

Social Media Apps Programming

jQuery Mobile/Phonegap

1021SMAP08 TLMXM1A (8687) (M2143) (Fall 2013) (MIS MBA) (2 Credits, Elective) [Full English Course] Thu 9,10 (16:10-18:00) V201



Min-Yuh Day, Ph.D. Assistant Professor

<u>Department of Information Management</u>

<u>Tamkang University</u>

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



Course Schedule (1/3)

Week Date Subject/Topics 1 2013/09/19 Mid-Autumn Festival (Day off) 2013/09/26 Course Orientation and Introduction to Social Media and Mobile Apps Programming 2013/10/03 Introduction to Android / iOS Apps **Programming** 4 2013/10/10 Double Tenth Day (Day off) • 5 2013/10/17 Developing Android Native Apps with Java (Eclipse) (MIT App Inventor)

with Objective-C (Xcode)

2013/10/24

Developing iPhone / iPad Native Apps

Course Schedule (2/3)

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Week Date Subject/Topics
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- 7 2013/10/31 Mobile Apps using HTML5/CSS3/JavaScript
- 8 2013/11/07 jQuery Mobile
- 9 2013/11/14 Create Hybrid Apps with PhoneGap
- 10 2013/11/21 Midterm Exam Week (Midterm Project Report)
- 11 2013/11/28 jQuery Mobile/Phonegap
- 12 2013/12/05 Invited Talk:

Social, Mobile and Business Model in PIXNET

[Invited Speaker: Dr. Rick Cheng-Yu Lu]

Course Schedule (3/3)

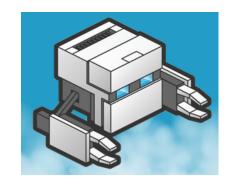
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Week Date Subject/Topics
      2013/12/12 Google App Engine and Google Map API
  13
      2013/12/19 Facebook API (Facebook JavaScript SDK)
  14
                   (Integrate Facebook with iOS/Android Apps)
 15 2013/12/26 Twitter API
     2014/01/02
  16
                   Case Study on Social Media Apps
                   Programming and Marketing in Google Play
                   and App Store
 17 2014/01/09 Final Project Presentation
  18 2014/01/16 Final Exam Week (Final Project Report)
```

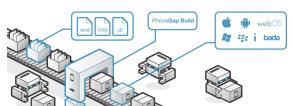
Outline

- 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











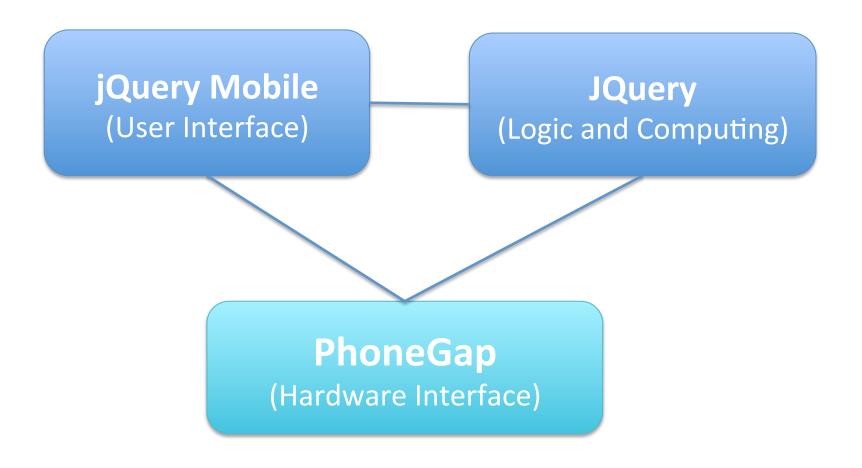




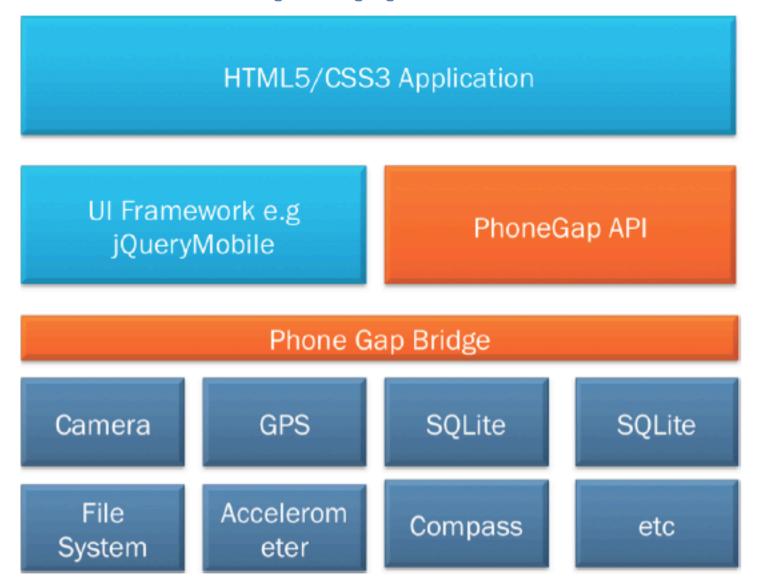




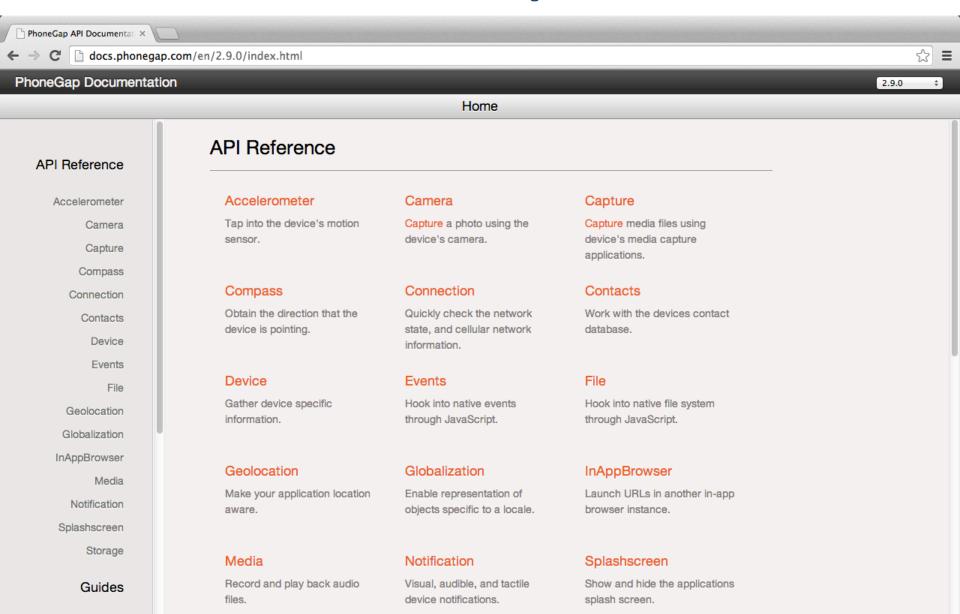
PhoneGap, jQuery Mobile, jQuery



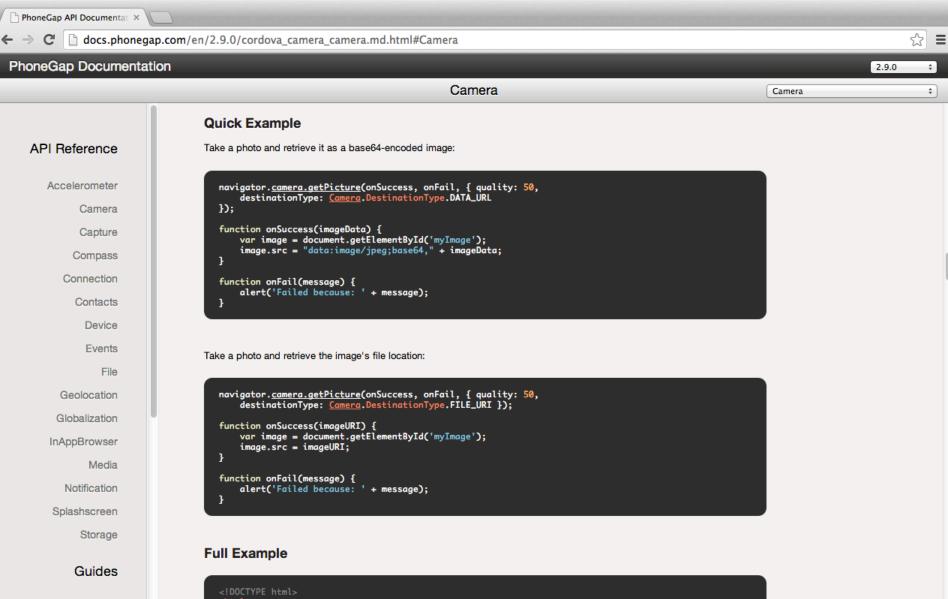
PhoneGap App Architecture



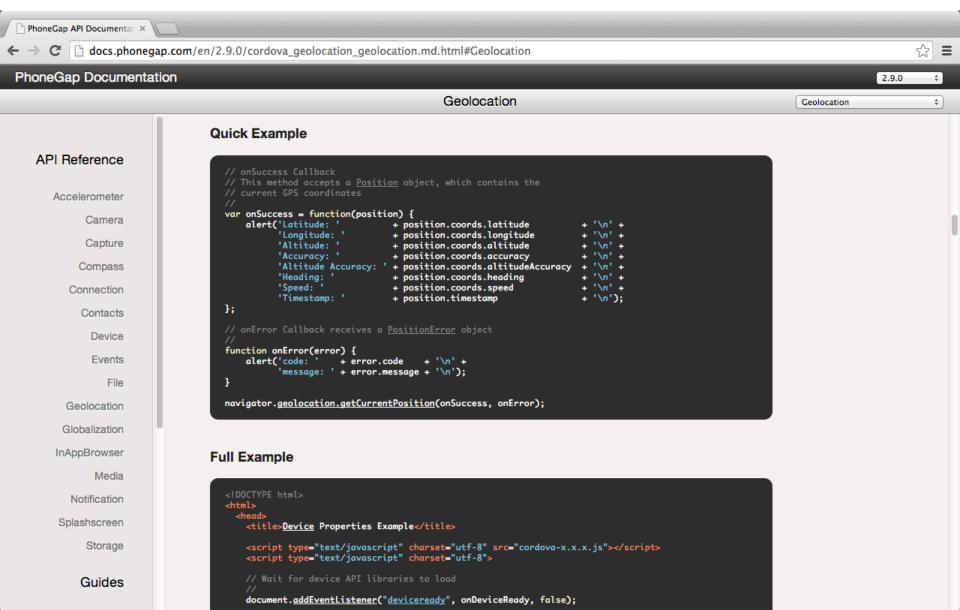
PhoneGap API



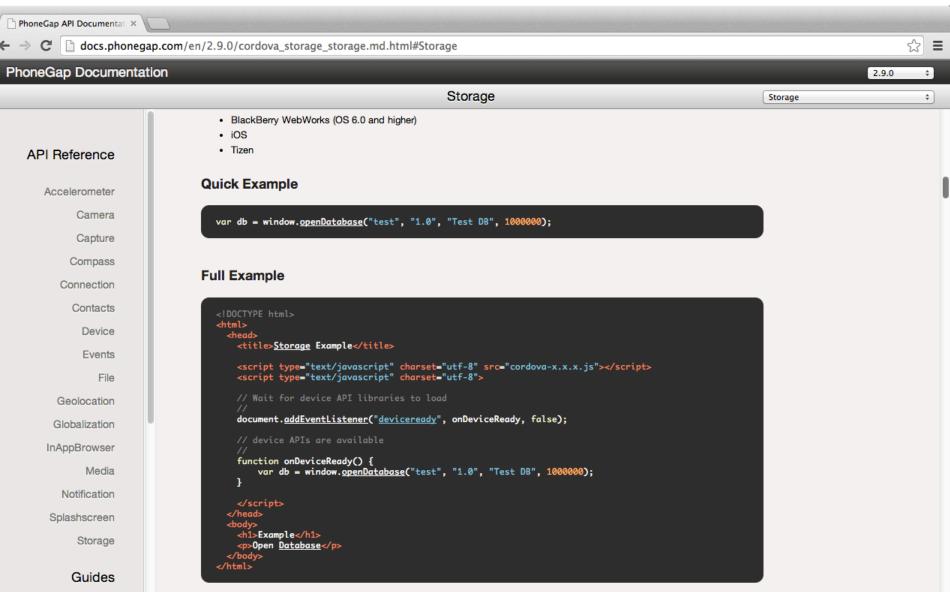
PhoneGap API: Camera



PhoneGap API: Geolocation

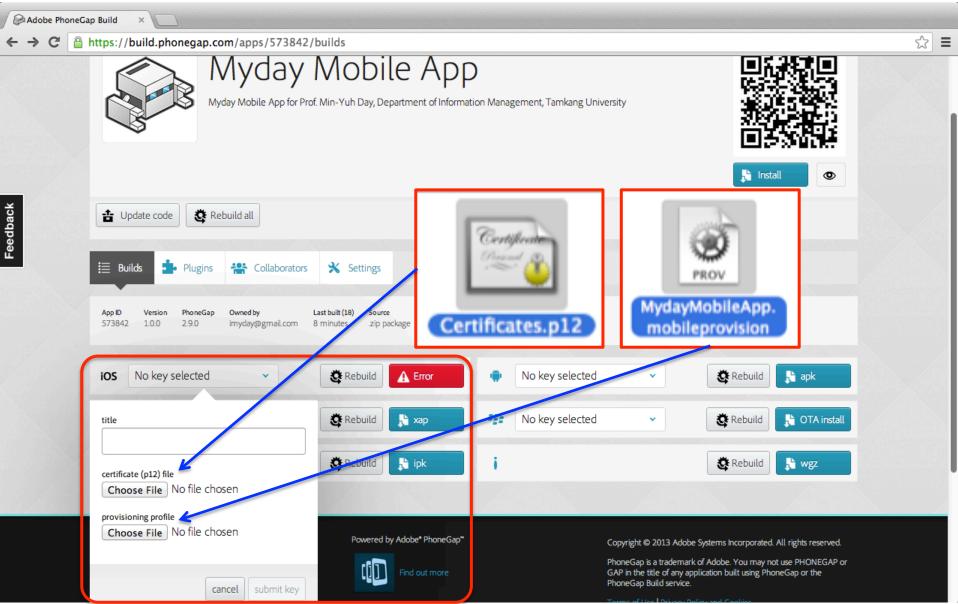


PhoneGap API: Storage

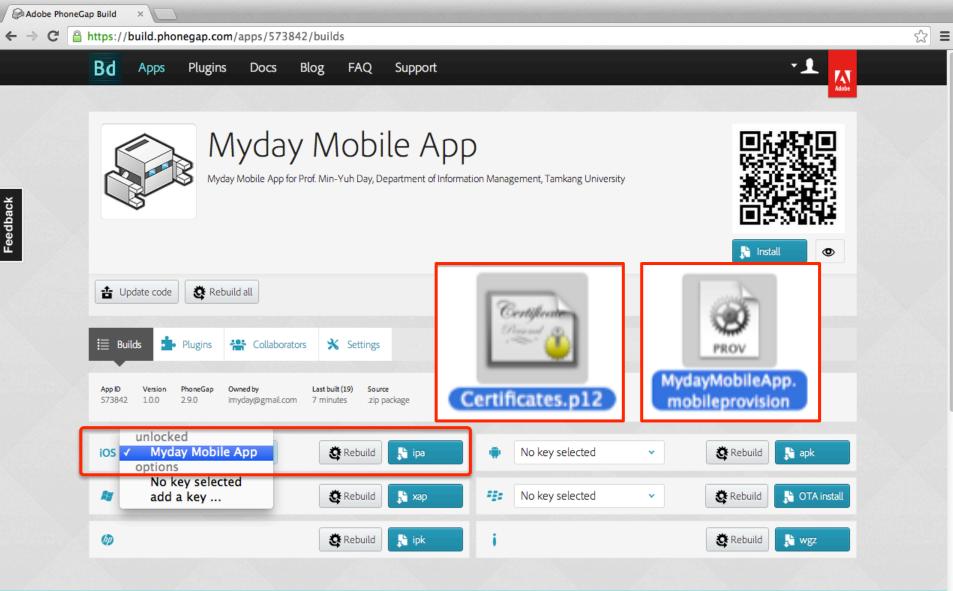


