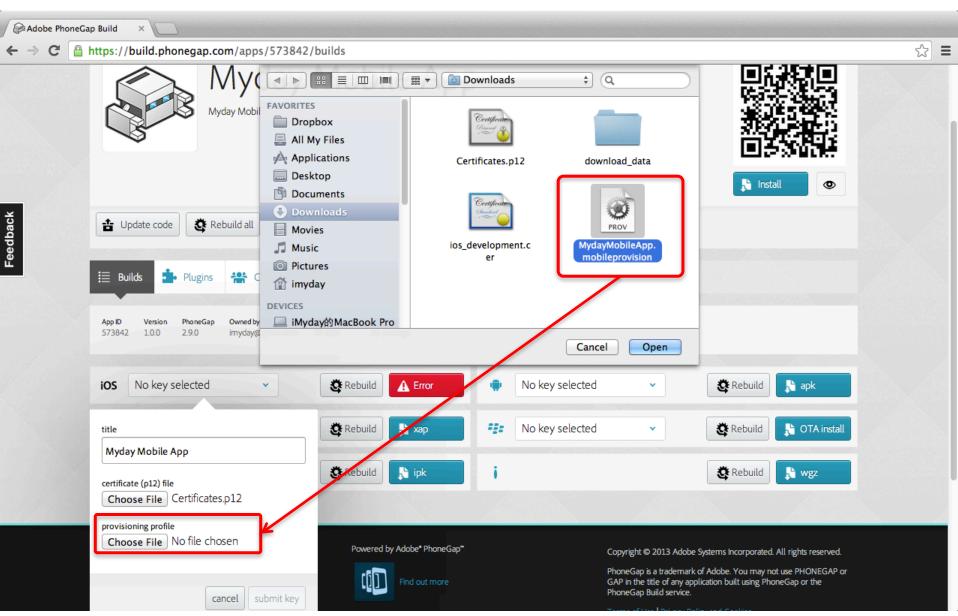


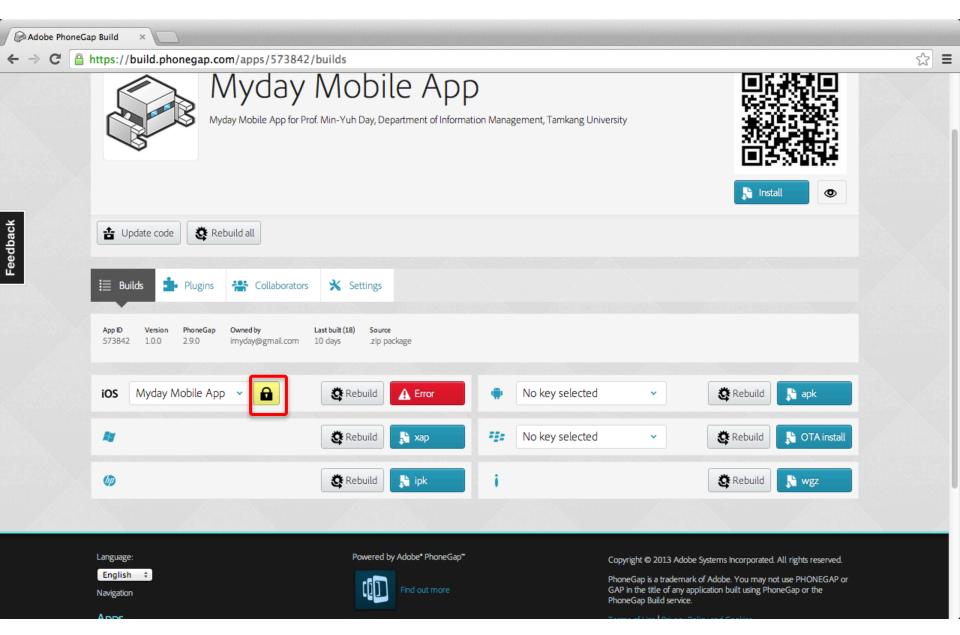


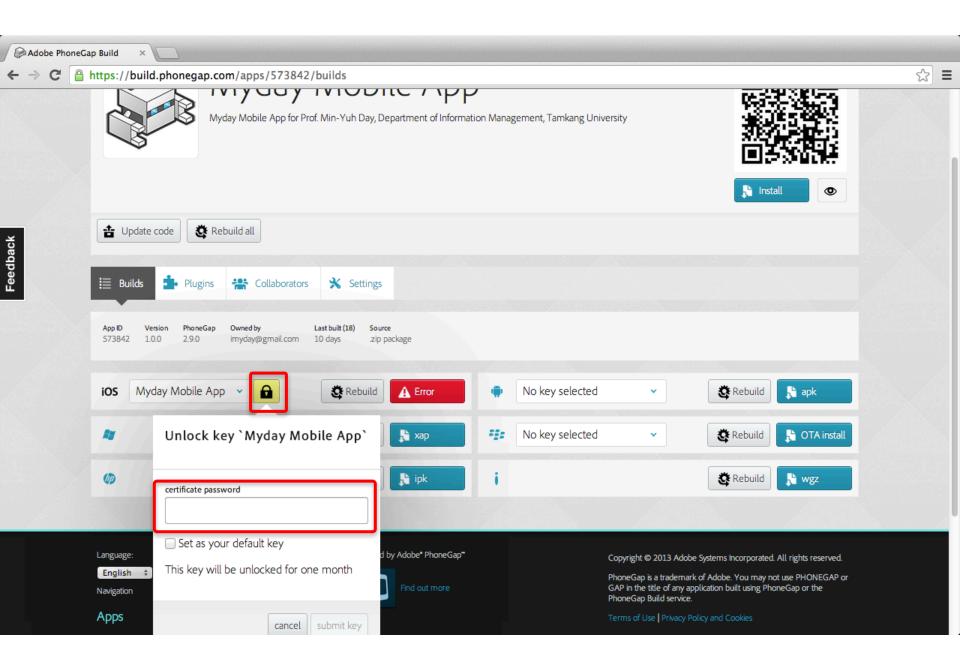
Certificates.p12

