
Corona™ SDK

Device Build Guide





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Contents

Introduction	4
What you will need	4
Overview	4
Topics	4
Developer account and Developer Certificate	5
Developer Account	5
Keychain Certificate	5
Adding Devices	10
Xcode	10
iTunes	11
Adding/Registering the Device	12
App IDs	13
Provisioning Profiles	14
Ad Hoc Provisioning Profile	14
Distribution Provisioning Profile	16
Building your App using Corona	16
Testing your App on your iPhone	18
Submitting your App to the App Store	18
Revision History	21

Introduction

This document will discuss the build process and the tools to create a build you can run on your phone, as well as the necessary steps to get an application on the iTunes App Store.

Most of the complexity lies in the Apple developer process for creating and installing signing certificates. This document guides you through that process from the beginning. If you already have your Apple certificates installed on your development machine, then you can refer to a much shorter document on the Anscamobile site detailing the Corona build process:

<http://developer.anscamobile.com/build>

What you will need

In order to submit an application to the App store, you must have a version of XCode that is the same or newer than the version of the OS on your phone. For example, if you have version 3.0 of the iPhone OS installed, you will need XCode that is bundled with the iPhone SDK version 3.0 or later.

Overview

Topics

- Developer account and Developer Certificate
- Keychain certificate
- Adding a Device
- App IDs
- Provisioning profiles
- Building your App
- Submitting your app to the app store

Developer account and Developer Certificate

Developer Account

To enroll in the iPhone Developer Program, go to the following Apple web site:

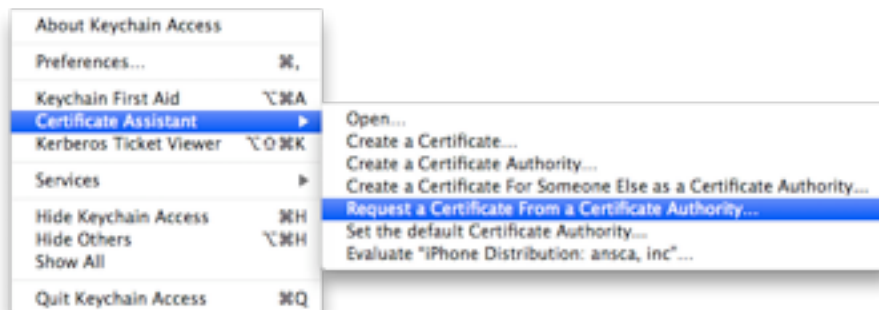
<http://developer.apple.com/iphone/program/>

Click on the 'Enroll Now' button and follow Apple's instructions on applying for a certificate. Currently there are two programs, 'Standard' and 'Enterprise'. Choose the program that best fits your needs.

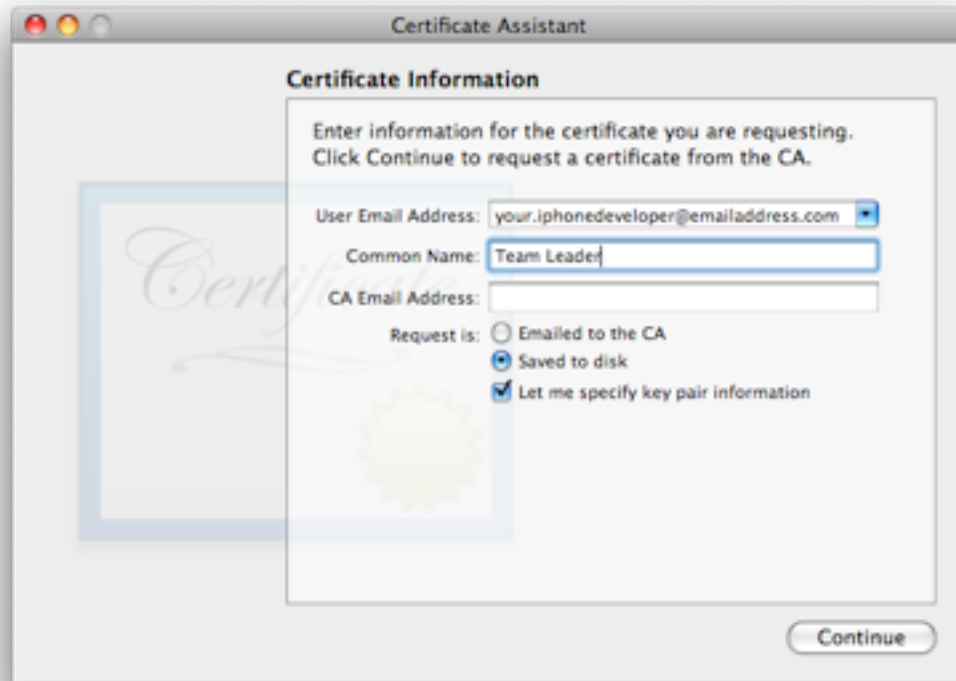
Keychain Certificate

Once you have signed up for the developer program, you will need to use the 'Keychain Access' tool located in your utilities folder in order to create a certificate request. This will be used to authenticate your computer.