```
<!DOCTYPE html>
<html>
  <head>
   <title>Storage Example</title>
   <script type="text/javascript" charset="utf-8" src="cordova-x.x.x.js"></script>
   <script type="text/javascript" charset="utf-8">
   // Wait for device API libraries to load
   document.addEventListener("deviceready", onDeviceReady, 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>
```

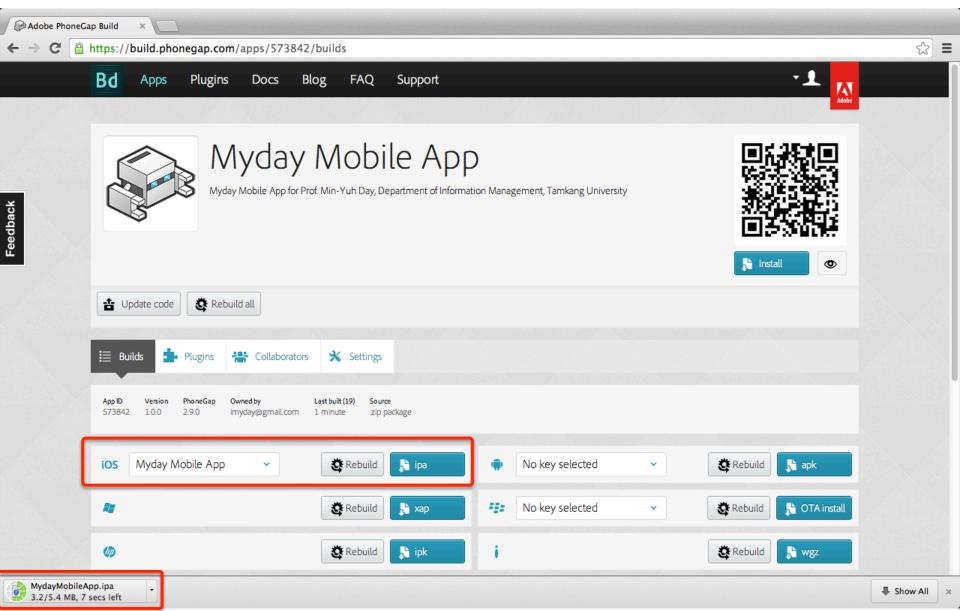
iOS Certificate (p12) file Provisioning profile



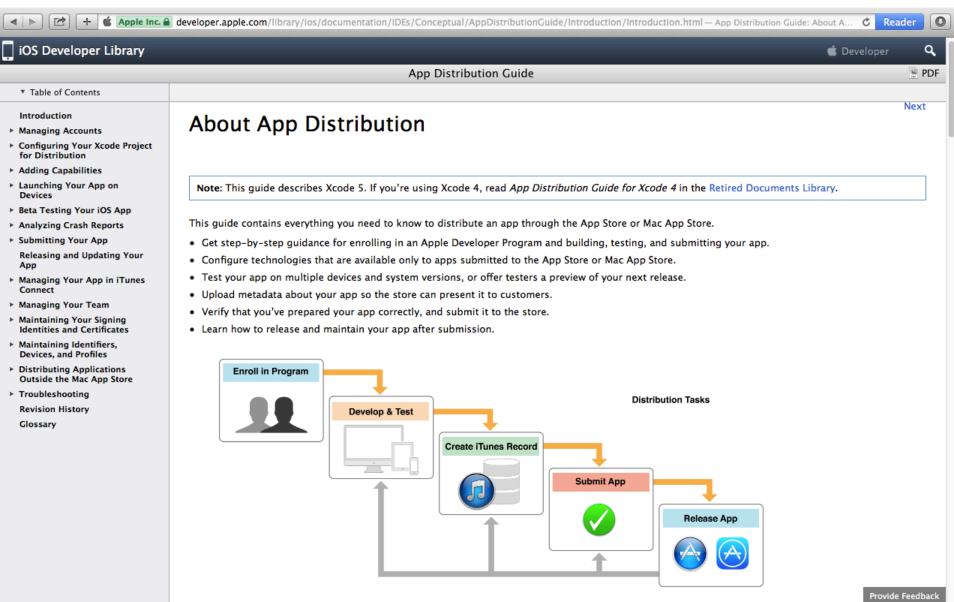
iOS Certificate (p12) file Provisioning profile



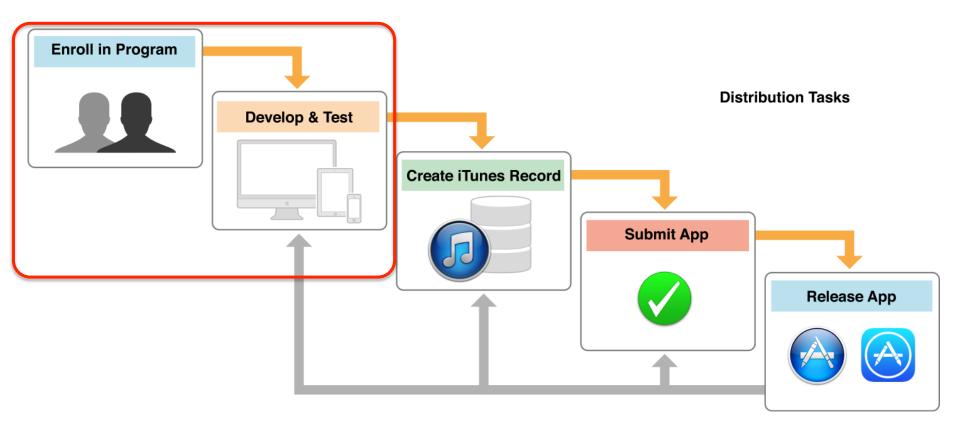
MydayMobileApp.ipa



App Distribution on App Store



Test on iOS Devices (iPhone/iPAD)



Testing iOS App



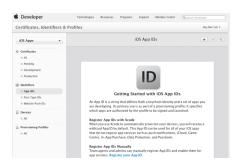
- Provisioning Profile
- Developer Portal
- Code Signing
- Bundle ID
- Keychain Access
- App ID
- Certificates
- Xcode Organizer

Basics of iOS Device Testing

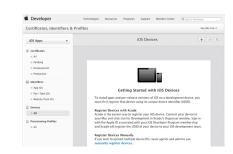
1 You have PERMISSION



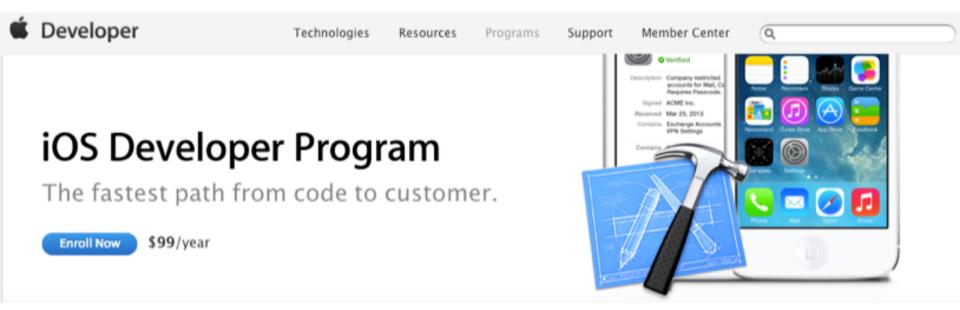
Your App has PERMISSION



Your Device has PERMISSION



You have PERMISSION



You have PERMISSION





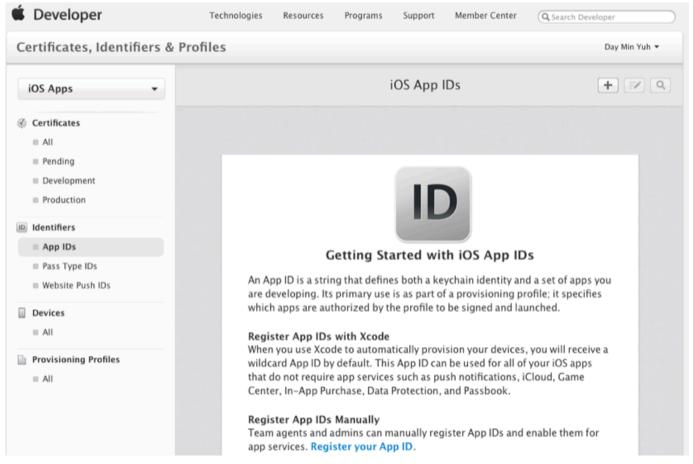
Keychain Access

Certificates



Your App has PERMISSION

com.myDomain.myApp





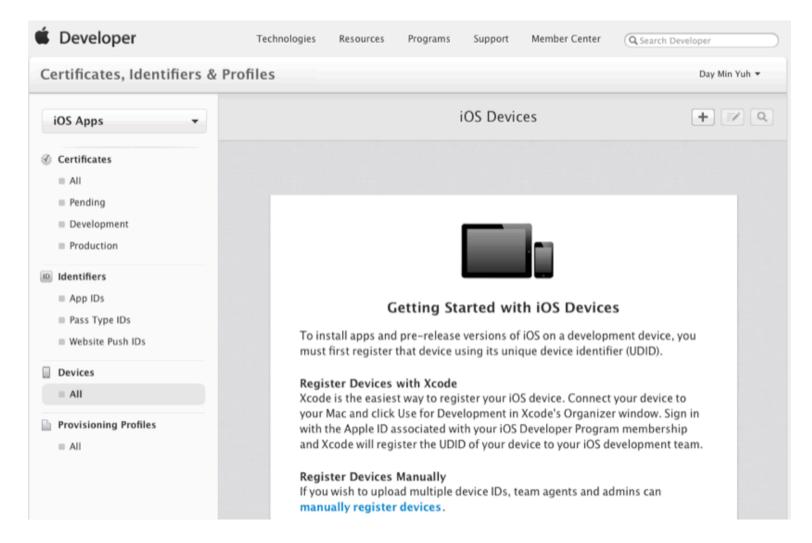
Your Device has PERMISSION







Your Device has PERMISSION

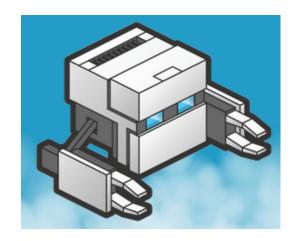


Demo

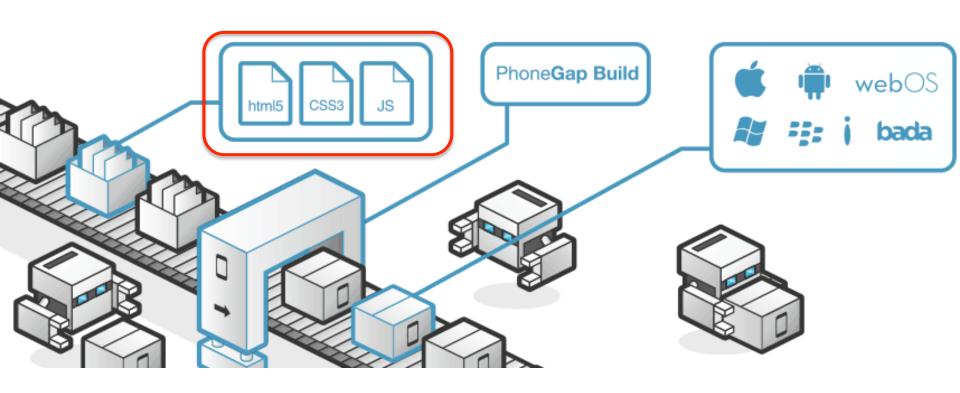
Create Hybrid Apps with PhoneGap Testing iOS and Android Devices

https://build.phonegap.com/





PhoneGap Build

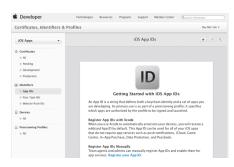


Basics of iOS Device Testing

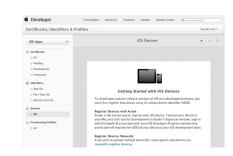
1 You have PERMISSION