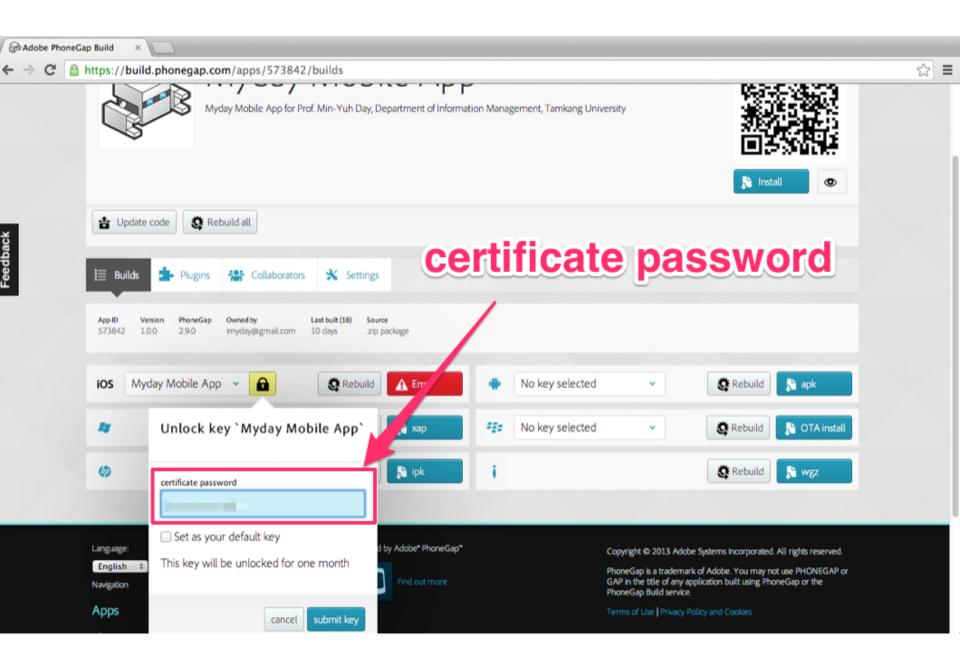


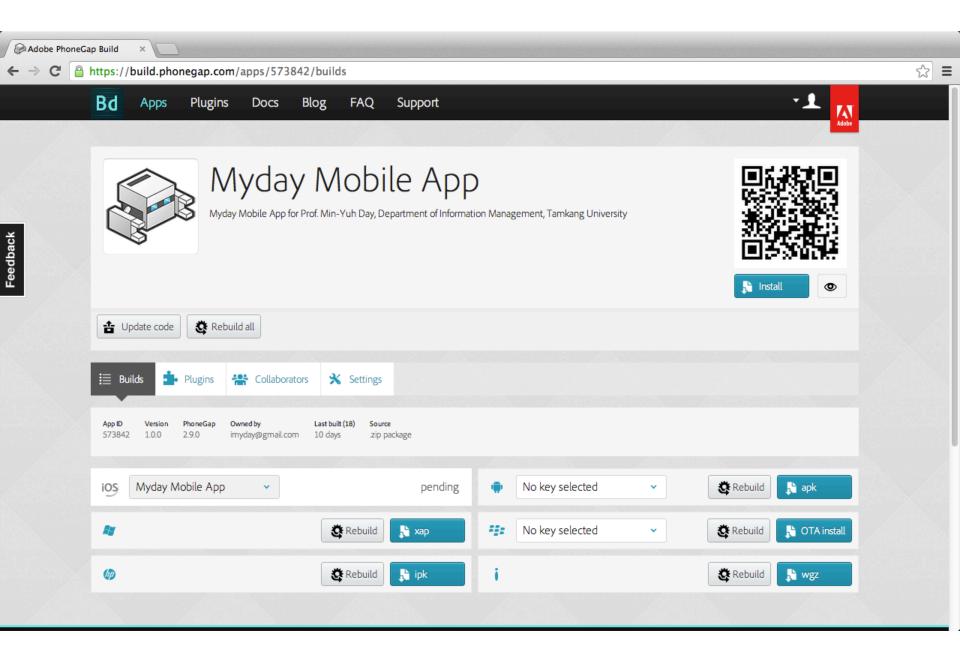
MydayMobileApp.mobileprovision

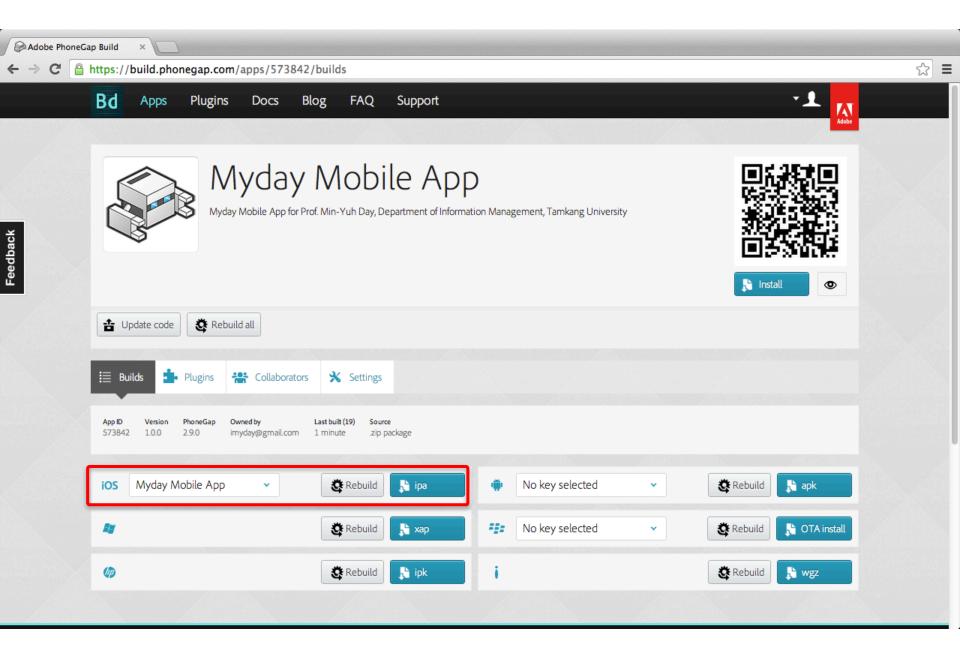