Open Keychain Access and click on the Keychain Access menu bar item:



Select 'Request Certificate from a Certificate Authority...'. This will bring up the following window:



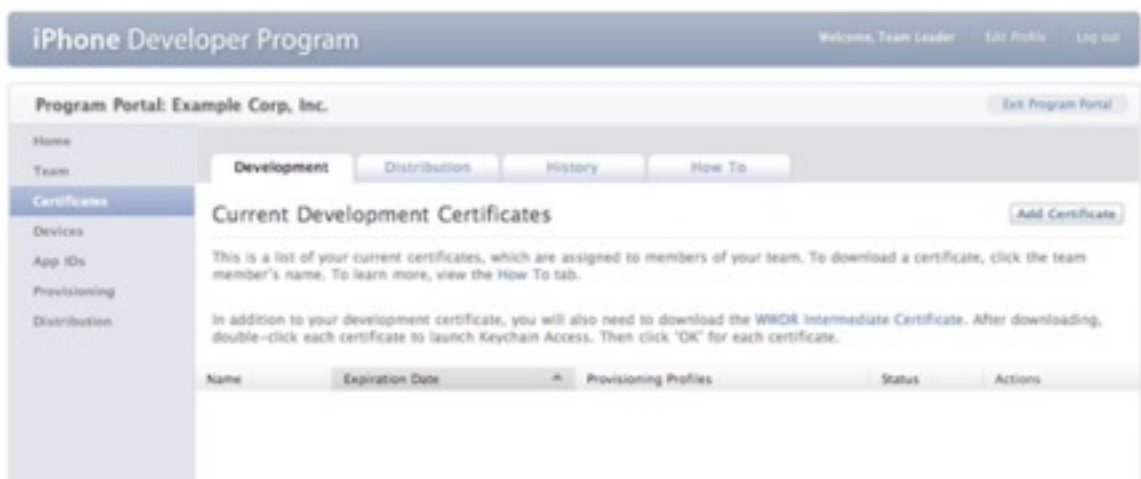
Type in the email address you used for your apple developer certificate in the 'user email address' field. For Common Name, use the name of the Team Leader or yourself if you do not have a team. Click 'Saved to disk' and 'Let me specify key pair information'. Upon clicking continue, you will be asked to choose a save location. Pick a location that is easy to find, such as the desktop. You will then be prompted with the following:



Make sure that 2048 is selected for the Key Size and RSA for the Algorithm, then hit Continue. This will generate the key and save it to the location you specified. Click 'Done' in the next window. Now navigate to the following url:

<http://developer.apple.com/iphone/manage/overview/index.action>

Click on Certificates in the left hand column:

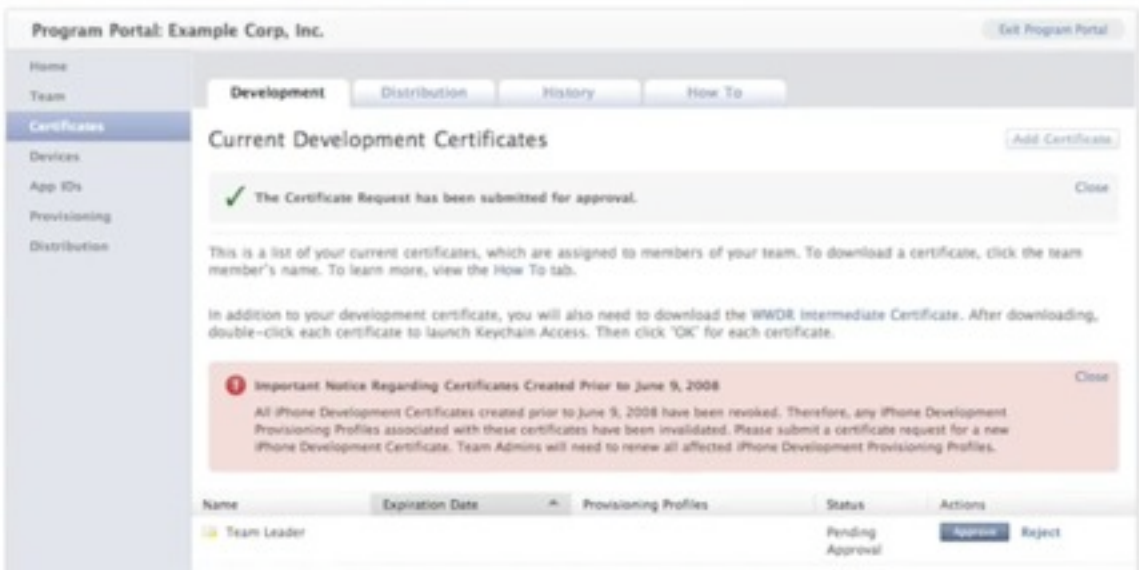


Now click on the 'Add Certificate' button.