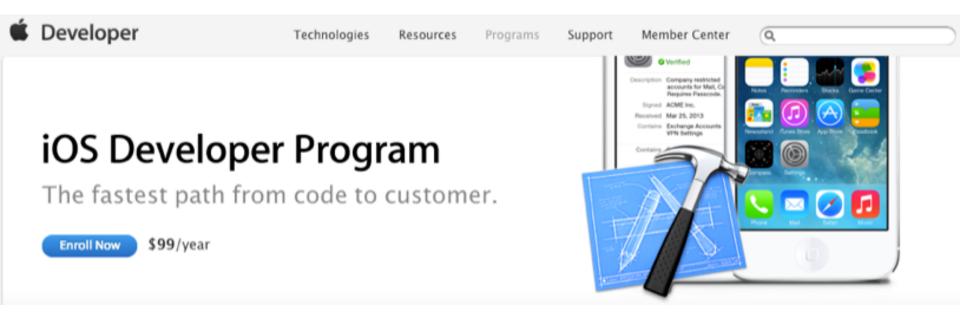
Your App has PERMISSION



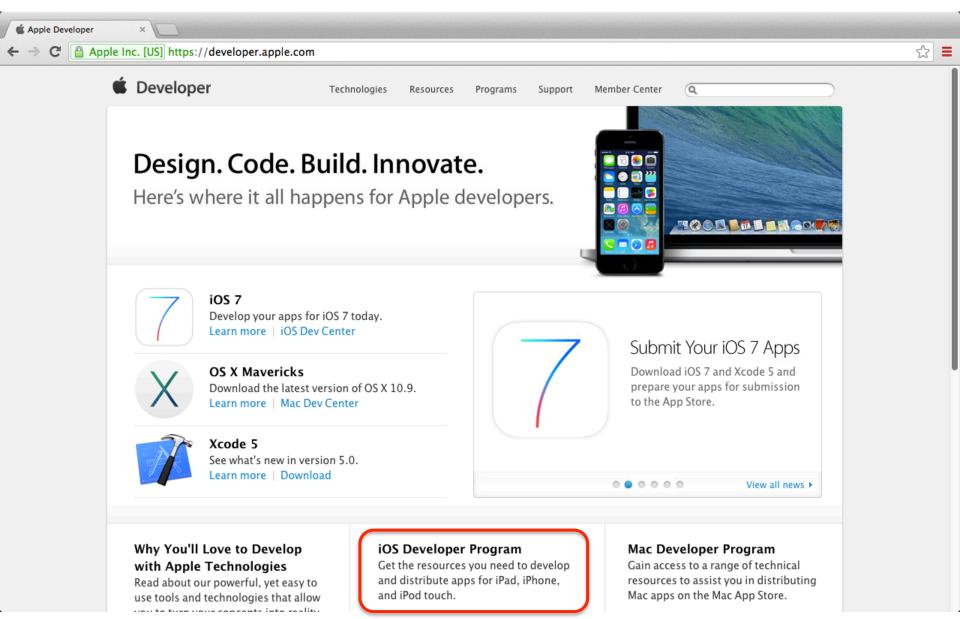
Your Device has PERMISSION

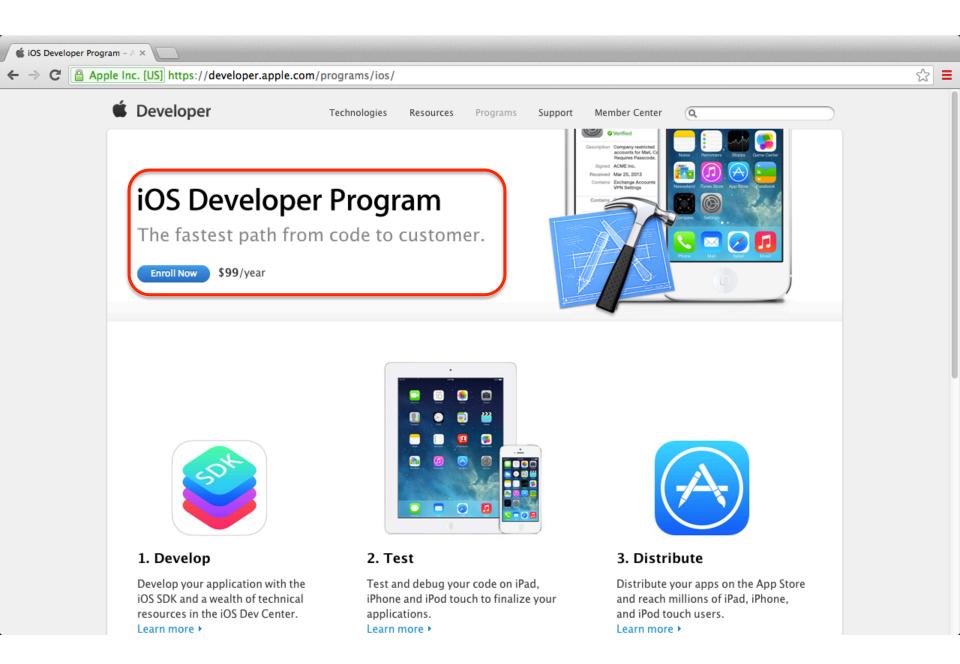


You have PERMISSION



Apple iOS Developer Program





iOS Developer Program

The fastest path from code to customer.











Apple Developer Program Enrollment

Enrolling in Apple Developer Programs

Get everything you need to develop and distribute apps for iOS and OS X.

It's easy to get started.

✓ 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, nonprofit organization, joint venture, partnership, or government organization.

✓ Submit your information.

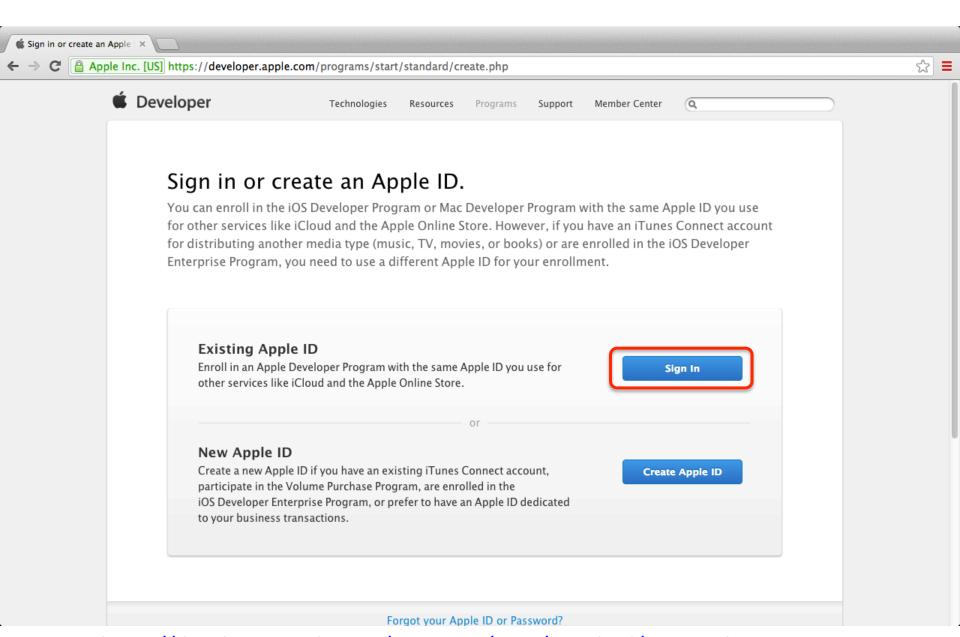
Provide basic personal information, including your legal name and address. If you're enrolling as a company/organization, we'll need a few more things, like your legal entity name and D-U-N-S® Number, as part of our verification process.

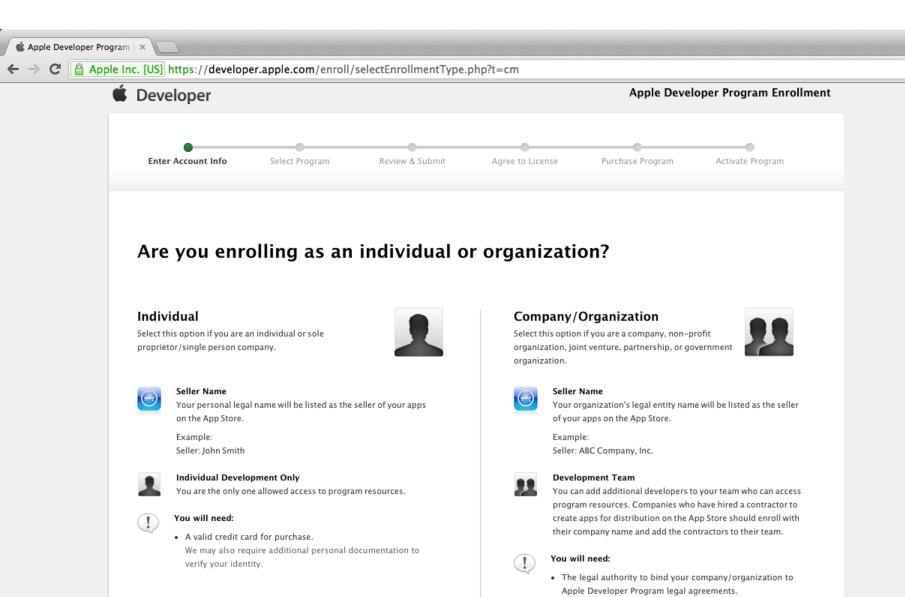
✓ Purchase and activate your program.

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.



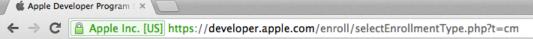






· An address for the company's principal place of business or

corporate headquarters.







Individual

Select this option if you are an individual or sole proprietor/single person company.



Seller Name

Your personal legal name will be listed as the seller of your apps on the App Store.

Example:

Seller: John Smith



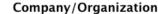
Individual Development Only

You are the only one allowed access to program resources.



You will need:

· A valid credit card for purchase. We may also require additional personal documentation to verify your identity.