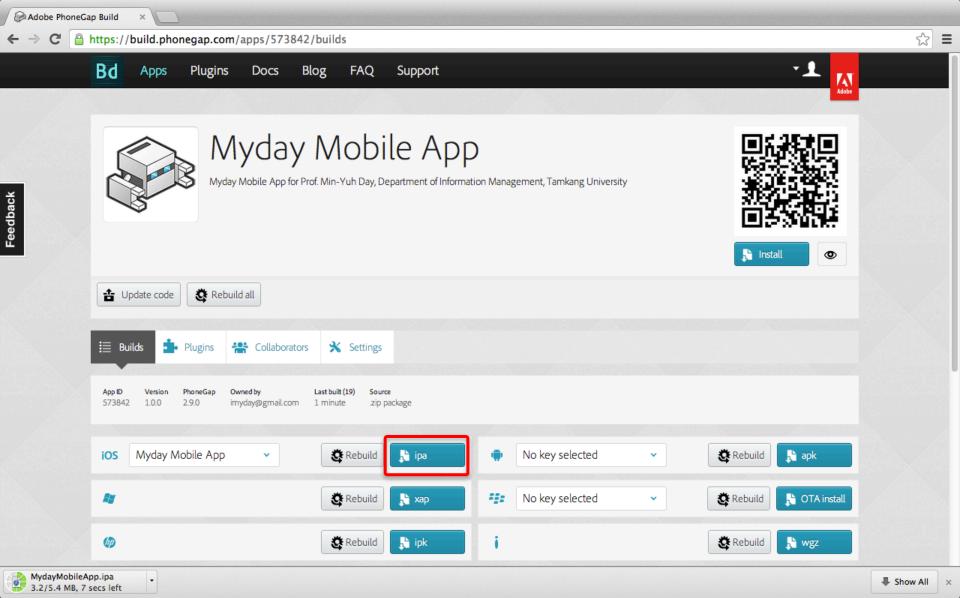


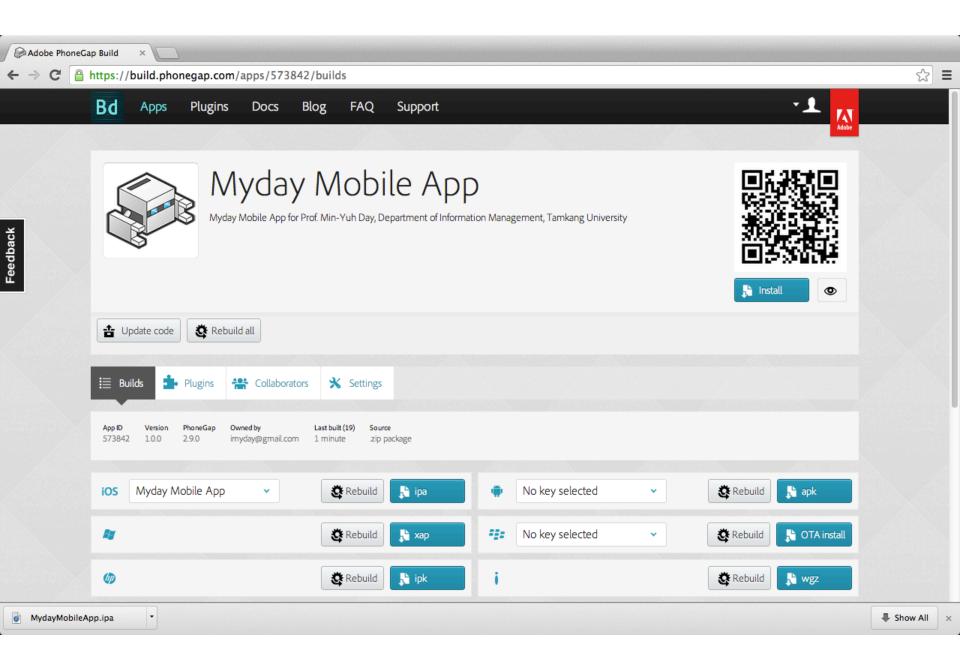




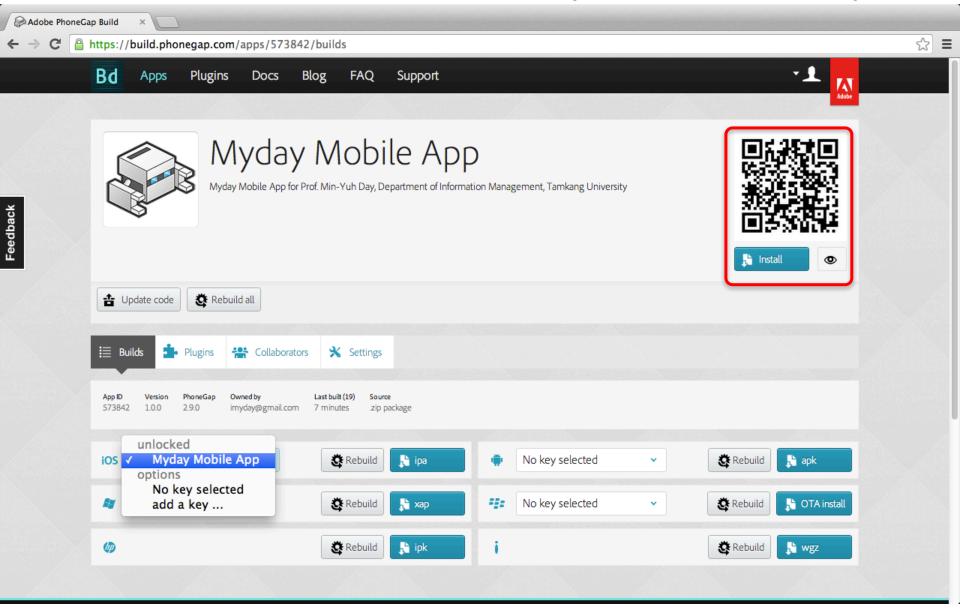