Click on the 'Choose File' button and locate your certificate file that you saved earlier, and hit the submit button.



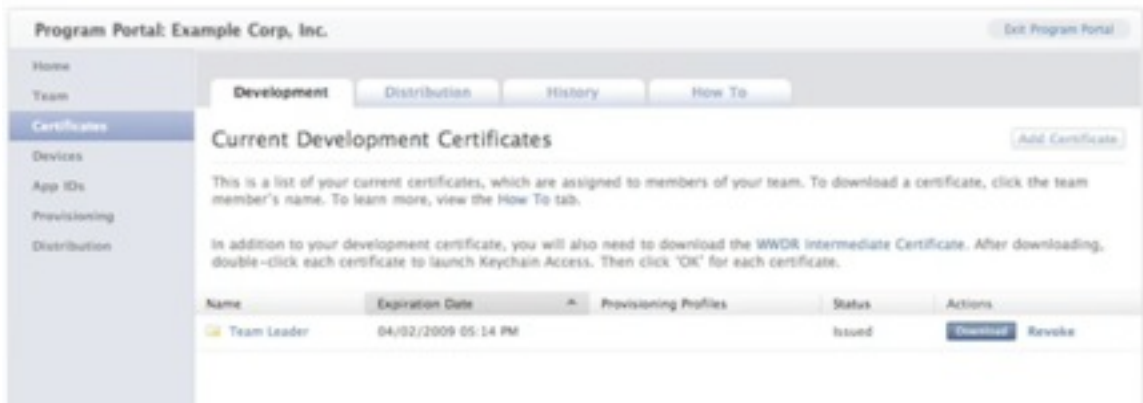
Once you hit submit, an email will be sent to the email address you specified in the Certificate Authority (CA) request form from Keychain Access. If you are the team leader, you will get this email and can approve the request yourself by hitting the approve button:



If you are waiting on approval, you will see the following screen:

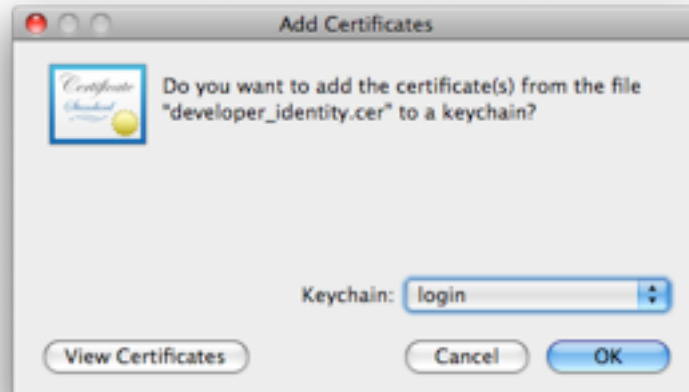


You will see this until your request has been approved. Once it has been approved, you will be able to download the certificate:



Click on the download button and save the certificate to a location of your choosing.

Once this is done, double click on the file and you will see the following dialog:



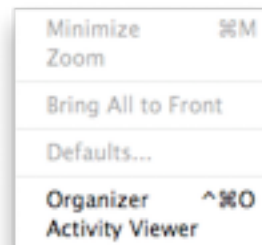
Click 'OK'. This will install your iPhone Development Certificate in your Keychain.