Select this option if you are a company, non-profit organization, joint venture, partnership, or government organization.



Seller Name

Your organization's legal entity name will be listed as the seller of your apps on the App Store.

Example:

Seller: ABC Company, Inc.



Development Team

You can add additional developers to your team who can access program resources. Companies who have hired a contractor to create apps for distribution on the App Store should enroll with their company name and add the contractors to their team.



You will need:

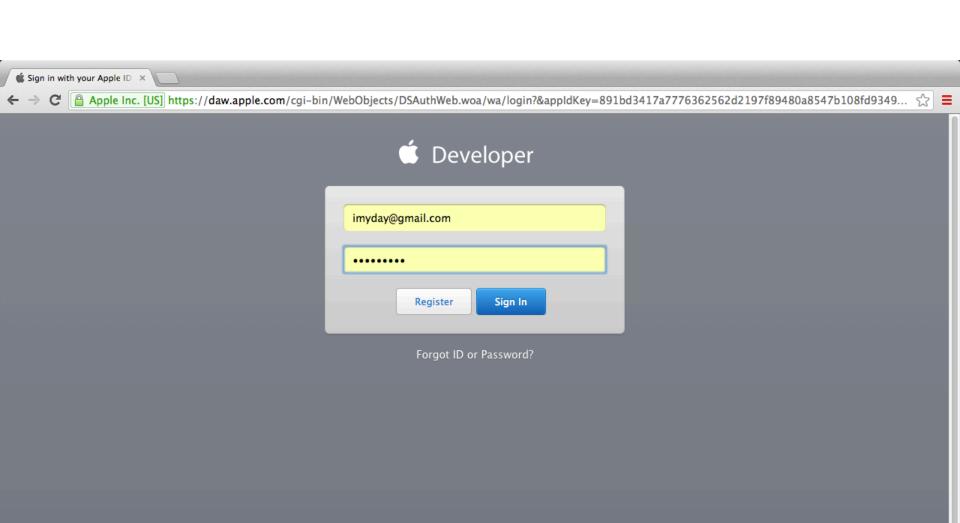
- · The legal authority to bind your company/organization to Apple Developer Program legal agreements.
- · An address for the company's principal place of business or corporate headquarters.
- · A D-U-N-S® Number assigned to a legal entity. D-U-N-S Numbers, available from D&B for free in most jurisdictions, 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.

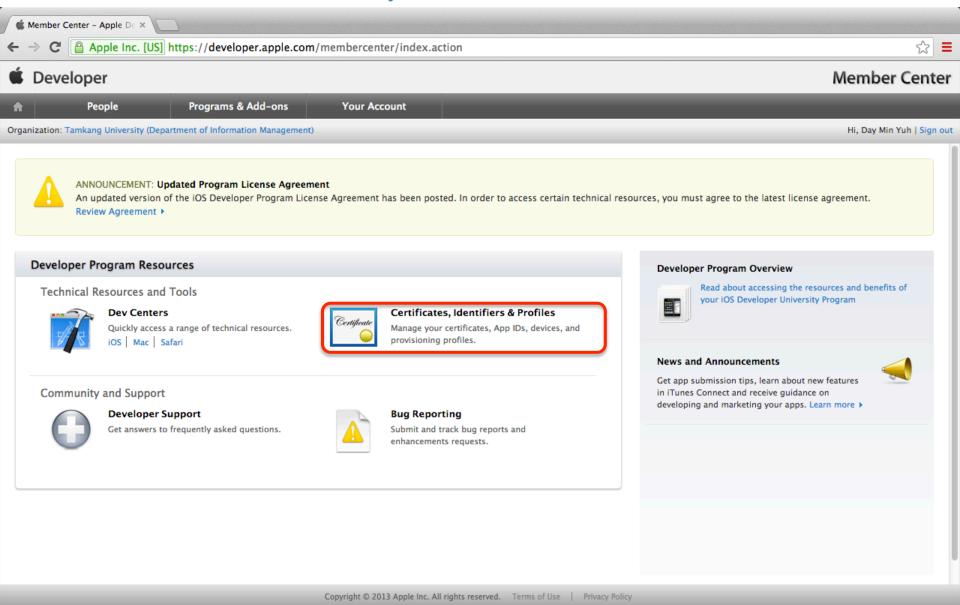
· A valid credit card for purchase.

Individual

Company



Certificates, Identifiers & Profiles



Certificates, Identifiers & Profiles

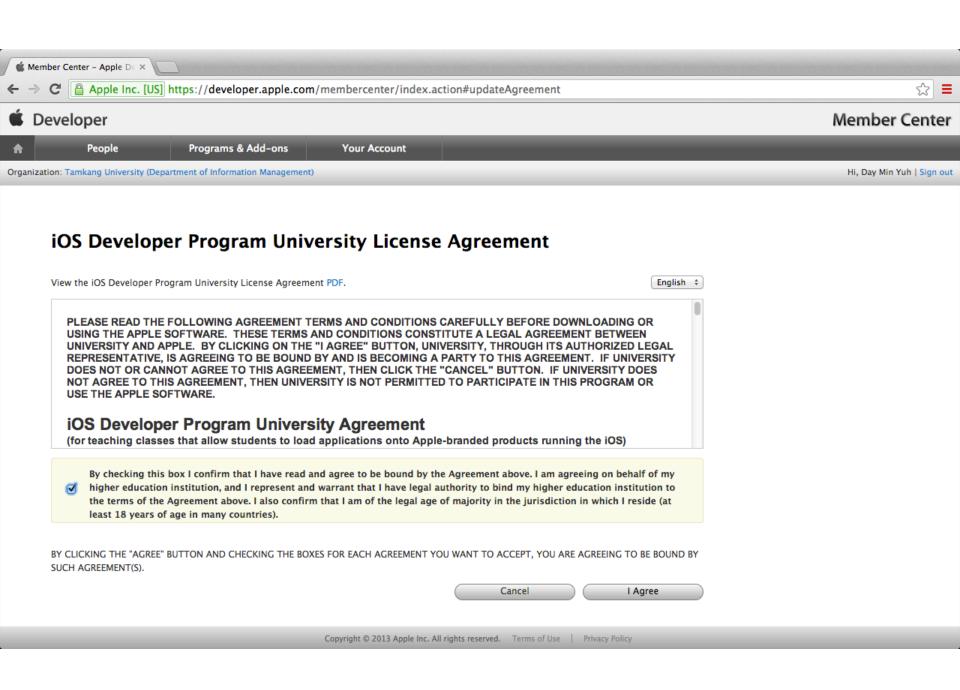




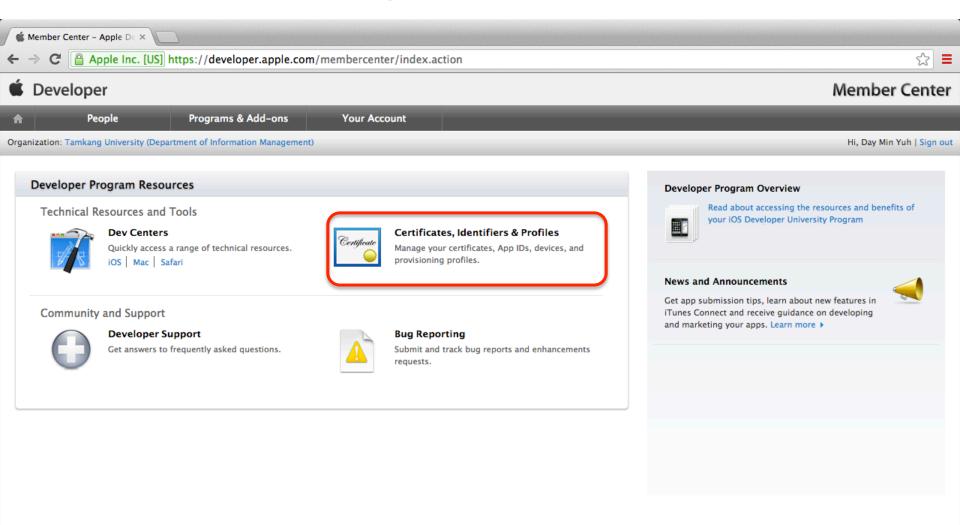


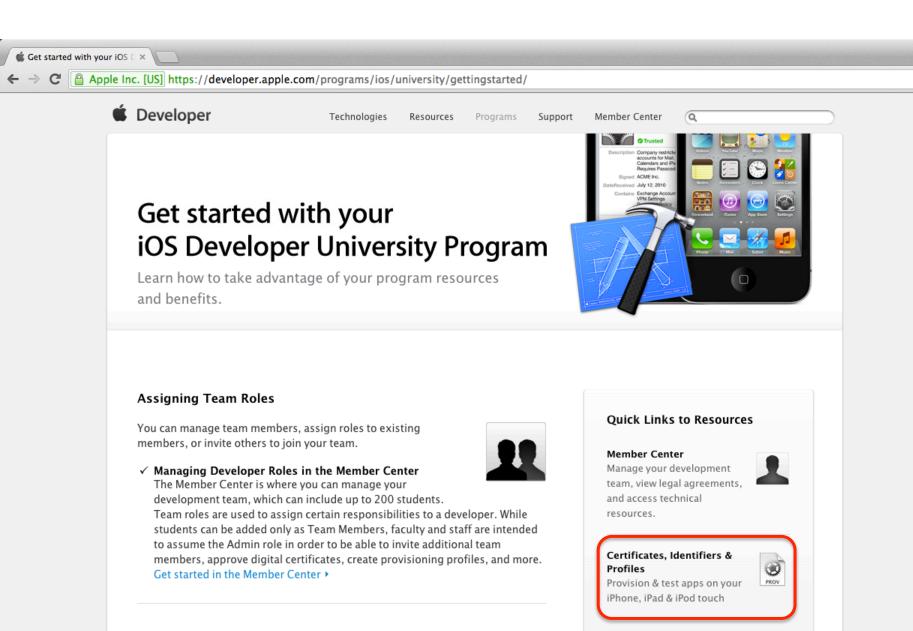
Certificates, Identifiers & Profiles

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

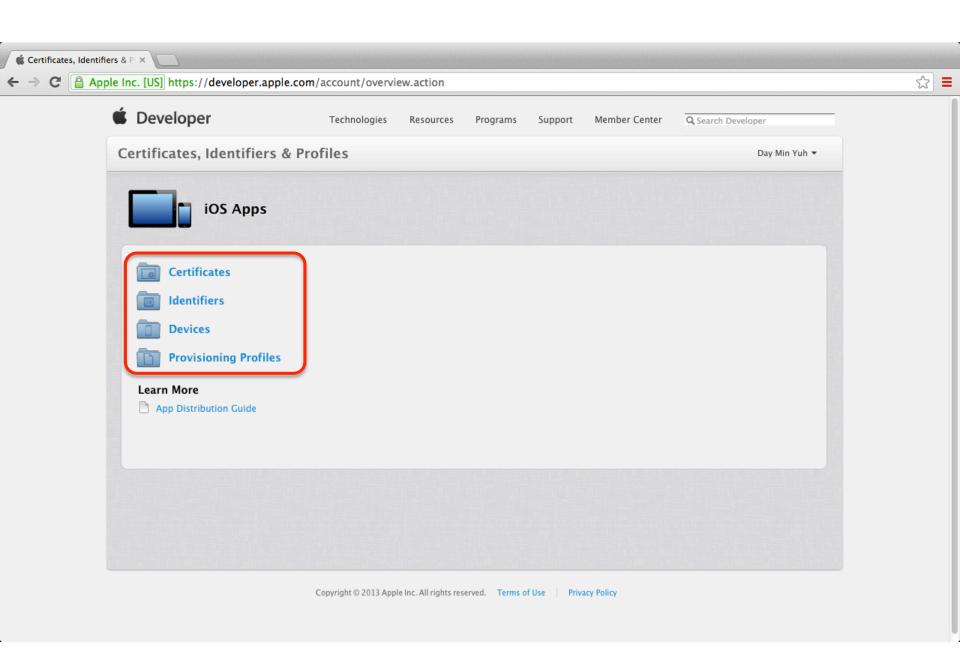


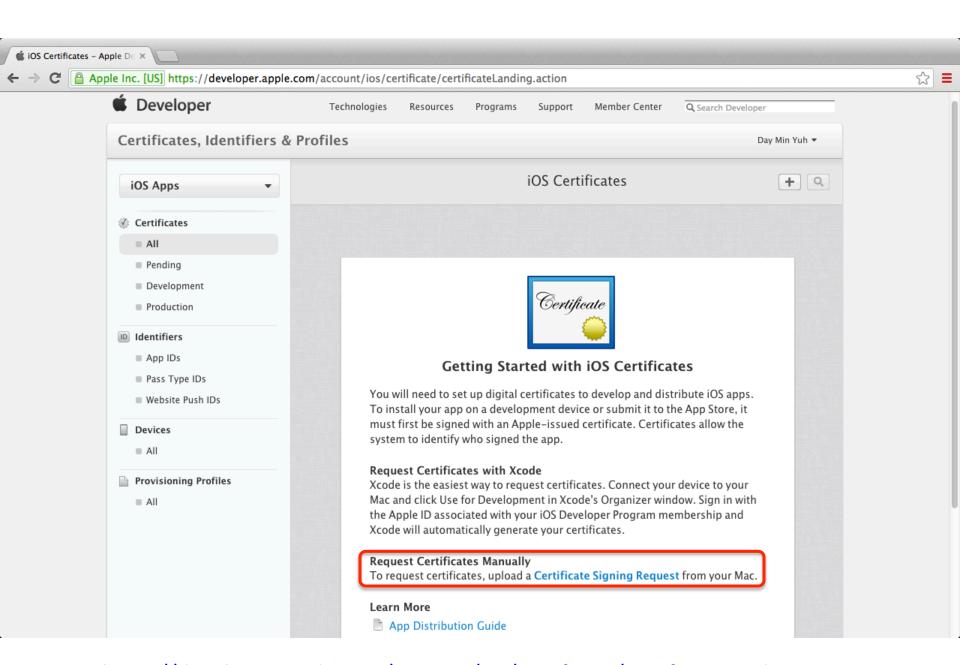
Certificates, Identifiers & Profiles

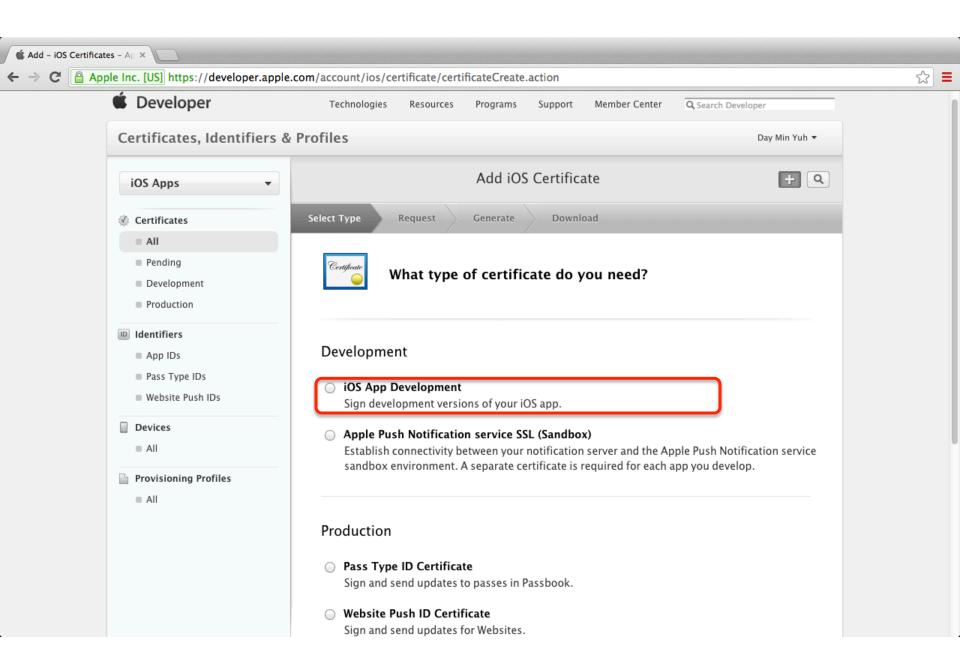


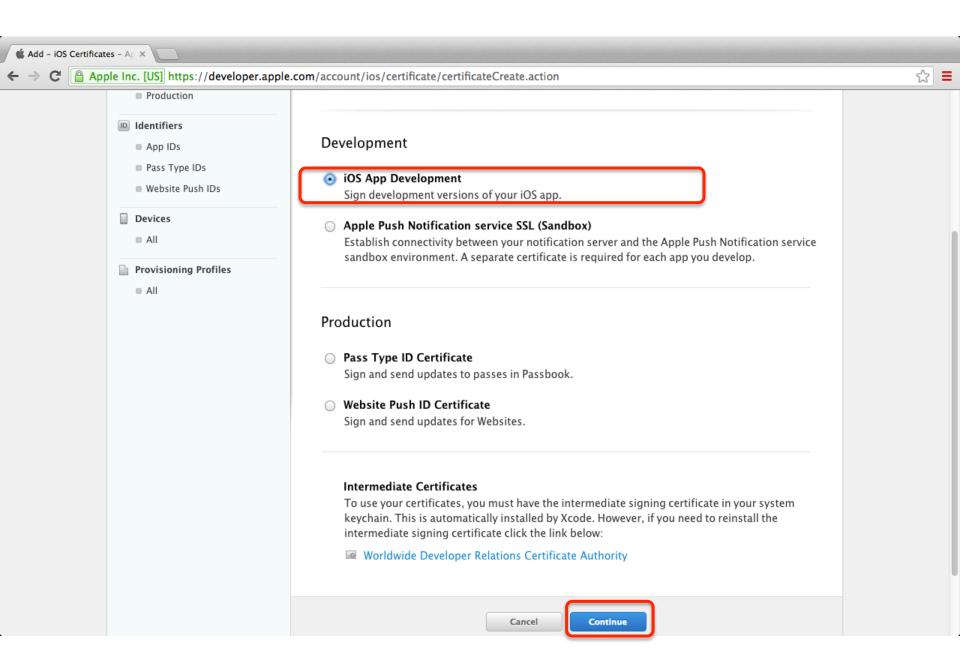


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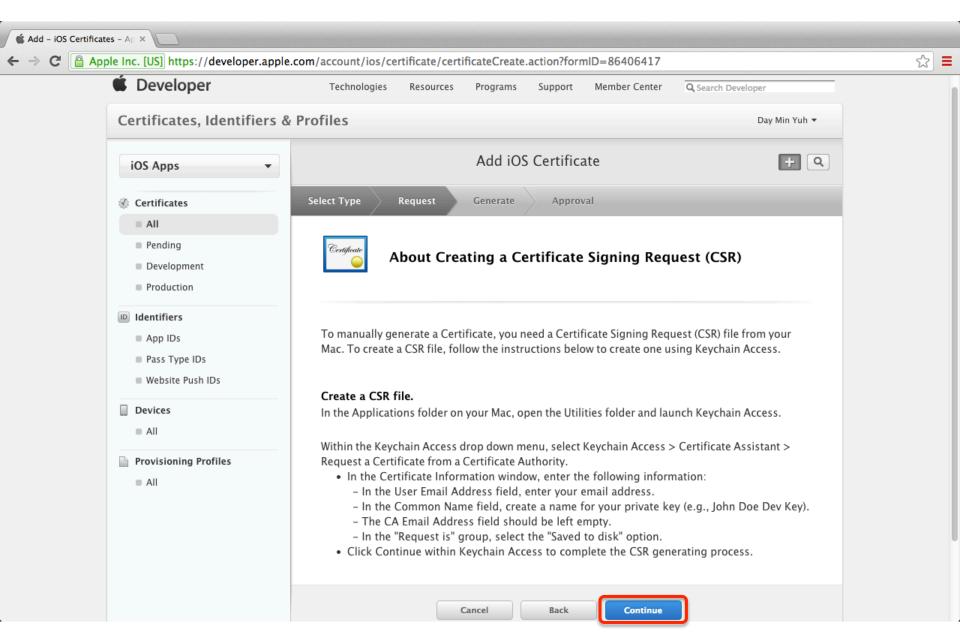