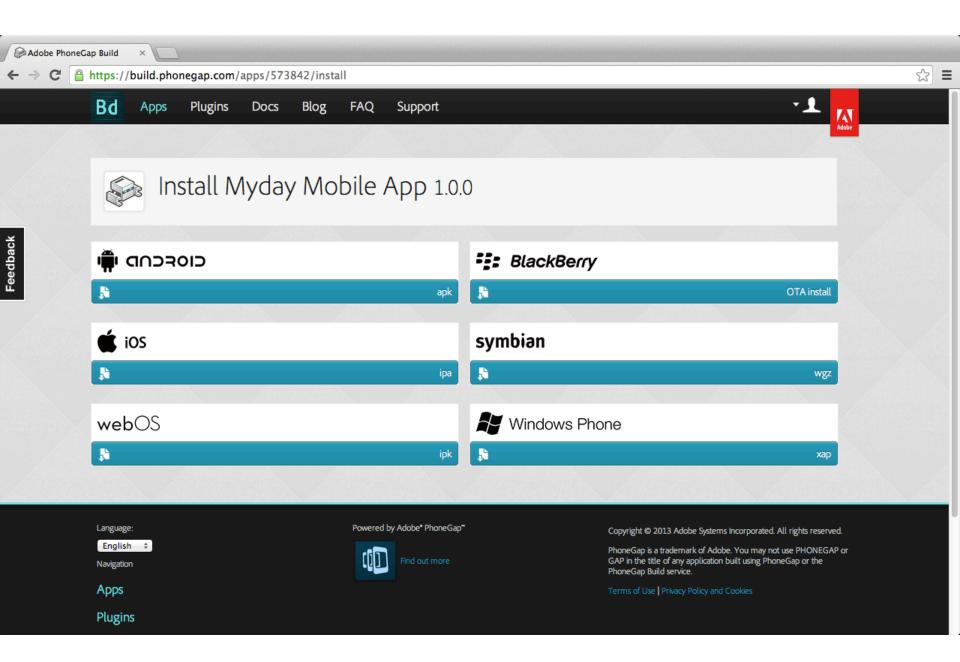
Download MydayMobileApp.ipa



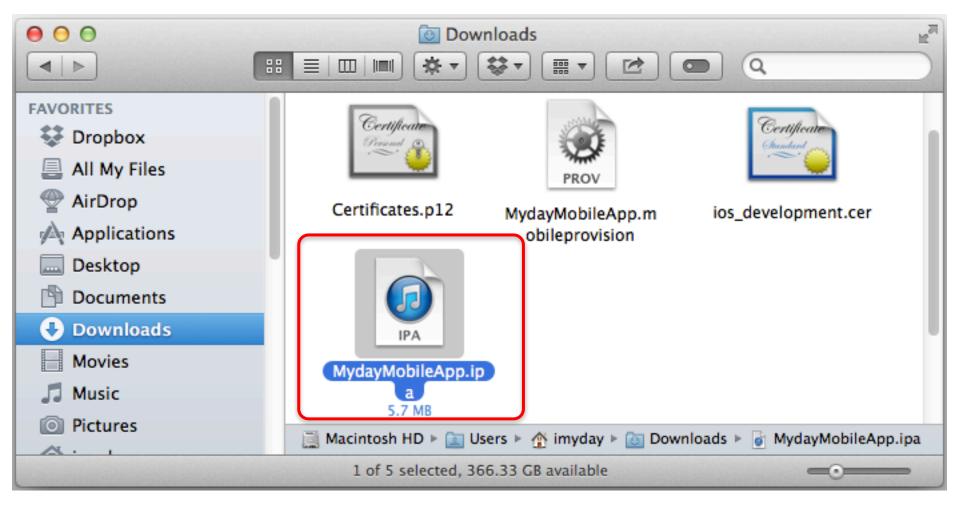


Install on iOS Devices (iPhone/iPAD)