Adding Devices

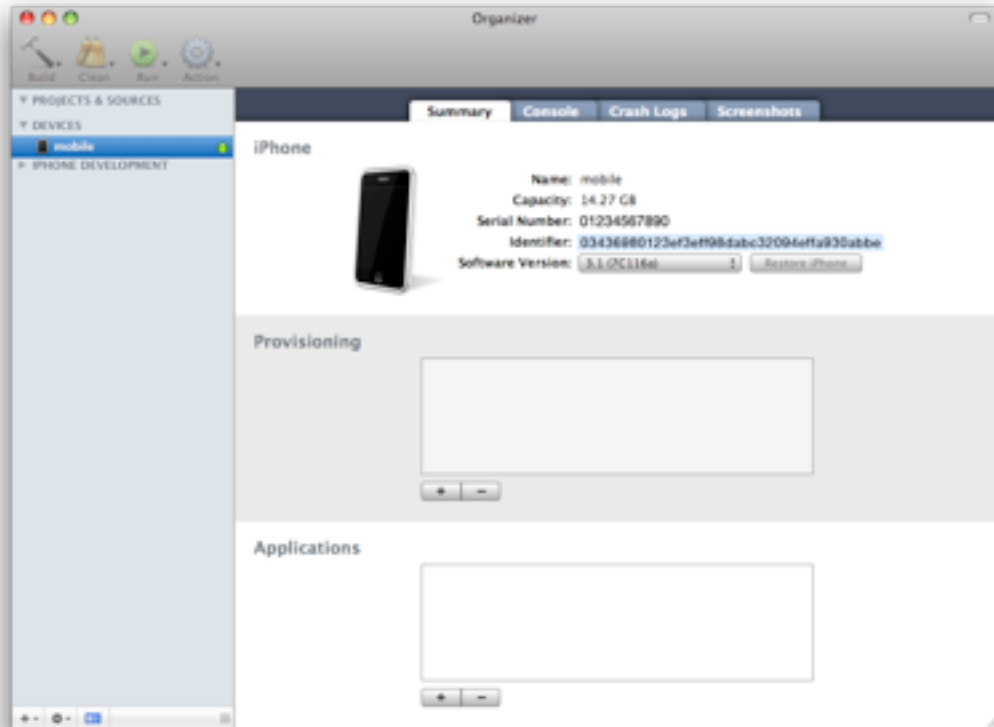
This iPhone developer program allow you to have up to 100 devices per team. To register a device you will need the Uniques Device Identification (UDID) number. This can be found in two places, iTunes and XCode.

Xcode

Normally when you plug in your device, and then open XCode, the 'Organizer' window will be open. If it is not, click on 'Window' and select 'Organizer':



Once the Organizer window is open, you should see the name of your device in the 'Devices' list on the left. Click on it and select the identifier with your mouse, copying it to the clipboard:



Note: if the colored indicator under the "Devices" list is yellow rather than green, turning the iPhone off and on again will usually re-synch it properly.

iTunes

With your device connected, open iTunes and click on your device in the device list:



Click on the Summary tab at the top:



Now click on the serial number to reveal the UDID:



Simply hit Command-C to copy it to the clipboard.

Adding/Registering the Device

To add a device to your Teams device list, click on 'Devices' in the iPhone Developer Program Portal and click on 'Add Devices'.

Add Devices

You can add up to 99 device(s). Enter a name for each device and its ID. [Finding the Device ID.](#)

Device Name

Device ID (40 hex characters)



Here you will be able to name your device as well as input the Device ID that you have stored in your clipboard. Once you have done this, click the submit button.

App IDs

In order to obtain provisioning profiles, you will first need to create an App ID. The App ID allows an application to communicate with the Push Notification service and/or any external hardware you have for your application. It can also be used to share keychain information, such as passwords, between a suite of applications. Regardless of whether or not you make use of such functionality, every application must have an App ID.

An App ID consists of a 10 character "Bundle Seed ID" prefix generated by Apple and a "Bundle Identifier" suffix that is created by the Team Admin in the Program Portal. An App ID could look like the following example: 9F456G1234.com.apple.YourApplication or 9F456G1234.com.YourApplication. To create a new App ID, click on the 'New App ID' button in the 'App ID' section of the program portal.

The screenshot shows the 'Program Portal' interface with a sidebar on the left containing navigation links: Home, Team, Certificates, Devices, App IDs (highlighted), Provisioning, and Distribution. The main content area is titled 'Create App ID' and has two tabs: 'Manage' and 'How To'. The form contains three sections: 1. 'Description' with a text input field containing 'My New Application' and a note: 'You cannot use special characters as @, &, *, * in your description.' 2. 'Bundle Seed ID (App ID Prefix)' with a 'Generate New' button and a note: 'If you are creating a suite of applications that will share the same Keychain access, use the same bundle Seed ID for each of your application's App IDs.' 3. 'Bundle Identifier (App ID Suffix)' with a text input field containing 'com.ansca.newapplication' and an example: 'Example: com.domainname.appname'. At the bottom right are 'Cancel' and 'Submit' buttons.

Fill in the 'Description' field with the name of your application. If you have already created an application and wish to use the Bundle Seed ID, for instance if you have a free version and a paid version of an application, you can select it in the 'Bundle Seed ID (App ID Prefix)' section on this page. If this is the first in the bundle or a standalone application, select 'Generate New'. In the 'Bundle Identifier (App ID Suffix)' section, specify a unique identifier for your app. This can be just about anything you want for it to be, but it is recommended to use the reverse-domain style string, i.e. com.domainname.appname. For Anasca it might look like: com.anscamobile.newapplication.

