What’s New in Signing for Xcode and Xcode Server

Session 403

Chris D’Angelo, Xcode Engineer
Itai Rom, Xcode Engineer
Brent Shank, Xcode Engineer
Identity

Signing

- Automatically manage signing
  Xcode will create and update profiles, app IDs, and certificates.

  Team: Apple Inc. - Cookies

  Provisioning Profile: Xcode Managed Profile

  Signing Certificate: iPhone Developer: Chris D'Angelo (N24BSG78F9)

Deployment Info

App icons and Launch Images

Embedded Binaries

Linked Frameworks and Libraries
Agenda
Agenda

Fundamentals
Agenda

Fundamentals

Development signing with Xcode Server
Agenda

Fundamentals

Development signing with Xcode Server

Manual signing improvements
Agenda

Fundamentals

Development signing with Xcode Server

Manual signing improvements

Distributing your app
Agenda

Fundamentals
Development signing with Xcode Server
Manual signing improvements
Distributing your app
Distribution signing with Xcode Server
Why Code Sign?
Why Code Sign?

Protects user privacy and security
Why Code Sign?

Protects user privacy and security
Authenticates the app creator
Why Code Sign?

Protects user privacy and security

Authenticates the app creator

Authorizes access to app services
How Does the Code Signing System Work?

App launch system check

Code Signature
How Does the Code Signing System Work?
App launch system check

Code signature is valid
How Does the Code Signing System Work?

App launch system check

- Code signature is valid
- Allowed to use system services
How Does the Code Signing System Work?
App launch system check

- Code signature is valid
- Allowed to use system services
- Allowed to run on device
What's New in Xcode App Signing 2016
Automatic Signing + Xcode Server
Automatic Signing + Xcode Server
Manual Signing + Xcode Server
Xcode Server
Xcode Server

Continuous integration powered by Xcode
Continuous integration powered by Xcode

Built into Xcode
Xcode Server

Continuous integration powered by Xcode

Built into Xcode

Runs your tests on simulators and devices
Code Signature
Code Signature
Certificate

PROV

Code Signature

iPhone
Automatic Signing

Code Signature
Xcode Server
Development signing
Xcode Server
Development signing

Automatic or manual signing
Xcode Server
Development signing

Automatic or manual signing

Xcode Server joins your team for development signing
Xcode Server
Development signing

Automatic or manual signing

Xcode Server joins your team for development signing

Supports two-factor authentication
xcodebuild
Development signing
xcodebuild
Development signing

Command line support for automatic signing repairs
xcodebuild
Development signing

Command line support for automatic signing repairs

xcodebuild -allowProvisioningUpdates
xcodebuild
Development signing

Command line support for automatic signing repairs

xcodebuild -allowProvisioningUpdates
xcodebuild -allowProvisioningDeviceRegistration
Setting up Xcode Server
Xcode Server

Setting up a server

Add a server in Preferences
Xcode Server
Setting up a server

Add a server in Preferences
Xcode Server
Setting up a client of the server

Add a client account in Preferences
Xcode Server
Setting up a client of the server

Add a client account in Preferences
Xcode Server
Setting up a bot

Add a bot from the Product menu
Xcode Server

Setting up a bot

Add a bot from the Product menu
Xcode Server
Viewing and editing your bot

View and edit your bot in the Reports Navigator
Xcode Server
Viewing and editing your bot

View and edit your bot in the Reports Navigator
Authorize Xcode Server to use “Automatically manage signing for enabled targets”
Xcode Server
Configuring a bot for signing

Authorize Xcode Server to use “Automatically manage signing for enabled targets”
Configuring a bot for signing

Xcode Server joins your team for development signing
Xcode Server
Configuring a bot for signing

Xcode Server joins your team for development signing
Xcode Server
Configuring a bot for signing

Allow “Automatically manage signing to auto-add devices”
Xcode Server
Configuring a bot for signing

Allow “Automatically manage signing to auto-add devices”
Demo
Automatic Signing
Improved Manual Signing
Manual Signing
Xcode improvements

NEW
Manual Signing
Xcode improvements

Manage certificates in the accounts preferences
Manual Signing
Xcode improvements

Manage certificates in the accounts preferences

Preview and download profiles in the project editor
Manual Signing
Xcode improvements

Manage certificates in the accounts preferences

Preview and download profiles in the project editor

"Vanilla" profile is missing.
Download the profile from the developer website.