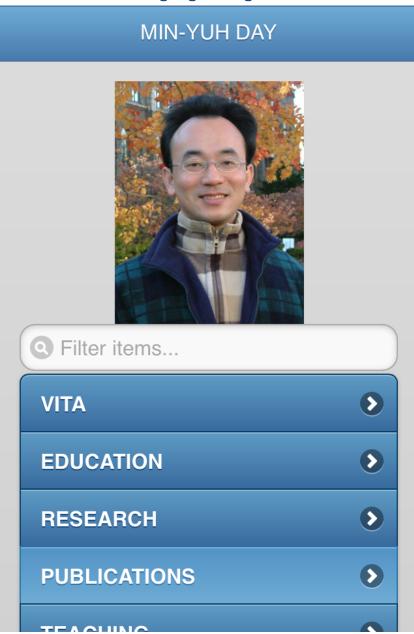


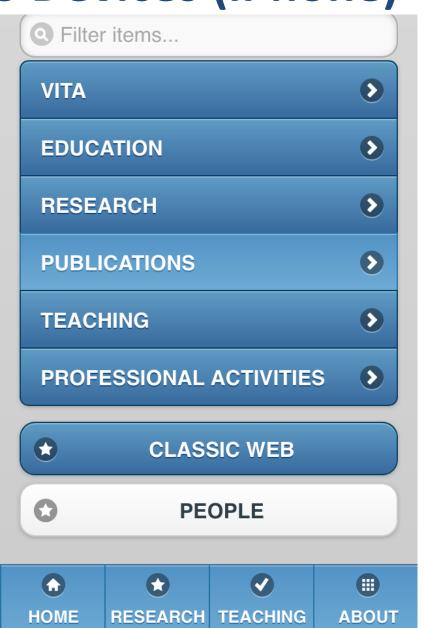


MydayMobileApp.ipa

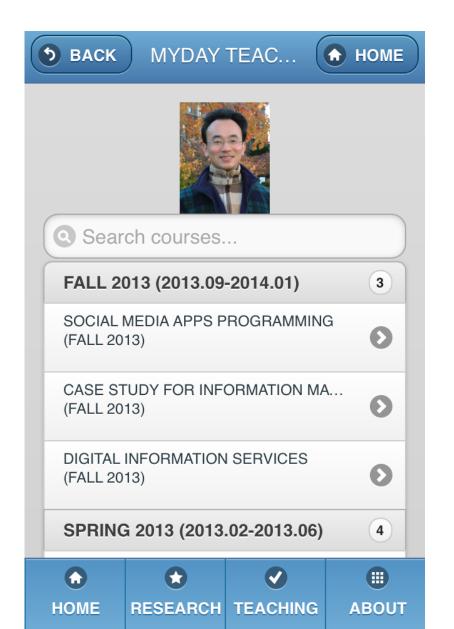


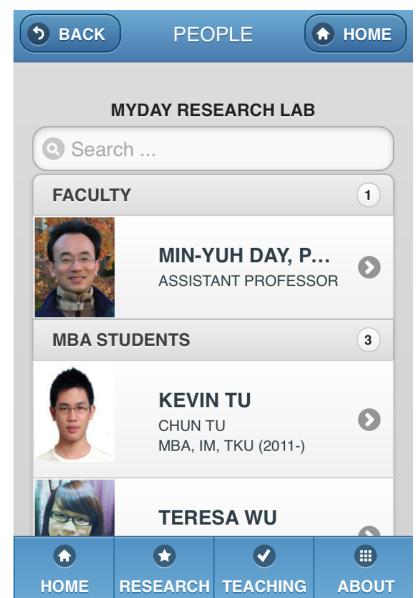
Test app.ipa on iOS Devices (iPhone)





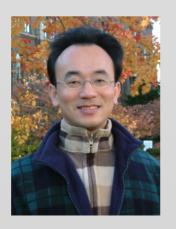
Test app.ipa on iOS Devices (iPhone)





Test app.ipa on iOS Devices (iPhone)





MIN-YUH DAY

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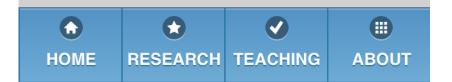
OFFICE: B929

ADDRESS: NO.151, YINGZHUAN RD., DANSHUI DIST., NEW TAIPEI CITY 25137, TAIWAN (R.O.C.)

EMAIL: MYDAY@MAIL.TKU.EDU.TW

WEB: HTTP://MAIL.TKU.EDU.TW/MYDAY/

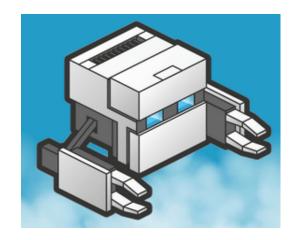
GOOGLE MAP



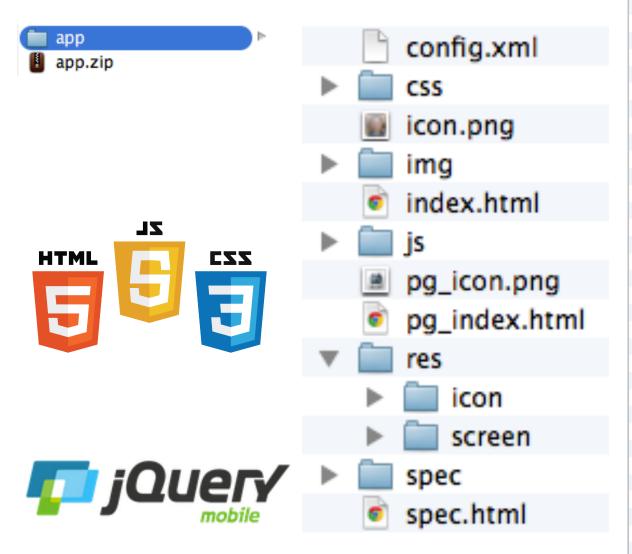
DemoTesting and Refining Your App

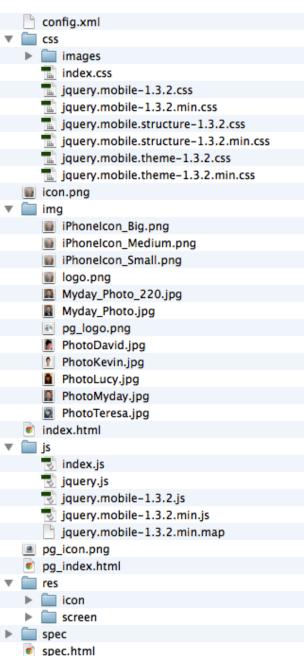
https://build.phonegap.com/





app.zip





text-transform:uppercase;

SOCIAL MEDIA

index.css

×

index.css



text-transform: none;

Social Media

```
23
    body {
24
         -webkit-touch-callout: none;
                                                     /* prevent callout to copy image, etc when tap to hold */
25
         -webkit-text-size-adjust: none;
                                                     /* prevent webkit from resizing text to fit */
26
         -webkit-user-select: none:
                                                     /* prevent copy paste, to allow, change 'none' to 'text' */
27
         background-color: #E4E4E4:
         background-image:linear-gradient(top, #A7A7A7 0%, #E4E4E4 51%);
28
         background-image:-webkit-linear-gradient(top, #A7A7A7 0%, #E4E4E4 51%);
29
         background-image:-ms-linear-gradient(top, #A7A7A7 0%, #E4E4E4 51%);
30
         background-image:-webkit-gradient(
31
32
             linear,
33
             left top,
34
             left bottom,
             color-stop(0, #A7A7A7),
35
36
             color-stop(0.51, #E4E4E4)
37
         );
         background-attachment:fixed;
         font-family: 'HelveticaNeue-Light', 'HelveticaNeue', Helvetica, Arial, sans-serif;
39
40
         font-size:12px;
41
         height: 100%;
         margin:0px;
42
         padding:0px:
43
         text-transform:uppercase;
44
45
         Width: 100%;
                                 <!--PhoneGap-->
46
                                      <link rel="stylesheet" type="text/css" href="css/index.css" />
                                                       app ▶ app css ▶ sindex.css
```

text-transform:uppercase;