Note: it is often easiest to create a "wildcard" App ID that you can share between your various applications. To do this, simply create a single App ID with an asterisk (*) at the end. You would place this in the field for the bundle identifier either by itself or at the end of your string: com.domainname.* The general drawback of this method is that it cannot be used with any application employing Push Notification, since that requires a unique App ID for each application. However, since Corona does not yet support the Apple Push Notification Service, this restriction does not currently affect Corona development.

For more information on this topic, please visit the Apple Developer site.

Provisioning Profiles

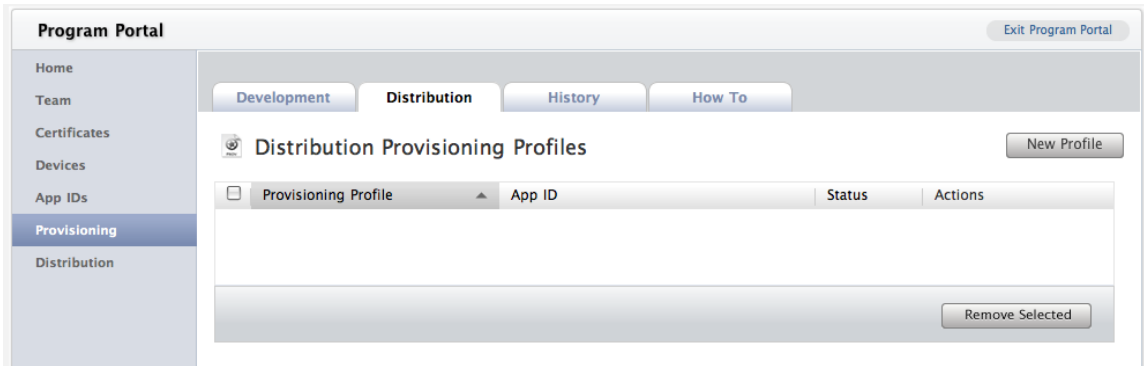
There are three types of provisioning profiles for the iPhone program: Ad Hoc, Development, and Distribution. These profiles tie your devices to your development team for testing and distribution.

The Distribution Profile is what you use to build an application with the express purpose of putting it on the app store. It is not intended to be used for testing.

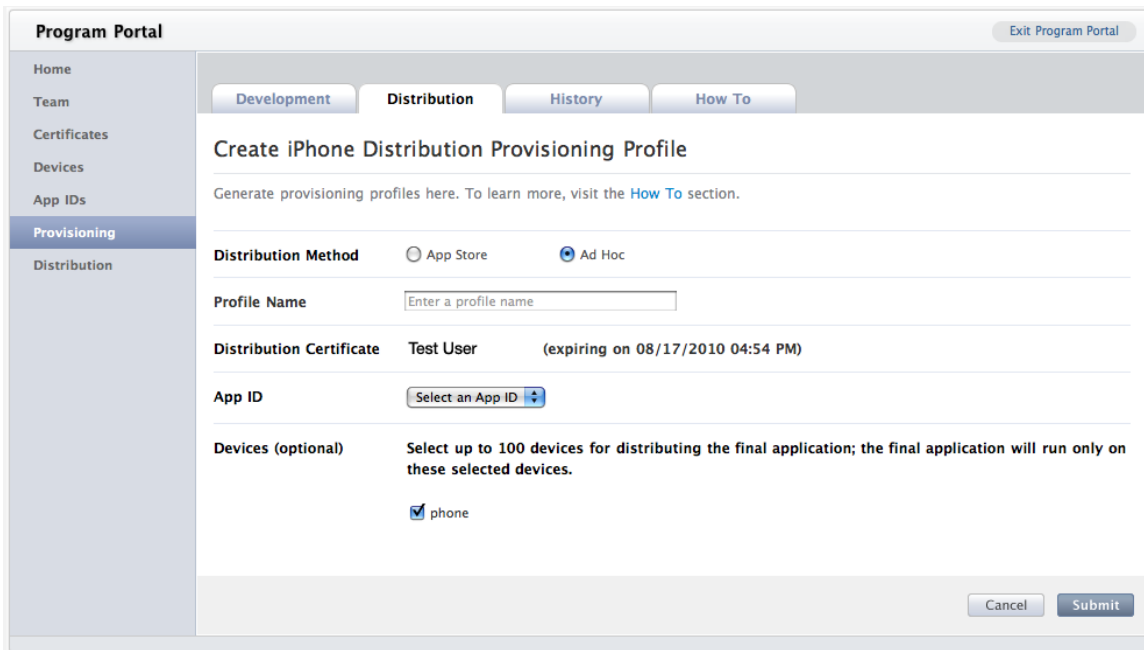
The Ad Hoc and Development Provisioning Profiles are used similarly, but you will only need to use the Ad Hoc profile with Corona. The Development profile can be used, but is not necessary.