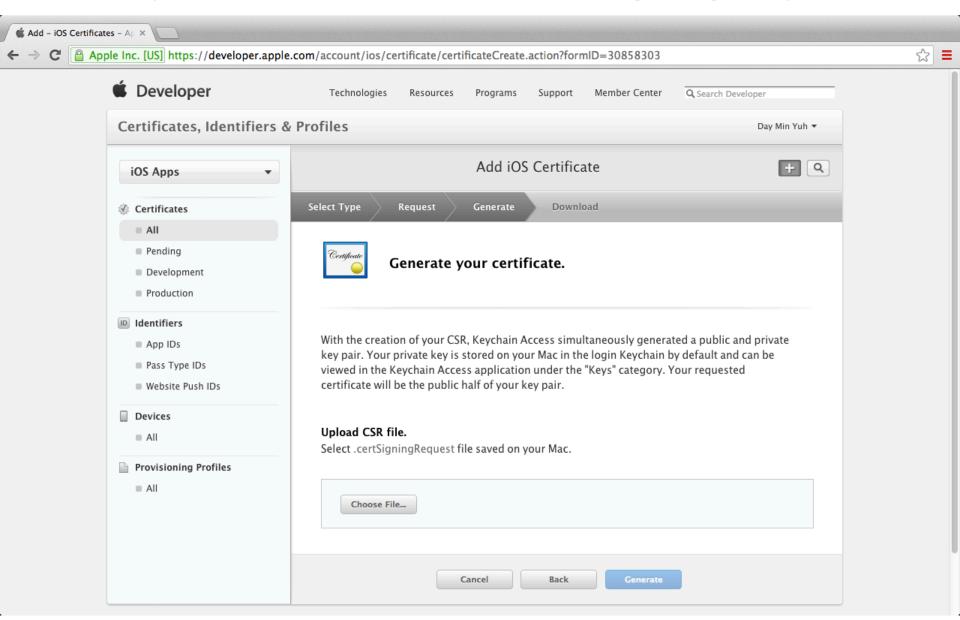




Certificate Signing Request (CSR)



Upload CSR file (CertificateSigningRequest)



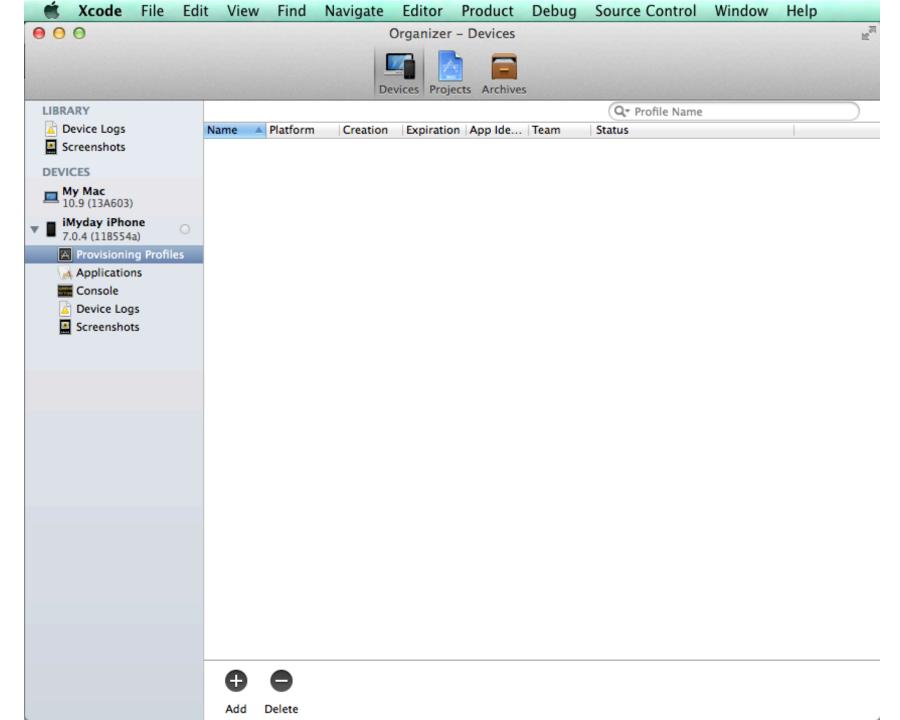
You have PERMISSION





Keychain Access

Certificates



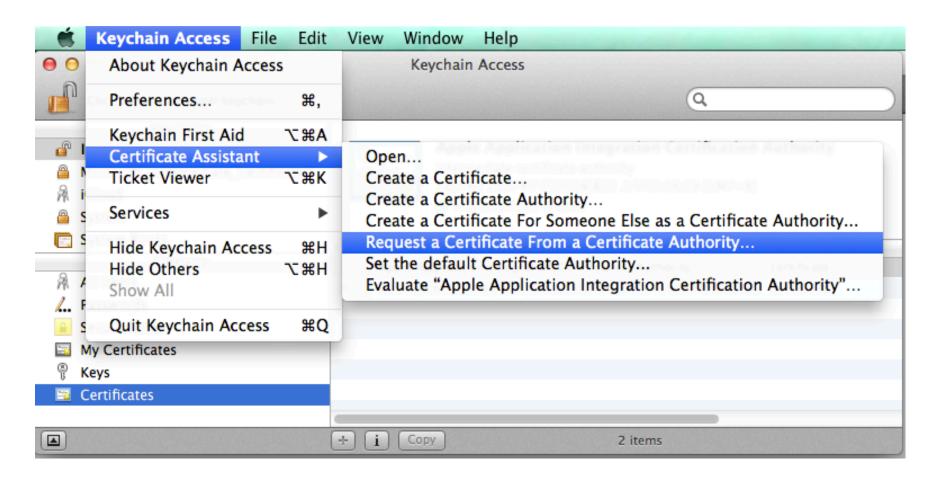
Applications\Utilities\Keychain Access



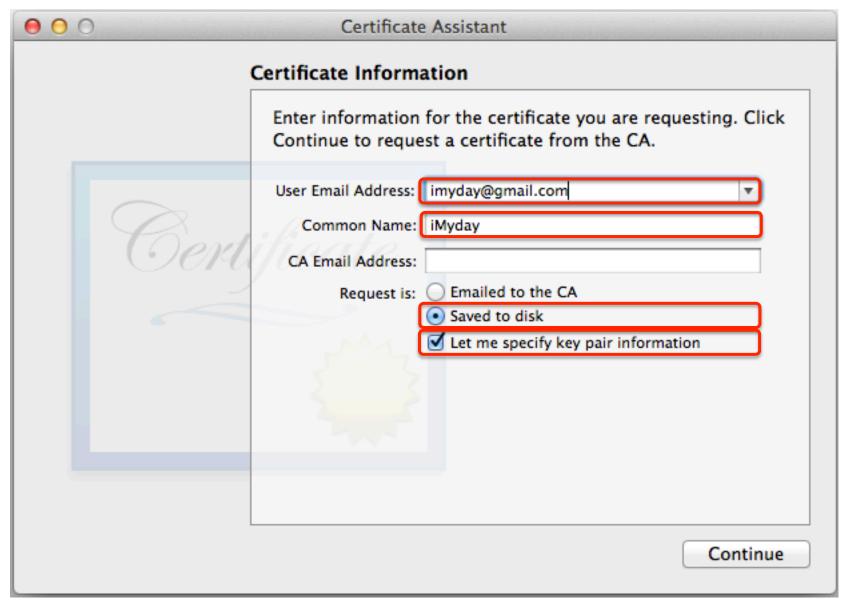




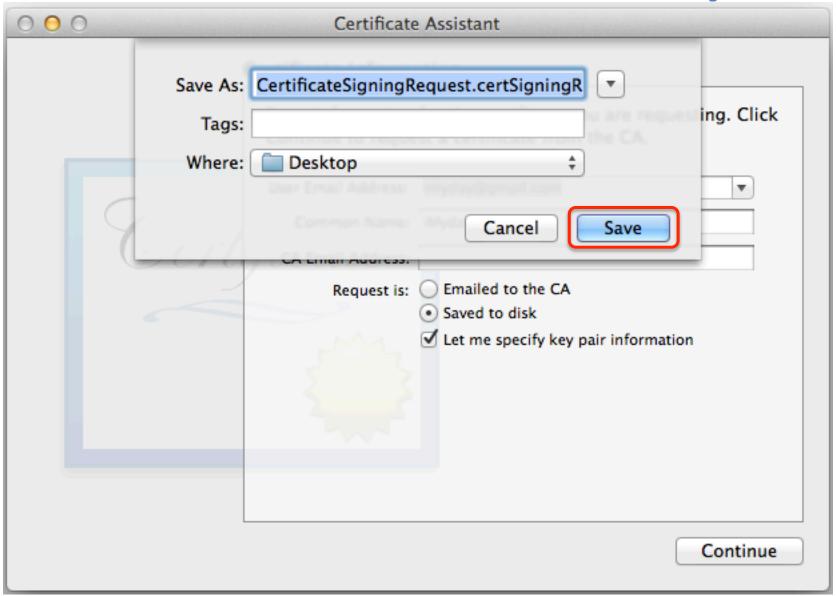
Request a Certificate From a Certificate Authority

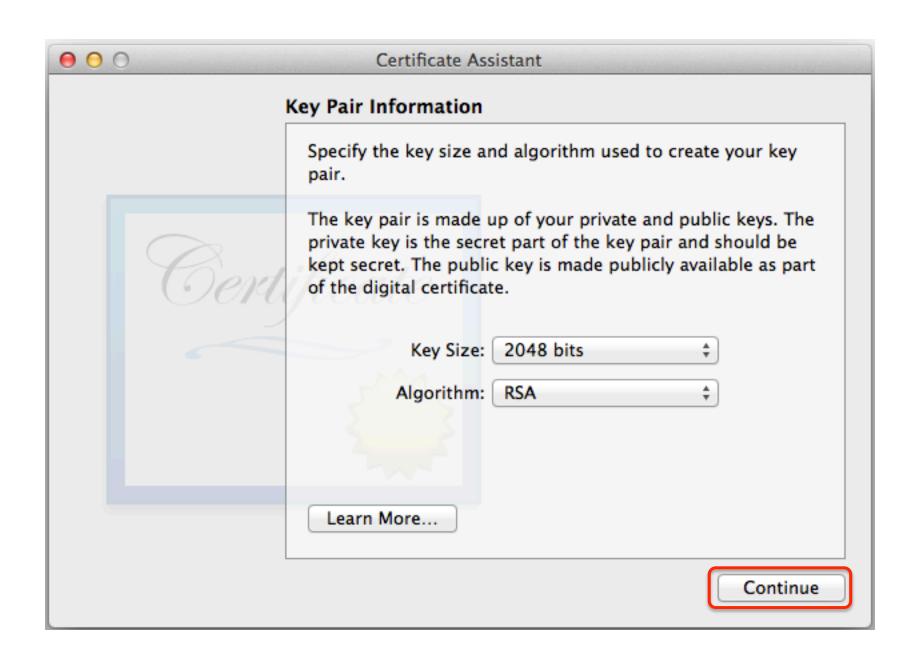


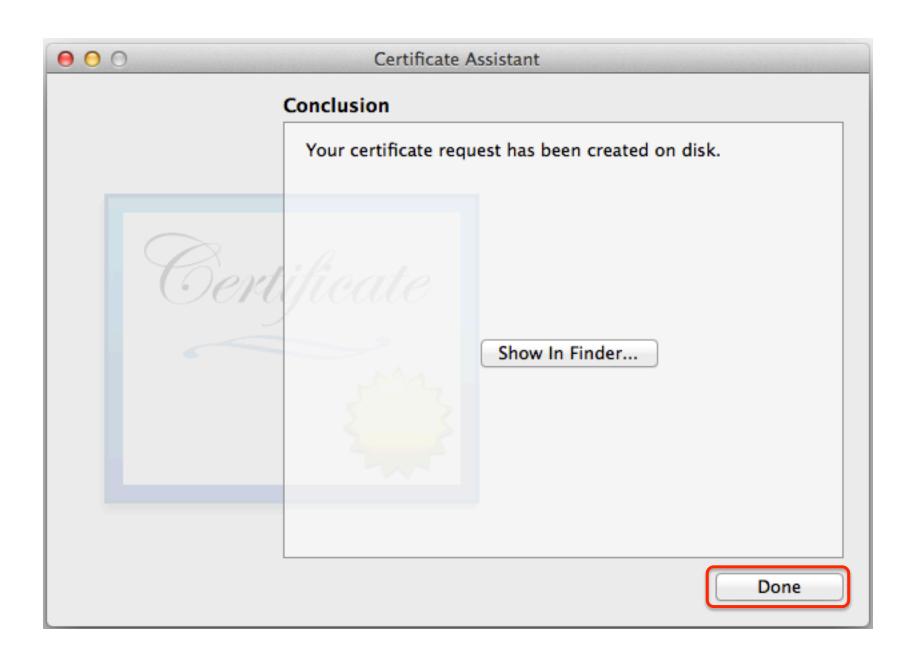
Certificate Assistant



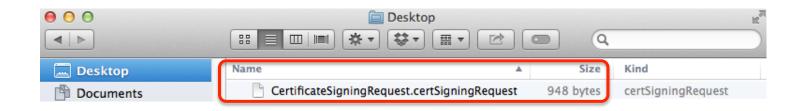
Request a Certificate From a Certificate Authority

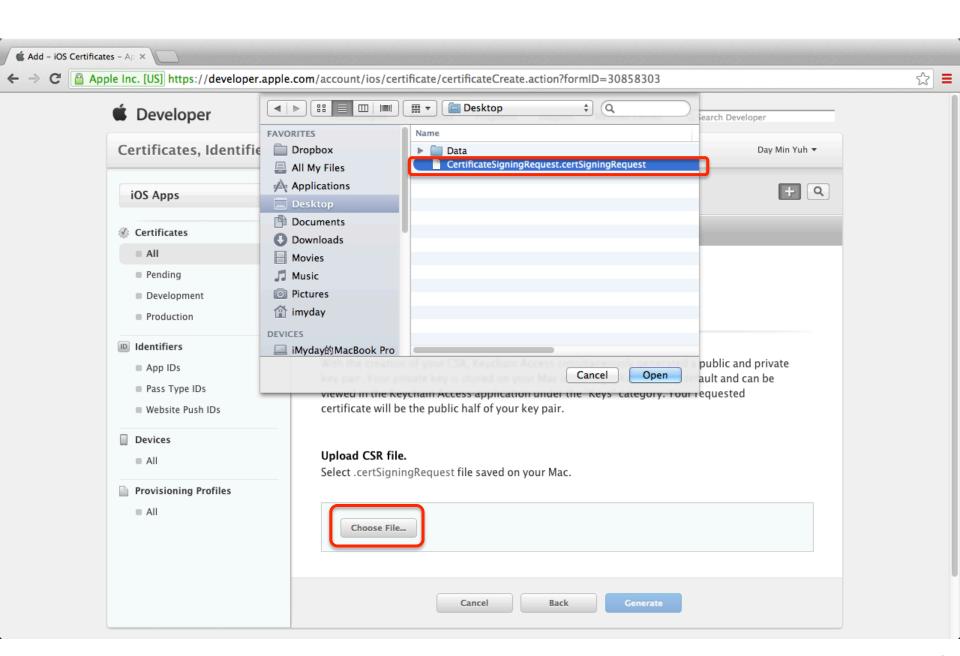


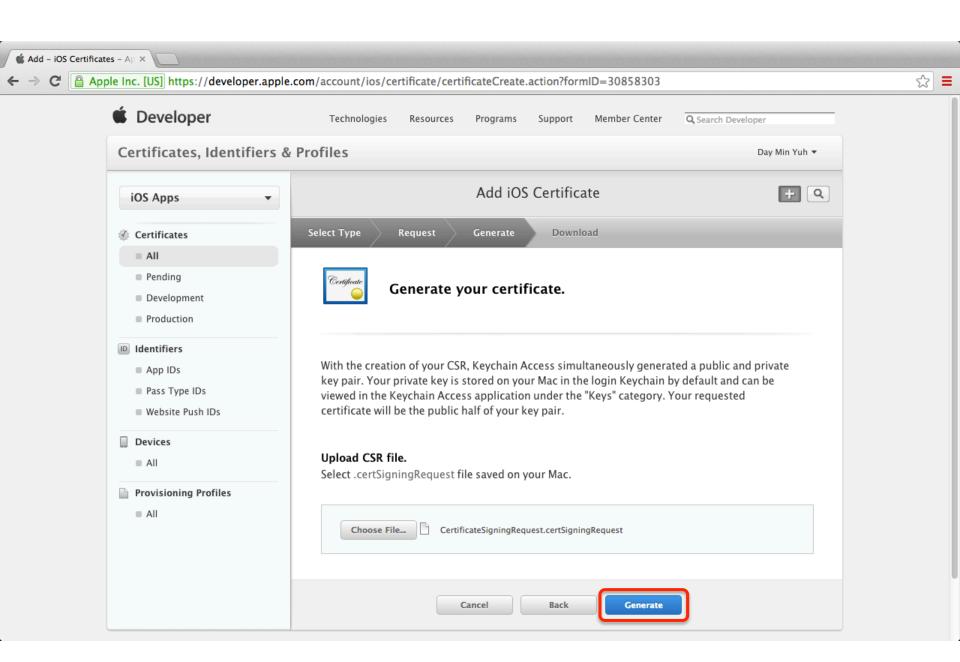


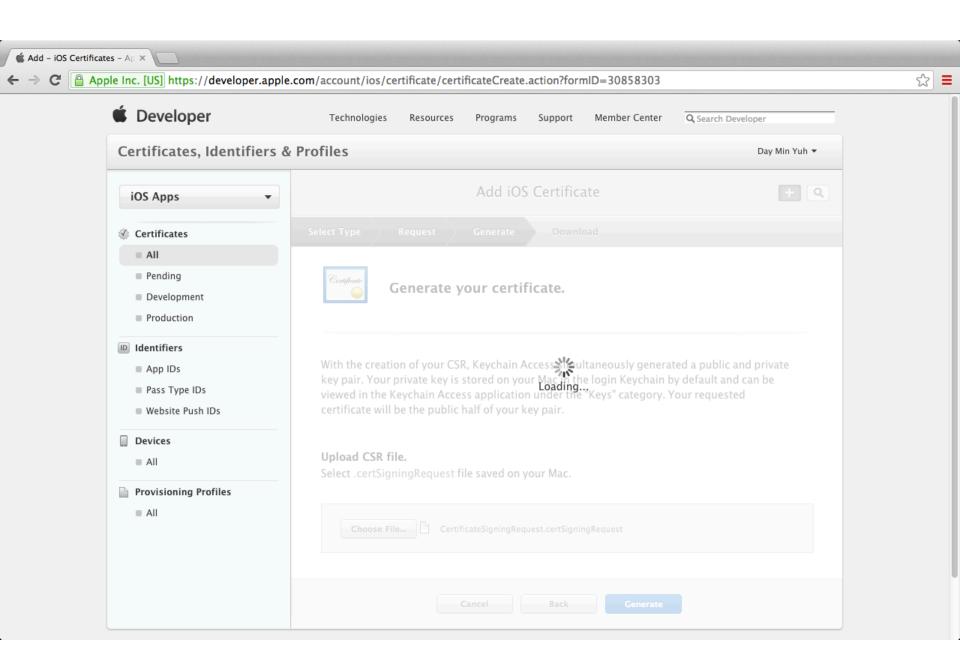


CertificateSigningRequest CSR

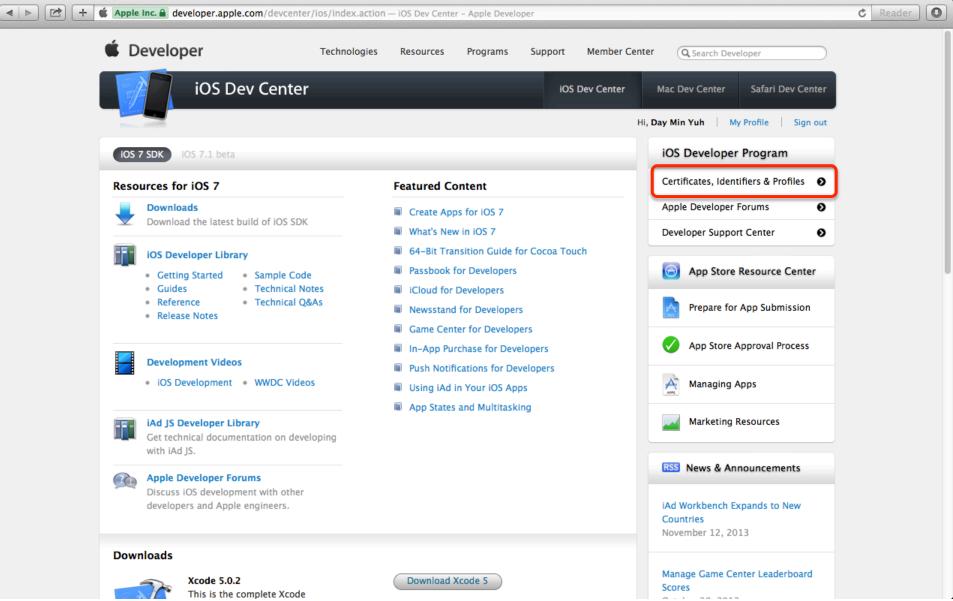


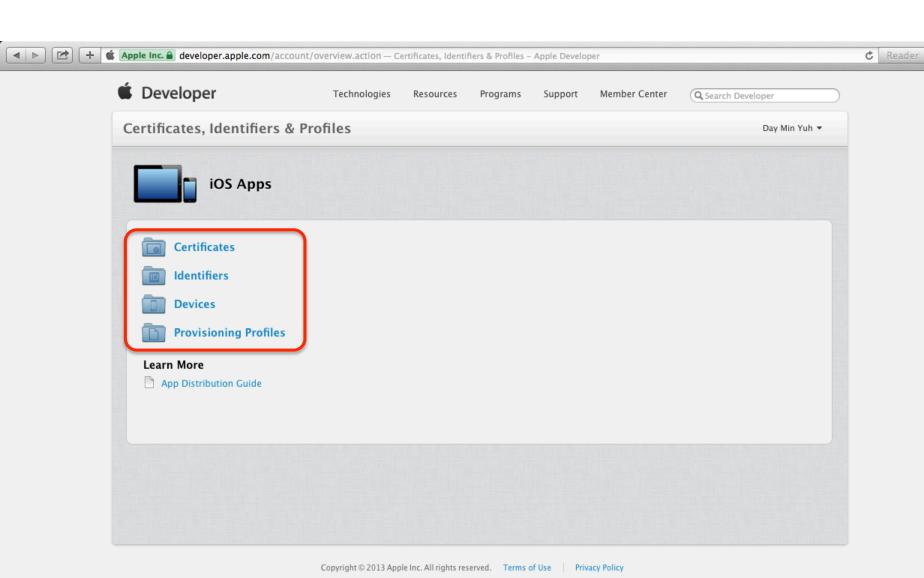


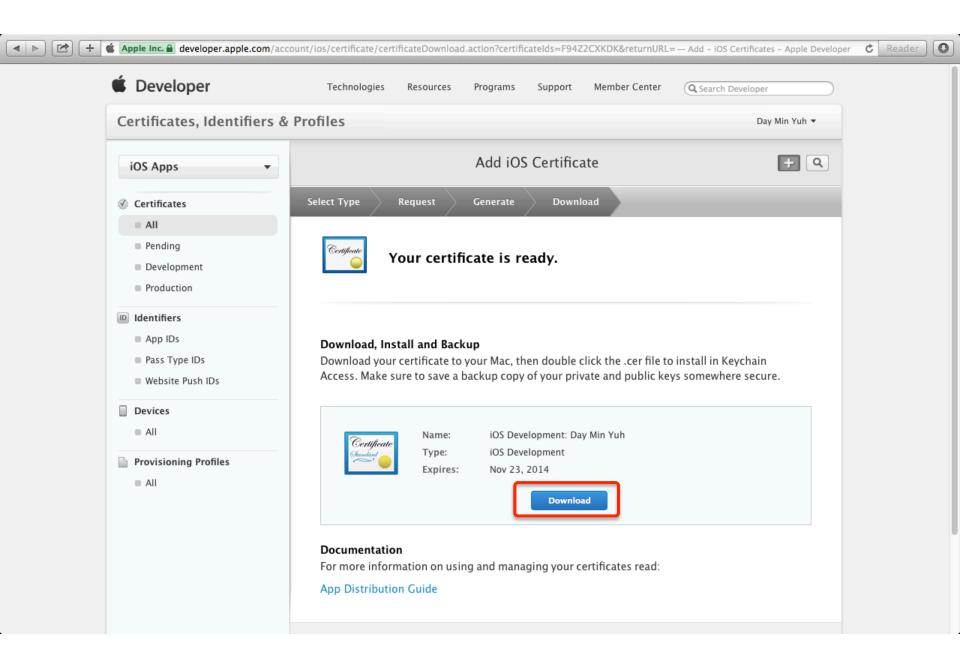




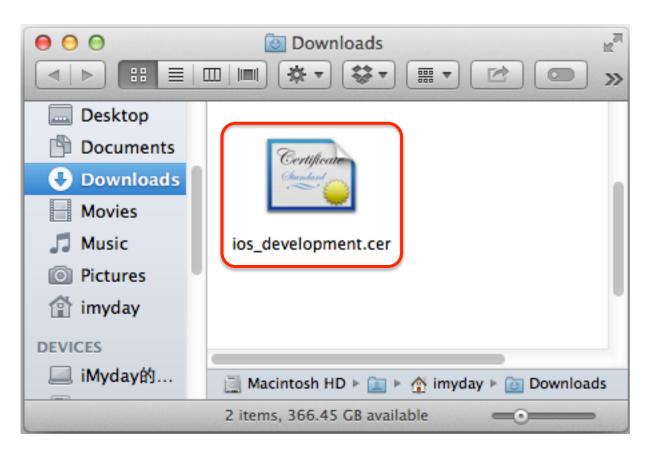
iOS Dev Center Certificate, Identifiers & Profiles

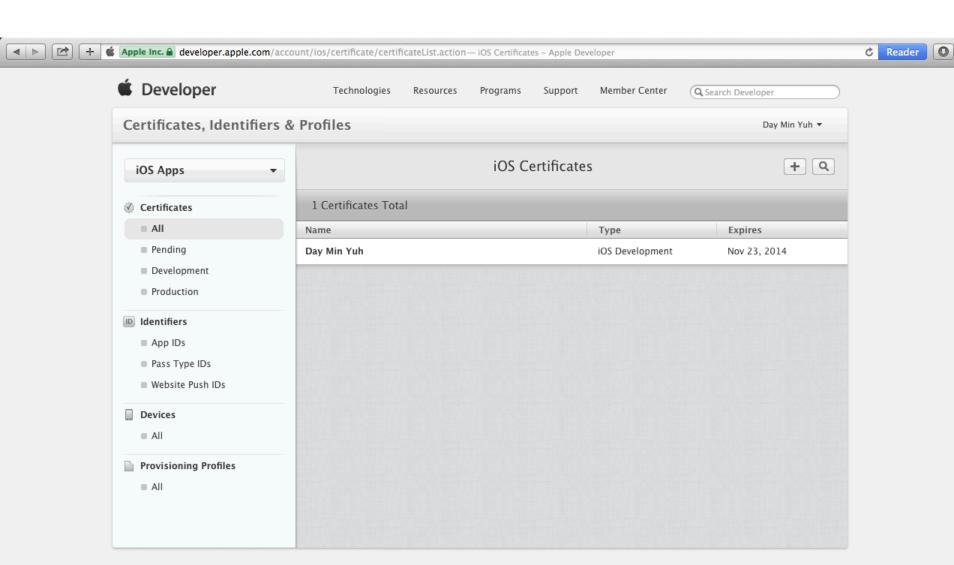






Your iOS Certificate: ios_development.cer



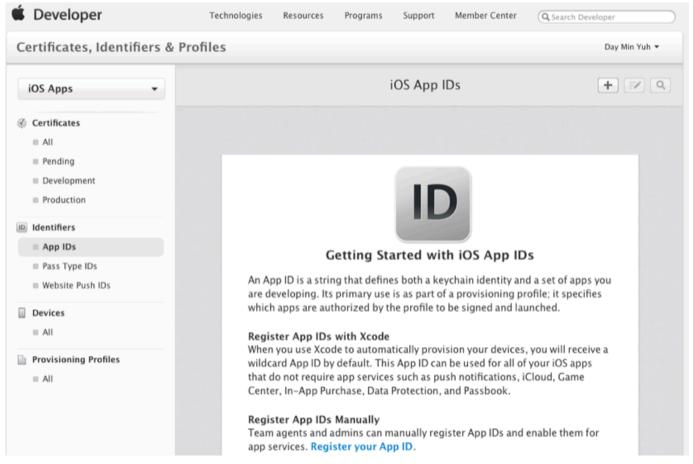


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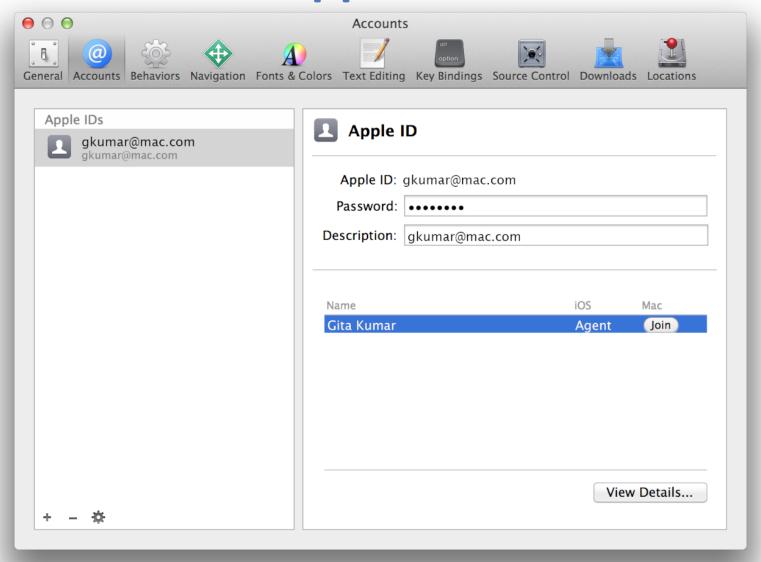


Your App has PERMISSION

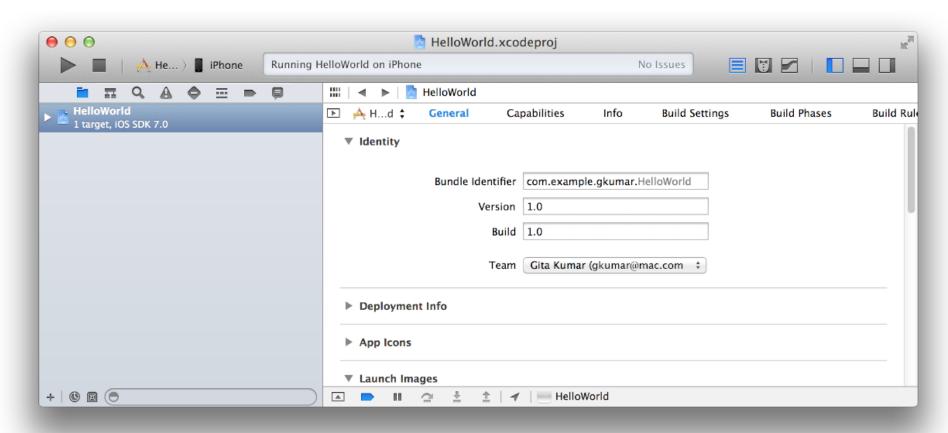
com.myDomain.myApp



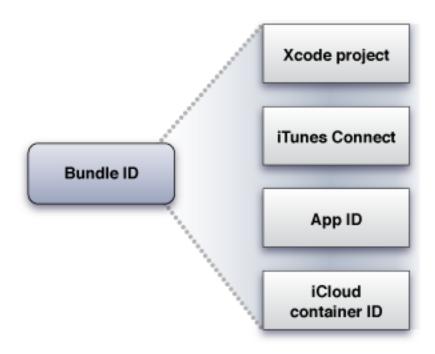
Apple ID



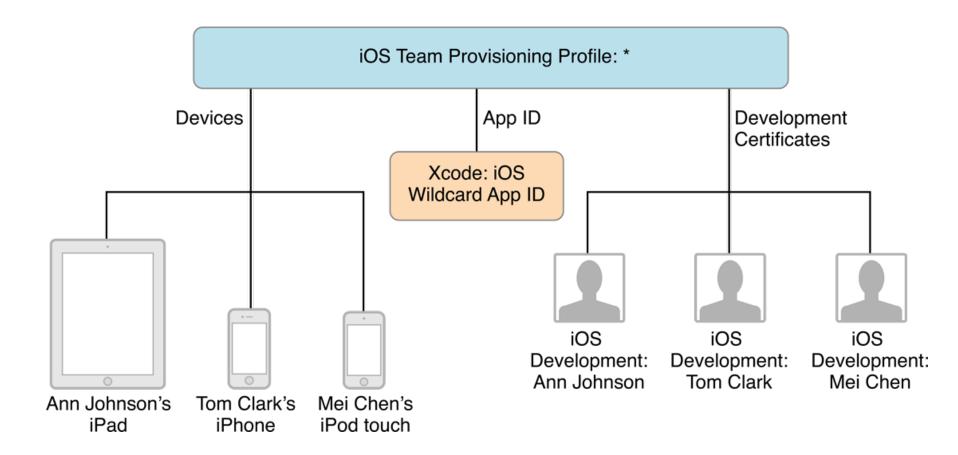
Bundle ID



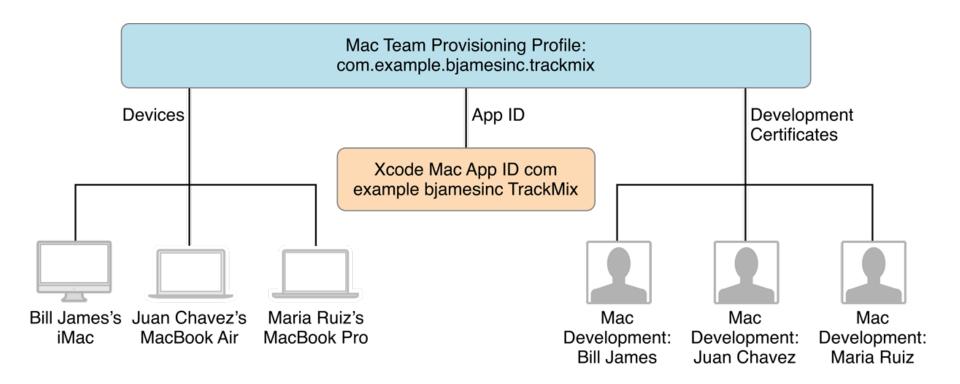
Bundle ID vs. App ID



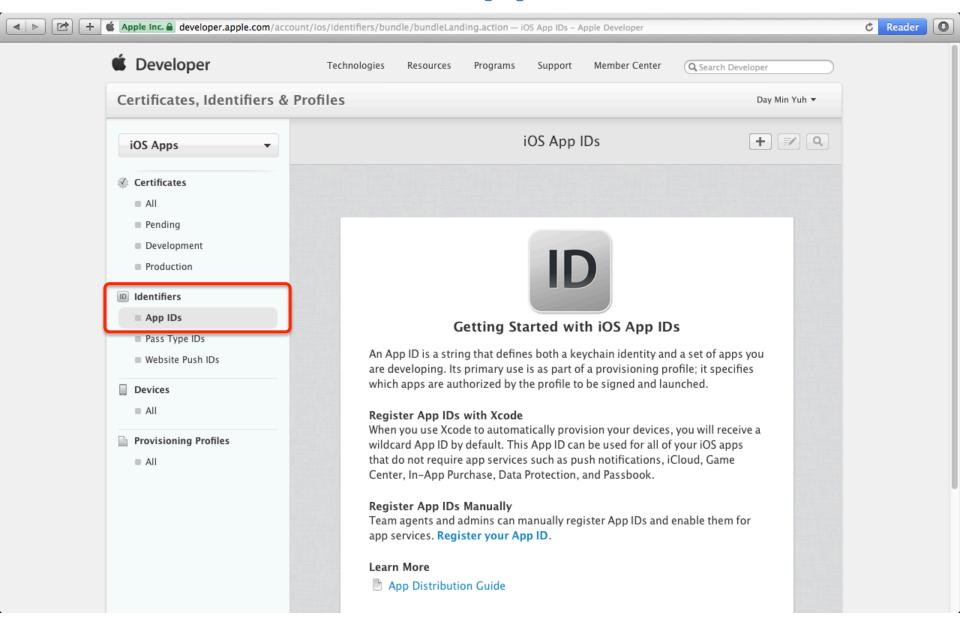
App ID, Device ID

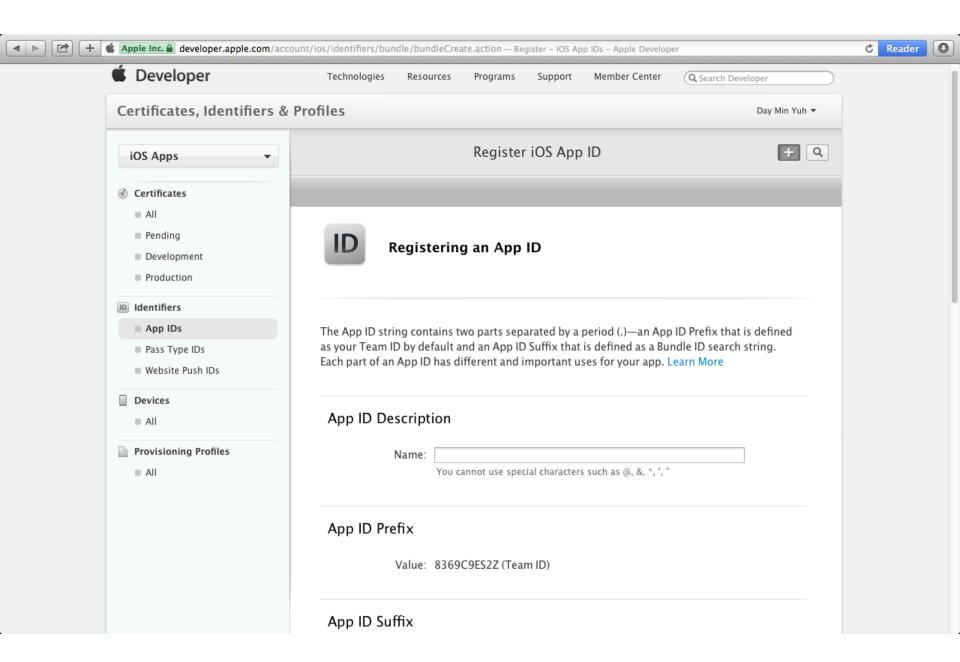


App ID, Device ID