[Buttons: Cancel, Download All, Download]
Manual Signing
Xcode Server improvements

Copy Certificates and Profiles to server for manual signing
Manual Signing

Build settings
Manual Signing
Build settings

DEVELOPMENT_TEAM to set your team identifier
Manual Signing
Build settings

DEVELOPMENTTEAM to set your team identifier

PROVISIONINGPROFILESpecifier to set your profile name
Manual Signing
Build settings

DEVELOPMENT_TEAM to set your team identifier

PROVISIONING_PROFILE_SPECIFIER to set your profile name

CODE_SIGN_IDENTITY to set your certificate
Manual Signing

Build settings
Manual Signing
Build settings

CODE_SIGN_STYLE to set automatic or manual
Manual Signing
Build settings

CODE_SIGN_STYLE to set automatic or manual

For advanced setups
Archive
Archive

Development signed (recommended)
Archive

Development signed (recommended)

Machine code and bitcode
Archive

Development signed (recommended)

Machine code and bitcode

Debugging symbols
Distribution Signed
Distributing Your App
Choices during distribution
Distributing Your App
Choices during distribution

Distribution method
Distributing Your App
Choices during distribution

Distribution method

Signing, profiles, and entitlements
Distributing Your App
Choices during distribution

Distribution method
Signing, profiles, and entitlements
Bitcode and thinning
Distributing Your App
Choices during distribution

Distribution method

Signing, profiles, and entitlements

Bitcode and thinning

On demand resources
Distributing Your App
Choices during distribution

Distribution method

Signing, profiles, and entitlements

Bitcode and thinning

On demand resources

Symbols
Distribution
Automatic Signing + Distribution
Automatic Signing + Distribution
Manual Signing + Distribution
Distributing Your App
Distributing Your App

Automatic and manual re-signing
Distributing Your App

Automatic and manual re-signing

Streamlined workflow
Distributing Your App

Automatic and manual re-signing

Streamlined workflow

Improved visibility and error presentation
Distributing Your App

Automatic and manual re-signing
Streamlined workflow
Improved visibility and error presentation
Enhanced export
Distributing Your App

- Automatic and manual re-signing
- Streamlined workflow
- Improved visibility and error presentation
- Enhanced export
- Command line support
Distributing Your App

Automatic signing
Distributing Your App

Automatic signing

Signing works just like development signing
Distributing Your App

Automatic signing

Signing works just like development signing

Xcode-managed distribution profiles
Distributing Your App

Automatic signing

Signing works just like development signing

Xcode-managed distribution profiles

Create and share distribution certificates
Distributing Your App

Automatic signing

Signing works just like development signing

Xcode-managed distribution profiles

Create and share distribution certificates

Xcode never revokes distribution certificates
Distribution Improvements

Error handling

Missing private key:

- "Apple Inc. – Cookies" has 2 iOS Distribution certificates but their private keys are not installed. Contact the creator of one of these certificates to get a copy of the private key.

<table>
<thead>
<tr>
<th>Certificate</th>
<th>Creator</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Created 5/2/17</td>
<td>Gita Kumar</td>
<td><a href="mailto:gkumar@icloud.com">gkumar@icloud.com</a></td>
</tr>
<tr>
<td>Created 2/27/17</td>
<td>Ravi Patel</td>
<td><a href="mailto:ravipatel@icloud.com">ravipatel@icloud.com</a></td>
</tr>
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Cancel  Manage Certificates...  Previous  Next
Distribution Improvements

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Cancel  Manage Certificates...  Previous  Next
Distributing Your App

Enhanced export
Distributing Your App
Enhanced export

Your .ipa
Distributing Your App

Enhanced export

Your .ipa

DistributionSummary.plist
Distributing Your App

Enhanced export

Your .ipa

DistributionSummary.plist

Packaging.log
Distributing Your App

Enhanced export

Your .ipa

DistributionSummary.plist

Packaging.log

ExportOptions.plist
### Distributing Your App

Command line support

<table>
<thead>
<tr>
<th>Key</th>
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<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Root</td>
<td>Dictionary</td>
<td>(3 items)</td>
</tr>
<tr>
<td>method</td>
<td>String</td>
<td>app-store</td>
</tr>
<tr>
<td>signingStyle</td>
<td>String</td>
<td>automatic</td>
</tr>
<tr>
<td>uploadSymbols</td>
<td>Boolean</td>
<td>YES</td>
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Distributing Your App
Command line support

xcodebuild -exportArchive
-archivePath your.xcarchive
-exportOptionsPlist ExportOptions.plist

![ExportOptions.plist](image)
xcodebuild -exportArchive
-archivePath your.xcarchive
-exportOptionsPlist ExportOptions.plist
-allowProvisioningUpdates
Manual Signing + Distribution
Distributing Your App
Manual signing
Distributing Your App