Ad Hoc Provisioning Profile

To obtain your Ad Hoc Provisioning profile to test on your device, you will need to create one in the iPhone Program Portal. From the Portal, click on the 'Provisioning' menu. From there click on the 'Distribution' tab:



From here, click on the 'New Profile' button.



Select 'Ad Hoc' for your 'Distribution Method'. Give this profile a name. Then select the App ID for the application you are working on.

Below this you will select the devices you wish to authorize for this profile. For most people, this will mean checking all of the devices available.

Now click the 'Submit' button.

You will now be returned to the Distribution tab where the status will most likely say 'Pending'. This process normally only takes a few seconds. Hitting the 'Refresh' button is normally enough time for it to be come active. Then you can 'Download' the profile. You will need to place it in the following directory:

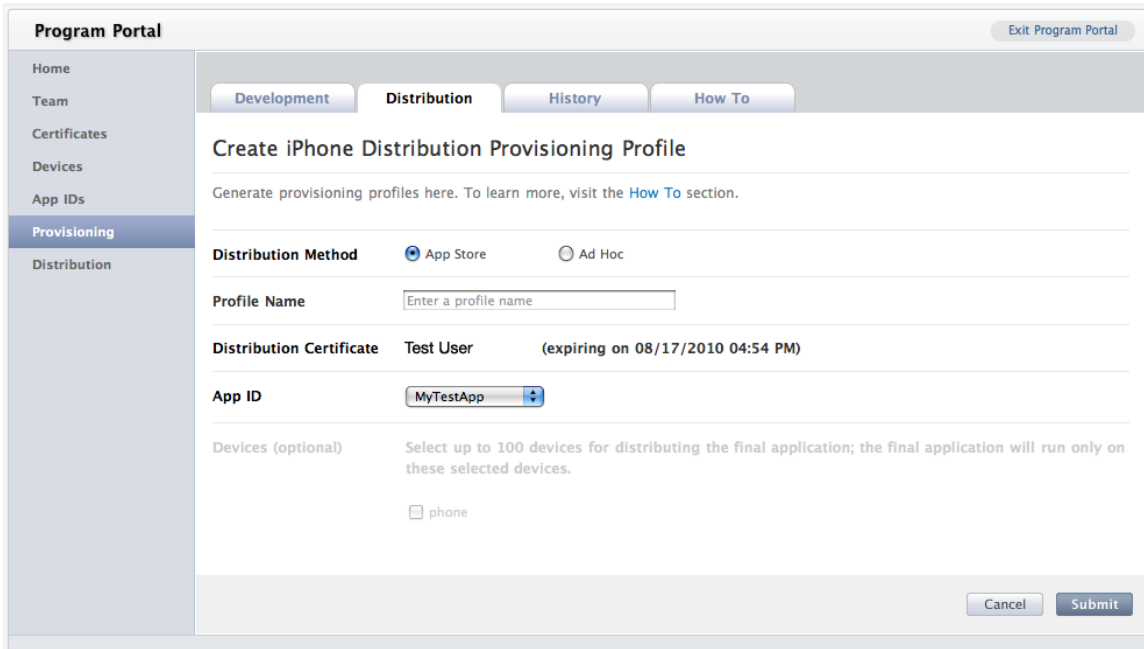
/Users/(your user)/Library/MobileDevice/Provisioning Profiles/

If you do not have a 'Provisioning Profiles' folder, you will need to create it. Remember to substitute your username for (your user). For example:

/User/JohnGlenn/Library/MobileDevice/Provisioning Profiles/

Distribution Provisioning Profile

In order to submit your app to the app store, you will need to download the Distribution Provisioning Profile. This process is very similar to obtaining the Ad Hoc profile. Click on the Distribution tab in the Provisioning section of the Program Portal:



The screenshot shows the 'Program Portal' interface. On the left is a navigation menu with 'Provisioning' selected. The main content area has tabs for 'Development', 'Distribution', 'History', and 'How To'. The 'Distribution' tab is active, showing the 'Create iPhone Distribution Provisioning Profile' form. The form includes a 'Distribution Method' section with radio buttons for 'App Store' (selected) and 'Ad Hoc'. Below this is a 'Profile Name' text input field. The 'Distribution Certificate' section shows 'Test User' and an expiration date of '08/17/2010 04:54 PM'. The 'App ID' is set to 'MyTestApp' in a dropdown menu. A 'Devices (optional)' section contains a checkbox for 'phone'. At the bottom right are 'Cancel' and 'Submit' buttons.