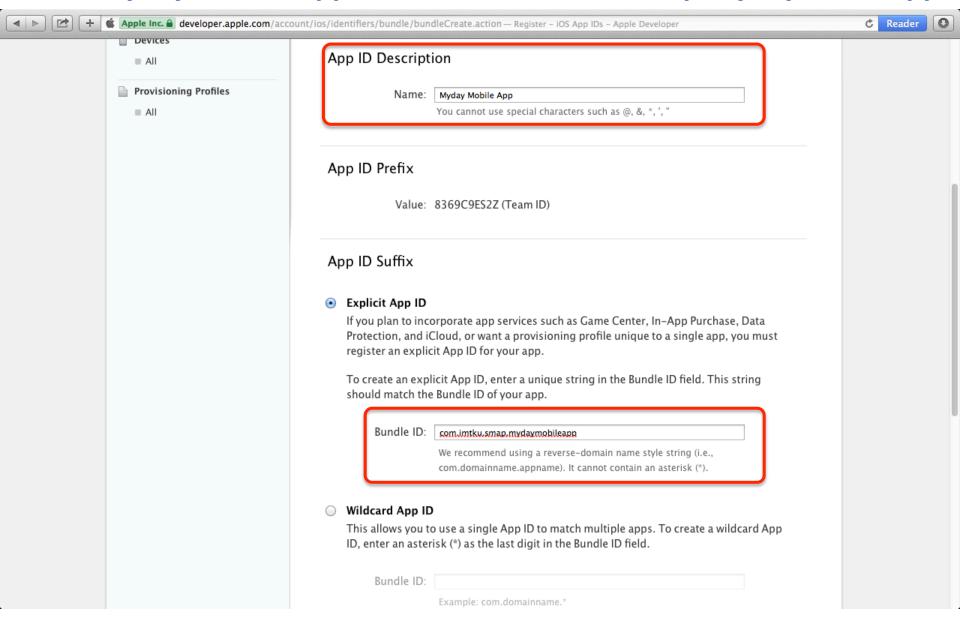
iOS App ID

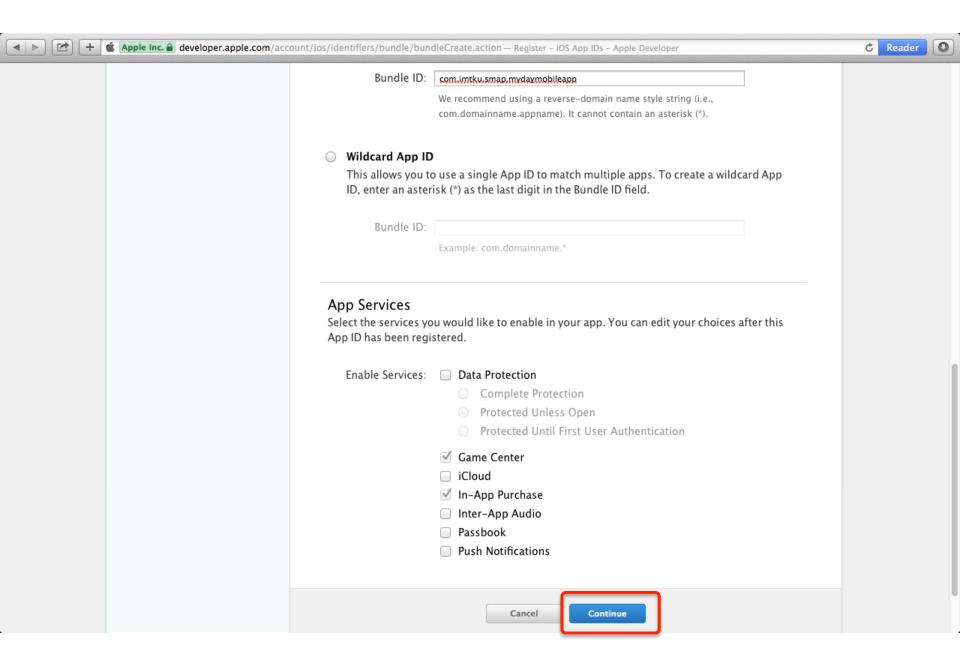


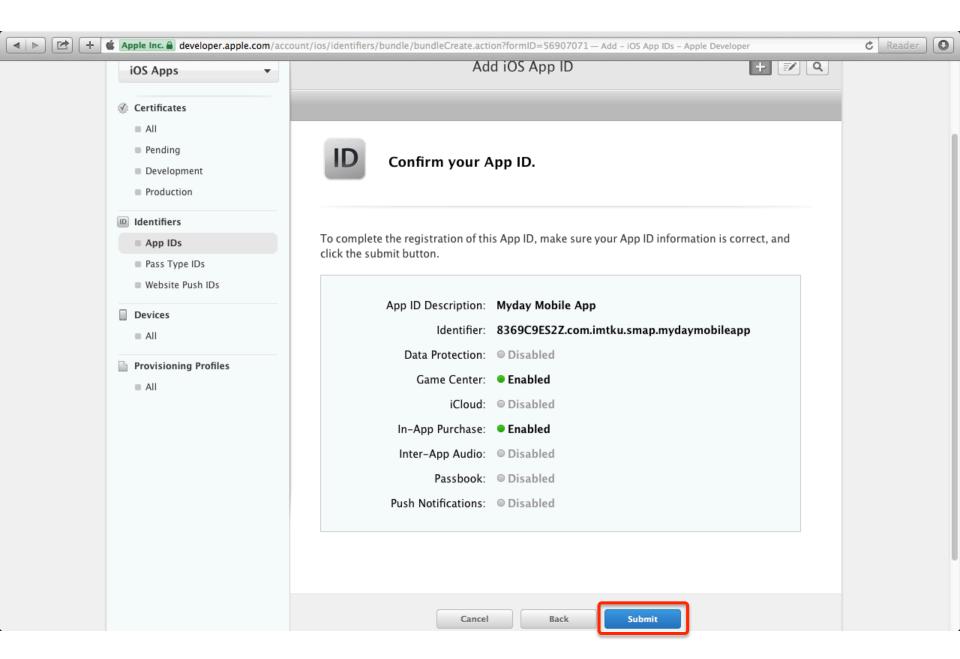


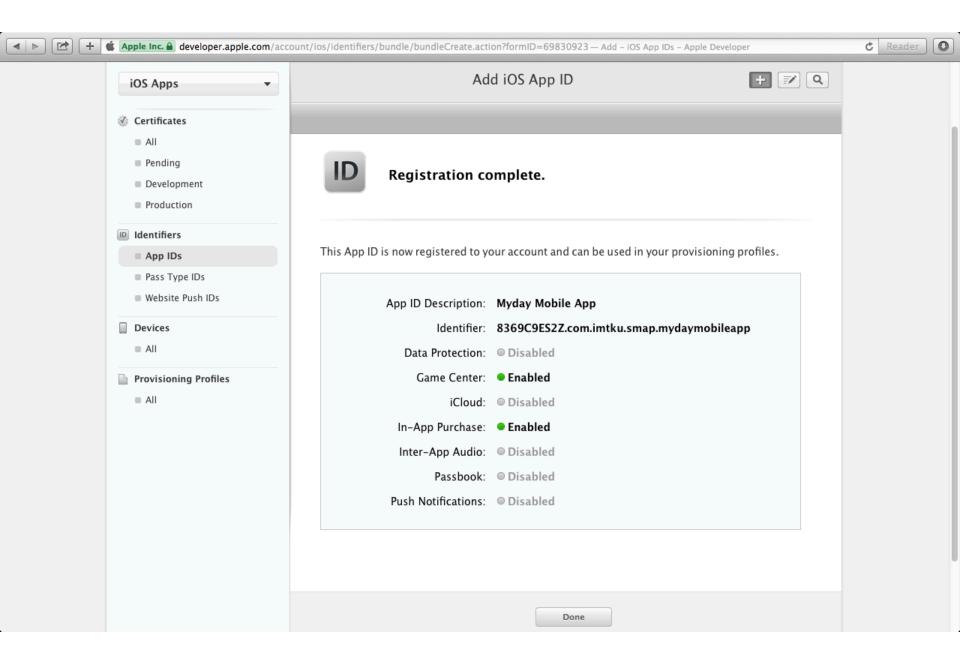
Myday Mobile App

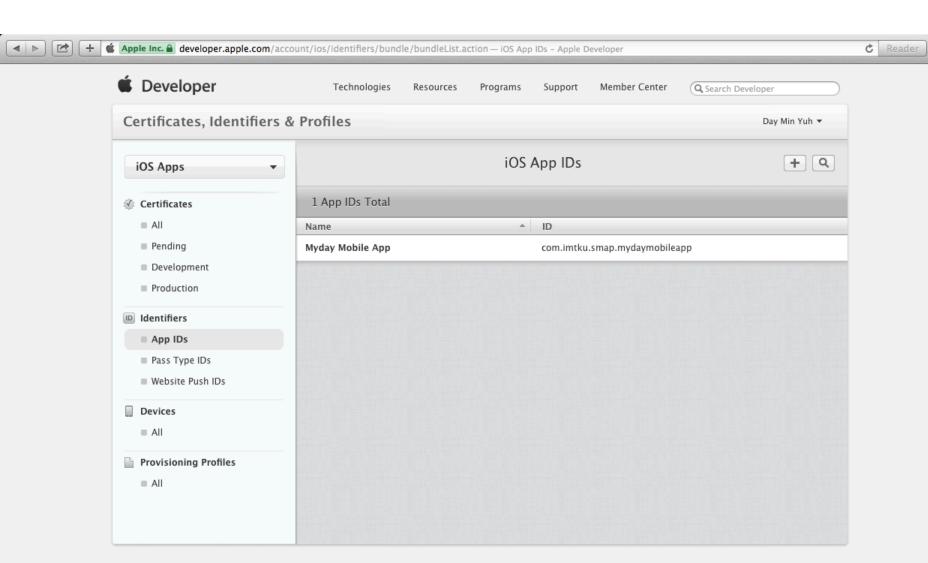
com.imtku.smap.mydaymobileapp











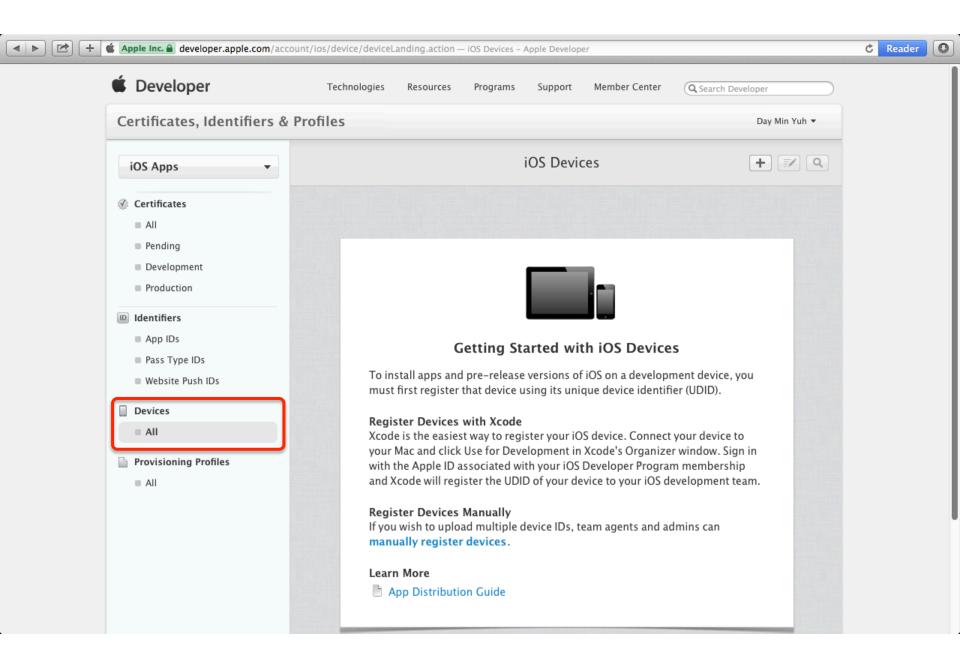
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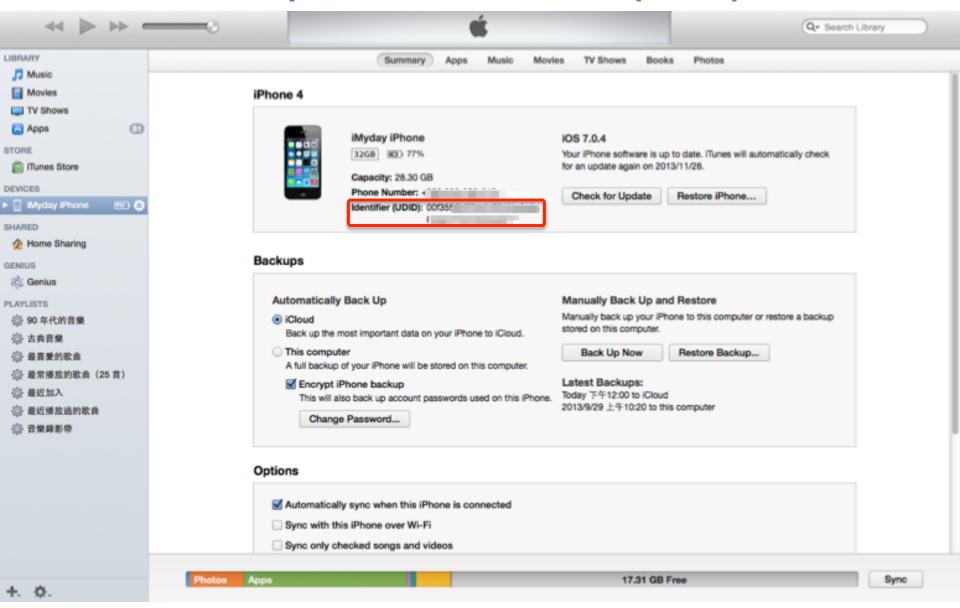


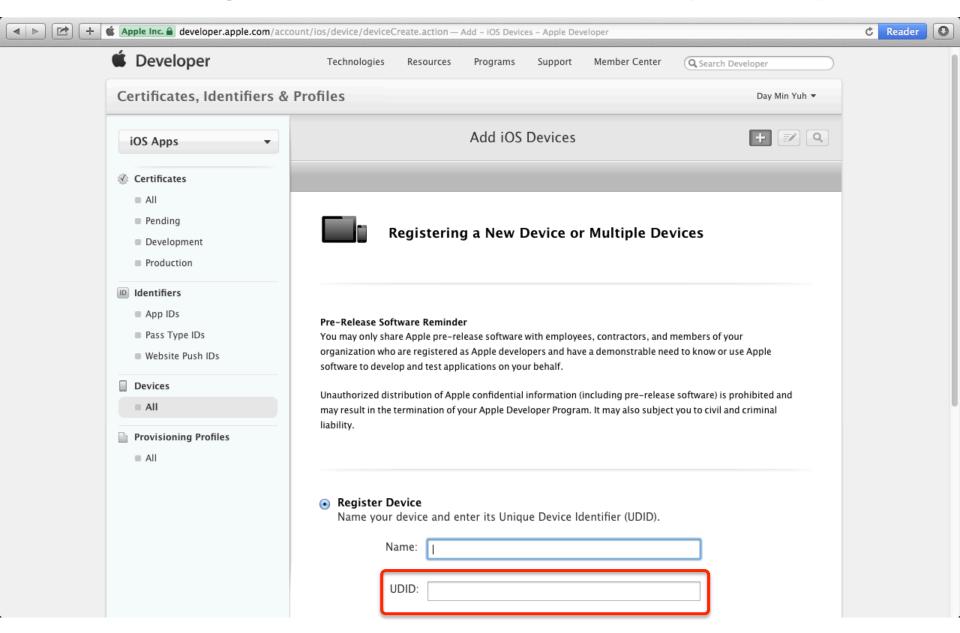
Your Device has PERMISSION

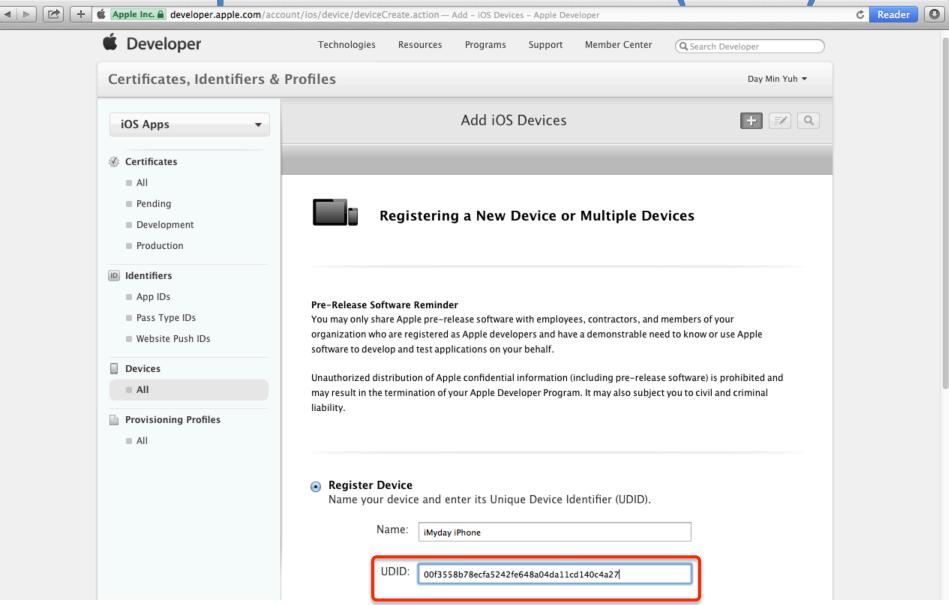


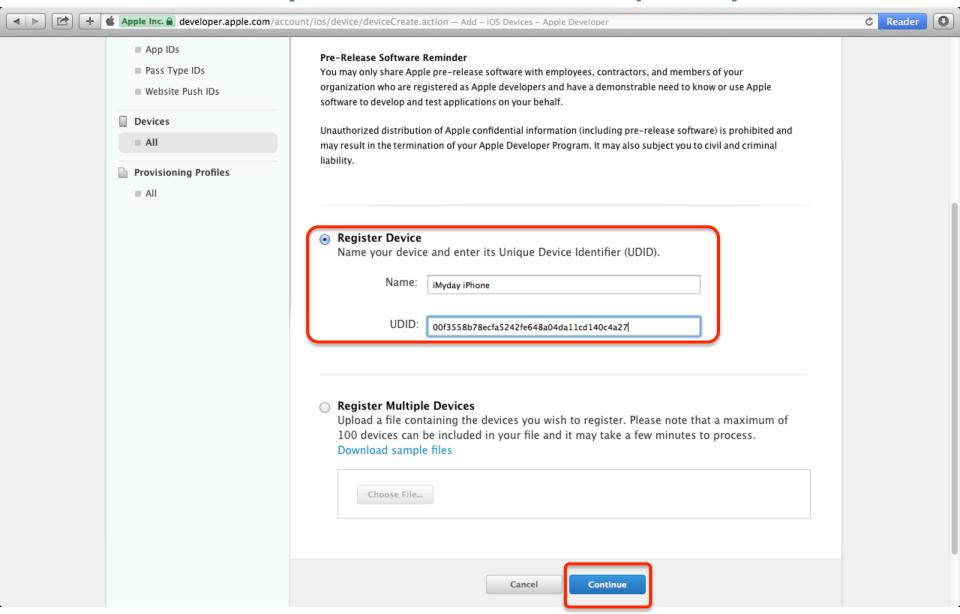


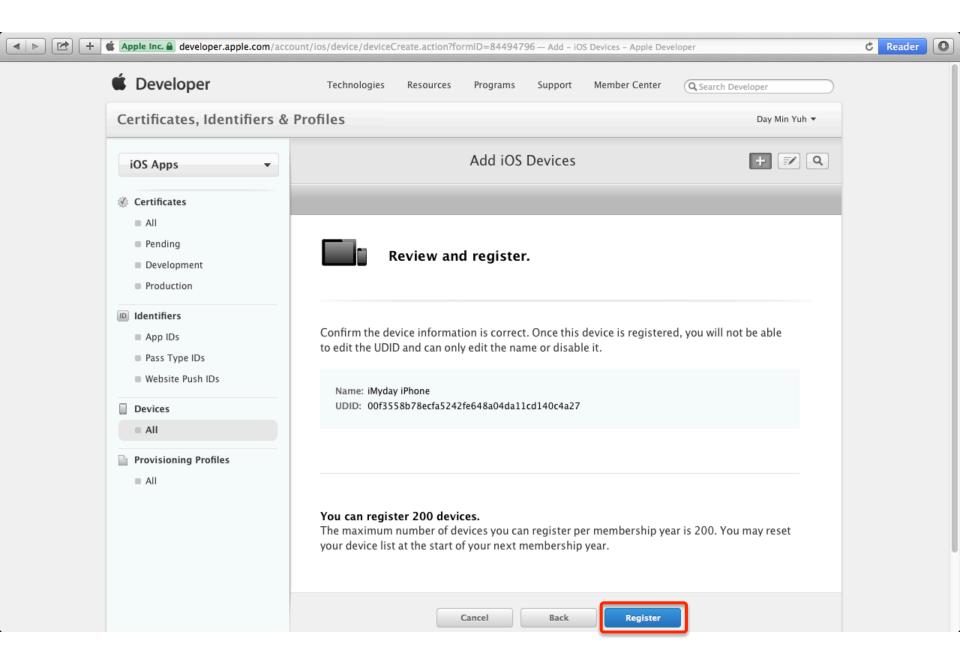


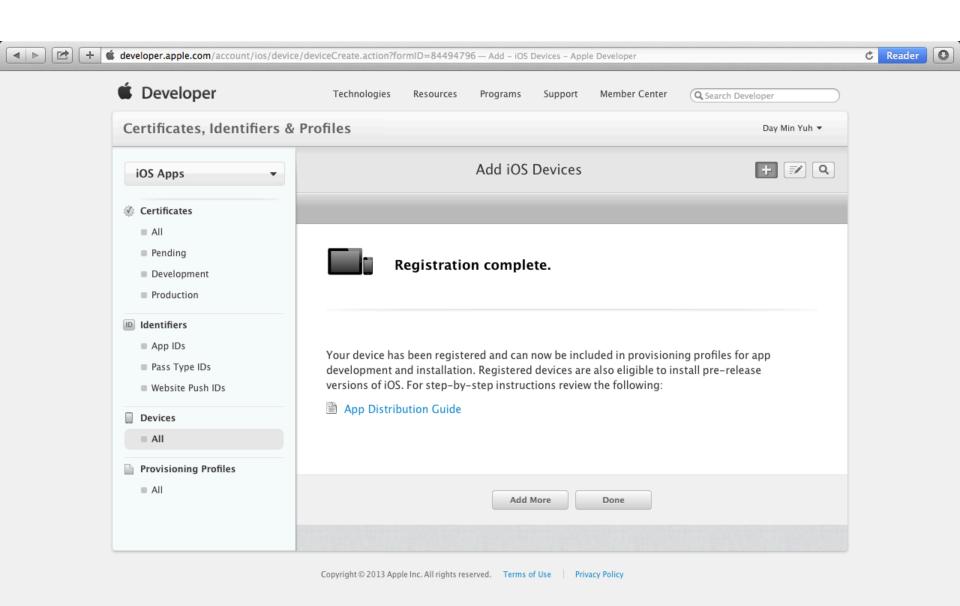


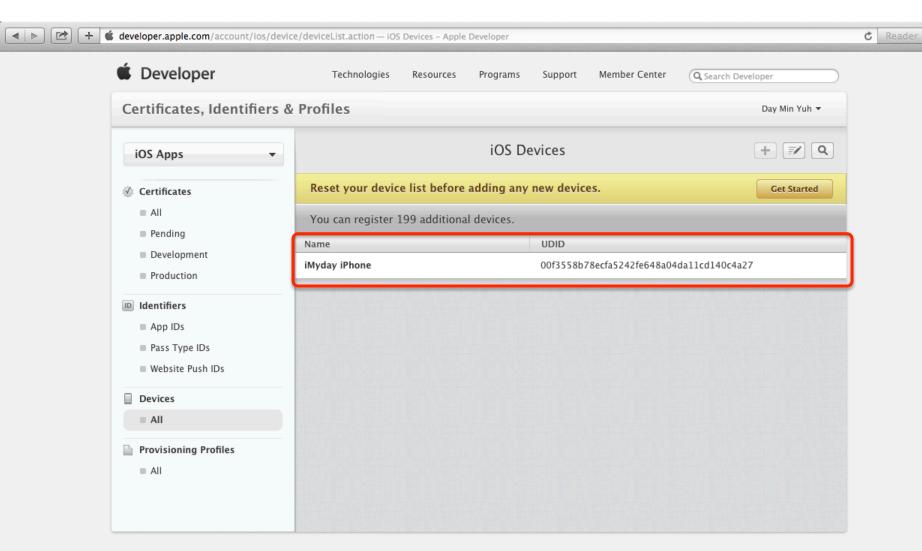




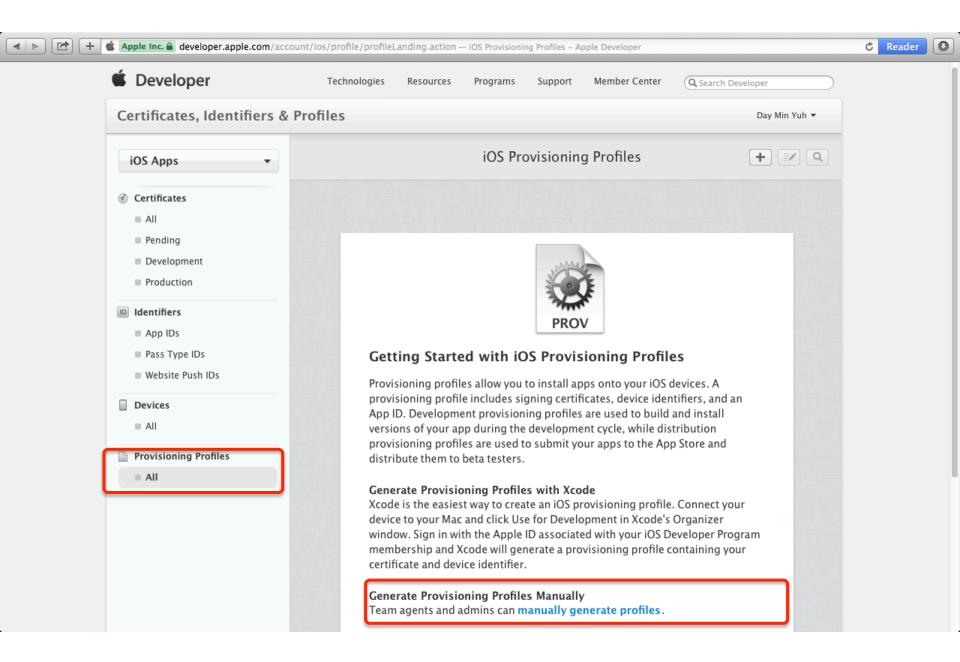


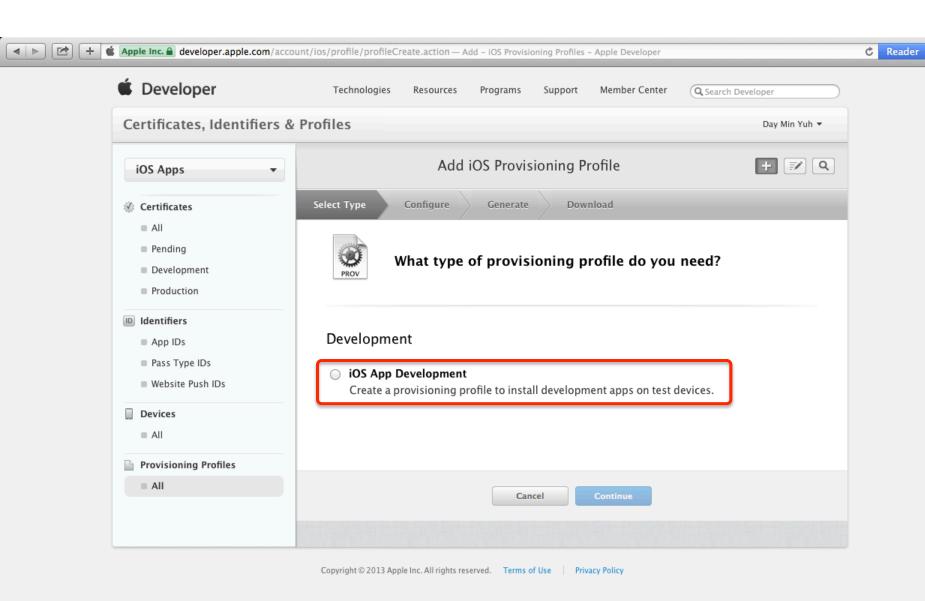


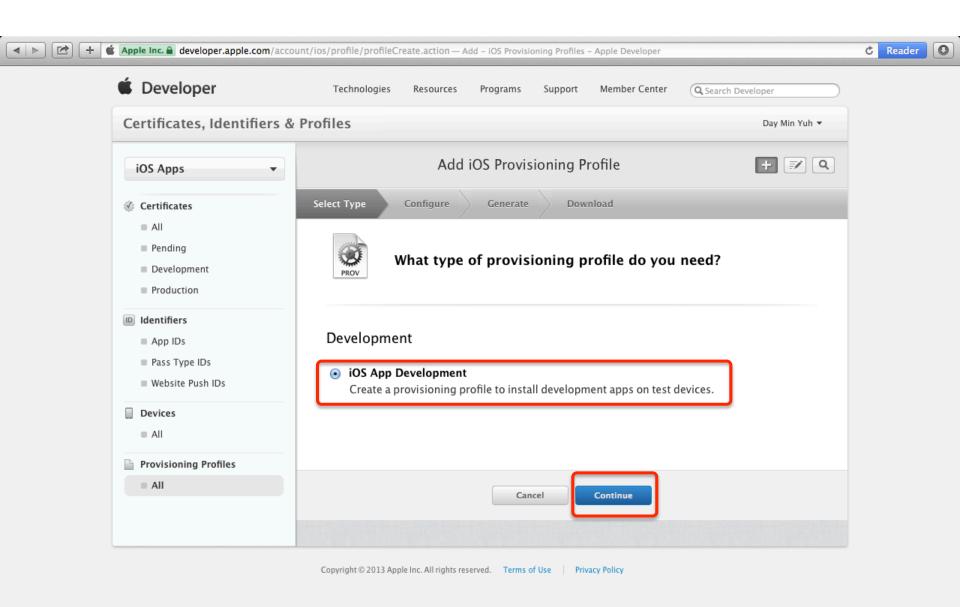


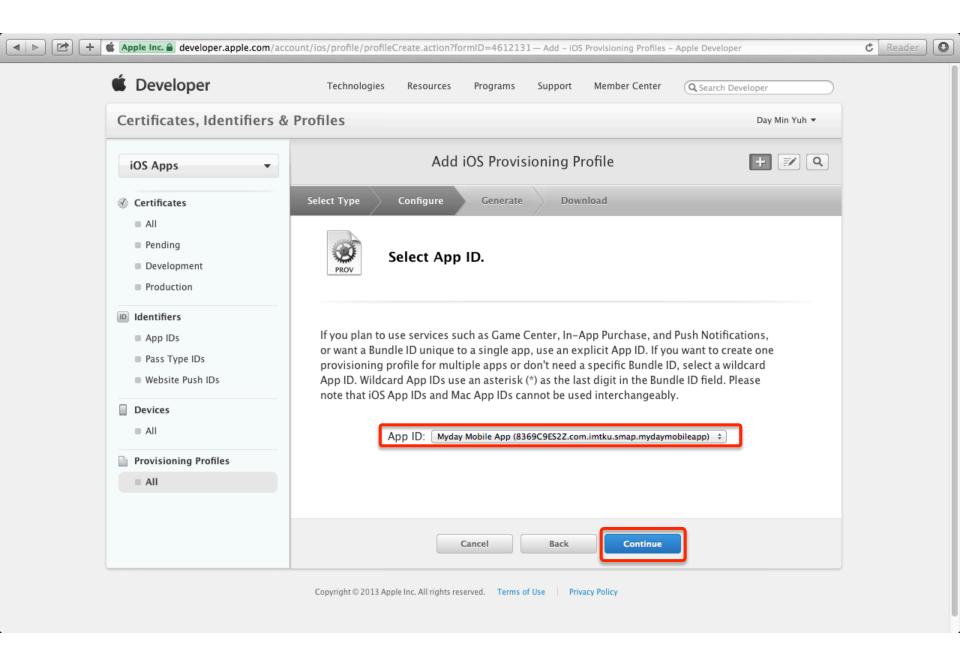


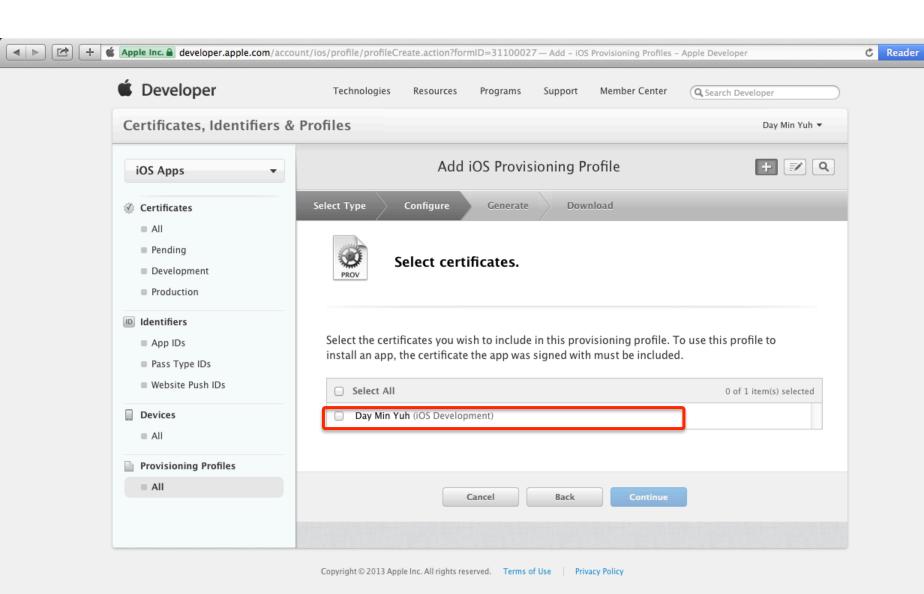
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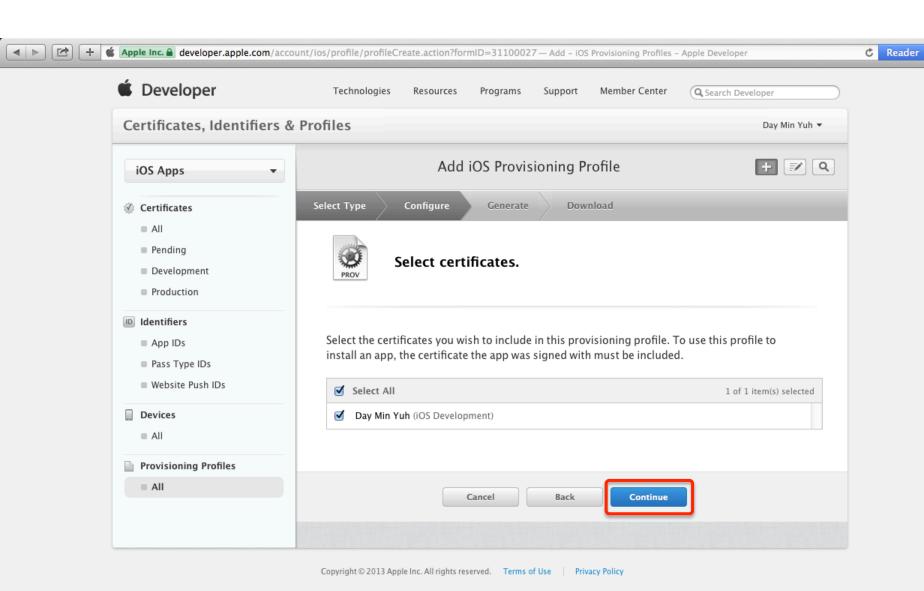


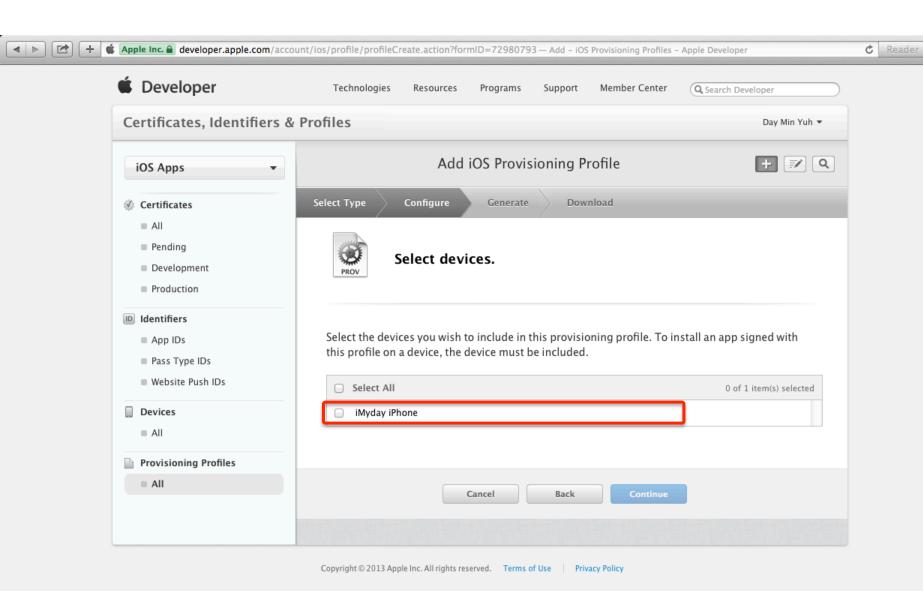


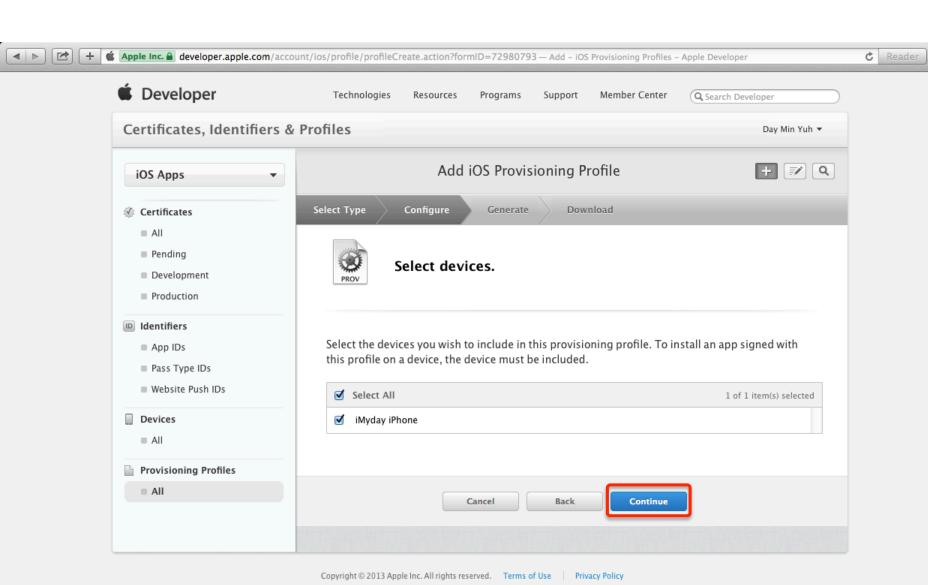


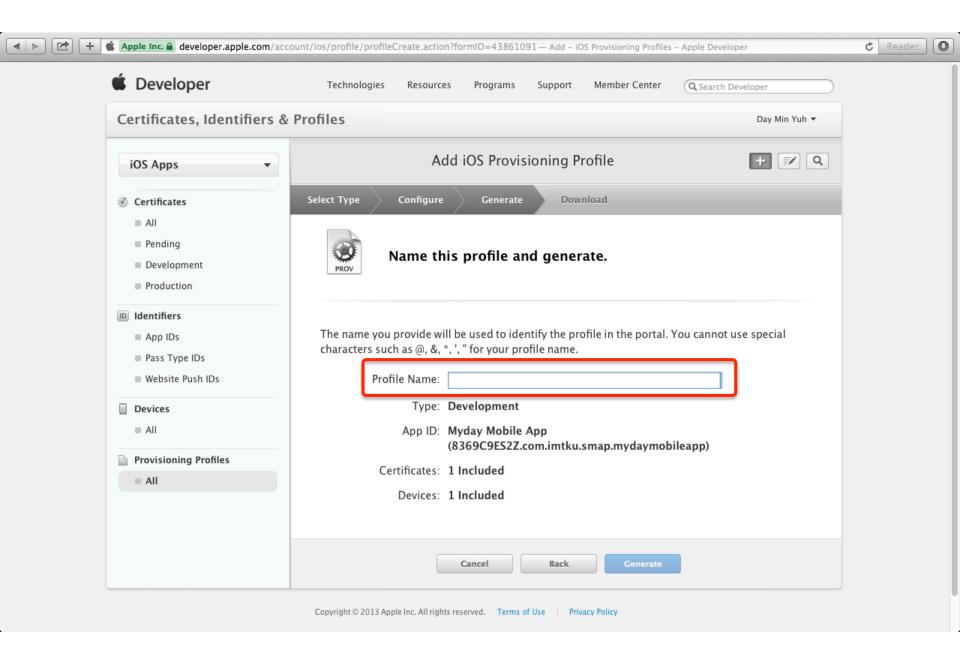


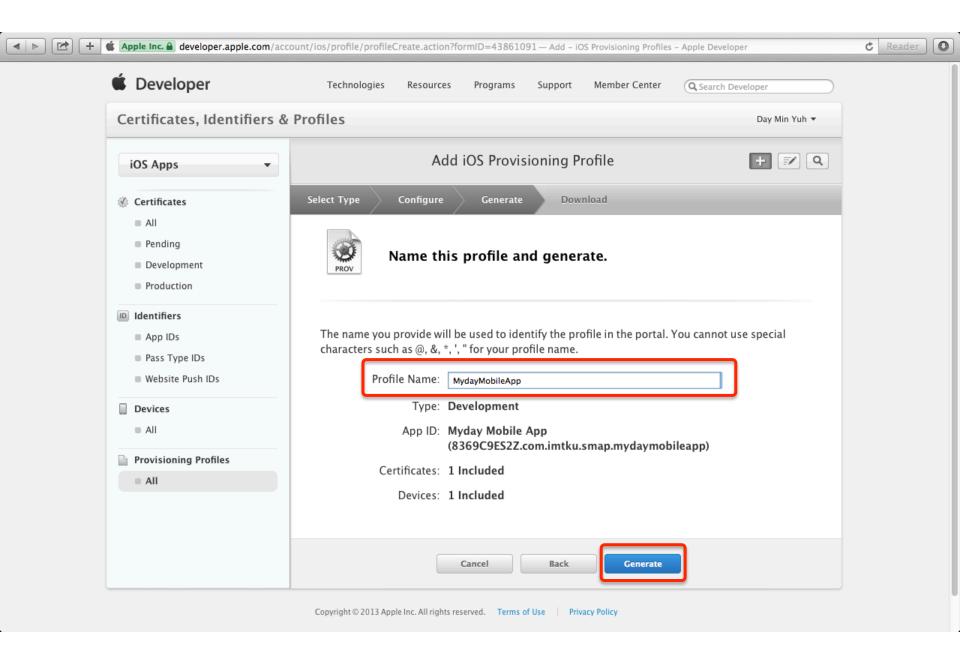


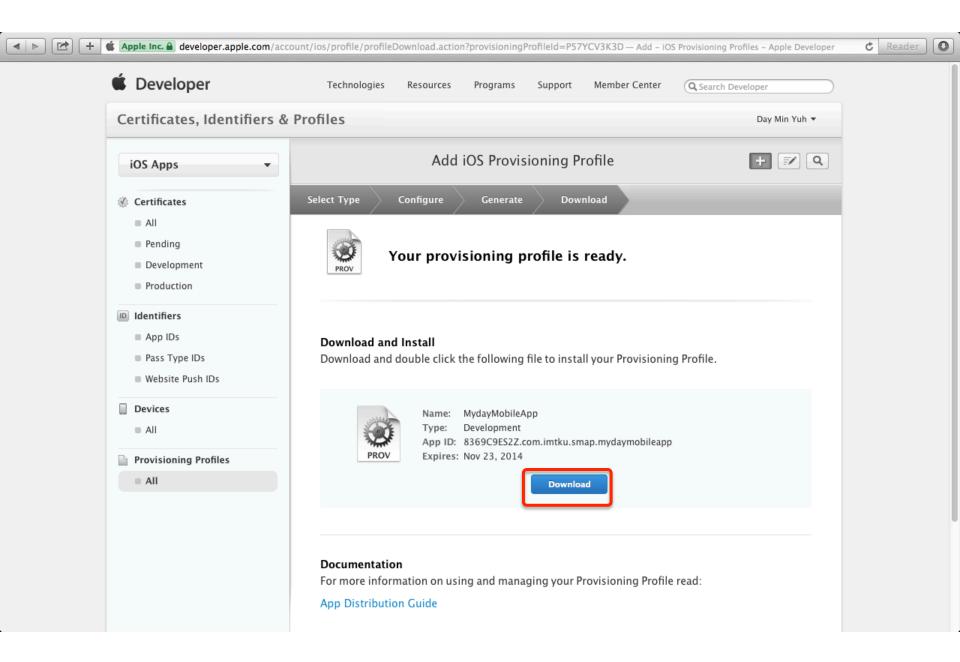




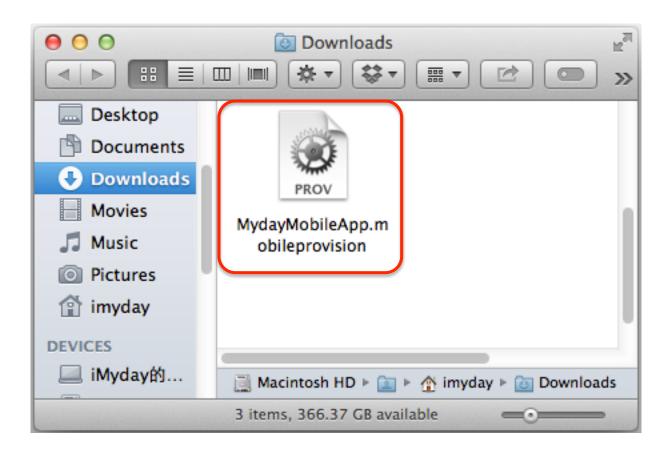


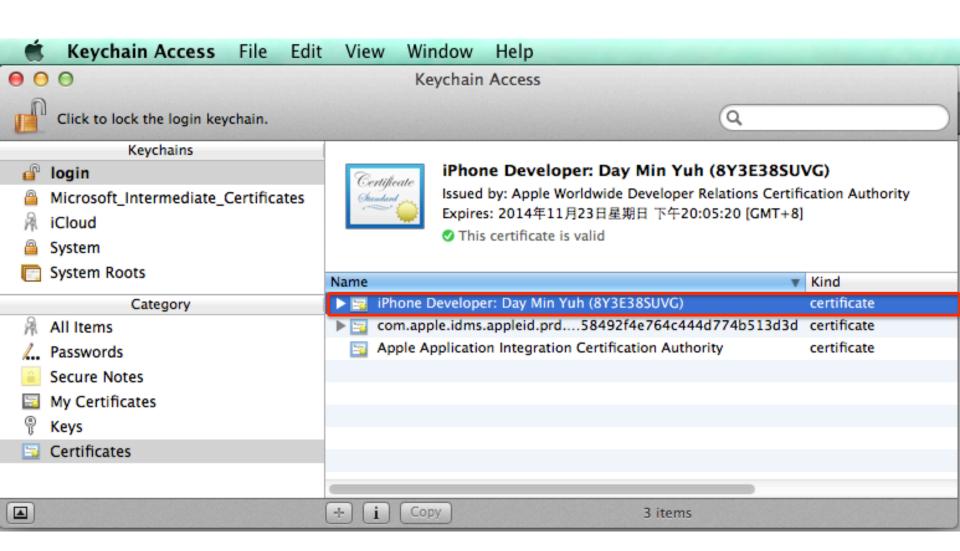


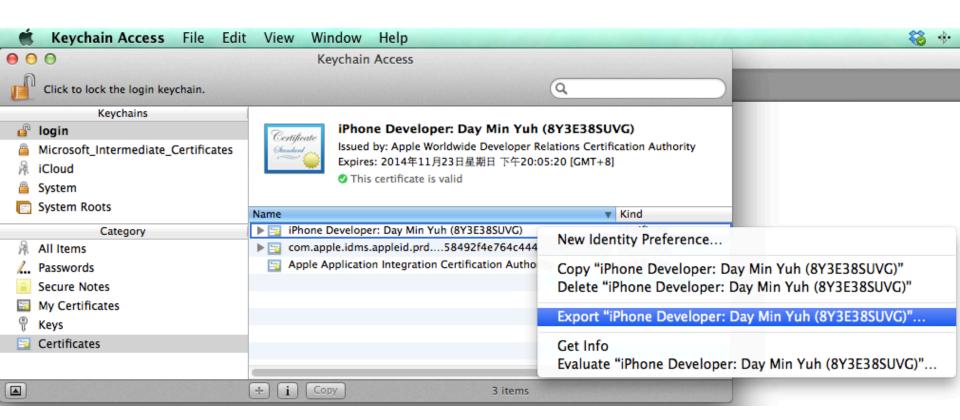




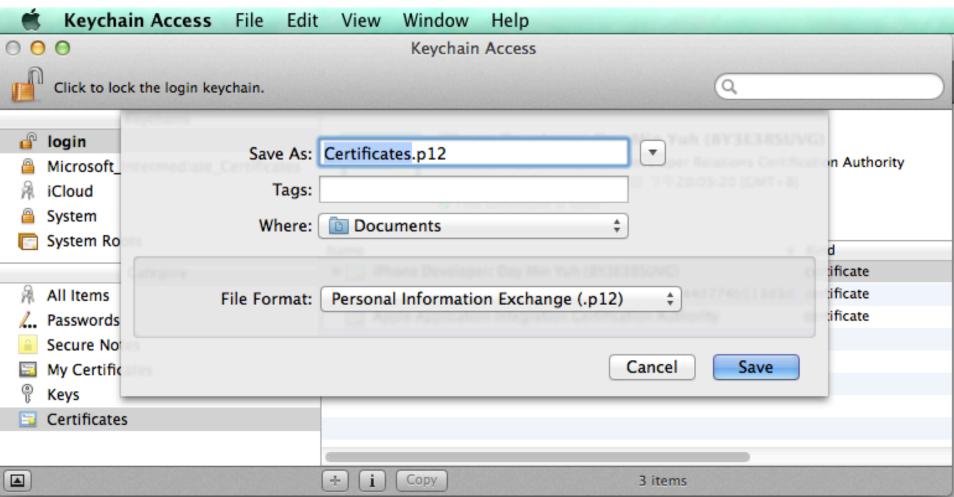
MydayMobileApp.mobileprovision







Certificates.p12

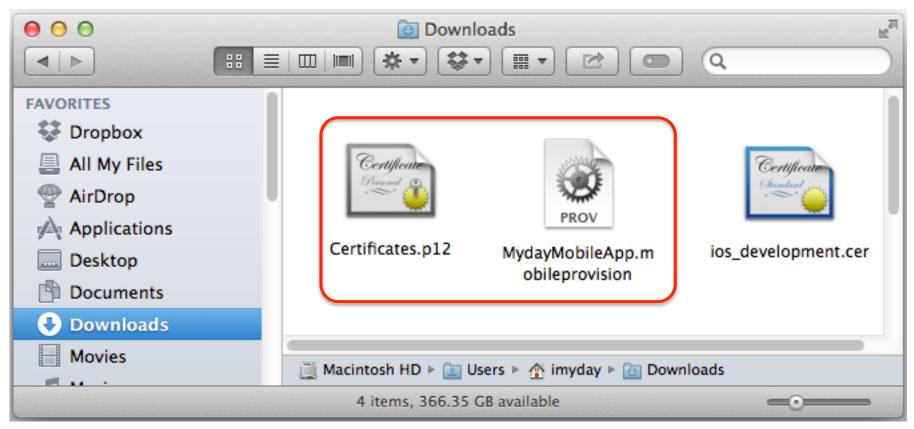


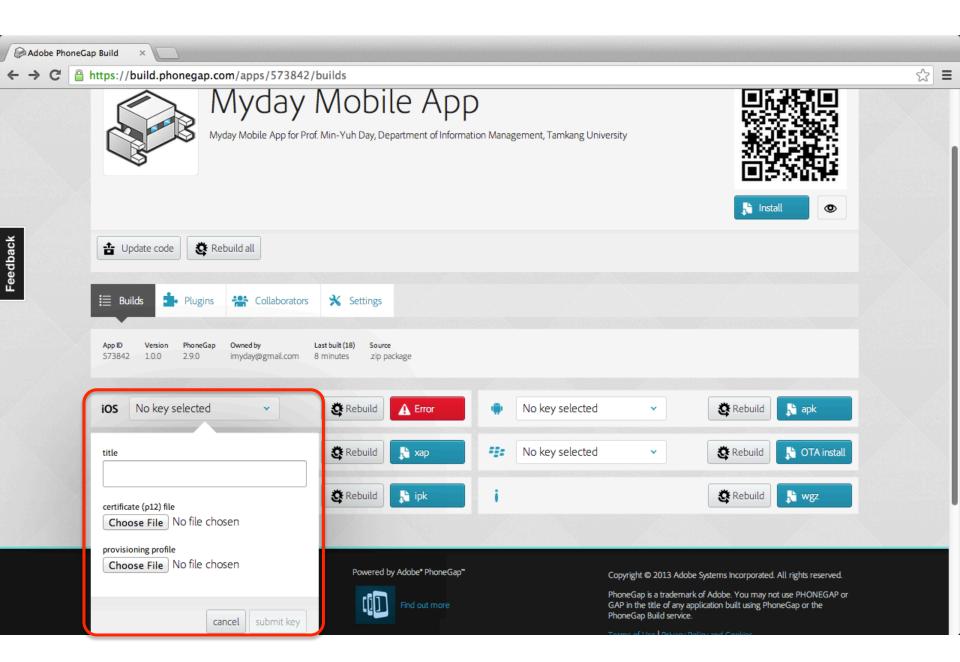




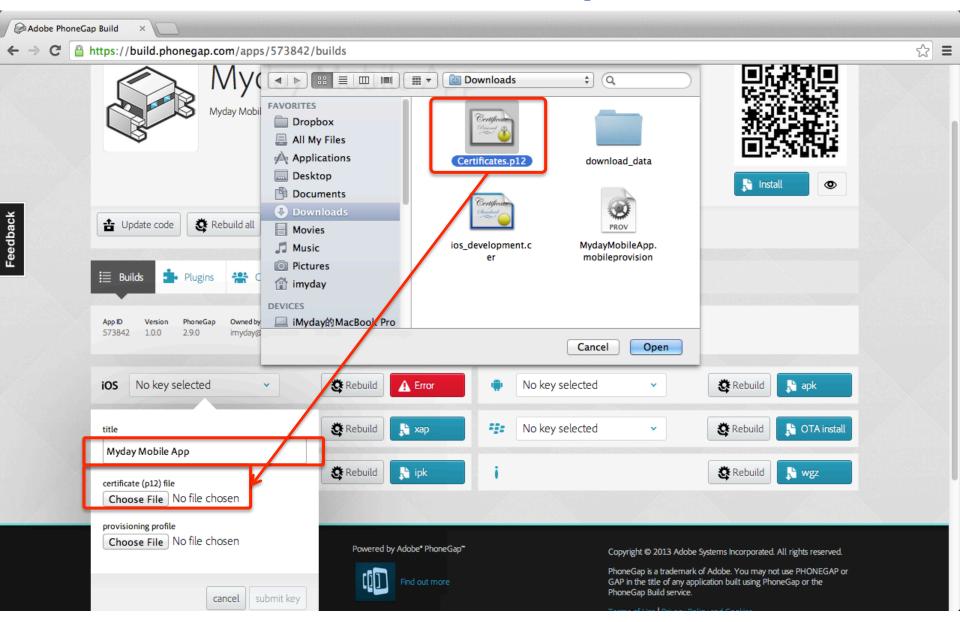


Certificates.p12 MydayMobileApp.mobileprovision

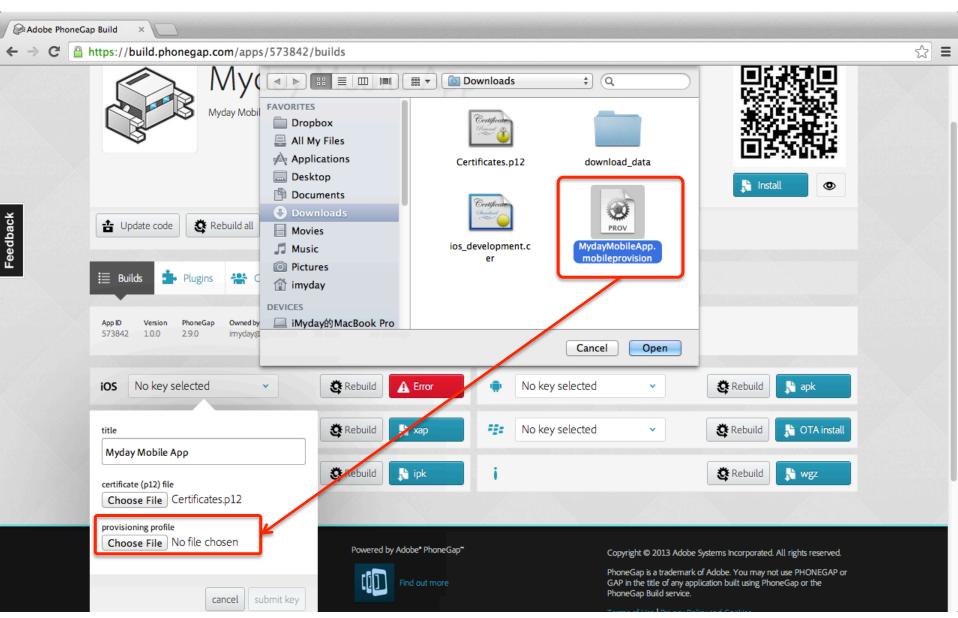