Manual signing

Select certificates and provisioning profiles
Distributing Your App

Manual signing

Select certificates and provisioning profiles

Xcode won’t create or modify manual profiles
Distributing Your App

Manual signing

Select certificates and provisioning profiles

Xcode won’t create or modify manual profiles

Works with xcodebuild
Distributing Your App
Manual signing

Select certificates and provisioning profiles

Xcode won’t create or modify manual profiles

Works with xcodebuild

Required if archive was manually signed
Distributing Your App
Manual distribution signing
Distributing Your App

Manual distribution signing

Re-sign your app:

Your app needs to be re-signed for App Store distribution. Select one of the following signing options to continue.

- **Automatically manage signing**
  Xcode will create and update profiles, app IDs, and certificates.

- **Manually manage signing**
  Select certificates and profiles created on the developer website.
Distributing Your App

Manual distribution signing

Select certificate and iOS App Store profiles:

Team: Apple Inc. – Xcode Services 02

Distribution certificate: Default (iOS Distribution – Created 5/24/17)

ChocolateChip.app: App Store Profile

Flour.framework: No profile required

Eggs.app: Select Profile

Sugar.app: Select Profile

Sugar Extension.app: Select Profile
Distributing Your App

Manual distribution signing with xcodebuild

ExportOptions.plist

- **Root**
  - method: String, value: enterprise
  - signingStyle: String, value: manual
  - signingCertificate: String, value: iPhone Distribution

- **provisioningProfiles**
  - com.cookies.ChocolateChip: String, value: Crumb Profile
  - com.cookies.ChocolateChip.watchkitapp: String, value: Crumb Profile
  - com.cookies.ChocolateChip.watchkitapp.watchkitextension: String, value: Crumb Profile

- compileBitcode: Boolean, value: YES
- stripSwiftSymbols: Boolean, value: YES
- thinning: String, value: <thin-for-all-variants>
Distributing Your App

Manual distribution signing with `xcodebuild`

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<td>manual</td>
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<td>String</td>
<td>iPhone Distribution</td>
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<tr>
<td>provisioningProfiles</td>
<td>Dictionary</td>
<td>(4 items)</td>
</tr>
<tr>
<td>com.cookies.ChocolateChip</td>
<td>String</td>
<td>Crumb Profile</td>
</tr>
<tr>
<td>com.cookies.ChocolateChip.Eggs</td>
<td>String</td>
<td>Omlette Enterprise Profile</td>
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Distributing Your App

Manual distribution signing with xcodebuild

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Automatic Signing + Xcode Server + Distribution
Automatic Signing
Copy distribution certificates to server

Automatic signing creates and updates distribution profiles

Upload ExportOptions.plist
Xcode Server
Distribution signing methods
Xcode Server
Distribution signing methods

ExportOptions.plist

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Demo
Review

Development signing with Xcode Server
Review

Development signing with Xcode Server

Manual signing improvements
Review

Development signing with Xcode Server

Manual signing improvements

Distributing your app
Review

Development signing with Xcode Server
Manual signing improvements
Distributing your app
Distribution signing with Xcode Server
More Information

https://developer.apple.com/wwdc17/403
## Related Sessions

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<th>Session</th>
<th>Venue</th>
<th>Date &amp; Time</th>
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<tr>
<td>What's New in iTunes Connect</td>
<td>Hall 3</td>
<td>Wednesday 5:10PM</td>
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<tr>
<td>What's New in Device Configuration, Deployment, and Management</td>
<td>Grand Ballroom A</td>
<td>Thursday 1:50PM</td>
</tr>
<tr>
<td>What's New in Testing</td>
<td>Hall 2</td>
<td>Thursday 3:10PM</td>
</tr>
<tr>
<td>What's New in Xcode App Signing</td>
<td>WWDC 2016</td>
<td></td>
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<tr>
<td>Advanced Testing and Continuous Integration</td>
<td>WWDC 2016</td>
<td></td>
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<tr>
<td>Continuous Integration with Xcode 6</td>
<td>WWDC 2014</td>
<td></td>
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<tr>
<td>Labs</td>
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<tr>
<td>Building, Signing, and Distributing Your App with Xcode Lab</td>
<td>Technology Lab K</td>
<td>Tue 4:10PM–6:00PM</td>
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<tr>
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<td>Wed 12:00PM–3:00PM</td>
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<td>Source Control, Simulator, Testing, and Continuous Integration with Xcode Lab</td>
<td>Technology Lab E</td>
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