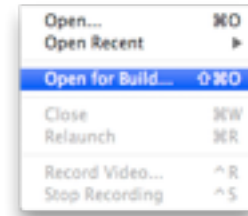
Instead of selecting 'Ad Hoc', this time we're going to use 'App Store' for the distribution method.

Give your profile a name, such as "TestApp_distribution" and click on the 'Submit' button. You will be brought back to the Distribution Provisioning Profiles list, where you should see your profile listed and marked as 'Pending' in the Status column. Refresh the page and you should be able to download your profile into the same folder that you used for your Ad Hoc profile.

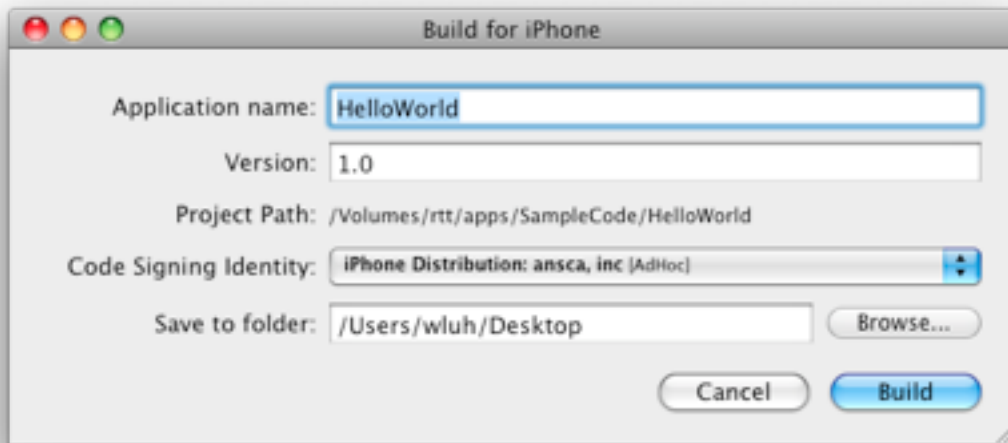
Building your App using Corona

Building your application using Corona is a simple process once you have your provisioning profiles in place. You must also make sure that you have a connection to the internet.

To build an application either for device testing or distribution on the app store, open the Corona Simulator, cancel the default 'Open' dialog, and then select "Open for Build..." from the 'File' menu.



Navigate to your project directory from the 'Open for Build' dialog. You will then be given the following prompt:



Fill in the application name and version number fields with the relevant information. Then select the appropriate provisioning profile from the 'Code Signing Identity' drop down menu, either adhoc or distribution.

Note: if you have not loaded these profiles into the standard location on your hard drive, you will have no options in this drop down menu. Provisioning profiles should be placed in the following directory as mentioned in previous sections of this document:

`/Users/(your user)/Library/MobileDevice/Provisioning Profiles/`

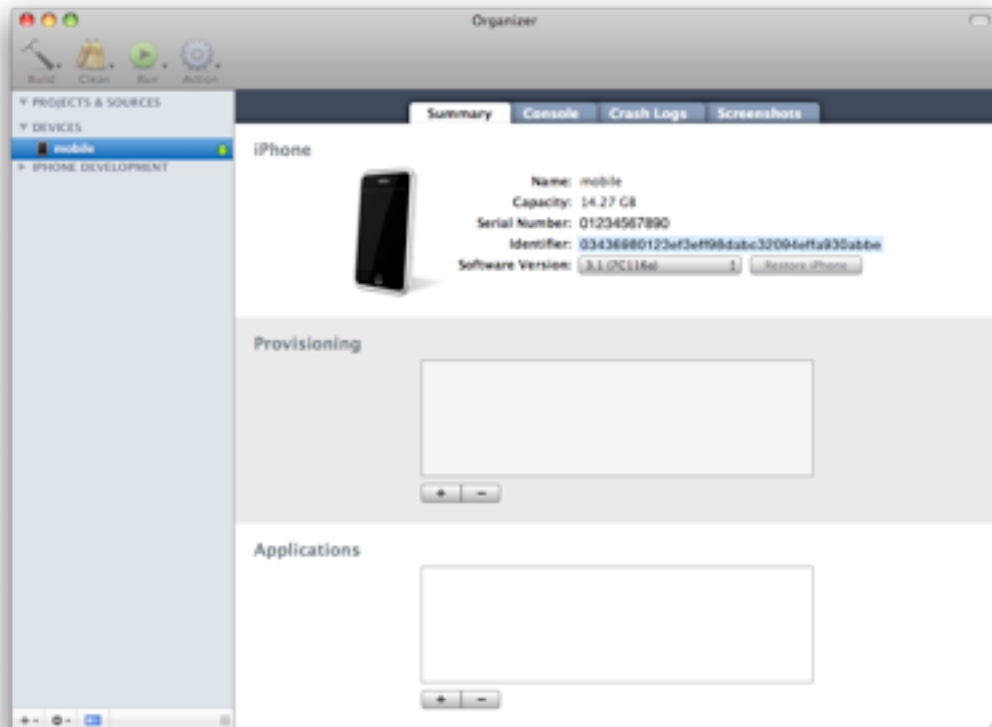
Once you have input all the relevant information, you may hit 'Build'. Once Corona has completed the build, it will output an application to the 'Save to folder' you have chosen. By default this location is set to the desktop, and you will see an option to 'Show in Finder'.