SOCIAL MEDIA

index.css

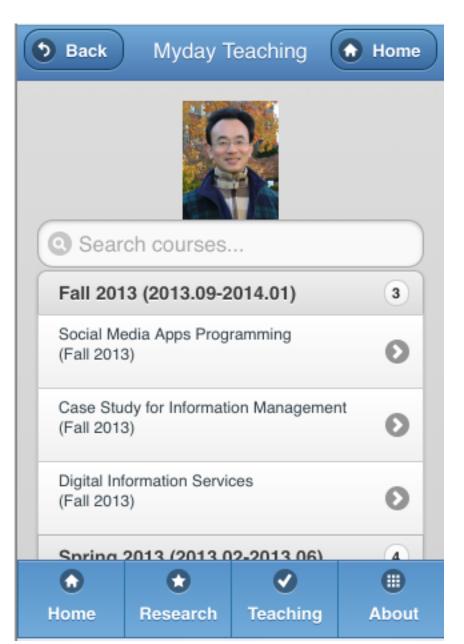
index.css

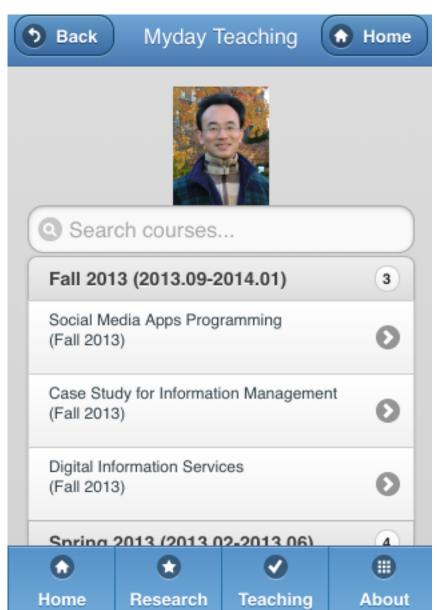


text-transform: none;

Social Media

```
23
    body {
24
         -webkit-touch-callout: none;
                                                    /* prevent callout to copy image, etc when tap to hold */
         -webkit-text-size-adjust: none;
                                                    /* prevent webkit from resizing text to fit */
26
         -webkit-user-select: none;
                                                     /* prevent copy paste, to allow, change 'none' to 'text' */
27
         background-color: #E4E4E4;
28
         background-image:linear-gradient(top, #A7A7A7 0%, #E4E4E4 51%);
29
         background-image:-webkit-linear-gradient(top, #A7A7A7 0%, #E4E4E4 51%);
30
         background-image:-ms-linear-gradient(top, #A7A7A7 0%, #E4E4E4 51%);
31
         background-image:-webkit-gradient(
32
             linear.
33
             left top,
34
             left bottom,
35
             color-stop(0, #A7A7A7),
36
             color-stop(0.51, #E4E4E4)
37
         );
         background-attachment:fixed;
38
         font-family: 'HelveticaNeue-Light', 'HelveticaNeue', Helvetica, Arial, sans-serif;
39
         font-size:12px:
40
         height: 100%;
41
         margin:0px;
42
         padding:0px:
43
        text-transform:none;
44
         width:100%;
45
                                 <!--PhoneGap-->
46
                                      <link rel="stylesheet" type="text/css" href="css/index.css" />
                                                      app ▶ index.css
```





phonegap.js

Removing Unnecessary Files

Once you've included the necessary assets, remove the phonegap.js (cordova.js) as Build will automatically inject it during compile time.

Why must you delete the phonegap.js?

PhoneGap requires a different JavaScript file for each platform and using an incompatible phonegap.js will result in errors when running your application.

Making Sure You can Still Access the PhoneGap API

Once you've deleted the phonegap.js you'll need to make sure that your application can still access the PhoneGap API.

To do so, simply ensure that the following reference is made in your index.html

<script src="phonegap.js"></script>

Usage and Additional Information:

Unless otherwise specified in a config.xml, each platform will try to use the default splash.png during compilation. To define platform specific splash screens please use the guide provided below.

Splash files should be the file formats specified in the examples below. Any other file type is not guaranteed to work across platforms.

Warning:

If you do not supply the gap:platform attribute, the referenced image will be copied to ALL platforms, increasing the size of their application packages.

Default

The default splash must be named splash.png and must reside in the root of your application folder.

```
<gap:splash src="splash.png" />
```

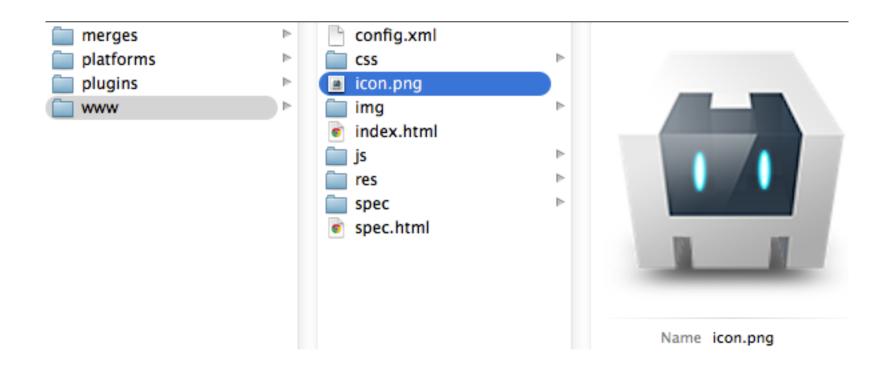
iOS

We support classic, retina, iPhone 5 and iPad displays; the following will define splash screens for each of those. Standard iPads have two different splash screens, portrait, landscape. Retina iPads have two additional splash screens, retina portrait and retina landscape (PhoneGap 2.5.0+ only).

```
<gap:splash src="splash/ios/Default.png" gap:platform="ios" width="320"
height="480" />
```



icon.png (128x128)



<icon src="icon.png" />



logo.png (172x200)

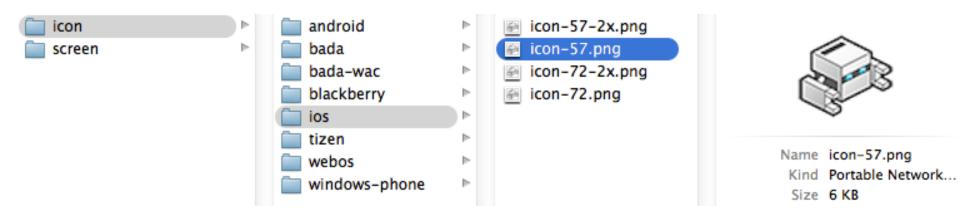


icon/ios/icon-57.png (57x57)