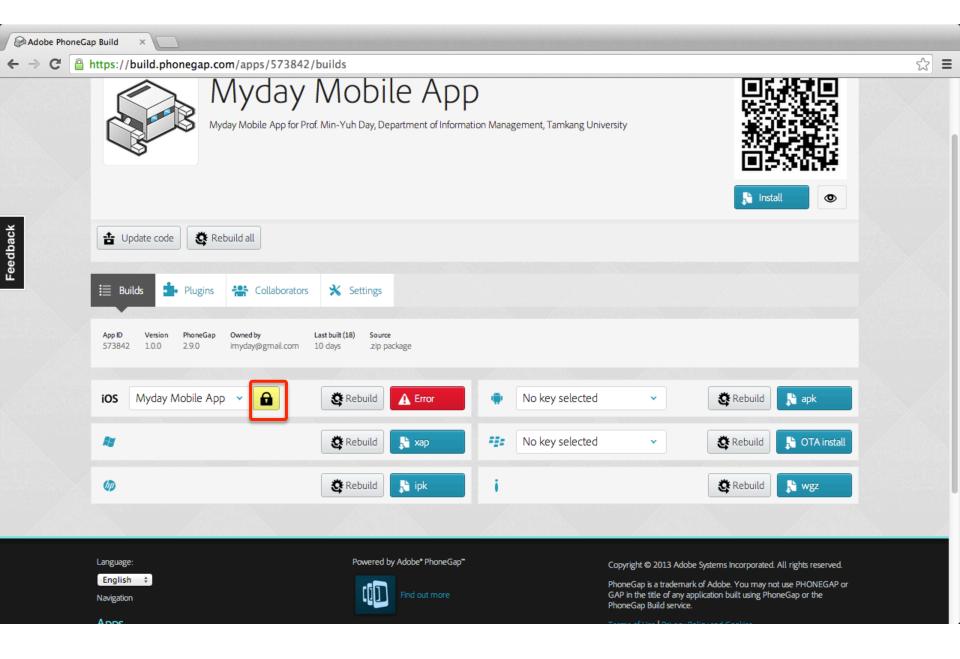


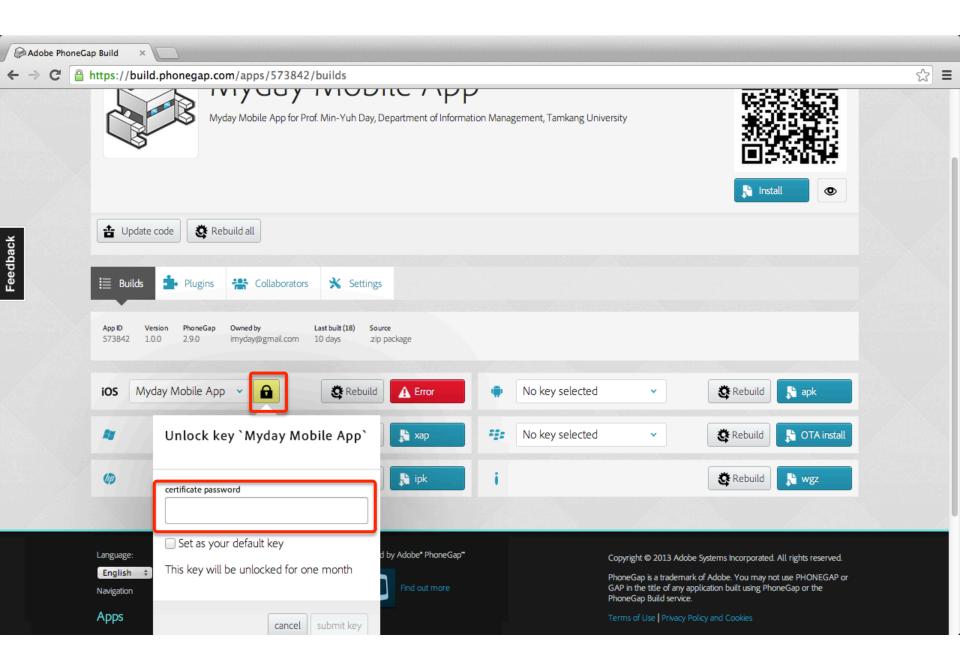
Certificates.p12

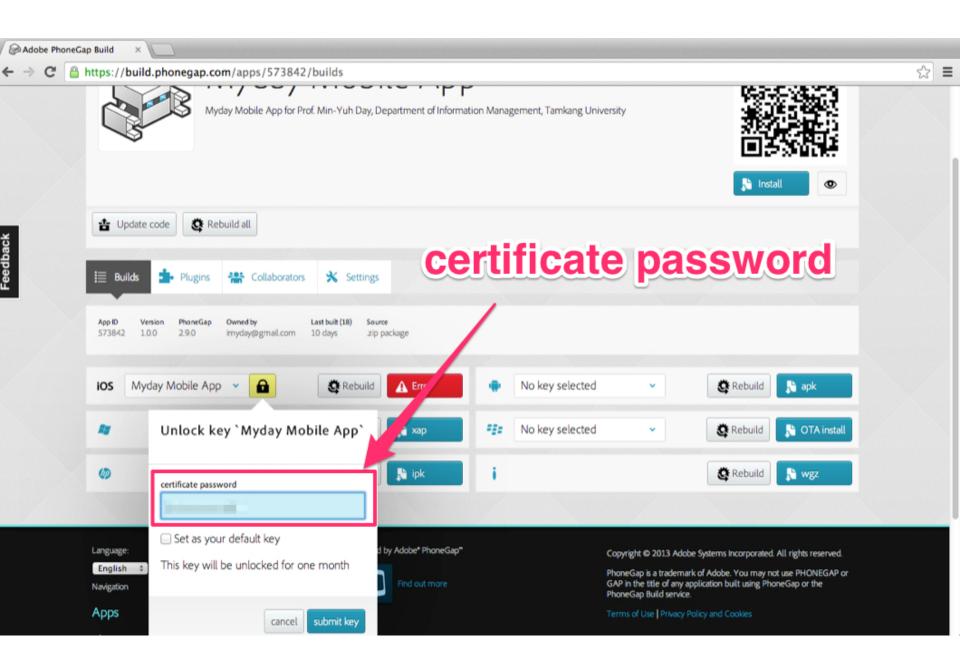


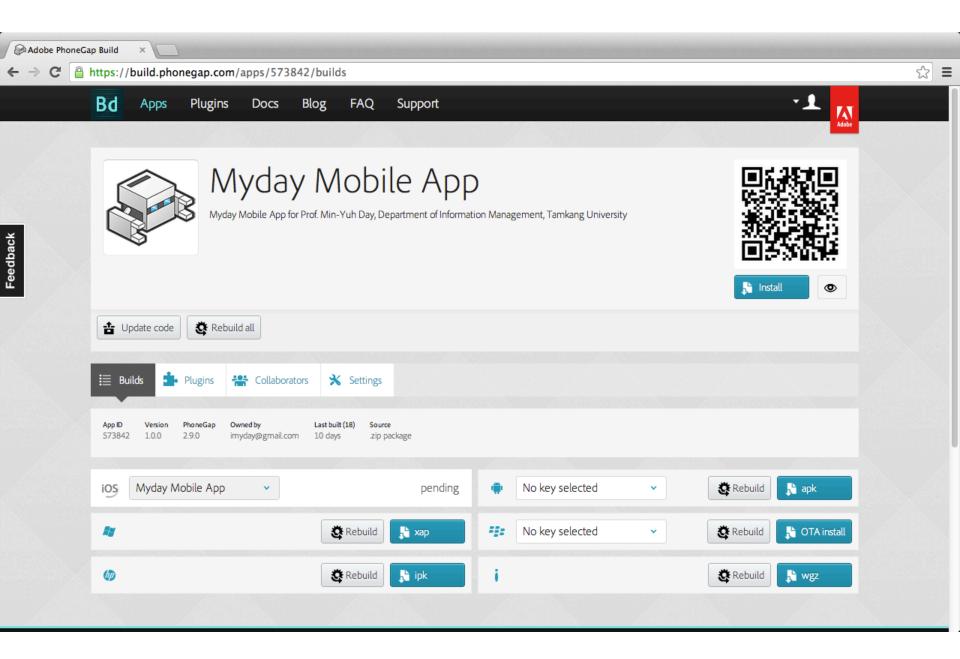
MydayMobileApp.mobileprovision



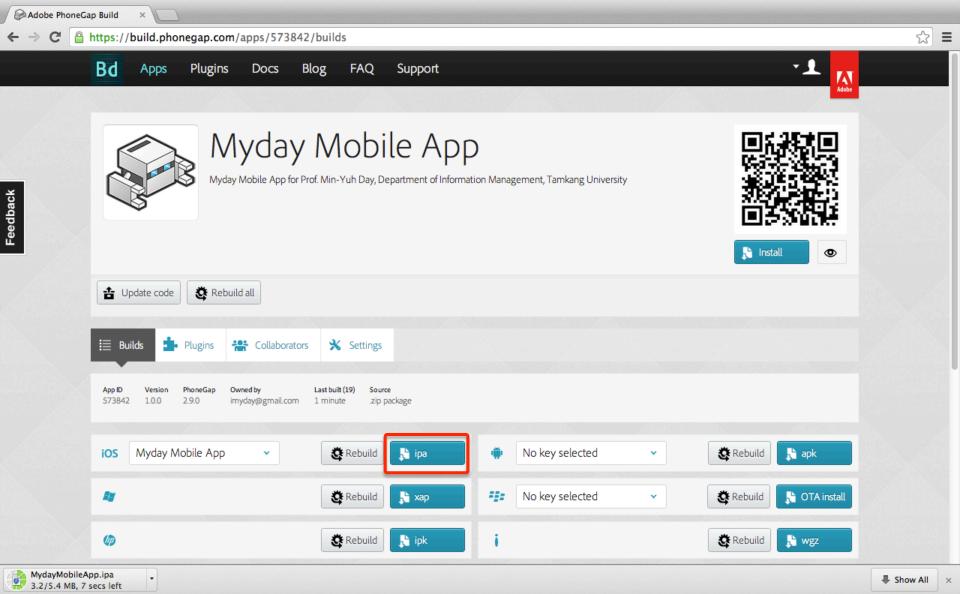


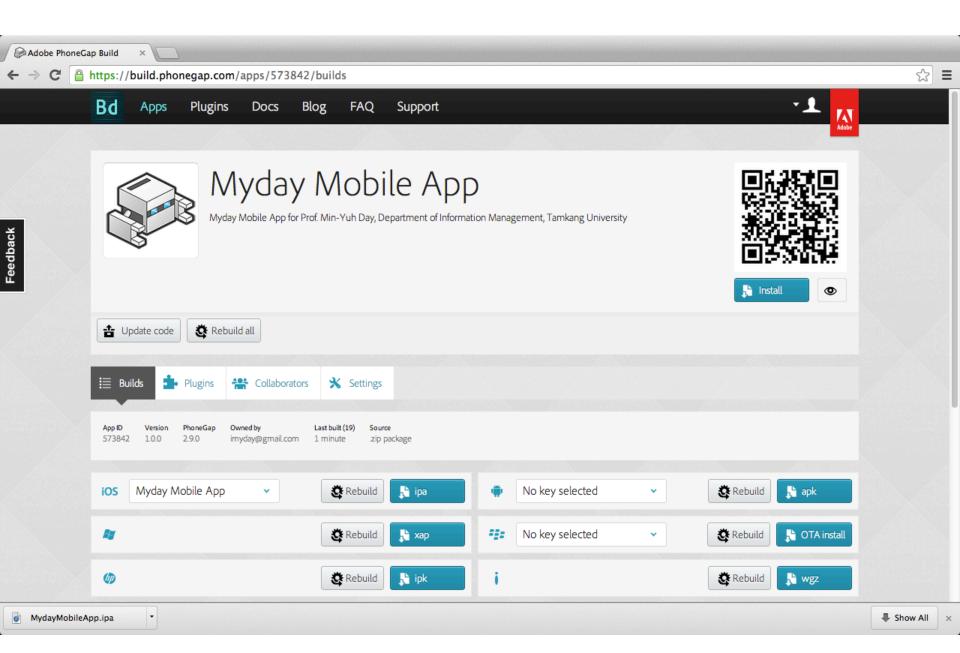




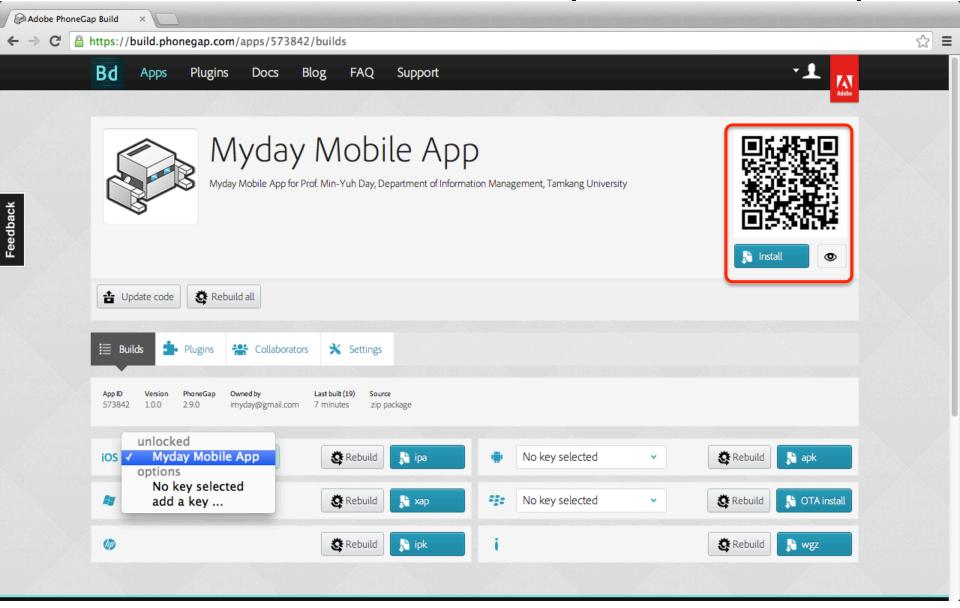


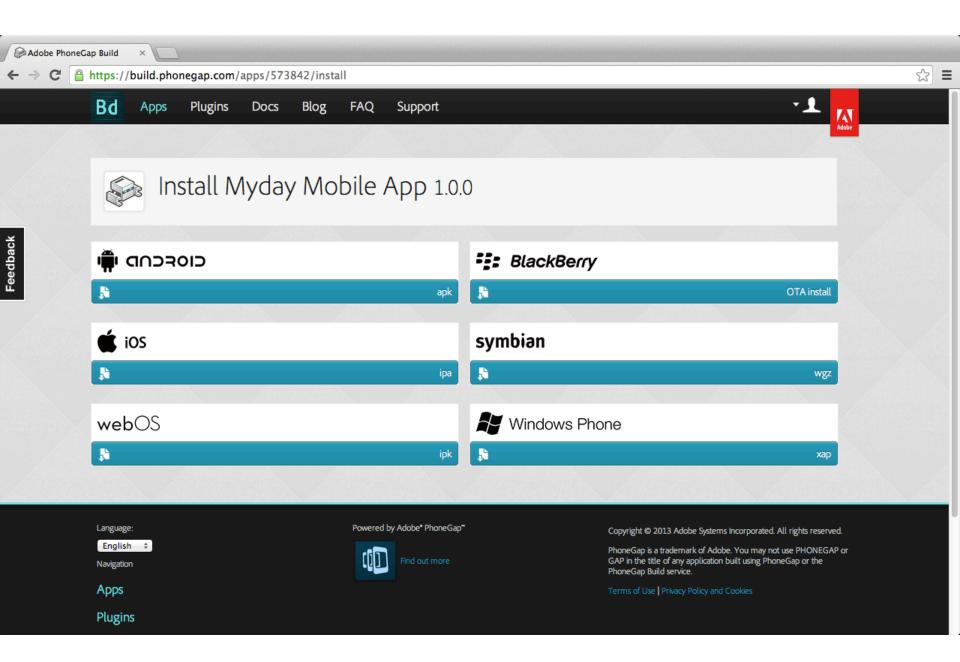
Download MydayMobileApp.ipa



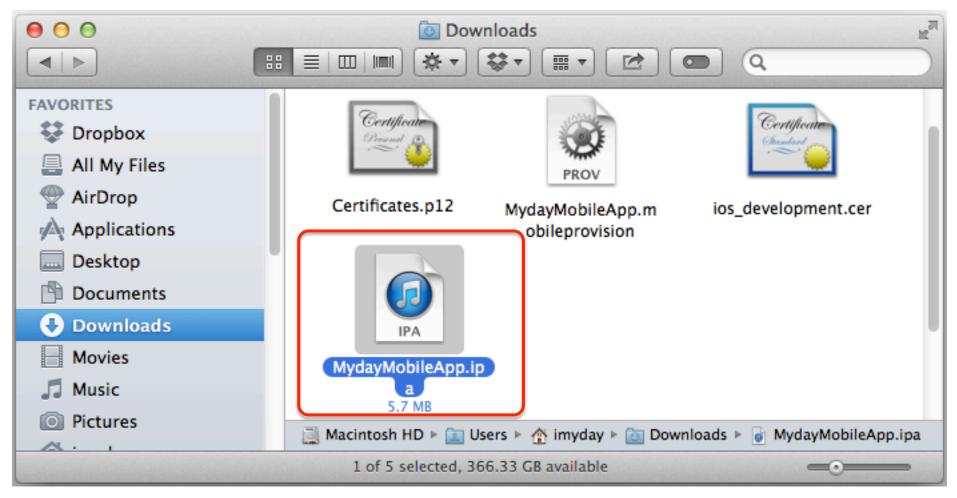


Install on iOS Devices (iPhone/iPAD)

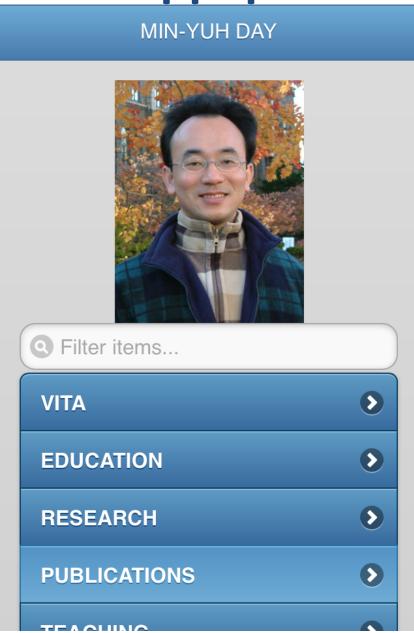


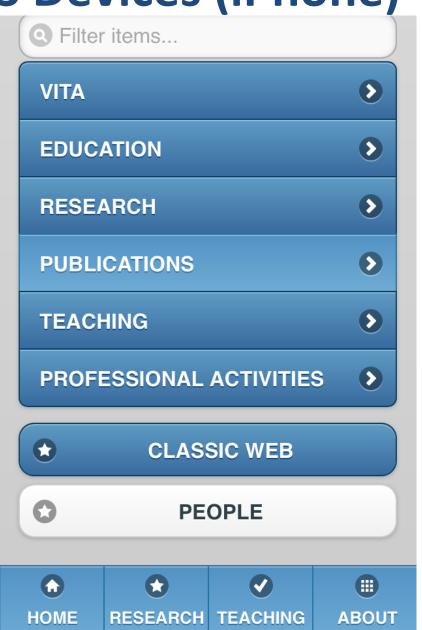


MydayMobileApp.ipa

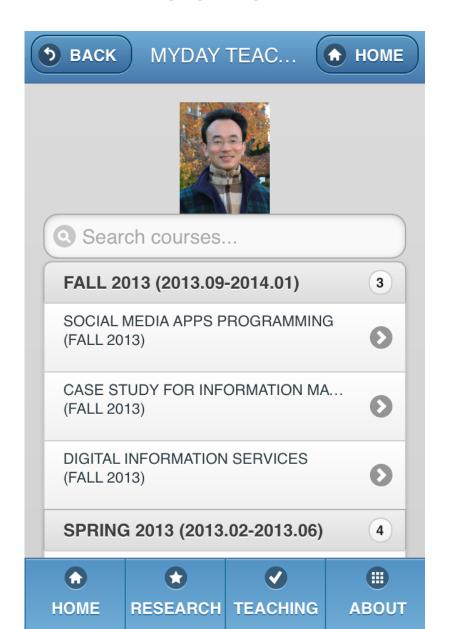


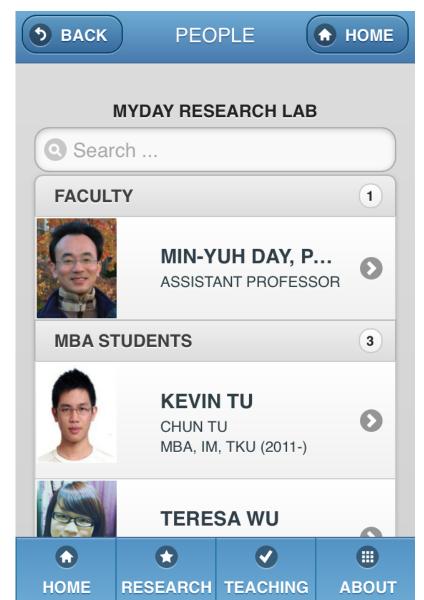
Test app.ipa on iOS Devices (iPhone)





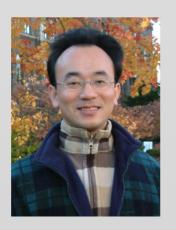
Test app.ipa on iOS Devices (iPhone)





Test app.ipa on iOS Devices (iPhone)





MIN-YUH DAY

ASSISTANT PROFESSOR DEPARTMENT OF INFORMATION MANAGEMENT, TAMKANG UNIVERSITY

MOBILE: 886-9-33282012

TEL: 886-2-26215656 EXT. 2846

FAX: 886-2-26209737

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/

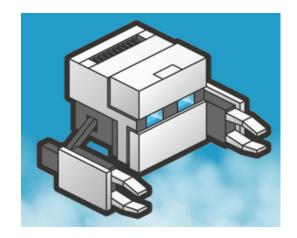
GOOGLE MAP



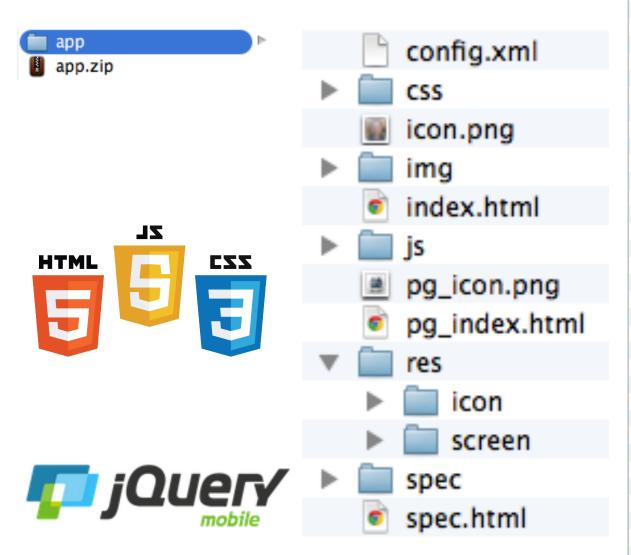
DemoTesting and Refining Your App

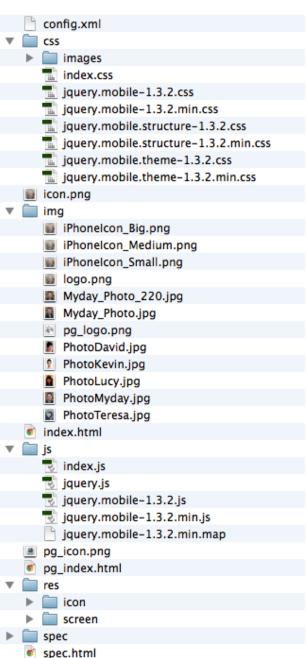
https://build.phonegap.com/





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,
35
             color-stop(0, #A7A7A7),
36
             color-stop(0.51, #E4E4E4)
37
         );
38
         background-attachment:fixed;
         font-family: 'HelveticaNeue-Light', 'HelveticaNeue', Helvetica, Arial, sans-serif;
39
40
         font-size:12px;
         height: 100%;
41
         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" />
```