Congratulations! You now have an application file that can be placed on your device, or submitted to the App Store, depending on which provisioning profile you selected.

Testing your App on your iPhone

To run the application on your iPhone, select the adhoc profile during the build process, as detailed above. You may then use either iTunes or XCode to transfer the application file. To use iTunes, drag the application into your iTunes Library and then sync your device normally. However, it is considerably faster to use XCode.

With the phone connected, open XCode's Organizer window, and look for the name of your device under the 'Devices' list on the left. Make sure that the colored indicator is green; if it is not green, powering the iPhone off and on again will usually establish a proper connection.



At this point, you can simply drag the newly built application file and drop it in the 'Applications' area at the bottom of the window, and it will automatically install on the iPhone.

Note: if you are repeatedly testing versions of the same application, it is usually a good idea to delete the previous version from the iPhone before each new install, to remove any cached or associated data.

Submitting your App to the App Store

Once you have built and tested your Application with Corona, it's time to submit it to the App Store. To do this, you will need to access "iTunes Connect" from the iPhone Dev Center. If you

are currently browsing the 'iPhone Developer Program Portal', you will need to exit the portal and return to the 'iPhone Dev Center'.

Once you are back in the 'iPhone Dev Center', you will need to click on 'iTunes Connect' in the right hand column.

If you are planning on releasing your application for free, you can skip ahead.

If you are planning on charging for your application, you will need to agree to Apple's contracts. To do this, click on the 'Contracts, Tax, & Banking Information' link.



Contracts, Tax, & Banking Information
Request Contracts and manage your contact, banking and tax information.

When you have read and agreed to the Paid Applications contract, you will need to fill out the necessary banking, contact and tax information. Once you have completed this, you will be able to submit your application for sale.

Now go back to the iTunes Connect screen by hitting the 'Done' button.

Once you are there, click on the 'Manage Your Applications' button.



Manage Your Applications
Add, view, and manage your applications in the iTunes Store.

From this point you will begin Apple's 'Add New Application' process. Answer the questions appropriately. When you get to the upload section, you will need the following items:

- The application, zipped in an archive.
- A large icon in PNG format, very similar to the normal 57x57 icon, but 512x512 pixels in size.
- At least one screenshot of the application to serve as the primary screenshot
- Any additional screenshots that you may have (up to 4 more)

Note: you should add your application's icon during the Corona build process by placing the icon file (named 'Icon.png' with dimensions of 57 x 57 pixels) in the same directory as all your other code and image assets. The rounded corners and 'shiny icon' effect will be added automatically. You can also add an application splash screen by placing a file named 'Default.png' (320 x 480 pixels) with your other assets before building.

When you go to upload files, be sure to click the upload button for each, and wait for it to complete before moving on to the next upload. When you have completed this, click 'Continue'.

The pricing screen will allow you to select the availability of your app as well as the pricing tier. If you have agreed to the contract and filled out the necessary paperwork, you may still get a warning if the paperwork has not gone through yet. That particular process may take several weeks. You will still be able to continue, but your application will not become available until after your contract information has been processed and your application reviewed. You can also specify which worldwide stores you want to make your application available in.

Once you are finished with this stage, hit the 'Continue' button to select any additional languages you wish to support.

Hit Continue when you have completed this.

You should now see the Review screen. Check over this to make sure everything is in order before submitting your application.

If everything is in order, hit the Submit button.

Now your application should be added to the review process! This can take time, so be patient: as of this writing, approvals are often taking around two weeks, but longer delays are definitely not unheard of. Apple has strict guidelines on what they will allow into the app store, so don't be surprised if you have to make changes to get your application published. If you don't feel that you have received enough guidance regarding the changes they want, you can try writing back to ask for further detail.

To learn more about Apple's design philosophy for mobile applications, consult their Mobile Human Interface Guidelines on the Apple developer portal:

<http://developer.apple.com/iphone/library/documentation/userexperience/conceptual/mobilehig/index.html>

Revision History

This table describes the changes to Device Build Guide:

Date	Notes
2009-27-8	Initial draft
2009-8-10	Build Process