config.xml

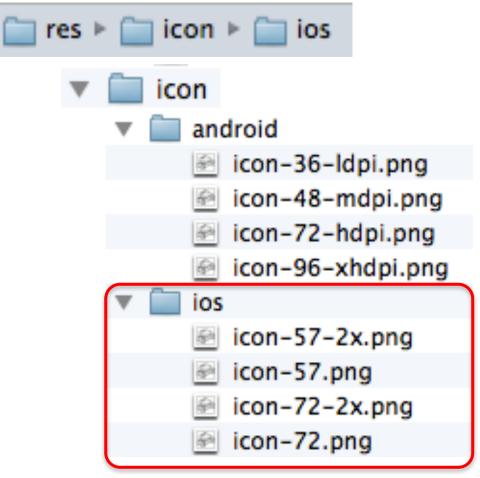
```
<icon src="icon.png" />
<icon gap:density="ldpi" gap:platform="android" src="res/icon/android/icon-36-ldpi.png" />
<icon gap:density="mdpi" gap:platform="android" src="res/icon/android/icon-48-mdpi.png" />
<icon gap:density="hdpi" gap:platform="android" src="res/icon/android/icon-72-hdpi.png" />
<icon gap:density="xhdpi" gap:platform="android" src="res/icon/android/icon-96-xhdpi.png" />
<icon gap:platform="ios" height="57" src="res/icon/ios/icon-57.png" width="57" />
<icon gap:platform="ios" height="72" src="res/icon/ios/icon-72.png" width="72" />
<icon gap:platform="ios" height="114" src="res/icon/ios/icon-57-2x.png" width="114" />
<icon gap:platform="ios" height="144" src="res/icon/ios/icon-72-2x.png" width="144" />
</or>
```

icon/ios/icon-57.png (57x57)



```
<icon gap:platform="ios" height="57" src="res/icon/ios/icon-57.png" width="57" />
```

icon/ios/icon-57.png (57x57)



<icon gap:platform="ios" height="57" src="res/icon/ios/icon-57.png" width="57" />

Pixel density

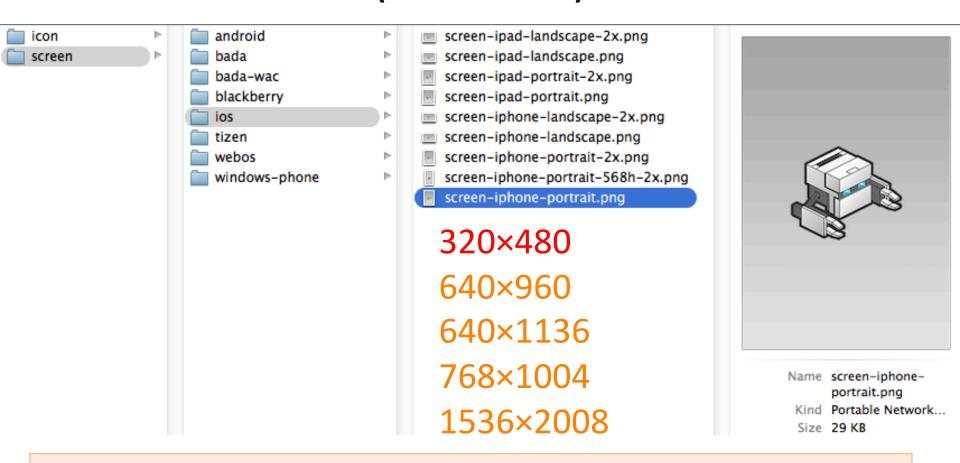
Resolution: 320x480 (2048x1536)

PPI: 64 (326)

Model	Generations	Diagonal cm (in)	Resolution	ppcm (PPI)
iPad	1st Gen, 2	25 (9.7)	1024×768	52 (132)
iPad / iPad Air	3rd Gen, 4th Gen	25 (9.7)	2048×1536	104 (264)
iPad Mini	2nd Gen	20 (7.9)	2048×1536	128 (326)
iPhone 3GS	3 / 3rd Gen	8.9 (3.5)	320×480	64 (163)
iPhone 4 / iPod Touch	4 / 4th Gen	8.9 (3.5)	960×640	128 (326)
iPhone 5S	5S / 6th Gen	10 (4)	1136×640	128 (326)



screen-iphone-portrait.png (320x480)

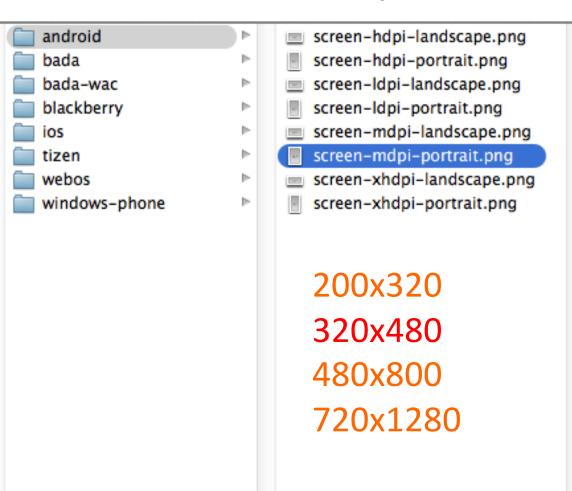


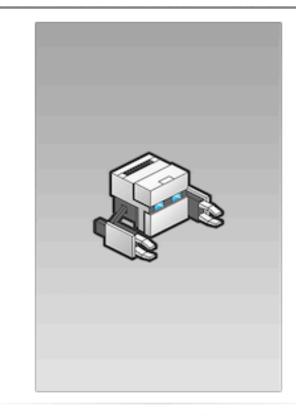
```
<gap:splash gap:platform="ios" height="480"
src="res/screen/ios/screen-iphone-
portrait.png" width="320" />
```



screen-mdpi-portrait.png

(320x480)





Name screen-mdpi-portrait.png
Kind Portable Network Graphics...