text-transform:uppercase;

SOCIAL MEDIA

index.css

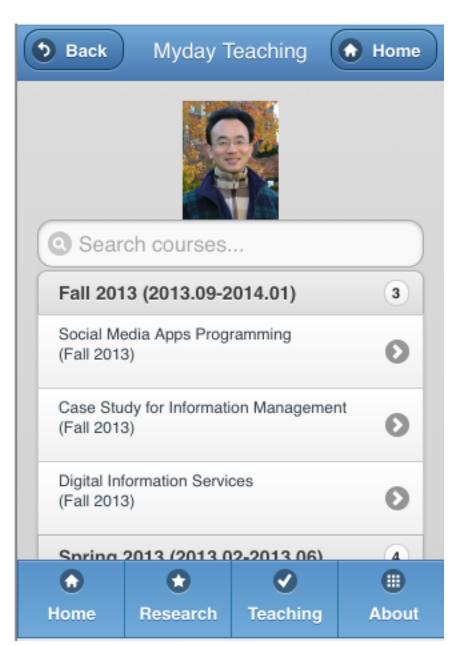
index.css

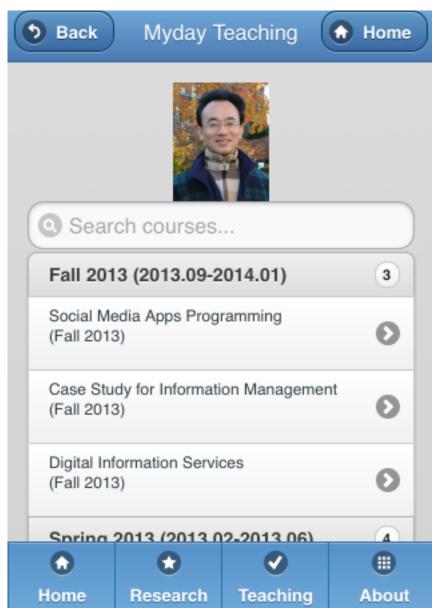


text-transform: none;

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" />
```

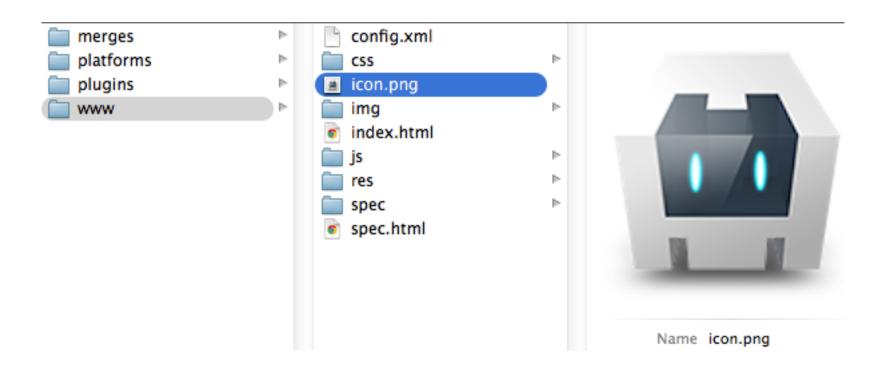
iOS

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" />
```



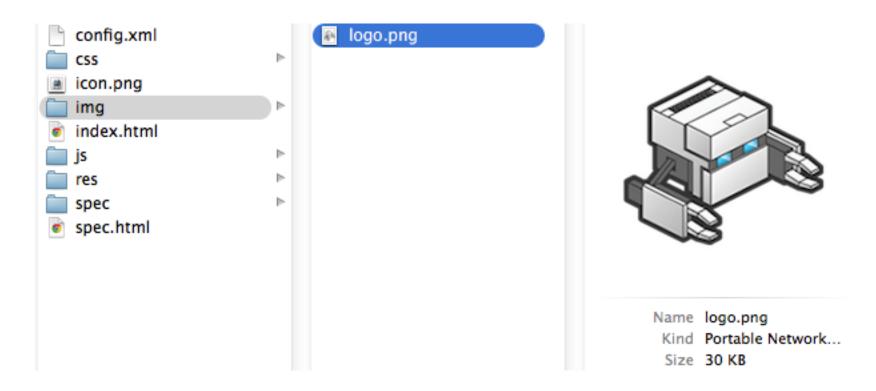
icon.png (128x128)



<icon src="icon.png" />



logo.png (172x200)

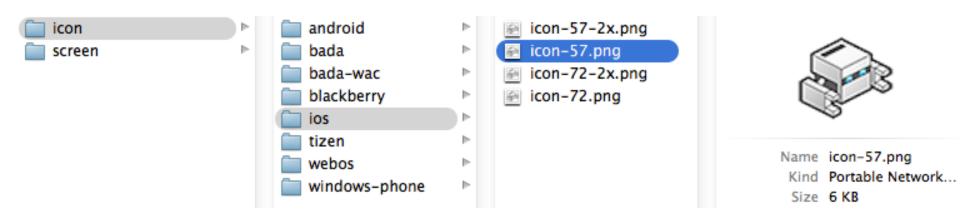


icon/ios/icon-57.png (57x57)

config.xml

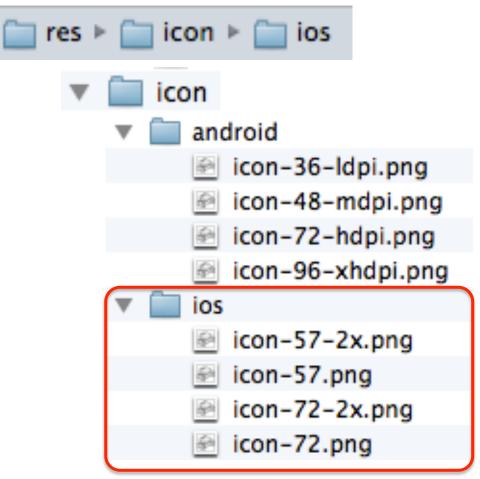
```
<icon src="icon.png" />
<icon gap:density="ldpi" gap:platform="android" src="res/icon/android/icon-36-ldpi.png" />
<icon gap:density="mdpi" gap:platform="android" src="res/icon/android/icon-48-mdpi.png" />
<icon gap:density="hdpi" gap:platform="android" src="res/icon/android/icon-72-hdpi.png" />
<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" />
```

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

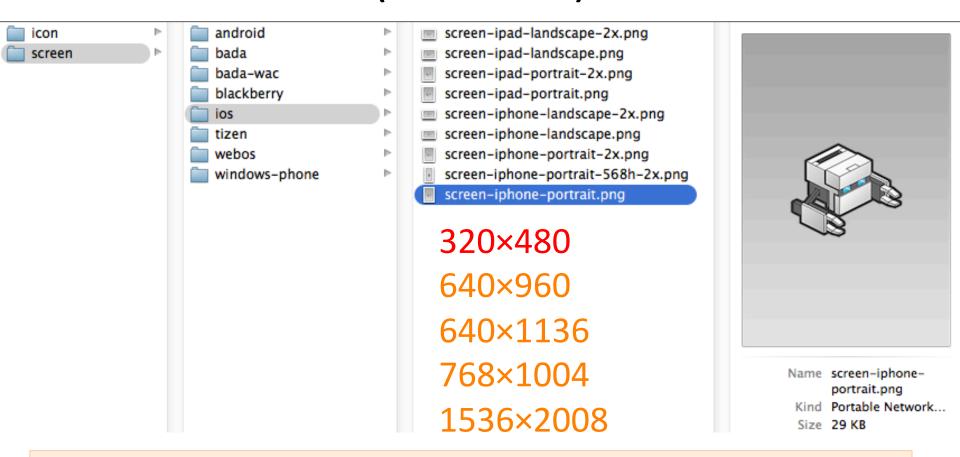
Resolution: 320x480 (2048x1536)

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)

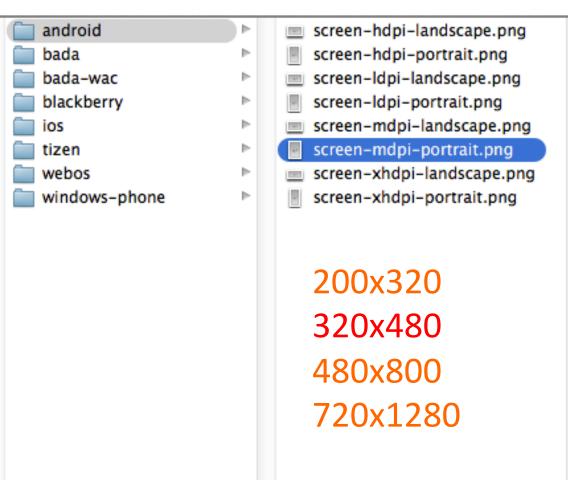


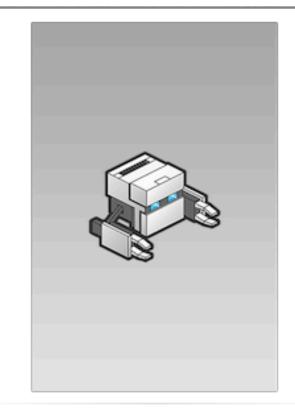
```
<gap:splash gap:platform="ios" height="480" src="res/
screen/ios/screen-iphone-portrait.png"
width="320" />
```



screen-mdpi-portrait.png

(320x480)





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

Size 29 KB

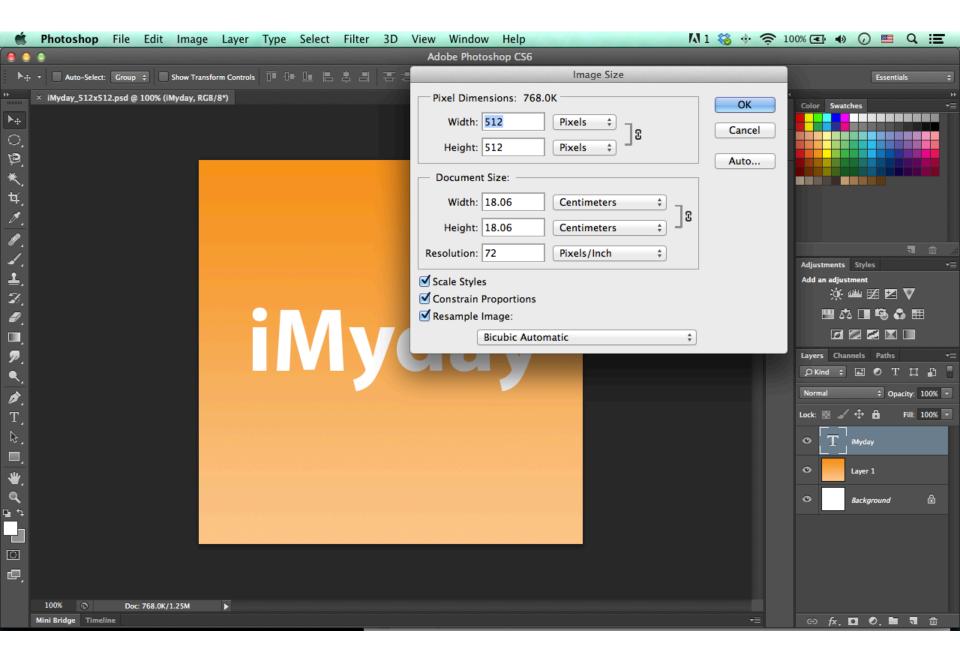
<gap:splash gap:density="mdpi" gap:platform="android" src="res/</pre> screen/android/screen-mdpi-portrait.png" />

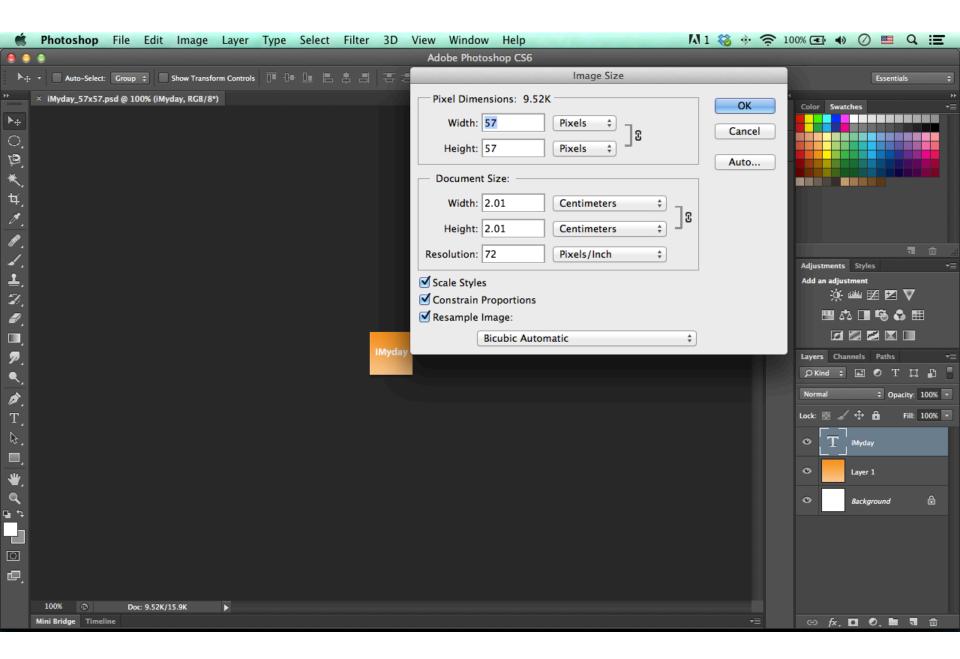


config.xml (part 3/3)

gap:splash

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



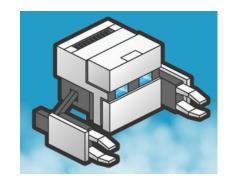


Summary

- 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/