Size 29 KB

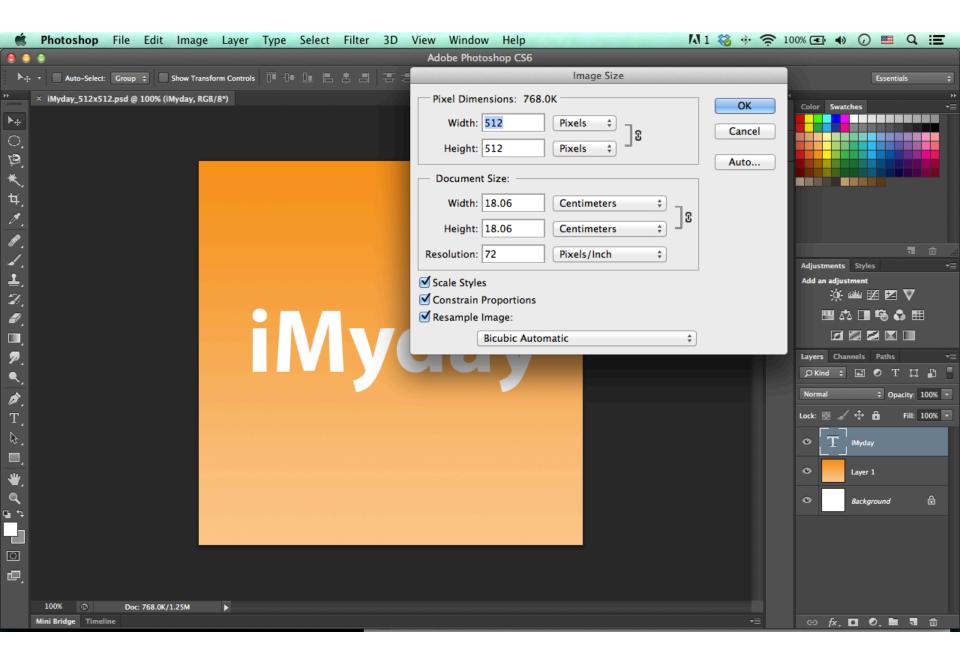
<gap:splash gap:density="mdpi" gap:platform="android"
src="res/screen/android/screen-mdpi-</pre>

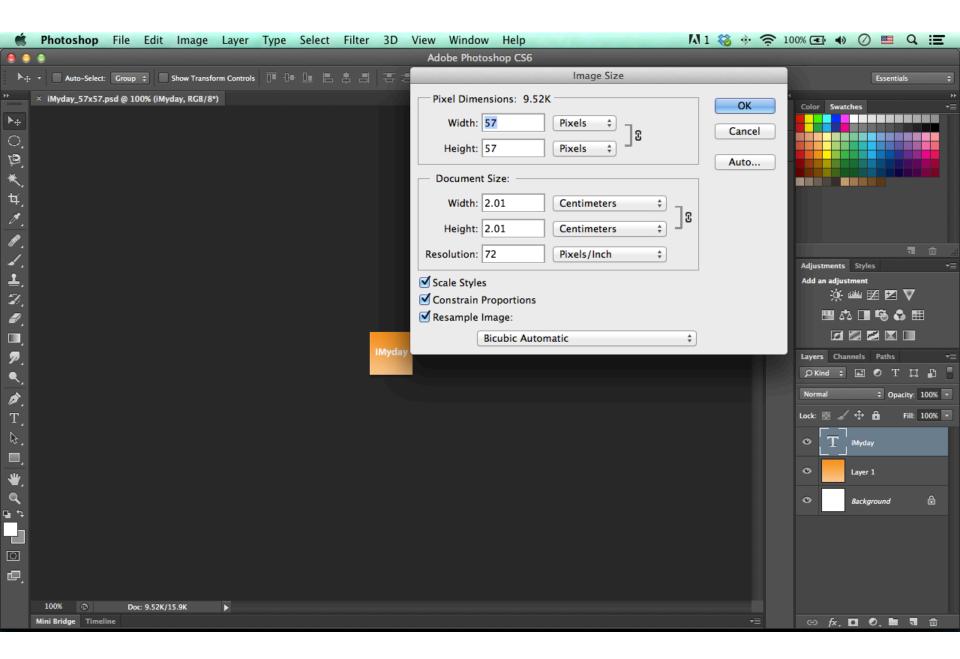


config.xml (part 3/3)

gap:splash

```
<gap:splash gap:density="ldpi" gap:platform="android"</pre>
src="res/screen/android/screen-ldpi-portrait.png" />
    <qap:splash gap:density="mdpi" gap:platform="android"</pre>
src="res/screen/android/screen-mdpi-portrait.png" />
    <gap:splash gap:density="hdpi" gap:platform="android"</pre>
src="res/screen/android/screen-hdpi-portrait.png" />
    <qap:splash gap:density="xhdpi" gap:platform="android"</pre>
src="res/screen/android/screen-xhdpi-portrait.png" />
    <gap:splash gap:platform="blackberry"</pre>
src="res/screen/blackberry/screen-225.png" />
    <gap:splash gap:platform="ios" height="480"</pre>
src="res/screen/ios/screen-iphone-portrait.png"
width="320" />
    <qap:splash gap:platform="ios" height="960"</pre>
src="res/screen/ios/screen-iphone-portrait-2x.png" width="640" />
    <gap:splash gap:platform="ios" height="1024"</pre>
src="res/screen/ios/screen-ipad-portrait.png" width="768" />
    <gap:splash gap:platform="ios" height="768"</pre>
src="res/screen/ios/screen-ipad-landscape.png" width="1024" />
    <gap:splash gap:platform="winphone" src="res/screen/windows-</pre>
phone/screen-portrait.jpg" />
    <access origin="http://127.0.0.1*" />
```



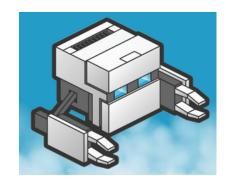


Summary

- jQuery Mobile/PhoneGap
 - HTML5, CSS3, JavaScript
 - jQuery Mobile
 - PhoneGap
 - PhoneGap Build
 - index.html, css, js, png
 - config.xml
- Demo
 - Create Hybrid Apps with PhoneGap
 - Testing iOS and Android Devices









References

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- Learn HTML5 and JavaScript for iOS: Web Standards-based Apps for iPhone, iPad, and iPod touch, Scott Preston, Apress, 2012
- PhoneGap
 - http://phonegap.com/
- PhoneGap Build
 - https://build.phonegap.com/
- jQuery Mobile
 - http://jquerymobile.com/
- Introduction to PhoneGap Build
 - http://tv.adobe.com/watch/building-mobile-apps-with-phonegap-build/introduction-to-phonegap-build-building-your-first-app/